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of the stomach on clinical grounds is not supported by any definitely positive findings on physical examination (especially with *x* rays), before resorting to exploratory laparotomy the effect of careful diet and medical treatment may be first tried. Sir Thomas Horder advises laparotomy in any gastric case where there is a failure to gain weight or at any rate to maintain weight after the end of the third week of efficient medical treatment. It must not, however, conversely, be too readily assumed that a definite gain of weight under such conditions excludes the presence of a carcinoma, and Dr. Hurst believes that the majority of patients with carcinoma of the stomach gain weight after a fortnight in bed with careful dieting.

Operation for Diagnosis.

Exploratory laparotomy must be more generally adopted than is at present the case if carcinoma of the stomach is to be discovered at a stage sufficiently early to offer a hope of radical rure. Whilst I do not wish to be understood as advocating a wholesale resort to this method of ensuring the diagnosis of all indefinite gastric complaints, yet I would certainly recommend that exploratory laparotomy should be performed where the suspicion of carcinoma on clinical grounds is strong, even if unsupported by any definitely positive finding on physical examination, and where careful medical treatment fails either to increase the weight or to maintain any initial increase. In such cases, even if the operation should, fortunately for the patient, fail to disclose a carcinoma, yet it will generally happen that some other cause for the symptoms will be discovered and surgically remedied.

Operative Treatment.

In the operative treatment of gastric carcinoma one should always aim at a radical operation, and the first question to decide in any given case is whether any condition be present which puts out of court any hope of a radical removal. Such contraindication may be capable of discovery (*a*) before laparotomy, or (*b*) only after the abdomen has been opened. Apart from conditions of a general and constitutional nature such as would preclude any severe operation, certain local conditions are definite contraindications: (1) enlargement of the liver, especially if associated with "umbilicated" nodules; (2) ascites of a degree sufficient to be detected clinically; (3) enlarged glands in the supraclavicular region, particularly on the left side; (4) secondary peritoneal deposits engrafted, by gravity, upon the pelvic peritoneum and detectable clinially on rectal examination as an induration of the recto-vesical pouch (a rectal examination should never be omitted when considering the feasibility of radical operation in any abdominal malignant condition, and the detection of induration in the recto-vesical pouch not infrequently prevents a useless operation); and (5) a mass palpable through the abdominal wall is frequently held to contraindicate radical measures, but does not necessarily do so. It depends more upon the question of fixity than of palpability. A palpable mass, if fixed, would certainly prevent a radical operation, but not so if mobile.

Contraindicatiofis to radical operation discoverable only after a laparotomy are: (1) small secondary deposits in the liver—these are detectable only when near the surface; (2) peritoneal deposits on the peritoneum of the recto-vesical (or recto-vaginal) pouch too small to be felt per rectum: (3) secondary glandular deposits beyond reach of the operative field, at the hilum of the liver, superior mesenteric, meso-colic, or lumbar glands: and (4) fixity of the stomach to other parts, especially liver and pancreas—such adhesion may be inflammatory only, and superficial slices may be removed from the liver and pancreas with the growth.

If, owing to the presence of any of these contraindications radical extirpation is considered impossible, the next question to decide is whether a palliative operation is advisable. Gastro-enterostomy, except where the growth is near the pylorus, and where obstruction is actually in existence or threatens to be so shortly, gives such a small measure of relief as to be scarcely worth performing. Any palliative operation for carcinoma other than of the pyloric portion should take the form of a partial gastrectomy, and, provided that the whole of the disease in the stomach can be removed, is well worth while undertaking even though disease be left in the glands, peritoneum, or liver. The immediate results are often remarkably good, and there is always the off-chance that an error in the original diagnosis, or in one's estimate of the extent of the disease, may lead to a pleasant surprise in the form of a permanent cure.

If no contraindications exist radical extirpation should be attempted. A consideration of the lymphatic arrangements shows that the minimum amount of the stomach to be removed lies between a line prolonging downwards the right edge of the oesophagus to the greater curvature and a line one inch beyond the pylorus—that is, the whole of the lesser and about one-half of the greater curvatures are removed. All operations of the type of Billroth No. 1 are, therefore, excluded; Schoemaker's operation is also unsuitable since it leaves too much of the greater curvature. Only operations of the type of Billroth No. 2 or the Polya modification of it—in which the divided stomach is anastomosed laterally to the commencement of the jejunum ("end-to-side" anastomosis), the duodenal stump being completely closed—are worthy of consideration, but time will not permit me to refer further to the technical details of these radical procedures.

CANCER OF THE COLON.

The early diagnosis of cancer of the colon is particularly important since it is one of the less virulent types of carcinoma; it usually runs a slow course, the invasion of the lymphatic vessels and glands is delayed, metastasis is comparatively rarely found and then chiefly in advanced cases. Too much reliance cannot, however, be placed on these features, since occasionally secondary deposits in the liver have been met with even at a very early period. There are two main types of carcinoma seen in the colon: (1) a "cauliflower" or fungating type, which rarely causes any marked degree of obstruction of the bowel, but tends rather to be associated with ulceration, and which is situated mostly in the right half of the colon; and (2) the "ring-structure" type, most frequent in the left half, associated with marked obstruction, and rarely involving any large vertical extent of the bowel.

In the decade 1913-22 inclusive there were 485 cases of malignant growths of the colon admitted to the Manchester Royal Infirmary, located as follows:

Malignant Growths of the Colon (Manchester Royal Infirmary).

Segment of Colon.	No. of Malignant Growths.	Percentage Frequency.
Caecum	25	5.1
Ascending colon ...	11	2.2
Hepatic flexure ...	7	1.4
Transverse colon ...	22	4.5
Splenic flexure ...	39	8.0
Descending colon ...	12	2.4
Sigmoid colon ...	143	29.4
Rectum	226	46.5
Total ...	485	

Of these 485 cases 173 were associated with acute obstruction (35.6 per cent.). Of the growths causing obstruction, 13.2 per cent. were located in the right half of the colon and 86.7 per cent. in the left half—that is, there is a 6.5 to 1 chance of a malignant growth that has caused obstruction being on the left side. Of all causes of acute colonic obstruction carcinoma constitutes 87.9 per cent.

If in any given case of acute intestinal obstruction the site of such obstruction can be located to the colon, and if, further, we can exclude strangulated hernia and acute intussusception as the cause (the former presenting a definite external swelling at one of the hernial orifices, the latter occurring at a very early period of life and having characteristic symptoms), then there remains a 91 per cent. likelihood of the cause being a malignant growth—that is, a 9 to 1 chance.

Symptoms.

The earliest symptoms of carcinoma of the colon are those indicative of some defective action of the bowels, and are of especial importance in those whose bowels have always previously "acted like clockwork." The first change noted is usually a steadily increasing difficulty in

obtaining a satisfactory action of the bowels, necessitating the use of purgatives in gradually increasing doses. Periods of increasing constipation frequently alternate with short periods of diarrhoea, the gradual accumulation of faeces above the malignant stricture acting as an irritant and setting up a local intestinal catarrh with increased secretion of mucus; this causes a softening of the faecal mass, and leads to its expulsion in several frequently repeated small evacuations mixed with much mucus and occasionally with a little blood even in an early stage. Later the more powerful peristalsis of the hypertrophied bowel proximal to the stricture causes colicky pains, at first very slight, but gradually developing into definite "cramps." Such are often induced by the taking of food, since the entrance of food into the stomach starts peristalsis in the intestines; on this account these pains are often ascribed to "indigestion," and the stomach instead of the bowel is considered to be at fault. This increased peristalsis sometimes causes a desire to go to stool after each meal—a very suspicious sequence—when mucus only, or possibly a slight amount of blood in addition, is passed. Sooner or later these colicky pains are associated with rumblings of flatus, and these may become so loud as to be audible to other persons in the room. In many cases the patient volunteers the information that he feels the griping pains to cease always at the same site—where also the "rumbling" starts—and he can thus, with remarkable accuracy, indicate the location of the obstructing growth. Needless to say, these colicky pains are all made much worse by the taking of a purgative. After a time abdominal distension follows from the accumulation of flatus and faeces proximal to the stricture and is at first localized to the bowel just above it, so that, if seen at this stage, a further clue may be obtained to the site of the growth. The "cauliflower" type of neoplasm, such as is met with chiefly in the caecum or the right half of the colon, is not usually associated with these evidences of obstruction, but tends to ulcerate early and to lead to diarrhoea and the passage of mucus and blood per anum, thus simulating mucous colitis; it is in this type that blood may be lost in small amounts over a long period of time and produce so high a degree of anaemia as to lead to an erroneous diagnosis of pernicious anaemia.

The early physical signs are those of gradually increasing distension and hypertrophy of the bowel proximal to the site of the growth, the outlines of individual dilated coils being visible under the abdominal wall together with a visible peristaltic wave passing at intervals along them. Even when not actually visible the passage of the peristaltic wave can often be appreciated by palpation over the distended bowel as a very definite temporary hardening of its wall, followed by relaxation and softening—the so-called "palpable peristalsis." This is best elicited over the caecum, this portion of the colon, particularly if the ileo-caecal valve be competent, being that which is most distended and which is, in consequence, the first to rupture in advanced degrees of obstruction. Too much stress cannot be laid upon the diagnostic importance of this combination of dilated intestinal coils with visible (or palpable) peristalsis—it invariably denotes the existence of intestinal obstruction. In the normal state neither peristaltic waves nor the outlines of individual coils of bowel are ever visible through the abdominal walls, though rarely these phenomena may be seen beneath the thinned-out covering of large ventral herniae, in cases of wide divarication of the recti muscles, and also in extreme degrees of emaciation. Even in these instances, however, the coils observed are of normal size and not distended, and are not really exceptions to the rule that whenever we can see clearly the outlines of coils of *distended* intestine, together with a peristaltic wave passing along them, we can diagnose intestinal obstruction of a subacute or chronic character with absolute confidence. At first the abdominal distension is confined to the course of the colon and is noted chiefly in the flanks; later on (and almost from the first in those cases where the ileo-caecal valve is incompetent) the distension affects the lower coils of the ileum, which become folded in a more or less transverse direction, constituting the well known "ladder pattern" of the abdomen.

Auscultation—a much neglected method of physical examination of the abdomen—is often extremely useful if one is conversant with the character and site of the normal intestinal sounds and of the alterations in tone, intensity, and distribution met with in obstructive conditions.

In many cases a tumour may be felt somewhere along the course of the colon, and this is more frequently possible in the right half of the colon and with the "cauliflower" type of growth. A palpable swelling must not, however, always be assumed to be the growth itself, and this specially applies to the annular type usually met with in the left half of the colon, which is of insignificant vertical extent and too small to be palpable from without; the swelling actually felt in such circumstances is more likely to prove a mass of hardened faeces collected just above the malignant stricture, and may completely disappear with purgatives or after an enema; such disappearance must not, therefore, be considered, as it unfortunately is so frequently allowed to do, as excluding the presence of growth, rather should it induce a more careful search for any possible organic cause of such holding up of faeces. A secondary malignant deposit in the liver, and even the hypertrophied and distended caecum (particularly if felt when stiffened by the passage of the peristaltic wave), have been mistaken for a growth in the colon. A careful rectal examination should always be carried out, even though, except in rectal growths which we shall separately consider, one cannot expect to feel the actual growth itself. In the case of growths situated low down in the sigmoid colon, however, it is sometimes possible to detect the mass by palpation through the anterior rectal wall; in other cases the indurated and infiltrated peritoneum of the pouch of Douglas, often present in advanced abdominal malignancy, irrespective of its primary site, may be recognized; and in others, again, the characteristic "ballooning" of the rectum so often associated with growths in the sigmoid or descending colon can be detected.

The sigmoidoscope is a very valuable aid in the diagnosis of growths in the lower sigmoid, but requires care and experience in its use and in the interpretation of what is seen; through it small portions of a doubtful growth may be snipped off for microscopical examination. Multiple papillomata may be seen, and are so frequently associated with malignant growths higher up the colon that their presence, if associated with any other symptom or sign of cancer of the colon, is sufficient to justify an exploratory laparotomy.

Of all the methods of physical examination of the colon the most important is that of radiography after a barium meal, and particularly after a barium enema. The barium meal is useful in ascertaining the general function of the colon, but the barium enema is of greater service for the localization of an obstruction in the colon. The enema is administered with the patient lying flat, and, if no obstruction be present in the colon, it should travel round to the caecum within a few minutes. It must, however, be borne in mind that a growth producing partial obstruction only does not necessarily interfere with the passage of the barium enema, and may therefore be easily overlooked. Moreover, a malignant stricture in the sigmoid may be obscured by an overlying barium-filled coil, especially when a barium meal has been given; or, as Pannett has pointed out,[3] if the affected bowel lies with its axis in the direction of the x rays the defect in the barium shadow will not be seen. The findings of barium meals and enemata should be verified by a second examination to minimize the possibility of error.

Treatment of Cancer of the Colon.

In the treatment of carcinoma of the colon the ideal at which we should aim is complete excision of the segment of bowel containing the growth together with its lymph-bearing area, and followed by immediate restoration of the continuity of the bowel. Apart from consideration of questions of a general or constitutional nature, this ideal treatment may be contraindicated by (1) secondary deposits in the liver; (2) metastatic peritoneal deposits—especially likely to occur in the pouch of Douglas; (3) glandular involvement beyond the limits of practicable surgical removal, and (4) local extension and fixity. Of these, the first and second are, of course, absolute contraindications

to radical operation, but with regard to glandular enlargement it must be remembered that this is not necessarily of a secondary malignant character, but may be of an inflammatory nature only, due to associated sepsis. Local fixity, moreover, rarely prevents radical measures, since by free division of the peritoneum along the outer border of the colon, many growths which at first sight appear too fixed may be rendered sufficiently mobile for excision. If a radical operation be definitely contraindicated then a "short-circuit" (that is, lateral anastomosis) should be performed, provided there is a sufficient length of colon below the growth to permit of approximation to the distended bowel above without undue tension. Only when a "short-circuit" is quite impossible must we, as a last resort and to prevent future intestinal obstruction, fall back on colostomy proximal to the growth.

Many cases, however, are already associated with intestinal obstruction when first seen, and it is imperative that this be relieved before any radical extirpation with restoration of the continuity of the bowel be attempted, since it is the universal experience of surgeons that resection of the colon in the presence of obstruction is a very unsafe procedure—the congested and oedematous wall of the bowel failing to hold the sutures properly, so that leakage at the suture line is very probable. In such cases the best course, I believe, is to perform caecostomy under nitrous oxide or local anaesthesia: only when, by this means, complete relief of the obstruction has been attained must recourse be had to exploratory laparotomy with a view to radical removal of the growth and restoration of the continuity of the bowel. If after this has been accomplished the caecostomy does not close spontaneously, a slight plastic operation will suffice for its obliteration.

CANCER OF THE RECTUM.

It is an extremely unfortunate fact that at the present time fully 75 per cent. of the cases coming to our hospitals with cancer of the rectum have already reached a stage much too advanced for any hope of radical operation. This is surprising when it is remembered that such growths are readily available to rectal palpation, and it is largely the neglect to make a digital examination of the rectum whenever patients come complaining of rectal symptoms that is responsible for this lamentable state of affairs. Even when blood has been passed per anum it is not uncommonly too readily assumed that it is due to the commonest cause—piles—without a digital examination.

Symptoms.

The early symptoms of rectal cancer are often indefinite, and are essentially those already described for growth of the colon. A patient whose bowels have previously acted regularly, on going to morning stool and thinking to have a normal motion, finds instead that he passes mostly blood-stained mucus and flatus, and that he has to repeat his visit very shortly, possibly for several times, before he obtains relief. This "spurious diarrhoea" is really indicative of constipation. Severe bleeding from the rectum is uncommon except in an advanced stage, but occasionally it may be an early symptom, and then, fortunately, alarms the patient and leads him to seek advice in an early and operable stage. Pain is often completely absent in the early stages; if present it may be felt in the rectum, in the sacrum, or over the lower abdomen. An alteration in the shape of the faeces, chiefly in the direction of flattening, is sometimes noticed early, especially in the stenosing type of growth and when situated near to the anus; with a high growth the faeces may be remoulded in the rectum after passing through the stricture and thus appear of normal shape.

Diagnosis and Treatment.

Suspicion of rectal trouble having been aroused, a digital examination should be made forthwith, and should it prove negative a sigmoidoscopic examination should follow, since the commonest site of growth is the recto-sigmoid junction, and this may not be reached by the examining finger. Bimanual examination with the forefinger of one hand in the rectum and the other hand flat on the lower abdomen sometimes enables an otherwise impalpable growth to be discovered. By digital examination is determined, not only the presence of a growth in the rectum, but also the extent to which it has already involved the adjacent structures—prostate, bladder, vagina, uterus, and sacrum. If not fixed to any of these, and if no enlargement of the liver can be felt (or of the inguinal glands in cancers involving the anal canal), then the question of a radical operation must be considered. The possibility of this cannot be finally determined until, as the first operative step, the abdomen has been opened and the presence of metastasis in the liver or peritoneum, or the too extensive involvement of lymphatic glands, definitely excluded. It has, unfortunately, been my experience on more than one occasion to find that with a comparatively small and freely mobile rectal growth—and presumably, therefore, an early one—a secondary deposit in the liver has been disclosed on opening the abdomen, and the contemplated radical operation thereby prevented. We need not to-day enter into the much discussed question of the relative merits of the two chief radical operative procedures at present in vogue: (1) the abdomino-perineal operation perfected by Miles, and (2) perineal excision following a preliminary colostomy; they both entail a permanent iliac anus as part of the price the patient is called upon to pay for any hope of cure of a rectal cancer. Possibly, in the future, with cases presenting themselves at an earlier stage and with a better selection of cases, it may be feasible to remove the rectum with preservation of the sphincters and restoration of the continuity of the bowel, but at present such is not to be recommended.

If a radical operation be deemed impracticable, either because of the local extent and fixity of the primary growth or because of the presence of metastases, then the question of a palliative colostomy has to be considered. This should certainly be performed wherever there is any evidence of actual or of shortly threatened obstruction, and considerable relief may be expected therefrom. In the ulcerative types of growth obstruction is not a marked feature, and the patient's chief distress is occasioned by the profuse discharge of blood and muco-pus from the growth, necessitating the passage of very frequent stools; although by diverting the faeces from the growth colostomy may be reasonably expected to diminish the amount of this discharge, yet sufficient may remain to cause patients to express disappointment at the small measure of relief afforded them by the operation, and this should be fully explained to them before their consent to colostomy is obtained.

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THE THYROID GLAND IN THE FULL-TIME HUMAN FOETUS AND IN THE NEWLY BORN INFANT.

(*With Special Plate.*)

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INTRODUCTION.

VARIOUS descriptions have been given of the appearance of the thyroid gland of the human subject about the time of birth. The majority of workers have recorded a condition very different from that seen in the normal adult gland, and several have advanced hypotheses to explain it.

It would seem that typical colloid appears at some period of intrauterine life. Elkes (1904) described it in foetuses from 4½ to 6½ months, Livini (1922) in embryos of 62 to 66 mm., while Müller, Peremeschko, and Brechat, cited by Méroz-Tydman (1910), found it present, the first in a foetus of 5 months, the others at a later period. Wölfer (1880), however, was of the opinion that colloid formation did not commence until the end of foetal life or even till after birth. Treating this investigation from the chemical standpoint, Marine (1922) states that the iodine content of the thyroid increases with the increasing age of the foetus. Fenger

(1913, 1915) examined the iodine content of a large series of foetal cattle, pigs, sheep, and man, and came to the same conclusion.

Immediately after birth, according to some observers, a very striking change in the histological appearance of the thyroid occurs. Zielinska (1894) found solid collections of cells filling the vesicles without any sign of colloid. Elkes gave a similar description, and emphasized the difference between the foetal gland and that of the newly born.

Méroz-Tydman examined a series of thyroids from still-born and newly born children, and found that in both some glands were made up of elongated or rounded heaps of epithelial cells closely pressed together, while others showed vesicles with desquamating cells and no colloid; others again were composed of almost normal-looking vesicles containing a little colloid, in which, however, were so many vacuoles that it had the appearance of a thin network. Hesselberg (1910) considered that the normal appearance of the thyroid, at least during the first week of life, is one of empty vesicles and desquamating cells.

Maurer, cited by Hesselberg, on the other hand, found that after birth colloid is sometimes present. Elkes drew his conclusion, that the thyroid at this age is colloid-free, from the examination of a series of thyroids from newly *born children. There was one exception, however, which* showed well differentiated vesicles filled with colloid. Garnier (1899) found no great difference between the thyroid of the newly born and that of the full-time foetus. Hesselberg also was doubtful if there was any marked difference, as she found, in three out of nine foetuses from 7 to 9 months, the desquamated condition of the gland, which she considered the normal appearance in the newly born. Cooper (1925) stated that during the first two weeks after birth the thyroid shows little difference from that of the full-time foetus, but that practically all the vesicles are empty.

Four theories as to the cause of this change in the thyroid after birth have been suggested. Wölfer, after examining a series of glands from feeble and stillborn children, and finding that they had few or no vesicles and no colloid, considered that, as this condition resembled the state of the thyroid before colloid formation was begun, the cause of the appearance after birth was arrested development of the gland.

De Quervain (1904) suggested that the desquamation of the epithelial cells might be due to disease in the child. Perrando, cited by Hesselberg, and Elkes found a similar condition in thyroids taken from children who had suffered from congenital syphilis. Garnier, in the course of an investigation on the effects of infectious diseases of the thyroid gland, found, however, that desquamation was present in the thyroid of a stillborn child, otherwise normal, after a prolonged labour.

Elkes was of the opinion that some metabolic change, taking place immediately after birth, might account for the alteration in the thyroid. Hesselberg, however, found no evidence of desquamation in the glands of various animals killed and examined shortly after birth, and disagreed with Elkes's theory, thinking that as some similar metabolic change probably occurs in the lower animals this should, if the hypothesis were correct, cause some alteration in their thyroids also.

Hesselberg held the view that the disappearance of colloid and the desquamation of the epithelial cells was due to damage to the thyroid during birth, by reason of the relative narrowness of the human birth canal. She holds that this theory would explain Garnier's results mentioned above.

Present Investigation.

The present investigation was undertaken with a view to determining whether the condition of the thyroid at birth might be related in any way to the state of development of the child, or whether it might be due to autolysis or *post-mortem* degeneration. Neither of these possibilities has apparently been inquired into, as no reference to either has been discovered in the literature. To obtain some idea of the effects of autolysis on the thyroid gland before examining the human thyroids described later, observations were made on the *post-mortem* changes in the thyroid of the dog.

A. Study of the Degenerative Process in the Thyroid.

Seven experiments were carried out with a view to discovering the effect of autolysis in the thyroid. Cruickshank (1911) carried out similar experiments with liver and kidney, and his method was followed. After trying various media he found that he obtained the best results by keeping the tissue in a moist chamber, and in several of his experiments he was successful in obtaining autolysis similar to that seen in the body and in foetal tissues.

Previous to the removal of the thyroid a sterile Petri dish was prepared in the foot of which was a layer of blotting paper soaked in salt solution, both paper and solution having been sterilized. The neck of the dog was then shaved and washed carefully—no antiseptic could be used as autolysis is retarded by its presence. The two thyroids were removed and transferred as quickly as possible with sterile instruments to the Petri dish. Each thyroid was then cut with a sharp knife into four parts. One part was removed and fixed at once in formalin as a control, and the dish was closed. In some cases the Petri dish was kept at room temperature—to compare with the rate of change in the thyroid of a foetus kept in the mortuary—and in others it was placed in an incubator kept at a constant heat of 37°. At intervals of twenty-four hours a piece was removed and fixed. The tissues were prepared by the usual paraffin method, cut, and stained with haemalum and eosin. The greatest care was taken to maintain sterility, but it is doubtful if this was successful, and it certainly failed in some cases which showed bacterial growth round the margins. Cruickshank also experienced very great difficulty in keeping the organs sterile, and bacteriological examination proved that in about half his experiments all his precautions had been of little avail.

Results.

In the case of the thyroids at room temperature the degenerative process took place gradually throughout the week, the duration of the experiment. The first change was the appearance of vacuoles round the margin of the colloid masses in the vesicles, which had shrunk somewhat. At this stage the vesicular cells are still cubical and ranged regularly round the vesicle. This condition is illustrated in Fig. 2, which shows such a thyroid forty-eight hours after removal. Fig. 1 shows the state of the gland immediately after removal from the body.

The lining cells of the vesicles next become detached from the basal membrane and all the colloid disappears. As the process of degeneration progresses the cells become separated from each other and lie free in the lumen. As this proceeds the section takes on a much more cellular appearance. The vesicles become small, and less and less distinct until their outline, marked by a thin strand of connective tissue, can only with difficulty be made out. The interior of the vesicles is ultimately packed with epithelial cells, many of which appear as large rounded [illegible] with a dark nucleus. The thyroid shown this state. It was fixed seven days after removal, during which time it had been kept at room temperature.

The rate of degenerative change in the thyroids kept in the incubator at 37° was about three times that of those kept at room temperature. The same process was observed, but the change at the end of twenty-four hours was greater than that in those kept in the cooler temperature for forty-eight hours. In the specimens kept in the incubator further changes than those described above were observed. Gradually the cells and nuclei degenerated until the section presented an almost homogeneous pink appearance. For the present purposes, however, only the changes described and illustrated above are of interest.

There is one other point to which attention may be directed. Fig. 1 shows a perfectly normal thyroid of a dog with large well filled vesicles, while in Fig. 2 the same thyroid is shown after forty-eight hours' degeneration. In the latter vacuoles are very noticeable, although there are none present in the freshly fixed gland. It would appear that these vacuoles resulted from a process of degeneration, and this is confirmed by the work described below on the thyroid of the foetus.

Many views have been expressed as to the cause of the appearance of the vacuoles which were frequently observed in the colloid. Cowdry (1922) and others have ascribed them to shrinkage of the colloid in preparation. Jackson

(1916) believed they were connected in some way with the process of colloid formation, while Cooper (1925) has advanced the opinion that they may be due to absorption of colloid into the circulation. Neither of the last two theories, however, could account for the occurrence of vacuoles *post mortem*, and if Cowdry's hypothesis applies here, it would seem, as there was no shrinkage in the freshly fixed gland, that there must be some chemical change in the colloid substance before this can occur.

B. *Examination of a Series of Young Human Thyroids.*

At the Glasgow Royal Maternity Hospital routine *post-mortem* examinations are performed on all infant corpses, whether the child has been stillborn or has lived. Full details as to size and development, as also to the *post-mortem* findings in the various organs, are recorded. Through the kindness of Dr. Norman Cruickshank I was permitted to examine the thyroid from 70 of these cases.

The gland was fixed in formalin after removal and weighing, and was embedded by the paraffin method, cut, and stained with haemalum and eosin.

Details as full as possible were obtained in each case, special note being taken of the state of development, as it was intended to correlate this, if possible, with the histological findings in the thyroid. The age of the foetus was calculated from the date of the last menstruation to the date of birth. The former, however, was often difficult to ascertain, and many of the ages thus obtained were only approximate. Accordingly no great reliance can be placed on this. A much more accurate idea of the state of development can be obtained by examination of the condition of the various centres of ossification. For this purpose the following were noted: the number of centres present in the mesosternum, and the size of the centres in the astragalus, the os calcis, the lower end of the femur, and the upper end of the tibia. The weight, length, and sex of the child, and the number of the pregnancy, were also noted.

As the possibility had to be taken into account of the appearances of the thyroid being due in some cases to autolytic change, the time from death or stillbirth until the time of *post-mortem* examination was noted. This could be obtained accurately in the case of children who had lived, but in the others it was very difficult, and usually impossible, to find out how long the foetus might have been dead *in utero*. As the majority of craniotomies were performed on account of contracted pelvis, and as in many such cases the child is alive until the operation is undertaken, it was thought that a more accurate estimate of the time that the child had been dead before examination might be obtained in the instances where this was done than in the other stillbirths, and these cases were consequently segregated. There cannot, of course, be the same exactitude as when the child had lived, but probably more than with the remaining stillbirths.

I am indebted to a house-surgeon for three thyroids which he removed and fixed immediately after delivery. In these cases craniotomy was performed on living foetuses, the mothers' pelves being greatly contracted. The glands obtained thus were therefore free from any suspicion of *post-mortem* change.

Histological Examination.

The appearances found in the thyroids were very varied. Some were made up of colloid-containing vesicles, some of empty vesicles, while others presented a solid cellular appearance quite unlike that normally associated with this gland. In this description they may conveniently be grouped into two classes—those containing colloid and those free of colloid.

1. *Glands containing Colloid.*—Into this class fall 22 of the thyroids examined. The gland was composed of vesicles lined with cubical epithelium and filled with colloid which stained well. Some showed a certain amount of intervesicular tissue, but where the vesicles are small this is only to be expected as the result of the section passing tangentially through the walls of some vesicles. The vesicles varied in size, but were always much smaller than in the adult gland. Fig. 4 shows the low-power view, and Fig. 5 the appearance, seen under high power, of the sections of the thyroids which were fixed immediately after death. These are more or less typical of all the glands included in this group, although some showed more colloid. They were selected for illustration as there can be no doubt about their freshness. There was little difficulty in separating this group from the next, as the presence of the colloid was in every case noticeable at a glance. As regards vascularity, it was found that in some thyroids the capillaries were congested, while in others they were more or less empty. It seems possible that the congestion described by some observers as being invariably present may be due to the character of the labour.

2. *Glands containing no Colloid.*—As has been indicated, these thyroids varied from a condition in which there was merely an absence of colloid to a state in which vesicles as such could scarcely be recognized. For descriptive purposes, however, they may be divided into three types:

A. In a few thyroids there are still traces of colloid in the vesicles. This, however, stained faintly and contained large vacuoles, which were often so numerous that all that remained of colloid was a thin network between these vacuoles. The walls were lined with cubical cells more or less regularly arranged, though here and there they had become detached and were escaping into the lumen (Fig. 6).

B. Many of the sections presented a characteristic clear appearance. The glands contained no colloid and the protoplasm of the cells stained rather faintly. Vesicles were clearly discernible, but many of the cells composing their walls had separated from the basal membrane. When they still retained their attachment they were of more columnar shape (Fig. 7).

C. A considerable number of the thyroids had a very cellular appearance. In many cases it was only with difficulty that the outline of vesicles could be distinguished, marked out by a thin line of connective tissue cells. The vesicles were filled with desquamated cells of more or less rounded shape (Fig. 8). As in the thyroids of type B, the protoplasm of the cells stained more faintly than in those glands which contained colloid, while the nuclei were much darker. In this group, as in the first, some glands were very congested, while in others there were few blood cells visible.

For brevity of description, in the accompanying table the thyroids have been classed in three groups: Group I is made up of the thyroids containing colloid; those colloid-free glands described above as types A and B are collected together into Group II; while the remainder (type C) form Group III.

Summary of Results.

A. *Children who Lived.*—Sixteen of the thyroid glands examined were taken from children who had survived for some time after birth. This time varied from a few hours to ten days. Of these, 8 were found to be of the type described above as Group I, 5 of Group II, and 3 of Group III. Comparison of the data collected about each case showed great variation in the age, weight and length, state of ossification, duration of life, of the infants whose thyroids were classed together in one group. Moreover, similar variation occurred in all three groups. One fact, however, may be observed—namely, that in every case in which colloid was found to be present the *post-mortem* examination had been carried out within twenty-four hours of death, whereas in the others with only one exception this was delayed for two or three days.

B. *Stillbirths: Craniotomies.*—In this class, while similar variations were found in the age and development,

Class.	No. of Thyroids Examined.	Type of Thyroid.	No. of Days from Time of Death until Time of *Post-mortem* Examination.	
			Average.	Standard Deviation.
A. Children who lived.	8	Group I	0.75	0.250
	5	Group II	2.00	0.633
	3	Group III	2.33	0.481
B. Stillbirths—craniotomies	6	Group I	0.63	0.567
	3	Group II	1.66	0.494
	5	Group III	3.80	0.400
C. Remaining stillbirths.	8	Group I	1.18	0.493
	6	Group II	1.33	0.471
	26	Group III	2.38	0.836
Totals.	22	Group I	0.87	0.427
	14	Group II	1.64	0.534
	34	Group III	2.58	0.741

it was also noted that the six thyroids belonging to Group I were taken from infants on whom the *post-mortem* examination had been performed within twenty-four hours of delivery. In three cases where the thyroid showed desquamation of the epithelial cells and no colloid (Group II) the necropsy had taken place from one to two days after delivery, and in five, in which this was delayed for three or four days, all the glands showed vesicles filled with desquamated cells (Group III).

C. *Remaining Stillbirths.*—In 8 cases the thyroid showed the appearances of the Group I type. On 6 of these the *post-mortem* examination was performed within twenty-four hours, and on the other 2 within two days. In the case of the 6 thyroids which belonged to Group II the necropsy was carried out from one to two days after birth, while with those of Group III this varied from one to four days. As with the other two classes, great variation occurred in the other factors considered, with none of which could the thyroid appearances be correlated.

These results are summarized in the accompanying table. The cases are arranged according to the histological appearances of the thyroid, and for each group the average number of days from death or stillbirth until the time of the *post-mortem* examination is given, together with the standard deviation. It will be seen that in each section this time is shortest in the case of the Group I thyroids, and longest with those of Group III. This is very apparent when the averages for all the thyroids of each group are totalled. In the cases where the gland was of the Group I type the autopsy was performed 0.87 day after death or stillbirth, while with Group II this was 1.64 days, and with Group III 2.58 days.

Thus it appears that these striking variations in the histology of the thyroid cannot be due to variations in development, whether reckoned by age, weight and length, or extent of ossification. Neither do they seem to be related to the sex of the child, or to the number of the pregnancy. Thus one has to consider whether these variations may be accounted for by the differences in the time between the death of the child and the fixation of the thyroid—that is to say, whether they can be due simply to degenerative changes.

The thyroids from the three cases of craniotomy in which the glands were fixed within a very short time of death all present a similar appearance, and all show a considerable amount of colloid—that is, they belong to the type described as Group I. No degeneration can have taken place, and consequently these may be looked on as normal, although, as already stated, they do not conform exactly to the appearance found in the adult gland. Taking this standard as normal, it will be seen that in all cases in which the gland was fixed within twenty-four hours of death the thyroid may be regarded as normal, while in practically every case in which it remained in the body for a longer period it may be said to be abnormal. The exceptions to this are: (1) a few cases where the normal appearance was found in thyroids removed two days after death, and (2) seven of the cases of stillbirth other than craniotomies (Class C) where the gland belonged to Group II or Group III. The latter may be accounted for by the fact that from the clinical notes in these cases no estimate could be formed as to how long the child may have been dead *in utero*. As has been seen from the experimental work already described, autolytic change takes place at a greater rate at blood temperature than at room temperature. Thus if the child were dead *in utero* for a comparatively short time it is highly probable that by the end of twenty-four hours after delivery any degenerative change would be very much more advanced than if the child had lived till the time of birth. This, then, may be the reason for the colloid-free condition appearing so early in these cases. In practically all cases in which the necropsy was performed two days after birth, as also in all cases where this was done at a later date, the thyroid presents this abnormal condition.

To sum up, it will be seen that the type of thyroid described as being of Group I, which appears only when the gland had been fixed within a short time of death, is to be considered the normal histological structure of the thyroid at the time of birth. Group II and Group III thyroids are to be looked on as abnormal, and it will be seen that the appearances of these types of thyroid resemble those described as occurring in the degenerating thyroid of the dog. Taking this together with the finding that these types were seen when the gland had not been fixed until later than those of Group I, we may conclude that Group II represents a degenerative change in the thyroid, and Group III that change still farther advanced.

Further evidence that the colloid state is normal at the time of birth, and that desquamation is abnormal, is obtained by examination of the thyroid of experimental animals. As already mentioned, Hesselberg found that the thyroid in dogs, cats, and rabbits immediately after birth were well filled with colloid and showed no sign of the desquamation, which she considered to be normally present in the thyroid of the child during the first three weeks of life. I have on several occasions examined the thyroid of full-time guinea-pigs removed by Caesarean section, and have invariably found a similar condition.

Hesselberg sought to explain the difference in the thyroid at birth in man and in animals, in that that of the former showed desquamation and the latter did not, by suggesting that, owing to the narrow birth canal in the human subject, the thyroid was injured during delivery. If this were so we would expect to find desquamation more frequently in a first-born child, and not so often in the children of a multipara, when the birth is usually easier; but this is not borne out by this work. Moreover, a large proportion of stillbirths are due to difficult labour, yet a considerable number of such in this series had normal thyroids. Garnier found that after a prolonged labour the child's thyroid showed desquamation. In such a case, however, it would seem that there was every possibility of the child being dead *in utero* for some considerable time, in which case autolysis would account for the change he described.

Conclusions.

1. The thyroid gland of the full-time human foetus, and also of the newly born infant, appears to be composed normally of small vesicles lined with cubical epithelium and filled with colloid which stains well. The glands may or may not be congested.

2. When variations from this conception of the normal are observed it seems probable that they may in many cases be due to *post-mortem* degeneration.

3. The changes which occur in the thyroid gland *post mortem* may be summarized thus. First, vacuoles appear in the colloid which ultimately disappear completely. The epithelial cells then become separated from the basal membrane. Eventually the vesicles become filled with desquamated cells and the gland presents a solid cellular appearance.

4. As the formation of vacuoles in the colloid may take place after death, these cannot always be regarded as evidence of activity on the part of the thyroid.

5. No relationship was found to exist between the condition of the thyroid in the full-time foetus and the development of the child as reckoned by the extent of ossification.

This work was commenced during the tenure of a Carnegie Research Scholarship, and was carried out in the Institute of Physiology, at the University of Glasgow. I wish to thank Professor D. Noël Paton for kind help with, and interest in, the work, and Dr. Norman Cruickshank for permission to use the records of the Pathology Department of the Royal Maternity Hospital. I am greatly indebted to Mr. John Bell for the care which he took in the preparation of the photographs.

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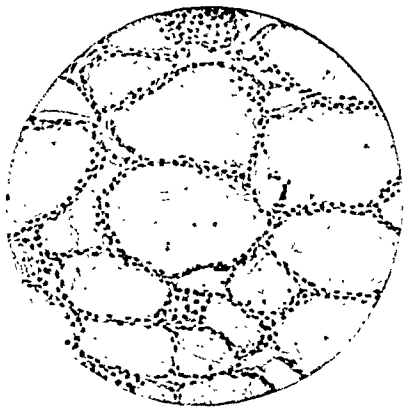


FIG. 1.—Thyroid of dog. (×225.) Fixed immediately after removal



FIG. 2.—Thyroid of dog. (×225.) Fixed forty-eight hours after removal.



FIG. 3.—Thyroid of dog. (×225.) Fixed seven days after removal.

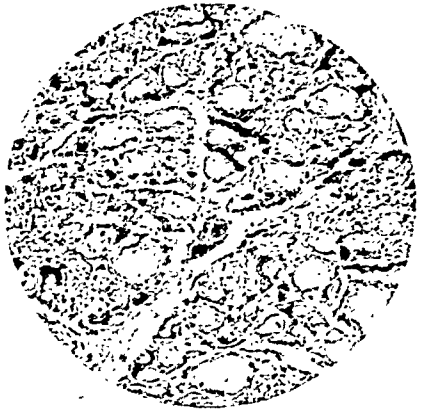


FIG. 4.—Human thyroid at the age of birth. (×45.) Fixed shortly after death.

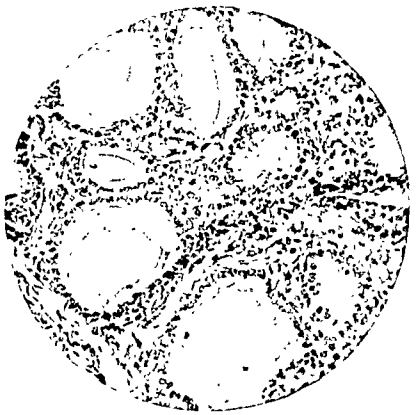


FIG. 5.—Human thyroid at the age of birth. (×225.) Showing colloid in the vesicles



FIG. 6.—Human thyroid at the age of birth. (× 225.) Showing vesicles containing faintly staining colloid with vacuoles.

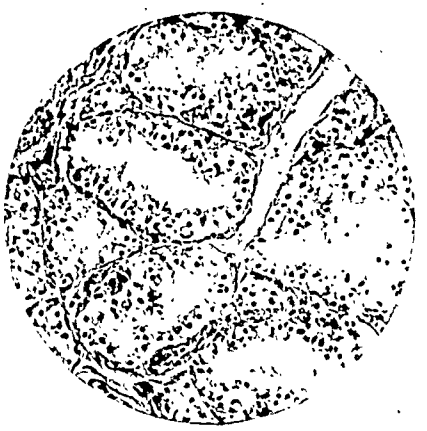


FIG. 7.—Human thyroid at the age of birth. (× 225.) Showing absence of colloid, and commencing desquamation of the cells.

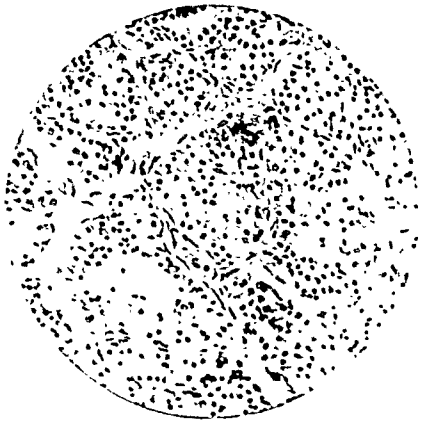


FIG. 8.—Human thyroid at the age of birth. (× 225.) Cells completely desquamated, and filling the vesicles.

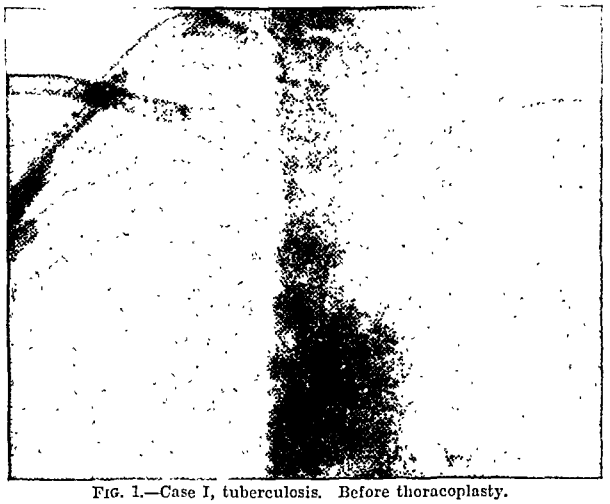


FIG. 1.—Case I, tuberculosis. Before thoracoplasty.



FIG. 3.—Case II, bronchiectasis. Before thoracoplasty; lipiodol injections demarcating cavities in the right lung.



FIG. 2.—Case I. After thoracoplasty. (Sides reversed in photograph.)



FIG. 4.—Case II. After thoracoplasty; lipiodol injection showing collapse and flattening of peripheral and central cavities; those near the mediastinum are only partially collapsed.

W. E. COOKE: THE MACROPOLYCYTE.



FIG. 1.—Normal polymorph. (× 1000.)

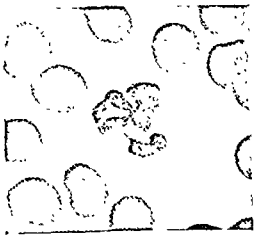


FIG. 2.—Macropolycyte from a case of staphylococcal osteomyelitis. (× 1000.)

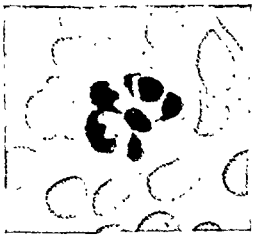


FIG. 3.—Macropolycyte from a case of streptococcal septicaemia. (× 1000.)



FIG. 4.—Macropolycyte from a case of pernicious anaemia, showing hypersegmentation of nucleus. (× 1000.)

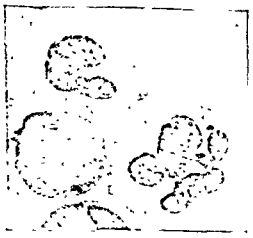


FIG. 5.—Macropolycytes of the megakaryocyte type in pernicious anaemia (× 1000.)



FIG. 6.—Macropolycyte of the megakaryocyte type showing large granules in the cytoplasm. (× 1000.)

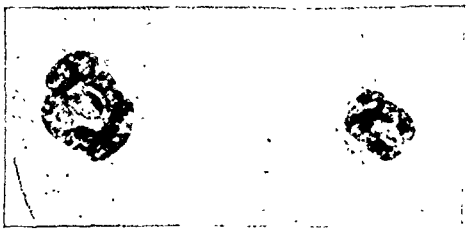


FIG. 7.—Macropolycytes of the megakaryocyte type in pernicious anaemia. (× 1000.)

THE SURGICAL TREATMENT OF PHTHISIS AND BRONCHIECTASIS.*

(With Special Plate.)

BY

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IN most European countries, and to an increasing extent in America, operative treatment of certain classes of cases of phthisis and bronchiectasis has been widely accepted. In this country—chiefly, in my opinion, as a result of lack of knowledge of the results obtainable and of the more suitable types to submit to operation—progress has been very slow. Operative mortality has been very considerably reduced; and whereas formerly it has been so high that only the most hopeless cases were submitted to operation, a stage has now been reached where operation can be recommended with reasonable certainty that the immediate post-operative period will be safely passed.

The two conditions—bronchiectasis and phthisis—offer very many similarities, and as their cure is dependent in many instances upon the same factors I shall consider them together, pointing out various minor differences as occasion offers. In both diseases the evolution of surgical treatment has developed along similar lines. Both diseases occur at a comparatively early period in life and both have a very high mortality. In third-stage tuberculosis the mortality is probably in the neighbourhood of 80 per cent. in the course of five years, and Powell and Hartley state that "bronchiectasis, owing to its anatomical character, is not a disease from which we may expect recovery. At the best, all that we may hope for is that, by preventing decomposition of the sputum, we may be able to arrest its further progress. In nearly all cases, in spite of treatment, the disease gradually advances."

The object of the surgeon is to prevent the evil results of the contraction of fibrous tissue on the important pulmonary structures, either by allowing the rigid thoracic wall to fall in, or, by interposition of either solid or gaseous buffers between the chest wall and lung, to allow localized or generalized pulmonary collapse. In this way cavity walls are brought into apposition and healing is aided, in addition to which the lung is given adequate rest.

METHODS OF TREATMENT.

Division of Adhesions.

These operations are used in cases where artificial pneumothorax treatment is only partially successful owing to the presence of localized adhesions between parietal and visceral pleurae, which prevent full pulmonary collapse. Only comparatively narrow bands offer any hope of successful division. These bands are commonly found overlying cavities in the lung; their deleterious effects are shown by the figures of Sangman and Gravesen. In 211 pneumothorax cases the proportion of patients able to work after three to thirteen years was only one-half as many in those with adhesions as compared with those free from adhesions. Open thoracotomy with ligature and division of the adhesions has been tried, and resulted in some cases in widespread infection of the pleura or eventual intractable fistula. It has therefore been abandoned. The method of choice is the cauterization of adhesions under the control of thoracoscopic vision, as devised by Jacobaeus of Stockholm.

The operation, performed under local anaesthesia, consists in the introduction of a trocar and cannula through a convenient intercostal space, the telescope with its terminal light replacing the trocar. After perforation of the pleura any adhesions present are examined with a view to their division. If this is considered possible, a finer trocar and cannula is introduced in such a position as to bring the cautery as nearly as possible at right angles to the adhesions to be divided. The current required to cause a strong red glow in the cautery is estimated before introduction and is controlled, advisably, by a foot switch. Gentle pressure will result in gradual division of the adhesion. When this is complete the ends retract and should be examined for any bleeding points, which, if present, can be retouched.

When doubt exists as to the presence of a prolongation of a cavity into the pulmonary end of the adhesion cauterization should be done as near the parietal pleura as possible. Smoke may temporarily obscure the field, but is rarely a serious inconvenience. A slight degree of surgical emphysema is a common sequel, but the main complication has been severe empyema, either early or late, and has resulted in death in 7 to 8 per cent. of cases. A small effusion, the result of irritation, is fairly common, but reabsorbs in the majority of cases within a short time. One case of fatal haemorrhage has been recorded.

The indications for this procedure depend upon *x*-ray appearances in conjunction with the amount and character of the sputum, the temperature, and the pulse. Thus, during artificial pneumothorax treatment, when a definite cavity is held uncollapsed by a fine adhesion, and the temperature, pulse rate, and sputum are increased, the operation is advisable. The operation should not be attempted in the presence of pleurisy nor with bands of greater thickness than one centimetre. Within these limits this auxiliary method of treatment appears to have a limited but definite field of usefulness in tuberculosis.

In my series of fifteen patients thoracoscoped with a view to cauterization the complete operation was only possible in four, of whom two have done well eventually.

Pneumolysis.

The object of this operation is to produce a localized collapse of the lung in order to compress cavities. The operation consists in the separation of the lung, with the visceral and parietal pleurae (being adherent), from the chest wall, the line of cleavage being underneath the endothoracic fascia. It may be performed anteriorly, in the axilla, or posteriorly. The latter site is usually chosen where the operation is combined with thoracoplasty. Various media have been used for filling this space between pleura and chest wall. Tuffier uses fat from the abdominal wall, lipomata, or omentum. Baer uses paraffin wax with a small proportion of bismuth carbonate and iodoform. The objection to this fill is that it acts as a foreign body, and may be discharged following sinus formation. Archibald has used a portion of the pectoral muscle, and Sauerbruch occasionally uses a gauze pack, repacking the space repeatedly, with the result that granulation tissue is formed over which the superficial structures are subsequently allowed to fall in.

Pneumolysis may be used as an independent or a supplementary procedure. In the former case results have been disappointing, the reasons being that the procedure is too localized. Tuberculosis is very rarely localized to the apex of the lung, and for bronchiectasis enormous fills would be required to bring about any noteworthy compression of the base. As a supplementary operation to pneumothorax some quite satisfactory results have been recorded. The best results have been obtained in apicolysis secondary to thoracoplasty, in which a residual cavity has remained at the apex.

I have operated on two cases by this method—one in order to collapse the apical portion of the lung, following incomplete artificial pneumothorax, the other as supplementary to a previous thoracoplasty with a partially collapsed apical cavity. In each case fat was used as the filling medium, and both cases healed by first intention. The ultimate benefit, however, was only slight, and it is doubtful if the operation justifies a wider field.

Phrenicotomy.

Paralysis of the diaphragm resulting from division of the phrenic nerve will cause diminution of the hemithorax and consequent collapse of cavities in the base of the lung, and even some decrease in size of cavities higher in the lung. Simple division of the phrenic nerve in the neck, however, is not always followed by diaphragmatic paralysis, complete and permanent. This is due to the presence of accessory phrenic fibres which join the main

* Abstract of a Hunterian Lecture delivered at the Royal College of Surgeons of England.

stem after its entrance into the thorax. When present, they join the main phrenic in the thorax within two inches of the clavicle, and are stated to occur in from 30 to 40 per cent. of cases. The original operation of simple division has therefore been modified.

Radical Phrenicotomy (Local Anaesthesia).—A small incision is made parallel with the posterior border of the sterno-mastoid muscle in its lower half. The fascia is incised and the muscle drawn forwards. The phrenic nerve is exposed beneath the fascia overlying the scalenus anticus. The nerve is anaesthetized, divided, and the lower end seized in artery forceps. The nerve, carefully freed from surrounding structures, is slowly twisted around the forceps, and gradually withdrawn from the thorax. Often the nerve can be completely extracted, in other cases it may require division when a sufficient portion is withdrawn. Some dragging pain in the chest is common, and spasmodic movement of the diaphragm may occur. The only noteworthy complication has been haemorrhage, from which death has been reported in one case out of several hundred recorded. The average raising of the diaphragm after operation was stated by Felix to be 7 cm. at the end of inspiration and 3 cm. at the end of expiration, and it is said that the lung volume is reduced by 400 to 800 c.cm. The indication for this operation in tuberculosis is when the disease is subacute and the patient too ill for major proceedings, or when the disease in the better lung appears too extensive for artificial pneumothorax treatment. It can be used as an indication of the condition of the so-called "better lung" preliminary to thoracoplasty. When basal adhesions limit the value of pneumothorax treatment it is of value, and has been advised as a routine to prevent mediastinal displacement and reopening of cavities after pneumothorax treatment has been concluded. In bronchiectasis great improvement has followed radical phrenicotomy, but the cure is rarely complete. It has also proved valuable in haemoptysis in this disease.

My series of cases numbers 17, 5 being supplementary to thoracoplasty, 3 to pneumothorax treatment. In 8 of these simple division of the phrenic nerve was performed, and in those cases in which no other operation was done proved disappointing. The last 9 cases, however, have had radical phrenicotomy performed, and the results have proved much more satisfactory. (Since the above I have carried out the operation a further thirty times, making a total of 47 cases, without complication and in practically every case some definite improvement.) The diaphragm has become raised in every case and the chest capacity has been obviously reduced, with improvement of symptoms.

Thoracoplasty.

The following are the indications for thoracoplasty in tuberculosis: fibrotic disease with mediastinal displacement; cases in which artificial pneumothorax has been successfully carried out but in which reactivation results when the treatment is given up (in these cases pleural adhesions generally prevent further pneumothorax treatment); certain cases of long-standing disease with more extensive cavitation; pleural effusions, recurrent in spite of other treatment; true tuberculous empyemata, unassociated with secondary infection; recurrent haemoptysis resistant to other forms of treatment. The important factor in all cases is that the disease must be mainly unilateral. There should be no signs of recent activity in the "better" lung unless they are minimal and considered to be the result of spread from the worse lung. Cavitation in the better lung negatives operation. In general, there should have been no spread of disease in the better lung as shown by physical signs or x-ray examination during the three months preceding operation.

Thoracoplasty is, as a general rule, inadvisable under 14 years of age, as in the contracting fibrotic type of disease the chest wall naturally tends to fall in. In adults over 45 years of age the cardiac condition is not so satisfactory and the chest wall and costal cartilages are rigid. The general condition must be taken into consideration, although wasting is not a contraindication in itself. Advanced lesions of the cardio-vascular system will contraindicate except where cardiac embarrassment is due to mediastinal displacement. Moderate laryngeal lesions are permissible, but tuberculous lesions in other parts—especially intestine, kidneys, and bones and joints—are generally accepted as contraindications.

In bronchiectasis it has not yet been definitely determined which are the types of disease to give the best results from thoracoplasty, but the disease must be unilateral. Physical signs are often absent or indefinite even in advanced disease, and x-ray evidence may be very doubtful. The introduction of substances opaque to x rays—such as lipiodol, an oily solution of iodine—into the bronchi has proved of very great value and will generally show whether the disease is unilateral or bilateral. The substance is introduced into the trachea under local anaesthesia; the patient is tilted to the side required, and the chest x-rayed about ten minutes later. The two lungs are examined in this manner at seven days' interval.

Partial thoracoplasty, done either in the upper or lower part of the chest in combination with artificial pneumothorax or as a sole method, has proved unsatisfactory in the majority of cases, being too localized and preventing the full value of the rest factor.

The Operation of Thoracoplasty.

Apart from my first eight cases, which were done under local anaesthesia alone, all thoracoplasties have been done under the combination of gas and oxygen with local anaesthesia. The usual antishock treatment with glucose saline is undertaken for forty-eight hours. One hour before operation the patient is urged to empty the cavities of all secretions by coughing and changes of posture.

In my own series the two-stage operation has been done as a routine, owing to diminution in shock and to the lessened absorption of toxins into the circulation from the more gradual compression of the lung. The interval between the stages is as near as possible three weeks.

The operation itself is performed with the patient in the semi-sitting posture, the vertebral column being made convex towards the affected side by means of an axillary cushion. The incision commences from the level of the spine of the scapula and passes downwards in the space between the scapula and the vertebral column, turning outwards along the tenth rib, to the posterior axillary line. The muscles are divided in the same line, and the skin edges clipped off with towels. The ribs are exposed by raising the scapula, and each intercostal nerve from the eleventh to the fourth infiltrated with a few cubic centimetres of 1 per cent. novocain. The periosteum is rapidly stripped off each rib and the small back muscles off the posterior ends. The ribs from the eleventh to the fifth are then divided posteriorly as near the transverse processes as possible and anteriorly as far as is required for each individual rib. This is variable, but generally about 4½ to 5 inches is removed from the fifth to the tenth and only a small portion of the eleventh. The wound is closed in layers with drainage for twenty-four to twenty-eight hours and firm strapping applied over the dressing to fix the involved hemithorax, but allowing the tube to be withdrawn without disturbing the main dressing. The main point in after-treatment is the insistence on the expectoration of sputum. Pain can be prevented by omnopon, and coughing assisted by firm hand pressure on the affected side during the effort. Sputum rapidly increases in quantity after the first three days, diminishing later. The temperature and pulse rates reach their maximum on the third day, owing probably to some retention of sputum and to increasing absorption into the circulation from the collapsing lung.

The second stage, comprising removal of portions of the first four ribs, is performed through an incision from the upper trapezius and following the inner border of the scapula to its inferior angle. The further steps are similar to the first operation, the first rib only offering difficulty. It is often advisable to complete the removal of the second rib before any attempt is made to expose the first. Only half an inch need be removed, but care must be taken not to damage the dome of the pleura, or the vascular and nervous structures in the near neighbourhood.

The after-treatment is similar to that of the first stage. A compression splint is worn, after the wound has healed,

for several months until the bone union is firm. Sanatorium treatment is advisable for several months after operation, especially for tuberculosis.

The complications are: death from shock; death from pulmonary embolus; aspiration pneumonia of the better lung, the most common complication leading to early death; infection in the wound arising from spread through the pleura; later deaths generally resulting from spread of the disease in the sound lung; one fatal case of haemorrhage has been recorded from erosion of the subclavian artery by the first rib (Brunner).

Alexander has collected all the results of thoracoplasties for tuberculosis published in the period 1918 to 1925. There were 1,159 operations, by fifty-three surgeons, and 57 per cent. of the patients showed improvement or were cured. All these were far advanced and were becoming worse in spite of sanatorium methods of treatment. So far I have done the operation of thoracoplasty on 33 patients. Of these, 33 per cent. have been apparently cured or greatly improved; 21 per cent. have improved; in 20 per cent. there has been slight or no change; 20 per cent. have died later from tuberculosis; and 6 per cent. have died within three weeks of the date of operation.

ILLUSTRATIVE CASES.

CASE I.—*Tuberculosis.*

A woman, aged 31, with a history of having had pleurisy in 1918 and again in 1921. Under Dr. Vere Pearson at Mundesley Sanatorium artificial pneumothorax was started on the right side and continued for eighteen months. It was abandoned owing to pain and contraction of the pneumothorax cavity. In June, 1924, she had haemoptysis with the return of tubercle bacilli in the sputum and evidence of slight activity of the left apex. The sputum amounted to 1 to 2 ounces daily. There were signs of activity and excavation in the right upper lobe with generalized signs over the middle and lower lobes. (Fig. 1.)

On September 3rd, 1924, under gas and oxygen and local anaesthesia, thoracoplasty (first stage) was performed. Portions of the fifth to the eleventh ribs (inclusive) were removed—total 38½ in. = 96.5 cm. There was only slight reaction to operation. On September 26th, under the same anaesthesia, the second stage of the operation was carried out, portions of the first to the fourth ribs being removed; these offered some difficulty owing to close approximation. Length removed at second stage 11¾ in. = 29.5 cm.; total removed at both stages 50½ in. = 126 cm. There was no noteworthy post-operative reaction.

After-History.—The sputum rapidly disappeared and the temperature became normal. Within three weeks the sputum was free from tubercle bacilli. The patient has kept quite well during the last eighteen months and is apparently cured. Seen recently, there was no cough or sputum; the only complaint was that she was putting on too much weight. (Fig. 2.)

CASE II.—*Bronchiectasis.*

A woman, aged 33, was admitted to Brompton Hospital in December, 1923, for bronchopneumonia, which was followed by pulmonary abscess formation in the right lower lobe. This abscess burst into a localized area in the pleural cavity. The empyema and abscess were drained by me early in 1924, the narrow opening between being dilated. Healing occurred in spite of the presence of the bronchial fistula, and the patient left the hospital well in every way.

In August, 1925, she returned to hospital on account of cough, copious blood-stained sputum of offensive odour, and night sweats; the amount of sputum was 10 ounces daily. Tubercle bacilli were found on one occasion. Lipiodol, administered intratracheally, showed large cavities in the right lung; the left lung showed emphysema. (Fig. 3.)

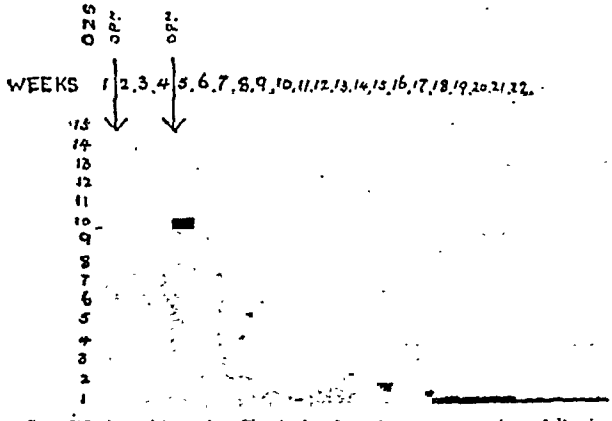
Thoracoplasty (first stage) was performed on August 29th, portions of the fourth to the eleventh ribs being removed—25 inches in all. The patient's condition after the operation was especially good. The second stage of the operation was carried out on September 16th, when portions were removed from the first to the third ribs—8 inches in all; the total removed at the two stages was 33 inches. Except for a post-operative rise the sputum steadily diminished in quantity, and six weeks later, when she was transferred for convalescence, the sputum amounted to only 1 ounce. There was also a gain in weight at this stage of 3 lb. She has since gained a stone in weight and the sputum is less than 1 ounce daily, being mucoid in type. (Fig. 4.)

CASE III.—*Bronchiectasis.* (See Chart.)

A male, aged 20, was admitted to hospital with bronchiectasis. He had had pneumonia two and a half years previously. He was well until August, 1923, when he suffered from cough and expectoration. From June to October, 1924, he had right artificial pneumothorax treatment; this reduced the sputum from 10 to 12 down to 3 ounces daily. Later there was an increase to 8 ounces daily and pleural effusion developed. From October the sputum increased to 14 or 15 ounces daily.

The first stage of thoracoplasty was performed on January 28th, 1925, under gas and oxygen and local anaesthesia, a total amount of 25 inches being removed from the eleventh to the sixth ribs inclusive. At the second stage, on February 18th, the first to the fifth ribs were partially resected, 14 inches being removed. The total resection amounted to 39 inches. By March 23rd the sputum was reduced to 6 ounces daily; the patient had gained 9½ lb. in hospital.

After-History.—Within four months of leaving hospital the sputum was *nil*. He is now doing a full day's work as chauffeur.



CASE III, bronchiectasis. Chart showing changes in sputum following the two stages of thoracoplasty, and the gradual disappearance of the sputum in the ensuing weeks.

SUMMARY.

1. Thoracoscopy and cauterization of adhesions is a valuable aid to artificial pneumothorax treatment, especially in cases where cavities are prevented from collapsing by adhesions of the band-like or string-like type, not thicker than 1 cm. The number of cases is comparatively small.

2. Pneumolysis can be used as an independent procedure or as supplementary to other operations; it is of no use in bronchiectasis, where basal collapse is required and there is no point of counter-pressure. It is most valuable for uncollapsed apical cavities following thoracoplasty for tuberculosis. Fat appears to be the ideal medium if enough can be obtained. As an independent procedure the results are not satisfactory as the collapse is too localized.

3. Phrenicotomy, or rather radical phrenicotomy, is of value, as an independent procedure, occasionally in the more acute forms of phthisis, where major operations are contraindicated, and in early and, on the worse side, in bilateral bronchiectasis. It is of value as a test of the activity of tuberculous disease in the so-called "better" lung previous to thoracoplasty. As a supplementary procedure it is useful in cases treated by artificial pneumothorax, either where diaphragmatic adhesions are present, or, by reducing the capacity of the hemithorax, it may prevent reopening of cavities when the lung is allowed to expand at the end of pneumothorax treatment. Supplementary to thoracoplasty, it is of much value where the compression of the major operation is found to be insufficient. Haemoptysis from basal cavities can sometimes be controlled by this operation.

4. Thoracoplasty offers considerable hope of amelioration or actual cure in chiefly unilateral tuberculous disease of the lung, where artificial pneumothorax treatment is impossible or unsatisfactory, and where the disease is progressing in spite of careful medical treatment. It is of use also in cases of tuberculous empyema without secondary infection. In the septic tuberculous empyemata the results are not good, but the disease is otherwise almost invariably fatal. Considerable improvement, amounting to cure in some cases, can be obtained by thoracoplasty in unilateral bronchiectasis, but this operation will not collapse the larger bronchi near the hilum, and in some cases a non-odorous mucoid sputum remains after the operation.

5. Pneumotomy should be reserved for localized tuberculous abscesses which are not draining well through the bronchus, and in cases in which the generalized tuberculous process appears to be inactive. In bronchiectasis it should only be used in those cases of large localized abscess formation, and not in the diffuse variety.

6. Bronchostomy is occasionally of great value following drainage of large abscesses; a partial plastic operation on the chest wall should be performed subsequently.

7. Pneumectomy appears to be almost totally contra-indicated in phthisis. In bronchiectasis, although apparently the ideal procedure, it is followed at present by an almost prohibitive mortality (50 per cent.). Further improvements in the technique may eventually make it the operation of choice. The more recent cautery pneumectomy, as practised by Graham in America, has been followed by a much lower mortality than any other lobectomy operation, and offers reasonable hope of eradication of the septic lobe.

My thanks are due ... ... the staff of the Brompton Hospital fc ... in this work, and to Dr. Stanley ... skiagrams, a few only of which are reproduced here.

THE MACROPOLYCYTE.

(With Special Plate.)

BY

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DEFINITION.

THE diameter of a normal polymorph in stained films is from 10 to 12 microns. The term "giant" polymorph or macropolycyte—a name suggested by Sir Humphry Rolleston—may be applied to those polymorphs having a diameter of more than 14 microns. Fig. 1 represents a normal polymorph with five nuclear segments. This has a diameter of 11.5 μ.

ETIOLOGY.

The macropolycyte is found in two widely different conditions—such opposite conditions, in fact, as to make one doubt whether the causation can be the same in the two cases.

The first is in the acute pyogenic infections. Fig. 2 illustrates a macropolycyte from a case of staphylococcal osteomyelitis showing the following blood picture:

Total leucocytes	18,000	per c.mm.
Polymorphs	84	per cent.
Lymphocytes	12	,,
Large mononuclears	3.5	,,
Myelocytes	0.5	,,

Polynuclear count:

I.	II.	III.	IV.	V.
41	43	15	1	0 per cent.

Fig. 3 illustrates a "giant" in a case of streptococcal septicaemia.

Total leucocytes	26,000	per c.mm.
Polymorphs	79	per cent.
Lymphocytes	13	,,
Large mononuclears...	7.5	,,
Myelocytes	0.5	,,

Polynuclear count:

I.	II.	III.	IV.	V.
34	43	21	2	0 per cent.

The staining reactions of the nucleus and cytoplasm are identical with those of other polymorphs in the films. They are rare—encountered perhaps twice or three times a year by anyone constantly examining blood films—and seem always to be associated with a polymorphic leucocytosis and the presence of myelocytes in the peripheral blood. They are, I think, "sports."

The other condition in which macropolycytes occur is pernicious anaemia, and in this disease they are frequently seen. They measure 16 to 21 microns in diameter and are of two distinct types. The first type of macropolycyte is similar in nuclear structure and cytoplasm to the other polymorphs, but the cell is larger, and the nucleus is frequently hypersegmented, as shown in Fig. 4, which illustrates this type. In the second pernicious anaemia type the total bulk of the nucleus is great, absolutely and relatively to the amount of cytoplasm. The nucleus may be of the band form, or have one, two, or as many as fourteen divisions. The basi-chromatin is not so densely massed as in the normal cell, and the cytoplasm contains larger granules, which are neutrophile in reaction. Figs. 5, 6, and 7 illustrate this type. These cells look very like megakaryocytes.

The etiology of the macropolycyte in pernicious anaemia is probably that of the disease itself. The polymorph, even in the absence of the "giant," behaves in a curious manner.[1]

The normal polynuclear count may be taken to lie between the following values:

	I.	II.	III.	IV.	V.	
(1)[2]:	11	25	47	15	2	per cent.
or (2)[3]:	5	35	41	17	2	per cent.

which give readings of 36 and 40 in the left-hand columns and 64 and 60 in the right.

In infections the count moves to the left, as in the cases of osteomyelitis and septicaemia quoted above:

I.	II.	III.	IV.	V.	
41	43	15	1	0	per cent.
34	43	21	2	0	,,

In pernicious anaemia frequently, possibly in all uncomplicated cases at some period of the disease, the polynuclear count shows an increase of the cells of Classes 4 and 5, as in the following examples:

	I.	II.	III.	IV.	V.	
Case 1 ...	8	20	39	22	11	per cent.
Case 2 ...	6	27	40	22	5	,,
Case 3 ...	7	20	44	24	5	,,
Case 4 ...	7	16	29	39	9	,,
Case 5 ...	12	34	26	20	8	,,
Case 6 ...	10	15	38	24	13	,,
Average...	8	22	36	25	9	,,

The left-hand columns give an average of 30 and the right 70. The count is actually right-handed. As far as my experience goes, this does not occur in any other disease.

We have, then, at the outset in pernicious anaemia some factor producing a dysleucopoiesis, and accentuation of this may lead to the production of the macropolycyte.

Some recent papers on the transformation of monocytes in frog's blood, and cells of lymph nodes, into giant cells are suggestive. M. R. Lewis[4] states that giant cells are formed from monocytes in hanging drop preparations of frog's blood. E. Barta,[5] working on tissue cultures of lymph nodes, finds that giant-cell formation takes place at some distance from the surface, and ascribes this to deficiency of oxygen. The addition of embryonic extracts greatly diminishes the effects of oxygen want, and cells in the deeper layers then behave like those with a sufficient oxygen supply. There are many more factors in experimental conditions than simple oxygen want. Alteration in *pH*, gaseous diffusion, surface tension, saline ratios, and lipoid changes must take place and also influence cell metabolism.

Anoxaemia is not the only state responsible for the production of macropolycytes in pernicious anaemia, but whatever the primary general state in this disease is, the marrow seems to take control in the later stages. In addition to the behaviour of the polynuclear count, and the presence of macropolycytes and ichthyoid cells, there is direct proof of this local influence. Walterhöfer and Schramm[6] have scraped and irrigated the medullary cavities of long bones in cases of pernicious anaemia that were apparently moribund. The alteration of the local chemical state effected produced surprisingly good results. That the results may be only temporary does not affect the argument.

These considerations lead to the conclusion that the macropolycytes and pernicious anaemia may be due, either to a primary defect in the chemical composition of the blood, the marrow changes completing the vicious circle, or to a congenital or an acquired condition of the haemocytoblast itself leading to defective haemopoiesis and local biochemical abnormalities, with, later, general effects.

PROGNOSTIC IMPORT.

The first type of macropolycyte, that found in pyogenic infections in association with myelocytes, is, I think, an "accident" and has no prognostic value, except, perhaps, as signs of marrow "stress." Of the second type, the first subdivision, an exaggerated form of the polymorph frequently found in pernicious anaemia, is present at the crises of the disease, and is an index, I think, of local urgency in the haemopoietic tissues, which may or may

not end in temporary recovery. The presence of the second, or megakaryocyte type, is of grave significance, and no case in my experience has lived beyond a few days from its appearance.

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THE EXPERIMENTAL BASES OF PROPHYLAXIS IN GONORRHOEA.

BY

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THE study of the initial stages of gonococcal urethritis is of extreme importance from the point of view of prophylaxis. Knowledge of the pathology of acute gonococcal urethritis is almost entirely derived from the observations of Finger, who inoculated moribund patients with gonococci and made a detailed examination of their urethrae thirty-six to forty-eight hours afterwards. His description is as follows:

"The gonococci begin to proliferate on the surface of the epithelium which they are about to attack; they are not spread diffusely, but in small groups. At the end of thirty-eight hours they have scarcely as yet penetrated into the epithelium; at the most they have slipped in among the superficial coils at the points presenting the feeblest resistance. If the epithelium is denuded at any point, exposing the connective tissue, the organisms penetrate there more rapidly. They invade the lumina of the crypts of Morgagni with extreme rapidity, and are found in them, lying free on the surface of the epithelium. From this moment, and, indeed, well before this, diapedesis has commenced, the leucocytes are everywhere numerous in the superior layers; a certain number have gained the surface, and one already finds intracellular gonococci."

Finger's observations would lead us to believe that until at any rate thirty-eight hours after inoculation very little penetration of the epithelium by the gonococci has taken place, and that the adoption of appropriate prophylactic measures would stand every chance of success if carried out within this period.

Experimental work has, however, been carried out by other observers using organisms other than gonococcus, which suggests that the diffusion of organisms within the urethra might be more rapid than Finger's observations on the gonococcus would lead us to suppose. Notable among these experiments are those of Palladino Blandini. This observer placed a loopful of *Bacillus prodigiosus* within the meatus of a guinea-pig, and twelve hours later made a necropsy under aseptic conditions and investigated the fate of the organisms since their introduction into the urethra. His choice of *B. prodigiosus* was determined by the fact that on account of its brilliant colouring matter it could easily be recognized. Palladino Blandini found that a widespread diffusion of prodigiosus from the urethra had taken place within twelve hours of inoculation, but that if the animal were allowed to survive for more than twenty hours these diffused organisms were destroyed by the tissues. That the method of diffusion was not through the blood stream was proved by the fact that blood cultures taken from the heart were sterile. In 1909 I repeated and confirmed these findings, and four years later Teale and Embleton proved that what occurred in the urethra was equally true of organisms placed on other mucous surfaces or inoculated into serous cavities. The prodigiosus is capable, therefore, of passing through uninjured mucous membrane, and may be carried from thence along the lymphatic stream and eventually into the thoracic duct. Teale and Embleton's experiments showed, therefore, as mine had already done, that with regard to the generative tract the spread of organisms is into the submucous tissues rather than along the surface. At the necropsy of a guinea-pig killed twelve hours after a loopful of organisms had been placed within the meatus no infection of the surface of the posterior urethra, bladder, ureter, or pelvis was found, although extensive dissemination by the lymphatics had taken place. The organism employed for this experiment was, however, *B. prodigiosus*, and it is possible that what is true of that organism is not true of the gonococcus. *B. prodigiosus* is a non-pathogenic organism, whereas the gonococcus, at any rate in the human being, provokes immediate and intense reaction of the tissues. Nevertheless, on repeating this experiment with a mixture of *Staphylococcus aureus* and diphtheroids I obtained similar results, and these organisms, unlike *B. prodigiosus*, are pathogenic to guinea-pigs.

In the light of these experiments Finger's contention that there occurs little or no penetration of the human urethral mucous membrane by the gonococcus for thirty-eight hours seemed open to doubt, and for many years I awaited an opportunity of throwing new light on the situation. Would organisms placed within the meatus of a human being behave in the same way as organisms inoculated into the urethra of a guinea-pig? Two years ago a chance of carrying out a somewhat similar observation on a human being presented itself.

A patient was admitted under my care into the Royal Northern Hospital suffering from an impassable stricture in the bulbar urethra and an early carcinoma of the glans penis. At 11 a.m. I placed two loopfuls of *B. prodigiosus* within his meatus. At 6 p.m. I opened the urethra on the bladder side of the stricture without having previously attempted to pass any instrument. After dividing the stricture through the wound in the perineum, a sterile cotton-wool swab on a holder was passed along the urethra from the opening in the perineum to a point 2 inches from the meatus and an agar plate inoculated. A second swab was similarly passed until it reached a spot 1 inch from the meatus, and another plate inoculated. My object in doing this was to ascertain whether in the seven hours' interval the organism had spread along the surface of the urethra towards the bladder. The fact that both plates remained sterile showed that no surface spread had occurred. I then carried out a partial amputation of the penis. Later multiple transverse sections were made through the amputated penis. These sections were stained with methylene blue and carefully examined under an oil immersion objective for organisms within the tissues. On the surface of the urethra no organisms could be found, but in the submucous tissues large clumps of small bacilli morphologically resembling *B. prodigiosus* were visible. These collections of bacilli were either in the form of more or less circular colonies or else were spread out along a line, and although no proof could be furnished of this, their distribution suggested that they were lying within the submucous lymphatics.

This observation, therefore, so far as it went, led me to believe that what was true of the behaviour of *B. prodigiosus* within the urethra of a guinea-pig was equally true of its behaviour when placed within the meatus of a human being.

By the courtesy of Dr. Mervyn Gordon I was able to repeat my observations in a monkey. Similar results were obtained.

A loopful of Hoffmann's bacillus and *Staphylococcus aureus* was placed within the meatus, care being taken to inflict no damage whilst the inoculation was being made. Eight hours later the monkey was killed by means of chloroform. Transverse sections were then prepared through the urethra at different levels and organisms searched for. In this case a few Gram-positive bacilli and cocci were found lying in the lumen of the urethra and also deep to the epithelial cells, but further up, an inch from the meatus, larger clumps were found in the submucous layers.

The above experiments suggest, although they do not prove, that in any infection of the urethra there is an immediate dissemination of organisms through the lymphatics as well as a slower spread which is associated with the signs of inflammatory reaction. In the majority of cases the tissues are able to deal with the immediate lymphatic invasion provided that it is not too liberally reinforced by fresh supplies from the surface. The chief point of practical interest is the bearing of these observations on prophylaxis in gonorrhoea.

Clinical observations, and particularly those carried out at the prophylactic stations established by the American Army in Paris during the war, showed that the chances of success of any prophylactics are directly proportional to the time that has elapsed since exposure. Since the gonococcus is easily destroyed by weak disinfectants while lying on the surface of the urethra, irrigation with weak permanganate solution is found to be effective in the great majority of cases, provided the patient presents himself for disinfection within a few hours of exposure. The longer the interval between exposure and disinfection, the more often does the disinfection process fail. No absolute time limit, however, can be laid down to guide us in arriving at a decision as to

when a prophylactic measure is likely to be of use, and the evidence given before the Trevethin Committee on this point by different authorities was conflicting in the extreme. Individuals vary in their susceptibility to gonococcal infection, and for this reason it is advisable to wash out the urethra even although twenty-four or forty-eight hours have elapsed since exposure.

From the fact that irrigation is successful in safeguarding the patient in the great majority of cases, provided it is carried out within three to four hours of exposure, it may be surmised that the tissues are generally capable of dealing with the more rapid dissemination of organisms occurring through the lymphatics, for if this were not so prophylactic measures would be of little avail. But it is within the experience of most urologists that from time to time prophylactic measures fail, even although carried out within an hour of exposure. I can remember several instances in which the urethra was washed out immediately after exposure, either by a competent orderly or else by the patient himself, and yet gonorrhoea developed. It is possible that these failures of prophylaxis are to be explained by an inability of the patient's tissues to deal with the rapid lymphatic dissemination. The problem is complicated, however, for we know that not only do individuals vary in their resistance to the gonococcus, but also that different strains of the organism exist with different grades of virulence. The reaction of the tissues to these different strains varies, as is shown, not only by the acuteness of the attack that develops, but also by the length of the latent period.

It has been proved by experiment and by clinical practice alike that the ideal fluid for prophylactic irrigation is of a non-irritating nature with the maximum power of penetration. Could a bactericidal fluid be obtained which was capable of being absorbed to some extent by the lymphatics, it is possible that a still higher ratio of success might be achieved, and that the small percentage of cases in which prophylactic measures miscarry might be abolished. But before these ideals can be reached more research is necessary, and it is possible that the knowledge which will be of the greatest use will be that which throws light on the part played by the lymphatics in disease and in health.

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NYSTAGMUS IN AN INFANT.

BY
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AND
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THE following case has been under our observation for about two years and seems worth recording.

The patient is a child with paralysis of the third nerve and nystagmus. The mother has five children living, but she has also had two that were stillborn, and one that died shortly after birth. Several of her confinements have been "instrumental," the history of these suggesting some maternal malformation. When the patient was born instruments were again required, and soon after birth it was observed that "the right eye was too much closed." There was also a suggestion that the right side of the face was paralysed, but, if so, it soon passed away. It was further observed that the right eyeball diverged. At the end of two months the drooping of the right upper eyelid disappeared.

When first seen the child was 9 months old; there was no evidence of ptosis, but the reverse, for the lid was now unnaturally drawn up, exposing part of the sclerotic above the cornea. The right eye could only be closed imperfectly, and the child seldom closed it; even when in sleep the eye remained open. The right eyeball was still divergent; it could be moved up to, but not beyond, the middle line, and it could not be raised or lowered. The right pupil was dilated, and did not seem to react to light. Moreover, this eye had rotatory nystagmus. The left eye seemed normal, except that it also exhibited rotatory nystagmus.

A year later both upper eyelids seemed normal. The mother stated that the child now closed both eyes, but that the right tended to open during sleep. The right eye was still divergent, but came in when the left was covered—not, however, beyond the middle line. The pupils were now equal. There was still rotatory nystagmus in both eyes, but the range was less. The child tended to turn the head to the left, as if endeavouring to use both eyes. The fundus in both eyes was normal.

A few months later the condition was much the same. When the child looked down, the right upper eyelid did not come so far down as the left.

Here, then, we have a lesion that in effect produces abeyance of function of the greater part of the higher area of the brain that controls the oculomotor apparatus of the right eye, and with this is associated nystagmus affecting both eyes. It is interesting to note that the paralysis of the levator palpebrae was replaced by spasm, thus resembling the cyclic affections of the third nerve.

Nystagmus occurring in a miner is not an entity by itself, and should not be considered in a detached manner. The neurasthenia that attends the later stages in the miner is in great measure fostered by the legal recognition of injury received and the elaborate provisions made for dealing with compensation.

Imperfect retinal images are common to all cases of nystagmus, or there is interruption of the transmission of these as afferent impulses. The miner straining to see while at work at the black and dark coal face has very imperfect images to guide his labours, while often the actual onset of the disorder is occasioned by a blow.

In the case here recorded there is interruption of the associated efferent impulses, with loss of some higher control. Nystagmus is sometimes associated with mental defect, and it is sometimes a terminal manifestation in exhausting diseases. In the background of all these there is probably loss or enfeeblement of the higher control, with consequent release phenomena.

SYMMETRICAL HYPERKERATOSIS OF THE EXTREMITIES.

(? *KERATODERMIA BLENNORRHAGICA.*)

BY
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THE following case of symmetrical hyperkeratosis of the extremities is of interest because of its association with the gonococcus.

A married woman, aged 51, presented herself at the dermatological clinic of the Royal Infirmary, Cardiff, on October 16th, 1925. She stated that the condition started as a horny mass under the left great toe about a month previously and soon spread over the sole of the foot, simultaneously appearing on the sole of the right foot. There were soreness and burning sensations, and the mass of horny tissue caused pain on walking. Immediately previous to the attack her left ankle swelled and became painful; later, shortly before she came to the clinic, there were pain and swelling in the left knee.

On examination the soles of both feet, including the sides and backs, showed heaped masses of horny skin, broken here and there by cracks. At the points of the toes cornified matter projected for a quarter to half an inch, almost like horns. There was no exudation, and at one or two points where a portion of the mass had been detached the skin was pink, soft, and dry. In front of each knee there was a similar but less marked horny thickening in a well defined patch. There were also a few small patches of thickened epidermis on the left palm, but no rash of any kind elsewhere on the body. Her left knee was somewhat swollen, tender, and slightly reddened. Her left ankle was slightly swollen, but she made no complaint of pain. There was some general malaise.

I asked Dr. Erie Evans, in charge of the venereal disease clinic for women, to examine, and if necessary, treat her. Dr. Evans reported that on making a bimanual and other examination nothing abnormal was found, but that she had taken smears from the vagina, cervix, and urethra. On these Dr. Scholberg, pathologist to the Royal Infirmary, reported that gonococci were present in the films from the urethra and cervix, but not in that from the vagina. Dr. Evans then treated the case, giving trimine intramuscularly and rhubarb and soda mixture by the mouth.

By October 23rd the left knee was much improved, and the malaise relieved; there was still slight swelling of the left ankle. The urethra and cervix were treated with protargol, and contramine

pessaries were applied every night; hexamine mixture was administered.

On October 30th the joints were normal.

From November 6th to January 8th, 1926, local treatment only was employed.

On January 22nd, February 19th, and March 12th 0.25 c.cm. of contramine was given intramuscularly. On February 26th all local treatment was discontinued.

Films from the urethra, vagina, and cervix, taken on March 5th and 12th, were reported to be free from gonococci.

During this period the hyperkeratosis was not treated except by frequent soaking in hot water, and the condition slowly improved. Some increase, however, occurred on the palms, the right palm, which when first seen had shown only doubtful indications, being affected as well as the left. Both palms were nearly covered with thickened epidermis, and the normal lines were deepened. By the time that her treatment at the V.D. clinic ceased the patient had sufficiently recovered to be free from discomfort, and she stopped attending the hospital.

As it seemed desirable to obtain confirmatory evidence of the gonococcal origin of the condition a complement fixation test was made. This, however, could not be carried out till July owing to difficulty in obtaining a suitable antigen. Dr. Scholberg reported that the result was negative in all dilutions. The Wassermann test had been carried out in October, 1925, with a negative result in all strengths except 40 per cent., where it was weakly positive.

On September 3rd, 1926, the patient attended at the dermatological clinic at my request, when I found that the masses of horny epidermis had largely disappeared, but that there was still a border of the condition at the sides and backs of the feet, especially at the heels, also on the balls of the toes, especially the great toes. A little keratosis was noted at the points of the toes. On the knees there was a thin patchy scattered keratosis, and the palms showed patches here and there, rather more on the left palm. There was some scaliness and discoloration of the skin at the outer side of the left ankle.

It is difficult to be sure that this was a case of keratodermia blennorrhagica, first described by Vidal in 1893, and by others since. In favour of this diagnosis are the rapid increase of the eruption when it first appeared, its symmetry, its association with inflammation of two joints, and the fact that gonococci were definitely found in the smears from the urethra and cervix. On the other hand, there were no obvious signs (discharge or inflammation) in the genital region, the complement fixation test was negative, and there was no evidence in the skin lesions of any vesicle formation, such as Sabotka[1] and others have described as marking some of these cases. It may, however, be urged in reply to the last objections that the fixation test was not applied till long after the films from the genital region had been found negative, and that the absence of vesicle formation was due to the chronicity of the accompanying condition, which even in the joints was only subacute. Other possible causes seem excluded, so I think one is justified in believing that the case was one of keratodermia blennorrhagica.

REFERENCE.

[1] Sabotka: *Dermatol. Woch.*, February 15th, 1913, p. 181, and February 22nd, p. 218.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

TWO-STAGE OPERATION FOR CLEFT PALATE.

ALL surgeons have experienced difficulty in obtaining uniformly good results in operations for cleft palate when the cleft is complete, involving both hard and soft palate; when the cleft is exceptionally wide and its closure involves considerable shifting of the lateral flaps; and when the condition exists in adult or adolescent patients as the result of neglect or failure of earlier operation.

Success depends upon adequate circulation in the flaps and their approximation without tension. Failure is due to the difficulty experienced, in the types of cases referred to above, in securing both conditions. The disturbance of circulation involved by the free lateral incisions and extensive detachment of the lateral flaps necessary to ensure their approximation without tension is considerable, with the result that their nutrition is lowered and their power to heal greatly diminished. It is a common and disappointing experience to find that after an apparently successful operation union of the flaps has failed wholly or in part. None of the devices used for eliminating undue tension, though of themselves adequate, have given certain results, and the reason for the failure appears to be impaired vitality of the flaps due to inadequate circulation.

For some time, in cases where the necessary disturbance of tissue is such that the circulation of the flaps is likely to be seriously reduced, it has been my custom to perform the operation in two stages. At the first sitting the lateral incisions and separation of the flaps are carried out and they are freed until they approximate without tension. No attempt is then made to pare the edges nor to suture them together. Two silkworm-gut sutures, passed through the flaps some little distance from their inner margins, are tied just sufficiently tightly to keep the edges close together, the lateral incisions are packed with gauze, and the patient is sent back to bed.

The second stage of the operation is performed about ten days later. By that time the circulation of the flaps has been re-established and their vitality is adequate for healing to take place rapidly and smoothly. Very little disturbance of the flaps is called for at the second operation. The edges are pared in the usual way; they are gently pushed together and sutured with fine silkworm-gut. Two silkworm-gut tension stitches are again inserted to take tension off the suture line, and the lateral grooves are packed with gauze.

By this method a very great improvement in results has been obtained, and many cases which were regarded as inoperable, or in which previous operations had failed, have been successfully treated. Among these were a number of patients whose ages ranged from 12 to 28 years.

I am indebted to Mr. Harold Round, honorary dental surgeon to the Queen's Hospital, for suggestions and help in devising a method which would secure both the conditions essential for success.

Birmingham. WILLIAM BILLINGTON, M.S., F.R.C.S.

PULMONARY EMBOLISM FOLLOWING CHILDBIRTH.

A CASE very similar to those recorded by Drs. W. J. Young and T. McCulloch (November 6th, p. 835) came under my notice in April last. I received an urgent call, and on arrival about five minutes afterwards found the patient dead. She had been confined about two weeks previously, and the midwife who had been in attendance stated that everything had been normal. The patient had been getting up for three or four days previously; the day before she had been out of doors for about an hour, and had felt quite well, except for a slight pain in the left groin. On the morning of her death she arose feeling quite well, and while preparing her husband's breakfast she suddenly fell down and died in a few minutes.

This was obviously a case of pulmonary embolism following femoral thrombosis. These cases impress upon us the careful watch which should be kept for the somewhat insidious onset of thrombosis during the puerperium and the prolonged rest that is necessary once the condition is established.

Warrington. J. J. MANNING, M.B., B.Ch., N.U.I.

A PATIENT of mine recently died with dramatic suddenness from pulmonary embolism following childbirth. She was a married woman, aged 36, and the confinement was her sixth.

Delivery was normal; my last visit to her was on the fourth day of the puerperium, when to all appearances she was well. I had not left the house more than ten minutes before she died. Her husband explained to me how, during a conversation with him just after my departure, she sat up in bed and suddenly complained of very severe pain in the left chest. She gasped for breath, clinging to the bedside, her face, first ashen grey, rapidly became cyanosed, and in a few minutes she expired.

I was unable to ascertain any other possible cause of death, for I had examined her chest and heart at my first visit.

Tarland, Aberdeenshire. C. G. SALVESEN, M.B., Ch.B.Ed.

OVERDOSAGE OF HYOSCINE.

As injections of hyoscine hydrobromide are being widely used for the treatment of chronic cases of encephalitis lethargica with the Parkinsonian syndrome in order to reduce the rigidity, the following account of overdosage may be of use.

M. W., aged 52, was admitted to the Hull Royal Infirmary with marked rigidity of the legs, and to a lesser extent of the arms, which had come on after a definite attack of encephalitis lethargica.

He was given hyoscine hydrobromide 1/100 grain once a day. This was later increased to 1/100 grain twice a day, and eventually to 1/75 grain twice a day. The rigidity was so much diminished that he was able to walk with, and occasionally without, assistance, and to feed himself, which he was unable to do on admission.

The treatment was occasionally omitted for a few days. During its course, and shortly before he was discharged, he showed the following symptoms, which lasted some hours. Twenty minutes after an injection of 1/100 grain, twitchings of arms and legs, profuse sweating of body and limbs, pallor of nose, stuporose condition, eyes closed, no loss of rigidity, picking movements of fingers, pupils dilated, no response to questions, no remembrance of having any indisposition at all. He stated that he felt quite well when he came round, and took food well.

STANLEY E. DENYER, C.M.G., M.D.,
Physician, Hull Royal Infirmary.

Reports of Societies.

DIABETES AND PREGNANCY.

AT a meeting of the Edinburgh Obstetrical Society on December 8th, 1926, Professor R. W. JOHNSTONE, the President, in the chair, Dr. C. G. LAMBIE read a paper on diabetes and pregnancy.

Dr. Lambie said that diabetes and pregnancy were rarely associated, because diabetes caused atrophic and sclerotic changes in the ovaries and uterus, with resulting sterility, disorders of menstruation, and sexual frigidity. These functional disturbances could often be rectified by the use of insulin, except when organic changes were advanced, as in the more chronic cases. Pregnancy exacerbated a pre-existing diabetes and might be the starting-point of the malady in individuals predisposed by heredity or otherwise. The factors leading to the deterioration in sugar tolerance were: (1) absorption of products of protein hydrolysis from the placenta during the first three to four months—a condition analagous to infection; (2) the emotional excitability of the earlier months causing glycogenolysis in the liver; (3) overeating, after the period of morning sickness was over; (4) the necessity for giving a good deal of carbohydrate to prevent acetonuria; (5) hyperactivity of the thyroid and pituitary glands during the later months. Improvement in tolerance was commonly observed towards the end of pregnancy, while, simultaneously, there was an increasing tendency to acetonuria. Both these phenomena were attributable to the large amount of carbohydrate utilized by the foetus. The islet tissue of the foetus underwent marked hyperplasia and hypertrophy to meet the increased functional demands. There was no good experimental evidence that insulin passed from the foetus to the mother. During labour the blood sugar rose slightly, but after delivery there was a sharp rise, the hyperglycaemia lasting for twenty-four to forty-eight hours. Thereafter an improvement in tolerance occurred, and might be accompanied, in insulin-treated cases, by hypoglycaemia. This was due either to a return of pancreatic function, or to excretion of carbohydrate as lactose in the milk, or to replenishment of the glycogen reserves after their depletion during labour. In the latter case it might be quite shortlived and be followed by another fall in tolerance, after which there might be a gradual improvement. Acetonuria during labour was due to (1) depletion of the glycogen reserves in order to provide carbohydrate for the supply of energy for muscular contraction, (2) anaesthetics, (3) starvation, (4) haemorrhage, and (5) sepsis. In diabetes, coma might result. After delivery the tendency to acetonuria disappeared, more fat could be taken, and the necessary calories might be given with a smaller intake of glucose.

When diabetes coexisted with pregnancy both the maternal and foetal mortality were high. Hyperglycaemia in the foetus, which was secondary to maternal hyperglycaemia, resulted in hydramnios, the development of an excessively large foetus, and hyperplasia of the islets of Langerhans in the foetal pancreas. Hydramnios might be caused by foetal diuresis together with endosmosis, due to high osmotic pressure of the saccharine foetal urine. Hypoglycaemia, due to excessive insulin secretion by the hyperplastic islet tissue, was a possible cause of death after birth. These conditions, with their associated obstetrical complications, were avoided by the use of insulin. Insulin also raised resistance to infection and diminished the susceptibility to puerperal sepsis. Diabetes had to be distinguished from other forms of glycosuria occurring in pregnancy—namely: (1) early alimentary glycosuria, (2) renal glycosuria, (3) lactosuria, (4) glycosuria due to carbohydrate starvation, and (5) late alimentary glycosuria. The latter might closely resemble diabetes, and be liable to similar complications; its most outstanding feature was its rapid disappearance within about ten days after delivery. It was probably of hypophyseal origin. In some cases hyperthyroidism might be a cause of glycosuria. Insulin had improved the prognosis, especially as regards the life of the mother. Some cases now passed through pregnancy without loss of tolerance; pregnancy might go on to full term and a healthy child might be born. In treatment the diet must contain a relatively high proportion of carbohydrate in order to avoid acetonuria. After delivery, a high fat low carbohydrate diet might be given, and it then became possible to reduce or abolish the dose of insulin. The calorie requirements were about 35 calories per kilo per diem, and the protein minimum was approximately 1.2 grams per kilo per diem. Insulin was administered in the usual way; it did not harm the foetus, even when minor attacks of hypoglycaemia occurred. Induction of abortion was indicated (1) where diabetes had existed prior to pregnancy and the patient was unwilling to submit to continuous supervision under suitable conditions; (2) in very emaciated, ill-nourished subjects; (3) where there was rapid loss of tolerance in spite of treatment; (4) in cases of acidosis with uncontrollable vomiting. Where a large foetus was expected premature labour might be induced, or Caesarean section under nitrous oxide and oxygen anaesthesia might be performed. Labour was best conducted under hyoscine and morphine narcosis. During labour the usual doses of insulin, together with a very liberal allowance of easily assimilable carbohydrate, should be given to prevent acidosis. Dihydroxyacetone was of especial value here.

Rupture of Caesarean Scar.

Professor J. A. KYNOCH described two cases of rupture through a previous Caesarean section scar during pregnancy, the two cases having been encountered within a period of two months. In the first case the patient had had two Caesarean sections performed, and she was again nearly at full term. The clinical features in this case were severe collapse preceded by several hours of abdominal pain and sickness, during which time the patient had walked several miles in search of work. Operation was performed immediately on admission, and an aperture about the size of a five-shilling piece was found at the lower end of the scar, which was thin and translucent for its whole length, the peritoneal coat alone being intact. There was a considerable quantity of free blood in the peritoneal cavity. Supravaginal hysterectomy was performed, and the patient left hospital three weeks after admission. The second patient was also eight months pregnant, and had had one previous Caesarean section performed. She was suddenly doubled up with pain, and had a fast pulse and hurried respirations, the rupture being complicated by an acute lobar pneumonia. Rupture was diagnosed, and the abdomen opened under local anaesthesia. The rupture was found to be five inches in length, and the membranes bulged through. After removal of a dead child the wound was sutured and the patient sterilized. After a somewhat

stormy convalescence, owing to the chest condition, the patient eventually did well, and was discharged four weeks after operation. Professor Kynoch then went carefully into the statistics of rupture after a previous Caesarean section, and contrasted the results of the classical and lower uterine segment incisions. He stated that the most frequent causes of rupture seemed to be infection with defective coaptation of the wound edges, catgut as a suture material, and the attachment of the placenta to the line of the incision. In both of his cases there had been a febrile convalescence at the previous Caesarean sections, and catgut had been the suture material employed. He favoured silk as the best suture material for Caesarean section, and thought catgut most unsuitable.

GASTRIC AND DUODENAL ULCERS.

AT a meeting of the Cardiff Medical Society on November 23rd, 1926, with Dr. A. HOWELL in the chair, Mr. J. BERRY HAYCRAFT read a paper on the diagnosis and treatment of gastric and duodenal ulcers.

Mr. Haycraft described the routine method of examination of cases in the surgical unit, which consisted of clinical history, physical examination, *x*-ray examination, fractional test meal, examination of stools for occult blood, red cell count, blood compatibility in case of transfusion being necessary, and the Wassermann test. He emphasized the importance of obtaining an accurate clinical history of the symptoms of the disease from its very commencement, and described in detail the symptoms and methods of questioning the patients. This was regarded as the most important factor in making a diagnosis. The *x*-ray examination should be conducted by the radiologist and the surgeon together; screen examinations give a better indication of the nature of the lesion than films. The fractional test meal had been of value in confirming the diagnosis in only half the cases, but the detection of the presence of occult blood in the faeces had often been the conclusive factor. In considering what type of operation was of most value, Mr. Haycraft emphasized particularly the need for early diagnosis, since this rendered the operation as a rule simpler and less dangerous. As a rule duodenal ulcers and simple ulcers close to the pylorus could be cured by the operation of gastro-jejunostomy, but ulcers on the lesser curve and those adherent to the liver or pancreas required some form of excision or partial gastrectomy. In these old-standing adherent cases partial gastrectomy was often very difficult, and the mortality was higher than that of gastro-jejunostomy, but by earlier diagnosis and treatment some of these more severe operations could be avoided. Sleeve resection was not a good operation unless combined with gastro-jejunostomy. Two cases of hour-glass stomach where gastrectomy was not feasible had done well with gastro-gastrostomy combined with gastro-jejunostomy. Careful pre-operative treatment was most important, particularly the rectal administration of glucose, and, if necessary, one or more transfusions of blood. Similar post-operative measures to combat shock were indicated.

PROGNOSIS.

AT a meeting of the West Kent Medico-Chirurgical Society at the Miller General Hospital, Greenwich, on December 10th, 1926, Dr. H. NOCKOLDS, the President, in the chair, Dr. ROBERT HUTCHISON delivered the Purvis Oration on the subject of prognosis. In the course of his address Dr. Hutchison showed how prognosis was affected by changes of type in disease and the introduction of new methods of treatment. Scarlet fever was less severe, while measles and pneumonia were more severe than in the previous generation. Prognosis was considered under three headings—namely, the expectation of life in the healthy; in acute self-limited disease, such as typhoid fever and pneumonia; and in chronic diseases, whether curable or *not*. In the first case heredity was the most important factor in promoting long life, but occupation and personal habits had also to be considered. The organs chiefly concerned in longevity were the heart, kidneys, and lungs. Though it was difficult to estimate the resistance of bacterial infection, no patient less than 40 years of age should die of acute disease, and the London Hospital records showed a 10 per cent. increase of mortality for each decade. Bad signs were: an increased pulse rate, low blood pressure, disturbance of the first sound at the apex, and refusal of food. The temperature was unimportant, except in little children and old people. Sinking down in bed was an unfavourable indication, and the tone of the voice should be noted. In acute disease prognosis might be upset by a sudden heart failure. The chief sources of error were: faulty diagnosis, paying too much attention to physical signs and too little to the patient, failure to allow for complications, inability to estimate the reserve power of the heart, and refusal to face facts. Such words as "never" and "almost" should not be used in prognosis, and no unnecessary prophecies should be given.

JAMES MACKENZIE INSTITUTE.

AT the James Mackenzie Institute for Clinical Research, St. Andrews, on November 30th, 1926, Mr. A. ERNEST MAYLARD read a paper on the bearing of such conditions as high blood pressure, glycosuria, and albuminuria on the performance of surgical operations.

In the case of high blood pressure it was not, he said, so much the symptom itself that demanded consideration as the condition on which it depended, for where the rise in pressure was due to kidney, heart, or artery disease grave lesions connected with these viscera introduced factors of greater moment than the symptom they produced. Save in exceptional cases where the systolic pressure exceeded 240 and the diastolic 140 the risks connected with operation appeared to be negligible. Charles Moots of *Toledo*, U.S.A., had suggested as a working hypothesis that primary consideration should be given to the "pressure ratio"; this ratio was found by dividing the pulse pressure by the diastolic; it was considered "ideal" when it stood at 50 per cent., but when below 25 per cent. or above 75 per cent. it was "very grave."

Operations upon patients suffering from glycosuria, as represented by diabetes, did not appear to add any very serious risk or impediment in their performance, as best illustrated by the success that had attended amputations for diabetic gangrene. Inasmuch, however, as the disease could be controlled to a very large extent, and the patient benefited by the preoperative administration of insulin, operations of expediency could be undertaken without any fear of untoward results; experience further proved that wounds healed as well as when no such disease existed.

In discussing the subject of albuminuria as it affected operation, Mr. Maylard said that consideration must be directed more to the cause of the symptom than to the mere presence of albumin in the urine. By simply reasoning on the matter it might be supposed that, when the albuminuria was dependent on a pathological condition of the kidney, the gravity of an operation would be considerably increased; but practical operative experience indicated that unless the disease of both viscera was very advanced but little risk was added to the performance of an operation. Albumin in the urine dependent on most other conditions, particularly if only a trace, could be looked upon as practically of no moment, even when an operation was not imperative but merely expedient.

In conclusion, Mr. Maylard said that he had had the valuable collaboration of Professors Wilkie and John Fraser of Edinburgh, and of Professors Archibald Young and Peter Paterson of Glasgow, in investigating the results of operations on patients suffering from one or other of the three symptoms under discussion. Their investigations and opinions were practically similar to those undertaken and given by other surgeons. It all practically amounted to this, that with the usages of modern surgery, in the most comprehensive acceptance of the term, combining expeditiousness and careful technique, aided by adequate medical and dietetic treatment, and the right selection of an anaesthetic best suited for the particular case, there were but few sufferers from any one of the three symptoms of high blood pressure, glycosuria, and albuminuria in whom operations of expediency or necessity involved any additional risk.

Reviews.

A BEGINNER'S GUIDE TO MEDICAL TREATMENT.

IT is not surprising that Dr. ROBERT HUTCHISON'S former pupils have often asked him to publish the lectures on elementary therapeutics which he used to give at the London Hospital, and it is gratifying that he has at last been induced to do so. His book *The Elements of Medical Treatment*[1] is a model of brevity, clearness, and sound judgement.

While emphasizing the value of radical treatment where possible, and the ease with which symptomatic treatment may be abused, Dr. Hutchison recognizes that in many cases the latter alone is available. Hence many of his chapters deal with such general symptoms as fever, pain, insomnia, dyspepsia, and heart failure. Under each heading a short account is given of the indications for treatment, followed by a description of the general management of the patient, the diet suitable for the case, and the drugs which relieve the symptom. The treatment is illustrated by prescriptions, to each of which is appended a brief account of the reason for the use and combination of the drugs. The book is brought well up to date by the inclusion of chapters on the use of insulin in diabetes, on endocrine treatment, on bacteriotherapeutics, and on psychotherapy. The wise conservatism of Dr. Hutchison is shown by his statement that, with the exception perhaps of the endocrines, no remedies have been used with less discrimination than vaccines, nor with less of the healthy scepticism which should characterize the therapist. And of endocrines he says that, apart from insulin, only three are of proved therapeutic value—namely, those from the thyroid, the suprarenal, and the pituitary.

The book is written in an easy, conversational style, and should achieve Dr. Hutchison's aim in being useful to the medical student preparing for examinations, and as an introduction to more complete and detailed treatises.

INSULIN IN THE CONTROL OF DIABETES.

THAT a second edition of LAWRENCE'S *Diabetic Life*[2] should appear in less than a year after the publication of the first seems sufficient proof of its usefulness in "its main object [to quote the author's preface] of simplifying the modern treatment of diabetes for both patient and practitioner." Comparatively few changes have been made; the line-ration scheme, which the author introduced in his first edition (reviewed by us on February 27th, 1926), has been rearranged and somewhat simplified. Fuller examples of diet have been added, as well as an excellent table of treatment for emergency use in coma. The author has included an important observation on page 13 regarding the widespread idea that if a patient who has once begun the use of insulin should discontinue its administration the diabetes will become worse. "This," he says, "is quite wrong. The omission of insulin leaves the patient in the same condition as before, or sometimes a little better." This observation is well worth emphasizing, as is a further remark on page 66: "My experience has been that most cases who have been careful about their diet and insulin have been able to reduce their insulin dosage considerably during the first six to nine months of treatment." Perhaps if the author had favoured "high diets and high insulin" rather than "moderate diets and moderate insulin" he would have found his patients even better able to reduce or to omit entirely their insulin. In a footnote on page 53 another noteworthy dictum occurs: "No careful practitioner should be deterred from giving a severe case insulin, either because no blood sugars are available, or because admission to a hospital is impossible." This is sound and bold advice which can safely be followed. We are glad to find that there is no drawing back from the opinion expressed in the first edition, that "starvation has now become unnecessary" in the treatment of diabetes. The book is an admirable little guide to the control of diabetes by diet and insulin. The publishers have improved the legibility of the printing by the use of a paper with a different face.

Dr. CONYBEARE has compiled a short manual for the use of diabetic patients, entitled *Self-Care for the Diabetic*,[3] which contains just so much scientific explanation of the principles underlying treatment as will help a patient of average intelligence without confusing or alarming him. One drawback which any diabetic patient must experience is the fact that in order to live he must never forget his disease. The criticism is sometimes heard that it is a pity to put into a patient's hands a book about his disease. But in diabetes the patient is compelled to think about his condition and study his symptoms. Dr. Conybeare deserves congratulation on his book, which will inform a patient without giving cause for unfounded fears. The principles of dieting are made interesting and easy to grasp, though we find it difficult to agree with his warning (on page 19) that all breads, whether white or brown, are unsuitable for any except the milder cases of diabetes. As a matter of experience even the severest cases may, with the help of insulin, take considerable quantities of white or brown bread with advantage to their nutrition as well as their palates. But it is noticeable that in many of his specimen diets Dr. Conybeare shows some reluctance to be generous in his carbohydrate allowance—a very common and apparently very English attitude. For instance, on page 29 a patient's chart is shown giving the information that on a diet of 1,960 calories a patient weighing 164 lb. (dressed) motored 100 miles, and was very tired. The ratio of fat to carbohydrate and protein is given as 160 to 55 and 75. Both the carbohydrate content and the calorie value of the diet are on the meagre side. Elsewhere the author complains that diabetic diets are expensive, chiefly because of the fat they have to include. But it begins to be time that "high fat" diets for diabetics gave place to ordinary diets with adequate insulin. The chapter on "hygiene for the diabetic" is one which every diabetic patient should learn by heart. Appendix I consists of a brief list of common foodstuffs and their values; it is as good as any we have seen, and commendably shorter than most. The volume is printed in the excellent type of the Oxford Medical Publications.

TREATMENT OF CHRONIC ARTHRITIS AND RHEUMATISM.

IN his *Treatment of Chronic Arthritis and Rheumatism*[4] Dr. H. WARREN CROWE advocates a method of vaccine treatment which he finds to be of value to patients in an early stage. His views on the bacteriology of these common disabling affections are here clearly enunciated, but as they are in some respects different from those usually held he is wisely giving his detailed description of this subject in a supplementary volume. He concludes that osteo-arthritis, which is a local disease, as well as most forms of non-articular rheumatism, are due to streptococci, whereas rheumatoid arthritis, which is a general disease, is due to a certain group of staphylococci described by him in 1912, one of which he called *Micrococcus deformans*. In most instances, however, both infections are at work, and accordingly in this group of mixed arthritis both vaccines should be employed. While holding that the microbic conception of these diseases is fundamental, and pleading for a trial of these vaccines, he is emphatic on the importance of removing any septic focus, and points out that if such a focus is left cure may be rendered impossible, or that if apparent cure does take place it will be temporary only. Infection of the small intestine is regarded as more significant than that of the

[1] *The Elements of Medical Treatment.* By Robert Hutchison, M.D., F.R.C.P. Bristol: J. Wright and Sons, Ltd.; London: Simpkin, Marshall, Hamilton, Kent and Co., Ltd. 1926. (Cr. 8vo, pp. vi + 163; 1 figure. 7s. 6d. net.)

[2] *The Diabetic Life.* By R. D. Lawrence, M.A., M.D. Second edition. London: J. and A. Churchill. 1926. (Extra post 8vo, pp. viii + 167; 7 figures. 7s. 6d. net.)

[3] *Self-Care for the Diabetic.* By J. J. Conybeare, *M.C.*, M.D.Oxon., F.R.C.P.Lond. Oxford Medical Publications. London: Milford, Oxford University Press. 1926. (Cr. 8vo, pp. xi + 70; 1 figure. 3s. 6d. net.)

[4] *The Treatment of Chronic Arthritis and Rheumatism.* By H. Warren Crowe, D.M., B.Ch.Oxon., etc. Oxford Medical Publications. London: Milford, Oxford University Press. 1926. (Demy 8vo, pp. xi + 196; 16 figures, 2 charts. 8s. 6d.)

colon. The section on clinical diagnosis and prognosis contains evidence of much careful observation, and mentions many clinical points to look out for.

The details of treatment are carefully laid down, and particular stress is placed on the importance of giving small doses of vaccine, as sensitization is prone to occur; Dr. Crowe disapproves of the large doses of streptococcus vaccines sent out by clinical laboratories, and thinks that tragedies have not more often resulted because the streptococci used are harmless. Daily estimations of the body weight are regarded as important in calculating the dose of vaccines. Methods of treatment other than by vaccines are considered; in the author's opinion protein shock therapy is seldom successful in chronic arthritis, and renders subsequent cure by his vaccines more difficult. The contra-indications to the use of peptone as a means of desensitizing patients who have become sensitized to vaccines are mentioned, and the preliminary injection of a minute dose (one two-hundredth) of the vaccine before the real dose is given, in order to obviate sensitiveness, is also described. The results of his treatment are detailed, and among them are included those recorded in his article with a special plate in our issue of November 6th last (p. 834) on the treatment of osteoarthritis of the hip by vaccines.

ORGANIC CHEMISTRY MADE INTERESTING.

WE agree with the views expressed in the preface to Dr. READ'S *Text-Book of Organic Chemistry*[5] that few works on the subject are written in a form to attract the attention and hold the interest of the modern student with his shrewd sense of examination values. Dr. Read is to be congratulated on the effort he has made to break away from the desultory style of presentation to which he alludes. The text of his book is studiously calculated to evoke the interest of the student, the author having recognized the importance of the principle that academic treatment becomes more illuminating when connected with well known facts of technical and economic significance. The book not only contains all the material requisite for the needs of the usual examination courses in science and medicine, but it connects with every item of instruction some piece of information having popular interest. The method renders every page attractive to read and is bound to lighten the burden that falls on mere memory. The volume is large enough for the student entering on the subject, but organic chemistry offers scope in other directions for the application of the author's plan of treatment. Too little is usually done to demonstrate in the proper place the types of reactions which are to become the organic chemist's guide to anticipation of events. He is not generally taught what must happen, for example, to two hydroxyl groups when attached to the same carbon atom, or through what course of intermediate linkages hydrazobenzene undergoes transformation into benzidine. Emulation of the author's plan of treatment in the directions indicated would do much to render organic chemistry a more coherent system of study. As it is, the book deserves the highest commendation. We anticipate that it will be so much appreciated by students, good judges as they are, as to become a popular favourite.

[5] *A Text-Book of Organic Chemistry.* By John Read, M.A.Camb., Ph.D.Zürich, B.Sc.Lond. London: G. Bell and Sons, Ltd. 1926. (Post 8vo, pp. xi + 679; 87 figures. 12s. 6d. net.)

CONCERNING SEX.

Of late there have appeared several small popular books on sex written by people whose only claim to authorship in this subject would appear to be an overwhelming desire to help their fellow women. The extent of the ignorance of well established biological fact and the disregard for scientific method on the part of these authors revealed in such books is appalling. The demand for reliable information concerning the biology and physiology of sex is very widespread, for to the general public sex is still, in spite of the abundant fruits of the last five-and-twenty years of most profitable research, one of the great mysteries. There is no mystery about it really, but only ignorance. It is true that we do not understand as yet all the details of the processes of sex determination and of sex differentiation, but it is equally true that the salient and significant features of these processes are clearly apprehended. The study of the chromosomes and of the hormones has revealed the precision and the wonder of the mechanism concerned. So great has been the advance in knowledge concerning sex that already it is possible to use this knowledge with precision in the actual control of sexuality.

These matters are of interest to the general public, which consists of individuals every moment of whose lives is affected in one way or another by one or more of the various manifestations of sexuality. It is indeed highly important that the general public should be aware of current scientific opinion concerning sex, and it was high time that some professional biologist, well equipped for the task and with a flair for the interpretation of scientific terminology into language understood by the man (and woman) in the home, should enlighten those who desire to make themselves acquainted with the present state of knowledge concerning sex.

Mr. J. R. BAKER[6] has essayed this task. The matter is well chosen and well arranged, the language is sibple, and the facts are adequately, frankly, and rationally discussed. The book may be exceedingly helpful to the general public and to the students of biology and of medicine to whom it is addressed. We say "may be" advisedly, for frankly we are somewhat repelled by the author's method of teaching. We agree that it is necessary to avoid meticulous accuracy and the consideration of elaborate detail in any attempt to disseminate scientific knowledge lest these should disguise the real significance of the general principles of the subject, and that it is often necessary to provide for those who look to others for their creed. But it is highly dangerous to incorporate personal opinion in a body of established fact in such a way as to make them indistinguishable. Mr. Baker has the courage and confidence as well as the enthusiasm of youth. He does not limit his instruction to the biological aspects of this subject, but fearlessly and unrestrainedly simplifies the anthropological and psychological aspects too. Perhaps he knows his public, and gives it that which it needs.

We cannot recommend this book to biological and medical students, however, because they should not be encouraged to listen contentedly to the voice of personal authority. The student should early recognize that humility becomes those who tend the lamps that are lit on the alter of knowledge; that there is more than efficiency in a mechanism, there being also a beauty that provokes respect and even reverence. The book reminds one of a dissected cadaver, very marvellous in a way but definitely dead; the smell of jasmine has given place to the fumes of formalin.

Those who wish to make a quick survey of what is known concerning sex will be well advised to read this book. The opinions expressed will not fail to stimulate thought and discussion. The reader may or may not be attracted, but he will most certainly be grateful to the author for having condensed into so small a space so much that is of importance.

[6] *Sex in Man and Animals.* By John R. Baker. With a preface by Julian S. Huxley. London: George Routledge and Sons, Ltd. 1926. (Demy 8vo, pp. xvi + 175; 22 figures. 7s. 6d. net.)

SIR FELIX SEMON.

The Autobiography of Sir Felix Semon,[7] edited by his eldest son, Dr. Henry C. Semon, and Mr. Thomas A. McIntyre, appeals not only to medical men but to a wider audience on account of his varied interests, especially in music and sport, and of his wide acquaintance with royal and other prominent personalities of his time, whose names appear frequently in this memoir. From a professional point of view his career is a striking example of the power of energy and ability to conquer difficulties, for coming as a foreigner to London in 1876 he not only attained great personal success, but helped to raise and establish the status of laryngology, the specialty in which

[7] *The Autobiography of Sir Felix Semon, K.C.V.O., M.D., F.R.C.P.* Edited by Henry C. Semon M.A., M.D.Oxon., M.R.C.P.Lond., and Thomas A. McIntyre. London: Jarrolds, Ltd. 1926. (Med. 8vo, pp. xi + 349; 15 illustrations. 21s. net.)

he was a leader. Further, the volume is adorned by a number of illustrations, his portrait by Sir Hubert von Herkomer and cartoon by Leslie Ward in *Vanity Fair* being especially good.

He was born in Danzig in 1849, and was educated in Berlin; incidentally as a student he fought three duels—two with rapiers, one with pistols. In 1870, when the Franco-German war broke out, he left the study of medicine to serve in the second regiment of the Prussian Uhlan Guards, and went through adventures both exciting and unpleasant. On returning to Berlin he was inspired by Virchow's lucid, if somewhat dryly delivered, lectures and grasp of a colossal subject. The teacher imbued the pupil with the principle that for the science of medicine *unity* of thought is indispensable; this Semon afterwards enforced by insisting on the intimate connexion of laryngology with general medicine. To Traube he acknowledges the debt of being taught, "in his hard and exacting school," to observe accurately and minutely and to interpret such observations with care. In 1874 he left Berlin for a year of post-graduate study in Vienna and London, without, of course, any suspicion that he was really saying good-bye for life to his German home, and would return to Berlin only as a casual hurrying visitor.

On arriving in London he concentrated his work at St. Thomas's Hospital, where he was subsequently on the staff, and his impressions, favourable and critical, of the current medical teaching in London as compared with that on the Continent will be read with interest. An introduction to Dr. (afterwards Sir) Morell Mackenzie, whose "truly wonderful manual dexterity" made a great impression on him, led to regular attendance at the Golden Square Hospital, and after being advised by Richard Liebreich of St. Thomas's to take up a specialty he eventually decided in favour of laryngology as against otology. The early struggle in London is well told, with its strenuous work and interludes of pleasure; it was at this early date that he laid the foundations of what was subsequently known as Semon's law. In 1877 he became engaged to be married. Ten years later, in 1887, he was well established in practice, and for this and other reasons, including loyalty to his friend Fränkel, he declined the offer to become director of the State Policlinic for Diseases of the Throat and Nose at Berlin. The story of the Emperor Frederick's fatal illness, given in considerable detail, has, so the editorial note points out, been somewhat curtailed. Though there is no need to enter into this much discussed matter, it may be mentioned that quite recently Sir Rennell Rodd (*Times*, November 25th, 1926) showed how erroneous is the statement, which indeed in one place (p. 162) Sir Felix Semon repeats—though of what he says elsewhere (p. 148) a different interpretation is possible—that the Crown Princess was solely responsible for Mackenzie's introduction into the case; it was in fact due to the action of Bismarck, who, however, from political considerations, never corrected the opinion universally held in Germany. The thirteen years from 1890 to 1902 marked the zenith of Semon's career, and in 1909 he retired.

The last years of his eventful life were clouded by the war, in which his three sons served, and it is sad that in 1919, when about to be operated upon for supposed malignant disease, he wrote in obvious depression, "The last five years have brought me nothing but worry and misery, and an ever-increasing feeling of bitterness at the ingratitude of my German and some of my British former brother specialists."

NOTES ON BOOKS.

THE last quarterly instalment of the seventy-sixth volume of the *Guy's Hospital Reports*[1] contains twelve articles, of which four are records of cases from the ear and throat department, presided over by Mr. W. M. Mollison, who collaborates in three out of the four reports. The first of these is a case of spontaneous expulsion by coughing of a pneumolith containing much calcium and possibly a calcified tuberculous bronchial gland. The second is on two cases of apparent cure by operation for neuroblastoma of the ethmoid and for carcinoma of the antrum respectively. Dr. J. F. Carter Braine and Mr. Grant Massie report on the results of treatment of 722 cases of mammary carcinoma admitted into the hospital during the thirteen years ending August, 1922, and give eight conclusions; there seems to be little or no connexion between the histology of the growth and post-operative survival; of the 388 verified cases 54 per cent. were alive three years after operation, 21 per cent. after six years, and 11.5 per cent. after nine years. Dr. A. F. HURST describes a case of the Plummer-Vinson syndrome (spasm of the [illegible]cter with anaemia and splenomegaly), [illegible] in 1921 by Plummer and Vinson of [illegible] parative study of the development and physiology of identical twins who had always been under the same environmental conditions, made by Dr. G. P. Crowden, showed their psychological, anatomical, and physiological development to be similar; they were once accused of cheating in an examination because they made the same mistake in the same problem, but their characters were cleared by their form-master, who reported that they sat at opposite ends of the examination hall. Mr. Ralph Brooke and Mr. Frank Cook discuss secondary pelvic contraction, in which an actual diminution in the size of the pelvis results directly or indirectly from antecedent confinements which may have been uneventful. In a preliminary observation on the treatment of nephritis with oedema by large doses of alkalis Dr. A. A. Osman shows that it has some prophylactic value in preventing the incidence of nephritis after scarlet fever, and that it is of use in the treatment of nephritis with oedema.

Dr. BELFRAGE, in introducing his book *What's Best to Eat?*[2] evidently feels the need to apologize for adding another to the list of books on food. He excuses himself on the ground that the relation between disease and faulty habits of diet cannot be too often or too forcibly pointed out. The book has a foreword from Professor E. V. McCollum of the Johns Hopkins University, who tells us in italics that "many and serious as are the problems confronting Europe and America . . . none is more important than the application of the science of nutrition in the daily life of the people." Sir William Arbuthnot Lane, to whom the book is dedicated, is quoted on the wrapper as saying that "the deeper one digs into it the more valuable, instructive, and inspiring are its contents." Dr. Belfrage has a good deal to say of infection from the bowel, particularly from that "sewage chamber" the colon. The general impression we get from the book is that Dr. Belfrage is a most industrious collector of information and opinion on diet, and that the most useful part is the "practical supplement," by Miss LUCY YATES, containing recipes for various dishes.

To encourage the use of smokeless fuels for domestic purposes the Smoke Abatement League has published a book on *Home Fires without Smoke*.[10] It has two editors, Mr. CYRIL ELLIOTT and Miss MARION FITZGERALD. The former modestly confines himself to the preface; of the extent of the latter's effort no evidence is forthcoming. In a foreword Sir NAPIER SHAW, after quoting Carlyle's prophecy of the "hero as a man of letters," expresses the opinion that it is on the "hero as a man of gas" that we must fix our minds for smoke prevention on a large scale. The contributors to the volume, however, do not limit us so strictly. Thus Dr. Margaret Fishenden writes on the use of coke for sitting-rooms, central heating, hot water, and cooking. She allows us to use some coal, provided we begin the fire with the previous day's cinders and give the coal plenty of air. Mr. Goodenough, executive chairman of the British Commercial Gas Association, lauds the advantages of gas; he thinks that gas fires can be made beautiful and so artistic as to harmonize with the room. Mr. Masters favours a liberal use of electricity, but advises a coke furnace and boiler for hot water in winter. Two other contributors, as a result of visiting one hundred and fifty housewives, conclude that the kitchen range is out of date, but they spread their sympathies over coke, gas, and electricity impartially; they plead for scientifically conducted cost and utility tests. The book should be useful to those in search of, or anxious to improve, a home.

The *Transactions* of the sixth biennial congress of the Far Eastern Association of Tropical Medicine, held in Tokyo during the latter half of October, 1925, are being published by the Kyorinsha Medical Publishing Company. The first volume has now been received; it contains 148 scientific papers, in addition to the presidential address of Baron S. Kitasato.

[1] *Guy's Hospital Reports*. Vol. 76 (Vol. 6, Fourth Series), No. 4, October, 1926. Edited by Arthur F. Hurst, M.D. London: Wakley and Son (1912), Ltd. 1926. (Med. 8vo, pp. 379-499; 10 figures, 1 plate. Annual subscription £2 2s. for volume of four parts; single numbers 12s. 6d. each.)

[2] *What's Best to Eat?* By S. Henning Belfrage, M.D.Lond. With a practical supplement by Lucy H. Yates, M.C.A. London: W. Heinemann (Medical Books), Ltd. 1926. (Demy 8vo, pp. xi + 199. 7s. 6d. net.)

[10] *Home Fires without Smoke*. Edited by Cyril Elliott, B.Sc., and Marion Fitzgerald. With a foreword by Sir Napier Shaw, Sc.D., F.R.S. London: E. Benn, Ltd. 1926. (Demy 8vo, pp. xvi + 58. 3s. 6d. net.)

NINETY-FIFTH ANNUAL MEETING
of the
British Medical Association.
EDINBURGH, 1927.



Edinburgh Castle.

THE ninety-fifth Annual Meeting of the British Medical Association will be held in Edinburgh next summer under the presidency of Sir Robert Philip, M.D., LL.D., honorary physician to the King in Scotland, who will deliver his address to the Association on the evening of Tuesday, July 19th. The scientific and clinical work of the meeting will occupy, as usual, the three following days, and on this occasion it will be divided among twenty-one Sections. The names of the Presidents of Sections were published in the SUPPLEMENT of December 4th last; the full list of officers, together with the provisional programme of scientific business and other details of the arrangements for the Annual Meeting, will appear in later issues. The Annual Representative Meeting, for the transaction of medico-political business, will begin on Friday, July 15th. On the last day of the meeting (Saturday, July 23rd) there will be excursions to places of interest in the neighbourhood. We print below the second of a series of descriptive and historical articles on the Scottish metropolis and its relations with the science and practice of medicine. The first article, published on December 4th (p. 1067), dealt with old Edinburgh and the beginning of the Edinburgh Medical School.

THE EDINBURGH MEDICAL SCHOOL FROM 1726 TO THE MIDDLE OF THE NINETEENTH CENTURY.

AFTER the formation of a medical faculty in the Tounis College, the University of Edinburgh, as it now began to be called, commenced to attract students from places outside Edinburgh. The increasing popularity of medical teaching at this school may be roughly gauged by the numbers of graduates in the faculty of medicine during the century following the foundation of the medical faculty. Taken by decades after 1726, the numbers of graduates were as follows: 16, 20, 108, 79, 170, 242, 330, 469, 586, till for the decade ending 1825 the numbers reached 1,071. These figures do not represent all the persons studying medicine at Edinburgh, because in the early days it was more usual to obtain a licence to practise from the College of Surgeons or to graduate at a foreign university, while the fashion of taking a University degree in Edinburgh gradually increased.

The early faculty was composed of Alexander Monro (anatomy), Andrew St. Clair and John Rutherford (institutes of medicine and medicine), George Preston (botany), Andrew Plummer and John Innes (chemistry and medicine), and Joseph Gibson (midwifery). It may be pointed out that Joseph Gibson's appointment was the first professorship in the subject of midwifery in the United Kingdom. Dr. Archibald Pitcairne, Sir Robert Sibbald, and some of the others who had been concerned towards the end of the seventeenth century in the project of founding a medical school at Edinburgh and in obtaining a charter for its College of Physicians, were men of European reputation, but the group forming the faculty of medicine in 1726 appear to have busied themselves chiefly with practice and teaching. Robert Whytt, who in 1747 succeeded St. Clair and Rutherford as professor of institutes of medicine and of medicine, attained a considerable degree of celebrity beyond the confines of Edinburgh. Great public interest was taken in the early years of the eighteenth century in the search for substances which would dissolve a calculus in the bladder. Whytt in 1743 had published an "Essay on the virtue of lime-water and soap in the cure of the stone," which had attracted considerable attention, and, largely as the result of this, he was elected to the chair. An important scientific result of these researches in regard to the properties of alkalis was that of Joseph Black, who in 1754 was led by them to his elaborate series of "Experiments upon Magnesia Alba, Quicklime, and other Alcaline Substances," in the course of which he discovered the first known gas, which he called "fixed air" (carbon dioxide). Whytt busied himself for some years after his appointment chiefly with physiological researches. The publication of some of these brought him into conflict with Albrecht von Haller, the great hierarch of physiology, with whom Whytt had a considerable correspondence. In his observations upon hysterical disorders, Whytt appears to have anticipated the modern conception of referred pain, and he also did much to localize the seat of different reflexes in the spinal cord. He was the first person to give a clear description of tuberculous meningitis or, as he called it, "dropsy of the brain," which is still described according to the three stages into which Whytt divided its symptoms. An interesting point in connexion with this disease was that the foramen connecting the lateral ventricles was observed dilated in a case dying from hydrocephalus which Whytt had seen in consultation with Monro (*secundus*) in the year 1764. This opening has subsequently been known as the "foramen of Monro."



WILLIAM CULLEN.
(After an engraving by Ridley.)

Among the early professors, William Cullen has attained

the most lasting fame. Following the usual practice of the time, Cullen had served an apprenticeship of two years to a Glasgow surgeon, and had studied for six months at the newly instituted faculty of medicine in Edinburgh. After some time spent in country practice he had removed to Glasgow, where he had delivered lectures on medicine and chemistry, and in 1755 he had joined Professor Plummer, then in failing health, as joint professor of chemistry at Edinburgh. As chemistry did not satisfy his medical ambitions, in 1757 he undertook to deliver clinical lectures in the Royal Infirmary of Edinburgh. This type of lecture upon the cases of patients in the hospital had been commenced by Professor John Rutherford in 1748 on the model of lectures which he had attended in the hospital at Leyden. Clinical lectures formed a new idea in medical teaching, which had not up to this time been introduced in other British schools, and their development formed one of the fundamental characters of the early Edinburgh Medical School, upon which its reputation was built up. In 1766 Cullen became professor of the institutes of medicine (physiology), and in 1768 an arrangement was effected with Dr. John Gregory, by which Gregory and Cullen gave alternate courses in the practice of medicine. Cullen became sole professor of medicine on Gregory's death in 1773, and it is an interesting fact, compared with the tendency in present-day appointments, that Cullen, the greatest figure in Edinburgh medicine, was 63 years of age at the time when he entered upon the duties of this chair. Cullen had developed a large, lucrative, and aristocratic consulting practice in Scotland, but his chief influence on the public mind was exerted by the great attraction that he exercised in bringing students from a distance through the clearness of perception, sound reasoning, and judgement displayed in his lectures. His chief published works are *A Treatise on Materia Medica*, *First Lines on the Practice of Physic*, and his *Nosology*, a small pamphlet which aimed at a rigid classification of diseases by their symptoms on the same arbitrary principle which Linnaeus had adopted for classifying plants by classes, orders, genera, and species. Cullen's pre-eminent position in the Edinburgh school of his day is indicated by a sentence in a letter to him from John Hunter in October, 1785, regarding Cullen's project of retirement, in which Hunter says, "I tremble for Edinburgh when you determine giving her your assistance."



ALEXANDER MONRO (*secundus*).
(After the engraving by James Heath from Raeburn's portrait.)

During Cullen's student days in Edinburgh he had joined himself to a private debating club of students founded in 1734, from which the Royal Medical Society of Edinburgh subsequently developed. The society held its meetings in a tavern, but at a later date (1774) Cullen exerted himself to obtain a hall of meeting for this society, and in 1778 was instrumental in obtaining its incorporation by Royal Charter. The society existed as a meeting-place of students for exchange of views and criticism of the teaching they received, and it has undoubtedly played a very large part in the development of the Edinburgh Medical School, in which it still continues to enjoy a flourishing existence. The keenness with which medical theories were debated is indicated by one of the old laws, which enjoins that if any personalities shall have taken place the president in the chair shall obtain an assurance from the members concerned that no hostile meeting will afterwards take place in consequence. One of the presidents in the year 1760 was John Brown, who later became an extra-mural lecturer, and between whom and Cullen, about the year 1778, arose a great deal of trouble in regard to the nature of disease. Brown introduced a system, which was essentially the old Methodist idea revived, that disease is due to too great laxity or too great stringency of the particles of the body. This Brunonian theory, which was easy to understand and required very little knowledge of medicine, appealed strongly to the members of the Royal Medical Society, and subsequently spread all over Europe.

One of the most important contributions to science in the early days of the Edinburgh medical school was the discovery of "fixed air" by Joseph Black, who became professor of chemistry and medicine in 1776. Black was also one of the earliest adherents in Britain to the antiphlogistic theory of combustion subsequently advanced by Lavoisier. He was followed in 1799 by Professor Thomas Charles Hope, who found out numerous important facts in physical and chemical science, being particularly celebrated for his discovery that water attains its maximum density several degrees above freezing-point and expands as it solidifies. Another advance in chemistry was made by Daniel Rutherford, an uncle of Sir Walter Scott, appointed professor of medicine and botany in 1786. In 1772 Rutherford presented an M.D. thesis entitled "De aere fixo dicto, aut mephitico," in which he dealt with Black's "fixed air," and pointed out that after the "fixed air" was removed by caustic lye there still remained a gas which extinguished flame and life no less than before. This was the discovery of nitrogen.

Among the pupils of Cullen were many students from the American colonies. One of these was John Morgan, who graduated at Edinburgh in 1762, and in 1775 was appointed Director-General and Physician in-Chief to the American Army under General Washington. He was succeeded in this position in 1777 by William Shippen, another Edinburgh graduate, who held the Director-Generalship for twenty years, and later was largely instrumental in organizing the medical department of the University of Pennsylvania. Still another Edinburgh graduate was Benjamin Rush, who subsequently became professor of institutes of medicine in the University at Pennsylvania and one of the signatories of the Declaration of Independence. All these men were of highly contentious disposition, and this may possibly have provoked the remark made by Benjamin Franklin in his autobiography that a disputatious turn "is apt to become a very bad habit, making people often extremely disagreeable in company by the contradiction that is necessary to bring it into practice. . . . Persons of good sense, I have since observed, seldom fall into it, except lawyers, university men, and men of all sorts that have been bred at Edinborough."

The professoriate in the latter half of the eighteenth century, which included several men of marked individuality, appears to have been distinguished by singular pugnacity. The outstanding public figure of the school after the death of Cullen was probably Dr. James Gregory,

professor of medicine from 1790 to 1821. His name is still a household word owing to the powder containing rhubarb, magnesia, and ginger, which he introduced. He had the somewhat eccentric habit of wearing his hat throughout his lectures, and his three great therapeutic measures appear to have been antimony, blistering, and blood-letting. Owing to the fact that students were now flocking to Edinburgh from all parts of the British Isles and the colonies, Gregory's doctrines became universally employed, and he, more than any other man, was responsible for the great proportions to which blood-letting attained in the early years of the nineteenth century. Lord Cockburn, who admirably summed up the characters of many of the worthies in the Edinburgh of his day, says of Gregory:

"He was a curious and excellent man, a great physician, a great lecturer, a great Latin scholar and a great talker; vigorous and generous; large of stature and with a strongly powerful countenance. The popularity due to these qualities was increased by his professional controversies, and the diverting publications by which he used to maintain and enliven them. The controversies were rather too numerous; but they never were for any selfish end, and he was never entirely wrong. Still, a disposition towards personal attack was his besetting sin."

His disposition towards personal attack led him on one occasion to terminate a controversy with Professor James Hamilton regarding the authorship of a pamphlet by beating the latter with his walking-stick. For this Professor Hamilton brought a lawsuit and received £100 by way of damages. Gregory is said to have remarked in paying the damages that he would willingly pay double for another opportunity. Hamilton, however, although eminent in his professional branch of midwifery, was a notorious litigant, and had lawsuits also with Professors Andrew Duncan and Thomas Charles Hope. Hope had used regarding Hamilton the words of Dr. Samuel Johnson on a like occasion, "The fellow lies and he knows that he lies." This, being reported to Hamilton, caused a lawsuit, with a verdict in favour of Hamilton of ¼d. damages. The Edinburgh public was greatly delighted with the legal proceedings, and Hope received a shower of letters from his friends enclosing farthings, one of which he sent to Hamilton, demanding a receipt.



ANDREW DUNCAN.
(From the portrait by Sir Henry Raeburn in the Royal College of Physicians, Edinburgh.)

Andrew Duncan was professor of institutes of medicine from 1789 to 1819, and was celebrated for his pleasantness of manner and kindliness of disposition, which had gained for him the sobriquet of "the smiling boy." Duncan had a hobby for founding convivial societies, some of which, notably the Harveian and Aesculapian Societies, are still extant. Of more importance, however, in this direction were his activities in obtaining Royal Charters for no fewer than four societies, and founding the Medico-Chirurgical Society of Edinburgh in 1821. He is still remembered as the man who was so much impressed by the sordid death of Robert Ferguson, the poet, in the evil surroundings of the city Bedlam that he exerted himself to bring about the founding of the Royal Asylum for the Insane at Morningside in 1813, one of the earliest asylums instituted for the humane treatment of the mentally diseased in Great Britain. Professor Andrew Duncan was succeeded in 1819 by his son, Andrew Duncan jun., who ten years before that time had been made professor in the newly established chair of medical jurisprudence or forensic medicine, this chair having been the first of its kind to be instituted in Great Britain. The younger Duncan was transferred for a second time in 1821 to the chair of materia medica, which he held till 1832, when he was succeeded by Sir Robert Christison.

In 1821 Dr. William Pulteney Alison was made professor of the institutes of medicine, and in 1842 he was transferred to the chair of medicine. Alison busied himself especially with practical activities and treatises. The latter were mainly concerned with the amelioration of the Scottish poor, and from the beginning of his medical experience he had been deeply impressed with the manner in which poverty and unfavourable social conditions assisted in the spread of disease. His treatise *Observations on the Management of the Poor in Scotland and its Effects on the Health of great Towns*, issued in 1840, was largely responsible for the Commission of Inquiry and the Poor Law Act of 1845, which embodied most of what he had striven for. His work was an important precursor of much of the social legislation at the present day. He was appointed President of the British Medical Association at its annual meeting in Edinburgh in 1858. A peculiarity displayed by him was a singular habit of scarcely ever seeing a patient without writing a long prescription for a new bottle of medicine. It is recorded that as he visited his wards several times a day the bottles tended to accumulate, till neither the patient nor the nurses, nor the professor himself, knew precisely what was being taken and what was not.

The chair of anatomy remained in the family of Monro for the long period of 126 years. Alexander Monro (*primus*) had been appointed to the chair of anatomy in 1720, and was succeeded by his son of the same name in 1758. Alexander Monro (*secundus*) became celebrated both as a teacher and for the investigations which he carried out. It is interesting that none of the great works on which his reputation rests was published till after he was 50 years of age. These included *Observations on the Structure and Functions of the Nervous System*, *The Structure and Physiology of Fishes*, a description of the *Bursae Mucosae of the Human Body*, and a treatise on *The Brain, Eye, and Ear*. The experiment of appointing a son to succeed his father, which had proved so successful in the case of the first two Monros, was again tried by Monro (*secundus*) when in 1798 he petitioned the Town Council to appoint his eldest son as his successor. Alexander Monro (*tertius*) held the chair till 1846, but without the success which had attended the efforts of his father. A recent writer says of him:

"He used to read his grandfather's lectures, written about a century before; and even the shower of peas with which expectant students greeted his annual reference 'When I was a student in Leyden in 1719' failed to induce him to alter the dates."

Charles Darwin, the naturalist, who studied medicine at Edinburgh from 1825 to 1827, in his autobiography gives him the following testimonial: "Dr.——made his lectures on human anatomy as dull as he was himself and the subject disgusted me." During the tenure of the chair by the third Monro, several brilliant anatomists conducted classes outside the University. It is a curious fact that though the first two Monros lectured on surgery, neither was an operating surgeon and the second was a consulting physician with a large practice.

In 1786 John Bell, becoming a Fellow of the College of Surgeons, saw a great chance, and he, assisted by his brother Charles, taught anatomy for thirteen years. It is no exaggeration to say that they founded the subject of surgical anatomy. So successful were Bell's anatomical classes that a combination led by Professor Gregory was formed against him. The attack opened with a pamphlet warning students against attending Mr. Bell's lectures, and the dispute was conducted on both sides with great personal abuse. Gregory's party, however, finally secured John Bell's exclusion from the infirmary, and Bell therefore ceased to lecture in 1799, confining himself to surgical practice, in which for about twenty years he was the leading operator and consultant throughout Scotland. Charles Bell removed to London in 1804 and took over the old Hunterian Anatomical School in Windmill Street, where he spent thirty-two busy and eventful years. The Edinburgh school made some amends to him by offering him the chair of surgery in 1836 when the Gregory faction had passed away, and Sir Charles Bell occupied this chair for the last six years of his life.

Another extra-mural lecturer on anatomy was John Barclay, a "stickit minister" of the Church of Scotland, who was an assistant to John Bell and began to teach on his own account in 1797. Barclay's dissecting-rooms were at No. 10, Surgeons' Square, and here he was assisted and finally succeeded by Dr. Robert Knox, who obtained an unfortunate notoriety in connexion with the Burke and Hare murders in 1828. Burke and Hare were two debased Irishmen resident in Edinburgh, who conceived a scheme of supplying bodies for the dissecting-rooms at less trouble and danger to themselves than could be effected by the methods of body-snatching commonly followed by the "Resurrectionists" of the time. Their method was to entice friendless people into their house in the Westport, stupefy them with drink, and thereafter stifle them and sell the bodies to the porters of the various anatomy rooms. At least sixteen people were thus done to death before Burke and Hare were apprehended, and the last of these bodies being found in Knox's rooms, the public animus was therefore naturally directed first at him. This incident led ultimately to the Anatomy Act of 1830, with better arrangements for the supply of material for the teaching of practical anatomy.

The subject of surgical anatomy introduced by the Bells was revived by Robert Liston, with James Syme as his assistant, towards the close of the second decade in the nineteenth century. Liston and Syme between them carried on an anatomical class with ever-increasing success. Other distinguished extra-mural teachers of anatomy at this time were John Lizars and William Fergusson and, at a slightly later date, William Sharpey, who, during his Edinburgh period discovered the cilia possessed by some mucous membranes, and Allen Thomson, who with Dr. Martin Barry made many of the fundamental discoveries in embryology. Monro (*tertius*) was succeeded in 1846 by John Goodsir, one of the earliest advocates of the importance of the cell as a centre of nutrition. To him Virchow recognized his indebtedness by dedicating his *Cellular Pathologie* to Goodsir as "one of the most acute observers of cell life."

Sir Charles Bell was succeeded in 1842 in the chair of surgery by Professor James Miller, a great orator, the author of a successful work on *The Principles and Practice of Surgery*, and subsequently one of the collaborators with Sir J. Y. Simpson in the introduction of chloroform. A chair of clinical surgery had been founded in 1803 by King George III, and endowed with a stipend of £50 per annum. The first incumbent was James Russell, who had been selected by the managers of the Royal Infirmary in 1800 to be one of six surgeons who should act upon the staff in place of a former agreement dating from 1738, that all members of the Incorporation of Surgeons should act in rotation as operators in this institution. After acting as professor for thirty years, Russell relinquished the chair of clinical surgery in 1833, and James Syme was elected as his successor. There had been a great contest between Liston and Syme for the chair. Both were expert anatomists and skilful surgeons, but each was by nature contentious. Early in their career they had been demonstrators in Barclay's dissecting-rooms, and they had conducted a course of anatomy and surgery together, while each assisted the other in his private operations. Gradually, however, a quarrel arose and acrimonious wrangling in public took the place of their former friendship. On account of Liston's high-handed attitude towards the other surgeons he had been excluded by the managers of the Royal Infirmary in 1822 from again entering that institution, and he was not reappointed until 1827. In 1829, when Syme applied for the surgeonship of the infirmary, the managers declined to appoint him, fearing that the feud between him and Liston might lead to disturbing scenes in the presence of the students. In 1833 Syme defeated Liston, after a bitter contest, for the chair of clinical surgery in the University, and in 1835 Liston accepted the offer of the chair of clinical surgery at University College, London. Some of the most brilliant operative work of these two surgeons was performed during the period of their exclusion from the Royal Infirmary.

The two greatest figures in medicine at Edinburgh in the forties of last century were probably Sir Robert Christison and Sir J. Y. Simpson. Professor Hughes Bennett made the discovery of leucocythaemia in 1845, but his chief activities fall into the latter half of the century. Christison had been professor of medical jurisprudence from 1822 to 1832, when he was transferred to the chair of materia medica, and he had been one of the pioneers in toxicology and pharmacology—sciences which had come into existence in France during the early part of the century. His *Dispensatory*, published in 1842, prepared the way for the first *Pharmacopoeia* of Great Britain and Ireland, issued by the General Medical Council under his superintendence in 1864. He acted as President of the British Medical Association at the Edinburgh Meeting in 1875. Several important alkaloids were first isolated by him and the therapeutic uses of others were discovered. A simple method of extracting morphine from opium had been discovered by another Edinburgh man, Dr. William Gregory, in 1831, and this paved the way for the discovery of many other alkaloids. Sir James Young Simpson, who became professor of midwifery at Edinburgh in 1840, made many additions to his own branch of medicine as well as valuable contributions to the literature and history of medicine. His name is especially associated with the introduction of chloroform, and, indeed, with fighting the battle against prejudice for the use of anaesthetics generally in Britain. Sir Humphry Davy, about half a century earlier, had suggested nitrous oxide gas as an anaesthetic, but its use appears to have been practised for the first time in 1844 by Dr. Wells at Hartford, Connecticut. Dr. Morton of Boston, U.S.A., had introduced a new era in anaesthetics in 1846 by extracting a tooth without pain whilst the patient was breathing sulphuric ether, and very shortly after had tried ether in a number of surgical operations. In January, 1847, Simpson applied sulphuric ether for the first time as an anaesthetic in midwifery, and in November, 1847, at Edinburgh, discovered the anaesthetic effects of chloroform, which soon superseded ether and extended rapidly and greatly the practice of anaesthesia in surgery and midwifery.

These were some of the chief figures and activities which enhanced the fame of the Edinburgh Medical School in pre-Listerian times. During Syme's tenure of the chair of clinical surgery he was visited by Joseph Lister, who became so much attracted by Syme's personality that he stayed on with Syme, first as house-surgeon and later as an extra-mural lecturer on surgery and assistant surgeon to the Royal Infirmary, and in 1856 married Syme's eldest daughter, Agnes. Syme was succeeded in the chair by his greater son-in-law in 1869.

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MEDICAL CHARITY.

No man knows with certainty what awaits him in the coming year, but to one section of the medical profession the future is definitely clouded and dismal. Many of our brethren, overtaken by sickness or incapacity, can only look forward to the continuation of an existence deprived of those little amenities of life which to the cultured man are so important as to rank almost as necessities. Some, even worse off, have nothing to expect but a life of penury and privation, not only for themselves, but, what is even harder to bear, for those whom it has been their life's aim to protect from care.

The amount of distress among members of our profession is but faintly realized, and always comes as a shock to those who look into the matter closely for the first time. A glance at the list of cases (published from time to time in the JOURNAL) which are helped by the Royal Medical Benevolent Fund reveals the dire straits in which many doctors and their dependants are placed. It is distressing to think of the wives and daughters of medical men compelled to eke out their meagre incomes by doing the work of charwomen or seamstresses. And while many such cases have been discovered, it is known that there are many others where brave women shoulder their burden alone, too proud and too independent to ask for help.

Owing to lack of money, the Royal Medical Benevolent Fund is only able to grant absurdly inadequate sums (often a mere £12 per annum) in relief of such cases as we have mentioned, and some of the recipients have been forced to augment this slender assistance by application for the old age pension. The only way to remedy this state of affairs is by regular and systematic support, and this is best done by contributions to the Charities Trust Fund, established by the British Medical Association, which allocates the sums at its disposal to the existing professional funds, including the Royal Medical Benevolent Fund, the Epsom Foundation, and the Charles Hastings Fund. It is now a year and a half since the Representative Body set up a Charities Committee, with the object of stimulating the profession at large to give better support to the existing medical charities; but although a considerable number of doctors are liberal subscribers to these funds, there are many others who do not yet realize how pressing is the need. To the latter we would commend the exercise of the virtue of "charity"—not in the narrow sense of perfunctory almsgiving, but rather as an expression of goodwill towards their brethren in need, and of thankfulness that their own lines have fallen in more pleasant places. Many who have won an established position must have had moments in past days when the spectre of ill health or early incapacity caused grave forebodings, when the plans they had made for the careers of their children and the future welfare of those near and dear to them seemed doomed to go astray. An opportunity now comes to them to help those whom Fate has treated less kindly. The claims of the professional charities should appeal no less to the younger generation of doctors, for it will assuredly give them a sense of security to know that there are substantial resources to which they can turn if misfortune comes their way. Furthermore, we would point out that, a Charities Trust Fund having been set up by the Representative Body, it behoves every member of the British Medical Association to do his utmost to see that the Fund achieves its purpose. To bring this about much hard work must be done by the charities committees of the local Divisions, and a circular will shortly be sent out by the Head Office with suggestions for the best methods to be pursued.

It is surely an anomaly that the profession which is by general consent the most philanthropic of all should make such miserable provision for its needy members. We are well aware of the many calls made on the profession, but we venture to suggest that the first call to be considered is the cry of distress from our unfortunate colleagues and their families who, through no fault of their own, have fallen by the way. We believe that in years to come the Association will be able to look back with just pride on the inception of the Charities Trust Fund as one of the most important of the landmarks in its history.

> "In Faith and Hope the world will disagree,
> But all mankind's concern is Charity."

LEGISLATION IN 1926.

THE disturbance of parliamentary business by the general strike and the mining dispute has, in the long run, helped rather than hindered ordinary legislation, and the session of 1926 is noteworthy, not solely because the supremacy of Parliament was vindicated against the challenge of the general strike, but also because of the passage of sixty public Acts, including seven or eight of direct medical importance. The industry of the Ministry of Health in seeking to overtake arrears of such legislation has, indeed, aroused criticism from some supporters of the Government, and when, at the close of the session, the Mental Deficiency Bill was challenged by two prominent members of the Opposition, the Prime Minister did not ask his followers to force it through.

Happily, it can be said that the Acts of medical interest which did pass were thoroughly discussed, but did not arouse party controversy. There are still evidences from time to time that back-bench members of both sides of the House are apt to develop a layman's jealousy of the medical profession. This was visible at the opening of the session in the demands for alteration in the constitution of the General Medical Council, and at its close in the protest by Labour members against the increase of doctors' fees under the Coroners Act. The first misunderstanding was removed by the action of the Government in adding a lay member of Parliament to the General Medical Council. Since that appointment there have been scarcely any instances where questions were put to score off the medical profession or to cast doubts on its motives. Sceptical questions about vaccination have been infrequent, and several debates —for example, those on the Smoke Abatement Bill— have revealed appreciation of the importance of public health. In part for party reasons, this appreciation was prominently displayed in the discussion on that section of the Economy Act which reduced the State contribution to National Health Insurance. It is noteworthy that, despite the prolongation of the mining stoppage through seven months, no convincing evidence was brought before the House of Commons to show there was widespread malnutrition in the

coal-fields, or any increase in the death rate there, which could be attributed to destitution. The same is true of the country generally, although the number of persons registered as unemployed rose from 981,877 on April 26th to 1,612,700 on May 17th, apart from those directly involved in the coal dispute. The number has remained high since, but tended to fall during the autumn.

In the later part of the year the occurrence of infantile paralysis and the continued outbreaks of encephalitis lethargica have been brought before the House by many questions, which have elicited information as to the incidence of these diseases in various areas. Recognition of the dire sequels of encephalitis lethargica was the cause which predisposed the House of Commons to give an easy passage to the Mental Deficiency Bill in its early stages. The last moment opposition to it resulted from a concurrence of doubt about the definition of mental deficiency with the old jealousy for the liberty of the subject, and a feeling on the Conservative side that too much legislation was going through. This last feeling may affect Mr. Chamberlain's plans, as Minister of Health, for next year, and is likely to cause a further postponement of the Factories Bill, which was promised for the session now closed but never debated. Mr. Chamberlain appears, however, to have Cabinet sanction for proceeding with the Poor Law Reform Bill, the draft of which has already been circulated to local authorities. He is also expected to bring in a bill carrying out the recommendations of the National Health Insurance Commission. The recommendations of the Lunacy Commission, presented in the summer, await the Government's consideration, and action will have to be taken eventually on the report of the Select Committee on Nursing Homes. This committee examined many witnesses during the early months of the session, and its report forced public attention to undesirable features of the present system. One special aspect of the matter—that of the regulation of maternity homes—Parliament dealt with by general consent in the Midwives and Maternity Homes Act.

During the session Mr. Chamberlain secured the passage of an Act somewhat increasing the powers of local authorities to deal with the smoke nuisance, and of another enabling the Minister of Health to supersede spendthrift boards of guardians by commissioners. He also obtained sanction for reductions in the housing subsidies from next autumn. The Births and Deaths Registration Bill originated with a private member, as had previous versions in past sessions. That it became law this year was partly due to the active support of the Ministry of Health. Credit for the carrying of this Act, of the Coroners Act, and of the Smoke Abatement Act is also due to the Parliamentary Medical Committee. This group is now undoubtedly a power in the House of Commons, helping to shape both legislation and opinion, and has been helpful to the British Medical Association in various directions. The chairman of the committee, Dr. Fremantle, has also been chairman of the Conservative party's Committee on Health and Housing. Tuberculosis in the fighting forces and the training of midwives are matters which individual members have kept before the House of Commons. The committee as a body circulated a memorandum to members generally on social hygiene. Among the decisions of the House of Commons on general policy which are important to medical practitioners is one in the Finance Act whereby, from 1927-28, the system of taxing income on a three years' average is to be abolished. Regulations greatly to diminish the use of preservatives in food come into operation to-day and at various later dates. Clean milk regulations came into operation on October 1st.

Medical matters have not been prominent in the discussions of the House of Lords, but the Earl of Balfour, as Lord President of the Council, has been concerned with the promotion of research, and is now not only chairman of the Medical Research Council, but also head of a new Cabinet committee to co-ordinate and extend civil research of all kinds.

To sum up the session of 1926 from the medical aspect, it has been one of useful results in matters of detail, but it has given no evidence that Parliament yet realizes that money is never more profitably expended than in improving public health, nor much evidence that Ministers and other members of Parliament are really ready to accept medical opinion as their guide on health subjects.

DEAD BIRTHS AND NEO-NATAL DEATHS.

THE report of the Medical Research Council on dead births and neo-natal deaths, of which we publish a review at page 32, marks the conclusion of a number of detailed investigations carried out since 1919 under the auspices of the Council at various centres throughout Great Britain, in order to determine the incidence of the causes of foetal and neo-natal death. The outstanding features of the report have been referred to in our review, and we only wish here to emphasize what had already been made abundantly clear by the published papers of the workers concerned—namely, that a large proportion of foetal and neo-natal deaths are preventable by adequate ante-natal supervision and by skilled obstetric treatment when active intervention is necessary in the interest of mother and child. Fully one-half of the total deaths were due to the various complications of labour and the toxaemia of pregnancy (including under the latter term only albuminuria and eclampsia), and should therefore be almost entirely preventable. Further, it should be remarked that the infants lost through complications of labour are often just the healthiest and best developed, and therefore those which the State can least afford to lose; and they are lost because they are large, and therefore cause more or less difficulty in labour. In this respect the report is a confirmation of the wisdom of the teaching of that pioneer in ante-natal care the late Dr. J. W. Ballantyne of Edinburgh, who for twenty-five years before his death in 1923, and frequently in the columns of this JOURNAL, insisted on the necessity for ante-natal supervision of all expectant mothers. Instruction in the methods of ante-natal diagnosis and treatment is now looked upon as an essential part of the training of the medical student and midwife, largely as a result of his work, and there can be no doubt that within a few years, when the effects of this new teaching become apparent in medical practice, a great diminution in foetal and maternal mortality will result.

But ante-natal care is not an end in itself, and the report does well to emphasize the additional need for skilled obstetric care and for increased hospital accommodation. "The larger maternity hospitals with their staffs of skilled obstetricians could surely spread their aid and influence over a larger area than they do at present if only the importance of the work were fully appreciated." Some of those concerned in teaching foresee the need for careful organization. The present tendency to provide a large number of small hospitals

throughout the country, each of which serves its particular district, is highly to be commended, and it can hardly be doubted that the services of skilled obstetricians from the large centres will be obtained for treatment of the more difficult cases. This is an advance, and may be expected to bring about a reduction in foetal and maternal mortality, but it is thought that unless the whole organization is well worked out in consultation with the local hospitals there may be a risk of the maternity hospitals in the large teaching centres being starved of material for instruction of students or for research. If cases of eclampsia, for example, are, as it were, held up at the district hospitals, it may well be that a student will pass through his training in obstetrics, lasting three months or even longer, without ever seeing a case. The district hospitals cannot be expected to have a registrar, and it will hardly be possible to keep such accurate records as in the large centres, where notes are kept and standardized under the supervision of such an officer. As to research, it is unlikely that laboratory facilities will be available in the smaller hospitals. There is the question also of puerperal fever, both from the point of view of treatment and of education. In large hospitals not only can the best treatment be applied, but ample laboratory facilities are, or ought to be, available for their bacteriological investigation.

The problem is no doubt one of serious importance which will have to be faced very soon by all who are responsible for the teaching of midwifery in the medical schools. Should present tendencies continue it is conceivable that their activities will in time be confined to teaching the theory of midwifery and the conduct of a normal labour, leaving the student to acquire a practical knowledge of the complications of labour and of the methods of dealing with them after he commences practice.

The Medical Research Council is to be congratulated on its wisdom and foresight in organizing this investigation and carrying it to a successful conclusion. It is to be hoped that the workers who took part in it will, now that the main object has been achieved, continue their investigations into some of the many still unexplored fields of ante-natal pathology—a task for which the experience gained in the present research must have well qualified them.

UNDULANT FEVER AND THE ABORTION BACILLUS.

THE obviously close relationship between bovine abortion and undulant fever is a subject which is receiving the increasing attention of bacteriologists and clinicians in many parts of the world. We have on several occasions drawn attention to the question, and repeatedly urged the necessity for increased research into the possibilities of *Bacillus abortus* in human medicine, for the organism, from its very ubiquity, has great potentialities as a factor of disease in all countries where milk is consumed. Recently several cases of apparent infection of human beings by the bovine bacillus have been recorded. Huddleson[1] has reported a case in a graduate who became ill when working with cultures of the bacillus, and in whom an irregular fever was noticed for over a year. Two students in the same laboratory, working with the same bacillus and drinking milk which proved to be infected, also contracted the disease. Organisms which were identical with *B. abortus* were isolated from their blood. Carpenter and Merriam[2] report two similar cases in which the bacillus was isolated. The symptoms varied, however, in each. In one there was remittent fever which fluctuated between nearly normal in the morning and 103° or 105° F. at night. The high temperature was followed by a chill and profuse sweating, after which it gradually fell to normal. The fever was accompanied by extreme emaciation and anaemia, and marked debility. In the other case the fever, identical in type with the first, never rose above 101.5° F., there was no anaemia, and the other symptoms were milder. The organism isolated was serologically like the bovine strain, and cattle inoculated with the culture aborted typically. As infection from pigs and goats could be ruled out, it was probable that the infection came either from the culture or from the milk. Recently Cayrel[3] has reviewed the question of the unity or the duality of these two diseases, and has drawn attention to the presence in Northern Italy of a prolonged fever in man which is definitely traced to infection through contact with aborted cows, and he claims that there is a very real danger of infection from cattle and from pigs, although he cannot say yet that this is identical with the undulant fever of goats. Theobald Smith has recently shown that the bacillus found in pigs more closely resembles the common human organism than does the strain commonly found in cattle. Izar,[4] however, finds that if a strain is grown on glucose agar and on normal agar the cultures from these two sources differ both morphologically and serologically. The culture from the glucose agar becomes coccoid and more readily agglutinable; while that on the ordinary agar retains its original characteristics. This may help to explain some of the conflicting results obtained by different workers. Nevertheless, it is certain that some strains of *Bacillus abortus* ingested in milk can produce a fever in man, but further work is necessary before we know accurately and definitely the relationship existing between Bang's bacillus and some as yet imperfectly described fevers in man. Meanwhile Wilson and Nutt[5] have found that about 5.7 per cent. of single milks in the Midlands are infected with the *Bacillus abortus*; elsewhere an incidence as high as 13 per cent. has been reported. Although human infection is possible with this organism, comparatively few cases have been described. This may be due to the fact that they have not yet been recognized as such, but it has been suggested that there may be another reason. The abortion organism is rare in the udders of cows in full milk, and when it does occur comparatively few bacilli are found—under 500 per cubic centimetre. On the other hand, when the milk is drying up, millions per cubic centimetre may be present, as in the normal milk from infected goats; in this state the milk is dangerous, and the infection, even in mixed milk, is gross. Whether this explains the epidemiology or not, there is little doubt that the question is one which merits the serious attention of bacteriologists and clinicians in this country.

[1] *Journ. Amer. Med. Assoc.*, 1926, vol. i, p. 943.
[2] Ibid., 1926, vol. ii, p. 1269.
[3] *Paris Méd.*, 1926, p. 141.
[4] *Riforma Medica*, 1926, p. 433.
[5] *Journ. Path. and Bact.*, April, 1926, p. 141.

TUT-ANKH-AMEN'S COSMETIC.

THE contents of a calcite jar found in the tomb of Tut-ankh-Amen by Mr. Howard Carter has been submitted to chemical examination by A. C. Chapman and H. J. Plenderleith of the British Museum Laboratory, the results of which are contained in a paper printed in the *Journal of the Chemical Society*. The jar contained a substance described as a cosmetic, but it is not stated whether it was for the skin or the hair. The results present many features of interest, not the least engaging of which is the unique view presented of the extent to which spontaneous decomposition may take place in a substance of a fatty nature during 3,300 years. The tomb, having been long

buried under a depth of ground and closely sealed, would provide a sterile environment, and it was noted that no bacteria were recognizable. The lid of the jar was cemented by a protective crystalline incrustation, an effect resulting from the action of moisture and saline matters contained in the dust of the local atmosphere. The contents of the jar weighed about 450 grams, or nearly a pound avoirdupois. It is described as rather sticky, and presenting the appearance of a heterogeneous mixture consisting of yellow nodules together with a chocolate-coloured substance. It became softened by the heat of the hand, and possessed a faint but distinctive odour which has been variously described as that of coco-nut or the flowers of broom, but rather valerianaceous. While the odour was decidedly fatty, there was no suggestion of rancidity. No vegetable structure or fibre could be distinguished by microscopic examination. Petrie and Quibell are quoted as having examined a fat found in Egyptian jars dating from an earlier period, in which they noted the presence of vegetable fibre, and suggested that its presence indicated that they were dealing with a fat obtained from a vegetable source. Chapman and Plenderleith, however, point out that the conclusion was hardly justified, for there is good authority to believe that the Egyptians had used a material composed of vegetable fibre as a wrapper for such articles. They also discount the suggestion that the coco-nut odour indicates a vegetable origin, for such a smell is frequently noticed in recently excavated specimens, and may be due to the ageing of resins or balsams used within the tombs. The chemical examination of the fat revealed, as was to be expected, only slender threads from which the original ingredients of the preparation might be inferred. Such direct evidence as would be obtainable from the finding of cholesterol, the invariable companion of animal fats, or phytosterol, the invariable companion of vegetable fats, was wholly wanting; whichever of these substances was originally present had wholly disappeared. It could hardly have been expected that either of them would survive the time. Indeed, it seems strange that the fats themselves had not wholly lost their fatty nature. This, however, they had preserved, but not without considerable modification of chemical structure. So far as could be judged from the chemical evidence, the fats had undergone hydrolytic cleavage into glycerol and free fatty acids; the glycerol remained largely unchanged, but the free fatty acids had combined with each other to form acid anhydrides, and those which were oxidizable had suffered oxidation—that is to say, such acids as oleic acid had acquired two or more hydroxyl groups. The investigations record the presence of 4.8 per cent. of free and combined glycerol, which the authors state is largely, if not entirely, in the free condition; but we do not see how to reconcile this proportion of free glycerol with the diminutive quantities of matters set down as soluble both in alcohol and water in the general proximate analysis. Nothing of the nature of wax was found. Since the waxes are generally more stable than fats, this observation seems definitely to decide their absence. The fatty acids actually recognized were stearic, palmitic, and myristic acids, and smaller amounts of acids more nearly related to lauric or capric acid. The chemical evidence generally would seem to exclude coco-nut and palm-kernel oils, and it does not seem probable that any vegetable fat would have been available having the small proportion of olein computed to have been originally present. From these data Chapman and Plenderleith conclude that it is highly probable that the cosmetic was composed of about 90 per cent. of an animal fat and about 10 per cent. of a resin or balsam. We note, however, that there is nothing contradictory to the supposition that it was composed of a number of fats of various kinds, such as may have been chosen for their rarity and high cost.

SOCIETY OF BRITISH NEUROLOGICAL SURGEONS.

A NEW society has just been formed—the Society of British Neurological Surgeons—with Sir Charles Ballance as its president. It has been felt that means by which workers in this most difficult branch of surgery could exchange experiences ought to be devised, and the present society is the result. Its membership is limited, and the quota of original members is necessarily very small. Provision has been made, however, for associates, who will be young surgeons showing more than ordinary interest in this branch of work. The society hopes to do useful work through this channel in helping men of this type in their earlier years to a wider knowledge than would otherwise be theirs. Visits to foreign clinics are to be a regular feature of the programme, and the smallness of the society's numbers should be a great advantage in this respect. The society will meet twice a year. Britain has a great heritage in neurology, not only on the clinical and more philosophical sides, but on the executive as well. The founders of the new society hope that it will play a worthy part, not only by reverence to the great dead and to tradition, but by a lively activity in the present. The inauguration took place at the Athenaeum Club on Thursday, December 2nd, 1926, with Sir Charles Ballance in the chair. Sir David Ferrier, Sir Edward Sharpey-Schafer, Sir Arthur Keith, and Professor Elliot Smith were present. These are emeritus honorary members, the fifth—Sir Charles Sherrington—was unavoidably detained in Oxford. The members of the committee are Mr. Percy Sargent and Mr. Wilfred Trotter, the honorary treasurer Mr. L. Bromley, and the honorary secretary Mr. Geoffrey Jefferson of Manchester.

TRISTAN DA CUNHA AGAIN.

WE recently (August 28th, p. 399) published a report by Dr. Marshall, the surgeon of the *Discovery*, of a visit made by that ship to the island of Tristan da Cunha, which was transmitted to us for publication by the Medical Research Council with the concurrence of the Secretary of State for the Colonies. The investigation into the dental condition of the inhabitants of the island and the relation of this to the peculiar circumstances of their diet and manner of life was made at the suggestion of the Dental Committee of the Medical Research Council. The visit was paid at the end of January, 1926, and only lasted two days, but Dr. Marshall made the most of his opportunities. Just a year before this visit the Rev. Henry Martyn Rogers and his wife quitted the island at the end of a stay of three years, the record of which, written by his widow, is now before us, and may be profitably compared with the record of the hurried visit of a year later. In *The Lonely Island*[1] Mrs. Rose Annie Rogers gives us the results of her prolonged study of the islanders at very close quarters. Other clergymen had lived on the island before Mr. Rogers and his wife arranged to spend three years there under the Society for the Propagation of the Gospel—the Rev. W. F. Taylor from 1851 to 1857, the Rev. E. H. Dodgson (a brother of Lewis Carroll) from 1880 to 1884 and again from 1886 to 1889, and the Rev. J. G. Barrow and his wife from 1906 to 1909. There Mrs. Rogers spent her twenty-first birthday, and there her son was born with no better help than that of an old woman of the island aged 87, of whom her patient writes: "Her sight is now beginning to fail, and she is obliged to have an assistant, but she is wonderful in many ways." Luckily Nature was kind, and the labour was presumably normal, but the risk bravely and deliberately run by this young wife was considerable. Mrs. Rogers draws a pleasing picture of the islanders; she describes them as affectionate, well behaved, honest, and

[1] *The Lonely Island*. By Rose Annie Rogers. London: G. Allen and Unwin, Ltd. 1926. (Post 8vo, pp. 223; 24 plates, 1 map. 7s. 6d. net.)

industrious. Many of the circumstances of this isolated community recall those of St. Kilda, which have been more than once the subject of comment in our pages.[2] For example, the fulmar petrel, or mollymawk, which plays such an important part in the life of the inhabitants of St. Kilda, is also of great importance on Tristan da Cunha, and the inhabitants of the one island are as subject to "boat-cough" as those on the other. The economics of the islanders were discussed sufficiently in our former article, and little need be added on this branch of the subject, save to note that there should not be much risk of actual starvation in a community which has at its command an inexhaustible supply of fish to be had for the catching, besides myriads of sea-birds and their eggs. The lack of vegetables and cereals is the most felt, but there is no record of the incidence of scurvy. To the student of sociology these descendants of European mariners and coloured women offer a most interesting study. There are some 135 people of all ages up to 90, living together without crime and without any written and hardly any unwritten law. They are by no means socialists, but by a kind of instinct the interests of the community seem to be protected. They have no currency. Force of character has its effect here as elsewhere, but however dominant a personality may be it does not confer recognized authority. This anarchism, as it might be called, is shown on the rare occasions of the visit of a vessel, when her commander may find a difficulty in making arrangements for the landing of stores owing to the islanders' tendency all to speak at once. Mr. D. M. Gane, the honorary secretary of the Tristan da Cunha Fund, who has himself visited the island, contributed to the *Solicitors' Journal* of October 18th, 1924, an interesting article on custom in Tristan, which Mrs. Rogers has printed as an appendix to this book. She has given a simple but moving story of her experiences, and drawn a pleasing picture of these poor but, generally speaking, happy people. That the island has its attractions is shown, not only by the indisposition of its own people to leave it, but by the fact that Mrs. Rogers's son, aged 15 months, "howled" on leaving, and wanted to go back there from Durban.

MEDICAL SOCIETY OF LONDON.

THE syllabus for the second half of its 154th session indicates that the Medical Society of London is as young in spirit as it is old in years. The subjects set down for debate are all of practical importance, and those invited to open them may be depended on to keep recent work in the foreground. At the first meeting on Monday, January 16th, Sir Humphry Rolleston will give his presidential address on "Changes in the clinical aspects of disease." The next meeting, on January 24th, will be a pathological evening. On February 7th a discussion on poliomyelitis will be introduced by a neurologist, Dr. F. M. R. Walshe, and a bacteriologist, Dr. Mervyn H. Gordon, who will be followed by a general physician, Sir Thomas Horder. On February 28th a discussion on acute abdominal emergencies complicating pregnancy and the puerperium will be opened by Dr. J. S. Fairbairn from the point of view of the obstetrician, and the surgical aspect was to have been introduced by his colleague Mr. Joseph E. Adams, whose untimely death we have to record elsewhere this week. On March 14th Dr. Jacques Forestier will give a demonstration on lipiodol injections, and on March 28th a discussion on a subject not yet announced will be opened by Sir Frederick Gowland Hopkins. Mr. Donald Armour's three Lettsomian Lectures on "The surgery of the spinal cord and membranes" will be delivered at 9 p.m. on February 21st, March 9th, and March 21st; the ordinary meetings all begin at 8.30 o'clock. At the annual general meeting on June 13th Professor Harvey Cushing will deliver the annual oration, and a conversazione will follow.

[2] Saint Kilda. BRITISH MEDICAL JOURNAL, July 10th, 1926, p. 80.

THE CENTENARY OF LAENNEC.

THE ceremonies celebrating the centenary of Laennec supplied a full programme on December 13th, 14th, and 15th, 1926. Those who have attended similar functions in Paris need not be reminded that "they order these things better in France." The official recognition of such a purely professional event is shown by the personal share taken in it by the Government. The President of the Republic attended, in state, the inaugural ceremony at the Sorbonne. On no fewer than three different occasions a Cabinet Minister not only presided but gave an address; and the city of Paris and its Prefect gave an official reception. The smoothness as well as the éclat of the various gatherings was remarkable, and reflects much credit on the organizing committee. If one might single out individuals, it should be mentioned that Professor Achard, the secretary of the Académie de Médecine, was the chief inspirer of the celebration, that Professor Chauffard was the wise and courteous president, and that the efficient secretary-general was Professor Roussy. We have already published the programme of the three days' meeting. There were a remarkable number of delegates from foreign countries, extending from Soviet Russia to Uruguay, and including representatives of the United States and Canada. At the official banquet there were spokesmen from no fewer than twenty-one separate nations to propose the toast of the memory of Laennec. It was well, therefore, that this country was fully represented. Sir John Broadbent represented the Royal College of Physicians of London, Sir Percival Hartley was the delegate of King Edward VII Sanatorium, Professor Edwin Bramwell came from Edinburgh, and Sir StClair Thomson was the official representative of H.M. Government and of the Royal Society of Medicine.



Auscultation in 1816; Laennec at the Necker Hospital, Paris.

SUBSCRIPTIONS FOR 1927.

MEMBERS of the British Medical Association are reminded that subscriptions fall due on January 1st, and that if each member who receives an application from the Head Office will send the amount to the Financial Secretary within the first week of the New Year the work of the office will be much lightened. Members are also reminded of the claims of charity, to which reference is made elsewhere. The amounts at the disposal of those who administer medical benevolence are altogether insufficient to meet the appeals that are received, and the British Medical Association Charities Fund was formed in order to assist. Every member of the Association is asked to add to his next payment a sum for the credit of this Fund.

WE much regret to announce the death, on December 23rd, 1926, of Dr. T. S. P. Strangeways, Huddersfield lecturer in special pathology in the University of Cambridge, and director of the Cambridge Research Hospital. We hope to publish an obituary notice next week.

Nova et Vetera.

FIFTY YEARS IN A MOORLAND PRACTICE.

To the annual meeting of the Yorkshire Branch of the British Medical Association Dr. Arthur C. J. Wilson of Penistone related his reminiscences of fifty years of country practice. Penistone is a market town, with steel works and sawmills, and stone quarries and collieries in the neighbourhood. It is on the edge of the moors between Manchester and Sheffield, which rise to an elevation of 1,200 to 1,300 feet. The town of Penistone is at an elevation of 760 feet, and Dr. Wilson said that his house is 800 feet above sea-level.

Dr. Wilson took his first diploma, that of M.R.C.S.Eng., in 1875, but before that he had done some work as a locumtenent, as was then allowed, and before going to Penistone had been accident house-surgeon to the Manchester Royal Infirmary. He started in practice in Penistone on February 14th, 1876. The following contains the chief passages in Dr. Wilson's address.

Country practice was very different in those days from what it is now, when you can get quickly over the ground in a motor car. The work then had to be done with a horse and trap or on horseback—I did all my night work on horseback. In summer it was pleasant enough in fine weather, but it was different in winter when we had the snow to contend with. There were no snow ploughs then. Penistone is a great place for snow. I had a thoroughbred mare, and as in winter many of the lanes were blocked with snowdrifts I used to get through the drifts by charging them at a gallop several times till I had made a way through. I have had a few accidents but never been seriously hurt. I have been thrown off my horse fourteen times and out of my trap ten times. The deepest snow I ever remember was in 1881. It was a beautiful morning at the end of November, but snow began about noon, and by 2 o'clock the roads were getting blocked. I had to go to Manchester, and my wife and I started back at 10 o'clock; we got to Penistone at 10 o'clock next morning, being all night in the train, and a wretched night it was. When I got home I started off on horseback to see patients. Except in Penistone, where paths had been cut, nobody had been on the roads. I rode three miles and then turned up a lane where I had three farms to call at. The lane was full of snow level with the top of the walls. With great difficulty I got to the first two farms, but when I tried to get to the next the snow was so deep that the horse could not get through it. I got off and tried to lead him, but he put his head in the snow quite exhausted. I managed to walk through the snow to the farm, and the farmer helped me to get the horse back. There were some patients I could not get to see for over a week owing to the depth of the snow. There have been many deep snows since, but never one that could compare with this.

Midwifery.

A good deal of a doctor's time in country practice used to be taken up with midwifery. There were very few midwives, and often all the assistance to be had was from some woman who had seen a case or two; consequently the patient could not be left till the child was born and for some time afterwards. I soon began to give the patients chloroform, and I gave it so often that it was a common saying, "Send for Dr. Wilson and his chloroform." I always kept the patient well under chloroform till the placenta had come away and I had got the uterus well contracted. Contrary to what might have been expected, I rarely had any haemorrhage. At first I always gave a hot vaginal douche of potassium permanganate, but for many years I have always given an intrauterine douche of mercury biniodide after all instrumental cases.

In 1905 I published a short article in the BRITISH MEDICAL JOURNAL on the treatment of puerperal eclampsia. To case I was called at midnight. The patient had become insensible, and was strongly convulsed. small bottle of chloroform with me, and I imme- put her under. The only person in the house was the husband, and I sent him for a midwife who lived a short distance away. When she came I went for my midwifery bag. The os was slightly dilated and I introduced Barnes's dilating bags, put on the forceps, and delivered a living child. The patient had no bad symptoms afterwards. She slept till midday, and wakened up feeling quite well. There was a good quantity of albumin in the urine, but it gradually disappeared. The second case I was called to at 2 in the morning. The father, who came for me, said that his daughter, who was unmarried, had suddenly gone into a fit. She had had dropsy, for which she had been attending a quack water doctor. When I got to the house I found the patient quite insensible; her legs were swollen, and she was pregnant—of which the parents had no knowledge. On making a vaginal examination, I found that labour had commenced and the os was dilating. I put her under chloroform, and used the forceps and delivered her of a living child. When she came out of the chloroform she was quite sensible. She had no bad symptoms afterwards, and the albumin disappeared from the urine. I attended four or five cases subsequently where I delayed giving chloroform, but I always found that the longer delivery was delayed the less good were the results. This treatment is entirely out of date and would be strongly condemned to-day, but at that time chloroform was looked upon as the best remedy for all cases of uraemic convulsions, and morphine was thought to be extremely dangerous.

I was called to a midwifery case one night, and found the os nearly fully dilated, with strong labour pains, but no progress was being made. I decided to apply forceps, and put the patient under chloroform, but the forceps would not pass. I passed my fingers further through the os, and found the uterus tightly constricted round the child's neck. It was a case of Bandl's ring; I gave more chloroform till I got the ring dilated, and then delivered. There were no bad symptoms afterwards.

Another case I was called to was a primipara, and although she had pains I could not make out any presentation. My son also examined her, and could not make out any presentation; he gave her chloroform, and I found the upper part of the vagina terminating in a cul-de-sac, but I managed to find a small opening, which I gradually dilated. The os was almost fully dilated, and I brought down a leg and turned the child. When the child was partly delivered the gas went out; the bed had been brought down into the kitchen, and it was a penny-in-the-slot meter. The woman helping us was a stranger in the house and did not know where the meter was. My son struck a match and found the meter, but could not find the slot, so we had to send for the husband. He came, and we got a light; all the time the child was partially born. The mother had septic mischief afterwards, but made a good recovery. She was going to live at Huddersfield, so I told her if she became pregnant again to go to the hospital and have Caesarean section. Over a year afterwards I was rung up one night from the Huddersfield Infirmary to ask what I had found when I attended this patient previously, as she had come into the infirmary in labour and no presentation could be found. Caesarean section was performed, but she died afterwards.

Another case I had in difficult circumstances was a primipara with a contracted pelvis, who lived in a caravan. I told her mother before labour commenced that she should be sent to the workhouse hospital, but she refused to let her go. It was a difficult forceps case; the patient was in a kind of berth, and I had to stand on a stool to give her chloroform and use the forceps. A nurse was there, but the caravan was so small that only one of us could get near the patient at the same time. I have also had four at a birth and three at a birth. All these cases except one I managed by myself, as it was often impossible to get any assistance except by waiting a long time.

I am surprised there were not more septic cases among my patients, as it was impossible to take aseptic precautions. When I first started in practice it was quite common for a woman to be confined with all her clothes on, and she was horrified if you asked her to get undressed; she thought it indecent. I induced all the patients to whom I gave chloroform to undress, and gradually got all the others to do the same.

Operations.

Besides midwifery I have done a good many operations. Patients whom I advised to have operations often said they would be operated on if it could be done at home. There were not the conveniences for conveying patients to the hospitals fifty years ago that there are to-day. I have amputated two thighs, two arms just below the shoulder, two or three legs, and several forearms. I have removed many breasts and tumours, and operated upon several empyemas with removal of a piece of rib. I have operated also for fistula and for strangulated hernia. The operations were nearly all done on the bed, as at small cottages there was no room to improvise an operation table.

The operations for strangulated hernia were all successful after the first two, to which I was not called early enough. Afterwards I always operated at once if I could not reduce the hernia under chloroform. One night I was called to a one-storied cottage with one room and a scullery. The patient was the man of the house, and the hernia had come down when he was at market. My assistant gave chloroform, and as I could not reduce the bowel I operated. It was a large inguinal hernia, and when I opened the sac several coils of intestine protruded. I divided the stricture but could not reduce the intestine. I pulled a little more down, and found a piece that looked almost gangrenous. At first I was undecided what to do with it, as the rule was then not to return any suspicious gangrenous intestine into the abdomen, but to leave it in the sac. However, I decided to return it into the abdomen and I ligatured the sac. The only light was from a candle held by an old woman, so the operation was rather difficult. The man made a good recovery without a bad symptom, and the hernia never troubled him again. I once operated on an old lady who had two large femoral hernias; one of them had been strangulated for two days. I told her husband that I was doubtful about the result of operation; but she made an excellent recovery, and complained only that I had not operated on the other side at the same time.

Operations were often done under great difficulties. One, of amputation below the shoulder-joint, was done in a small one-roomed cottage with a window two feet square. I had to do it by candle-light. The wound healed well.

Forty years ago I removed, from a woman aged 40, a tumour of the breast which I was certain from its appearance was a scirrhus, but there were no enlarged glands in the axilla. A month later she came with an enlarged gland in the axilla, which I removed. A fortnight ago I was in a house, and there was an old woman of 80 years who had walked two miles and was walking home again. This was the woman I had operated upon forty years before.

Inquests.

I have had to make a good many *post-mortem* examinations—two in murder cases on women who had been shot. Another was on the body of a man who had been drowned in the river and had not been found for some time and was much decomposed. I made another *post-mortem* examination on the body of a little child about a year old. It had died suddenly in the night, and the mother said it had not been ill. I found a perforated appendix with an abscess round it. In yet another instance I was called by the police to the body of a man who had been found dead by the side of the road; his bicycle was near him, and he had evidently been thrown off and fractured the base of his skull. Nothing was found by which he could be identified, but in a small case in which he had packed some clothes was a sheet of paper on which was a rough draft agenda for a meeting of a Branch of the British Medical Association, but it did not say where it was to be held. One item on it was, "Dr. Kitchen will move a resolution." Now we did not know where the man had come from, but I remembered a fellow student named Kitchen, who afterwards started practice in Cheetham Hill, Manchester. I knew he was dead, but on looking in the *Medical Directory* I found there a Kitchen, evidently his son, practising in Cheetham Hill. The inspector of police communicated with the Manchester police, who ascertained from Dr. Kitchen that the dead man was evidently a young doctor from Whalley Range, the secretary of the Branch. He had been riding from Manchester to Barnsley to stay the week-end with some friends.

Railway Accidents.

In June, 1884, a serious accident happened to the London express from Manchester, which, owing to the crank axle of the engine breaking, ran off the lines and rolled down the embankment at Bullhouse Colliery, two miles from Penistone. I was district surgeon to the railway company, and went to the scene in a special train the station-master had got ready. Luckily I had given ambulance lectures during the previous winter, and several of the ambulance men went to the accident. Dr. Watson, another Penistone doctor, and my assistant also went there. Twenty-four passengers were killed. The most serious cases, numbering thirty, were carried up the embankment by the ambulance men and put into railway carriages. I went with these serious cases to Manchester and got them conveyed on ambulance stretchers to the Manchester Infirmary. I was thanked afterwards by the directors of the railway company for what I had done. Another accident occurred in April, 1885, at 1 a.m., to a special train running from Liverpool to the Oxford and Cambridge boat race. I was the only doctor there, as my assistant had just been called out. One man was killed and about ten seriously injured; they were conveyed to the hotel near the station.

In the Bullhouse railway accident a lady who lived at South Kensington sustained a compound fracture of the leg; she was removed into a small house near the accident, and I attended to the fracture. Her husband asked me when his wife could be removed to London, and I told him I would put the leg in a plaster bandage in a fortnight, and then she could be removed. I had had a good deal of practice in setting fractures, both simple and compound, and putting on plaster bandages, both at the infirmary and after I began practising. Before I went to Penistone a plaster bandage had not been heard of. I put one on to the first case of fractured leg I treated, and when the people saw a man walking about on crutches with a fractured leg it quite surprised them, and I was always called to fractures afterwards for miles round Penistone. Two days later the lady's husband asked if it would be safe to remove her so soon, as his brother in London had mentioned it to his physician, who said it was most dangerous and he did not believe in plaster bandages. The next day I went to see the lady; I took Billroth's *Surgery* with me, and showed the husband what it said about moving cases with plaster bandages on. He made a note of the name of the book, and two days later when I called he had got another letter from his brother, in which his physician said he had not had much experience with plaster bandages, but they had better be guided by the doctor who was attending the case, as he evidently knew what he was doing. I put a plaster bandage on with a trap-door to dress the wound, and she was removed in a saloon carriage to London in a fortnight. I saw her when I was in London a week afterwards, and about a year later she sent me word that she could walk quite well and it was difficult to tell where the leg had been broken.

Epidemics.

Though during my fifty years I have had some periods of very hard work, especially during epidemics of influenza, small-pox, typhoid fever, scarlet fever, and diphtheria before antitoxin, the worst time I had was in 1917 and 1918, when my son wished to go to the war and was sent to Egypt. As my experience with locumtenents was not fortunate I decided to do the work myself. It was very hard, but I managed pretty well till the influenza epidemic of October and November, 1918, which was very bad for a month. In seventeen days I visited 833 houses (an average of 49 a day), and I saw 1,219 patients in the houses (an average of 71 a day). One day I visited fifty-six houses and saw 126 patients. I had six instrumental confinements with chloroform during the same period, and one *post-mortem* examination and inquest. I had over thirty miles a day to go to see these patients. I had besides three surgeries a day—one of my son's and two of my own—which were always crowded.

Besides practice I have done a little scientific work. I fitted up a laboratory in one of my cellars and did water and milk analysis, as I was medical officer of health for three districts. Afterwards I did some bacteriology and cultivated the diphtheria bacilli from throats and examined the sputum for tubercle bacilli, as there was no West Riding Laboratory then to which specimens could be sent free.

Public Work.

I have also done some public work. When I had been in Penistone a year a deputation from a ratepayers' association asked me to stand for the local board; I agreed, and was elected at the top of the poll. Next April I shall have been on the local board—now the urban district council—fifty years. I have taken a very active part in obtaining a water supply, a market, council offices, a public hall, and free library. I am vice-chairman of the council and chairman of the Waterworks and Sanitary Committees. For three years I sat on the board of guardians. For nine years I was a member of the West Riding County Council. I was made a county magistrate in 1903, and for a time attended the Barnsley court every week. I have taken an interest in education, and for a number of years have been chairman of the governors of Penistone Grammar School and chairman of the local Elementary Education Committee.

MEDICAL INSURANCE AGENCY.

A MEETING of the Committee of Management of the Medical Insurance Agency was held in the House of the British Medical Association on December 8th, 1926, when Sir Humphry Rolleston was in the chair. A discussion took place with regard to the way in which the Agency could best give assistance to the Council of Epsom College, but no final decision was reached. Meanwhile, it was resolved to place a sum of £100 at the disposal of the headmaster of Epsom for the purpose of assisting to defray the cost of education of certain deserving boys already at the College who would otherwise have had to leave owing to failure of family resources, due to the death or disablement of parents.

An interim report for the nine months ending September 30th, 1926, was presented. It showed that the Agency had not only maintained the high standard of former years, but had made further progress in all branches of its business, except workmen's compensation insurance. This class of insurance is expected to diminish, as it is not now the practice to effect workmen's compensation insurance in respect of servants under separate policies, as these risks are included in the "Comprehensive" household contracts recommended by the Agency.

The life assurance policies completed through the Agency numbered 162, representing in sums assured the large amount of £148,176. In 1925 the number of proposals was 138, and the sum assured £134,394. Many life policies have been negotiated this year on behalf of members resident in India, China, the West Indies, Mesopotamia, and Egypt; inquiries have also been received from South Africa. It has hitherto been the practice of most life companies to charge an extra premium to members of the Naval, Military, and Air Force; one of the principal companies with which the Agency does business has, however, this year decided to abolish such extra premiums, except in special circumstances. Steps will be taken to communicate this decision—the effect of which will be felt later on—to members, especially those serving abroad.

In motor car insurance the rates of premium charged under the doctors' special policy are moderate, and compare favourably with those of tariff companies with which the Agency had previously placed business. Nevertheless, the premium income has increased by over £1,000 in the period under review. The rate of loss on renewals of previous insurances is extremely low and is more than counterbalanced by the number of new entrants, which totals 174, making with old clients a grand total of 1,074 separate policies, many of which include two and even three cars. The underwriters employed have rendered good service, and disputes in regard to settlements of claims have been rare. In cases where disputes have arisen the has been able to effect satisfactory and equitable settlements. The underwriters have had to meet some heavy claims since the beginning of the year, and although it was thought that it might be possible to secure even better terms in the coming year, experience, unfortunately, does not at the present time warrant the Agency in approaching the underwriters in this sense. One claim alone, amounting to over £2,000, had to be met, and claims of £200 to £300 have been paid, nominal sums sufficing in other cases. The arrangement by which Messrs. Mann, Egerton and Co. act as consulting motor engineers has proved satisfactory, and is being continued. One or two minor disputes have unfortunately occurred, but the evidence goes overwhelmingly to prove that this service is appreciated.

Conversations have been held with the officers of an insurance company with a view to devising a satisfactory scheme for the advancement of money to medical men and women for the purchase of partnerships or practices; a full detailed statement cannot yet be made, but the outline is roughly as follows: The company is prepared in principle to advance sums up to two-thirds of the purchase price without personal guarantee, charging instead their funds under a fidelity policy. Interest rates have been reduced from 7 to 5½ per cent., and the term for repayment has been extended in approved cases from four to six, seven, or even ten years. A method of dealing with applicants by means of a small committee consisting of a representative of the insurance company, a medical agent, and the Financial Secretary of the British Medical Association, has been discussed. Loans will be secured by a life policy equal to 150 per cent. of the sum advanced and an adequate sickness and accident policy.

The following grants were made to the medical charities in respect of the year 1926:

	£	s.	d.
Royal Medical Benevolent Fund	525	0	0
,, Christmas Appeal	105	0	0
Royal Medical Benevolent Fund Guild ...	525	0	0
Royal Medical Foundation of Epsom College...	210	0	0
Headmaster, Epsom College	100	0	0
M.I.A. Girls' Education Subcommittee ...	210	0	0
B.M.A. Charities Committee (to be paid in 1927)	157	10	0
Royal Home for Incurables, Putney	52	10	0
Royal Medical Benevolent Fund of Ireland ...	26	5	0
	£1,911	5	0

CHILD LIFE INVESTIGATIONS.

Dead Births and Neo-natal Deaths.

THE report of the Medical Research Council on the recent investigations at several centres throughout Great Britain into the causes of dead birth and neo-natal death has just been issued. It offers a clinical and pathological study of 1,673 cases of dead birth and neo-natal death, the chief contributions being due to Dr. F. J. Browne, Edinburgh (400); Drs. Cruickshank and Kennedy, Glasgow (400); Drs. Palmer, Phillips, and Taylor, London (369); Drs. Capon and Wilson, Liverpool (354); and Dr. Strachan, Cardiff (150), while additional data were obtained from Miss E. E. Hewer in the London School of Medicine for Women. It had been arranged that the reports of all these observers should be collected and edited by Dr. J. W. Ballantyne of Edinburgh, and at the time of his unexpected death in January, 1923, they were in his hands for this purpose. The work was afterwards undertaken by Dr. Eardley Holland, who obtained the collaboration of Dr. Janet Lane-Claypon, working direct for the Medical Research Council.

As might be expected with several observers working independently and without any previously arranged plan for a uniform classification of their results, it was found that there were various discrepancies and disparities in the reports from the several centres, and the compilers therefore considered it necessary not merely to collate and edit the reports but to write their own report on the basis of the evidence supplied. The result is a pamphlet of some 90 pages containing a digest and summary of the various reports. Its small bulk will probably be disappointing to some who were acquainted with the vast amount of detailed matter that had been submitted from the centres, but it should be remembered that much of the

work had been already published, though generally in an abridged form, either in the Special Report Series of the Medical Research Council or in articles in medical journals. A list of the chief contributions already published in this way is given in the present report.

One of the main sources of difficulty in co-ordinating the results lay in the fact that some workers had classified the causes of foetal and neo-natal death according to *post-mortem* findings, as, for example, cerebral haemorrhage and asphyxia, subsequently working out in detail the clinical cause, such as contracted pelvis, which had led to the pathological condition; while others had put in the forefront the clinical cause, the resulting pathological condition being regarded as a "consequent factor." The compilers have in their report used a clinical etiological classification for all cases, arranging them under the following headings: complications of labour, ante-partum haemorrhage, toxaemia of pregnancy, syphilis, maternal diseases, placental states, foetal states (excluding syphilis), prematurity, and post-natal causes.

The reports showed unanimously that the most common causes of foetal death are "complications of labour," which furnished 35 per cent. of the total number. The most fatal complications were contracted pelvis and abnormal presentations, which accounted for 38 and 30 per cent. respectively of all the deaths from this cause, while difficult and prolonged labour unassociated with either contracted pelvis or abnormal presentations caused 12 per cent. and normal labour 5 per cent. of the total deaths due to complications of labour. This means that at least 85 per cent. of the deaths due to complications of labour should be preventable by adequate ante-natal supervision. Thus, 99 deaths out of a total of 465 were due to breech or transverse presentations that with adequate care should be almost entirely preventable. As regards the deaths due to contracted pelvis, it is pointed out that in many cases the mother had been forty-eight hours or more in labour before admission to hospital!

> "It is impossible to say to whom the delay was due, but inasmuch as the majority of women send for either the midwife or the doctor either at or shortly after the onset of labour it is hardly likely that the fault lay with the mother. In one instance it is recorded that the midwife kept the case in her own hands for two days and two nights before sending for the doctor."

Still, even with the most careful and expert ante-natal and obstetrical care, there will probably always remain a small proportion of cases in which foetal death is beyond our power to prevent—for example, those due to coiling of the cord round the neck or body, and, to a lesser extent, those due to prolapse of the cord or premature rupture of membranes. Thus coiling of the cord around the foetus was almost as frequent a cause of foetal deaths as persistent occipito-posterior positions, though it is probably true that diagnosis of the former as a cause of death was in the majority of cases arrived at by a process of exclusion, and in the absence of any other well defined cause of death.

Intracranial Injuries.

The reader will be surprised to find that neither under this heading nor anywhere else throughout the report is there any reference to cerebral haemorrhage. This is surely a regrettable omission. A review of the causes of foetal and neo-natal death without any reference to cerebral haemorrhage is like *Hamlet* without the Ghost. Throughout this section the term "intracranial lesion" is synonymous with tears of the dural septa. The main conclusions regarding them were as follows:

1. Tentorial tears occurred in half the cases of spontaneous breech delivery.
2. Interference with forceps causes the same proportion of tentorial tears.
3. Intracranial lesions (tentorial tears) were found in about one-third of all cases of version.
4. Taking all cases into consideration together tentorial tears were found in just over one-fourth of all cases.

Ante-partum Haemorrhage.

In this section are considered 122 foetal deaths from placenta praevia and 129 from accidental haemorrhage. Perusal of the tables brings to light at once the fact that, while in Glasgow 97 deaths out of 400 were due to ante-partum haemorrhage, in Edinburgh, where a similar number of cases was dealt with, only 37 were due to the same cause. This disparity might be due to the fact that in Glasgow a larger proportion of practitioners send their cases of ante-partum haemorrhage into hospital, or it might be due to the methods of treatment adopted, assuming, of course, that the cases were not in any way selected by the workers concerned; on these points no data are available. Notes of urine examinations were available in only 23 of the 122 cases of placenta praevia, and in 9 of these the urine was normal, while in 14 there was albumin in varying amounts. One woman had had oedema and swelling of the feet for seven weeks before delivery. It is apparent, however, that there is always room for considerable error in the diagnosis between placenta praevia and accidental haemorrhage. For instance, a case of external accidental haemorrhage, in which albuminuria is exceedingly likely to occur, may be easily labelled as a partial placenta praevia. In some cases, indeed, the diagnosis between these two conditions is probably impossible, and therefore, before any conclusion can be drawn regarding the significance of albuminuria in ante-partum haemorrhage, all doubtful cases should be rejected. Much of the disparity, for example, between the various published accounts of the frequency of albuminuria in accidental haemorrhage may be due to the fact that some cases diagnosed as accidental haemorrhage are in reality placenta praevia of minor degree. It is interesting also to note that between syphilis and ante-partum haemorrhage no relation was found to exist.

Syphilis.

The responsibility of syphilis in the causation of foetal death was found to be lower than would be generally expected, as it only accounted for 5.4 per cent. of the deaths in the entire series. Among macerated foetuses the percentage of syphilis is naturally greater, and works out at 26 per cent. Whitridge Williams gave figures that are much higher, 12.8 per cent. of foetal deaths among the white population in his clinic being due to syphilis, while he estimated that 80 per cent. of all macerated foetuses were syphilitic. There can be no doubt, however, that the above figures represent the highest incidence of syphilis among the maternity hospitals of this country, and, indeed, is probably even too high, as in certain of the centres (Edinburgh, for example) the maternity hospital has a venereal department in which cases of syphilis are treated and afterwards confined. Many cases come from a distance that would not find their way to the hospital at all if such a department did not exist. The Edinburgh cases are necessarily, therefore, in some degree selected, and do not represent a fair sample even of the hospital population. This is borne out by the Edinburgh figures, which show a high percentage of syphilis—7 per cent., as compared with 3.7 per cent. from Glasgow, 4.6 per cent. from London, and 5.6 per cent. from Liverpool, while Cardiff showed an incidence of 7.3 per cent.

The report concludes with a short review of the results obtained. These may be summed up in the need for ante-natal supervision, with consequent reduction of the necessity for obstetric intervention, by the early discovery of such conditions as pelvic contraction, by the routine examination of the urine, and by the provision of hospital accommodation with skilled obstetric care for such emergencies as have not been or cannot be prevented. In the words of the report:

> "Such a state of affairs can, however, hardly be expected until the teachers in the medical schools and the teachers of midwives, as also the leaders of the numerous women's organizations, are convinced of the need for and the scope of ante-natal supervision. . . . In many of these cases it is not merely a hospital bed that is required but skilled obstetric care. With improved supervision during pregnancy no doubt the number of emergency obstetric operations would decrease, but even so, skilled supervision would be required. It can hardly be doubted that much can be accomplished without additional cost if closer co-operation were established."

THE SPREAD OF INFECTION IN SCHOOLS AND SHIPS.

THERE is no more fascinating epidemiological problem than that of the spread of illness within a community either completely isolated from the rest of the world or receiving immigrants at different rates. In recent years this problem has been most closely studied by experimental workers. The English pioneer has been Professor W. W. C. Topley of Manchester, who has made it a principal object of his researches since 1919; in the last four or five years Professor Topley has been associated in the investigation with Dr. Major Greenwood of the Ministry of Health. The nature of this collaboration has been misunderstood. One of the psychological mysteries of our profession is that, although the general public consider the opinions of, say, an operating surgeon, a practising physician, and a bacteriologist of equal value upon any professional topic whatever, within the profession itself it seems to be an axiom that nobody practising a specialty has any knowledge of anything else. Drs. Topley and Greenwood have collaborated strictly, and the terms of their working agreement were: "That we should each bring into the common stock such special knowledge of particular techniques as we had individually acquired, but that the business of the firm should really be a joint one, that neither partner was at liberty to disclaim not mere formal but real responsibility for the work of the other."[1] These being the conditions of their partnership, their joint conclusions are: (1) That a community of mice can never be rid of an infectious disease once introduced, so long as non-immune immigrants continue to be admitted to the community. (2) That the rate of circulation of the non-immune entrants is an important factor of the epidemicity of the disease. As these authors put it: "We would sooner admit 1,000 susceptibles to a herd at once than 10 a day for a hundred days if we desired to keep down the rate of infectious disease."[2]

These were not the only, perhaps not even the most important, conclusions reached, but those most directly relevant to the extremely interesting memoir by Surgeon Commander Sheldon F. Dudley, R.N., which the Medical Research Council has just published.[3] The strong points of the Topley-Greenwood method are obvious—for example, large numbers of animals at risk and power to modify the external conditions. The weak points are equally obvious. The workers are dealing with animals who cannot be cross-examined and with infections of no great practical importance to human communities, while their criterion of infection is only applicable *post mortem*. Surgeon Commander Dudley, who is acquainted with Topley's earlier publications and has himself already published an important study of the epidemiology of diphtheria, examined the records of various schools and institutions, and now interprets them in a way which, as the Medical Research Council note in the preface, increases the probability that the Topley-Greenwood hypotheses are correct.

Part I of the report deals with the medical statistics of the R.N. School, Greenwich, from 1912 to 1924. Surgeon Commander Dudley notes that the course of influenzal morbidity affords an almost exact parallel with Topley's observation on mouse "typhoid" in the recrudescence of morbidity (taken as the human analogue of the mortality in mice) when fresh susceptibles are introduced. "During the epidemic the introduction of a batch of uninfected boys was followed first by morbidity among the freshly introduced material, and next by increased morbidity in those who had previously escaped infection, and reinfection of some of those who had been infected earlier in the epidemic." In treating of diphtheria, Surgeon Commander Dudley suggests that the ratio of Schick-negative to Schick-positive reactors may be taken as an "index of herd immunity," and relates the falling curve of herd immunity to the rising curve of clinical morbidity. The second part of the report deals with general principles and the relation of the carrier to the production of herd immunity. It is argued that there are—

"three variables: First, the amount of infective material received by the host per unit of time. Second, the rate at which this infective material can be destroyed. The third variable is the rate at which microbic proteins stimulate (or depress) the immunity mechanisms (specific or non-specific) of the host. . . . Other factors being equal, including time, it will depend on the distance of a susceptible host from a distributor of parasites as to whether the former becomes a case, or a carrier, or possibly immune to infection by merely destroying or absorbing the parasitic proteins. It should be noted that, though the theory termed the velocity of infection can completely explain the cessation of an epidemic which coincides with a diminution in the carrier rate, and in the density of the population, yet this hypothesis cannot by itself account for the cessation of an epidemic where the sleeping conditions remain unchanged, the carrier rate increases, and fresh susceptible material is frequently introduced, as was the case with the diphtheria epidemic in Greenwich Naval School. Under such circumstances another factor is required, which is probably bacterial variation in response to changes in the herd immunity. Thus carriers acting in a suitable environment may prevent large disease outbreaks by supplying subinfective doses of infectious material to the more susceptible members of a population. In this way the general resistance to epidemic disease is increased, and the herd is vaccinated by its carriers."

The author, of course, guards himself against the implication that he holds carrier infection to be the only or even the commonest mode of distribution of microbic disease. In subsequent pages data from the London Foundling Hospital, a warship, and two naval training establishments are examined, and the author finds them to be in conformity with his views. In the next section relative incidence is briefly examined, and after that the author takes up the study of the influence of the rate of change of the population upon the development of infectious illnesses. The author's algebraical treatment of this is, necessarily perhaps, rather too crude to be more than suggestive, but the following remarks are interesting.

"The recruits at Shotley were older and came from, if anything, a slightly poorer class than the Greenwich boys; the herd immunity at Shotley should therefore have been higher than at Greenwich. In spite of these facts the morbidity from infectious disease was practically as high at Shotley as at Greenwich. This paradox puzzled the writer until the obvious and simple fact dawned on him, that the population was changing at Shotley three times as rapidly as at Greenwich. The rate of change of population is of special interest to the Services, as it is probably the chief factor in the high incidence of disease in recruiting depots; it is doubtless of far more importance than unaccustomed conditions of living, or mental and physical strain."

There follows an examination of war-time statistics of epidemic meningitis, leading to the conclusion that "all naval experience goes to prove that the average age of a community, in so far as it indicates a greater or less herd immunity, is one of the most important factors in determining the incidence of cerebro-spinal meningitis." Lastly, there are two short sections on periodicity, and upon pneumonia and rheumatism. The former leads to the conclusion that the "differences in the morbidity of the various establishments which have been described are determined much more by the intrinsic characters of the establishment than by the density of disease in the surrounding area." The latter suggests, having regard to the experience of some naval institutions, that damp and chill are more important etiological factors of rheumatic disorders than overcrowding.

In a short summary such as this it is impossible to do justice to a detailed argument, still less to indicate difficulties of interpretation of complex facts. We do not doubt that some of Surgeon Commander Dudley's conclusions will be modified as our knowledge increases, and probably all epidemiologists will not accept all his explanations. We believe, however, that he has made an important contribution to epidemiological literature. The development of experimental epidemiology is one of the most hopeful features of the present epidemiological situation; its integration with field observations—as in Surgeon Commander Dudley's report—is an essential element of progress. In giving generous financial support to Professor Topley's experimental work, and in publishing such papers as that of Surgeon Commander Dudley, the Medical Research Council is once again performing a service of more than national importance.

[1] *Proc. Roy. Soc. Med., Sect. of Epidem.*, 1926, xix, 31.
[2] Op. cit., p. 38.
[3] The Spread of Droplet Infection in Semi-isolated Communities. By Surgeon Commander Sheldon F. Dudley, R.N. Medical Research Council, Special Report Series, No. 111. London: H.M. Stationery Office. 1926. Price 1s. 6d.

Union of South Africa.

[FROM OUR CORRESPONDENT IN JOHANNESBURG.]

TWENTY-FIRST SOUTH AFRICAN MEDICAL CONGRESS.

THE twenty-first South African Medical Congress was held in Pretoria during the second week of October under the presidency of Dr. A. W. Sanders. It was a little early in spring for Pretoria to be seen at its very best, but already the flowering trees which line the wide streets were beginning to burst into masses of mauve, orange, and red flowers. A fortnight later members would have seen the wondrous sight of mauve carpets under the jacarandas where the fallen flowers lie thick like coloured shadows beneath the trees. Pretoria in its early spring drapery tended perhaps to produce a mood of poetry rather than of strenuous scientific endeavour; nevertheless, and in spite of the numerous social attractions provided by the people of Pretoria, important and earnest discussions took place on the many problems in medicine and hygiene which face us in South Africa, and much valuable work was done.

The invitation to the Congress had been issued by the Pretoria Branch of the British Medical Association and the South African Medical Association, now happily united into one body styled the "Medical Association of South Africa (British Medical Association)." At the opening ceremony in the extra-mural building of the Transvaal University College, Dr. A. J. Orenstein, President of the Federal Council of the Medical Association of South Africa, inducted Dr. Sanders into the presidential chair, and then Congress was formally opened by Advocate W. S. Duxbury, K.C., Mayor of Pretoria. In an eloquent address he bade the members of Congress welcome on behalf of the people of Pretoria, paid a high tribute to the achievements of medical science in South Africa, and expressed the confident expectation of the public that the many problems of human disease would be steadily attacked and conquered by the medical profession. Residents in Pretoria, he said, were brought into very intimate association with some of the problems with which the Medical Congress would deal. "Within our borders, and in addition to the clinics which discharge the valuable functions of preventing, as far as may be, and of repairing the ravages of specific and other diseases, and to the institutions more definitely devoted to the vital requirements of motherhood and child welfare, we touch, through our Mental Hospital and its 1,500 inmates, what perhaps is the most intricate side of your profession. Fascinating, too, though exceedingly trying to the layman, are the various manifestations of the leper's terrible physical inflictions, in their interrelationship with his mental make-up. These are matters which we are not allowed to forget, by reason of the existence of the leper institution at West Fort, a few miles away. Patient research into the etiology of the dread disease is at the present time being carried on at West Fort, and they too have had their Father Damien, who, in the person of a devoted medical man, sacrificed his life in the cause of scientific observation in the field."

THE PRESIDENTIAL ADDRESS.

Alfred William Sanders, M.D.Lond., F.R.C.S.Eng., was born in London in 1872, and, after a brilliant student career at St. Mary's Hospital, came to South Africa first in 1899 as civil surgeon with the Imperial Forces; in 1901 he was appointed district surgeon of Pretoria, and surgeon to the Pretoria Hospital. In 1908, when an honorary staff was appointed to the Pretoria Hospital, he became honorary surgeon, an appointment he still holds. Since 1913 he has been a member of the Transvaal Medical Council.

Dr. Sanders, in his presidential address, made reference to the sad circumstances that had brought him to occupy the chair. Dr. Howell-Davies, who had been unanimously elected President by his colleagues in Pretoria, had died after a short illness; he had richly deserved the honour done him, and was hard at work in making arrangements for the Congress when he was called away. So keenly had all felt this loss that the abandonment or postponement of the Congress was seriously discussed. It was, however, realized that to take such a step would have caused considerable inconvenience to many who had already made arrangements to attend, and would have gravely interfered with the very important business which had to be transacted at the Congress, more particularly the amalgamation of the British and South African Medical Associations. Dr. Sanders sketched the career of Dr. Davies in Pretoria. "Davies was a man of great public spirit. It was largely through his instrumentality that the Victoria Maternity Hospital was instituted, and he was always an active member of its board of management. Ever alive to the best interests of his profession, he keenly resented and attacked anything likely to lower its status or to bring it into disrepute. During the last few years of his life he was president of the Clinical Society, which he had practically brought into being, and which did much excellent work. His domestic life was a very happy one, and his family and a large army of patients must keenly mourn his loss."

The Medical Congress was a very important event, bringing together men from all parts of South Africa. There were present prominent members of the profession from the larger centres of population, where they had every known aid in the practising of medical science in the most favourable circumstances, and others who, living in the country districts with none of the medical amenities of town life, had to tackle difficult cases single-handed and to shoulder heavy responsibilities alone. The advantage of bringing such men together was evident.

The subject which he believed Dr. Davies had been preparing was "The coming generations," and he proposed to deal with it to the best of his ability. Every child had the right to be well born, and as knowledge of heredity increased it was being realized more and more that if good stock of any kind, animal or vegetable, were to be produced it must be from the best material only. The responsibilities of parenthood were lightly undertaken and lightly sanctioned, and an endeavour should be made to ascertain the causes of racial deterioration. The frankly and markedly defective were relatively easily dealt with, given the necessary power, either by segregation or sterilization, and there must be few who would contest the need for some such measures. It was necessary to insist on more and better scientific education in the schools. It was the right of every child to receive instruction in the facts of life. No boy or girl should leave school without a good working knowledge of biology and the collateral sciences, physiology, chemistry, and hygiene. The study of human heredity and evolution should begin in the schools, and when a child could be brought to understand how health and vigour in individuals was to be sought after and attained he would go far to realize the grandeur of the results to be achieved by the widespread or national utilization of such principles. The schoolmaster and the schoolmistress must be the comrades of the doctor. Syphilis and alcoholism were to be attacked by every available means. Every municipality should organize popular lectures, by medical men to men and by medical women to women, on the prevention of venereal disease. A real danger in South Africa was the association of possibly infected coloured nurses with white children. The greatest care was needed and should be exercised in that regard. Climate was an environmental factor which, while it could not be directly altered, much could be done and had been done to improve. The draining of swamps and the clearing away of rank vegetation had achieved wonders. Malaria was the environmental disease which most threatened the life and health of the white man in South Africa. Endemic in much of the coastal area and in large parts of Northern and Eastern Transvaal, it was responsible for many deaths and marked deterioration, both mental and physical, in the local population. Those who lived in Pretoria were in close touch with the peoples of both high and low veld, and had frequent opportunity of judging its effects. Bilharziasis was a disease which affected many children, often producing most serious consequences. Thanks to the method of treatment by intravenous injections of antimony potassium tartrate, comparatively recently introduced by Christopherson, this disease,

against which there had previously been practically no remedy, was now well within control. The working out of the life-history of the parasite by Leiper, work which had been repeated for local conditions by Dr. Anne Porter of Johannesburg and by Dr. Cawston of Durban, gave hope that much might be done to prevent the disease. The welfare of the coming generations should not be left to Nature and to evolution.

Sectional Meetings.

All the special subjects set down for discussion in the various sections of the Congress were earnestly discussed, and several of them were continued at adjourned meetings. Prognosis in heart disease, a subject introduced by Dr. Hugh Smith, in the Section of Medicine, proved to be of considerable interest to a very large proportion of members. In the Section of Surgery the special subject was surgery of the gall bladder, on which Dr. R. L. Daly read a paper, the discussion being opened by Dr. J. W. Brebner. The special subject in the Section of Public Health, the prevention of infantile diarrhoea, was discussed at great length, many country practitioners contributing their experiences. In the Section of Obstetrics and Gynaecology the special subject was the treatment of suppurative salpingitis; it was introduced by Dr. I. J. Schabort, and the discussion was opened by Dr. R. W. B. Gibson. Many of the other papers were well debated. These included: "Some sequelae of encephalitis lethargica," by Dr. M. J. Cohen; "Theory and practice of heliotherapy," by Dr. L. E. Hertslet; "Incidence of surgical diseases in the Bantu natives," by Mr. C. F. Beyers; "A South African carbohydrate used in infant feeding," by Dr. B. G. Melle; "Serological diagnosis of typhoid fever," by Drs. Pijper and Pullinger; "Dimensional differentiation of certain microbes," by Dr. A. Pijper; "Complement fixation for tuberculosis in South Africa," by Dr. B. D. Pullinger; "Pituitrin v. forceps," by Dr. Bruce Bays; "Team work in the diagnosis of cerebral tumour," by Dr. F. H. Kooy; and "Some results of trephining operations for glaucoma," by Dr. A. G. Brinton.

Social Side of the Congress.

The citizens of the capital had been at great pains to arrange suitable entertainment for members of the Congress and their wives, and their efforts were highly appreciated. There were social functions every afternoon and night, and it was quite impossible to do justice to them all. The ball was crowded, and in spite of the heat some members were observed doing the Charleston, which has invaded the Union. At the official banquet there was also a very large gathering. The guests included His Excellency the Governor-General and the Administrator of the Transvaal, the Hon. J. H. Hofmeyr. The toasts of "The King," "The Governor-General," and "South Africa" having been duly honoured, His Excellency replied. He congratulated the profession in South Africa on the wise decision to form a federation with the British Medical Association; the Medical Association of South Africa had his best wishes for its successful future. The fellowship between the members of the medical profession was one of the principal sources of its strength; new lines of treatment, new discoveries in all departments, were generously shared; there was no room for trade secrets, and the work of the leaders was accessible to the humblest member of the profession. Members of the public ought to look upon the doctor more as their adviser in the ways of maintaining health than as their attendant when ill. The importance of keeping well was not sufficiently stressed, and at least as much attention should be devoted to this as to curing their bodily ills.

The Administrator of the Transvaal proposed the toast of "The Medical Profession" in a witty speech. He joined with His Excellency in congratulating it on the greater unity achieved in South Africa. The problem was one of combining autonomy with membership in a larger body; of maintaining and safeguarding South-Africanism and at the same time retaining membership of an organization in a wider sphere. This, he said, was only an aspect of the same problem—expressed as the difficult problem of reconciling the ideal of empire with that of the individual nation. It had been thought worth while to solve that problem, and a solution had been found. He hoped the medical success would be an inspiration and an example to some of those who were dealing with the problem in the wider sphere.

Dr. A. J. Orenstein, President of the newly-formed Medical Association of South Africa (British Medical Association), in replying to the Administrator, said that the Association was very young, being just eleven weeks old, but he trusted it was a well born babe. Speaking with regard to expressions which were too often in the mouths of people who were ill-informed, he pointed out that a medical association was not in any sense a trade union. It could not be so, for the members of the medical profession recognized to the full that they were servants of the public, and acted up to that conception. What profession other than medicine could point to such self-sacrifice? The ship that was now starting on its course had been built by the British Medical Association, from which it was not lightly parting. It was retaining a link which was not to be temporary, for the profession in South Africa recognized, to its credit, the deep debt it owed to the British Medical Association. The link retained was the result of a plan which wounded no one, and yet retained for the profession in the Union a place in the great medical commonwealth of the British Empire, aided it with the strength derived from alliance with the greatest medical association in the world, and increased its power for service to the public. Though the profession lived by the ills of other people, its main energies were concentrated on the destruction of the means by which it lived.

England and Wales.

Health of Manchester.

The annual report for 1925 of Dr. R. Veitch Clark, medical officer of health for Manchester, estimates the population of the city for the year at 758,235. The birth rate of 18.6 continues the recent decline. The death rate of 14.4 shows a slight increase over preceding years. The infantile mortality rate of 95.77 per thousand births is, with one exception, the lowest on record. The number of cases of diphtheria was above the average. Of the contacts swabbed 5.7 per cent. showed diphtheria bacilli. Of the 65 cases of enteric fever which occurred 40 were typhoid and 25 paratyphoid B, most of the latter being in one institution. Encephalitis lethargica was less prevalent than in 1924. An inquiry which was made regarding the relationship of this disease to influenza and epidemic hiccough produced no positive evidence. The notifications of pulmonary tuberculosis during the year were 1,504, of non-pulmonary 622. An investigation was carried out on the Weisz urochromogen test for pulmonary tuberculosis. The conclusion from the data received is that the test is of value in assisting diagnosis. A large number of cases of pemphigus neonatorum occurred during the first six months of 1925, and the disease was accordingly made notifiable for six months as from September 10th. From that date to the close of the year 83 notifications had been received. Among 2,269 cases of scarlet fever admitted to Monsall Hospital the mortality rate was 2.28 per cent.; a ward has been equipped at the hospital for the ear complications of this disease. Except in the few instances of massive necrosis of the temporal bone the persistence of otitis media in scarlet fever appears to be due to infected tonsils and adenoids; thorough removal in such cases is therefore justified. It is added that the omission of syringing of the ear has materially improved results. All cases of scarlet fever are submitted to the Dick test; the Schultz-Charlton test is also employed; both have been found of service. Scarlet fever antitoxin definitely improved the condition of six early uncomplicated cases, but a toxic case treated with antitoxin on the second day died on the fourth; the number of patients admitted to Monsall with diphtheria was 854. Their case mortality rate was 8.36 per cent. There were 29 tracheotomies with 14 deaths. All persons entering the nursing service of the hospital are Schick-tested, and, if reactors, immunized against diphtheria.

There were 144 admissions of puerperal fever; of these 23 died, a case mortality of 15.23 per cent. Treatment was by lymph drainage of the uterus for the local condition, and by this method, together with chemotherapy and immuno-blood transfusion, for the acute blood infections. The results of lymph drainage at the hospital were uniformly good; the ultimate results of immuno-transfusion were as uniformly disappointing. The chief veterinary officer for the city states, in his account of work, that 8.2 per cent. of milk samples from farms outside Manchester were tuberculous, but that all the large farms, and some smaller ones, have now installed pasteurization plant, so that at least half the milk distributed in the city has been rendered safe for consumers. The progress report on cancer by the medical officer of health summarizes the programme of the Cancer Committee. The main line of experimental research at present contemplated is in connexion with the origin and prevention of mule-spinners' cancer, now well known as a disease of the cotton industry, whose causation was recently discussed by the Manchester Pathological Society.[1]

LEEDS MEDICAL SCHOOL.

Dr. J. B. Baillie, vice-chancellor of Leeds University, delivered an address on medical research at a congregation at the conferment of degrees on December 22nd, 1926. He said that graduation did not abolish the need for study because the scope for the functioning of the spirit of inquiry was inexhaustible. The history of medicine was strewn with wrecks of abandoned theories, and the heresies of yesterday were the orthodoxies of the present. An open mind was the only passage through which the light of science could enter. Dr. Baillie thought that a new beginning in the process of medical science was dawning, and the medical practitioner had to take all science as his province. The extension of the spirit of scientific research in the University of Leeds, including the provision of an entirely new department of experimental pathology, was a most welcome advance, and great gratitude was due to the generosity of Yorkshiremen who had made possible this asset to medical education. Dr. Baillie alluded to the coming loss by the University of Sir Berkeley Moynihan, whose enthusiasm and standard of achievement would be a living inspiration to his pupils, and an abiding example in the days to come.

CARLISLE SURGICAL APPOINTMENT.

Following on the death of Mr. C. Balfour Paul, Mr. James N. Jackson Hartley has been appointed surgeon to the Cumberland Infirmary, Carlisle. Mr. Hartley is at present assistant surgeon to the Edinburgh Royal Infirmary. He graduated at the University of Edinburgh in 1913 with first-class honours, when he was awarded the Ettles Scholarship, Annandale Gold Medal in Clinical Surgery, and Buchanan Scholarship in Gynaecology. During the war he was attached as an officer of the R.A.M.C. to a special hospital at Etaples for the purpose of investigating newer methods of wound treatment, and received the O.B.E. in recognition of these services.

THE CARE OF CRIPPLES IN SHROPSHIRE.

King Manoel, on December 17th, 1926, opened a new ward for infants at the Shropshire Orthopaedic Hospital and Agnes Hunt Surgical Home at Oswestry. Dame Agnes Hunt, the founder of the Home, was present, and Sir Robert Jones, in an address, mentioned the great interest taken by King Manoel in all forms of the treatment for cripples and the disabled. After the opening King Manoel visited Shrewsbury and spoke at a public meeting organized by the Shrewsbury Cripples' Care Committee. Sir Robert Jones, who also addressed the meeting, referred to the national scheme for the prevention, cure, and training of cripples. The preventable diseases of tuberculosis and rickets were concerned in 70 per cent. of cases of crippling, and further energetic steps were needed to eradicate these two causes. Continuity of treatment and proper after-care were essential, and new hospitals for children must be built in the country and not in the towns. After-care clinics were also required to provide supervision by experts for patients who had received treatment in residential institutions. Both King Manoel and Sir Robert Jones paid tributes to the pioneer work of Dame Agnes Hunt, who spoke subsequently on the importance of hygienic milking methods and the erection of houses with more open surroundings. Cripples, she said, needed to be given a trade so that they might attain a measure of independence.

[1] BRITISH MEDICAL JOURNAL, December 18th, 1926, p. 1181.

Scotland.

ANIMAL RESEARCH IN EDINBURGH.

AN appeal has been issued, signed by Lord Balfour as Chancellor of the University of Edinburgh, Sir John Gilmour (Secretary of State for Scotland) as the Lord Rector, and Sir J. A. Ewing as Principal of the University, in regard to the subject of research in animal breeding under the control of the University and the Edinburgh and East of Scotland College of Agriculture. Mention is made of the recent gift by Lord Woolavington of £10,000 towards the endowment of a chair of animal breeding in the University of Edinburgh, and of the existence on a small scale since 1920 of a department conducting research on this subject. The International Education Board of New York, one of the Rockefeller Foundations, has now made a contingent offer of £30,000 towards the building and equipment of this department. This offer is conditional on a like amount being obtained from other sources and on the provision of certain funds for maintenance. The Government, through the Development Commissioners, is prepared to provide a substantial part of the required funds, and the University will do what it can, but a further sum of £30,000 is still required as an endowment to enable the scheme to be realized, and the offers of the International Education Board and of the Government do not become effective until this is guaranteed. The present appeal is therefore issued to persons interested in the development of stock breeding, agriculture, the encouragement of science, and the establishment of a school of animal genetics which may become the most important in Europe. Subscriptions may be intimated to the Secretary of the University of Edinburgh.

GLASGOW WESTERN INFIRMARY.

At the annual meeting of Glasgow Western Infirmary Colonel J. A. Roxburgh, who presided, said that the hospital had not escaped the industrial troubles of the past year, and the ordinary income for the year was not expected to exceed £67,000, as against £73,000 for the previous year. There was an estimated ordinary expenditure of £84,000, and the infirmary would be faced with a deficiency of £17,000. There had been an increase in the work done, attendances at the out-patient department especially constituting a record with the number of 170,000. The managers had been enabled through the receipt from the trustees of the late Robert Donald of £12,000 to make a full-time appointment for cancer research; Dr. A. A. Charteris had been appointed to this post, and was working in connexion with the professors of pathology and bacteriology at this subject. The infirmary was at present much in need of a new *x*-ray department, and the managers were making a special appeal for this purpose.

Ireland.

HISTORY OF THE ROTUNDA HOSPITAL.

THE progress of the Rotunda Hospital during the last thirty years was the subject of an address by Dr. A. Madill, president of the Section of Obstetrics and Gynaecology of the Royal Academy of Medicine in Ireland, on December 10th, 1926. In the course of his address Dr. Madill mentioned the failure to reduce morbidity in the hospital and to improve on the eclampsia figures of Dr. Tweedy. He also referred to the poor results of Caesarean hysterectomy in cases of concealed haemorrhage, and emphasized the importance of the advance towards safety since the introduction of pubiotomy and Caesarean section. During the discussion Sir William Smyly described the change since the time when sterilization was only employed for instru-

ments, and no efforts were made to cleanse the patients from the dirt brought with them into the hospital from their homes. The majority of the pupil midwives then were not residential, and regularity of attendance and discipline were very defective. Dr. Gibbon FitzGibbon referred to the effect of the introduction of the motor car in bringing to the hospital serious cases from outlying districts; in this way, he thought, some of the present high morbidity and mortality among hospital patients was to be explained. The last six years compared unfavourably with the preceding fifteen years. The increase in the use of forceps and in the induction of labour might also be a factor in causing morbidity. He added that the Dublin maternity hospitals were responsible for 70 to 75 per cent. of all the midwifery of the city. The institution of the ante-natal department by Dr. Gibbon FitzGibbon was mentioned by Dr. Bethel Solomons, with particular reference to the prevention of eclampsia by the early diagnosis of albuminuria.

PEAMOUNT SANATORIUM.

The Committee of Management of the Peamount Sanatorium, in its report for 1925, states that the number of patients sent by the different tuberculosis and insurance committees was greater than in 1924. On January 1st, 1925, there were 196 patients in the institution; 653 patients were admitted, and there remained at the end of the year 199 patients. The sanatorium is supported by the contributions given by the different committees who send patients for treatment—namely, £2 2s. a week for adult patients and £1 17s. 6d. for children. There is no other source of income, and the committee must meet all expenses out of the contributions received for the patients. This it has been barely able to do during the year under review, for after treating 849 patients at a total cost of £23,267 the accounts showed a balance of income over expenditure amounting to less than £6. The committee consider this margin very small, as it has no funds in hand or capital sum for any emergency or unusual expenditure. The cost per patient per bed at Peamount, although situated twelve miles due west from Dublin, is lower than any of the Dublin clinical hospitals under the auspices of the Dublin Hospital Sunday Fund, where the medical staff is voluntary and where linen guilds supply all linen, etc.—a considerable item of expense in any such institution. The necessary repairs to the different pavilions, shelters, dining-hall, administration building, laundry, and electric plant were carried out so as to keep these buildings in proper order, and in some cases much needed renewals and improvements were effected. As the seven pavilions, doctor's house, dining-hall, and thirty shelters are wooden structures the expense of keeping these in good repair necessarily amounts to a large sum yearly. The resident medical superintendent, Dr. Sheehan, in his report makes special reference to advanced cases sent for treatment. The committee, while realizing the difficulties tuberculosis officers labour under, considers it unfair both to the patients and the institution to send advanced cases for treatment. About one-fourth of those admitted were more fitted for institutions for advanced cases than for Peamount. The committee notes with pleasure that the Minister of Local Government and Public Health is taking steps to have suitable institutions established for such cases. Another point emphasized is the want of after-care committees in each county from which patients are sent; the Central After-Care Committee can only deal with patients in and about Dublin. Prior to the great war the Women's National Health Association had established such committees in each of the counties sending patients. The most satisfactory part of the work at Peamount is the good result obtained from the treatment of children of school age in a self-contained children's pavilion. Dr. Sheehan states that this pavilion is the brightest spot in the grounds, and the high percentage of discharged patients with the disease arrested has fully justified the committee in catering specially for children. With the educational and recreational facilities provided for under medical supervision the occupants enjoy their stay in Peamount. The committee, on the recommendation of the medical staff, has given an order for two ultra-violet lamps, which are expected to be installed early in the New Year.

Correspondence.

PRACTITIONERS OF PATHOLOGY.

SIR,—May we beg the courtesy of your columns to draw attention to the fact that a meeting will be held at the London School of Medicine for Women at 2.30 p.m. on Friday, January 7th, for the purpose of considering the advisability of forming a society to represent the interests of those engaged in the practice of pathology?

There is general agreement among those engaged therein that the conditions of pathological practice throughout the country are very unsatisfactory and are in danger of becoming more so. The competition for pathological work on the part of subsidized institutions of various sorts, both academic and commercial, and of local authorities and the resultant cutting of fees is threatening to reduce the remuneration from pathological work to such an extent that little inducement will be offered to competent men to enter this important branch of medical practice. The present state of pathological practice, moreover, offers little encouragement to non-teaching hospitals to attempt to bring their pathological departments to a state of efficiency. It is in the general interest of medicine that pathological knowledge should be as widespread as possible and not confined to the teaching centres.

Up to the present pathologists as a class have had no organization to represent their interests. The need for such a body appears to be urgent, and we therefore hope that all those interested who can manage to do so will attend the meeting.—We are, etc.,

H. A. COOKSON,
Royal Infirmary, Sunderland.
J. B. DAVEY,
General Hospital, Cheltenham.
S. C. DYKE,
Wolverhampton and Staffordshire Hospital, Wolverhampton.
C. E. JENKINS,
Salford Royal Hospital, Salford.
C. POWELL WHITE,
Victoria University, Manchester.
A. RENSHAW,
Ancoats Hospital, Manchester.
A. G. SHERA,
Princess Alice Memorial Hospital, Eastbourne.
A. F. S. SLADDEN,
General Hospital, Swansea.
R. V. SOLLY,
Royal Devon and Exeter Hospital, Exeter.
E. WORDLEY,
South Devon and East Cornwall Hospital, Plymouth.
A. F. WRIGHT,
Coventry and Warwickshire Hospital, Coventry.

December 21st, 1926.

*** The Council of the British Medical Association, at its meeting on December 15th last, had before it the report of the special Pathological Committee appointed to consider this subject, and a full account of the discussion will be found in the Proceedings of Council published in the SUPPLEMENT this week.

MIGRAINE AND ACETONURIA.

SIR,—Dr. Fawkes has shown the way (BRITISH MEDICAL JOURNAL, December 18th, 1926, p. 1176) to a truer understanding of migraine. I have been familiar with the facts he has noted for a long time, but have been slow to make them more widely known.

One of my children used to suffer from attacks of cyclic vomiting associated with acetone in the breath, attacks which finally culminated in acute appendicitis, and were completely cured by the removal of the appendix. My wife, who, like many women, has an acute sense of smell, learnt to recognize the acetone in the breath, and I taught her how to abort the attacks by giving immediately large doses of magnesium carbonate and glucose.

From childhood I have suffered from typical severe migraine. These attacks usually came on on Sundays, when I was able to relax after periods of severe overwork during the week at the hospital. On Saturdays

I would notice areas of exquisite superficial tenderness on the inner side of one arm, on the Sunday morning I would fail to obtain the usual alvine evacuation, and during the morning a severe attack of migraine would appear on the same side of the head as the area of superficial tenderness on the arm, with vomiting and giddiness. That evening, or next day, I would pass a foul, fatty stool of a peculiar odour, which I learnt to recognize, and the migraine left me. My wife noticed that on the Saturdays my breath was full of acetone, and on Sundays she could detect the acetone as I entered the room.

This set me thinking, and made me realize that the poison which produced the migraine must be associated with acetone bodies in the blood, but, though acetone was so marked in the breath, I never could detect them in the urine by the ordinary tests. I came to the conclusion that the cause of migraine must really consist in a failure of the liver to deal with certain bodies in the food—probably fats. I therefore watched my diet and found that the substances in the food, the failure to detect which by a tired stomach and liver induced migraine, were of three kinds:

1. The fats of meat, particularly beef, mutton, pork, veal, duck, and bacon. (Butter, cream, and suet were harmless.)
2. Coffee and chocolate.
3. Spirits, particularly whisky.

I found that by cutting these articles clean out of my diet attacks of migraine became of rare occurrence.

If my wife noticed acetone in my breath I could always tell her that I had at the moment the warning signs of a migraine—namely, areas of superficial tenderness on the arms. I learnt then to take large doses of sodium bicarbonate, starve myself for twenty-four hours, and take a Seidlitz powder. These measures usually aborted the attack. I have since used this knowledge in helping a number of colleagues and patients who have told me that they suffered from migraine.

It is time to call the attention of the biochemists to these observations. If they will carry out observations on the breath, blood, and urine of migraine sufferers, and perhaps apply tests for deficient liver function, I believe they will find that in this direction lies the poison that causes migraine.

Migraine is, in my view, brought on by a temporary functional disorder of the liver. It is predisposed to by any factor which causes muscular or mental fatigue, such as overwork, eye-strain, sitting for a long time in a crowded and badly ventilated room, and is induced by a tired stomach and liver unable to deal with too large a dose of certain animal fats, coffee, chocolate, and spirits. The temporary constipation followed by the passing of a foul stool is the result of a failure on the part of the liver to secrete healthy bile into the intestine. The attack is ushered in by acetone in the breath, which, if detected in time, can enable adequate measures to be taken to abort the attack—namely, the exhibition of alkalis, starvation, and a Seidlitz powder.—I am, etc.,

December 21st, 1926. CONSULTING SURGEON.

SIR,—I can confirm Dr. Fawkes's statement (BRITISH MEDICAL JOURNAL, December 18th, p. 1176) that examination of the urine of children, and frequently of adults, suffering from migraine and recurrent vomiting shows the presence of acetone bodies, but my experience is that if the blood is also examined an abnormally low sugar content is generally found, thus accounting for the beneficial effect of glucose to which Dr. Fawkes refers. The hypoglycaemia met with in this type of case is usually not transitory, like the acetonuria, and can be detected in the interval between the attacks.

Breeding experiments with mice, which Mr. Howard and I have been conducting for some time, have demonstrated that hypoglycaemia may be hereditary, but the results of numerous analyses of the blood, urine, and stools which I have carried out in cases of recurrent vomiting and migraine suggest that intestinal disturbances are a common exciting cause, as Dr. Fawkes points out. The hereditary factor cannot, of course, be treated, but much can usually be done to prevent the attacks by keeping up the glycogen store in the liver and by taking suitable measures to improve abnormalities of intestinal digestion and absorption revealed by analysis of the faeces and urine. In many instances it is only by means of such analyses that the exciting cause can be discovered.—I am, etc.,

London, W.1, Dec. 18th, 1926. P. J. CAMMIDGE.

THE PROPHYLAXIS OF TUBERCULOSIS IN TOWN CHILDREN.

The Grancher System.

SIR,—In your issue of November 7th, 1925, under the above heading, was published a letter from me in which I gave details of a method employed by the Hastings Tuberculosis Care Committee for dealing with poor children threatened with, or in an early stage of, tuberculosis. The plan consists in placing them in selected country cottages and keeping them during their stay under careful supervision. I should like, if I may, to say a little more on the subject, in the light of subsequent experience, in answer to questions that are frequently put to me by word or letter.

As I then stated, the scheme was started in France by Dr. Grancher and now is known by his name. It was described by Professor Armand Delille at the Tuberculosis Conference held in London in 1921. He told us that 2,300 tuberculous children from Paris alone had been placed in rural peasant cottages with excellent results. It had been adopted in England to a limited extent by some tuberculosis care committees other than our own, but notably by the London County Council, who at the beginning of last year decided to put into practice a scheme for the removal of children from heavily infected and overcrowded areas, during the terminal stage of a dying case of pulmonary tuberculosis in the family, and boarding them out, this provision being undertaken in co-operation with the Invalid Children's Aid Association. The secretary of that society states (October, 1926) that "the scheme would appear to be a great success up to the present time." I think it can be shown that this plan has special advantages of its own, and that if it were more generally practised a much larger number of children suffering from the premonitory symptoms of pulmonary tuberculosis, or in imminent danger of catching it, could be removed at once from the source of infection and placed in a position of safety than is possible at the present time.

The paramount importance of grappling with this disease in the earliest stages and in childhood is unanimously accepted. Sir George Newman writes, "We cannot rightly deal with tuberculosis apart from the proper treatment of the disease in infancy and childhood, possibly the chief age-period of its infection and invasion, perhaps even of its immunization, and certainly the opportunity for its treatment" (*An Outline of the Practice of Preventive Medicine*, p. 49). From the same work we learn that "there are 600,000 children in England . . . debilitated and anaemic, malnourished, stunted, and weakly." A large number of them would be children of the poor either suffering from tuberculosis in an incipient form or liable at any time to contract the disease. No doubt the best plan would be to send all such cases to residential open-air schools, if it were possible to do so; but, apart from the financial difficulties, the accommodation in these establishments is for less than 6,000—not 1 per cent. of the figures mentioned above. Many of the children now sent to sanatoriums could be promptly dealt with in this way at about one-quarter of the cost. The economic advantage bears no comparison with other methods. Our expenses are 11s. 3d. per child per week, and part of this is sometimes refunded by the parents. The children live with people of their own social class, and they are free and happy, as their letters home constantly testify. Wherever possible a married couple, with no children of their own, are selected, and the parental, more especially the maternal, instinct plays a most important part. The care, attention, and good living that the children receive are often surprising and out of all proportion to the money paid for them. Such is the vitality of childhood that they respond at once to these altered conditions and continue to improve. During more

than seven years' experience I remember but one exception to this rule, and in that instance the case was complicated by asthma. The method is now in such good repute in this locality that the parents' consent is readily obtained. Judging from my correspondence, this appears to be looked upon as a difficulty, but it seems to be more frequently anticipated than real. Our work in this direction is done in conjunction with the Guardianship Society of Brighton. Their secretary, a lady who has been engaged in this capacity for many years, and an enthusiastic worker, writes, "There is a great future, I believe, for boarding out; it is the organization that is required. . . . We are trying to start in Kent, which should be an easier county than Sussex."

The following is an excellent example of success obtained in this way, but it is also recorded on account of the striking evidence it affords that a child suffering from pulmonary tuberculosis may, if cured, ultimately obtain an immunity from the disease.

In January, 1918, George P., aged 9½, was attending school. He had been delicate since the age of 4, when he suffered from a tuberculous abscess of the neck. His parents and two younger brothers were healthy. His sister died of tuberculous meningitis. He lived at that time in his present home, which is situated in one of the worst localities of a poor neighbourhood. The house consists of three rooms built one above another. It is old and dilapidated and is placed in a court that branches off from a narrow street. It faces north, and the opposite dwelling is distant only 5½ yards. The back of the house is composed of a brick wall with no windows or doorway, consequently the room gets no sunshine whatever. The light is always dim and the air feels stagnant and heavy. The living room measures 3½ yards by 3 yards. It is used also for cooking, as a scullery, and for washing and drying clothes. The boy was sleeping with his two brothers in the top room, which is only an attic, with one small window. He remained indefinitely unwell until the middle of 1919, when the tuberculosis officer examined him at the dispensary and reported dullness and crepitations at the right apex.

He then came under the notice of the Hastings Tuberculosis Care Committee, who sent him at once to a country cottage. They also reported the condition of his home to the sanitary authority and advised the parents to find another dwelling. This they have not done, the reason assigned being their inability to pay the rent of the recently constructed houses.

The lad's history is a repetition of staying for a while in the country and rapidly improving, returning home, generally at his mother's request, and almost immediately relapsing. This continued until 1922, when he came home looking remarkably well, and from that time onwards he has not relapsed and has worked with a local decorator without intermission up to the present date.

He was examined in November last by the tuberculosis officer, who reported him as being "perfectly well," notwithstanding that he has lived in the same insanitary environment in which he contracted the disease; and, to make matters worse, his father, in 1925, developed pulmonary tuberculosis, for which he stayed last year in the county sanatorium. During this year he has been at home undergoing "domiciliary treatment." His sputum is positive, he has lost 28 lb. in weight, and his incapacity is given as 100 per cent.

Therefore this lad can now live and thrive in the worst of insanitary conditions, which had previously reacted unfavourably, and in daily contact with an advanced infectious case. I submit that the history of this patient offers the strongest presumptive evidence in support of the view that an immunity has been acquired.—I am, etc.,

W. BOLTON TOMSON, M.D.,
Vice-Chairman of the Hastings Tuberculosis Care Committee

December 14th, 1926.

LEPROSY: ITS TRANSMISSION AND TREATMENT.

SIR,—I have read with much surprise the letter from Sir Leonard Rogers on the subject of the treatment of leprosy, in your issue of December 18th, 1926 (p. 1195). Sir Leonard seems to confuse the vaccine, of which I gave the composition in the BRITISH MEDICAL JOURNAL of December 4th (p. 1034) with the leprolysines, nastines, etc., for I am wholly unaware of the existence of any antileprous vaccine comparable with mine and in use "for several decades." Some few months before Sir Leonard Rogers's Croonian Lectures of 1924 an International Conference of Leprosy was held in Strasbourg, at which Sir Leonard was official delegate for India; the conclusions announced at the end of the debates of this conference by the president, Professor Jeanselme, were: "that there is not a specific medication for leprosy" (*Conf. Int. de la Lèpre*, 1923, p. 501). "We cannot say that the hopes which Rogers, Hollmann, Dean, Brocq, and Pomaret had built were fulfilled" (ibid., p. 503).

It is probable that certain preparations of chaulmoogra have some therapeutic action on certain forms of leprosy when it is in its initial stages, but this action seems very unreliable and limited in scope.

During this year, after the publication of my lecture in the *Transactions* of the Royal Society of Tropical Medicine and Hygiene (January, 1926), I have received a large number of attestations from leprologists as to the poor result obtained by the use of chaulmoogra preparations in leprosy, notably from the director of a leper institution in India with 550 cases under his charge. My own experience is to the same effect: I have never obtained with these preparations the smallest success worth reporting, and in some cases the disease was actually aggravated by their use. It is fair, however, to say that the majority of my cases were not in the initial stages.

In conclusion, I would say to Sir Leonard Rogers that I also have been able to clear eruptions of leprosy in initial stages with solutions of oil of turpentine, and carbolized oils, and, most effectively of all, with amino-arseno-phenol, which I regard as a fairly efficient lepricide in early cases. But all these forms of treatment are non-specific, and their action seems limited to certain quite early phases of the disease.—I am, etc.,

London, W.2, Dec. 19th, 1926. J. HASSON, M.D.

SIR,—In answer to Sir Leonard Rogers (December 18th, 1926, p. 1195) I may say that I was for some seven years, and until quite recently, editor of the Skin Diseases Section of the Tropical Diseases Bureau, and that in condemning the chaulmoogra products I was relying upon reports which came under my notice from countries where lepra is endemic, and not only upon the "general experience of London dermatologists," although I cannot, of course, subscribe to his implication that that experience is worthless. I might retort that the results from the use of these preparations seem propitious in proportion to the remoteness of the reporter, and medication described as efficacious in Fiji is demonstrated to be a dud in London. Sir Leonard Rogers seems to imply that essentially the same method as was used in my case had been used "for several decades either as tuberculin, which gives a reaction in leprosy, or as killed lepra bacilli." I submit that there is far more difference between the method mentioned by me and the methods so erroneously cited as identical by Sir Leonard Rogers, than there is between the use of the products of chaulmoogra oil, recommended by Sir Leonard, and the use of the oil itself, which has been the staple drug employed in the treatment of leprosy in the East, not "for decades," but for centuries. That chaulmoogra gives very unencouraging results is abundantly evident from the despair with which leprosy cases are usually confronted in countries where the disease, and this treatment, are most prevalent. The argument which Sir Leonard uses to belittle the value of the new vaccine is tenfold more effective against his own pet preparations.—I am, etc.,

London, W.1, Dec. 20th, 1926. E. GRAHAM LITTLE.

EARLY TREATMENT OF ENCEPHALITIS LETHARGICA.

SIR,—The article in your issue of December 18th (p. 1190) on "A unit for the residua of encephalitis lethargica" seems to indicate that the plan for dealing with these serious conditions is to make special arrangements for investigating and treating the late stages. By the time, however, sequelae have developed, especially if doubtful cases are ignored, some of the factors operating in the first instance have disappeared, except in so far as their consequences are still evident. Surely the stage at which such a disease should be studied is at its commencement. The arrangements made seem to continue the fallacy pointed out by the late Sir James Mackenzie, when he showed that usually it is only the general practitioner who can discover the causes of disease, and not a pathologist working in a *post-mortem* room two, three, or four years after the primary agents have gone, leaving perhaps no trace.

It is a deplorable fact that many cases of encephalitis lethargica are treated in a cavalier manner, dubbed influenza, and little or nothing done. This still goes on, although it is known that many of the cases with serious consequences do not seem bad at first; some do not see a doctor at all, and are only discovered later. But the first day may be the only time it is possible to detect the primary infection, so virulent, and so active in penetrating the cribriform plate of the ethmoid.

As some patients die in a few days no time is to be lost. The site of infection must be investigated thoroughly. Those of us who see the after-results in the form of dementia praecox, which would not have occurred otherwise, apparently inexplicable forms of manic-depressive mental disorder, and mental defect, which does not date from birth, know that even then swabs of the nose and throat nearly always show various pathogenic organisms. Even if these are only secondary infections they supply material valuable for treatment in the later stages, and indicate how much might have been effected at first by active local and general treatment for combating infection. But we have also noticed that many serious sequelae are often associated with other abnormal conditions, such as diseased teeth, and toxaemia of the alimentary tract. These must have been present at first, and may have determined the issue. But they are scarcely ever investigated, or at the most by a perfunctory question as to whether the bowels act every day. Further, it must be realized that the infected areas are at the base of the brain. Disorders of emotion are therefore much more common than any intellectual failure, especially at first. Usually this is not taken into consideration at all.—I am, etc.,

Birmingham, Dec. 16th, 1926. W. A. POTTS, M.D.

SANATORIUM TREATMENT.

SIR,—I have no claims to be considered an expert in statistics, but I have a certain knowledge of the clinical course of pulmonary tuberculosis in the district where I work, and I shall confine my remarks to the incipient cases considered in Dr. Stocks's memoir. I believe that the sanatorium-treated group was a selected group of patients with progressive disease for the following reasons.

(1) The fact that only 25 per cent. of incipient cases received sanatorium treatment suggests strongly that some method of selection was employed. The tuberculosis officers would urge treatment in those cases where it appeared to be most necessary: the patients would be more likely to accept their advice if they felt too ill to follow their normal mode of life.

(2) A study of the graphical representation of the progress of incipient cases on page 415 of Dr. Stocks's memoir supports this view. The sanatorium-treated group shows a higher percentage of "dead" and "progressive" cases at every single time period of the six years under review. This suggests to Dr. Stocks that sanatorium treatment had a bad effect: it suggests to me that this group contained a high proportion of patients with progressive disease.

(3) The patients were not reclassified at the time of their admission to the sanatorium.

(4) The data in the memoir support this view so far as they go. The difficulty is that these data are so inadequate as to be merely straws which show which way the wind is blowing. For example, the sanatorium-treated group shows a higher proportion of cases with marked systemic disturbance. This systemic disturbance was assessed apparently on a single observation of the temperature and pulse rate. If observations on the morning and evening temperature had been recorded for a fortnight before classification, they might well show a substantially higher proportion of cases with systemic disturbance in the sanatorium-treated group. If this was done there is no record of it in the memoir: if it was not done, the authors of the memoir are not in possession of the necessary data to attempt to assess the systemic disturbance. I submit that this factor alone might reverse the conclusions of the authors.

Again, the weights of the sanatorium-treated group fell on an average half a pound before admission, while the non-sanatorium-treated group increases by about half a pound during the same time interval. Dr. Stocks regards these differences as insignificant, but indeed he has already shown in the memoir that nutrition has only a small influence on progress (pp. 438-440). Yet in his letter of December 11th, 1926, he says that the existence of selection was precluded by the most accurate possible method—that is, a study of the weight curve. I concede his point that the differences of weight were insignificant in the different groups and advance further that the weighing machine is unable to show whether a patient is suffering from incipient "open" tuberculosis or incipient "closed" tuberculosis. This is shown by figures from the Forster Green Hospital. During 1921, 57 patients, classified as "incipient" on admission, were discharged. Of these, 24 had tubercle bacilli in the sputum, and their average weight on admission was 8 st. 11 lb.; their average gain of weight in the sanatorium was 8 lb. The other 33 patients, who had no sputum or in whose sputum no tubercle bacilli were found, had an average weight of 8 st. 10 lb. on admission and an average gain of weight of 9½ lb.

This leads one to inquire as to the proportions of T.B.+ and T.B.− cases in the sanatorium-treated and non-sanatorium-treated groups. But it has been pointed out already by several of your correspondents that this information is not available in anything like a complete form. Both in the memoir and in the ensuing correspondence Dr. Stocks has not faced the fact that the presence of tubercle bacilli in the sputum is the most important single factor in prognosis. Throughout the statistical tables two groups of cases with quite different prognosis are mixed in unknown proportions. As there are no complete records of sputum examinations, these groups cannot be disentangled by any statistician, however expert.—I am, etc.,

B. R. CLARKE, M.D.,
Medical Superintendent, Forster Green Hospital, Belfast.

December 14th, 1926.

CHOLECYSTOGRAPHY.

SIR,—In the issue of the BRITISH MEDICAL JOURNAL for November 6th (p. 864) I have noticed a letter from Mr. G. P. B. Huddy, M.S., F.R.C.S., on a fatality which occurred following the injection of sodium tetraiodophenolphthalein. So far as I know this is the only fatal case which might be considered due to the injection of tetraiodophenolphthalein. It has seemed to me advisable to call attention to the fact that not only was the dose nearly twice as much as the dose which my associates and I have recommended in our publications, but that also certain precautions which we have stated repeatedly as being desirable, if not necessary, were not taken in this case. Mr. Huddy states that the patient was given 5½ grams of sodium tetraiodophenolphthalein. The largest dose which we have given to a human being is 3½ grams, and we usually do not give more than 3 grams. We never give more than 0.06 gram per kilo of body weight. I cannot understand how Mr. Huddy could get the impression that 5½ grams was a suitable dose. In all of our publications we have advised strongly giving the dose in two injections about half an hour apart. By dividing the dose in this way a patient who happens to have an idiosyncrasy can almost always be detected before receiving the whole dose.

If the newer substance, which was recommended in my address before the British Medical Association, published in the BRITISH MEDICAL JOURNAL for October 16th, 1926, be used, a very much smaller dose can be given. We now use almost exclusively this new substance called phenoltetraiodophthalein, which is a chemical isomer of tetraiodophenolphthalein. A suitable dose of this newer substance for the average sized adult is 0.04 gram per kilo of body weight. We have never found it necessary, however, to give more than 2.5 grams of it to any adult. Since using this newer substance and exercising the precautions which we have always emphasized, we have had no serious toxic effects. This matter is taken up in detail in my article to which reference was made above. It should be mentioned also that only a pure drug should be used. Unfortunately at present it is impossible to exercise any kind of supervision or control over the manu-

facture of these substances; and probably, just as in the case of salvarsan, some deaths will occur from the use of impure products.

I feel very greatly indebted to Mr. Huddy for publishing the details of this fatal case. Certainly any catastrophe like that should be given full publicity. Cholecystography is a comparatively new procedure and it is possible that more deaths may occur. My only purpose in writing this letter is merely to point out the facts that the dose which was given to this patient of Mr. Huddy's is nearly twice the size of the maximum dose which we have ever used in a human being, and also that certain precautions which we have very carefully taken pains to recommend in most of our publications were disregarded in this case. For these reasons it would seem to me unfair to the method to have any reader conclude from the report of this case that the method, when properly carried out, is essentially one that is dangerous to life. However, I do not wish to give the impression that it is entirely free from danger. In the case of the intravenous injection of any substance meticulous care is necessary as regards dosage, preparation of the solution, method of administration, etc. Finally, the fact remains that several thousand people have received intravenous injections of tetraiodophenolphthalein and of its isomer, phenoltetraiodophthalein, without a death when the procedure has been carried out with the precautions which we have urged.—I am, etc.,

EVARTS A. GRAHAM,
Professor of Surgery.

Washington University, St. Louis, U.S.A., Dec. 1st, 1926.

THE AGE INCIDENCE OF RHEUMATISM.

SIR,—Recent correspondence has directed attention to the importance of rheumatism as a factor in invalidity and mortality statistics, and the question therefore arises of the extent to which the disease, and more particularly its cardiac complications, are prevalent among the various groups of school children medically examined by the local education authorities. Taking the time that the symptoms of rheumatism begin to appear to be about the fourth year of life, it has been found, from a survey in this district extending over several months, that the disease and its cardiac complications were present in the following percentages:

Age Groups.	Rheumatic (early symptoms).	Cardiac Complications.
5 years	... 15.1	... 5.7
8-9 years	... 10.4	... 7.7
12 years and over ...	... 5.7	... 13.2

These figures are self-explanatory, and, while different areas may present different percentages, it would appear that, although preventive or curative measures could be undertaken with most prospect of success in "entrants" and would no doubt be amply repaid, the problem is not one of the school medical service alone, but invites the co-operation of parents, sanitary authorities, guardians, and probably other organizations.

From the point of view of the school medical service, the difficulties of efficiently dealing with the whole problem of rheumatism in the school child are undoubtedly real, and I think the gravity of the situation calls for further effort and investigation.—I am, etc.,

Barking, Dec. 15th, 1926. K. SIMPSON, S.M.O. and M.O.H.

TREATMENT OF SYNCOPE.

SIR,—It is in the knowledge of most practitioners that pregnant women are prone to faint, especially during the first three or four months; more especially is this so when a hard instrument, such as a sound or curette, is introduced into the cavity of the uterus. I once diagnosed pregnancy when told by a fellow practitioner that he had been frightened by a patient going into a dead faint after the introduction of a sound. This patient was suffering from an intermittent haemorrhage, so it is not such a good example; but she proved to be pregnant, as she aborted a week afterwards. Now in these severe fainting attacks, due to irritation of the abdominal nerves, when the patients really bleed to death into their abdominal blood vessels, there is one method of bringing them round which should be well known, as it is very old, and that is, immediately the death-like lividity of the face is seen by the medical attendant, to place himself between the legs and elevate the body on to his shoulders; the quicker and the more roughly this is done the better: the colour immediately becomes rosy, and the pulse is again felt at the wrist. Artificial respiration is worse than useless.

The same method applies to chloroform heart failure; whether there is ventricular fibrillation or not it always seems to answer. I have often seen apparently dying patients come round when this has been done. A.C.E. mixture is probably the most dangerous anaesthetic that can be used, no doubt because it does not sufficiently prevent reflex shock. I was warned against it as a student, and have since seen many bad cases of syncope under its use. If chloroform has to be used, as the handiest and most useful anaesthetic, as it is, in private practice, or a dental consulting-room, where ability to depart quickly after the operation is desirable, then give it as Dr. Frank Paul of the Liverpool Royal Infirmary used to teach. Drop chloroform on to the mask until the patient is losing consciousness; then use another mask with about half an ounce of ether on it, until the colour of the face becomes rosy and the breathing heavier; then again give chloroform freely until there is relaxation. By doing this struggling is to a great extent avoided, and a rapid induction is obtained which appears to be, practically, as safe as can be. In giving ether by the open method a few drops of ethyl chloride on the mask at the start saves ether, and makes for a rapid and comfortable induction.—I am, etc.,

Wallasey, Dec. 9th, 1926. F. WILLIAM INMAN, M.B.

MONGOLIAN DEFECTIVES.

SIR,—In the JOURNAL for December 4th (p. 1080) Dr. F. G. Crookshank has pointed out that in his opinion one of the arguments I used in my Henderson Lecture to prove that "mongolism" is a pathological condition and not atavistic is not valid. Even if that is so there are still so many facts to support my view, which is that commonly accepted, that very strong evidence would be required to make me change it. I regret that I cannot regard the homologies so learnedly and cleverly expounded in *The Mongol in our Midst* as providing such evidence. In a fairly large experience I have not come across the transitional cases, the mongoloids, of whom Dr. Crookshank writes, or rather I have never seen a person of average intelligence suffering from mongolism. On the atavistic theory they should be fairly common.

Dr. Crookshank claims that Gans has shown that "the brain of the Mongolian defective is distinguished by just those characters that distinguish the brain of the Chinese child and the orang." It may be that my imperfect knowledge of Dutch has misled me, but I think that is a very free translation of Gans's meaning and of his references to the work of Kurz and Kappers on Chinese brains. The homologies, which Sera has discovered, between Japanese and orang skeletons can obviously have no bearing on the nature of mongolism unless Mongolian defectives are genetically related to the Japanese or the orangs, which is the very point in dispute.

I do not think that anything is yet certainly known as to the nature of mongolism, and if we assume that it is atavistic we may conceal our ignorance from ourselves and possibly from some others, but we shall tend to stifle research along physiological and pathological lines, which is likely to lead us some day to the truth.—I am, etc.,

R. D. CLARKSON.

Royal Scottish National Institution, Larbert, Dec. 15th, 1926.

SURGERY IN GENERAL PRACTICE.

SIR,—For many months past one has read few professional papers, lectures, etc., by eminent surgeons which have not contained sneers at the "occasional surgeon."

Probably the occasional surgeon varies in skill and judgement, as indeed does the consultant and pure surgeon.

Nevertheless, I contend that the occasional surgeon serves a very useful function. In many, perhaps most, instances he is really keen on surgery, has a natural bent for it, and has served quite a thorough apprenticeship, but on account of financial or other reasons has not been able to "hang on" indefinitely at his own hospital awaiting a vacancy on the staff. Unless he has a good deal of confidence in his ability as a surgeon he will not dare to undertake major operations when he goes into general practice, for he knows that a few unsuccessful operations will do his practice as a whole a great deal of damage. He is therefore unlikely to undertake an operation unless he feels it to be well within his powers. His operative work takes up a deal of his time, for which he is not recompensed by adequate fees. It is not a good financial proposition, but it adds interest to his work.

Possibly the eminent surgeons who make public criticisms forget that they themselves one day performed their first major operation, probably with a good deal of trepidation, and perhaps it was not done as well as it might have been. Possibly, also, in their first few hundred operations they lost a life or two which a man of greater experience might have saved. Did this deter them from operating any more?

May I suggest that good surgery is not confined to "Harley Street" and that all Harley Street surgery is not good. It is not every patient who can afford Harley Street fees or who is within easy reach of it. Are we to "sit on" our cases of perforated gastric ulcer and fulminating appendicitis until we can get the services of a pure surgeon—perhaps twenty-four hours later and at a prohibitive cost? I know of many lives lost thus.

Personally I have not yet reached the position where I am called in to operate by my non-operating colleagues, but apart from eye and throat work I tackle all operations arising in my own practice unless they involve a technique with which I have had no opportunity of making myself familiar—for example, Wertheim's operation. I am not aware that my efforts have done anything but good, and I consider that my patients have reason to be grateful to me, as indeed I believe they are. I have been operating in general practice for over seven years and I have lately lost my first operation patient, and in this case I do not think that all Harley Street would have produced a happier result. Doubtless I have been lucky.—I beg, Sir, to *remain*

December 7th, 1926. AN OCCASIONAL SURGEON.

Universities and Colleges.

UNIVERSITY OF OXFORD.

THE Board of Management for the Francis Gotch Memorial Prize has awarded the prize for 1926 to Frank Hawking, scholar of University College. This prize, consisting of a bronze medal and £5, is awarded annually after examination to a member of the University who has worked in the Physiological Laboratory for at least three terms and has not exceeded fifteen terms from matriculation.

The following candidates have been approved at the examination indicated:

FINAL B.M., B.CH.—*Medicine, Surgery, and Midwifery*: M. D. Bower, C. S. Broadbent, J. G. A. Davel, C. W. Flemming, L. O. F. Fysh, A. H. Gale, C. L. Harding, R. A. Haythornthwaite, R. C. Hodges, O. Hooper, C. W. Hope-Gill, R. Illingworth, T. M. Ling, G. E. Macdonald, R. G. Macgregor, C. W. Mackenzie, P. C. Mallam, F. G. Parker, W. F. H. Ray, W. D. B. Read, D. A. Robertson, E. M. Wright, Grace Batten, Rosaleen L. Graves. *Materia Medica*: A. R. Bowtell, C. F. J. Cropper, R. C. Hodges, A. P. Kingsley, R. Nutt, H. G. Pritchard, L. E. Swaby, L. H. Thomas, J. W. de W. G. Thornton, Florence H. Johnson, Caroline E. MacNeice. *Pathology*: H. H. Aitchison, A. R. Bowtell, H. A. Byworth, G. Campbell, C. F. J. Cropper, J. G. A. Davel, C. R. Greene, R. M. J. Harper, G. L. Macdonald, J. K. Marshall, M. G. Pearson, L. T. Ride, H. G. Wells. *Forensic Medicine and Hygiene*: L. W. H. Bertie, W. H. Brown, R. T. V. Clarke, C. L. Cope, J. G. A. Davel, C. W. Flemming, L. O. F. Fysh, A. H. Gale, O. Hooper, C. W. Hope-Gill, R. Illingworth, G. L. M. Inkster, G. E. Macdonald, R. G. MacGregor, C. W. Mackenzie, R. C. Probyn-Williams, J. W. Pugh, W. F. H. Ray, D. A. Robertson, Grace Batten.

UNIVERSITY OF CAMBRIDGE.

THE following candidates have been approved at the examination indicated:

THIRD M.B.—*Part I. Surgery, Midwifery and Gynaecology*: R. G. Apthorpe, E. S. Bolton, H. T. Cox, A. T. Curnow, R. D. Curran, R. E. D. Dauncey, A. A. Digges La Touche, M. G. Fitzgerald, F. H. Gillett, H. K. Goadby, F. Goldby, V. C. J. Harris, J. A. Hartley, A. S. Hollins, F. S. Hubbersty, C. E. Kellett, F. Kellett, R. L. Lancaster, C. J. Laviers, R. M. B. MacKenna, B. W. S. Mackenzie, T. F. McNair Scott, S. R. Matthews, G. C. Milner, E. A. Nicoll, C. L. [illegible], G. V. Parker, R. Pearce, R. A. Phillips, C. L. Potts, L. W. [illegible] N. Rocyn-Jones, R. P. Ross, [illegible] Shackel, L. A. P. Slinger, [illegible] C. I. Tuckett, S. Tysgarnja, [illegible] C. E. Woodrow. *Women*: I. Caley, G. M. B. Morgan, K. A. Muir, C. J. Ormerod. *Part II. Principles and Practice of Physic, Pathology and Pharmacology*: A. Barnsley, P. G. Benthif, B. H. Burns, G. P. Chandler, A. B. Connell, J. W. E. Cory, F. M. Deighton, M. S. Dewhurst, H. M. Elliott, R. W. B. Ellis, V. H. Ellis, H. W. Gordon, E. J. Greenwood, J. C. P. Grey, T. L. Griffiths, W. S. Grove, C. H. Hilliard, A. J. Johnson, F. W. Law, A. V. Mackenzie, B. W. S. Mackenzie, R. Marnham, J. G. Milner, J. W. Monro, J. L. Morgan, J. Morris, R. T. Mummery, H. E. Nourse, G. E. Parker, C. P. Pinckney, C. G. F. Plumstead, J. D. Procter, J. H. Randall, D. Riley, F. C. Roles, C. J. L. Sharp, D. G. Shields, W. E. Snell, G. F. Taylor, F. H. A. Walker. *Women*: M. G. P. Reed, D. S. Tait.

UNIVERSITY OF DURHAM.

AT a convocation held at the College of Medicine, Newcastle-on Tyne, on December 18th, 1926, the following degrees and diplomas were conferred:

M.D. (*Practitioners of 15 Years' Standing*).—A. P. Cawadias, E. R. Griffiths.

M.S.—R. C. Brown.

M.B., B.S.—L. Barber, Ethel Browell, S. Carnofsky, W. A. Cairuthers, R. R. Dodd, D. Ewart, L. Livingston, M. A. S. Margai, A. T. H. Marsden, H. O. Martin, E. H. Moseley, J. Niman, H. O'Connor, R. Russell, A. L. G. Simpson, R. B. S. Smith, N. Spark, E. P. Tulloh, J. H. Weir, F. Young.

B.HY. AND D.P.H.—Doris Helen Mofyer, P. J. O'Connell, B. F. Tredre.

The following candidates have been approved at the examination indicated:

THIRD M.B., B.S.—*Pathology and Bacteriology; Materia Medica, Pharmacology and Pharmacy; Public Health; Medical Jurisprudence*: G. Kahn, J. C. V. Hindhaugh, J. H. Hudson. *Pathology and Bacteriology; Materia Medica, Pharmacology, General Principles of Therapeutics, and Pharmacy; Public Health; Medical Jurisprudence*: M. A. Gaffar.

UNIVERSITY OF LEEDS.

THE following candidates have been approved at the examinations indicated:

M.D.—J. Cardis, A. M. Clay, F. W. M. Greaves.

FINAL M.B., CH.B.—*Part I*: F. V. Allen, S. [illegible] Crossfill, H. W. Davis, J. Donovan, L. [illegible] L. Godlove, Dorothy Halstead, P. Hamp [illegible] Heseltine, H. Hopkinson, J. H. Khan, Esther M. Killick, W. E. L. Lawson, J. Leibermann, J. O'Donnell, T. L. Owen, N. Pyecroft, R. J. H. Raines, D. R. Riddell, Doreen M. Robertshaw, A. C. Shuttleworth, L. Silman, V. P. Squire, J. O. Terry, and J. E. H. West. *Part II*: Mary Lightowler, W. Milligan, A. L. Mitchell, A. Shufleder, R. P. Viret, and J. Walker. *Part III*: Rosie B. Becker, I. Berenblum, I. D. Black, T. H. Carr, G. F. Dimmock, J. S. Dinsdale, H. G. Garland (distinction in medicine), R. C. D. Hann, Marjorie Haynes, I. Kovolman, H. A. Ledgard, S. L. Lord, G. H. Lowe, T. H. Monies, G. Thompson, R. P. Viret, and J. Walker.

D.P.H.—G. R. Baxter.

DIPLOMA IN PSYCHOLOGICAL MEDICINE.—H. Edelston, K. C. L. Paddle, and J. Russell.

The West Riding Panel Practitioners' Prize in Medicine was divided between H. G. Garland and S. J. Hartfall. The Littlewood Prize in Anatomy was awarded to P. R. Allison.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

Primary Fellowship Examination.

THE following forty-nine candidates have been approved at the first examination for the Fellowship:

V. M. Albuquerque, E. F. Barnardo, J. C. Barrett, C. V. Bloom, A. M. Boyd, W. H. Bremner, E. C. B. Butler, W. S. Chapman, B. Chaudhurt, W. W. Craner, J. Crooks, L. Dass, H. I. Deitch, A. D Everett, J. Fitzsimons, P. H. Fox, A. C. Gairdner, J. M. Gibson, Winifred M. Gray, W. P. Greenwood, C. M. Gwillim, K. W. D. Hartley, T. H. Hobbes, F. W. Holdsworth, M. K. Hussain, H. P. Hutchinson, B. G. Johnston, A. L. Kerr, L. E. Le Souël, O. V. Lloyd-Davies, J. S. Loughridge, T. K. S. Lyle, J. McFadzean, G. K. McKee, G. H. Morley, Eileen S. Morris, M. G. Nimatallah, M. V. P. Peiris, A. S Philps, R. Purvis, R. S. Pyrah, L. A. Richardson, W. M. Robb, G. L. Robinson, E. M. Sharples, H. T. Simmons, J. F. Simpson, V. C. Thompson, J. M. Yoffey.

CONJOINT BOARD IN IRELAND.

THE following candidates have been approved at the examinations indicated:

FINAL EXAMINATION.—D. P. P. Barry, F. A. Carolher, J. J. Lee, P. H. M. McEntee, W. Monnelly, Patricia O'Kane, D. L. Trant, T. Walshe.

DIPLOMA IN PSYCHOLOGICAL MEDICINE.—*Part I*: Dr B. F. Honan.

PRIMARY FELLOWSHIP EXAMINATION.—W. C. Somerville-Large.

FINAL FELLOWSHIP EXAMINATION.—I. J. Fraser, Mary G. Hogan, A. S. ff. O'Carroll.

Winter Session, 1925-1926, and Summer Session, 1926.—The following prizes have been awarded in the later subjects of the curriculum:—Forensic Medicine: Second prize and certificate, Miss D. F. Weir and P. F. Murray. Materia Medica: First prize and medal, A. J. Devlin. Pathology: First prize and medal, A. J. Devlin; second prize and certificate, W. G. Greene. Operative Surgery: Gold medal, P. O'Neill; silver medal, P. O'Callaghan.

Obituary.

JOSEPH EBENEZER ADAMS, M.S., F.R.C.S.,

Surgeon to St. Thomas's Hospital and to the East London Hospital for Children.

WE greatly regret to record the death of Mr. Joseph Adams, which took place on Tuesday, December 21st, 1926. He was the fifth son of the late William Adams, and was born on February 7th, 1878. On leaving the City of London School he gained the entrance scholarship at St. Thomas's Hospital. He had a distinguished career as a student, taking several prizes, and qualified with the M.R.C.S., L.R.C.P. of the English Conjoint Board in 1902. After serving as house-surgeon at St. Thomas's he graduated M.B., B.S.Lond. in 1904, and obtained the Fellowship of the Royal College of Surgeons; in that year too he gained the Beaney Scholarship in surgical pathology. From 1905 until 1909 Adams held the posts of surgical registrar and resident assistant surgeon at St. Thomas's, and was shortly after elected assistant surgeon to the East London Hospital for Children, Shadwell. He became much attached to Shadwell, and retained his position on the active staff until his death, when he was senior surgeon to that institution. In 1911 he obtained the M.S.Lond. degree, and two years later was elected assistant surgeon to St. Thomas's Hospital, being promoted full surgeon in 1923.

In 1913 he was elected Hunterian Professor at the Royal College of Surgeons of England, taking as his subject peritoneal adhesions. This lecture incorporated the result of a great deal of experimental work, for at this early stage of his career he was already taking a deep interest in the purely scientific side of his profession, and until his death he was occupied with research chiefly in relation to abdominal diseases. His experimental work was always carried out with thoroughness and the characteristic attention to detail which stamped everything he did. The results of some of these investigations were used as the basis of a second Hunterian Lecture, which he gave early last year, on the surgery of the jejunum (BRITISH MEDICAL JOURNAL, April 10th, 1926). Shortly before the war he wrote a book on acute abdominal diseases, with the collaboration of Dr. M. A. Cassidy, which more recently he himself revised and enlarged. Although chiefly interested in abdominal work he took an active interest in many other phases of surgery. Adams was generally to be seen at surgical meetings, whether of the Association of Surgeons, of which body he was an original member, the Surgical Section of the Royal Society of Medicine, or other sections. When he spoke, he spoke clearly, concisely, and to the point. He was a great reader and contributed a number of carefully written articles to the medical journals, among which may be mentioned his address on the mortality of appendicitis, published in these columns on April 18th, 1925. His operative work was characteristic of that same care and deliberation which was so much a part of his personality. He was enthusastic about teaching at St. Thomas's, and being a clear thinker himself he presented his subject in that logical way which makes for good teaching.

Adams never shirked his hospital work. He was a man of character with high ideals, and he considered that the training of his house-surgeons and his dressers was a duty not to be lightly undertaken. He often carried on when suffering severe physical discomfort. For years he was handicapped by a disability the cause of which—namely, a congenital diaphragmatic hernia—was not made fully clear until after his death. In 1916, whilst serving as a Captain R.A.M.C.T. on the *à la suite* staff of No. 5 General Hospital (St. Thomas's) and at King George's an exacerbation of symptoms prevented him from serving oversea. This is known to his intimate friends to have been a very real grief to him, but his reserved nature made him shrink from any discussion of his disability. All through his life absolute straight dealing and integrity were the dominating features of his character. In the early days when he was resident assistant surgeon at St. Thomas's he was looked up to and trusted by College House. It would have been impossible for Adams to do a mean or crooked action. He was generous both in his thoughts and actions, a characteristic which was never paraded, for being a sensitive and reserved man he sometimes cloaked his real feelings under a veil of sarcasm. Although, as a student, he played cricket for the hospital, and later took to golf, what he liked best was to get away quietly to the country with his wife. For the last few years he had a cottage near Penshurst in Kent, and nothing gave him greater pleasure than to get his friends and his students down there with him. Everybody had to garden, and he was the keenest gardener of all.

His tragic death at the early age of 48 is a real loss to the profession, to the hospitals at which he worked, and to his friends.



JOSEPH E. ADAMS, M.S., F.R.C.S.

The death of Professor KARL JOSEPH EBERTH in his 91st year, on December 2nd, at Halensee, near Berlin, where he was living in retirement, removes from the world one of the pioneers of bacteriology and the Nestor of German pathology. Born on September 21st, 1835, he studied under Kölliker, Virchow, Leydig, and Heinrich Müller at Würzburg, where he wrote his doctor's thesis on *Trichocephalus dispar* in 1859. In 1865 he was appointed professor of pathological anatomy at Zürich, and nine years later professor of histology at the veterinary school in that city, where he remained until 1881. He was then called to the chair of histology and comparative anatomy at Halle, where in 1895 he was made professor of pathological anatomy and director of the pathological institute, and remained until his retirement. His discovery of the typhoid bacillus, for which he is best known, was described by him in *Virchow's Archiv* in 1880 and 1881. His other bacteriological writings include papers on pseudo-tuberculosis in the guinea-pig, coccal infection in the parrot, and contagious diseases in rodents. Eberth's activities, however, were not confined to bacteriology. In addition to important investigations on thrombosis, carried out for several years in conjunction with Schimmelbusch, he pub-

lished studies on the histological structure of the liver, regeneration of epithelium, amyloid disease, leukaemia, and growth of bone. Eberth was a master of microscopical technique, and was therefore admirably fitted for editing Friedländer's work on this subject. He was also the editor of the *Fortschritte der Medizin* and other medical journals for some years.

Dr. HUGH CAMPBELL ROSS died on December 14th, 1926, of pneumonia on his way to this country from India, and was buried at sea. He was born in 1875, a son of General Sir Campbell Ross, K.C.B., and the younger brother of Sir Ronald Ross. He received his medical education at St. Thomas's Hospital, and took the diplomas of M.R.C.S. and L.R.C.P. in 1898. He served in the South African war as a civil surgeon, receiving the Queen's medal and five clasps, and also, from 1902 to 1906, in the Royal Navy. From 1906 to 1908 he was medical officer in the Public Health Department, Egypt, and was specially engaged in the control of mosquitos. In 1908 he resumed work at the Royal Southern Hospital and the School of Tropical Medicine, Liverpool, and in 1910 was appointed director of the research fund established by the late Mr. McFadden, a broad-minded and generous American. His researches were directed mainly to the nature and prevention of cancer, upon which he published a number of papers. He also contributed a chapter on Egypt to his brother's book on the prevention of malaria. In 1913 a paper by him on gasworks pitch industries and cancer was published in our columns.

Dr. JOHN JOSEPH MACDONNELL, who died in the first week of December, 1926, received his medical education at Queen's College, Galway, and obtained the diplomas L.R.C.P. and L.R.C.S.Ed. in 1879. He practised at Letterfrack, co. Galway, for forty-three years, and was in charge of the Renvyle Dispensary District. He was for many years a member of the South Connaught Division of the British Medical Association, and was held in much respect by his colleagues in the district. His elder brother was the late Lord MacDonnell, at one time member of the Council of India, and for six years Under Secretary of State in Ireland. Another brother was the late Dr. Mark MacDonnell, formerly M.P. for Queen's County.

Medical News.

LADIES and friends of medical men are invited to the meeting of the Post-Graduate Hostel at the Imperial Hotel, Russell Square, W.C., on Tuesday, January 4th, when Dr. Charles Goddard will deliver, at 9 p.m., an address entitled "Lord Lister, by One who knew him."

THE Friday evening discourses at the Royal Institution of Great Britain, which are given at 9 o'clock, will be resumed on January 21st, 1927, when Sir William Bragg will speak on Tyndall's experiments on magne-crystallic action. On January 28th Dr. E. P. Cathcart, F.R.S., professor of chemical physiology in the University of Glasgow, will discuss the physique of women employed in industry.

THE Hunterian Lecture will be delivered before the Hunterian Society of London at the Mansion House at 9 p.m. on Monday, January 17th, by Dr. J. M. T. Finney of Baltimore, who has chosen as his subject "The influence of John Hunter on American surgery."

THE Nobel prize for chemistry for 1926 has been awarded to the Swedish professor Dr. Svedberg. Up to the present the recipients of the Nobel prizes for physics, literature, chemistry, medicine, and peace are ranged in the following order: German 28, French 21, British 15, Swedish 9, Swiss 8, American 7, Dutch 6, Danish 6, Belgian 5, Austrian 5, Norwegian 4, Italian 4, Spanish 2, Polish 2, Canadian 2, Russian 1, Indian 1.

THE Joint Nursing and Midwives' Council of Northern Ireland, being about to revise its list of examiners, invites applications from registered medical practitioners, including women (resident in Northern Ireland), who would be willing to act. Particulars can be obtained from the Registrar, 118, Great Victoria Street, Belfast, to whom application should be sent not later than January 15th.

MAJOR R. W. H. JACKSON, B.A., M.D., D.P.H., Assistant Controller British Red Cross Society (Carnarvonshire), has been elected a member of the Carnarvonshire Territorial Association.

THE Ministry of Health has issued a circular to public health authorities prescribing the character of the report a medical officer of health should present for 1926. It should be an ordinary report, and not the full survey report asked for last year. The Ministry laments that some of these full reports have not yet been received.

THE next French Congress of Legal Medicine will be held at Lyons in July, 1927, under the presidency of Professor Etienne Martin, when a bust of the late Professor Lacassagne will be unveiled and the following subjects discussed: (1) Pathological thieving, introduced by MM. Ravlart and Nayrac of Lille; (2) accidents caused by electric currents, introduced by M. Naville of Geneva; (3) wounds caused by projectiles, introduced by M. Piédelièvre of Paris.

INTERNATIONAL post-graduate courses will be held in Berlin during March and April, and will include general medicine, diseases of the kidney and the circulatory system, and radiology. A course in diagnosis and therapeutics will occupy the first fortnight in April, and opportunity will be provided for clinical and laboratory work in Berlin hospitals. Further information may be obtained from the Office of the International Post-Graduate Courses, Kaiserin Friedrich-Haus, Luisenplatz 2-4, Berlin N.W.6.

THE Ministry of Health has issued a circular (No. 750) to Poor Law authorities in England and Wales with reference to the provision of surgical dressings. Arrangements have been made with the director of the Manchester testing house to report upon samples of dressings sent to him by boards of guardians at specially reduced fees. It is suggested that before boards enter into any fresh contract for the supply of surgical dressings a stipulation should be made that the goods should be of the standard specified in the *British Pharmaceutical Codex, 1923*, as amended. With a view to economy it is recommended that bandages of three or four yards in length should replace to some extent the usual six yards standard.

VISCOUNT KNUTSFORD, who presided at the annual meeting of the British Charities Association, reported that the grants made by the association during the year amounted to £76,700, an increase, as compared with the previous year, of £46,000. A distribution to the British hospitals beyond the London area amounting to £45,000, a grant to King Edward's Hospital Fund for London of £20,000, and to the League of Mercy of £5,000 constituted the bulk of this sum.

Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to ***The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.***

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the BRITISH MEDICAL JOURNAL alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the BRITISH MEDICAL JOURNAL must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the JOURNAL, should be addressed to the Financial Secretary and Business Manager.

The ***TELEPHONE NUMBERS*** of the British Medical Association and the BRITISH MEDICAL JOURNAL are *MUSEUM 9861, 9862, 9863, 9864* (internal exchange, four lines).

The ***TELEGRAPHIC ADDRESSES*** are:
EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology Westcent, London.*
FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westcent, London.*
MEDICAL SECRETARY, *Mediscera Westcent, London.*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 4737 Dublin), and of the Scottish Office, 6, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 4361 Central).

QUERIES AND ANSWERS.

CHRONIC OBESITY.

DR. G. H. RUTTER (Eastbourne) writes in reply to "W. J. K." (JOURNAL, December 11th, 1926, p. 1151): For the last twenty years I have met no case of chronic obesity (with or without cardiac dropsy) that I have not been able to bring down to the average normal weight by a carefully carried out electric treatment, strictly in accordance with the late Dr. Bergonié's own directions. But, to quote his words to me: "The apparatus must be made strictly in accordance with my own views" and not, as pointed out to me by him at the time, similar to that of any of the makes exhibited at the London exhibitions). "Do you think," he said, "after working for fifteen years in

to perfect my apparatus, I do not know how I think it ought to be made to give the results I made it for? The diet is also most important, and if not carried out strictly on the lines I have stated, the patient stands a grave risk of exchanging the obesity for chronic nephritis." (I may state I have seen more than one such instance where the treatment has not been carried out by a medical man.) About 3½ lb. weight should be lost a week, or a stone a month, and in cases accompanied by dropsy as much as 9 lb. in the first treatment has taken place in some of my patients. One male patient lost as much as 40 lb. in a course of two series of treatments lasting about six weeks each or less. This same patient lost 2 ft. in girth. At the commencement of treatment he could not walk fifty yards, whereas at the end of the treatment he stated he "was not walking less than eight miles a day."

ULTRA-VIOLET LIGHT IN RAYNAUD'S DISEASE.

DR. JUSTINA WILSON (London) writes in reply to Dr. Sidney Matthews: Ultra-violet light has a marked effect on Raynaud's disease, which may be regarded as an expression of vaso-constrictor spasm. The good results of this treatment are due to the indirect action of light, which is carried down to the tissues by the agency of the sympathetic nervous system. Irradiation causes a general hyperæmia and sympathetic hypotonia. Much work has been done on this at Jesionek's clinic at Giessen, and there is definite evidence of the effect of ultra-violet light on the sympathetic nerve ends, which would appear to stand in some close relationship to the basal epithelial cells, where the bulk of these rays is absorbed. I have had very good results in treating this and other conditions in which variations of capillary permeability and vasomotor tone are observed—results which are distinctly superior to any obtained by electrical methods. Treatment consists in general ultra-violet light baths two or three times a week, followed by a shorter and rather intenser treatment to the hands and feet. This, again, should be supplemented by instruction in circulation exercises, consisting of definite muscle contractions and relaxations.

PTYALISM.

DR. H. M. MORRIS (Radiologist, Salford Royal Hospital, Manchester) writes: Dr. W. Erle Farnham (JOURNAL, December 18th, 1926, p. 1205) may find *x* rays skilfully administered of value for this condition. An accidental over-exposure of the salivary glands to the *x* rays often causes dryness of the mouth, due to diminished activity of the glands, and there is no reason why this fact should not be applied therapeutically.

BOILS AND CARBUNCLES.

"R. F.," who resides in Scotland, asks if others have observed a great increase in the number of cases of boils, carbuncles, and septic skin conditions generally. During the past ten weeks or so the number of cases of carbuncles in the neck has been very large indeed; there have also been cases of carbuncles in the arms and many cases of septic skin conditions. Furuncles in the ears are also more common than usual. No one class of the community seems to be specially affected; in no case has glycosuria been found. Does the condition result from lack of proper bodily cleanliness, owing to the diminished supply of hot water during the coal strike, or has it some connexion with the diet?

LETTERS, NOTES, ETC.

THE TOOTH-BRUSH: BOON OR BANE?

MR. A. ANNESLEY GOMES, F.R.C.S., L.D.S. (Burnley), writes in reply to Dr. G. M. MacPhail (BRITISH MEDICAL JOURNAL, December 18th, 1926, p. 1206): The first essential requirement is full appreciation by the individual of oral hygiene. Without this consciousness and co-operation on his part no human device can be satisfactory. A dentist during his daily routine sees ample evidence of the lack of it. Next, there is a knack in the manipulation of a tooth-brush which dentists are endeavouring to teach all who come under their care. A tooth-brush whose bristles are sufficiently apart to enable cleaning and ventilation should be chosen, and when properly manipulated should not injure the gums or teeth. If a denture is crowded or irregular the use of a metal tooth-pick (a non-rust one—for example, silver) also may be necessary. The brush and pick could be sufficiently cleaned for all practical purposes by washing with soap and hot water, preferably under a running tap, and in the intervals should be kept in a ventilated tooth-brush case; as an extra measure a few grains of paraform placed in the case will supply a disinfecting atmosphere inside it. Perchance in the not far distant future we may see the custom grow up of having several tooth-brushes and of using them in rotation, thereby allowing enough time for each to be disinfected in a specially designed case after the daily ablutions. We have an analogy in the box of seven razors for the seven days of the week which some men possess.

DISLOCATION OF OUTER END OF CLAVICLE.

M.B., B.CH.(Cantab.) writes: Mr. A. B. Mitchell's paper in the JOURNAL of December 11th (p. 1097) on suturing a dislocated clavicle has reminded me of my own personal experience, which may be of interest. Some twenty years ago, when playing in the 'Varsity Rugger match, I had the misfortune to be kicked on the right shoulder when falling on the ball to stop a rush. I attempted to continue, but this was so painful that I was forced to stop, and, when examined by several medical men, I was told that I had better go to the nearest hospital, as my right collar-bone was dislocated at the outer end. I received first aid at the West London Hospital. I do not remember the exact treatment, but suture was certainly not performed and my recovery was complete. I put it down to playing tennis in the next term. Some four years later, when I was a medical student, I lost control of my bicycle when descending a steep hill, and was thrown on my right side against a stone wall. My right shoulder was much bruised and I rather thought something had gone; I was advised to lie flat in bed with the arm in a sling or lightly bandaged. Two or three days after, when in bed, I was unable to prevent a sneeze, and immediately I experienced a sharp pain, and on placing my fingers over the clavicle could quite distinctly feel the jagged fracture. This was reduced and kept in position by the usual bandaging. I again made an uninterrupted recovery, and never have I felt any unpleasantness from either the dislocation or the fracture, nor did it deter me from playing Rugger and tennis, and indulging in rock climbing and mountaineering.

A CONTRACEPTIVE PESSARY.

DR. J. A. DAVIDSON (Hanwell, W.) writes that since his note on a contraceptive pessary was published in the JOURNAL of August 9th, 1924 (p. 258) its composition has been modified; it now consists of magnesium sulphate, with 1 per cent. of lactic acid and 0.5 per cent. of quinine bisulphate. For use in cases of chronic vaginitis the makers (Tocker, Lindly House, Gunnersbury Lane, W.3) now put them up with protargol 2 per cent. or ichthyol 5 per cent., in place of lactic acid and quinine. Their advantage over other pessaries is their slow solubility, which keeps the active agent in contact with the mucosa for many hours.

LIGHT TREATMENT FOR LOSS OF HAIR.

IN the notice of Dr. Nagelschmidt's book on the light treatment for the loss of hair (JOURNAL, December 4th, 1926, p. 1058) the lamp used should have been described as the Hanovia quartz lamp. An English translation of his book has now been published by the Sollux Publishing Company, Slough, under the title of *Loss of Hair and its Treatment by Light*.

RESEARCH IN GENERAL PRACTICE.

DR. EDWARD B. FFENNELL (Clevedon, Somerset) writes: Might I protest indignantly against the statement made by Dr. Vincent P. Norman (JOURNAL, December 18th, 1926, p. 1197) about the teaching of midwifery in hospitals? I became L.M. of the Rotunda Hospital, Dublin, in 1887, and have never ceased to congratulate myself on having been taught there, and consequently having been able to attend quite an average number of confinements for many years.

PROPOSED NEW MOTOR LEGISLATION.

IN view of the new legislation which is
the law relating to motor vehicles, t
has issued a set of questions to its
motorists will probably find little difficulty in answering nearly all of them in the affirmative. The doctor, notwithstanding his continuous use of his car, may well regard a tax on petrol as fairer than the present tax on horse-power. No motorist can object to be given three days in which to produce a licence which he has inadvertently left at home. The proposal that the paid driver and not the employer (as foreshadowed under the new Act) should be responsible for the renewal of the driver's licence will, if adopted, be a pleasant relief. The introduction of penalties for "joy riding" will give some satisfaction to those whose cars are damaged during unauthorized use. The only questions on which there may be some doubts are those in which the abolition of speed limits is proposed. It is quite true that the present speed limits are grotesque; it is also true that strict enforcement of these limits is practically a thing of the past. Nevertheless they give some sort of
help to keep prosecutions for driving
at a minimum. If speed limits are
be liable to be charged by a policeman, untrained generally in motoring, with dangerous driving. No motorist will be safe unless the police are given some sort of standard by which to judge danger. The off-side rule, which has often been advocated in our columns, would form a useful foundation for the policeman's knowledge.

OSTEO-ARTHRITIS OF THE HIP-JOINT: A CORRECTION.

DR. H. WARREN CROWE (Harrogate) desires to correct Dr. W. J. Midelton's statement (JOURNAL, December 11th, 1926, p. 1152) that—in his (Dr. Crowe's) cases—non-specific toxin was used. "There is no justification," Dr. Crowe writes, "in my paper for the assumption that my treatment was not specific. In fact, the reverse is suggested. My words were as follows: 'Beyond saying that the chief vaccine used was made from streptococci obtained from foci of infection, no further details are here given,'" etc. I have always disliked the unscientific and reactionary principles which seem to underlie non-specific protein therapy.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 35, 38, and 39 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 36 and 37.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 12.

Observations ON THE MATERNAL MORTALITY IN THE MIDWIFERY SERVICE OF THE QUEEN VICTORIA'S JUBILEE INSTITUTE.

BY

JOHN S. FAIRBAIRN, M.A., B.M., B.Ch.Oxon., F.R.C.P., F.R.C.S.,

OBSTETRIC PHYSICIAN TO ST. THOMAS'S HOSPITAL.

ANY information regarding the maternity service of the country is of interest and value, particularly at the present moment, when so much discussion has taken place regarding its shortcomings and the need for its improvement, and a Committee of the British Medical Association has under consideration the causation of puerperal morbidity and mortality.

I am indebted to the council of the Queen Victoria's Jubilee Institute (Q.V.J.I.) for access to its statistics for the last two years and for the results of such of the past twenty years' work as are available. The information placed at my disposal appears to me worthy of a wider publicity and more detailed analysis than that afforded by the annual report of the Institute, embodying as it does the results of the work of the largest midwifery service in the country under a central organization.

A few preliminary observations are necessary to make clear the nature and scope of the work of the Q.V.J.I. and what the figures represent.

Excepting Essex, Northumberland, and Wilts, practically the whole of England and Wales is covered by the Queen's nurses and the nurse-midwives of the Queen's Institute working through their county nursing associations. For the most part their activities are confined to rural and semi-rural areas, but include also mining (Wales and Durham) and industrialized areas (Lancashire and Yorkshire), and roughly may be taken as representative of the country generally, except London and the large cities and county boroughs. As these latter are the areas with the lowest maternal mortality, and the rural, textile, and mining areas are those with the highest, the districts served are those in which the results would naturally be expected to be worse rather than better than those of the country as a whole. The work is carried on by midwives under the supervision of local practitioners, without the resources and services obtainable in London and other large centres. Even in the small proportion of cases in which patients are transferred to hospital, no real specialist services are available.

The returns from the county associations are collected and tabulated at the headquarters of the Q.V.J.I. and arranged into two categories: first, those in which the attendant acts as maternity nurse for the doctor; and second, the cases in which she has been engaged to attend as a midwife and only calls in the doctor in accordance with the rules of the Central Midwives Board. The two categories of maternity nurse and midwife are differentiated on the basis of practice and custom. Whenever a midwife is engaged to attend the labour or is the first to be called in by the patient in an emergency, the case goes into the second group, even if the doctor has continued in attendance. Save in sudden and fatal emergencies, all patients whose death falls in this group were seen and treated by the doctor. The cases in the maternity nurse category are not included in this review, the midwives not being subject to the rules of the Central Midwives Board if the doctor arrives to take charge, and, the case being the doctor's, the necessary information is not available.

In order to make comparison of these figures with the Registrar-General's returns more exact, certain adjustments must be made, as the basis of computation in the two is not the same.

The Registrar-General records the number of maternal deaths for every 1,000 live-born infants whose births are registered in that year, whereas the figures under consideration are the maternal deaths in 1,000 deliveries. The stillbirth rate (about 3.3 per cent.) would increase the Q.V.J.I. figures to that extent; on the other hand, twin live births count as two in the national returns and as one delivery in these figures, so, taking the average number of twin births as 1.2 per cent., and allowing 1 per cent. as the figure for twin live births, an addition of 2.3 per cent. to the Q.V.J.I. figures would be a correct adjustment.

The great difference, and the one most calling for adjustment, is that the Registrar-General includes in his mortality figures deaths in pregnancy due to abortion, ectopic gestation, pernicious vomiting, and such-like, none of which fall within the sphere of the midwife. The mortality due to pregnancy is not represented in these figures, save for a certain proportion of the cases of ante-partum haemorrhage that come into that heading (Code number 143). Even though it weights the scales slightly against the figures under consideration, the plan will be adopted of calculating the percentage to be added to the Q.V.J.I. figures on the basis of the average percentage of these pregnancy deaths in the Registrar-General's returns for the five years 1920-24.

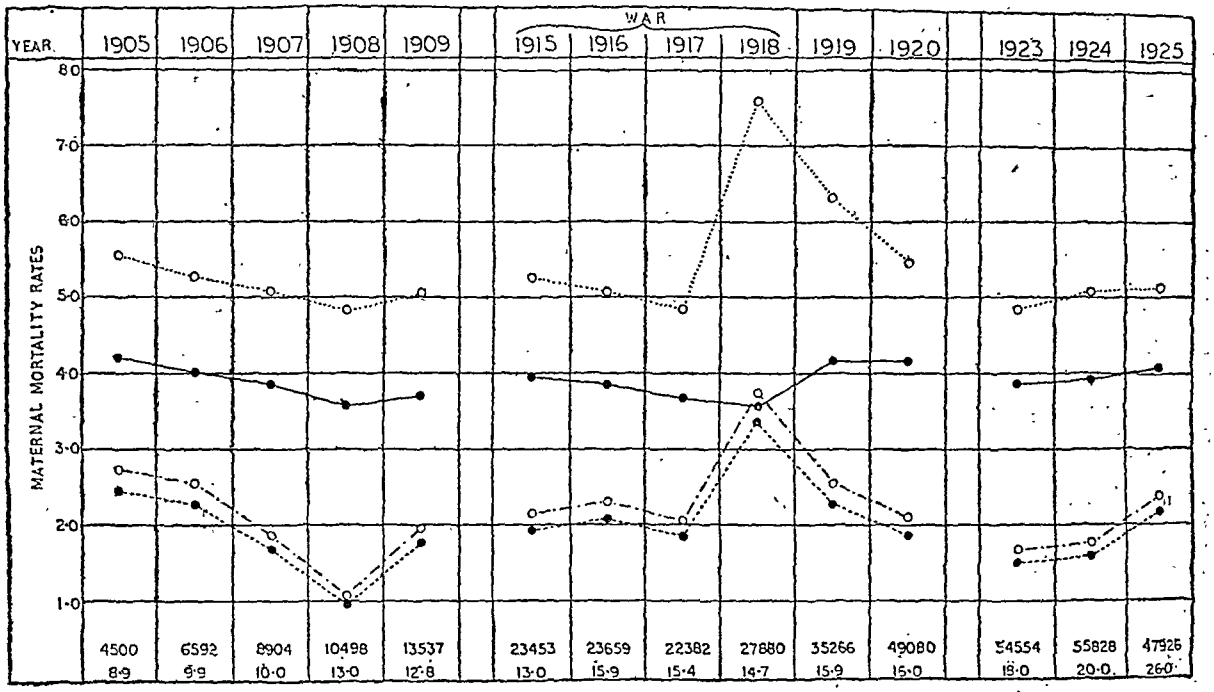
Finally, the figures taken for comparison are not those usually quoted for the mortality due to child-bearing, in which the "associated deaths" are excluded, but those including the deaths returned as "either caused by or associated with pregnancy and childbirth," because these "associated" deaths are included in the Q.V.J.I. figures, and, indeed, form there a larger percentage of the total than in the Registrar-General's figures, probably from faulty returns. The allowance to be added to the Q.V.J.I. figures will be about 11 per cent., made up of over 8 per cent. for deaths in pregnancy and over 2 per cent. for stillbirths less live twin births. A line showing the "adjusted" mortality rate (dot and dash line) to compare with the national rate (dotted line) is included in the chart (p. 48). The uninterrupted line shows the maternal mortality line, usually quoted (that is, excluding "associated" deaths), and the line of short dashes the unadjusted rate of the Q.V.J.I. puerperal and associated deaths per 1,000 labours. The calculation of these adjustments and the preparation of the chart from the figures supplied by the Q.V.J.I. has been undertaken for me by Dr. Matthew Young of the Statistical Department of the Medical Research Council, for whose assistance in the matter I am greatly indebted.

That these are to some extent a selected group of cases is not questioned. The outstanding impression left after a study of these statistics is that what selection is made is of the most haphazard order and appears to be largely left to the midwife. It is certainly determined more by the social and economic conditions than the obstetric or medical necessities of the individual patient. The chief lesson to be learnt is that if a mortality can be obtained well below that of the nation generally without any adequate system of ante-natal observation and selection of cases, the already low death rate could be made lower still by an organized system of ante-natal observation and selection of cases together with proper provision for cases in which complication was anticipated or had arisen.

The increasingly prominent position occupied by the nurses and nurse-midwives of the Q.V.J.I. in the country's maternity service is shown by the total number of cases in which they have taken part, being multiplied almost tenfold within twenty years—from 8,322 in 1905 to a maximum of 80,147 in 1924, with a drop to 73,011 in 1925. The proportion of cases attended in the two capacities works out roughly at two-thirds as midwife and one-third as maternity nurse. In the first period, covering six years, it is 59 to 41 per cent.; in the second six-year period 67 to 33 per cent.; and in the final three-year period 69 to 31 per cent.

Throughout the years for which figures are available the mortality in the midwives' cases is under half that of the general rate for England and Wales, and its variations diverge little from those of the Registrar-General's returns. The consistently lower mortality rate may be accepted as demonstrating the value of the services of a well trained corps of midwives in this country and as bearing out the evidence of the lower maternal mortality in those European countries, such as Holland, Italy, and the Scandinavian nations, which have had for generations a well organized midwifery service.

Chart Showing Comparison of Maternal Mortality Rates (Registrar-General) in England and Wales and in Cases Attended by the Queen Victoria's Jubilee Institute Midwives.



Dotted line with open circles=rate for England and Wales including "associated" deaths per 1,000 live births. Black line with black circles=rate for England and Wales excluding "associated" deaths per 1,000 live births. Dot and dash line with open circles=rates of Q.V.J.I. midwives per 1,000 deliveries adjusted for comparison with R.-G.'s returns, including "associated" deaths per 1,000 live births. Dotted line with black circles=rate per 1,000 deliveries in cases attended by Q.V.J.I. nurses acting as midwives. The figures below show the number of cases attended by Q.V.J.I. nurses acting as midwives for each year, with the percentage of cases in which medical aid was summoned. The two lines affording the most accurate comparison are the two with open circles, the dotted line and the dot and dash line giving the "adjusted" rate, Q.V.J.I.

The figures on the chart showing for each year the percentage of cases in which a practitioner is summoned to her aid by the midwife are worthy of note. Although a gradual increase in the proportion of medical aid notices is evident up to the years immediately after the war, it is in the records of the last three years that it becomes specially marked. Certainly the figures of the last year (1925), when medical aid was summoned in over a quarter of the cases attended, suggest a lack of experience and a failure to take responsibility on the part of the midwife. Doubtless there are many factors contributing to this increased calling on medical services. The rules of the Central Midwives Board involve the calling in of a practitioner for many other conditions than difficulties in labour, and the general tightening up of the administration of the Midwives Act by the local authorities throughout the country has resulted in medical aid notices being sent as a precautionary measure for many conditions—for example, in the case of the child, for "any inflammation of, or discharge from, the eyes, however slight." Also the making of the practitioner's fee payable by the local authority in the Act of 1918 has rendered it easier for the midwife to obtain such assistance.

In order to find the reason for the calling in of medical aid, special inquiries were made from the Q.V.J.I. midwives in 1924 and 1925, to ascertain the proportion of calls for the mother during labour. In the former year 7,601 out of 11,307 calls (or 67 per cent.) were on account of complication or delay in labour, and the corresponding figures for 1925 were 8,620 calls out of 12,700 (or 68 per cent.). Over the whole number of cases attended the percentages for the two years are respectively 13 and 17.9 in which calls were made for difficulty or delay in labour—obviously a poor showing so far as the primary objective in midwifery is concerned, that of securing natural parturition. As the figures for 1924 showed that in 48 per cent. of the cases in which aid was sought for the mother in labour delivery was effected by the forceps, they are disappointing as regards the success both of the midwife and the practitioner summoned to her aid in obtaining natural delivery and avoiding interference. They indicate nervousness and impatience on the part of the midwife, and suggest also inefficient training in the use of opium or other sedative to avoid fatigue of the mother. If sedative treatment was more generally adopted by the midwife, and medical aid summoned only after it had been tried and failed, the proportion of natural deliveries would be greatly increased. The present-day midwife certainly appears to have become less self-reliant than her shorter-trained predecessor, and to be more readily infected with the impatience and anxiety of patients and their relatives. The steadily increasing rate of sending for the doctor shows no corresponding improvement in the maternal mortality rate.

The stillbirth rate is nearly constant: for the last three years it was 3.3, 3.5, and 3.1 per cent.

In the last two years an effort has been made to obtain from the midwives the causes of death as certified by the practitioners called to their aid, and although not authoritative, they are probably as nearly correct as the certificates themselves. They have been classified as follows:

Causes of Death.	1924.	1925.	Total.	Per Cent.
Puerperal sepsis	12	28	40	21.2
Embolism and thrombosis	14	10	24	12.7
Haemorrhage (including placental complications)	17	19	36	19.0
Labour complications and shock...	5	11	16	8.5
Eclampsia	8	10	18	9.5
Other diseases associated with childbirth ...	31	24	55	29.1
Total	87	102	189	100.0

The number of cases attended was 55,828 in 1924, 47,926 in 1925—a total of 103,754.

A brief analysis of the causes of death will serve to give an impression of the difficult conditions under which both practitioners and midwives work, and to emphasize the importance of further organization and co-operation between them.

Of the 40 cases of death from puerperal sepsis, 15 patients were removed to hospital. In all except 9 there is no reference made to abnormality in the labour; in 2 it is noted that no vaginal examination was made, and in one that there was only one examination. There were 4 cases of delivery by the forceps (one with complete rupture of the perineum and sloughing), 4 cases of manual removal of the placenta (in one of which the child was born before the arrival of the midwife), and one of placenta praevia. Two cases occurred at the same time in the practice of one midwife.

Of the 24 deaths ascribed to *embolism and thrombosis*, 7 patients died on the day of delivery; one patient died in hospital, and two inquests were held, but most of the others appear to have been ill in some way and under the doctor. The chief complications noted were adherent placenta in 4 cases, delivery by the forceps and post-partum haemorrhage in 2 cases, forceps in one, and phlegmasia in one.

Of the 36 deaths from haemorrhage, 23 were termed ante-partum haemorrhage and 6 post-partum haemorrhage. There are included also 6 cases described as adherent placenta in which manual removal was performed, and one of inversion of the uterus with haemorrhage. The holding of an inquest is only mentioned once, so that in the other cases presumably medical aid was obtained in time for a death certificate to be given. Five of the ante-partum haemorrhage cases were at once removed to hospital; in 2 of these it is stated that the midwife was called in in emergency (that is, not engaged beforehand). Though details of treatment are not, as a rule, mentioned, delivery is stated to have been effected by the forceps in 4 cases, 2 of which were followed by post-partum haemorrhage; in another death is ascribed to heart failure, and in the remaining case to collapse twenty minutes after delivery. These instances which do happen to be noted are enough to show that the danger of rapid delivery in ante-partum haemorrhage is not generally appreciated, and that the breaking of the fundamental principle of encouraging expulsion by the natural powers rather than hastening delivery by artificial methods is bound to be costly.

Among the deaths from post-partum haemorrhage is one in which birth had taken place before the midwife's arrival, the patient being found collapsed on the floor. In one case, in which the doctor expressed the placenta, the failure to control the bleeding was ascribed to haemophilia, and in another, in which there was an adherent placenta, a large goitre was thought to be a complicating factor. In another case the patient was seen and treated by the doctor within half an hour and survived for a fortnight, but the primary cause of death was certified as post-partum haemorrhage. Of the 6 deaths returned as following manual removal of the placenta, one patient was sent to hospital, where she died the following day, one was described as having collapsed immediately, another as dying from post-partum haemorrhage in sixteen minutes, and in another exhaustion and starvation were mentioned as contributory factors. No details are available as to the others, save that in all cases the operation was performed by the practitioner called in. It may be worth while to draw attention to the prominent place occupied by this dangerous operation throughout these mortality statistics. The case of inversion occurred in the premature labour of a woman ill with influenza, the patient dying before the arrival of medical assistance. As post-partum haemorrhage is an emergency in which the midwife may have to rely on her own resources, the evidence of these figures does not seem to show a risk above the average.

The deaths from ante-partum haemorrhage emphasize the importance of looking on all bleeding in the second half of pregnancy as a warning of more serious trouble ahead, and the need for hospital facilities for the observation and treatment of such cases. Many of the ante-partum haemorrhage cases should not have been left in the charge of a midwife. In time the education of the mothers in understanding the significance of losses of blood during pregnancy and in reporting their occurrence immediately should make it easier to arrange for special provision being made.

The 16 deaths under complications of labour and shock were mostly due to malpresentations, misfits, monsters, and such-like, some of which ought to have been detected before labour; 5 were admitted to hospital. There were 2 cases of contracted pelvis; one patient died after Caesarean section in hospital, and the other shortly after craniotomy had been performed after failure to deliver with the forceps. A 7-para died in the infirmary after a "complicated breech delivery," and another in a county hospital into which she was sent as a brow presentation. There were two cases of monsters, in both of which the patients were sent into hospital only after failure to deliver them at home. There was one case of hydrocephalus, one of foetal ascites, and another in which the foetal thorax was opened before delivery could be effected; there were 2 cases of fibroids complicating pregnancy, and others in which death resulted shortly after operative delivery. In one case, in which the child was born before a midwife arrived, death is ascribed to syncope after a precipitate labour.

The 18 deaths due to eclampsia are instructive; among them 6 were emergencies, and in 3 no definite particulars were given. In the remaining 9, ante-natal supervision of some kind was given. Labour was induced in one; of 3 patients it is stated that "she could not supply a specimen of urine," that "she refused to supply one," and that "the urine was to be tested next visit, but the convulsions (at the seventh month) began before it was done." Of the 5 others the urine is stated to have been tested and found free from albumin. In one of these cases a fit occurred eight hours after a normal labour and the patient was transferred to hospital, where she died the following day. These cases indicate clearly the need for improvement both in a more frequent examination of the urine and in the education of the mothers in the necessity for supervision during pregnancy.

In the miscellaneous group of complicating conditions the largest number of deaths (33 out of 55) are said to have been certified as influenza, pneumonia, or bronchitis, and the next largest (11) to cardiac disease, sometimes with bronchitis; 3 deaths were ascribed to cerebral haemorrhage, 2 to tuberculosis, one to measles and congestion of the lungs. An inquest was held on one patient who previously suffered from influenza, and the verdict was "heart failure," and 6 patients died after transference to hospital. A striking point in this group is that many of the women were under medical care beforehand, but the confinement was left to the midwife. For the most part they should not have been midwives' cases.

On the whole these figures show an exceedingly creditable record of what can be done by the partnership of doctor and midwife, but could be greatly improved if paragraph 41 in the Scottish Departmental Committee's Report on Puerperal Morbidity and Mortality was more fully acted upon. It is there stated:

> "In virtue of the long and costly training and the late age at which professional activity begins, the medical practitioner is an expensive social instrument which it is no economy to use for work that may be performed more simply. There is social confusion when doctor and midwife have to be treated as competitors; they should be considered not as rival to each other, but as complementary."

It is clear that a material proportion of the maternal deaths, and inferentially much disability among mothers who recovered, might be avoided by a better distribution of such services as are at present available by which the medical side should give more time to the supervision of the pregnant woman, and the allocation of the duty of attending labours in accordance with the probable obstetrical requirements of the patient, leaving, so far as can be foreseen, the simpler and normal cases to the less highly trained midwife. The employment of the more "expensive social instrument" for attendance on normal parturition is not only extravagant, but tends to a lessening of the proportion of natural and unassisted deliveries, for which a price has to be paid when the national mortality account is rendered. The increasing rate of summoning medical aid for delay in labour shows that one of the outstanding problems of the present day is that of how to attract the best and most experienced midwives to this work. It is

too big a problem to open here, but it is undoubted that a mere fraction of the best trained women will face the responsibility and strain of practice with its poor prospects of advancement and poor economic return.

Good as is the work of these midwives and of the practitioners who help them, the difficulties of both are much greater than need be, and if better co-operation between the two and better provision for hospital assistance could be organized, there would be a great saving of maternal lives.

It may be worth while to take as an example of what might be arrived at throughout the country the figures of an institution which has succeeded better than any other (to my knowledge) in reaching the highest standard of obstetric practice—the East End Mothers' Lying-in Home. Though a self-contained unit with both a district and hospital practice, it works on the same system as the Queen's midwifery service—that is, the ordinary work is carried on by midwives, and the ante-natal supervision and the rendering of medical aid when called for by the midwives are in the hands of a local practitioner, who thereby has gained special experience. Its results are obtained among its own patients; it neither sends elsewhere its complicated midwifery nor takes difficult midwifery from outside its own patients, so that its work in that way differs from the ordinary maternity hospital.

In the past four years, in 8,943 cases it has a maternal mortality of 0.67 per 1,000 deliveries, and a forceps rate of only 2.38 per cent. In other words, it has one death for every 1,500 deliveries, instead of one for every 250 live children born in the country as a whole, and succeeds in obtaining physiological parturition better than the Queen's midwives, as is indicated by a forceps rate of 2.38 instead of 6.4 per cent. As the later figures for the Queen's service show, the tendency there is rather away from than towards the securing of natural function in labour.

This isolated instance of an institution working on the same lines, but with particular advantages in having experienced but not specialist medical supervision, a highly trained midwife staff, a hospital for its difficult cases, and a close co-ordination of all its services, gives an indication of what might be done in reducing maternal mortality and disability in childbed throughout the country, and in the Q.V.J.I. midwifery service in particular. The problem is that of adapting the conditions of a self-contained unit to the varying circumstances of rural, urban, and industrial areas, with scattered populations, differing personnel, and inadequate resources, and surely it can be solved in part if impossible of complete solution.

This analysis encourages hope of a reduction in the maternal mortality. If the results shown by the Q.V.J.I. midwives with the help of local practitioners obtained throughout the country, the maternal mortality would be more than halved, and might even be greatly improved on that by better team work between midwives, practitioners, and maternity hospitals. These figures lend support to those who contend that a country's maternity service is best built on the foundation of a service of midwives with medical help in difficult cases.

A CASE OF THYRO-PITUITARY ENDOCRINOPATHY.

BY

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THE following case of Graves's disease, associated with increased function of the anterior lobe of the pituitary gland and diminished function of the posterior lobe, seems worthy of record.

The diagnosis of Graves's disease (hyperthyroidism) rests upon the following symptoms and signs: enlargement of the thyroid gland, exophthalmos, tachycardia (average pulse rate 130), raised blood pressure (140 mm.), pulse pressure (70), fine manual tremors, excessive restlessness, increased psycho-galvanic reflex and basal metabolism, and a positive Goetsch's test.

Hypersecretion of the anterior lobe of the pituitary gland is indicated by the abnormal length of the long bones for the patient's age, the disproportionate size of the hands and feet, and the slightly enlarged sella turcica. Decreased function of the posterior pituitary lobe is suggested by the smooth, soft skin and general hairlessness, absence of pubic and axillary hairs, poorly developed external genitalia, and the relative lymphocytosis.

Description of Case.

The patient is a boy aged 14; he complains of general weakness, breathlessness and palpitation on exertion, nervousness and nocturnal enuresis.

History.—He was a full-time child with normal birth. He is said to have suffered from rickets during infancy, otherwise no previous illness occurred beyond measles and whooping-cough. During the past three years he has grown very rapidly in stature, but at the same time has lost flesh in spite of a good appetite. He is easily exhausted by physical effort, complaining of dyspnœa and palpitation on exertion. Also he has become very restless, unduly nervous, excitable, and inattentive, and suffers from nocturnal enuresis, the latter symptom appearing six years ago. There is nothing noteworthy in the family history. He has two brothers, aged 18 and 12 years, and one sister, aged 17, all of whom are well and show no physical or mental peculiarities.

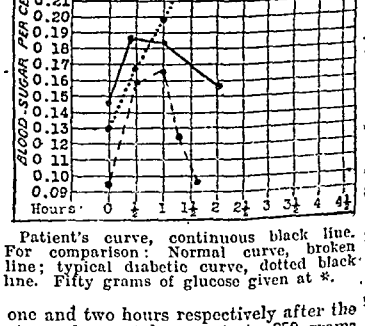


General Appearance.—He is a tall boy for his age (height 5 ft. 10 in.) and is very thin (weight 7 st. 5½ lb.). In proportion to the trunk, his extremities are long: arms 26½ in.; legs (great trochanter to heel) 37 in.; trunk (vertex of head to tip of coccyx) 30 in. The hands are very large, especially the carpus and metacarpus, also the feet (size 10). All joints appear of disproportionate size, but the jaws are normal. The skin is generally smooth and hairless; there is no pubic or axillary hair; the penis is of infantile type and the testicles are very small. The thyroid gland shows general enlargement.

Circulatory System.—Heart not enlarged: first sound accentuated at the apex with a soft systolic murmur in the pulmonary area as well as over the thyroid. Average pulse rate at rest 130; blood pressure 140 mm. Hg systolic and 70 mm. diastolic. There is considerable vasomotor instability, as shown by an easily and rapidly produced *tache cérébrale* and a tendency to dermatographism. Also, sweating is very free.

Nervous System.—There is some degree of exophthalmos with positive von Graefe, Stellwag, and Kocher's signs. The pupils are dilated and react normally; vision and optic discs normal, fine lingual tremors; speech hurried. All other cranial nerves normal. The muscles generally lack tone and are easily fatigued. Fine rapid tremor of outstretched hands. The arm, knee, and ankle jerks are brisk and equal; abdominal reflexes normal and plantar reflexes flexor. Mentally he is alert and intelligent, but very restless, inattentive, and easily startled.

Biochemical and other Investigations.—Basal metabolism showed a +20 per cent. increase. The psycho-galvanic reflex, tested on the emotometer, was greatly increased. Goetsch's intradermic test for hyperthyroidism (using 0.05 c.cm. of adrenaline solution 1 in 1,000) was immediately and strongly positive. The urine contained no albumin, sugar, or casts. Blood examination showed 5,880,000 red and 6,800 white cells per c.mm., with haemoglobin 98 per cent. (colour index 0.83). Differential blood cell count revealed a relative lymphocytosis — namely, polymorphonuclears 32.5 per cent., small lymphocytes 63 per cent., and large lymphocytes 1.5 per cent. (total lymphocytes 64.5 per cent.); eosinophiles 3 per cent. The resting blood sugar was 0.147 per cent., rising to 0.186 twenty minutes after the patient had ingested 50 grams of glucose, and falling to 0.182 and 0.158 per cent. one and two hours respectively after the glucose (see chart). Alimentary glucose tolerance test: 250 grams of glucose was given by the mouth; one hour later the urine contained a considerable quantity of glucose, but it was absent in specimens taken two and three hours after the meal. X-ray examination showed the sella turcica to be slightly enlarged and the bones of the hands and feet unduly large for the patient's age; the epiphyseal cartilages were also narrower than usual.



Patient's curve, continuous black line. For comparison: Normal curve, broken line; typical diabetic curve, dotted black line. Fifty grams of glucose given at *.

Commentary.

The blood sugar and glucose tolerance investigations in this case are of interest. It is generally agreed that hyperthyroidism and hypersecretion of the anterior pituitary lobe both tend to raise the amount of blood sugar and to decrease sugar tolerance, while, on the other hand, diminished function of the posterior pituitary lobe increases sugar tolerance. It would appear that in this case the combined influence of the thyroid and anterior pituitary lobe on the carbohydrate mechanism has outweighed the effect of diminished posterior pituitary lobe function, with the result that the blood sugar is somewhat raised and glucose tolerance slightly reduced. Similarly with the basal metabolism, the thyroid and anterior pituitary factors tending to increase the rate have to some extent overcome the tendency of the posterior pituitary dysfunction to lower it.

The explanation of the pituitary gland disorder is probably as follows: The increased secretion of the anterior pituitary lobe is of some years' standing and due to a functionally active adenomatous enlargement of this portion of the gland. The effect on skeletal growth is a tendency to "giantism" with mild acromegalic signs (enlarged hands and feet), thus following the rule that hypersecretion of the anterior pituitary lobe occurring before puberty results in giantism with occasional acromegalic features, while hypersecretion developing after puberty leads to true acromegaly. As the pituitary fossa is a closed box roofed over by the diaphragma sellae, and therefore relatively incapable of expansion, the effect of an increase in size of the anterior pituitary lobe is probably to compress the adjacent posterior lobe and thus to interfere with its functional activity. Such an occurrence would account for the indications of posterior lobe deficiency in the case.

I am indebted to Dr. W. E. Carnegie Dickson, pathologist to the West End Hospital for Nervous Diseases, for his kind help in the laboratory investigations of the case; also to my clinical assistant, Dr. D. Davies, and to Dr. W. W. Phillips.

THE UREA CONCENTRATION TEST IN NEPHRITIS AND ITS PROGNOSTIC VALUE.

BY

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THIS paper does not aim at entering into a comparison of the various tests of renal inadequacy, but is an attempt to investigate and follow up a series of cases of nephritis, using the simplest test of renal function (the urea concentration test of Maclean and de Wesselow[1]) and assessing its value for prognosis. When the opportunity occurred to us of investigating a series of renal cases in which, for various reasons, the most consistently useful of the "renal tests" (the non-protein nitrogen content of the blood) had to be omitted, it appeared to us of value to make a judgement upon them, basing it upon the urea concentration test figures, and then to follow up the cases with a view to an estimate of its prognostic value.

We have records of 156 of these cases, which had been previously diagnosed as nephritis on the ground of albuminuria, with or without other symptoms; 27 of them were found, after examination, to be suffering from something other than nephritis, and were therefore discarded.

Unless the patients were too ill to take anything but fluids, a simple hospital diet was given. Daily specimens of urine were examined, and each case was allowed to settle down into hospital régime before the urea concentration test was made.

The technique of the test is well known. The patient empties his bladder and then takes 15 grams of urea dissolved in 100 c.cm. of water. He passes urine at the end of the first hour and at the end of the second hour, and the total quantity passed in each hour is noted. The percentage of urea in each of the specimens is determined. When the amount secreted during an hour does not exceed 120 c.cm. a percentage of less than 2 in that specimen indicates renal inadequacy, while if the amount falls below 1 per cent. a very serious defect is present.

The patient should not take any fluid after 8 p.m. on the evening before the test, and it is advisable to collect the night urine from that time until the bladder is finally emptied just before the dose of urea is given in the morning. The reason for this is that in many of the cases the percentage of urea is higher in this specimen than in any of the test samples, even though there is no diuresis during the test period. This anomaly was present in as many as 31 per cent. of the cases described in this paper. The percentage of urea varied from 0.8 to 2.8 in these particular cases. Whenever it occurred the systolic blood pressure was above 150 mm. of mercury, though no relationship between these two facts is obvious.

Another point of interest concerns the diuretic effect of the urea. If there is any diuresis it usually occurs, as is well known, in the sample of the first hour. Sometimes, however, there is a greater output of urine in the second hour than in the first, while in rare cases diuresis occurs in both first and second hours. In cases of this type the third sample, at the end of the next hour, is of value. After a long experience of the test we believe that it is advisable to make the taking of a sample in the third hour a routine procedure.

We grouped our cases of nephritis into the following categories:

Group I (14 cases). Cases with high blood pressure (over 150 mm. Hg systolic) and efficient kidneys—that is, urea maximum of over 2 per cent.

Group II (35 cases). Cases with defective kidneys, but with only slight or no cardio-vascular changes (blood pressure under 150 mm. systolic).

Group III (73 cases). Cases showing definite renal and cardio-vascular changes.

Group IV (7 cases). Cases where renal inadequacy was associated with renal stone.

The after-histories of the patients in each of these groups were followed for a period of two years after the test had been performed. In Group IV no deaths occurred. The average percentage given by the urea concentration test was 1.3—the lowest being 1.1 and the highest 1.8. In Group I one death only occurred in the two years. This was a case with a blood pressure of 170/90 mm., and a urea maximum of 2.4 per cent.

An analysis of the urea maximum figures in the two main groups, showing renal damage (II and III), is given in Table I.

TABLE I.

Group II, defective kidneys with slight or no vascular changes:	
Above 1.5 per cent.	6 cases
1 to 1.5 per cent.	22 ,,
Below 1 per cent.	9 ,,
Group III, defective kidneys with marked vascular changes:	
Above 1.5 per cent.	24 cases
1 to 1.5 per cent.	37 ,,
Below 1 per cent.	12 ,,

In many of these patients the test was repeated from time to time, and the highest figure is used in the above table.

TABLE II.—*Cases which Died within Two Years (Groups II and III).*

GROUP II (5 cases).

No. of Case.	Blood Pressure.	Urea Concentration Test.	Time Lived.	No. of Case.	Blood Pressure.	Urea Concentration Test.	Time Lived.
	mm.	%			mm.	%	
30	140/110	0.5	1 mth.	118	130/90	0.65	9 mths.
32	140/90	0.6	2 mths.	60	125/85	1.0	10 ,,
142	135/95	0.6	12 ,,				

GROUP III (15 cases).

146	210/150	0.35	5 days	42	190/120	1.2	8 mths.
51	195/105	0.35	5 mths.	134	190/120	1.2	15 ,,
17	—	0.9	1 week	43	—	1.3	1 week
33	200/120	0.9	1 mth.	135	180/110	1.4	1 mth.
39	150/110	0.9	11 mths.	111	210/130	1.5	12 mths.
22	180/95	0.95	21 ,,	7	180/105	1.6	4 days
55	160/115	1.0	1 mth.	65	190/120	1.6	2 mths.
90	210/110	1.0	12 mths.				

An analysis of the cases which died within two years (Table II) shows that in Group II the length of time lived increases more or less uniformly with the rise in the figures of the urea concentration test, except for No. 142, where the duration of life was a little longer than in the others. Five of the cases in this group, with a urea maximum of under 1 per cent., had not died at the end of two years—three of the cases showing a concentration of but 0.7 per cent. or under.

Taking the deaths in Group III, an interesting contrast in the length of time lived is shown by the first pair of cases (146 and 51) in the table. Although showing a urea maximum of but 0.35 per cent. at the time of the test, yet No. 51 contrived to live five months. Similar contrasts are afforded by Cases 17 and 22, and 55 and 90. This difference is brought out more clearly still by a comparison of the four cases which died within a week of the test (Table III).

TABLE III.—*Cases which Died within a Week of the Test.*

Case.	Urea Maximum.	Time Lived.
146	0.35 per cent.	5 days
17	0.9 ,, ...	1 week
43	1.3 ,, ...	1 ,,
7	1.6 ,, ...	4 days

It is thus clear that for immediate prognosis the urea concentration test by itself is of no great help. Moreover, in Group III eleven cases showing a urea maximum of less than 1 per cent. were alive at the end of the two years.

An analysis of the death rates in Groups II and III (Table IV) shows that of the cases in Group II which had a urea maximum of less than 1 per cent., half had died within two years, while no deaths occurred in that period among the cases with a concentration higher than 1 per cent.

In Group III, where the nephritis is complicated by cardio-vascular changes, the figures are not so uniform, and of the nine deaths in the cases with a urea maximum of over 1 per cent., all with but one exception had a blood pressure of over 180 mm. Hg systolic, in three of which it was over 200 mm.

TABLE IV.—*Death Rate in Groups II and III.*

	No. of Cases.	Deaths.	Percentage of Deaths.
GROUP II.			
A. With urea concentration test 1 per cent. or below	10	5	50
B. With urea concentration test above 1 per cent.	25	0	0
GROUP III.			
A. With urea concentration test 1 per cent. or below	17	6	35
B. With urea concentration test above 1 per cent.	56	9	16

The test is thus of no great value for immediate prognosis; but, always granted certain reservations, it is a very definite help in forming a general prognostic judgement upon a nephritic case.

One of the unfortunate features of the application of biological, and especially biochemical, experiment to clinical work is that the results are often expressed in numbers; and the human mind seems to have a curious eagerness to endow such figures with absolute truth, and subconsciously to make mathematical expressions take the place of a wider and more surely founded judgement.

It is obvious that in investigating a complicated "system" like the condition produced by nephritis in the human body such a test as the urea concentration test is a physiological experiment in which many factors must necessarily be uncontrolled, and one, moreover, which, strictly speaking, tells us the response of the body only at the time of the test. The condition of the kidney which we then deduce may be, of course, permanent; on the other hand, an acute exacerbation may develop upon a chronic nephritis, or a marked improvement of a subacute nephritis may occur, and therefore a single urea concentration test may be very misleading if it is regarded in any absolute way. This is but to say that clinico-pathological knowledge and judgement are not displaced by tests whose results are expressed in definite figures of so much per cent. Nevertheless, in the experience of many observers, as in our own, so comparatively crude a physiological experiment as the urea concentration test has received the pragmatic sanction of being found to work.

We would therefore conclude by summarizing our experience and opinion of the test, not merely in this admittedly restricted series of cases, but also in a large number of others in which blood analysis was available.

First, we would make it clear that we lay much more stress upon blood examination than upon any test involving urinary analysis.

The urea concentration test is quite as satisfactory as any of the urinary tests, and is, moreover, one which can easily be made in general practice. It must be interpreted only as an addition to the other physiological and pathological facts in the case.

Seeing that it is a somewhat crude physiological experiment, we shall probably be safe in taking into account only broad differences. In other words, a urea maximum of 2 per cent. or over indicates a kidney which at the time of experiment can concentrate urea satisfactorily. A urea maximum of under 1 per cent. shows a kidney which cannot. Between 1 and 2 per cent. the issue is not quite so clear, but we imagine that we shall be safe in putting it in these terms: below 1.5 per cent., strong presumption of kidney deficiency; between 1.5 and 2 per cent., possibility of renal deficiency.

Finally, in actual practice we would always have a blood analysis; but if this is not available, useful facts for prognostic judgement in a case of nephritis are afforded by the following routine:

(*a*) An analysis of the urea content of a series of specimens of ordinary urine. If these show an adequate urea percentage, then obviously a urea concentration test is not necessary.

(*b*) If the test is necessary, then the practitioner can make it himself, and form a judgement by adding the result to his other clinical facts. It is obvious that this judgement will be revised or confirmed by the further watching of the patient, the frequent observation of the urine and its urea content upon a known diet, and occasional repetition, when necessary, of the urea maximum concentration test.

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THE RECORDING OF PERIMETRIC TRACINGS.

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UNTIL comparatively recently, perimetric tracings have usually been taken with a circular arc of 180 or even more degrees, the eye of the patient being adjusted so as to occupy as nearly as possible the centre of curvature of the arc. In my early studies I happened to be with a teacher who often used a plane surface—in his case a large blackboard—for the purposes of perimetry. When he did so he was, of course, using a tangent perimeter. This tangent method seems to have gone almost entirely out of use till it was revived some years ago by Bjerrum in his screen. More recently attention has been called to the advantages of tangent perimeters by several other authors, and notably by Drs. Sinclair and Traquair of Edinburgh.

The chief disadvantage of the tangent perimeter is that in the extreme periphery the tangent increases very rapidly, for the limiting value of the tangent of 90° is infinity, while that for 45° is unity. In the circular perimeter this difficulty is avoided, the graph being one in polar co-ordinates.

One of the advantages of the screen perimeter lies in the fact that as the eye which is being examined is not placed at the centre of a curve but at any point the examiner chooses to select, by increasing the distance between the screen and the eye the field corresponding to the retinal image may be conveniently magnified. This magnification tends to much greater accuracy of work, and tangent

perimeters seem to be admirably adapted for the delimitation of scotomata.

Many years ago (1888) Dr. George Mackay, also of Edinburgh, exhibited at the Glasgow meeting of the British Medical Association a large circular perimeter, which perhaps fulfilled to some extent the purposes of a large tangent screen. As has been shown, the ordinary circular perimeters often fail to reveal important defects in the field of vision, which at once become apparent when the more reliable tangent screen method is used. Those who have used screens for the investigation of the centre of the field, say from zero up to 50°, have no doubt of their superiority for that purpose.

In using tangent perimeters, for the reasons above stated, it is desirable to have the patient at a considerable distance from the centre of the screen. At the distance of only half a metre the tangent perimeter does not possess much advantage over a circular perimeter with a radius of curvature of half a metre. If the distance of the patient's eye be a metre from the fixation point on the screen, then for 45°, as the tangent of 45° is unity, the screen must in all directions extend to one metre from the central fixation point. For a distance of two metres a screen would require to measure, for an angular opening of 45° in all directions, at least 200 cm. from the fixation point. That, of course, at once shows the limited use which can be made of tangent screens, because, even with a spacious room, it is impossible to get 70 inches between the fixation point and the floor; moreover, the patient's eye should be as nearly as possible on a level with the fixation spot. For the thorough examination of the centre of the field of vision the tangent perimeter will be found to be most serviceable. In the usual forms supplied for recording perimetric examinations there is the same distance between zero and the circle representing 45° as there is between the circle representing 45° and that representing 90°, also the same distance between zero and 30° as there is between 30° and 60° and as there is between 60° and 90°. So long as the examiner recognizes the fact that he is dealing with polar co-ordinates and can translate their meaning then no great harm will accrue. But one advantage of tangent perimeters, where applicable, is that they give the field of vision without any need of interpretation.

Dr. Sinclair of Edinburgh, and probably other workers, have availed themselves of tangent scales. A tangent scale can be easily prepared for any radius, such as that of a metre or of two metres, or any other measurement that may be required; but I think that nothing more is necessary than to take a note of the field given by a tangent perimeter in ordinary rectangular co-ordinates. The screen perimeter I use is black, and on it are traced in black tape the ordinary x and y co-ordinates. There is nothing to prevent the whole screen being divided up by such pieces of tape into little squares, the length of the side of each little square being two inches or even less, according to the breadth of the tape.

In the first quadrant both the abscissa and the ordinate are positive; in the second the abscissa is negative and the ordinate is positive; in the third quadrant both the abscissa and the ordinate are negative, and in the fourth the abscissa is positive and the ordinate is negative. Now with such a perimeter all that has to be done is to note accurately the values for x and y of every point taken in the boundary of a scotoma. There is no need whatever to transfer it to polar co-ordinates. Of course, should any such need arise, the calculation is of the most simple kind provided the distance at which the patient was placed from the fixation point has been accurately noted.

This simple method seems to avoid a considerable amount of trouble, and has the advantage that no special diagram requires to be made for the recording of the results; ordinary ruled paper, such as is commonly used for graphs, is all that is necessary.

ICTERUS WITHOUT HAEMOGLOBINURIA AFTER QUININE TREATMENT.

BY

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THE part played by quinine in the genesis of haemoglobinuria has received the attention of many investigators, and the opinion has been expressed that in certain cases it can act as the precipitating agent of the attack. Castellani and Chalmers, indeed, in their textbook, consider the relationship so intimate as to warrant quinine haemoglobinuria being defined as a clinical entity apart from true haemoglobinuric fever. There seems, however, no justification for this from the clinical point of view, since the symptoms and course of the disease are essentially the same in both.

Stephens and Stott (1915) have collected a record of 103 cases in which the intimate relationship between the administration of quinine and haemoglobinuria could not be ignored; while Thomson (1924) has more recently published records of two cases in which the correlation was most striking. The consensus of opinion would seem to be that while quinine in many cases does not play a leading part in the genesis of haemoglobinuria, cases do occur in which it seems to act definitely as the immediate cause.

How quinine may bring about haemoglobinuria will not be discussed further than to say that it is generally accepted that the haemoglobinuria is secondary to a haemoglobinaemia brought about by the lysis of erythrocytes in the blood stream. Plehn (1920), mainly on histological grounds, has disputed this theory of intravascular haemolysis in haemoglobinuria, and considers that the haemolysis takes place in the renal tubules. Salvioli (1922) and Ziemann (1926), however, working on the same lines as Plehn, were unable to confirm his findings.

Barratt and Yorke (1909), on the other hand, have brought forward evidence pointing to the blood stream as the site of lysis. In a series of observations on blackwater cases they found that in certain cases the percentage of haemoglobin free in the plasma was considerably higher than in normal controls. In others, however, the figure approximated to that found in health, but they consider that this does not necessarily refute their assumption of intravascular haemolysis, since, owing to the relatively long intervals at which patients may pass urine, it may quite well be that, although the urine does contain haemoglobin, active excretion of it may have ceased. Arkwright and Lepper (1918) and Dudgeon (1920) have reported similar findings.

While direct proof of haemoglobinaemia may be lacking, it is possible to obtain information indirectly that supports this hypothesis. Thus an increased content of substances in the blood stream which are known to be derivatives of haemoglobin would point to an intravascular haemolysis.

It is now generally accepted that haemoglobin is broken down in the cells of the reticulo-endothelial system, particularly, if not wholly, by the Kupffer cells which are found in the liver sinuses, and is converted into bilirubin and haemosiderin. Thus, in conditions in which haemolysis exists, an increased output of bilirubin can be anticipated. That this is the case in malaria, in which blood destruction in excess of normal exists, has been shown by van den Bergh (1924), Hughes (1924), and Kingsbury (1926). Van den Bergh's test is now so widely employed that it requires no description, but it may be emphasized that not only does it afford a measurement of the amount of bilirubin present but it also distinguishes between what might be termed mature and immature bilirubin in the serum. Mature bilirubin is that which has passed through the polygonal cells of the liver and has then been absorbed into the blood stream, and is present in cases of obstructive jaundice. This variety gives the direct reaction. If, however, owing to rapid blood destruction, bilirubin is

produced at so rapid a rate that the polygonal cells are unable to deal with it *in toto*, the excess is absorbed directly into the blood stream from the Kupffer cells, and forms the immature bilirubin which gives the indirect reaction. An indirect reaction should, then, be obtained in those cases where the pathological factor is increased blood destruction, and it is this variety which occurs in pernicious anaemia and malaria. Such a reaction can be accepted as evidence of intravascular haemolysis.

In haemoglobinuric fever, in the initial stages of the disease, the indirect reaction is strongly positive and the number of units of bilirubin present shows a huge increase on the normal amount of 0.2 to 0.5 unit found in normal controls (unpublished results of one of us, G. R. R.). We have thus indirect evidence that haemoglobinuria in haemoglobinuric fever is accompanied by haemoglobinaemia. There can be no doubt that the haemoglobinaemia must precede the haemoglobinuria. Assuming, then, that haemoglobinaemia exists, it can be postulated that two mechanisms at least come into play in the endeavour to rid the body of the haemoglobin dissolved in the plasma. At first there is an increase in the activity of the reticulo-endothelial system, so that as much as possible of the haemoglobin may be disposed of by the normal methods of converting it into bilirubin. This we know does happen. If, however, the amount of haemoglobin is in excess of the maximum with which the reticulo-endothelial system can deal, then excretion by the kidneys occurs, with consequent haemoglobinuria. We can thus assume that there exists a threshold value for haemoglobin; whether that is constant or whether it varies from individual to individual is not as yet clear. It cannot be assumed at present that the reticulo-endothelial system, on the activity of which the threshold value must in part depend, functions equally in every individual. It is, however, known that if the haemolysis be slow and gradual, as in pernicious anaemia, or even sudden but relatively slight, as in malaria, haemoglobin does not appear in the urine.

Turning now to the question of quinine haemolysis *in vivo*, it is conceivable that if quinine can produce haemolysis sufficient to cause the appearance of haemoglobin in the urine, cases might occur in which the degree of haemolysis is so slight that the free haemoglobin can be disposed of entirely by the reticulo-endothelial system without the appearance of haemoglobinuria. References to this possibility are relatively few. Koch (1898) stated that after the administration of quinine an attack of icterus may occur. Blacklock (1923) believes that haemolysis with slight jaundice can occur without haemoglobinuria and that this condition is frequently due to the same cause as blackwater fever.

The following case is reported as an example of haemolytic jaundice after quinine treatment without the development of haemoglobinuria.

A male European, aged 11, was admitted to Salisbury Hospital under the care of one of us (G. H. P.) as a "pre-blackwater case" on March 4th, 1926. A history was obtained of repeated attacks of malaria throughout the previous six months. The patient was pale, sallow, and thin. He exhibited characteristic malarial cachexia with lemon-yellow conjunctivae. There was, however, no clinical jaundice in the true sense of the term. A blood examination on the day of admission gave the following result: Red blood corpuscles 1,300,000 per c.mm., white blood corpuscles 5,700 per c.mm., haemoglobin 39 per cent. The red cells did not exhibit any abnormality except occasional polychromasia. A differential count showed: Polymorphonuclears 56 per cent., lymphocytes 21 per cent., mononuclears 20 per cent., eosinophils 2 per cent., transitionals 1 per cent. No malarial parasites were seen.

Examination for parasites was also negative on March 6th, 7th, and 9th. The spleen was enlarged to two fingerbreadths below the costal margin. The treatment adopted was on general lines, including the exhibition of liquor arsenicalis and sodium bicarbonate with ample quantities of fluid fluids. On March 9th, acting on the assumption that antimalarial treatment was indicated, quinine therapy was instituted, starting with extremely small doses in view of the possible onset of haemoglobinuria.

Thus on March 9th 1/32 grain of quinine bihydrochloride was given; on March 12th the dose was increased to 1/32 grain thrice daily, on March 14th to 1/16 grain thrice daily, on March 15th to 1/8 grain thrice daily, on March 18th to 1/4 grain thrice daily, on March 19th to 1/2 grain thrice daily.

On March 20th the patient complained of severe headache, nausea, and splenic pain. The spleen was now four fingerbreadths below the costal margin. There was slight vomiting, and the temperature, which had been rather febrile for about a week, rose to 100.2°, and on the two succeeding days reached maxima of 100.8° and 100.6°. On the morning of March 21st the patient was obviously jaundiced, and in the course of a few hours became intensely so. Blood counts done on this day gave the following results: Red blood cells 1,250,000 per c.mm., white blood cells 6,000, haemoglobin 35 per cent. Fouchet's test for bile pigment in the serum was positive. The van den Bergh test gave a positive indirect reaction, and the number of units of bilirubin present, as estimated by the Tannhäuser and Andersen technique, was 2.5. Blood smears were examined on March 21st, 22nd, 23rd, and 24th, but the red cells showed no abnormality and malarial parasites were absent.

Quinine was immediately stopped and the icterus completely disappeared in the course of two days. The temperature came down to normal, and the pulse, which in the pre-icteric period had varied between 80 and 90, and which during the icterus varied between 120 and 140, returned to its former level. The stools were normally coloured throughout the icterus. An estimation of bilirubin made on March 24th showed 0.75 unit to be present in the serum, which is slightly in excess of normal.

The patient was given injections of sodium methylarsenate and was kept under observation for a period of fourteen days, during which no untoward symptoms developed. The urine was examined daily, in twenty-four hour specimens, for blood pigment, during the icteric period, by the benzidine test and spectroscopically; the results were invariably negative. Urobilin was never present in a greater dilution than 1 in 10 (Marcussen and Hansen technique).

This case, in our opinion, is an example of an intravascular haemolysis, evidenced by jaundice, but with no accompanying haemoglobinuria. There can be no doubt that the jaundice was haemolytic in type. As regards the relationship of quinine to the intravascular haemolysis, it is true that the icterus did not make its appearance clinically until the twelfth day after the institution of quinine treatment, but it must be remembered that the sallowness of the patient and the lemon-yellow conjunctivae, so characteristic of chronic malaria, prevented the appreciation of slight additional degrees of icterus.

Again, the dosage of quinine was exceedingly small; only 1½ grains were being given daily, and only 5½ grains had been administered altogether when the jaundice became clinically apparent.

The disappearance of the icterus on the stoppage of quinine treatment affords additional support to our belief that the quinine acted as a haemolytic agent.

The interest of the case, however, lies mainly in the fact that, while intravascular haemolysis sufficient to produce marked clinical jaundice had taken place, haemoglobinuria did not develop.

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DETOXICATION IN THE TREATMENT OF BURNS.

BY

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DETOXICATION, as part of the treatment of burns and scalds, has not received the attention it deserves, though burns owe most of their deadliness to toxaemia. In the course of prolonged inquiries in many directions I have come across only one man who had used a dressing with detoxicating properties; this was an application of ichthyol and glycerin, covered over with boric fomentations. None of the younger men had heard of such treatment, which is the more remarkable in view of the great advances made in the treatment of infected wounds during the latter part of the war.

In most hospitals burns are treated in the surgical wards, but since there appears to be nothing to do after treating the initial shock and ordering an admittedly unsatisfactory dressing, a "burn" becomes a purely medical case. The patient has a grave systemic disturbance which is not to be benefited by any surgical measures, unless possibly blood transfusion. There is, however, a method of local treatment lying ready to our hands, and only waiting to be applied. It is a great deal easier to prevent poisons from entering the system than it is to get them out before they can do harm, and it is more rational.

Toxaemia, it should be realized, comes on very quickly —long before septic processes have had time to become established. It is caused solely at first by the products of decomposition of the proteins of the tissues which the heat or chemical has killed. According to Dale, in a recently published lecture on the function of the capillaries in the control of the circulation (*University of London Press*, p. 18), "a simple extract, made by boiling the fresh tissue of almost any organ of the body, will be found to contain some substance or substances having this histamine-like action"—histamine being one of the definitely identified and intensely poisonous substances that are formed in protein decomposition. These substances cause relaxation of capillary tonus and general collapse of the patient. Further proof, if it were needed, that local exudations do find their way quickly into the general circulation is afforded by observations on patients who happen to be anaphylactic to such substances. In them the characteristic phenomena will appear within an hour or two, to be relieved again as quickly by applying the treatment to be described.

The first indication, then, is to induce abundant serous exudation, and the second is to get it away from the damaged surface. Wax (containing antiseptics) no doubt forms a valuable first-aid covering, but a patient upon whom I tried a prolonged course of this dressing developed tetanus and died. Such an application is obviously useless as a detoxicating agent. As for oil, how can a dressing impregnated with it, or any greasy ointment, soak up poisonous exudate, even if it be on the surface and awaiting removal? Baths have been advocated, but I have heard of none other than of plain water or normal saline. Picric acid has antiseptic properties, but how can it fulfil the above two indications? It is applied in hypotonic watery solution, or even with the addition of something more hypotonic still—namely, alcohol. Its advocates say: "Keep the skin dry and change the dressings as infrequently as possible." How is that to prevent the absorption of the poisons from the layers that are just too deep to be affected by the drying process? Decomposition progresses there unhindered, and there is nothing to divert the foul products from travelling inwards. Such desiccation can at best be only superficial. Another aqueous dressing that is used is solution of aluminium acetate (1 per cent.), but it is found to be of little value in limiting sepsis, and obviously it will fail in the osmosis test.

The only substances I have used to provoke osmosis towards the surface are sodium chloride and glycerin. Professor McLeod of Leeds has tested them for me in various concentrations against fresh red cells. He found that with sodium chloride it was possible to go up to 4 or 5 per cent. without readily haemolysing, but he found glycerin haemolytic in all strengths from 2 per cent. upwards. Nevertheless, the presence of sodium chloride of 3 to 5 per cent. along with it afforded appreciable protection to the cells. Other substances more suitable may be found, but there is no gainsaying the physical effectiveness of the two mentioned. Professor McLeod tried magnesium sulphate and sodium sulphate also, but found the results variable, owing to difference in composition. Both salts are capable of holding two different quantities of water of crystallization.

I have used this method in four or five bad cases.

CASE I.

A girl, aged 18, received burns over about two-thirds of the surface of both legs and thighs and her buttocks. Within a few hours she began to vomit—the next grave symptom after the initial shock. The special dressing was applied and the vomiting ceased within three or four hours, and she was able to take plenty of food. She improved steadily week by week till some six or eight weeks later, when I consented to a less troublesome form of dressing being tried—namely, boric fomentations. Care was to be taken to keep them hypertonic, by adding no more water to the lint than was needed to wet it. (A semi-saturated solution of boric acid is, I believe, isotonic.) The result was tragic. Vomiting began again within a few hours, and the patient died the next day.

CASE II.

This patient was a child, who was burnt about the chest, shoulders, and neck. He was in hospital three months or more, and several times the lines originally laid down for treatment were departed from. Ointment, though less painful in use, was always accompanied by a change for the worse in the general condition, and much the same happened with boric fomentations.

CASE III.

This patient was a healthy young farmer who weighed 19 st. His injuries were caused by the accidental ignition of petrol, and, as in the first case, they affected chiefly the backs of his legs, thighs, and buttocks, though his face and hands were touched also. I saw him about an hour and a half after the accident. There was then little evidence of shock, though he was in a good deal of pain. I gave him 1/4 grain of morphine hypodermically and wrapped him up in blankets over what clothes he still had on—his legs were burnt quite bare—and sent him to a nursing home. The remaining portions of his clothing were removed without an anaesthetic, and the special dressings applied to all burnt parts. He vomited four times during the first night, and twice more in the next twenty-four hours, and that was all. The skin sloughed over larger areas for its whole thickness, and behind the knees and on the left calf the burns were deeper still, one tendon being exposed. Although his evening temperature was about 100° F. for the first fortnight or so, his appetite was good throughout. He ate well of fish and such-like light diet, and drank large quantities, for he was often genuinely thirsty. Towards the end of his seventeen weeks in the home he was touched up in a few places with blue-stone and had a few applications of direct sunlight. Apart from these he had no treatment other than hypertonic saline containing also eusol and glycerin. He made a perfect recovery, without undue scarring.

CASE IV.

A child, aged about 12, was scalded over the lower abdomen and thighs through the tearing of a rubber hot-water bottle. She did not do well, dying at the end of three weeks with bronchopneumonia and a scarlatiniform rash. The solution used for the dressings was eusol of one-quarter of standard strength, containing also glycerin to the amount of 11 per cent. by volume and sodium chloride 2½ per cent. The burnt surfaces never looked healthy. I think now that she had a great deal too much glycerin and too little sodium chloride.

CASE V.

The only other case extensive enough to record was that of a girl, aged 22, who spilt boiling water down the side of her leg. I could not observe her progress closely, but she had neither glycerin nor eusol, but boric lint moistened with salt solution of about 4 per cent. She made good and rapid progress all the time.

I prefer eusol as a germicide for two reasons. The first is the obvious one that it really is germicidal, provided only that it is not destroyed by overheating—even by pouring hot water into it. The second is that any harmful effect it has on the tissues is only intermittent in character, owing to its instability. Its characteristic odour is gone in two hours or less in spite of a covering of jaconet, after which the dressing remains as an aseptic one only. I think it ought to be used for the first few days in every case, though the experience of my last case seems to suggest that an antiseptic stronger than boric acid is possibly not needed at all with this method.

Hypertonic dressings need to be changed frequently, for in remaining they rapidly lose this special property, besides endangering the cleanness of the bed. A macintosh is essential. The dressings should be thoroughly wet when applied, and may be expected to be absolutely dripping when taken off, besides leaving pools on the macintosh sheet. My third patient used to complain pretty regularly of increasing discomfort whenever a dressing had remained on three hours. He would ask to be re-dressed, in spite of the pain attached to the process.

Convenient solutions can be prepared thus:

	I.	
Standard eusol solution	...	1 part (20%)
10 per cent. saline solution	...	2 parts (NaCl 4%)
Water	...	2 parts
	II.	
Standard eusol solution	...	1 part (25%)
10 per cent. saline solution	...	1½ parts (NaCl 3.75%)
Water	...	to 4 parts

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

THE OPERATION OF TONSILLECTOMY.

A DESCRIPTION of the ambidextrous method of tonsillectomy may interest those unfamiliar with it.

Doyén's gag is introduced from the right side and ethyl chloride is administered. The surgeon stands behind the patient's head, which is drawn over the end of the table. A blunt guillotine (McKenzie's or Heath's) of suitable size is selected, and a La Force adenotome is laid ready to hand. In "slow motion" the subsequent steps are as follows.

If the right tonsil is to be removed first, the guillotine is held in the left hand. With elbow raised and wrist pronated it is passed, handle upwards, into the pharynx, elevating the tongue. A momentary inspection of the fauces is made.

The second combined movement in three planes resembles a parry in fencing: supination of the forearm rotates the instrument through a right angle, abduction of the hand carries it obliquely across the patient's mouth, and flexion of the elbow dislocates the tonsil forwards for about an inch.

The third stage is commenced by levering the anterior pillar of the fauces inwards with the palmar aspect of the right forefinger until the sulcus around the tonsil can be engaged by the cutting edge. As the left thumb presses the blade home the right forefinger is swept firmly upwards towards the root of the tongue, pressing the whole tonsil through the ring.

A final circling movement, which brings the guillotine back to its original position, handle upwards, is continued by steadying the instrument with the right hand, thrusting it a short way down the throat, and withdrawing it, together with the enucleated tonsil.

The guillotine is transferred to the right hand and manipulated in a corresponding manner for the removal of the left tonsil.

The adenotome is passed into the pharynx with the right hand. Retracting the soft palate with the left forefinger, the handle of the instrument is carried towards the patient's chest, so that the other end glides upwards. Pressing firmly on the posterior nasopharyngeal wall, the blade is thrust home, removing intact the adenoid mass, in which deep vertical clefts are apparent.

The patient is turned over on the right side and cold compresses are applied to the face.

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INTESTINAL OBSTRUCTION FROM UNDIGESTED POTATO.

ILEUS in association with foreign bodies in the intestine is familiar, the commonest foreign body being, of course, a gall stone. It is rare, however, for foodstuffs to survive the softening influence of gastric digestion, to pass the pyloric sphincter, and to escape into the intestine in sufficient bulk to produce an actual obstruction. The case here reported will serve to illustrate that acute obstruction may result from this cause.

A hawker, aged 66, had a meal in a common lodging-house at 10 o'clock one Sunday night. He ate heartily of a dish consisting of meat, potatoes, and suet, and recollected gulping chunks of food, the cooking of which was not above suspicion. About 1 o'clock the following morning—that is, three hours after his meal—he was wakened by severe pain, and about an hour later he vomited. Occasional vomiting and colicky pains continued until his admission to hospital, about eighteen hours after the commencement of the illness.

He was a spare, but tough, man. The pulse was 72 and the temperature 99° F. His teeth were in a deplorable state, and he was not possessed of any adequate chewing mechanism. When first seen he had little pain. The abdomen was not distended, nor was there visible peristalsis. Abdominal palpation afforded no clue. Rectal examination was negative, and examination of the hernial sites disclosed no abnormality. Repeated enemas emptied the lower bowel, but, thereafter, neither faeces nor flatus were passed. In view of the history, and of the fact that the pulse was not rising, it was resolved to wait. In the early hours of Tuesday morning the vomiting became frequent, copious, and definitely faecal in character. The abdomen remained flaccid. A diagnosis of intestinal obstruction was made, and at 10.30 a.m. the abdomen was opened. On passing the hand into the pelvis a rounded hard mass, at first thought to be a gall stone, was felt in the lower ileum. The intestine, which was healthy and of about normal calibre, was delivered through the wound, incised, and the foreign body removed. Examination proved it to be a hard, partly cooked, wart-like mass of potato weighing 14 grams. Its size was, in itself, insufficient to produce obstruction, and there is no doubt that it would have easily passed along had the intestine been at all dilated. Local spasm of the gut was the deciding factor in the production of the blockage. After suturing the intestine the abdomen was closed. Recovery was uneventful, and the patient left hospital for a convalescent home on the fourteenth day.

A possible sequence of events can be made out in this case. Severe pain commenced three hours after the meal; and was probably associated with the passage of the potato through the pylorus. Once in the small bowel peristalsis was able to move the foreign body as far as the lower ileum, until, progress retarded, a second obstructive attack, accompanied by faecal vomiting, occurred.

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OSTEOMYELITIS OF RIB.

CASES of acute osteomyelitis of ribs are so uncommon that an account of the following may be of interest.

A boy, aged 16, was admitted to the Eccles and Patricroft Hospital, Manchester, on July 23rd, 1926, complaining of pain in the left side of the chest. This had come on ten days previously. There was no history of injury. The pain was most acute on the left side towards a point in the anterior axillary line over the fifth rib. The boy was acutely ill, with a temperature of 103°, pulse 108, and respirations 28. He was sweating profusely and there was a strong sourish smell that was not unsuggestive of rheumatic fever. There was a swelling over the fifth rib extending from axilla to sternum; it was exquisitely tender to touch and was pulsating, owing to transmitted impulse from the heart. The whole of the chest in the region of the swelling was dull to percussion, and it was impossible to define the area of cardiac dullness. The swelling was explored with a needle and free pus withdrawn.

Operation by Mr. Jefferson.

Anaesthesia was produced by open ether, and an incision four inches long was made over the swelling and deepened until pus was found; some 8 to 10 ounces escaped. Pus was seen to be welling up through an opening in the intercostal muscle, and the upper part of the fifth rib in the neighbourhood of the aperture was bare of periosteum. Three inches of the rib were removed. Pus was seen to ooze out of the rib medulla as the bone was cut through. The inner layer of periosteum was found to be largely destroyed. The deeper wall of the cavity appeared to be composed of fine vascular adhesions over the pleura. These were not disturbed for fear of pleural infection. The inner abscess wall pulsated freely with the heart beat.

The pathologist reported infection by *Staphylococcus aureus*. The infection did not spread to the pleura, and uninterrupted recovery followed.

One point of interest was that the infection appeared to have begun in the rib near to its union with the costal cartilage, and in this matter conforms with the rule observed in osteomyelitis of the long bones. The disease begins on the metaphyseal side of the epiphyseal line.

An account of acute osteomyelitis of ribs was published by Parcelier and Chauvenent of Bordeaux.[1] They gave an account of six cases and showed a table of 83 recorded cases; a pathological report was available in only 32. The pathology of this condition does not differ from osteomyelitis of the long bones. The typhoid bacillus was found once, and the pneumococcus twice.

The first case of primary osteomyelitis of ribs was recorded by Jaboulay in 1885. Michelson[2] quotes 16 personal cases. Fantozzi could find but one case over a period of twenty-five years.

It seems that the condition is seen more often between the ages of 10 and 16, and in boys rather than girls. The left side is more often affected. The seventh rib is the commonest site, then come the fifth and ninth respectively.

I am indebted to Mr. Jefferson, consultant surgeon at Eccles and Patricroft Hospital, for permission to publish this case.

Bradford. M. Y. PAGET, M.R.C.S., L.R.C.P.

[1] Parcelier and Chauvenent: *Arch. de Chirurgie*., 1924.
[2] Michelson: *Arch. f. klin. Chirurg*., 1922.

Reports of Societies.

POLYCYTHAEMIA VERA.

A CLINICAL meeting of the Devon and Exeter Medico-Chirurgical Society was held on December 10th, 1926, when the President, Mr. R. WORTHINGTON, was in the chair, and Dr. F. A. ROPER showed a case of polycythaemia vera —Vaquez's disease.

Dr. Roper said that the patient, a man aged 59, had given a history of shortness of breath with fainting attacks over a period of three and a half years; he had the typical cyanotic complexion, and there was a considerably enlarged spleen. The red cells numbered 12,840,000 per c.mm., and the leucocytes 11,900, the haemoglobin being 110 per cent. Dr. Roper explained that the infection consisted of a hyperplasia of unknown origin of the erythroblastic tissues. The same blood picture occurred to a partial extent in emphysema, congenital heart disease, and among those sojourning in high altitudes. Fainting attacks and shortness of breath, as in this case, were the earlier symptoms, and should be attributed to the increased viscosity of the blood. Nephritis, oedema of the extremities, and ascites might be expected in the later stages.

Dr. W. GORDON alluded to a case he had seen in Vienna, where a similar condition of the blood was produced by syphilitic disease of the pulmonary vessels. This particular affection was sometimes known as Ayerza's disease, whereas it should be generally accredited (instead of alternatively as now obtained) to Osler, who originally described it. Dr. Gordon mentioned the value of benzol in the treatment, and congratulated Dr. Roper on having brought to the notice of the meeting a typical instance of a most interesting and most uncommon condition.

Dr. D. MILLER MUIR said he would like to see the effect of x rays on this case. In a similar one the treatment was not completed, and he was not able to form an opinion as to its value.

Dr. ROPER, in replying, agreed to the value of the benzol group, and in reply to Dr. Miller Muir said that x rays in association with benzol might be given a trial. With this combination he had seen a considerable reduction of leucocytes in a case of splenomedullary leukaemia.

Clinical Cases.

Dr. ROPER showed also a case of hyperthyroidism with glycosuria in which considerable progress had been made with insulin treatment. The patient, a man aged 26, was admitted to hospital with pronounced muscular weakness, wasting, and diffuse thyroid enlargement. Glycosuria appeared some four weeks after admission, during which period he had continued to waste. Under treatment with insulin he gained 2 st. in weight *in three months*. The blood sugar curve after a glucose test meal was atypical and acidosis was absent. Insulin was commenced with 10 units and increased to 34. The *man was not placed on a special* diet. There was still a trace of glucose in the urine. Dr. Roper explained that experiments on animals had proved that insulin definitely lowered the *metabolic* rate by virtue of the resulting hypoglycaemia, whereas the metabolic rate was increased in *hyperthyroidism*.

The PRESIDENT showed, *in conjunction with* Mr. A. L. CANDLER, a case of mastoid abscess with sinus thrombosis and secondary pyaemic arthritis of the knee-joint in a girl aged 14. Operation revealed considerable suppuration, with invasion of the lateral sinus, the latter being packed; two days later the symptoms had necessitated ligature of the internal jugular and a wide opening of the lateral sinus. In spite of this a rigor occurred in twenty-four hours from the operation, and six days later was followed by pain and swelling in the right knee-joint, which was aspirated, staphylococci being found. Ether was injected into the joint and collosol iodine given intravenously. The patient was now convalescent, and the wounds had almost healed; the knee-joint, although still a trifle enlarged, was perfect as regards movements. An additional point of interest was the occasioning of the secondary joint infection without definite evidence of an immediate pulmonary lesion.

Dr. R. EAGER showed a girl, aged 19, with Parkinsonian symptoms; the case was typical of the post-encephalitic group, *although the history of the acute illness was not* clearly established. The earliest manifestations had followed an attack resembling influenza some three years previously; the patient became unemployable, drifted into a Poor Law infirmary, and from thence was transferred to the Devon County Mental Hospital. On admission she was depressed, unable to sit up, and took no interest in her surroundings. There was rigidity of muscle, double ptosis, mask-like symptoms, and excessive salivation. Under hyoscine there had been a distinct improvement as regards the lethargic condition, and the salivation had been held in check by belladonna. Dr. Eager remarked that the chronic lethargic stage which followed the acute delirious stage of encephalitis was not infrequently mistaken for hysteria; there were periods of unusual activity, and then relapse once again into the lethargic stage. This girl was an example of the alternating type, and had surprised those in charge of her by winning a race last summer. Dr. Eager also drew attention to the alteration in temper in these cases, and to the tendency to become impulsive; it was thus sometimes necessary to distinguish between post-encephalitic symptoms and dementia praecox.

Dr. A. L. CROCKFORD showed an infant, aged 5 months, with multiple meningocele in the occipital region. The protrusions were about the size of a large cherry, and in all other respects the infant was normal and in good health. During a two months' observation no fits or other symptoms had occurred to suggest cerebral irritation. Dr. Crockford had felt uneasy about the central tumour. Mr. DYBALL *considered that multiple meningoceles were rare*, and especially so in the occipital region. He counselled an expectant line of treatment for the present, with the hope that Nature would close the cleft.

Mr. B. DYBALL showed a young man who had had a swelling in the right iliac fossa. Originally the radiogram showed an obstruction apparently in the proximal part of the transverse colon, and an operation had brought to light a primary growth at the ileo-caecal valve. The diseased caecum had become attached to a freely movable transverse colon. A secondary growth was also noted on the colon, some two inches of normal intestine intervening between this nodule and the point of adhesion to the caecum. The caecum and diseased gut were freely resected and ileo-colostomy performed. The man had made an excellent recovery, and Mr. Dyball considered that the prognosis was very hopeful. Dr. JACKSON mentioned two cases admitted to hospital with similar symptoms, and where a diagnosis of caecal growth had been made; in one the diagnosis had proved correct at the operation, but in the other the mass had been found to be a displaced kidney.

Mr. DYBALL also showed a man, aged 29, who, *in falling* 20 ft., injured the right leg, and was admitted to hospital with pain in the right hip, crepitus over the great trochanter, half an inch shortening, and outward rotation. *The radiogram* showed a trochanteric fracture, and in view of the uncontrolled eversion and rotation operation was performed and the fragments screwed together. Mr. Dyball said that these fractures were very rare, and that in addition to the uncontrolled movements there was considerable blood clot in the joint, which in itself often proved a barrier to reduction.

Mr. DYBALL further showed a man (middle aged) *with* multiple papillomata of the bladder; the first operation for this had been performed in 1920 by the suprapubic route. Haematuria had occurred in November, 1926, and on admission to hospital cystoscopy had shown several growths. Suprapubic cystotomy was performed, and one large papilloma and four or five smaller had been excised; their bases were treated by diathermy. The bladder wall was closed and the bladder drained by indwelling catheter. Mr. Dyball, in replying to questions, said that the size and pedicle of the tumour revealed by cystoscopy determined him in choosing the *suprapubic route*, and in any case the scattered growths would have taken many long sittings to eradicate thoroughly per urethram. He appreciated the disadvantage of the suprapubic method in that the bladder was less easily maintained filled with fluid, and thus arose the liability to reimplant the villi, but in this instance it had been possible to carry out the precaution efficiently.

The growths were too far apart to make resection a practical consideration.

Mr. R. WAYLAND SMITH showed a man, aged 27, with spastic paralysis of the left arm dating from birth. The hand was acutely flexed at the wrist, and was quite useless. An interesting feature in this case was the automatism in the left hand, any movement performed by the right hand being attempted simultaneously and involuntarily by the left. Mr. Wayland Smith also showed a man in whom there was complete transposition of the viscera of the chest and abdomen, the latter being further demonstrated by skiagrams taken after a bismuth meal.

AN OBSCURE UTERINE NEOPLASM.

AT a meeting of the North of England Obstetrical and Gynaecological Society in Leeds, on December 17th, 1926, the President, Mr. W. GOUGH (Leeds), delivered a valedictory address entitled "Some reflections," and Dr. D. DOUGAL (Manchester) described an unusual diffuse uterine tumour.

Dr. Dougal said he had removed the specimens exhibited from a single woman, aged 43, whose main symptom was persistent haemorrhage for about five months. Previous to this she had lost somewhat excessively at the menstrual periods for about a year. She had very little pain. A diagnosis of uterine fibroid was made, and the uterus was removed subtotally with the left appendage, the right ovary being left. The uterus was enlarged and globular, about the size of a two months' pregnancy, and very hard. An incision was made through its anterior wall during the operation, and it was found that the tumour was not encapsuled, but diffuse with polypoid extensions into the cavity. It was thought at this time that the tumour was probably an adenomyoma becoming submucous, and no malignancy was suspected. The patient made an uninterrupted recovery, and was discharged in between two and three weeks. On examining sections from the tumour it was found that the original diagnosis of adenomyoma was wrong, as there were no obvious glandular structures to be seen in any of the sections. Dr. Dougal had thought this very unusual, and could find no reference to any growth of this kind until he was informed of an article written in 1919 by Casler, describing a similar case. A drawing of the uterus made on the day of operation gave a very good idea of the naked-eye appearances. The tumour was in the fundus of the uterus, slightly on the posterior aspect. It was a diffuse growth, and consisted of fibro-muscular trabeculae, among which were scattered islands of softer tissue. These islands projected from the surface when the tumour was cut through, and gave a very peculiar appearance to it. The cut surface of the tumour had not the homogeneous cheesy appearance usually associated with sarcomata, and there was no cystic formation. The cavity of the uterus was occupied by a number of polypi, pale in colour; these, again, did not suggest sarcoma. The polypi consisted of tissue very similar to the endometrial stroma. There were many oval cells closely packed together, and at the inner part there was a good deal of blood extravasation. The polypi were covered by a single layer of columnar epithelium. *There were no glands to be seen*, and none of the cells were definitely of malignant type. Lining the unaffected parts of the endometrium there was a normal mucous membrane, but somewhat compressed, and the compression was more marked nearer the polypoid formation. Deeper in the uterine wall were islands of cellular tissue amidst the muscular bundles. Here again the cells were of the same type, and there was no necrosis to be observed. The growth seemed to have pushed in among the muscular bundles and displaced them, or, as in some parts of the section, had actually destroyed them by compression. There were areas where the stromal tissue had the appearance of travelling along veins or lymphatics, but Dr. Dougal was doubtful if this was actually the case. Nearer the serous surface some of the cellular spaces gave a somewhat different appearance. In these, in addition to the ordinary stroma cells, there were a few lines of larger cells, which appeared to be the remains of broken-down glands. The tumour was evidently either a sarcoma or a benign tumour of the endometrial stroma, which had grown first into the wall of the uterus and later towards the cavity in the form of polypi. The speaker added that the case described by Casler was of exactly similar type, and had been considered to be an endometrioma without glands.

The PRESIDENT thought that the tumour was probably an endometrioma. Professor M. H. PHILLIPS (Sheffield) had, on first examining the sections, thought it to be a sarcoma, but had changed to the view that it was an endometrioma. Mr. W. W. KING (Sheffield) said that if the endometrial stroma was invading the muscle the tumour should be described as a sarcoma.

Concealed Accidental Haemorrhage.

Mr. W. W. KING (Sheffield) described two cases of concealed accidental haemorrhage with special reference to the histological condition of the muscle. The first patient, aged 33, a multipara, eight months pregnant, had had abdominal pain and bleeding for a week; she presented the typical picture of concealed accidental haemorrhage—namely, pallor, rapid pulse, and a hard and tender uterus. There was no urine in the bladder. At the operation it was found that the uterus was plum-coloured from effused blood. There was free blood in the peritoneal cavity and large haematomata in both broad ligaments. Hysterectomy was performed, but the patient died in a few hours from shock. Mr. King's second patient was an unmarried girl, aged 22, who was not known to be pregnant until she was taken ill early one morning. She was thought to be in labour, as the cervix was dilating and there was a little haemorrhage. The uterus was noted to be hard, but not tender. The pulse was 80, but a few hours later became rapid. Jaundice was noted, and the uterus though still hard was not tender. A diagnosis of concealed accidental haemorrhage was made. The bladder was empty and no urine had been passed for twelve hours. At the operation the uterus was found to be plum-coloured and there were large haematomata in the broad ligament, but no free blood in the peritoneal cavity. Caesarean section was performed and the uterus contracted well, but the patient died an hour later from shock. Histological examination of the uterine muscle in both cases showed that the muscle was quite healthy except for a few small areas which had apparently been cut off by haemorrhage; the fibres stained badly and the nuclei were indistinct. The myometrium was infiltrated with blood and the extravasation was most marked at the inner and outer surface. There was no evidence of permeation through the uterine wall, as would have been the case if the blood had spread outwards from the cavity of the uterus. Thrombosed vessels were to be seen. In the first case leucocytes were present under the retroplacental haemorrhage and around some of the vessels. They were apparently phagocytic rather than inflammatory in origin. A third specimen had also been examined, which was removed from a woman who died shortly after an ordinary ante-partum haemorrhage. Naked-eye haemorrhages could easily be seen on the surface and in the muscle. The histological appearance was identical with the other specimens, except that it was possible to demonstrate the actual rupture of a vein. This appeared to show that there was serious obstruction to the venous flow of a mechanical type. The whole picture of the uteri, both to the naked eye and histologically, suggested the occlusion of the large vessels rather than a permeation of the blood through them as a result of damage to their endothelial lining. Young had noted the same fact, and postulated an intravascular clotting from some unknown cause. Morse had explained the appearance of the uterus upon a theory of torsion of the whole uterus; and Pollock and others had noted extreme torsion of the uterus from left to right. Torsion of myomatous uteri was well known to occur, so that there was nothing impossible in a theory of torsion of the pregnant uterus. The greatest difficulty in accepting this explanation was the frequency of albuminuria at the time of haemorrhage. There was no sufficient evidence that albuminuria often preceded accidental haemorrhage, so it could not be casual. The condition was generally considered to

be some sort of manifestation of toxaemia, but if so, it was different, as Whitridge Williams had said, from any of the ordinary types of pregnancy toxaemia. Young had considered the albuminuria to be only the result of the autolysis of the separated placenta, but his theory was as yet unproved. Hofbauer had produced evidence in favour of histamine as the causative factor, and had reproduced the phenomena of concealed accidental haemorrhage in guinea-pigs by causing acute histamine poisoning. The correct treatment was intimately bound up with the condition of the uterine muscle. Hysterectomy was advocated because the muscle was supposed to be diseased, but this had now been proved not to be the case histologically, and, clinically, it was well recognized that it had not lost its contractile powers, and further, that repeated pregnancies were possible and safe. Apart from exceptional cases there was, therefore, no justification for Caesarean section in these cases. Gibbon FitzGibbon had sometimes treated concealed accidental haemorrhage with success by palliative measures, and this appeared to be as rational as it was irrational to operate upon a woman in profound shock without any clearly defined reason, as had been done in the past.

Professor FLETCHER SHAW (Manchester) said that Dr. King had quoted the figures of a number of maternity hospitals, which showed that albuminuria only occurred in about 30 per cent. of the cases of accidental haemorrhage, and had cited Whitridge Williams as giving the figure at 26 per cent. Professor Shaw disagreed with these figures, and thought the mistake arose from the difficulty in making a diagnosis of accidental haemorrhage. When a patient, far advanced in pregnancy, was brought into a maternity hospital suffering from haemorrhage the diagnosis of placenta praevia was made if the placenta could be felt, and in other cases the diagnosis of accidental haemorrhage was made. These cases of accidental haemorrhage thus diagnosed fell into two main clinical groups; in one the symptoms were comparatively slight, especially the symptom of shock, and this group contained the great bulk of these patients; he felt sure the large majority of these were really instances of marginal placenta praevia. The treatment of these cases was very simple, as practically all the patients recovered if the membranes were ruptured and ergot or pituitrin was administered, or the vagina was tightly packed, as was done in the Dublin school. The other clinical group contained a comparatively small number of cases, but here the patient suffered severely from shock and signs of haemorrhage. These were the patients in whom treatment was not always satisfactory. They were definitely cases of accidental haemorrhage, and in his experience every one of them had albuminuria. It was quite possible that there might be some other factor with the toxaemia as a causative agent of the condition, but he felt sure the toxaemia was always present. As another proof that the condition was due to a general cause such as a toxaemia, he mentioned the fact that in all these severe cases there were large haematomata formed outside the uterus, therefore the condition must be looked upon as a general one and not as a mere local cause affecting the uterus alone. Severe accidental haemorrhage constituted one of the most serious groups of cases met with in obstetrical practice, and there was always a high mortality. If the vagina was packed or the membranes ruptured, and pituitrin or ergot administered, a few of these patients failed to respond, and either died of haemorrhage before the child was born, or, if the uterus was emptied, from post-partum haemorrhage soon afterwards. There were very few of these severe cases, but he felt, when they occurred, that the best treatment was Caesarean section followed by hysterectomy. He himself had treated six in a period of three years during the war, and had saved half of them, but he had never met a single one since that time in which he felt called upon to perform abdominal section.

Dr. J. E. STACEY (Sheffield) submitted figures on ante-partum haemorrhage, and concluded that in both accidental haemorrhage and placenta praevia the cause was toxaemia.

The PRESIDENT considered that the treatment should be palliative in every case.

CAUSES OF DYSTOCIA.

At a meeting of the Midland Obstetrical and Gynaecological Society at the Derbyshire Royal Infirmary, on December 14th, 1926, Mr. FURNEAUX JORDAN (Birmingham), the President, in the chair, Dr. C. D. LOCHRANE (Derby) reported two cases of dystocia. Dr. Lochrane said that in his first case the dystocia was due to a large placenta, and the clinical details were as follows.

The patient was an 8-para; all children were full time and healthy, and there had been no miscarriages. On June 1st, 1925, Dr. Lochrane found the head of the foetus born, but the trunk could not be delivered on account of a firm irregular mass obstructing the upper half of the pelvis. Previously there had been a slight ante-partum haemorrhage, and, although the pains had been strong, the head had only descended to its present position after this mass had been pushed aside. As moderate traction failed to achieve progress in delivery, the patient was deeply anaesthetized with chloroform and morphine, and after considerable difficulty the mass was pushed up and manipulated above the brim of the pelvis. This allowed the shoulders and the remainder of a well developed 10 lb. foetus to be delivered without great difficulty. The foetus showed no oedema or other external abnormality. Half an hour later a huge, thick, solid placenta, not markedly oedematous, but weighing 3 lb. 3 oz., was delivered. Microscopically the placental tissue was found to be unduly dense; no spirochaetes were found.

Dr. Lochrane said that dystocia from this cause must be very rare; he personally had never heard of another case. The clinical and pathological picture did not support the view that oedema from albuminuria was a predominating factor in the production of this huge organ, and there was no suggestion of syphilis, although unfortunately a Wassermann test had not been performed.

Dr. Lochrane also reported a case of dystocia due to sacculation of the gravid uterus, with the following clinical details.

A primipara, aged 23, was admitted to the Derbyshire Hospital for Women on March 7th, 1926, with a history of having been in labour forty hours. Her temperature was 98.6°; her pulse 86, and her general condition was good. Examination showed the uterus unduly prominent, and in a state approaching a tonic contraction; the presentation was a breech, and the rate of the foetal heart was 114. By vaginal examination the os was found to be of two fingerbreadths and displaced upwards; a cystic mass the size of a Jaffa orange, and continuous with the uterus, occupied the pouch of Douglas. An alternative diagnosis of a soft fibroid of the lower pole of the uterus or a non-pregnant horn of a bicornuate uterus obstructing labour was made. At the Caesarean section, performed immediately, the lower uterine segment was found stretched over the lower pole of the foetus, which, being removed, allowed the elevation of the uterus, including the intra-pelvic portion. This latter was non-adherent, and easily released, being held down by a prominent sacral promontory. The appearance of the uterus at this stage was bicornuate; the left cornua, which contained the placenta, was found to be the portion of the uterus which was incarcerated in the pelvis. After manipulating the organ to secure good contraction, the dividing ridge gradually disappeared and all trace of the bicornuate appearance was lost before the abdomen was closed.

Dr. Lochrane remarked that in this case it was the rather less distensible part of the uterine wall comprising the site of placental attachment which had been incarcerated or sacculated. Without being able to give any figures, he was under the impression that a similar observation had been made by others, and this suggested one possible explanation of this form of partial incarceration of the uterus.

Vesico-vaginal Fistula.

Dr. LAVELLE (Derby) described a case of rupture of the bladder followed by a vesico-vaginal fistula.

The patient, aged 34, a 2-para of thirty-two weeks' gestation, was admitted to hospital on December 31st, 1925, following an unsuccessful delivery with forceps. Examination revealed a laceration of the vaginal walls with evidence of injury to the bladder, as 2 oz. of blood were drawn off by catheter. A large hydrocephalic head, partly fixed in the brim, was felt, and the foetus was easily delivered after craniotomy. Following the operation the patient suffered from incontinence of urine, diarrhoea, and signs of lower abdominal peritonitis, accompanied by a pelvic swelling. The temperature remained normal until the seventeenth day after admission. On the twenty-first day the swelling, which then reached to the level of the umbilicus, disappeared after the discharge of 4 to 5 pints of foul-smelling pus per vaginam. Except for incontinence of urine the patient made an uninterrupted recovery. She was readmitted in November, when a vesico-vaginal fistula, 3/4 in. from the cervix, was closed.

Dr. Lavelle said that the abdominal swelling was undoubtedly due to an extraperitoneal extravasation of urine, and it was interesting that this should occur in the presence

of a vesico-vaginal opening. He thought that the fistula dated from the sudden discharge of pus, and that the incontinence previous to this was due to sphincteric failure.

Inversion of the Uterus.

Dr. LAVELLE also described a case of inversion of the uterus.

A woman, aged 31, was admitted to hospital on August 15th, 1926, thirty-seven hours after delivery, with a complete inversion of the uterus. In the one previous pregnancy twins had been associated with albuminuria and an adherent placenta. In the present labour the first and second stages had been normal; in the third stage the placenta was found adherent, and was manually removed. Under light chloroform anaesthesia an attempt was made to reduce the inversion, but this was discontinued owing to the poor condition of the patient. For this cause no further attempt at reduction was made until August 18th—four and a half days after delivery—when, under morphine and deep chloroform anaesthesia, the uterus was replaced after fifty minutes' hard work. The uterus and vagina were packed with gauze, which was removed after eight hours. The convalescence was uneventful.

JAMES MACKENZIE INSTITUTE.

AT the James Mackenzie Institute for Clinical Research, St. Andrews, on December 7th, 1926, Professor G. LOVELL GULLAND gave a lecture on high blood pressure, albuminuria, and glycosuria in relation to life insurance. He said that the general rule nowadays was for the blood pressure to be determined in all proposers over 50 years of age. Discussing the variations of the blood pressure possible within normal limits, he gave as a guiding principle that any pressure above 150 should be regarded with suspicion, bearing in mind the fact that excitement alone might cause a rise of 20 to 30 mm. over the true reading. He thought that albuminuria should always be regarded as a sign of possible kidney mischief, and quoted instances in which an albuminuria apparently utterly unimportant had terminated in a definite nephritis. He next reviewed adolescent albuminuria and emphasized the importance of examining the urine passed first thing in the morning. If this was free from albumin he considered it, as a general rule, safe to pass the candidates. He doubted the value of renal efficiency tests in these cases and in mild nephritics. With regard to glycosuria he stated that even the symptomless type of glycosuria occurring in older people was not a safe risk to accept, since such persons might develop the severe variety. He emphasized the importance of repeated tests, in a proportion of which sugar might be absent. These might, however, be pre-diabetic cases and should have a heavy load added, the only sure method of excluding renal glycosuria and lag curve cases being by means of a full blood sugar curve.

On December 14th Professor MURRAY LYON reviewed the factors concerned in the study of blood pressure—namely, the heart, vessels, blood fluid, and gravity. He showed how the blood pressure might be altered by the viscosity of the blood and by the ever-changing capillary areas, under the influence of posture, mental excitement, muscular effort, and digestion. These results also varied according to the degree of acceleration or otherwise of the heart beat. The question of unduly low blood pressure was next discussed, and he instanced cases of histamine poisoning with peripheral dilatation and loss of blood fluid, thus giving a clue to treatment, which was to raise the blood volume by transfusion with sugar, saline, or gum solution. Apart from the vascular and renal causes of pathologically high blood pressure, Professor Murray Lyon pointed out that a high blood pressure might coexist with a failing heart. He put the question whether it was advisable to attempt to reduce a high pressure, and answered it by stating that probably an attempt should be made in most cases, and the continuance or otherwise of the treatment judged by results. Dealing next with treatment, he emphasized the importance of rest—physical and mental—as complete as possible, but in the overstout and flabby the value of graduated exercise was not to be overlooked. In regard to diet, the danger seemed to lie not so much in an excess of protein as in overeating generally. A salt-poor or salt-free diet appeared useful in some cases. The lecturer drew attention to the benefit to be gained from a revival of venesection, and to the influence of drugs, especially potassium iodide.

Reviews.

ATLAS OF DERMOCHROMES.

Jacobi's Dermochromes[1] is a work which has been well known to the profession in this country since the late Dr. Pringle published it with an English translation in 1904. The success was such that three editions (all now, however, long out of print) were [illegible]ed. The two handsome volumes now [illegible] nominally a fourth edition, really constitute an entirely new work. This we owe to Dr. HENRY MACCORMAC, who has written a completely new text, has rearranged all the old plates, and has been able to add about forty fresh ones, mostly from the collection of Dr. Zieler. It will be remembered that the plates are taken, not direct from the patient, but are made through the intermediary of wax models, which, where practicable, are prepared from casts of the patient and coloured as accurately as possible. There is no doubt that the results as seen in these pages are extraordinarily good, and are far more lifelike than those produced by any direct photographic process of which we have seen examples. They easily pass the practical test which *so few of the illustrations in dermatological textbooks* can pass—namely, that the diagnosis of the condition depicted can be made without reference to the legend beneath the plate. No doubt this is mostly due to the technical skill with which the work has been done, but the effect is aided by the fact that in the preparation of the wax model accidental features on the skin, such as odd moles, freckles, or other blemishes can be eliminated, and thus there is nothing to detract from the unsullied presentation of the clinical characteristics of the disease illustrated. The result is a collection of plates which must be of very real use in familiarizing the student and practitioner with the appearances of the commoner diseases of the skin, and for those whose opportunities of visiting large clinics are limited a study of these plates will provide the next best thing. About a quarter of the plates are devoted to the various cutaneous manifestations of syphilis, which might possibly be considered an excessive allowance for a single disease; but having regard to its gravity, and to the great importance of making a correct differential diagnosis between it and other dermatoses, the proportion cannot be regarded as unreasonable. It is hardly necessary to remind our readers of the power of syphilis to imitate, sometimes with uncanny plausibility, skin lesions due to other causes. On the whole, this collection of plates is a very fairly complete series of illustrations of the more important dermatoses. Few conditions of any significance are unrepresented, but there might with advantage be another illustration of rosacea, laying more stress on the erythematous rather than on the pustular form of the disease. The collection would also be more complete if room were found for examples of Schamberg's disease, which, after all, is not so very uncommon, and of exfoliative dermatitis. Possibly this last has been omitted owing to the difficulty of demonstrating its characteristics on the limited area which is capable of reproduction by means of a wax cast.

A few words only need be said of the new text written by Dr. MacCormac, though it must be regarded as not less essential than the plates, which without it would lose a great deal of their value. Dr. MacCormac has made the text a much more important feature than it was in the original Jacobi. He has not been content with a bare explanation of the plates, but has provided a concise account of each disease illustrated, including its etiology and differential diagnosis and something of its pathology. Nor has he forgotten to give good directions for *treatment*, in which the most modern methods are included, at least so far as they have stood the test of practice. In short, he has provided a complete textbook of dermatology, from which the only omissions are subjects still matters of controversy and theoretical discussions in general.

In conclusion, we must congratulate both the author and the publishers on the production of a magnificent work,

[1] *Jacobi's Atlas of Dermochromes.* Fourth edition, with entirely new and original text. By Henry MacCormac, C.B.E., M.D., F.R.C.P. In two volumes. London: W. Heinemann. 1926. (Imp. 8vo, pp. x + 100; 147 figures, 79 plates. £5 5s. the two volumes.)

which we feel sure will prove a great success. In view of the large number of coloured plates and the expense necessarily entailed in their preparation, the price charged, although high, cannot be considered excessive.

PROBLEMS OF LOCAL GOVERNMENT.

During recent years an increasing interest has been taken by the medical profession in matters of local administration, and medical men and women have been urged to become members of local government authorities. To those who contemplate following this advice, as well as to those who have already had experience in this sphere, Mr. E. D. Simon's book *A City Council from Within*[2] will be welcome. As Professor Graham Wallas says in his preface to the volume, "For the average citizen the possibility of health, of happiness, of progress towards the old Greek ideal of 'beautiful goodness' depends on his local government more than on any other factor in his environment; and yet the books which record and analyse English experience and invention in the sphere of local government are amazingly few and uninforming."

Mr. E. D. Simon is known to many as having succeeded Dr. T. Watts as member of Parliament for the Withington Division of Manchester in 1923, and as having been, in turn, defeated by him at the last general election. Mr. Simon is an ex-Lord Mayor of Manchester and is a recognized authority on housing and other questions. His experience amply qualifies him for expounding matters of municipal administration, and he does this in an interesting, effective, and informative way. Local administration in a county borough is free from some of the complications which arise in the work of a county council or of the council of a non-county borough or urban district. The latter, therefore, are not dealt with in this volume, though the question of the most suitable area for local government purposes receives some notice. The earlier chapters describe the work of the five most important committees of the city council—electricity, public health, housing, education, and finance. Mr. Simon was chairman of the housing committee, and his description of its work and difficulties is full; his chapter on the finance committee, too, may be described as adequate for his purpose. To apply either of these adjectives, however, to the chapters dealing with the other committees could scarcely be appropriate. That on the education committee is singularly meagre, and several aspects of the work of the public health committee are only perfunctorily referred to. The maternity and child welfare work which is commonly placed under an independent committee is, in Manchester, wisely given to a subcommittee of the public health committee; but no mention is made of mental disease or mental deficiency, no doubt because these are in the sphere of other independent committees.

The main and real value of Mr. Simon's book lies in the admirable way in which he sets out most of the chief problems relating to the machinery of urban administration which still remain for solution. These problems are not fully discussed, but they are clearly posed, the most important considerations bearing upon them are excellently stated, and an indication is usually given as to the solution which the writer's experience would lead him to favour. Such problems are: the value of properly selected co-optative members on committees, the methods of securing the co-ordination of the work of the various committees and its control by the council, the extent to which and the methods by which a Government department should interfere with the work of a local authority, the way in which a municipal civil service should be recruited and individual members thereof promoted or interchanged, the possible separation of the technical from the administrative functions of the principal officers and the relation of the town clerk to his colleagues, the proper salaries for these principal officers, and the multiplicity of the duties of a lord mayor or mayor and the arrangements for their more effective performance. It will be noted with satisfaction that Mr. Simon is quite emphatic in his opinion that the appointment of co-optative members, carefully chosen, is of the utmost value and should be extended; and that "the maintenance and improvement of the salaries of the head officials is the most important item in the successful carrying on of local government." He says in this connexion, "The fact that the salaries of head officials are now on the low side, and still more the fact that they are discussed in public every time an increase is suggested, is in my view the most disturbing and dangerous aspect of local government. . . . A lowering of the status and salaries of the head officials might easily lead to incompetence, corruption, and the decay of local government."

A perusal of Mr. Simon's book reinforces the opinion quoted above from Professor Graham Wallas's preface, and should lead to a greater appreciation, by the medical profession as by others, of the importance and attraction of the spheres of work with which it deals. It may lead us in our time to repeat the declaration of Pericles in Athens, "We differ from other States in regarding the man who holds aloof from public life not as quiet, but as useless."

[2] *A City Council from Within.* By E. D. Simon, M.A., M.I.C.E., M.I.M.E. With a preface by Professor Graham Wallas. London and New York: Longmans, Green and Co., Ltd. 1926. (Demy 8vo, pp. xv+236. 7s. 6d. net.)

CRIPPLED AND INVALID CHILDREN.

The Invalid Children's Aid Association has published a small volume with the title *The Care of Invalid and Crippled Children in School.*[3] It is founded on notes put together by Mr. R. C. Elmslie and Dr. Letitia Fairfield for lectures originally delivered to the school nurses attached to the London County Council's schools for physically defective children. In his introduction Mr. Elmslie says it is hoped that this extension and elaboration of the notes may interest and instruct non-medical workers in schools and clinics for cripples all over the country. The otherwise excellent account given of the history of the establishment of schools for physically defective children omits any reference to the school started in the wards of the Royal National Orthopaedic Hospital by Mrs. Muirhead Little, which was the first attempt, at any rate in London, to cope with the problem of the education of crippled in-patients. Responsibility for this school was afterwards assumed by the committee of the hospital until it was taken over by the educational authority of the London County Council. Events have moved fast since, in 1919, the Central Committee for the Care of Cripples was established under the chairmanship of Sir Robert Jones. Working with the Invalid Children's Aid Association the committee has already done much, and the county organization, first adopted in Shropshire, and then in the Oxfordshire county group, as described by Mr. Girdlestone, has been copied in many counties, and will soon become general. In the great cities the work must be done in schools for the physically defective and in the orthopaedic departments of the general hospitals, where special hospitals do not exist. Official recognition has not been tardy. In 1925 the Board of Education practically adopted the scheme of the committee officially. It is already the duty of the local health authorities to provide treatment for all cases of tuberculous disease, and on the first day of this year it became the duty of the education authorities to provide education for all crippled children; thus the provinces will be brought into line with London and some other places which have already grappled with the problem.

Mr. Elmslie's article on tuberculous disease in general, and his descriptions of its particular localizations, as well as of other joint affections and crippling diseases, should be of great use to the voluntary workers in all schemes for the care of cripples. Dr. Letitia Fairfield, in small space, has well outlined the problems connected with heart disease and rheumatism in children. Of the report of the subcommittee of the British Medical Association, which appeared in the Supplement of July 3rd, 1926, she says that it contains the best available summary of present knowledge of rheumatism in children. The short chapters she has written on the structure and function of the heart in health and disease, on diseases of the heart, on the prevention and treatment of rheumatism and its sequelae,

[3] *The Care of Invalid and Crippled Children in School.* By R. C. Elmslie, O.B.E., M.S., F.R.C.S., and Letitia Fairfield, C.B.E., M.D., D.P.H. London: The Invalid Children's Aid Association. 1926. (4¾ × 7, pp. 95; 8 figures. 1s.)

and on chorea, are clearly and simply expressed; and should be of value to those for whom the pamphlet is intended, but we do not think that the illustrations which represent the heart opened to show its chambers and a diagram of the circulation can convey any useful ideas to persons who have no other knowledge of practical anatomy and physiology. On the other hand, they are not likely to do harm as long as her readers realize their own ignorance. The twelve practical hints provided by Dr. Letitia Fairfield are probably the most valuable part of the pamphlet, and if understood and taken to heart by Red Cross nurses and other welfare workers should be of the greatest use and benefit to the cripples who come under their care.

DISEASES OF THE THORACIC AND ABDOMINAL AORTA.

As the first part and the arch of the aorta have monopolized attention rather to the exclusion of the rest of the largest artery in the body, Drs. CH. LAUBRY, A. MOUGEOT, and J. WALSER's work *Les Syndromes d'Aortite postéricure (Aortite thoracique, Aortite abdominale)*[4] is a valuable contribution to the redressing of the balance. Apart from aneurysm, which, of course, has been amply described, the clinical manifestations of the well established changes in the thoracic and abdominal aorta have, from their inaccessible position, remained almost a closed book; Huchard, indeed, spoke of the thoracic aorta as the latent zone. A summary of the morbid anatomy of simple atheromatous aortitis, of simple syphilitic aortitis, and of syphilitic aneurysm is illustrated by three coloured plates. The peri-aortic lesions, and the reactions in the adjacent tissues, such as mediastinitis and neuritis, are mentioned. The symptoms, as was to be expected, vary according as to whether the thoracic, the abdominal, or the diaphragmatic region of the aorta is mainly or exclusively affected. In the chapter on physio-pathology the complicated clinical picture is elucidated by the application of Marey's estimation of the rate of propagation of the pulse wave (V.P.O.P.=vitesse de propagation de l'onde pulsatile), which is held to be an index of the elasticity of the arterial wall and so also of aortitis.

Although symptoms due to disease of the aorta vary according to the situation of the disease, pain is present in all instances; it is often the earliest symptom, and is characterized by its fixity, intensity, and duration. When the thoracic region is affected the pain is mainly on the left side of the chest, but it may radiate to the arm and occipital region; in aortitis about the diaphragm the pain is situated in the epigastrium and the loins, and disease of the abdominal aorta causes angina abdominis, which, like angina pectoris, may be brought on by exertion. Dyspnoea of varying character is common and has been explained in various ways, but probably peri-aortitis and mediastinitis are more important than mechanical pressure. Dysphonia and dysphagia may also occur. The physical signs, and the radiological and other evidence are considered, and an analysis of the various clinical syndromes is given, including symptom-groups due to involvement of the branches of the abdominal aorta.

In conclusion we may say that this is a valuable monograph on a subject of some difficulty.

PERNICIOUS ANAEMIA.

DR. F. A. EVAN's book on *Pernicious Anemia*[5] is based on experience at the Johns Hopkins Hospital and on a survey of literature, which, however, is rather strikingly devoid of reference to the recent work of Hurst and others, possibly because it has been published in the *Guy's Hospital Reports*, where it has been somewhat buried. Dr. Evans's presentation of this much discussed form of anaemia is extremely broad-minded, the arguments for and against different views being fairly stated, and his conclusions being drawn with caution. The statistics of the Johns Hopkins Hospital from its opening up to the end of 1922 do not lend any support to the prevalent impression that Addisonian anaemia has become commoner, and its occurrence in children appears extremely doubtful. He also points out that though it undoubtedly occurs in the elderly, some of its outstanding features, such as achylia gastrica, a sallow complexion, anisocytosis, and leucopenia, may be present at an advanced age without the complete symptoms, and that therefore the diagnosis must be accepted with reserve.

In the chapter on etiology is a valuable discussion on the part played by the spleen and by cholesterol; the observations of Clark and the author on the latter subject are mentioned, and it is suggested that some haemolysin, normal or abnormal, unites with the lecithin of the cells, and, when the cholesterol content of the plasma is low, as it markedly is in pernicious anaemia, destroys them. In this connexion it is significant that the tissues richest in lecithin are the envelopes of the erythrocytes and the nerve sheaths, and that the outstanding features of the disease are haemolytic anaemia and subacute combined degeneration of the spinal cord.

The clinical characters are fully described, and it is stated that the experience at the Johns Hopkins Hospital is not in agreement with the contention that the eosinophilia occasionally seen indicates a mild stage of the disease. The blood picture in tertiary syphilis may be that of pernicious anaemia, but as a rule achylia gastrica is not present. Dr. Evans believes that the anaemia due to *Dibothriocephalus lata* is regarded as identical with pernicious anaemia only because the observations relied on were made before the complete clinical picture was satisfactorily defined.

As regards treatment, most reliance is placed on simple supporting measures, and a high protein diet is recognized as being sometimes of value; arsenic is a general tonic and a haematopoietic stimulant, but if pushed to excess may be a haematopoietic poison. Dilute hydrochloric acid is recommended in all cases, and blood transfusion is fully and philosophically discussed. The attractive notion of giving cholesterol cannot be recommended at present.

COMMUNISM.

WE ventured recently to suggest that the advocacy of a system of official vocational selection was tantamount to proposing the adoption of one of the tenets of communism. Probably no word is nowadays more frequently on the lips of men than communism; yet to most minds the only idea it conveys is of something to be regarded with fear or hatred. It would be well that people should clear their minds on the subject by reading Mr. AL. CARTHILL's book *False Dawn*.[6] Mr. Carthill sets forth to inquire what are the causes which render society susceptible to revolutionary ideas, being convinced that communism is the sixth in a chain of ideas which have led to crises in the history of man, at all events of European man. Thus the idea of the Great State to replace the city state came into Europe in the fourth century B.C. with the Macedonian conquests. Then came Christianity to teach the brotherhood of man. The Reformation followed with its destiny of destroying religious sanctions and making the State supreme. The fourth great idea, Liberalism, levelled all orders in the State and destroyed the power of any citizen to resist the State's commands, though it left intact the privilege of wealth. Nationalism, the fifth idea, had the intention of making the population more homogeneous and more inclined to follow a common policy by eliminating alien and possibly hostile elements. It is possible, says Mr. Carthill, to regard communism as the ultimate goal of man to which the history of the five other ideas naturally leads.

The two propositions upon which communism is based are: first, that labour, and labour only, produces value; and secondly, that both justice and expediency require that those only who have produced should enjoy the product. In themselves raw materials have no actual but merely potential values. It is the application of labour to raw materials which creates values. To the community belong

[4] *Les Syndromes d'Aortite postérieure (Aortite thoracique, Aortite abdominale)*. Par Ch. Laubry, A. Mougeot, et J. Walser. Bibliothèque des grands syndromes. Paris: Octave Doin. 1925. (Med. 8vo, pp. 234; 19 figures, 7 plates. 25 fr.)

[5] *Pernicious Anemia*. By Frank A. Evans, M.D. London: Baillière, Tindall and Cox. 1926. (Extra post 8vo, pp. 178. 11s. 6d. net.)

[6] *False Dawn*. By Al. Carthill. Edinburgh and London: William Blackwood and Sons. 1926. (Demy 8vo, pp. 224. 10s. 6d. net.)

hs of right all raw materials; the community can apply the labour of its members to creating from raw materials the commodities it needs; and it is for the community to say how the products are to be divided. Communism, therefore, requires from all members of the community sacrifice, voluntary or compelled, and a total subordination of private to public interests. The artisan has no more right to his tools than the king to his crown or the usurer to his hoard. On to such a doctrine as this are naturally hung the abolition of all rent and interest; the banning of private property; eugenic selection for propagating the species; limitation of families; euthanasia for old, useless, or mentally degenerate persons; coercion in cases of strike or mutiny; and the abolition of religion, since the only God is man, the only Church the community, and the only sin disobedience. Mr. Carthill agrees that the two propositions of communism are questioned, and that quite possibly an erroneous meaning has been attached to the word "values." Nevertheless, the idea has appealed to clever men, and especially to the scorned and injured intellectual. The acceptance of the propositions is an act of faith; the truth of the creeds depends very largely on the truth of the doctrine of the perfectibility of man—a doctrine which is, Mr. Carthill admits, to say the least of it, extremely dubious. This does not prevent people believing in it. And the conjunction of impatient idealism with actual, grievous, and unredressed suffering begets revolutions.

The leaders in revolutionary ideas are generally men of a superior class. Omitting those eager for plunder, the frondeurs, the cranks, and temperamental traitors, Mr. Carthill thinks that the leaders are usually drawn from among compassionate and sentimental members of the intelligentsia, supported to some extent by economists and evolutionists. Struck by the waste and injustice apparent all around them, and gifted with intelligence, though without much intellect, these impatient idealists deduce that things cannot be left to themselves much longer, and that as evolution does not do what they want, revolution should be tried instead. The author traces the development and extension to the masses of this attitude, and sums up by asserting that society, as at present constituted, is oppressive, unjust, and wasteful. Evolution alone is not leading to betterment. Palliatives do not cure. Communism has promised a healing reformation. But communism can only be realized by means of a gradual change in the character of man. In the meantime impatient idealists may attempt to find a remedy in revolution. But revolutionary teaching only aggravates the ills, and removes still further the possibility of realizing the communistic idea. We are left, therefore, by Mr. Carthill without any concrete proposals, except that he would like to see a league of youth to resist not communism but subversivism.

NOTES ON BOOKS.

THE fourth edition of Miss GOODALL-COPESTAKE'S *Theory and Practice of Massage*,[7] of which the first edition appeared more than eight years ago (see JOURNAL, April 13th, 1918, p. 480), has been brought up to date by the addition of paragraphs on sacro-sciatic strain, myositis ossificans, and encephalitis lethargica and their treatment by massage. Additional illustrations have been included and the list of examination questions increased. The work, which is now regarded as a standard textbook on massage, needs no further recommendation from us.

The little work entitled *Scourges of To-day*,[8] by Dr. E. T. BURKE, which forms the latest contribution to the series of "Modern Health Books" edited by Professor D. Fraser Harris, contains all that the intelligent layman need know about venereal disease, cancer, tuberculosis, and alcoholism. Apart from the erroneous statement that chancroids are only situated on the genital organs, the teaching is sound and clear, and the work is admirably suited for the class of readers for whom it is intended.

[7] *The Theory and Practice of Massage.* By Beatrice M. Goodall-Copestake. Fourth edition. London: H. K. Lewis and Co., Ltd. 1926. (Demy 8vo, pp. xx + 267; 72 figures, 22 plates. 12s. 6d. net.)

[8] *Scourges of To-day.* By E. T. Burke, D.S.O., M.B., Ch.B.Glas. The Modern Health Books. London: Faber and Gwyer, Ltd. 1926. (Fcap. 8vo, pp. xiii + 166. 3s. 6d. net.)

Mr. VLASTO has apparently exercised less care in the selection of the title for his book on *Nursing of Diseases of the Nose, Ear, and Throat*[9] than in the compilation of the well written and helpful text. At any rate, he has missed the opportunity of emphasizing in the title the fact that patients rather than diseases are the primary objects of the nurse's care and attention. The scope of the book, the selection of illustrations—many of which are of instruments commonly used in special practice—and the breezy style of the author, who served in the Royal Navy with credit during the war, together make up a little volume for which many a probationer will be thankful, especially if she happens to read his opening apologia early in her professional career. Those who teach nurses may also find it of assistance in the preparation of lectures. In another edition the author should say a little more about the care of patients after major operations on the pharynx and larynx, especially tracheotomy. The various methods of treating the wounds resulting from mastoid operations deserve fuller mention, and a picture of a properly applied mastoid bandage might well find a place.

There is something overwhelming in the thoroughness of the American when he gets hold of an idea. Dr. SANFORD BLUM of San Francisco thought that the dietaries he had prescribed for the last twenty years might be of use to others; so he wrote a book, *Practical Dietetics for Adults and Children in Health and Disease*,[10] now in its second edition. The practitioner wants a diet, let us say for anaemia, and Dr. Blum provides him with a diet-sheet suitable for a society woman suffering from repeated dietetic errors, a business woman, a girl of 18 who has lived in the tropics, or a bank clerk who cannot tolerate milk. It is all very clearly arranged, with neat general suggestions at the foot of each diet. The English practitioner may find some difficulty in getting his patients to provide themselves with squabs, egg plants, graham crackers, and squash; but there should be no difficulty in carrying out a recommendation to avoid waffles, corn, and clams. We notice that most patients are requested to abstain from "alcoholics"; a wise request, perhaps.

The fifty-ninth annual issue of *Whitaker's Almanack*[11] (henceforward to be known as "The Complete Whitaker," to distinguish it from the new abridged edition) has been to a large extent rearranged. A table of abbreviations in common use now follows the index; and among the items of general interest will be found the results of the 1926 census in Northern Ireland, and of those in the Irish Free State, Australia, New Zealand, and the Union of South Africa. "Questions of the Day" are dealt with in fifty-seven short articles, and these are followed by annual summaries of events, a list of notable deaths, notes on meteorology, science, invention, and the arts, a retrospect of sport, and a diary of events for 1927. *Whitaker's Almanack Abridged*[12] is a new book, replacing the popular edition, now no longer issued. It differs from the volume it replaces in many particulars, but principally in containing not merely a part of the complete edition, but an abridgement of the whole, as its name implies. Although this work is smaller than its predecessor the number of entries in the index has not been reduced, and copious cross-references are given.

[9] *The Nursing of Diseases of the Nose, Ear, and Throat.* By Michael Vlasto, M.B., B.S., F.R.C.S. London: Faber and Gwyer, Ltd. 1926. (Cr. 8vo, pp. xiv + 229; 104 figures, 1 plate. 6s. net.)

[10] *Practical Dietetics for Adults and Children in Health and Disease.* By Sanford Blum, A.B., M.S., M.D. Second revised edition. Philadelphia: F. [illegible] 8vo, pp. xl + 262. 4 dollars.)

[11] [illegible] By Joseph Whitaker, F.S.A. Complete edit [illegible] e, E.C.4. 6s. net.

[12] *Whitaker's Almanack for 1927.* Abridged edition. 1s. 6d. net.

PREPARATIONS AND APPLIANCES.

Phenyl Cinchoninic Acid (Agotan).

PHENYL cinchoninic acid, or, to give it its full name, 2-phenyl quinoline-4-carboxylic acid, was introduced to the medical profession under the proprietary name of atophan. The drug was included in the *British Pharmaceutical Codex* (1923) under the name quinophan and in the *United States Pharmacopoeia* X (1926) under the name of cinchophen. Messrs. Howards and Sons, Ltd. (Ilford), have put forward a preparation of the drug under the name of "agotan." They claim that their preparation is of a higher standard of purity than that laid down in the *British Pharmaceutical Codex*.

This drug of many aliases has acquired a firm reputation in the treatment of gout and of chronic rheumatic conditions. Its outstanding action is to cause a great increase in the excretion of uric acid, but also it acts like salicylates in reducing the tem- [illegible] ion to its general action, when injected hypodermic- [illegible] of articular or muscular [illegible] preferable mode of local [illegible] cinchoninic acid is rapidly [illegible] profession, as it affords relief in a number of chronic and painful conditions which are very refractory to other methods of treatment.

The Society of British Neurological Surgeons.

THE establishment of a Society of British Neurological Surgeons, with Sir Charles Ballance as President, was announced in our last issue. The occasion is of so much surgical and historical interest that many will be glad to have the opportunity of reading the President's speech and those of the four emeritus honorary members who were present at the inaugural meeting on December 2nd, 1926. Sir Charles Sherrington was unavoidably absent.

REMARKS AND REMINISCENCES.

BY

SIR CHARLES BALLANCE,

PRESIDENT.

THE pageant of surgery and neurology through which I have lived has been the most glorious of all time. As a young man I heard VIRCHOW, HELMHOLTZ, and LUDWIG lecture; I attended the clinics of BERGMANN, THIERSCH, and VOLKMANN; I witnessed PASTEUR and LISTER at work, and I had the great privilege of the friendship of Sir JAMES PAGET. When I entered St. Thomas's Hospital as a student nearly all operations, and they were few in number, were followed by sepsis—suppuration, cellulitis, erysipelas, septicaemia, or pyaemia. It was just before this time that some hospitals on the Continent were closed because hospital gangrene and death followed every operative intervention. The Hôtel-Dieu in Paris, like all other hospitals, became a hotbed of sepsis; and it was remarked that the inscription over its doors, "This is the house of God and the Gate of Heaven," was more literally true than its founders appreciated. The evils of overcrowding—want of air and space, and bad sanitation—made themselves felt; so that on the occasion of a fire it was said, "Let the hospital burn and save the sick!"

Milton's terrible description of a lazar-house was also in large measure still true, especially at some places on the Continent:

> "Despair
> Tended the sick, busiest from couch to couch;
> And over them triumphant Death his dart
> Shook, but delay'd to strike, though oft invok'd
> With vows, as their chief good and final hope."

The place that surgical intervention occupies in the treatment of disease is now quite different, and it would appear that those recently qualified are quite unable to appreciate the marvellous progress during the last fifty years. The change Lister wrought in surgery has been well described by a French surgeon (Le Dentu):

> "By what miracle has the slender seedling full of sap become the vigorous tree beneath the shade of which works our restless activity, ever in search of new triumphs? . . . I am one of the men of a privileged generation. I have known that *deceptive Surgery* with more grave disasters than successes, that *Surgery* in fine, which saw itself reduced to laying down the knife as mortal complications fell with impartial fatality on all the operation cases in a ward."

This striking contrast between that which is and that which was has thrown more and more into the background the conditions under which were passed the earlier days of my medical studies. When I was a dresser at St. Thomas's Hospital all serious suppurating wounds were transferred to No. 8 block of the hospital. This block was presided over by an old nurse with several other nurses under her. This old nurse treated all cases with chlorinated soda poultices and the administration of large doses of brandy and perchloride of iron; the house-surgeon was sent for at night to make incisions. Most of the cases thus treated survived, and when the great war broke out I remembered the value of free chlorine in the treatment of septic wounds. Thus the Carrel-Dakin method of treating wounds was to me and other surgeons of my standing but the revival of an old method with the addition of a novel and striking technique.

When in 1884 I attended surgical clinics in Germany I was invariably asked, not "Do you know Paget?" but "Do you know Lister?" London was very late in accepting and practising the principles of Listerian surgery.

In 1880 I attended a "Brown" lecture by Sir JOHN BURDON-SANDERSON on the tuberculous process. He maintained that, as dust from St. Paul's Cathedral, from Westminster Abbey, and from his own drawing-room when inoculated under the skin of the guinea-pig produced a tuberculous lesion, the disease could not have a specific origin. The following year Koch demonstrated the tubercle bacillus.

In 1884 I joined the first class ever formed in bacteriology in the ancient University of Leipzig. It was held every day for six weeks and was taken by Becker, Koch's chief assistant, attired in full military uniform. The cholera and tetanus bacilli were then known, and each member of the class had to prove Koch's four postulates with regard to the known pathogenic organisms. This was the origin and cause of my work with my friend the late Professor Shattock on the intimate pathology of malignant disease. SHATTOCK was a microscopist of repute, and I was a bacteriologist knowing not less at that time of the subject than anyone else in England. I suppose in some way it became known that I had studied bacteriology, for I was invited to become bacteriologist to the London water companies. My family had been decimated by malignant disease, and when I was a student I had made up my mind to work at the subject, and meeting Shattock on my return from Leipzig we planned together six years' evening work on the intimate pathology of carcinoma.

Some time in the late eighties I became acquainted with the work of THEODORE CASH, Professor of Pharmacology in the University of Aberdeen, by which he proved that the introduction of solution of mercury perchloride into the veins of animals saved them from death after they had become ill from the injection of a fatal dose of a pathogenic organism. During the last few years there have been several papers on the introduction of mercurial salts in solution into the veins, but I have missed all mention of the name of Theodore Cash. The same may be said of "bipp," so extensively and successfully used during the great war. Beck's paste thirty or thirty-five years ago was a similar preparation, and I used it extensively for sinuses and other cases. I met Beck more than once, but when "bipp" appeared everyone seems to have forgotten Beck. It is curious how men and methods in surgery are so soon forgotten, and then unwittingly an old treatment is brought forward as a new thing or a new discovery. A good example is Bier's congestion treatment, which has been practised in Egypt for thousands of years. It is mentioned in the Proverbs "The blueness of a wound cleanseth away evil." It is well to remember the words of Celsus: "Though we should not refuse to give modern authors due credit for their discoveries and happy imitations, it is none the less just to restore to the ancients what properly belongs to them."

I remember being asked by the house-physician in the early nineties to see a case in one of the medical wards at St. Thomas's. After a slight examination I turned to the house-physician and said, "You told me you had a case to show me, but I say this is Risien Russell's monkey." The house-physician replied, "I don't understand what you mean, Sir." I had just been reading Russell and Horsley's paper on the symptoms produced by the removal of the lateral lobe of the cerebellum in the monkey. The cerebellar abscess was successfully opened the same afternoon and the patient recovered.

Besides his pioneer work on the cerebellum RISIEN RUSSELL carried out experiments of great value with reference to the cortical representation of movements of the eyeballs and of the movements of the vocal cords. He was well known as a most successful clinical teacher of neurology.

In 1900 I was appointed assistant surgeon to the National Hospital for the Paralysed and Epileptic, Queen Square. I then came in contact for the first time with two remarkable men, HUGHLINGS JACKSON and FERRIER. I also came to know Bastian, Buzzard, Gowers, Ormerod, Howard Tooth, James Taylor, Aldren Turner, and Purves Stewart. Charles Beevor was an old friend. I do not mention Horsley as we had met previously almost every day for five years at the Brown Institution, and I had been on several occasions on duty at the hospital for him before I was appointed a member of the staff. The example and fascination of the lives of the eminent men who formed the senior staff of the National Hospital when I first had the honour to become a member of that staff lighted a fire of enthusiasm and fruitful research in all those who came under their influence.

BUZZARD had served in the Crimean war and possessed an indefinable quality, difficult to express in words—a certain distinction of manner and mind, which in my experience was possessed by others who had been through that war. I remember operating on a case of cerebellar abscess under his care in a large public-house close to the Thames. The result was that I was invited on the next occasion of the University boat-race to witness it from the roof of the public-house. Refreshments were supplied gratis!

ORMEROD was a most learned physician, and his knowledge of the literature of neurology was encyclopaedic. He was always ready to place at the disposal of others his great stores of learning. He was shy, reserved, and indeed most unwilling to claim for himself credit when it was due.

HOWARD TOOTH had a clear and brilliant intellect. He was a colleague of mine for some time in Malta during the great war. We saw cases together in the hospitals of that island, and I had many opportunities of observing his shrewdness and wisdom in the diagnosis of obscure and difficult cases of injury of the nervous system. In fact, my association with him was of great value to me. Both Ormerod and Tooth possessed charming personalities.

CHARLES BEEVOR was a delightful person. It was good for me to have known him well. He was associated with HORSLEY in much experimental work, and did not get the credit which I think was due to him. I was often an onlooker at these experiments. Horsley would stimulate the cortex or corona radiata, or internal capsule of the brain, and Beevor would call out the movements induced. The recognition of the precise movement induced by excitation of a definite area of the brain requires a mental judgement greater than the performance of the actual operation of stimulation. But no doubt Horsley shared with Beevor the recognition of the muscular movements following electrical excitation of the brain. One of the last researches undertaken by Beevor was on the distribution of the vessels of the brain. It was a splendid and admirable contribution to neurology; but I fancy it is now scarcely known.

ALDREN TURNER was a constant worker, a good friend, a keen physician, and had been fortunate in being associated with Ferrier in some of his experiments.

PURVES STEWART was an indefatigable worker as house-physician. I do not remember ever reading more complete notes of cases than those typed by him. It was while he was house-physician at the National Hospital that he and I did some experiments which were subsequently published under the title of "Healing of nerves." His energy was prodigious. Often to save time he would bicycle in the early morning to the Brown Institution, where the experimental work was done, and return for breakfast.

JAMES TAYLOR was a typical Scotsman and a shrewd and wise physician. I removed from a patient of his a large arachnoid haematocele. In this case there was optic neuritis, mental disturbance, and some contralateral paralysis. These arachnoid cysts were first described by Richard Bright in 1841. In Holmes's *System of Surgery* Sir Prescott Hewitt discusses them. I was familiar with the literature. Especially I had been impressed with a case recorded by Hewitt in the *Lancet* for 1846. A boy, aged 8 years, received a blow on the head from a cricket ball and shortly afterwards showed signs of insanity. He had recurrent attacks of insanity with intervals of health till his death fifteen years after the injury. At the necropsy a large arachnoid cyst was found. The intermittent insanity was probably due to intermittent haemorrhage into the cyst such as we know occurs in some cases of *haematocele of the tunica vaginalis*, thus explaining the slow increase in the size of the tumour.

Dr. BASTIAN was the protagonist of spontaneous generation; he made some friendly attempts to interest me in the subject, but I was so deeply immersed in and enthusiastic over the writings of Pasteur and Lister that I was not really interested, and was wholly sceptical of the value of his experiments.

GOWERS was a difficult man for a junior surgeon to know. He was a fine teacher in the out-patient room, had published two classical volumes on diseases of the central nervous system, and a tract of the spinal cord had been discovered by him. The first case of cerebral tumour I operated on had been under his care in the wards for some months. This boy, about 14 years of age, while in the hospital became an expert thief, stealing from the patients, the nurses, the staff, and even the secretary director. The tumour was a large soft glioma, and the operation consisted in not much more than the performance of a large craniectomy—a decompression, in other words. The central mass of the tumour was very soft, and I shall always remember the enthusiasm with which HENRY HEAD at my request boiled a silver teaspoon so as to enable some of the soft centre of the growth to be ladled out of the head. The result of the operation to the patient was that he obtained great relief from the physical condition from which he suffered and was cured of his moral defect. He lived for about three years after the operation, and during this time he did not steal. Head has done priceless service for neurology, and has ever set before us a standard of unflagging industry, enthusiasm, and zeal for everything he undertook.

The first meningeal spinal cord tumour was removed by Horsley from a patient of Gowers. Dr. Hughlings Jackson and Sir David Ferrier were present. It was said that the pain in this case was so great that the patient's cries could be heard some distance down the street in which he lived. I assisted Horsley at the operation. An interesting anatomical point arose. Three laminae were removed and no tumour was seen, but remembering that the spinal roots come off from the cord higher up than their corresponding vertebrae, two more laminae were taken away, the tumour was exposed, and the operation completed without difficulty.

Horsley and I at first only had a kitchen to operate in at the National Hospital, but, following the Listerian doctrines, I do not think we ever had sepsis supervening on an operation. In those early days very few operations on the nervous system were performed—probably not more than one a month, if so many.

HUGHLINGS JACKSON remains in our vision as the Socrates and Lycidas of neurology. Independent of Jackson's mental eminence and philosophic mind, his attendance at Moorfields Eye Hospital in early life was of supreme importance to the future progress of neurology. When I first met him he was always asking me questions which I could not answer, which disturbed me not a little; but I soon found that they were not put to confuse me but to gain information. He contributed four papers on "Defects of sight in diseases of the nervous system" during 1863, 1865, and 1866. These papers are of extraordinary interest. They illustrate the slow unravelling of the truth with regard to the nature and cause of the optic neuritis of intracranial origin. Jackson described the association of headache, vomiting, and optic neuritis in cases of cerebral tumour, and laid great stress on the fact that when amaurosis results from disease of the brain the chief

lesion is but rarely situated in the optic nervous system. In 1865 Jackson wrote:

"It occurred to me there might be particular parts of the hemisphere disease of which produced amaurosis; just as disease of a particular part of the left hemisphere produces aphasia. I was [he says] at one time *sliding* into the belief that disease of the right hemisphere was very important from the point of view of optic neuritis; but I received a *check* in Case xii which prevented me sliding into that conclusion."

In another place the sentence occurs, "I suggest that unilateral convulsions point to disease of the opposite parts of the brain." This is interesting, for I remember when unilateral paralysis and unilateral convulsions were not linked together in the mind as being likely to be caused by the same disease on the opposite side of the brain; indeed, at that time convulsions and paresis seemed to be thought of without any relation to each other. The Hippocratic insight and wisdom shown in Jackson's papers on epilepsy, speech, and the diagnosis of brain tumour form for him an enduring monument.

I do not think that a decompression operation was directly performed for the relief of optic neuritis before 1890. The subsidence of the neuritis following operation for brain tumour had been noted, and this is how it came about that an operation was performed in some cases when the locality of the tumour could not be diagnosed simply for the relief of the swelling of the optic disc. It was James Taylor who contributed the first paper on "optic neuritis in its relation to intracranial tumour and trephining" (*Ophthal. Soc. Trans.*, Vol. XIV), though in the previous year (1893) Horsley had noted the subsidence of optic neuritis after trephining. From the date of James Taylor's paper decompression became a recognized operation for the relief of choked disc or optic neuritis and to prevent the onset of optic atrophy and blindness. In this relation mention must be made of MARCUS GUNN, whose accurate measurement of the swelling of the optic disc, phenomenal in those early days, was of the greatest value. It was said that a description by him of the retina in disease was equalled only by the description of a visible flower bed with its flowers and weeds of varying size and colour.

The passage in Hippocrates (Littré's translation, vol. ix, p. 159) in which craniectomy is recommended as a cure for blindness without evident disease of the eye seems as if Hippocrates operated for the relief of optic neuritis. "When sight fails without evident disease of the eyes an incision should be made in the parietal region, the bone trephined and the fluid beneath let out—that is the treatment, and thus these patients get well." The seed dropped by Hippocrates did not germinate in regard to the treatment of amaurosis without visible ocular disease till some forty years ago.

The craniectomies performed at the present day are not greatly, if at all, in advance of those carried out by the Hippocratic surgeons. It seems to me that with the present knowledge of physics and mechanics a time must come when the contents of the skull will be as quickly and as easily exposed as the contents of the abdominal cavity are by incision of the abdominal wall; indeed, I look forward to a future when a window in the skull will be made by the surgeon with the like gentleness, precision, and ease that a pane of glass is fashioned by the glazier by means of a diamond.

Decompression, as we all know, is not effectual without incision of the dura. An investigation by Sherrington and myself many years ago showed that even after the performance of a very large craniectomy—almost a hemicraniectomy, and as a consequence the unfolding of the dura from the eminences and depressions on the inner side of the cranial vault—only a very small additional amount of fluid found its way into the intradural cavity.

FERRIER belongs to that small group of illustrious men who re-created and re-discovered the science of experimental neurology, lost to mankind since the times of Galen. Ferrier was experimenting before Horsley, Beevor, or myself were students of medicine. His first experimental paper was published in 1873, and he wrote on pain in the head and vomiting in cerebral disease. Besides marking out with precision the motor areas of the cortex he discovered the areas concerned in special sensation. His experiments leading to the discovery of the visual centre and to the understanding of the symptom hemianopia mark an epoch in our knowledge.

BROCA in 1861 showed at a meeting in Paris the brain of a man who for twenty-one years had lost the faculty of speech. There was softening of the third left frontal convolution.

CRUVEILHIER in 1829 had under his care a woman, aged 45, in whom the symptoms noted were frontal headache, weakness of the left leg, slow speech, mental enfeeblement, and involuntary micturition. He diagnosed a tumour of the right frontal lobe, and a month later had the satisfaction of demonstrating to his class at the autopsy the tumour in the situation in which he had predicted that it would be found. Cruveilhier knew, as Hippocrates did, that a lesion of one side of the brain was not seldom associated with paralysis of the opposite side of the body. It is of interest to me to remember that my late friend Charles Beevor contributed a paper on involuntary micturition, an early symptom of frontal lobe disease.

HEYMAN in 1831 had under his care a girl of 13 years who had been struck on the left side of the head with a garden rake by a playfellow. The wound healed, and some months later convulsions occurred. It was noticed that tremor of the right hand occurred at the commencement of each attack. The scar over the left parietal bone was tender. The bone in this region was exposed, and a trephine $1\frac{1}{4}$ in. in diameter was applied. The dura beneath was discoloured. It was incised, and a yellow tumour of the meninges was removed. Complete recovery ensued. From my recollection of the eighties of last century I feel sure that if this operation had been done then by, say, Horsley or Macewen it would have been hailed as a miraculous achievement.

FRITSCH and HITZIG in 1870 marked out certain centres in the brain by means of electrical stimulation, but, as Macewen states, their force and significance were not recognized till Ferrier's observations on the brains of animals were published in 1873. These were undertaken to put to experimental proof the views entertained by Hughlings Jackson. I was present, newly qualified, in the Physiological Section of the International Congress in London in 1881. There was a contest of transcendent moment to the advancement of knowledge and vital to the interests of mankind over the dog shown by Goltz and the two monkeys exhibited by Ferrier. Experimental injuries had been inflicted upon the cerebral cortex of each of these animals. The dog apparently was in a normal state; Goltz spoke of the utter folly of the view that special parts of the brain are peculiarly associated with certain functional departments. This reminded me of a lecture I had attended the previous year in which we were told that the brain functioned as a whole! One of the monkeys had characteristic cerebral hemiplegia; as it came into the room Charcot exclaimed, "It is a patient." The other monkey showed no sign of hearing when a percussion cap was snapped in its immediate neighbourhood.

In 1883 Ferrier gave the Marshall Hall oration. He said that up to that time cerebral localization had been absorbed like latent heat by medical science itself, as distinct from medical and surgical practice, but that the unfailing safety of experiments upon animals made it clear that similar results would soon be achieved on man himself. This forecast soon became true: Godlee removed a brain tumour in 1884.

SCHAFER contributed twenty papers of transcendent merit between 1883 and 1893. They were all papers on cerebral physiology, and it is very difficult for us to apprehend the enthusiasm, the industry, and zeal of such labours. It is said there is a rhythm in human affairs, an alternation of efflorescence, decay, and efflorescence again, but in our country, in the fruitful lives of Ferrier, Hughlings Jackson, Schafer, Sherrington, Horsley, and Henry Head, there was no hint of decay but a continuing efflorescence, becoming brighter and brighter as the years rolled by. This, indeed, was the golden age of experimental neurology. We neurological surgeons owe an incalculable debt to these great leaders of science, since without the knowledge gained by

them there would be no neurological surgery as we understand it to-day.

Following on the demonstration by Ferrier of the truth of cerebral localization there ensued a tremendous activity designed to elucidate the physiology and anatomy of the nervous system. Even I had a small gamble in the same direction: stimulating the cortex and internal capsule of monkeys. In one experiment in which I was engaged, with my colleague, the late Dr. Hadden, in stimulating the extreme upper part of the Rolandic cortex in the monkey, movement of both big toes was observed. On stimulating the corresponding area of the opposite Rolandic cortex no movement of either big toe occurred. I have on several occasions stimulated the brain of man, but have never seen movement of both big toes from excitation of the upper part of the Rolandic cortex on one side of the brain. Between 1884 and 1891 Horsley produced eight papers of extraordinary value, and a little later, with Clarke, another one of great anatomical interest entitled "The intrinsic fibres of the cerebellum, its nuclei and efferent tracts." In 1886 and 1887 Horsley published cases of operation for brain tumour which were noteworthy because the diagnosis of each case was discussed with reference to his experimental work on the brain of the monkey.

In 1888 MACEWEN gave a splendid address in Glasgow on the basis of twenty-one operations for cerebral disease and injury. The first case occurred in 1879.

KEEN published three cases in 1888, one being a large meningeal tumour successfully removed from the fronto-parietal region.

SHERRINGTON'S contributions to neurology are so immense that it is quite hopeless to attempt any record, and to mention but a few would only be to leave others out, perhaps of still greater import. Suffice it to add that these papers of our emeritus honorary member number more than 150. But I should like for a moment to refer to two addresses given by Sherrington, (1) "The final common path of reflex action," and (2) "Aspects of animal mechanism." The wording of these addresses is typical of all Sherrington's writings. The choice of words, the grouping of words into sentences, and the perfection of the language of each paragraph are so clearly Sherringtonian that if these addresses had been published anonymously I could without any doubt have named the author. Take a single sentence as an example. How could words be better chosen and arranged? "Each insight into mechanism reveals more mechanism still to know."

There is one paper which, however, I must mention. It was entitled "The formation of scar tissue," and I was very fortunate in being associated in a minor way with Sherrington in the experiments on which the conclusions of this paper were based. The paper was published in the *Journal of Physiology* in 1889. The result of this research has given me, as it gave the late Professor Shattock, and that splendid surgeon Marcus Beck (as he himself told me), a vision of the cellular processes, not only in a healing wound, but also in disease, which has been of incalculable value to me all my professional life. The next year (1890) a lantern demonstration of the experimental results was given in Berlin in the Pathological Section of the International Medical Congress, and in the discussion which followed a dramatic incident occurred—Ziegler threw over his previous belief in Cohnheim's views and accepted the conclusions of Sherrington and myself with regard to the conduct and fate of the leucocyte and connective tissue cell.

I have seen it stated that Harvey was the first experimental physiologist, his great work *De Motu Cordis et Sanguinis* being published in 1618; but Galen was the first experimental neurologist. He produced aphonia by cutting the recurrent laryngeal nerve. He divided the spinal cord at different levels and removed portions of the brain, so obtaining definite results concerning the cause and seat of various paralyses. Celsus and Galen must have gained much from the learning garnered in the schools of anatomy in Alexandria in 285 B.C. under the famous teachers Erasistratus and Herophilus besides being the lineal and near descendants of the Hippocratic tradition. Celsus describes how blood effused beneath the skull causes pain and dimness of vision, and states that it should be removed by trephining. These great men must have had some idea of a blood current. They could not have been wholly ignorant of the physiology of the vascular system. How could Celsus have written *Sanguinis cursus revocetur* without having some idea of a blood current? Is it not more likely that, as Ambroise Paré in 1570 rediscovered the use of the ligature "by the special favour of the Sacred Deity," so Harvey in 1618 redemonstrated to the modern world what had been understood, perhaps only dimly, by Celsus and Galen?

It has been said that JOHN HUNTER, as physiologist and surgeon, has no equal in the annals of medicine. Even our emeritus honorary member Sir Arthur Keith could hardly improve on the description of John Hunter written by Sir William Laurence: "It was the boast of Augustus that he found Rome built of brick and left it built of marble. Hunter found surgery a mere mechanic art. . . . He left it a beautiful science."

Besides Sir David Ferrier, Sir Edward Sharpey-Schafer, and Sir Charles Sherrington, we welcome to-night Sir Arthur Keith and Professor Elliot Smith. We are very proud that they all have consented to join our young society. We greatly admire the labours of Sir Arthur Keith and Professor Elliot Smith in anatomy, physiology, morphology, and anthropology. We recognize the need for the study of function as an essential part of the interpretation of anatomical structure. As an example of this truth Professor Elliot Smith writes:

> "The knowledge of the arrangements of the tracts in the spinal cord that has been acquired within recent years seemed at first to have been of little more than academic interest or at most of use in diagnosing lesions beyond the scope of treatment till Spiller in 1911 suggested that the knowledge could be put to the humanitarian purpose of relieving pain by cutting that part of the antero-lateral column of the spinal cord which conveys impulses provocative of pain."

In the words of the professor in his recent Thomas Vicary Lecture, we believe that the apprehension of the true significance of anatomy and its study on the right lines will raise the standard of the science and practice of surgery.

Larrey and Guthrie were the great surgeons of the Napoleonic wars. LARREY was at first a naval surgeon, and in order to reach his ship he walked from Paris to Brest. Larrey observed some important effects of injury to various regions of the brain and noted facts of importance in cerebral localization—for example, contralateral palsy, loss of memory, aphasia; also that when paresis is caused by a cerebellar lesion it is on the homolateral side. He relates one case of Jacksonian epilepsy which he cured by operation. He states that his cases did better when left out on the road than when shut up in churches or hospitals, whether in the heat of Egypt or during the rigours of a Polish winter.

GUTHRIE, like Larrey, was a great army surgeon before the Listerian era. Both had extensive experience of war injuries of the head. Guthrie is the historian of the surgery of the Peninsular war, and records a large number of cases. He says all depressed fractures must be operated on and that the dura must be incised to let out blood or pus.

Guthrie was a strong opponent of the mediaeval practice of repeated trephining which had survived to his time, and he quotes the following case in support of his views:

> "Philip of Nassau, having been thrown from his horse, fractured his skull by striking his head against the stump of a tree. He was trephined twenty-seven times by a surgeon of Neomagen. He gave a certificate of this signed by himself; and as a proof of his complete recovery drank three of his companions to death."

But I must end. We live in an age when the great discoveries of Morton and Simpson, of Pasteur and of Lister, and of the great experimental neurologists have been applied to surgical practice. Lister is the upper light of surgery, but there is no last finish in the path of surgical progress. We are pilgrims of surgery who have reached only the threshold of truth. It is for this young society to carry on the torch and keep it brightly burning.

SPEECHES BY EMERITUS HONORARY MEMBERS.

SIR DAVID FERRIER.

I consider it a great honour and privilege to be invited to this the inaugural meeting of the Society of British Neurological Surgeons. This is the age of specialization in medicine, and specialization is essential to progress. Narrow specialism is to be deprecated, but this cannot be said of the special surgery of the nervous system. Neurology is perhaps the most comprehensive specialty in medicine, and the neurological surgeon must be, not only a highly expert technician, but also, unless he is content to be a mere tool, well versed in neurology and neuropathology.

I have followed the evolution of cerebral surgery for the past fifty years. My own experiments on animals, and the application of the antiseptic methods of Listerism, led me to advocate operations on the brain as being likely to achieve as brilliant results as those of abdominal surgery. This, however, was at first viewed askance, and the *Lancet* (November 10th, 1883) remarked that very few would be likely to share my anticipations, as "the differences between the abdomen and the skull are more than even antiseptic surgery can annihilate." How changed have become views as to the sacredness of the intracranial cavity!

The first operations on the brain were relatively simple, and met with only moderate success. I was present at the first operation for removal of a cerebral tumour by Mr. Godlee in 1884. This case was at first successful and full of promise, but unfortunately the patient died from septic complications. I was present also at Horsley's first operation in 1886—the removal of a traumatic epileptogenic focus in a patient under my own care. This was a triumphant success. But many failures continued to be reported. Within the last few years, however, cerebral surgery has made enormous strides; improvements in technique and the more precise knowledge that has been gained as to when to attempt removal of a tumour and when to be content with decompression as a palliative have made cerebral surgery a relatively safe proceeding. Some tumours—the acoustic tumours—the removal of which was at one time uniformly fatal, can now, thanks to Cushing, be removed with absolute safety. Pituitary tumours, involving the most profound invasion of the intracranial cavity, can to-day be satisfactorily dealt with; and the avulsion of the fifth nerve root for inveterate trigeminal neuralgia is an almost daily and successful method of treatment.

Spinal surgery has also many triumphs to boast of. The exact localization and removal of spinal tumours, since the first case recorded by Gowers and Horsley forty years ago, have been uniformly successful; and the more recent operations for division of the sensory tracts of the spinal cord for the relief of incurable suffering are a promising and fruitful application of neurological science to practical medicine.

The surgery of the peripheral nervous system, at present so diligently cultivated by our distinguished chairman, requiring as it does great manipulative skill and exact anatomical knowledge, is another field of neuro-surgery which is likely to furnish us with valuable information as to the best methods of obviating the disabilities and deformities resulting from permanent nerve lesions. Considering the progress which has already been achieved in so many directions, I am confident that the intensive cultivation of neuro-surgery will not only provide relief for many forms of disease at present beyond our aid, but materially advance the science of neurology itself. I therefore cordially wish all success and prosperity to the newly formed Society of British Neurological Surgeons.

SIR EDWARD SHARPEY-SCHAFER.

I beg to thank the members of the Society for the honour they have done me by electing me an Honorary Member—an honour I appreciate the more on account of the fact that I am sharing it with eminent anatomists as well as other physiologists; and especially to thank your President for the generous terms in which he has referred to my small efforts. It is just fifty years since I was taking a very subordinate part in the birth of the Physiological Society, the founders and original members of which are all dead, with the exception of two—Sir David Ferrier and myself—who have the good fortune, not only to be still alive, but to be both present at this inaugural dinner of your Society. The Physiological Society started by limiting the number of its members to forty. In a year or two so great was the demand for admission that the number was raised to 50; now it runs to 400! That society was also started by a dinner, the menu of which is preserved in the old minute-book and does credit to the gastronomic ability of the original members. Michael Foster was in the chair, and was supported by Francis Galton, George Henry Lewes, J. Burdon-Sanderson, and about eighteen younger members who were interested in or working at physiology. On that occasion there were only three toasts: The Queen, naturally first; then the Foreign Guests, responded to by Professor Donders and Professor Marey; and lastly, the English Guests, responded to by Dr. W. B. Carpenter and Mr. William Bowman.

Singular to relate, the health of the new-born society was not drunk, and, still more singular, it has grown and flourished amazingly in spite of the omission. Nevertheless, I am of opinion that such an omission should not be taken as a precedent, and, with the permission of the President, I beg to raise my glass to the health and prosperity of your new-born babe, the Society of British Neurological Surgeons; long may it flourish!

SIR ARTHUR KEITH.

I give you my most sincere thanks for the privilege of being present at the birth of this Society. That your Society has a long future and will fulfil a high destiny I have no doubt. I have noticed that the medical side of neurology has always attracted the most gifted of physicians, and I am sure the surgical side of this subject will draw to it the corresponding class among surgeons. Young men are attracted by subjects which give scope for the exercise of reason and of all branches of medicine. Neurology gives the fullest opportunity; it has a better claim than any medical subject to be counted a science.

Sir David Ferrier has mentioned the case in which Dr. Hughes Bennett and he diagnosed and localized a lesion of the cortex, on which Sir Rickman J. Godlee operated on November 25th, 1884—the first operation for the removal of a tumour which had been localized by the interpretation of clinical signs. The calvaria of the patient, showing the situation and extent of the operation, was presented to the museum of the Royal College of Surgeons of England by Sir Rickman Godlee, and there it is now exhibited amongst specimens of historical interest. Beside it are shown instances of prehistoric trephining.

I have greatly enjoyed being seated next to Sir David Ferrier. There is something of a coincidence in my being his neighbour to-night, for some sixty-five years ago his people and my people were neighbours and saw much of each other. By the time I reached boyhood Sir David had gone to London and had become famous, and I cannot remember seeing him then. But my mother always spoke of him in the highest terms; in her opinion he had only one blemish as a young man: he would not leave the "puddocks" (frogs) alone! We thus see that Sir David had discovered at a very early date that experiment is the doorway to knowledge.

PROFESSOR ELLIOT SMITH.

After expressing his appreciation of the distinction of being associated as an honorary member with such great pioneers in neurology as Sir David Ferrier, Sir Edward Sharpey-Schafer, and Sir Charles Sherrington, Professor Elliot Smith referred to the urgent need for closer co-operation in neurology between the anatomist and the clinician, which was essential for the advancement of knowledge in both departments of work. He expressed the opinion that the first step towards the attainment of such an association must be taken by the anatomist, who should cultivate such a knowledge of the structure of the nervous system as would make it worth while for the clinician to consult and collaborate with him. The problems that arose in the course of clinical work provided the most suggestive and stimulating incentives for morphological investigation.

British Medical Journal.

SATURDAY, JANUARY 8TH, 1927.

MATERNAL MORTALITY.

THE problem of the persistence of the mortality rate in connexion with pregnancy and childbirth in this country has excited considerable discussion of late years, and references to the subject have appeared in our columns with increasing frequency. Dame Janet Campbell's report to the Ministry of Health and the report of the Scottish Board of Health's Departmental Committee have served to focus the attention of the profession upon the main difficulties of the question. As is well known, the British Medical Association has a committee in existence at present to consider the same question; its preliminary report was published in the SUPPLEMENT to the JOURNAL of January 9th, 1926 (p. 13), and its final report will be awaited with interest. In the meantime any really reliable evidence bearing upon this problem is of great value. Individual experience is apt to be fallacious in a question of this nature, although the accumulated personal observations of a large number of practitioners must ultimately form the groundwork for any conclusions. Dr. J. S. Fairbairn has gone to considerable trouble to contribute a valuable piece of evidence in the presentation of the maternal mortality statistics in connexion with the midwifery service of the Queen Victoria's Jubilee Institute. As will be seen from his article published in the opening pages of this issue, the figures he is able to deal with are large enough to warrant him in basing some interesting conclusions upon them.

Two main lines of opinion have emerged from the discussion so far. On the one hand there are those who see salvation only in a great extension of specialist practice; who would have maternity hospitals established widely over the country and staffed with skilled specialists; and who would have something in the nature of an outdoor hospital service radiating from each centre in such a way as to meet the needs of the whole country. Those who share this opinion tend to regard the practice of the midwife with some disfavour, and would transfer the maternity work of the country from her hands to those, not merely of the medical practitioner, but as far as possible of the obstetric specialist. Whether we agree with this opinion or not, it certainly does not seem a practicable proposal in these days of burdensome taxation, as the cost alone would be prohibitive. On the other hand, there are those who put their trust rather in the improvement of the existing services of midwife, general practitioner, and hospital specialist. As was pointed out by the Scottish Departmental Committee, there is no real competition, and there should be no feeling of rivalry, between the medical practitioner and the midwife. The two are complementary members of the maternity service of the country, and should work in harmony with each other and with the hospital and specialist services. Except in the case of the few protagonists of one view or another, opinion on this question has not become crystallized, and while it is still in a fluid condition such evidence as Dr. Fairbairn has produced is of great value.

It has been claimed ere now that the mortality rate in the practice of competent midwives is on the whole distinctly lower than the general maternal mortality rate revealed by the Registrar-General's returns. Evidence on this point was laid before the Scottish Departmental Committee, and it was also shown that in the practice of some individuals where, after adequate ante-natal examination of all cases, the normal ones were left to the midwife and the abnormal ones supervised by the practitioner or sent in good time to a maternity hospital as the case might be, the frequency of instrumental intervention was definitely diminished and the results improved *pari passu*. This might almost be said to be one of the general principles which derive from the practice of ante-natal examination, and to those who are familiar with the value of such work the results claimed are just what would be expected. In the Queen Victoria's Jubilee Institute the country has an organization of fully trained nurses who have also taken their complete maternity training. Such a combination of general nursing and maternity training is, of course, the ideal, as even the increased period of training now demanded by the Central Midwives Boards can never be expected to equal, in the breadth and value of the experience gained, the three or four years' training in a general hospital. In the practice of the Q.V.J.I. nurses, therefore, we might, on the basis of this evidence, reasonably expect the results to be rather better than the general returns of the whole country, and this is exactly what Dr. Fairbairn has demonstrated.

The circumstances of their practice necessitated some modification of the statistics so as to make them strictly comparable with the figures of the Registrar-General. This part of the preparation of the figures was undertaken by Dr. Matthew Young of the statistical department of the Medical Research Council, and it seems to us to be adequate to allow of fair comparison. The result, as illustrated in the chart, indicates that the maternal mortality in the practice of the Q.V.J.I. nurses has during the past twenty years been rather less than half the general maternal mortality rate in England and Wales as shown by the Registrar-General's returns. This is a result which is not merely highly creditable to the nurses concerned, but which must give all who are interested in this great national problem cause for reflection. Beyond that we are not prepared to go at the moment, because, as we have said, the whole problem is at present *sub judice*; but there is no doubt as to which view of the solution of the maternal mortality problem this evidence supports.

Dr. Fairbairn's investigation brings out many other interesting points with which he deals in some detail. Thus the number of cases attended by the Q.V.J.I. midwives was 4,500 in 1905 and 47,926 in 1925. These figures also speak for themselves. Again, the proportion of cases in which medical aid was summoned was 8.9 per cent. in 1905 and 26 per cent. in 1925. This increase is partly attributable to the general tightening up of regulations by the Central Midwives Boards, but Dr. Fairbairn regards it as in some degree due also to a diminished self-reliance on the part of the nurses. There can be no doubt that one of the desiderata in this whole problem is to impress, not only upon nurses and practitioners, but also upon patients, and above all upon patients' immediate relatives and friends, the value of non-intervention in natural and uncomplicated labour. It is a difficult thing for the young practitioner or for the nurse to resist the pressure which relatives often exercise in favour of instrumental intervention, which puts a speedy termination to the patient's physical sufferings.

Dr. Fairbairn recommends the judicious administration of narcotic drugs, and with that recommendation no obstetrician will differ, but the broad fact remains that in these days of easy and safe anaesthetics we are coming as a people to have what our grandmothers would call an undue dread of physical pain.

HEREDITY IN MUSIC.

To reckon musical talent among the familial diseases would perhaps be going just a shade too far, and yet Dr. Louis Vezoux, in his Paris thesis,[1] musters nearly enough facts to justify such a view. His survey is careful and interesting, even though it contains few new facts. Nordau had observed how frequently an exceptional development of musical talent is associated with an otherwise subnormal mentality. Dr. Vezoux seems carried away by a similar prepossession, although he does not claim it as an essential part of his thesis. He sets out to show how musical talent is one of the most notable gifts of inheritance, how it appears to be almost ineradicable from musical families, and how impossible it is to implant it in members of non-musical families. But into the explanation of these phenomena he does not pursue his quest. The possessors of musical talent are divisible into three main groups: first the composer, next the performer, and finally the hearer. In any discussion of musical talent these three often require separate consideration; few people possess the ability of each category in equal degrees. The study of the question takes us back to all manner of problems in comparative physiology and psychology, and without some knowledge of these problems the study will prove barren and futile. The power of artistic thought and the power of expressing it in works of art are attributes of man alone. No animal can reproduce its observations and ideas in pictorial form—even artifice in personal adornment is only exhibited by the bower bird—whereas the faculty of making both vocal and instrumental music is one that man shares with beasts, birds, and insects. Yet just as among closely allied birds one breed may be abundantly musical whilst another is wellnigh mute, so among men the musical breeds are few and talents unequally distributed, until the inquirer begins to doubt whether music is, in the strict sense, art at all, or even an acquired characteristic. If we remember rightly, Bernard Shaw, in one of his letters to Miss Viola Tree, says: "Don't you know that no one was ever taught to sing, unless perhaps by her mother?" He was, unknowingly it may be, insisting on the hereditary nature of the gift of song.

It is interesting to speculate how the musical variety of the genus Homo came to survive even in such small numbers as it does. It first appeared, we may guess, as a "sport," and as such contributed in some way to the superiority of the individual or the race in the struggle for existence. What improvement in equipment for the struggle can the gift of music have represented? It is hard to conceive any but two primitive values for music. Mountain dwellers must have discovered very early that by means of certain cadences or intervals in the voice a shout could be made audible and intelligible over great distances. Nursing mothers found, to the delight of themselves and their husbands (weary and irritable after a day's hunting), that rhythmic song and measured cadence, no less than rhythmic rocking, could lull a baby to sleep and secure rest for the whole cavernful. The employment of music to arouse the passions of love and anger must be a much later development. But there is evidence on all sides that it did so develop, and closely allied to this evolution of music is its relation to mental stability.

Dr. Vezoux seems to suggest that we owe to some mental unbalance many of the world's greatest composers and performers; the hearer may occasionally escape with his sanity. For instance and parallel he turns to the maniacs, who sing melodiously in their frenzy, and to the effect of drugs like hashish. Precocity, he observes, is almost the rule among musicians: the greatest composers and performers were almost without exception prodigious in infancy. No one can doubt that their precocity was inborn, that they inherited everything, owing little or nothing to musical education and environment, though they may suffer by a lack of general education, which Cortot is quoted as deploring among young people who devote themselves to music. It is incredible that composers who, like Mozart and Schubert, wrote mature works while still mere children, depended on any acquired art for the development of their faculties. They learnt, it is true, how to express in conventional signs sounds which originated spontaneously and uncontrollably in their brains, and acquired the art of setting accepted symbols on the ruled lines of a musical stave. No "theory of music" taught their brains to work; such theories only serve to help the hearer to explain why he likes or dislikes the music the composer invents or the performer interprets. Dr. Vezoux's thesis throws a vivid light on the nature of those men in whom the power exists of creating coherent sequences and combinations of sounds that please the ear, but he does not advance our understanding of the whys and wherefores much beyond the stage of Burton's remark that "*music makes some men as mad as tygres.*"

[1] *L'Hérédité Musicale.* Par Dr. Louis Vezoux. Dessins de M. André Cordeil. Paris: E. Le François. 1926. (Roy. 8vo, pp. 279; illustrated.)

PRESERVATIVES IN FOOD: THE NEW REGULATIONS.

PURER food, and consequently improved health, should result from the Public Health (Preservatives, etc., in Food) Amendment Regulations, 1926, which came partly into operation on January 1st All foods are concerned except three classes, of which the first includes bacon, ham, egg yolk, and articles containing preservative necessarily introduced by the use in their preparation of preserved margarine. The regulations for this class do not become operative until July 1st, and, after a further six months, butter, cream, and articles of food containing preservative necessarily introduced by the use in their preparation of preserved bacon, ham, egg yolk, or cream, will similarly be affected. On July 1st, 1928, the regulation will be extended to cover food in the preparation of which preserved butter has been previously used. These regulations owe their origin in considerable measure to the Departmental Committee on Food Preservatives, and in discussing its report (BRITISH MEDICAL JOURNAL, 1924, vol. ii, p. 821) the opinion was expressed that such changes as those now made could be effected without increasing the cost of food, and that the prohibition of the use in food of so insidious a substance as boric acid would be to the public benefit. The general nature and scope of the regulations were indicated in our issue of August 22nd, 1925 (p. 349), and attention was then drawn to some of the legal questions concerned. In the last circular of the Ministry of Health (751) the view is expressed that sufficient time has now elapsed for clearing the old stocks of food, and that further postponement of the regulations is unnecessary. The suggestion is made, however, that local authorities might refrain

at first from instituting legal proceedings for infringement of the regulations in cases where they are satisfied that reasonable efforts have been made to clear the old stocks and to ensure that further consignments will conform with the new conditions. By a modification of the original regulations it has been provided that their enforcement in respect of imports of fresh fruit (excluding pulp), in common with meat, fish, and their products, will normally be left to local authorities. The principal regulations, with such modifications, are being reprinted, and will be obtainable through any bookseller or from the Stationery Office. It is intended that cold storage shall replace in great measure the adding of preservatives to food. The regulations contain a schedule of articles of food which may contain such preservatives as sulphur dioxide and benzoic acid, the allowable strength being specified in each case in parts per million. Foods which may be preserved in this way include sausages, fresh or dried fruit, unfermented grape juice, non-alcoholic wines, cordials, fruit juices, jam, candied peel, sugar, gelatin, beer, cider, alcoholic wines, sweetened mineral waters, coffee extract, and pickles. Metallic colouring matters containing compounds of antimony, arsenic, cadmium, chromium, copper, lead, mercury, and zinc are prohibited; also the vegetable dye gamboge, and some coal-tar colours, including picric acid. Foods containing permitted preservatives are to be labelled accordingly, the percentage of the preservative being stated. It is noteworthy that under the new regulations the manufacture, as well as the sale, of foods containing unauthorized preservatives or colouring matter is forbidden. This may be expected to assist local authorities in fulfilling their duty of securing compliance with the regulations. Preservatives which may still be used include common salt, saltpetre, sugar, acetic acid, alcohol, glycerin, spices, essential oils, and herb extracts.

LEGIBILITY OF PRINT.

AN interesting research into the "legibility of print"[1] has been carried out, under the auspices of the Medical Research Council, by Mr. R. L. Pyke, in the Psychological Laboratory of the University of Cambridge. The intention has been to determine what characters of type are most easily read. Reading by way of work or recreation takes up much of the active life of a large proportion of certain classes of the population, so that legibility of type is nowadays of high importance. Many previous investigations have been made or opinions published (an extensive bibliography is given), and besides there has grown up a practice based upon trial and error. It is of interest to note that the general conclusion of the experiments of Mr. Pyke confirm the common impression that a certain kind of type is the most generally comfortable, and it is this which is most in use, certainly in this country. This type goes by the name of "old style." Legibility has to do with reading. Normal reading refers to an act performed most commonly by an individual in an ordinary sitting position in a full light, with words set in horizontal lines one below the other, printed, as to about 90 per cent., in lower case (that is, small letters), as to about 10 per cent. in upper case (that is, capitals), in black ink on white or cream paper. The matter is held at distances from the eye varying from six to sixteen inches. Legibility of type means that the eye is able clearly to define the shape of a letter, the collective shape of a word, and, in continuous texts, can read accurately and fast. About the best available criterion is the number of errors committed in any test with a time element. An elaborate piece of apparatus was devised to expose print for brief and repeated spaces of times, under a uniform illumination, to each of a set of readers the state of whose vision was known; the results of the exposure of different kinds of print were ascertained, and most careful precautions were taken to eliminate error. No subject tested had any knowledge of psychology; each was informed of the object of the experiments, but was given the least information possible of the results of his own performance or that of others under test. The qualities in type that were considered fundamental were lateral extension of face, lateral compression of face, uniform thickness of limb, uniform thinness of limb, and absence of serifs (that is, the tags to the letters). The results of the tests show that the standard "old style." is best, being 18 per cent. better than the next, and 70 per cent. better than the worst. The second best was a "sans serif" type—that is, plain, undecorated letters, such as used in many advertisements. The difference was only 2 per cent. between the thick and the thin types. No difference was found between the compressed and the extended. To sum up the laboratory experiments, "old style" was probably the most legible, and the compressed "modern" the least. But it is suggested that types will be "legible" according as they suit the psychological make-up of the reader. Hence the most legible type, in the subjective sense, is unlikely to be the same for all readers. Perhaps this may account for the fact that whereas we in England prefer and most of us choose "old style," the French largely use a tall type which gives what Harman once called a "palisade" effect, and the Americans a thin type, which goes with the fine smooth-faced paper they are so fond of. That there is a revived interest in good printing is evidenced by the exhibition of newly printed books which has been displayed by the Bibliographical Society in the Mocatta Library at University College, Gower Street, London. The books shown are publications in the last two years. They were selected, not by the society, but by the publishers themselves, who were each invited to send five books illustrating their methods and the ideas by which they are guided. Some thirty-three publishers took a share in the exhibition, and the works of forty-nine firms of printers are on view. The collection is most interesting, and is real evidence of care and judgement. There is a happy absence of freak types of the kind which had a short-lived popularity some twenty years ago. Those interested in books might spend a profitable hour at the exhibition.

[1] Medical Research Council. *The Legibility of Print.* By R. L. Pyke. London: H.M. Stationery Office. 1926. (Pp. 123. Price 4s. net.)

TOP MINNOWS AND MOSQUITO CONTROL.

THE use of various species of Gambusia, a natural enemy of larvae and pupae of mosquitos, as one of the many modes of eliminating Culicidae, has been known for a long time, but a recent Bulletin of the United States Public Health Service[1] has taken the subject out of the category of mere empiricism to place it upon a rational basis. This bulletin is full of interesting facts, the data for which were almost entirely derived from experimental work. Experiments and controls were numerous, and we can unfortunately do little more here than indicate the methods, purposes, and range of them. Sections of ponds in various situations were rendered fishless, others under as nearly as possible the same surroundings were employed for control, so that the differences in the mosquito breeding would result in the main from the presence or absence of fish. By carrying out the experiments for three or four seasons, and using ponds with different forms of vegetation, much knowledge has been gained as to the value of Gambusia as eradicators of mosquito larvae and pupae under a wide range of conditions. These fish had been found to vary in

[1] *A Study of the Top Minnow (Gambusia holbrooki) in its Relation to Mosquito Control.* Public Health Bulletin No. 155. Treasury Department, United States Public Health Service, Washington, D.C.

efficacy in different districts, being less efficient in the northern parts of their range. This is probably due, not to the district, as was believed, but to the species of Gambusia; thus, *G. holbrooki* of Eastern Georgia differs in efficiency from the *G. affinis* of the Mississippi Delta region. After arranging the experimental and control conditions, as regards fish, vegetation, water-level, and so on, dippings (each "dipping"=twenty-four dips with a net) were taken, and the relative abundance of mosquitos breeding in the areas was calculated by counting the larvae and pupae recovered in each dip, anophelines and culicines being counted separately. Hundreds of experiments were performed, the results of which are narrated in the text and presented partly in tables, partly by means of graphs. The following are a few of the more important results and deductions. Silver-leaf grass (*Hydrochloa carolinensis*), pond-weed (*Potamogeton diversifolius*), milfoil (*Myriophyllum* sp.), bladderworts (*Utricularia* sp.), smartweed (*Polygonum* sp.), and several others tested each afford protection to the larvae from the attacks of the fish, but not under all conditions. Thus, milfoil protects if it grows sufficiently tall to reach the water surface, not otherwise. Again, if on clearing an area some sprigs of silver-leaf grass were left here and there, a scattered growth soon formed which afforded effective refuge to the immature mosquito, and thinning of the grass tended, paradoxically, to increase the available protection. The practical conclusion from this is that, from the point of view of mosquito control by fish, it is better not to disturb the natural growth of grass unless the latter is completely removed. Bladderwort had been reported by many observers as being antagonistic to mosquito production, but experiment failed to confirm this, and, moreover, if intermixed with filamentous algae it appeared to conduce to the better breeding of mosquitos by furnishing an excellent barrier between the fish and the larvae and pupae. Another interesting point as regards smartweed was investigated. It was found that when this was present, even in the absence of fish, the larvae were scarce. No complete explanation could be found for this; the plant did not act as a repellent, for if the water-level fell sufficiently to leave the plant exposed, larvae and pupae became abundant. The only plant which proved definitely preventive to mosquito breeding was duckweed (*Spirodela polyrrhiza*), and this was shown to be due, not to any specific action, but to the exuberance of its growth. If the weed was so profuse as to cover the surface breeding did not occur, but was resumed on clearing, to fall again when the weed was re-introduced; to prevent breeding the covering must be continuous. Its use, however, is very limited, because it will not grow in all waters, and in some of those in which it does it will not form a continuous coat. Generally it was found that "overstocking" with Gambusia, though leading to a little further reduction of larvae and pupae, had not a very pronounced effect, but beneficial results were sometimes obtained by artificially increasing the number of minnows in a body of water where they had been present for a long time, because a "biological balance" is liable to become established and further reduction cease. After heavy rains a diminution in the breeding of mosquitos was noticed in the ponds whether Gambusia was present or not. In the former case the minnows always seemed to be more active after rains, and the explanation given is that the increase of water caused submerging of the vegetation and consequent reduction of protection of the larvae. This, however, would not account for reduction in fishless areas. It was found generally that maximum protection was afforded by plants with partly or just submerged leaves, so that only a thin film of water was present in which the mosquitos might breed. *Gambusia holbrooki*, which was the species used in these experiments, proved more efficient in eradicating culicines than anophelines. Attempts were made to find out—obviously a very difficult problem—the proportionate number, in a pond well stocked with Gambusia, of immature mosquitos present which reached the imago stage. As far as careful experiments could decide, it was found that only 2.75 per cent. of anophelines and 1.5 per cent. of culicines survived. It is important to note that absence or scanty breeding of mosquitos is not always the result of the presence of natural enemies; in some ponds, apparently ideal, they would not breed, although the conditions seemed to be in all respects—vegetation, situation, exposure, etc.—identical with others in which there were abundant larvae. The subject is a large and important one, and this bulletin, full of interesting information, has done much to elucidate many problems hitherto obscure.

AN ULTRA-VIRUS OF TUBERCULOSIS.

WE gather that at the meeting of the Académie de Médecine on December 7th, 1926, some heat was generated during the discussion of Dr. Couvelaire's paper on the ultra-virus of tuberculosis, noted in our issue of December 18th, 1926 (p. 1189). After Dr. Emile Sergent had described some not very convincing experiments made by Dr. Durand, Dr. Benda, and himself on material obtained from thirteen tuberculous women and two guinea-pigs, Dr. Léon Bernard reaffirmed the position of sceptic which he had taken up some months ago. Dr. Bernard did not dispute the existence of a filterable virus of tuberculosis which could pass through the placenta. But he saw no reason to suppose that the bacilli found in the viscera of some infants had anything to do with their death. On the other hand, he was impressed by the statistics of Dr. Couvelaire, which showed that the better the conditions of nurture of the infants in his clinic the fewer the deaths. It was more logical, he argued, to attribute the deaths to the environmental conditions than to inheritance of tuberculosis. The balance of opinion would, he suspected, be upset if the belief that tuberculosis could be inherited were revived, and the public thus encouraged to attach less importance to shielding infants from contagion. Drs. Sergent, Arloing, and Couvelaire indignantly repudiated any intention of minimizing the importance of post-natal antituberculosis prophylaxis; at the same time they urged that researches into the problem of the transmission of tuberculosis *in utero* should not be throttled by such considerations as Dr. Bernard had advanced. Why the transmission of a filterable virus through the placenta should be more an inheritance than the transmission of a non-filterable virus through the mother's kiss is, perhaps, a problem worthy of consideration.

FIRST AID IN ROAD TRAFFIC.

DEALING with the question of road accidents, the latest report of the Home Service Ambulance Committee of the Order of St. John and the British Red Cross Society expresses the opinion that with the increase of road traffic that will come with the revival of trade, there must be, for some time to come, a great number of road casualties. Ambulances alone will not suffice to meet the needs that arise from accidents on the highways; indeed, many of the injuries, while they call for skilled attention to prevent more serious developments, do not need an ambulance at all. Provided that an adequate supply of bandages and dressings is on the spot, and that skilled hands are available to apply them, most of the cases can be sent on their way. The Order and the Society therefore propose to give every encouragement to members to undertake in their spare time to help on the roads where the traffic is thickest and give first aid to injured on the spot. It is

intended that all the main highways of the country shall be equipped at suitable points with first-aid boxes containing all that is necessary for first aid to the injured, and that at busy periods, especially at the week-ends, voluntary trained workers shall go out prepared to exercise their skill in minimizing the effects of traffic accidents. With the toll of the road now approaching 150,000 a year in killed and injured—or over three times the total British killed, wounded, missing, and prisoners in the South African war, and not far short of four times the number of wounded in the second battle of Ypres—there is ample scope for voluntary effort to minimize the disastrous effects that modern traffic conditions have created. A national first-aid road service carried out in friendly co-operation with the police and the motoring organizations will be an undertaking worthy of the traditions of the Order and the Society. The committee has now 383 motor ambulance stations, and the number of patients carried is over 80,000 a year. Inquiries and offers of service may be addressed to the Secretary at 19, Berkeley Street, London, W.1.

UNATTENDED MOTOR CARS.

IN the *Times* of December 30th, 1926, there was a letter, of some interest to medical practitioners who drive their own motor cars, from a correspondent who had witnessed rather unequal distribution of justice in a London police court. Some eight or nine defendants had been summoned for obstructing traffic by leaving their cars unattended in a side street. We are not concerned with the correspondent's difficulty in understanding the magistrate's reason for imposing on a woman, who boldly pleaded that she had gone shopping, nearly twice the fine he inflicted on men who alleged urgent business. But we agree with the editorial comment that this matter of alleged obstruction by unattended cars "calls for properly co-ordinated and consistent regulation." A very large number of medical practitioners now drive their own cars when visiting their patients, and provided they adopt reasonable care in avoiding obstruction to traffic while in a patient's house, and do not occupy the roadway for an unconscionable time, there should be little reason for interfering with this custom. At all events, it is absurd that in some towns motor cars may be left unattended in front of shops, while in other towns, whose traffic problems are in all respects comparable, even the side streets are forbidden them. The motorist's difficulties are increased by the fact that no indication is usually given that standing of cars is not allowed. Though we have no desire to seek special privileges for doctors, we hope that due consideration of their position will be given in framing any general regulations that may be thought necessary.

THE ORIGINAL DESCRIBER OF PARALYSIS AGITANS.

THE series of interesting articles by Sir D'Arcy Power in the *British Journal of Surgery* on eponyms or authorities, such as Percival Pott and Sir James Paget, whose names are dutifully kept in remembrance for their additions to the corpus of professional knowledge, deserves the form of flattery said to be the most sincere. Perhaps this had struck Dr. R. T. Williamson,[1] who, after writing valuable monographs on various nervous diseases and on diabetes, turned his attention to medical history, and has recently published an account of James Parkinson and his "Essay on the Shaking Palsy" (paralysis agitans). He shows that "Parkinson's disease" is, at least from the patient's point of view, a preferable title, for those in an early stage may, as a result of accidentally hearing the name "paralysis agitans," live and be haunted for years with the constant fear of complete paralysis or helplessness. In our columns in 1923 (vol. ii, p. 25) was published a note by Professor Arthur J. Hall of Sheffield, in which he gave an account of Parkinson's life, and analysed his essay on shaking palsy which had then recently been reprinted by the *Archives of Neurology and Psychiatry*. He pointed out that Parkinson did not describe the facial expression, and that it was Sir William Osler, apparently, who gave currency to the term "Parkinson's mask." The credit of first describing the clinical features of paralysis agitans is, however, undoubtedly his; in 1817 his "Essay on the Shaking Palsy," in sixty-six pages, based on six cases, two of which were casually met with in the street, and another "only seen at a distance," was published. He must therefore have been a very acute observer, for his description is extremely good and he made suggestions about the pathology, stating that he published the clinical features of a condition previously unrecognized, in the hope that those who had the opportunity for pathological work might elucidate its morbid basis, and closes his essay with the rather remarkable words: "Every person of consideration and feeling may judge of the advantages yielded by the philanthropic exertions of a Howard; but how few can estimate the benefit bestowed on mankind by the labours of a Morgagni, Hunter, or Baillie." Parkinsonism as a result of epidemic encephalitis is a familiar term, but few there be who know that they are using the name of James Parkinson, surgeon and palaeontologist, who died on December 21st, 1824; Dr. Williamson has therefore done well to recall the details of this humble-minded pioneer's life in Hoxton Square.

[1] Williamson, R. T.: *Janus*, Leyden, 1925, xxix, 193-197.

NEW YEAR HONOURS.

THE announcement that the King, on the occasion of the New Year, had signified his intention of conferring a knighthood on Dr. Henry Head, F.R.S., will have been welcomed by all members of the medical profession as a recognition of Dr. Head's great services to neurological medicine and his brilliant contributions to knowledge of the nervous system. This honour comes appropriately soon after the publication in complete form of the record of his profoundly interesting and important work on aphasia and kindred disorders of speech, to which we devoted a leading article in our issue of October 9th, 1926 (p. 647). A knighthood is to be conferred also on Dr. Thomas Houston, director of the laboratories in the Royal Victoria Hospital, Belfast, and the pleasure that this announcement has given to the whole medical profession of Northern Ireland is recorded in another column by our Belfast correspondent. The C.B. (Military) is conferred upon Colonel Corrie Hudson, C.I.E., D.S.O., Assistant Director of Medical Services, Aden Brigade; and another officer of the Indian Medical Service, Lieut.-Colonel J. W. Cornwall, lately director, Southern India Pasteur Institute, Coonoor, is appointed C.I.E. This short list of medical New Year honours is supplemented by the announcement of two special promotions in the medical branches of the services: Surgeon Commander Leslie H. Morris, R.N., becomes Surgeon Captain, and Squadron Leader H. B. Porteous, R.A.F., becomes Wing Commander.

THE Medico-Legal Society has accepted an invitation from the Obstetrical Section of the Royal Society of Medicine to take part in a joint meeting on Friday, January 21st, at 1, Wimpole Street, W., at 8 p.m. The subject for discussion is "The ethical, legal, and medical aspects of abortion," and the speakers will be Dr. J. S. Fairbairn, Lord Riddell, Dr. T. W. Eden, and Sir Travers Humphreys. The Obstetrical Section has invited the President of the Medico-Legal Society, Lord Justice Atkin, to take the chair and to sum up the debate.

Ireland.

SIR THOMAS HOUSTON.

A CHORUS of approval in Northern Ireland has welcomed the knighthood awarded on New Year's Day to Dr. Thomas Houston, director of the laboratories in the Royal Victoria Hospital, Belfast. Dr. Houston was born in Coleraine, county Antrim, and studied in the old Queen's College, Belfast; he graduated in arts in the old Royal University of Ireland in 1890, and in medicine in 1895, and proceeded M.D. in 1899, after a collegiate and university career full of the highest honours. Later he obtained the University studentship in pathology, and was research scholar of the British Medical Association, 1902-3, and was appointed physician to the Ulster Hospital for Children and Women, Belfast, and also to the Forster Green Hospital for Consumption, and physician in charge of the department of haematology and vaccine therapy of the Royal Victoria Hospital, Belfast. During the war he served as temporary honorary major R.A.M.C. for three and a half years, and was mentioned in dispatches and received the O.B.E. He was early appointed joint lecturer in medical jurisprudence in Queen's College, and holds the same post now in the Queen's University of Belfast. With the great enlargement of laboratories in the new Royal Victoria Hospital, and the formation of several departments, such as biochemistry, he was asked to take general charge, and was made general director. He had given much time and trouble to their organization and equipment. Within the last few years, with Dr. Trimble, chief tuberculosis officer of Belfast, and Dr. Norman Graham, bacteriologist to the Belfast Corporation, he was sent to visit numerous places on the Continent, chiefly with the object of studying the latest treatment of consumption. Dr. Houston is one of the indefatigable quiet workers of the time. One, two, and even three o'clock in the morning saw him in his laboratories, not once or twice, but as a routine, with a band of followers whom he had infected with his zeal; and many of his pupils have already gained places of distinction. The fortnightly meetings in his laboratories at the hospital which he inaugurated are a source of delight and of great value to the medical staff and to those private friends who are privileged to attend; everyone makes some contribution to the work, and the encouragement and guidance to the younger members are of infinite service. The medical profession of Ulster feel an exceptional pleasure in the recognition of Dr. Houston's work, as it is due purely to his long and arduous devotion to scientific medicine, with independence of any political influence, to his valuable aid in guiding the lay authorities, and to his own lovable personality.

THE TREATMENT OF CHILDREN.

That veteran of medicine and sanitation and lover of childhood Sir John Moore recently delivered by request an inaugural address at the Meath Hospital, Dublin, on the treatment of children. During a long and busy life Sir John Moore has always found time for philanthropic work outside his strictly professional duties, and as a member of the voluntary Dublin Sanitary Association he has helped greatly to improve the health conditions of the capital. In 1872, when this association began its work, Dublin was notorious for its slums and the bad conditions under which the poor lived. Since then increased cleanliness of persons and dwellings has made typhus fever a scourge of the past, but yet much remains to do, for the housing question is still an acute one. Only ten years ago it was found on inquiry that the percentage of one-roomed tenements in Dublin was as high as 33.9, whereas the highest in England was 14.8, and in Dublin the average number of inhabitants of such tenements per room was 3.31. Such conditions have, of course, a very grave influence on infantile and puerile disease and death.

The lecturer did not fail to draw the appropriate moral from these figures and to stigmatize the death rate from diarrhoea and enteritis as appalling. Improvement in dairies and in the whole process of milk distribution must be looked to for a reduction of this mortality, as well as early and proper treatment of affections of the mouth, such as thrush, which has been shown to bear a distinct relation to subsequent enteritis. In reviewing the activities of the hospital as regards children, Sir John mentioned that the Meath Hospital has as yet only one children's ward—that named after a former surgeon, the Smyly Ward for surgical cases. He pleaded the necessity of more accommodation for both medical and surgical diseases and injuries of children, and commented on the unnecessary mortality and disfigurement caused by burns, generally the result of poverty and the non-provision of fireguards.

In the hospital year ended March 31st, 1926, there were treated in the wards 267 children of or under the age of 12 years, forming 16 per cent. of the in-patients. Forty-five of these were medical cases, without any deaths. Of the cases on the surgical landing, which includes the Josiah Smyly children's ward, there were 113 child patients and nine deaths, five of them from burns and scalds. This is a good record. The remainder of the 267 were treated in the emergency wards or the epidemic block, and included various injuries and infections. Tuberculosis, as Sir John says, is a terrible scourge. Nineteen of the children were admitted to the observation wards of the Tuberculosis Committee of the County Dublin County Council. Unfortunately for the Dublin children who suffer from surgical tuberculosis, the Tuberculosis Prevention Act (Ireland) of 1908 provides for notification of tuberculosis in certain prescribed forms and stages, "but no forms of tuberculosis shall be so prescribed [*sic*] save such as by reason of infective discharges are liable to communicate the disease to other persons." Obviously this clause shuts out nearly all cases of tuberculosis in children in the stages in which they are most amenable to treatment. Nevertheless, as before stated, nineteen tuberculous children were treated in the wards provided for the purpose in the Meath Hospital, one of the functions of which is to act as the county tuberculosis hospital. Dublin is not ill provided with convalescent homes for children, and in its nearness to the sea and to fine mountainous country it has advantages over London and some other capitals.

BIRTHS, DEATHS, AND MARRIAGES IN THE IRISH FREE STATE.

The annual report of the Registrar-General for the Irish Free State for 1925, just issued, shows reductions in the number of marriages, births, and deaths, as compared with the preceding year, and a large increase in the number of emigrants. The total for 1924 was 19,077, of whom 12,016 went to the United States of America. In 1925 the number was 30,302, including 26,546 to the United States, 1,861 to Canada, 1,076 to Australia, 290 to New Zealand, 110 to South Africa, 136 to India, and 223 to other countries. Marriages numbered 13,820, equivalent to a rate of 4.63 per 1,000 of the estimated population. This is 1,002, or 0.30 below the figure for 1924, and 0.45 below the average for the ten years 1915-24. Births numbered 62,069 (31,818 boys, 30,251 girls), equivalent to 20.8 per 1,000 of the population, being 0.3 above the average of the ten years. The rate in Northern Ireland was 22 per 1,000, in England and Wales 18.3, and in Scotland 21.3. Amongst the births registered were 682 of twins and 9 of triplets. Deaths numbered 43,650 (males 22,118 and females 21,532), giving a rate of 14.2 per 1,000 of the population. The mortality from all causes was 0.41 per 1,000 below that of 1924 and 1.30 below the average for ten years. The death rate from all causes in Northern Ireland was 15.74, England and Wales 12.16, and Scotland 13.39. Deaths from the principal epidemic diseases yielded a rate of 0.54 per 1,000. Deaths from all forms of tuberculous disease numbered 4,673 (2,307 males and 2,366 females). The total is equivalent to a rate of 1.57 per 1,000 of the population. The corresponding rates were: in Northern Ireland 1.67, in England and Wales 1.04, and in Scotland 1.10. The average total deaths from tuberculosis in the ten years 1915-24 was 5,580. The total for 1915 was 6,725, or at a rate of 2.19 per 1,000 of the population; this fell consistently to 4,468 (rate 1.48) in 1923, which was the lowest recorded in the Irish Free State. This was followed in 1924 by an increase

of 114, and a further increase of 91 in 1925. Deaths from cancer numbered 2,801, a decrease of 102 as compared with 1924. There was a distinctly upward tendency in the mortality from cancer in the years 1923 and 1924. The number for 1923 gave an increase of 8 per cent. on 1922; and 1924 gave a further increase of 6 per cent. on 1923. The mortality from cancer in the Irish Free State during the five years 1921-25—namely, 0.90 per 1,000—would appear to show a real increase of 32 per cent. as compared with the average annual rate (0.68 per 1,000) for the ten years 1901-10. In Northern Ireland the rate was 1.15 per 1,000, in England and Wales 1.34, and in Scotland 1.36. Of the total deaths, 6,356, or 14.6 per cent., were of children under 5 years of age, and 19,955 (45.7 per cent.) were of persons aged 65 or upwards. Deaths of persons aged 95 or upwards numbered 333, including 60 whose ages were returned as 100 or over; one of these was stated to be 115. Deaths of infants under 1 year numbered 4,216, equivalent to a rate of 68 per 1,000 births, as compared with 72 in 1924, and an average of 77 for the ten years 1915-24. In Northern Ireland infant mortality was 86 per 1,000 births, in England and Wales 75, and in Scotland 91. Deaths caused by violence numbered 816—113 less than in 1924, and 512 below the average (1,328) for the ten years 1915-24. Of the total, 88 were classed as suicides, 24 as homicides, and there was one execution; of the rest most were definitely due to accident. Eleven deaths were caused by poisons or poisonous gases, and 149 by burns or scalds; there were 126 deaths from accidental drowning, 25 due to firearms, and 100 due to injuries caused by crushing, including 53 (as compared with 46 in 1924) by motor-drawn vehicles.

Scotland.

EDINBURGH ROYAL INFIRMARY.

AT a recent meeting of the board of managers of the Royal Infirmary of Edinburgh it was intimated that Sir James Hodsdon and Sir David Wallace had been appointed representatives of the Royal College of Surgeons on the board of management. Dr. William Russell and Dr. John Orr had been appointed by the Royal College of Physicians, and Professor Harvey Littlejohn and Professor William Wilson by the Senatus Academicus of the University. A letter was read from the Royal Society of London asking for the nomination of a delegate for the celebrations to be arranged for the centenary of Lord Lister in 1927, and Dr. George Mackay, Convener of the Medical Managers' Committee, was appointed a delegate for this purpose.

SCARLET FEVER IN SCOTLAND.

In a bulletin for November, 1926, issued by the Glasgow Public Health Committee, it is stated that the death rate for the month (14.6 per 1,000) compared very favourably with the general death rate of 17.4 during the corresponding month of last year. This decline is ascribed to a lower death rate from infectious diseases, especially measles. The number of cases of scarlet fever certified was 605, as against 758 in October, so that this epidemic appears to be on the decline. The case mortality had been low—under 1 per cent.—although recently some cases of a more severe type had been admitted to hospital. These severe cases were treated with specific serum. An outbreak of scarlet fever has occurred at Musselburgh, and 28 cases were notified during the three days preceding December 14th. The outbreak had been traced to a contaminated milk supply, and was believed to be well in hand. An outbreak of scarlet fever has occurred also in Grangemouth; within five days 20 cases, all but four of them adults, were removed to the burgh isolation hospital; subsequently the notifications averaged six a day. The epidemic was chiefly limited to one part of the burgh, and the origin of the outbreak was subsequently traced to the milk supply from a local dairy, where a dairymaid was found to be suffering from scarlet fever, unrecognized by herself or her employers.

PURE MILK IN NATIONAL HEALTH.

At a meeting of Midlothian County Council, when the prizes gained in the recent clean milk competition were presented, Sir Robert Greig, chairman of the Board of Agriculture for Scotland, congratulated the council on its enterprise in carrying out this competition in collaboration with the Agricultural College. The increased consumption of milk would be of great advantage to the consumer as well as to the farmer. Sir Robert Greig presided at a meeting, on the same day, of the Edinburgh Women Citizens Association, when Mrs. Chalmers Watson, M.D., gave an address, in which she pointed out that the present pure milk campaign was part of a larger national movement in the interests of pure food. A great forward step had been made in the establishment of grades of milk, and the public now recognized that milk could be procured with a guarantee that it was clean and free from taint of tuberculosis; even the most expensive form of certified milk, selling at a shilling a quart, compared favourably with other animal foodstuffs, for a quart of milk was equal in nutritive value to a pound of steak or to nine eggs. It was essential for the public to recognize that the higher grades of milk necessarily involved increased cost. A herd entirely tubercle-free was costly, and a high standard of cleanliness required increased labour and laundry charges, while rich milk could not be ensured without an increase in the quantity and quality of the cows' food. Bottling on the farm, which was a guarantee of purity, was costly, and the charge for its transport was high. A sufficient number of farmers were now producing higher grades of milk, and the extent to which this great movement would proceed now lay in the hands of the public.

The committee on physical instruction and health of the Edinburgh education authority has received a letter from the Scottish Board of Health regarding an investigation into the nutritive value of milk for school children. It was proposed in Edinburgh to have four groups of fifty or sixty school children between 8 and 9 years of age, to whom certain quantities of milk and biscuits would be supplied during school hours for a period of about eight months. Records as to the height and weight of these children would be taken under the supervision of a woman medical officer appointed by the Scottish Board of Health, who would provide funds for the investigation. The education authority approved of the Board of Health's request on the understanding that the consent of parents would be obtained in the first place.

EDINBURGH CONGESTED AREA IMPROVEMENT.

A ceremony was held on December 22nd, 1926, at the New College Settlement, Pleasance, Edinburgh, to mark the completion of the first stage of a scheme for providing a gymnasium, play-hall, baths, and open-air playground in a highly congested district of the city. The New College Settlement has been in existence for some years, but developed into the Pleasance Trust in 1914. The population around the new buildings is estimated at 725 persons to the acre, and the activities of the Trust have resulted in a certain acreage of land being kept as an open area, while on other areas buildings of modern construction are being erected. A child welfare centre is included, as well as a covered games ground, and other buildings are to be erected for the needs of the adults of the district. A sum of nearly £11,000 is in hand, although more is still required to complete the scheme. In the child welfare centre a department for artificial sunlight treatment, under the control of Dr. William Robertson, medical officer of health for the city, has been installed, together with a roof garden from which a striking view of the Queen's Park and the Firth of Forth is obtained. Lord Murray, chairman of the Trust, delivered an address at the close of the ceremony, in which he said that the building was the first stage of a great scheme of which the Rev. J. Harry Miller was the mainspring.

THE CRIPPLE CHILD.

The report presented to the twenty-fourth annual meeting of the Edinburgh Cripple and Invalid Children Aid Society showed that the number of cases on the books

during the preceding year had been 685, while the society had cared for 2,070 children since its inauguration. Bailie T. G. Nasmyth said that a scheme for the establishment of an institution for the crippled child was under consideration; it would provide a central hospital on the outskirts of Edinburgh and affiliated clinics in various centres of the south-east of Scotland. Mr. Alexander Miles, F.R.C.S., in commending the society to the continued support of the public, said that the great majority of the cases with which the workers of the society had to deal were suffering from conditions which might have been prevented if matters had not been allowed to drift owing to want of an organization for dealing at an early stage with the diseases which caused crippling.

England and Wales.

Welsh National Medical School.

Another stage in the long conflict about the status of the Welsh National Medical School will be reached on January 14th, when a special meeting of the Court of the University of Wales is to be held in Shrewsbury to consider a draft charter for the incorporation of the Welsh National School of Medicine as an independent school of the University. Objection is taken to the proposal by the University College of South Wales and Monmouthshire, which proposes that the School of Medicine should be a unit of the College and not of the University as a whole. The College also proposes that the School of Medicine should be administered by a board of medicine, responsible, as it would seem, to the College Council, with a warden or provost, who would be subject to the control of the Board of Cardiff College. The College proposes further that the departments of anatomy and physiology should form parts of the Medical Faculty. The Council of the University in the charter now to be discussed adheres to its decision to make the Welsh National School of Medicine a separate body directly responsible to the University Council, but is willing to submit the question of the further position of the chairs of anatomy and physiology to a committee of experts, to be chosen by a small body representative of both councils. Under the council's draft scheme the president, who would be the head and chief officer of the Medical School, would be appointed by the University Court. The provost, who would be the principal academic and administrative officer of the School, would be appointed by the Council of the School, and might be one of the professors. The Council would consist of the president and provost (*ex officio*), fifteen members appointed by the University Court, three by the Cardiff Royal Infirmary, three by the professorial staff, and one by the Welsh National Memorial Association. Of the fifteen members appointed by the University Court six would be nominated by the University College of South Wales and Monmouthshire, of whom not less than two would be representatives of county councils or county borough councils, and one each by the University Colleges at Aberystwyth, at Bangor, and at Swansea. There would be two faculties—one of pure medical science, and the other of applied medical science.

Health of Liverpool.

Dr. A. A. Mussen, medical officer of health for Liverpool, in his annual report for 1925, estimates the population of the city for the year at 842,968. The birth rate was 23.3 per thousand, the death rate 14.1 per thousand, and the infantile mortality rate 99 per thousand births. No case of plague, small-pox, or typhus fever was noted in 1925. A number of women and girls contracted fur dermatitis through wearing cheap furs dyed with meta- or para-phenylenediamine so as to simulate beaver. There were 48 cases of enteric fever, of which 2 were paratyphoid A and 3 paratyphoid B. The cases of diphtheria were 1,504 and the deaths 106. The corresponding figures for scarlet fever were 3,561 and 93. The relatively high death rate and case mortality rate of these diseases during the last five years in the crowded central portions of the city are ascribed to the high proportion there of children of susceptible ages. The medical officer has recommended to the Port Sanitary and Hospitals Committee a scheme of co-operation with general practitioners for the prevention of diphtheria and scarlet fever. The family doctor will be asked to advise parents as to the value of protection for their children. Aided by the Health Department he will apply the Schick and Dick susceptibility tests to children over 5, the testing of younger children being thought needless, and he will be provided by the Health Department with the necessary prophylactic substances for administration to reactors. It has been observed in Liverpool that outbreaks of measles tend to recur at intervals of about ninety-two weeks. In years when the epidemic peak would be due in August, September, or October two maxima may appear, one before and the other after the expected date. In 13 out of 77 acute indigenous cases of encephalitis lethargica a possible association with a previous patient is believed to have been traced. Cases of puerperal fever during the year numbered 56, with 21 deaths. The cases of ophthalmia neonatorum were 734, the cures by the end of the year 673; no child was left with damaged vision. Over 200 open-fronted butchers' shops have been fitted with glass windows, so that all meat for sale is under cover. Among 5,587 milk samples from city cow-keepers 4.1 per cent. showed tubercle bacilli; among 10,303 samples from sources outside the city the corresponding percentage was 6.8. A food preparation described as chocolate eggs was found on analysis to contain quartz, zinc, lead, and other metallic fragments; the stock of the dealer was seized, and a fine of £20 inflicted. In the last five years over 8,000 dwellings have been erected in Liverpool, but the waiting-list of applicants for corporation houses contains 11,000 names. The numerous statistical tables and graphs in this report, extending back in some cases over a long series of years, are of great epidemiological value.

London Schools.

The Annual Report of the London County Council,[1] Volume IV, for 1925, deals with education. It is full of the details of the immense activities of the educational affairs of this collection of cities we call London. There are 960 schools with 665,000 children, 61 central schools with 20,000 pupils, 74 secondary schools with 31,000 pupils, 46 technical institutes with 55,000 students, 24 trade schools with 3,200 students, and besides these there are many continuation schools, evening institutes, and special schools. The work of medical inspection employs 25 full-time and 64 part-time doctors; these inspected 317,000 children in the year, and there were treated under the Council's scheme with local centres and hospitals 254,000 children. The total cost of the education service reached nearly thirteen million pounds in the year. Even the libraries of the elementary schools are on the same million scale, for there are no fewer than two and a half millions of books, not counting an additional quarter of a million on the shelves of evening institutes. And the books are used; each of those in the elementary schools went out on an average six times in the year—no mean record. The whole of the report is full of records of this great work in its various branches. Any one of them would be of sufficient interest to fill the space of a review. Perhaps the most interesting sections are to be found in the two appendices. Novel methods have been adopted to show the changes in London conditions. There are photographs of some of the elementary schools, and of some of the children in these schools, at different dates. Ninety-five per cent. of all the children of London attend the elementary schools; there are enough of them to replace in numbers the whole of the population of Manchester, or half the population of the Dominion of New Zealand. The very old buildings are all denominational or parochial schools; there are some very old ones still existing and in use. "The Blewcoat School, built in the year 1709," is the inscription on the oldest school in Westminster, and still in use; it was originally a charity school. St. Luke's, Chelsea, has had a continuous history since 1595, the present buildings dating from 1824. There is no common style in the old schools. Style did not arise

[1] Annual Report of the London County Council, 1925, Vol. IV: Education. P. S. King and Co., 14, Great Smith Street, Westminster. 1926. (Pp. 48. Price 1s.)

until school boards came into being in 1870. Since then London schools can be dated as clearly as feminine fashions. Those of the seventies were plain brick buildings of some dignity, but with interiors that would be abhorrent to modern educationists. The school building was made up of a series of huge classrooms, each for some seventy children and intercommunicating; indeed, there were often no corridors. Most of the children sat with their backs to the light, unless it happened to be in their eyes. In the second period, the late eighties, buildings were generous, even handsome, in style; there were flights of steps, pillared porticoes, gables, and fine brick and stone work. The interiors were an advance, since there were fine halls, better classrooms, but still too big, and corridor entries. But the lighting was severely cold, a northerly aspect for the rooms being thought best for work. There was one great advance, in the provision of playgrounds. To-day's buildings are a return to plain severity and utility, but there is a dignity of clean balanced mass which their immediate predecessors sometimes lacked. The interiors are the great change. A hall large enough to take the whole school, many and small classrooms which cannot take more than a certain number of children, with a sunny aspect so far as possible; good wide high windows, well arranged artificial lighting, blackboards well placed, ample cupboards for teaching materials, rooms for the head teacher, for the staff, for medical inspections, a practical workroom, and sometimes provision in the large playgrounds for open-air classes. The second appendix illustrates by photographs the changes in the conditions of the children in certain of the schools thirty years ago and now—that is, 1894 and 1924. Dr. Kay Menzies writes: "Quite definite medical conclusions can be drawn from the photographs on the last two pages. It must strike everyone that the children in the later photographs are brighter and more intelligent in appearance, infinitely better cared for, and happier looking. Taking a group of boys, the 1894 group presents great inequality in physical conditions, the types ranging from robust to very ill nourished, while the 1924 photograph shows a set of boys of average nutrition without any of the inequalities of the former group. Carriage and posture are deplorable in the earlier photograph, slack and loose postures [illegible] the later photograph the evidence is very apparent in the improved carriage and alert appearance. A very striking medical point is the absence of mouth breathing in the later group, while in the earlier group two of the nine boys are mouth breathers. These two groups of photographs of buildings, both exteriors and interiors, with the outdoor classes, and those of the children of 'then' and 'now' are well worth examining. But the conditions themselves need to have been seen for the amazing change that has come in the last thirty years to be appreciated."

Correspondence.

THE ABANDONED MENTAL DEFICIENCY BILL.

SIR,—In view of the misunderstanding which appears to prevail in certain quarters regarding the now abandoned Mental Deficiency *Bill*, perhaps you will be good enough to allow me to attempt to explain the purpose and scope of this measure.

It is apparently thought by some persons that the Mental Deficiency Act of 1913, if not actually designed to obtain control of individuals who are quite capable of looking after themselves, has at all events been used for such a purpose, and that consequently any amendment which would facilitate its working should be strenuously resisted. There could be no more mistaken view. The Act of 1913 was a long-overdue measure passed in the interests not only of the community, but also of defectives themselves, and it has not inaptly been termed "the charter" of the feeble-minded. Speaking from a large experience of the working of this Act, I have never known, or heard of, a single instance in which a person has been dealt with under it who was not in need of supervision. It should also be pointed out that, contrary to what is often thought, certification under the Act is by no means irrevocable. Every first order automatically expires at the end of a year, and each case must then be reviewed and, if considered necessary, another order signed. A further review takes place at the expiration of another year and subsequently at five yearly periods.

As a matter of fact, far from being applied improperly or too widely, circumstances have combined to interfere very seriously with the working of the Act, and to withhold from thousands of defectives the protection of which they are in need. As evidence of this I may state that while the total number of defectives in the country is estimated at approximately 174,000, about half of whom are in *urgent* need of care, the total number dealt with under the Act on January 1st, 1926, was only 36,815, of whom 15,733 were under supervision in their own homes.

There are two main reasons for this. One is the utter inadequacy of existing accommodation; the other is the wording of the definitions of the Act. According to the Act of 1913, the mental defect must have existed "from birth or from an early age." Personally, I have always contended, and taught, that the chief purpose of these words was to differentiate between arrested mental development and disorder or decay arising *after* the mind had attained to that degree of development which would enable the individual to transact the ordinary affairs of life, and that the words should be interpreted in this sense. But many magistrates, and some medical men, have placed a much narrower construction upon them; they have taken "an early age" to mean the first few years of life, and it is this which has led to considerable difficulty in the administration of the Act.

For instance, there are individuals in whom the defect, although undoubtedly of such a nature as to render them in need of care, supervision, and control, has not made itself evident until the years of adolescence. The increased demands of life, even of a simple one, have then rendered patent a deficiency which had hitherto been latent. There are other cases in which an arrest of mental development has actually been caused during early adolescence, as, for example, by encephalitis lethargica. There are yet others where no early history is obtainable. It is obvious that cases of this kind—and they are numerous—will be excluded from the protection of the Act by a narrow interpretation of the words "from an early age," and a recent Home Office Committee was so much impressed by this that it recommended that these words should be entirely deleted. In my opinion, however, such deletion, in the absence of any definition of mental defect, would have brought within the scope of the Act persons who were not really mentally defective and to whom it was not meant to apply, and I think the Minister of Health was wise in introducing a clause which, whilst doing away with the difficulty resulting from the original definition, yet made it clear that mental defectiveness was not disorder or decay of mind, but "arrested or incomplete" mental development.

The question has been raised as to the applicability of the new definition to adults. I am very definitely of the opinion that, with the exception of adults in whom the defect has been brought about before the termination of adolescence, the new definition would no more apply to adults than did the old one. Since mind reaches a stage of development which may be regarded as normal or adequate for the ordinary purposes of life before the termination of adolescence, it is clear that any change taking place *after* this is not mental arrest. Personally I should certainly object to any definition which extended the scope of the Act to cases of mental disorder or decay, which are already provided for by the Lunacy Act; but I am convinced that it is not intended to do this, and that the bill does not, in fact, do so.

It is important to point out that the definition of mental defectiveness in the bill must be read in conjunction with the definitions contained in the preceding clause. For a person to come within the scope of the Act the arrested or incomplete development of mind must be of such a degree as to prevent him from "guarding himself against common physical dangers"; or from "managing himself or his

affairs"; or be so pronounced as to necessitate "care, supervision, and control" for his own protection or for the protection of others.

In conclusion, there can be no doubt that the Mental Deficiency Act of 1913 is not only a sound measure of social reform, but that it is in the highest degree a humane measure. I find it simply amazing that any person who has read the Report of the Royal Commission of 1904, or who has any practical knowledge of mental defectives, or who is even really concerned for the welfare of the community, should obstruct a bill the sole purpose of which is the remedying of defects which experience has revealed in the original Act. I am convinced from the comments and letters which have reached me that workers who have spent years in endeavouring to improve the lot of the unfortunate mental defectives will view the abandonment of the bill with dismay.—I am, etc.,

London, W.1, Jan. 3rd. A. F. TREDGOLD, M.D.

ACUTE SUFFOCATIVE PULMONARY OEDEMA, CARDIAC ASTHMA, AND CHEYNE-STOKES BREATHING.

SIR,—During the past few months a number of cases have been reported from various sources of acute pulmonary oedema, which have been quickly relieved by hypodermic injections, of which morphine has been a principal ingredient. Most of these cases appeared to me, as I read them, to be cardiac in origin, and examples of what has commonly been called "cardiac asthma" which, though a dry variety exists, characterized by extreme air-hunger and by hyperpnoea, is very commonly accompanied by rapid and sometimes extreme effusion into the bronchi, and which, as Mackenzie has pointed out, is frequently associated with pre-existing Cheyne-Stokes breathing.

The general recognition that these cases can be relieved by morphine, with or without atropine, will save much suffering; for practitioners have often been afraid to give opium in such cases, for fear of locking up the fluid, which, however, is rapidly reabsorbed under the influence of the drug.

The objects of this communication are: first, to point out the connexion between these three conditions, all of which, in their severer phases, can be productive of an agonizing anoxaemia, and all of which can generally be relieved by morphine; and, secondly, to note that, where the cause is cardiac, and the attacks sufficiently severe to call for symptomatic treatment, the eventual prognosis is grave. Mackenzie said that patients did not survive the initial attack of cardiac asthma (usually nocturnal in incidence) for more than two years. My own experience has confirmed this, twenty-two months being the longest period I have noted, though I have two or three cases of less than a year's duration in which I hope that extra care, resulting from recognition of their plight, may possibly secure a longer tenure of life. But such patients (who often feel wonderfully well for weeks or even months at a stretch), must limit physical effort to a constantly low level to give themselves the best chance of what is at most a limited outlook.

Those interested in these matters will find several cases resembling some of those recorded in your columns, and observations on the effect of morphine on Cheyne-Stokes breathing, in a paper which I read at the Therapeutic Section of the Royal Society of Medicine three years ago, and which was reproduced in the *Lancet* (December 22nd, 1923, p. 1345), "On the use of opium in cardiac dyspnoea."—I am, etc.,

CLAUDE WILSON, M.D., M.R.C.P.

Tunbridge Wells, Dec. 20th, 1926.

CANCER RESEARCH.

SIR,—May I be allowed to supplement briefly Sir William Simpson's remarks (BRITISH MEDICAL JOURNAL, December 4th, 1926, p. 1080), with reference to the immunizing factor of lipase in cancer, by some further remarks bearing on the etiology of the disease? He recalls the observations of O. Rosenheim, and myself, that lipase in extracts of the pancreas, and in pancreatic juice itself, is separable into two parts, one ("co-enzyme") which is thermostable, and the other ("inactive lipase" or prolipase) which is destroyed by heat. Each part by itself has no fat-splitting action, but together become active.

The presence of a lipase (with other intracellular enzymes) in tumour cells has long been known. Although it may not be identical with that in the alimentary tract, the effect on fats is substantially the same. Presumably it is separable into two parts, as in the case of pancreatic lipase. In the limited quantity available this is difficult of proof. But (*a*) carcinoma tumour extracts prepared in various ways have long been shown to possess activating properties on inactive lipase, and can take the place of pancreatic co-enzyme. The fat-splitting action is, however, less, and compared with the activating action of normal tissue extracts generally, it is also less. The chemical agent responsible in cancer extracts is no doubt different from pancreatic co-enzyme. (*b*) Carcinoma extracts prepared in the same way as extracts of the pancreas by filtering through a Pukalls porous filter or Buchner's filter, show a similar preparation into two parts, filtrate and deposit, the latter being in the form of a fine powder. The filtrate (heated) activates pancreatic inactive lipase, but such activating action on the separated deposit itself was not shown, perhaps due to difficulties in collection of the very scanty deposit obtained in my experiments in 1922, owing to the limited amount of undegenerated carcinoma tissue usually available.

Bacterial vaccines (heated in the usual way) were found also to activate pancreatic inactive lipase, but in relatively small degree. To this property immunizing and therapeutic action was in part attributed in the treatment of certain specific infections, and the same indicated for heated cancer extracts and preparations in cancer. In short, by analogy with bacterial infections, without assuming a bacterial origin in cancer, the activator in cancer extracts seemed comparable roughly to *amboceptor*, in each case regarded as specific, and inactive lipase to *complement*. The view expressed (1913) was that cell proliferation in cancer might be due either to failure or upset of normal intracellular enzyme action with imperfect products of digestion in areas of the body affected, or to the presence of unusual enzymes (bacterial or otherwise) as stimulus.

In the very remarkable and arresting work of Dr. W. E. Gye and Mr. J. E. Barnard on the etiology of malignant new growths, it is shown that filtered and presumably cell-free tumour juice of Rous sarcoma (fowl) is separable into two parts. One part of the filtrate is inactivated by chloroform and the other by acriflavine. Each by itself is innocuous, but the two together, when injected into suitable fowls, produce a tumour. Briefly expressed, the result is attributed to an ultra-microscopic organism or virus, which is culturable, and an accessory chemical substance. Dr. Gye alludes to a labile chemical substance present in the filtrate rendered innocuous with chloroform, and in the virus rendered innocuous with acriflavine and other antiseptics. This agent or substance he regards as the essential factor, which he terms "specific factor," carried by the virus rather than by the chloroform-treated filtrate. It is difficult to avoid the suggestion that the labile chemical substance alluded to by Dr. Gye is of a similar nature to inactive lipase, and that it is activated by its own chloroform-treated filtrate or co-enzyme.[1] In his recent paper Dr. Gye notes that the agent or substance is sensitive to heat. Nevertheless the heated filtrate still retains its power in conjunction with virus to produce a tumour. This brings the inactivated filtrate into line with the heated cancer extracts and filtrates with activating properties on pancreatic inactive lipase, which I have described. If this aspect is correct, the thermolabile substance may be regarded as part or constituent of an unusual lipolytic enzyme present in either virus; or cancer cell (developmental; trophoblastic or chorionic originally put forward by the late J. Beard, 1905), which in each case is activated by its own co-enzyme; or that some other chemical irritant or stimulus impairs the lipolytic enzyme activity of the normal cell.—I am, etc.,

J. A. SHAW-MACKENZIE, M.D.Lond.

London, Dec. 23rd, 1926.

[1] *Journ. of Trop. Med. and Hygiene*, xxviii, p. 297, 1925.

A BACTERIOLOGICAL THEORY OF CANCER.

SIR,—I am authorized to communicate to you the following hitherto unpublished information concerning the researches of Dr. Carl Spengler of Davos Platz into human cancer.

In 1909 the late Professor Kocher of Berne sent to him for specific treatment certain cancer cases which had been operated upon and which had relapsed and were no longer operable. From four of these cases he isolated a Gram-positive bacillus which formed ovoid spores, and in the presence of body cells replaced the cell contents with their spores, and so with the limiting surface of the body cell formed spore sacs. He never had any doubt that this micro-organism is an essential cause of cancer.

He grows it upon the following medium: somatose Beyer 5 grams, peptone Chapoteaut 5 grams, sodium chloride (pure) 5 grams, sodium carbonate crystals 2¼ to 2½ grams, glycerin 60 c.cm., water 1,000 c.cm., with and without 1/2 per cent. glucose, with and without agar. From one of these cancer cases, on glucose agar, with repeated subcultures, the symbiotic growth of cancer cells and this micro-organism flourished for fifteen months before the cellular element died out and a pure culture of the micro-organism remained. He noted that when a loopful of human adult blood was mixed with a pure culture the blood platelets proliferated, and some would swell up and become nucleated; while the blood of a young, healthy infant, and the blood of an elderly person who had been treated with a vaccine made from this bacillus, did not give this result.

Last July he experimented by adding, after antiseptic treatment, the cells of pulmonary sputum, also the surface cells of the skin from the back of the hand, also a mixture of these skin cells and human blood, to a pure culture of this bacillus on solid and in fluid media. In every case he got proliferation of the cells; and after proliferation the cells would be entered by the bacilli and spores formed inside the entered cells, so creating the appearance of spore sacs. This change was most rapid and most pronounced with the sputum cells. He notes that when this bacillus is grown in culture with human body cells, those cells tend to become Gram-positive. He knows of no other micro-organism with which any of these results can be obtained.

He notes that when a pure culture of this bacillus is raised for a moment to about 95° C., and at once cooled, it still causes cell proliferation, but no longer destroys the proliferated cells, and that this heat-treated culture when injected into a rabbit produces a larger cancer tumour than the same quantity of normal culture.

Since the commencement of these researches Dr. Spengler has been treating his cancer patients with immune substance taken from the blood of animals immunized with this bacillus, or with a vaccine made from this bacillus, or both. During the past three months he has been studying the conditions which vary the malignancy of cancers caused by this micro-organism, with a view to increasing the efficiency of its vaccine. And he now calculates on arresting cancer formation in inoperable cases within two weeks of commencing treatment, and on getting rid of the tumour formed, by further treatment.—I am, etc.,

December 25th, 1926. J. BANCROFT ANDERSON, M.D.

PHARYNGEAL DIVERTICULA.

SIR,—In the discussion on my paper on "Pharyngeal and oesophageal diverticula," published in the BRITISH MEDICAL JOURNAL of December 18th, 1926, Dr. Irwin Moore questioned the propriety of including in the records of pharyngeal diverticular aeroceles the case published by Godlee and Bucknill in the *Lancet* of 1901 under the heading "A pharyngeal pouch of large size removed by operation." Dr. Moore asserted that "this case appeared, however, to have been wrongly described by them; it was undoubtedly a 'laryngocele,' since the sac contained air and its origin was laryngeal." Godlee and Bucknill, however, who were not unaware that some aeroceles in the neck had been stated to arise in the larynx, asserted in the concluding paragraph of their paper that their "pouch was obviously of the pharyngeal variety," and it appears to me that the balance of evidence detailed by them is strongly in favour of that view and against the unproved and unprovable dogmatic assumption of Dr. Moore.

There are two varieties of cervical air sacs which may pass through the thyro-hyoid membrane, one of which often passes some considerable distance upwards to open into the pharynx and on the palato-pharyngeal fold, and the other passes more or less directly into the ventricle of the larynx. The track of the former upwards may be hard to trace, whereas the latter, being adjacent and direct, should be quite easy. In Godlee and Bucknill's case they were unable to trace the route of the diverticulum beyond the thyro-hyoid membrane, but they concluded that the internal orifice was in the pharynx, and probably at the most usual site on the posterior faucial pillar, for the following reasons:

1. A laryngoscopic examination showed no abnormality in the larynx. [This negative finding is not definitive, of course.]
2. On squeezing this lateral air sac "an uncomfortable sensation was experienced by the patient, which shot up to the ear and lasted for several days." [This was very much more suggestive of a pharyngeal than a laryngeal lesion, it appears to me.]
3. For three years "swallowing had become difficult and painful until at last he could only swallow liquids." [Tumefaction due to inflation of the tissues of the left faucial pillar and adjacent side of the pharynx would account for the dysphagia. We have here a deglutitory symptom rather than a respiratory one.]
4. The swelling in the neck "reached upwards to a point above and behind the angle of the jaw." [This observation, though compatible with a pharyngocele, does not absolutely exclude the diagnosis of a laryngocele, of course.]
5. Microscopic examination of the wall of the sac showed the presence of glands "representing in every detail of their structure a mucous salivary gland," and they add that such glandular structure of the salivary variety have been found "in several cases" of pharyngocele. [The presence of these glands seems to me to be distinctly suggestive of a pharyngeal origin.]

Against the cumulative evidence of these several points we have Dr. Moore's single stated objection to the pharyngeal diagnosis—namely, that the "sac contained air and its origin was laryngeal." The statement that the sac contained air in no way excludes a congenital lateral pharyngeal pouch any more than does voluntary inflation, and the assertion that its origin was laryngeal because the sac was air-filled is a non sequitur.

Dr. Irwin Moore is admittedly an authority on the subject of laryngoceles, and I should be the last lightly to brush aside any really cogent reasons he can suggest for regarding the case so carefully and learnedly recorded by Godlee and Bucknill as originating in the larynx rather than the pharynx.—I am, etc.,

WILLIAM HILL.

London, W.1, Dec. 23rd, 1926.

MIGRAINE AND ACETONURIA.

SIR,—I have been interested in the discussion in your correspondence columns regarding acetonuria and migraine. I have had a case under my care for the past eighteen months—a policeman, aged 30, who suffers from periodic attacks of vomiting, constipation, anorexia with severe headache, and visual disturbances.

His first attack was several years ago, and they have been repeated at three-monthly intervals since then. When I first saw him during an attack I diagnosed cyclic vomiting from his history, symptoms, and presence of acetonuria. I treated him dietetically on a fat-free, principally carbohydrate diet, and medicinally with routine calomel followed by Glauber's salts, and with sodium bicarbonate. This treatment merely prolonged the interval between his attacks.

During his next illness I noted that the visual disturbance was more prominent (especially limitation of the visual field), but the headache, although severe, was bilateral. This new development, coupled with the age of the patient, made me doubt the diagnosis of cyclic vomiting,

although acetonuria was again present in the acute stage. I therefore sent the patient to the Edinburgh Royal Infirmary, out-patient department, where he was examined, and the consulting physician wrote me saying that, while he would not like to rule out the possibility of cyclic vomiting, I should watch the patient carefully for migrainous symptoms. The next attack confirmed the diagnosis of migraine, and the patient informed me that periodic headache was common amongst his progenitors on the maternal side.

Finally I sent him to the Edinburgh Royal Infirmary as an in-patient under the care of Dr. Chalmers Watson, where, I have no doubt, he was thoroughly treated for alimentary auto-intoxication. He resumed duty about four months ago and seems to have derived great benefit from the treatment.

I found that during an attack large doses of sodium bicarbonate and the exhibition of cannabis indica gave the greatest relief.—I am, etc.,

ARCHIBALD PENMAN,
Police Surgeon.

Stirling, Jan. 1st.

POST-OPERATIVE RADIATION IN CANCER OF THE BREAST.

SIR,—There are so many points for discussion in a consideration of the technique and results of post-operative breast cancer radiation that it is more suited to a pamphlet than a letter. As, however, Mr. G. Gordon-Taylor is reported (December 11th, 1926, p. 1097) as having said that "he had made an extensive trial of post-operative *x*-ray treatment; he had found that the prognosis was rendered worse, and had therefore abandoned it," perhaps I may be allowed to say that though he may have had bad results a number of years ago, after radiation inadequate as to area covered and method of application, and deficient in penetration, I do not find his conclusion in any way justified by analysis of the 44 cases he has referred to me at the Middlesex Hospital in the years 1921 to 1924 for "prophylactic" treatment. So far as my notes show, of the 44 patients (3 are not fully traced) 25 (=56.8 per cent.) have done well, and 16 have died. Of these 16, 6 had only *one to three treatments; 2 were sent after incomplete* operations; 1 was only 23 years of age; 2 died of recurrences internally within a few months of operation; and 1 was reported to have died of "heart failure." An important feature of Mr. Gordon-Taylor's series was that the average time that elapsed between the operation and the commencement of the radiation was the unusually long period of just over four months, some patients coming for so-called "prophylaxis" six and eight months or more after operation.

Analysis of the cases operated on by Mr. Gordon-Taylor in successive years, and then referred to me, shows that the one patient referred after operation in 1920 did badly; of his 1921 group all the 4 did well; of his 1922 patients 9 did well and 4 badly; of the 1923 ones 10 did well and 5 badly; whereas of the 1924 group 5 did well and 6 badly. Perhaps this last unfortunate year led Mr. Gordon-Taylor to conclude, I hope not finally, that radiation makes the prognosis worse. But of these 6 bad results, 1 patient had had *an incomplete operation; 1 coming three months after* operation was already too ill to attend further; 2 coming four months after operation showed signs of multiple recurrences in three or four more months; and 1 coming a month after operation was dead with metastasis seven or eight months after the operation. Thus analysis leads to the conclusion that in the year 1924 an exceptional number of severe cases had been referred for "prophylactic" treatment.

Considering the number of advanced cases referred, indeed, the result, as known to date (not yet three years), of 56.8 per cent. well, far from being a bad result is quite favourable, comparing well with Anschütz's 62 per cent. free from recurrence at three years in Group II (Steinthal) cases, with a similar medium-voltage technique. Forssell and others have reported similar figures with similar techniques; and thus the value of a prolonged medium-voltage prophylactic course appears to be established, giving better results than those generally found after operation alone in similar types of cases.

The high-voltage or "intensive" technique, as generally applied, has led to poor results in several clinics where it has been applied to prophylactic work; but by a modification in method, such as the "glancing" technique of Holfelder, good results are being obtained, as by obliquely directed rays, so to speak skimming the chest wall, the surface can be efficiently radiated without the risk to the patient of damaging the lungs, or giving rise to excessive general effect and lowered resistance by massive radiation of the blood in the heart and lungs.

Alternatively a medium-voltage pre-operative and post-operative scheme may be followed with apparent success, as at the New York Memorial Hospital. Time will show which of these alternative techniques is likely to lead to the best results.

I wish, however, without further discussion of the question, to dissociate myself from the bad results which have led Mr. Gordon-Taylor—unfortunately, I think—to abandon prophylactic radiation.—I am, etc.,

J. H. DOUGLAS WEBSTER.

London, W.1, Dec. 24th, 1926.

WILLIAM CULLEN IN GLASGOW.

SIR,—In the article on "The Edinburgh Medical School" in your issue of January 1st (p. 21) it is stated that Cullen "had removed to Glasgow, where he had delivered lectures on medicine and chemistry." This seems an inadequate tribute to this great figure of the eighteenth century. It is on record that he delivered in Glasgow lectures on botany, materia medica, and anatomy. He was lecturer on chemistry in the University from 1747 till 1755, and lectured on medicine in the same place from 1744 till 1751, when he was appointed to the Regius chair in that subject. In each of these University appointments he was succeeded by Joseph Black, who, like him, was transferred to Edinburgh.—I am, etc.,

GEORGE A. ALLAN.

Glasgow, Jan. 2nd.

ANTIGENS FOR THERAPEUTIC IMMUNIZATION.

SIR,—In your issue of December 25th, 1926 (p. 1242), Dr. Geoffrey Shera reports unfavourably upon the use of immunogens. This he is perfectly entitled to do. We sincerely wish that all physicians were as anxious to publish their results. Dr. Shera would then have found himself in a small minority as regards immunogens.

But Dr. Shera seizes a wholly inadequate opportunity to impute to us unworthy motives. "Anxiety to sell while the going is good can have only one result . . ." We are advised that this is libellous. We are quite confident that the medical profession at large entertains a higher respect for our intelligence, quite aside from any question of morality, than such a policy would connote.

We have made no claims regarding the immunogens but such as can be substantiated in the laboratory. Physicians generally will, no doubt, have due regard for the credentials of these products, and will perhaps share our difficulty in appraising the motive for Dr. Shera's "broadside," notwithstanding that he is interested in the preparation of autogenous vaccines for those who may require them.—We are, etc.,

PARKE, DAVIS AND CO.,
H. J. Fisk, European Manager.

London, W.1, Dec. 29th, 1926.

THE PUBLIC, THE DOCTOR, AND THE MASSEUSE.

SIR,—The medical profession in general, and electrotherapists in particular, are to blame for the state of affairs which Dr. Murray Levick describes (December 11th, 1926, p. 1142). In answer to a question in the House of Commons some time ago, the Minister of Health stated that if any evidence were produced of the dangers of ultra-violet ray treatment by unqualified practitioners he would investigate the matter. Why was this challenge not taken up? Was it because there are no such dangers, or

was it because of apathy on the part of the qualified practitioners? An article in the journal of the Massage Society in which the author (unqualified) boasted of having treated a case of pulmonary tuberculosis should have been almost sufficient to convince the Minister of the dangers of uncontrolled ultra-violet practice. Other similar cases would not be difficult to collect.

Apart from the dangers of ultra-violet treatment, there is sufficient evidence to show that the public is being "humbugged" on an unparalleled scale. In many instances the treatment is not by ultra-violet rays at all—but that, if more free from danger, is no less "humbug." On inquiry from a barber recently what the big lamp standing in the corner was, I was informed that it was his artificial sunlight apparatus. He added voluntarily that he had not treated cases of rickets, but that he was treating many cases of alopecia and also nervous women. Needless to say, the lamp was not an ultra-violet lamp at all; it was merely a lamp intended for giving radiant heat. I know of two masseurs who were using little high-frequency apparatus for ultra-violet treatment. To their credit be it stated that they were under the honest impression they were using ultra-violet apparatus. Instances of such abuses could be multiplied a thousand times. Legislation, however, would be extremely difficult to devise, and still more difficult to enforce, particularly as some of the leading authorities have advised the installation of ultra-violet plants at public baths and so on.

There is, of course, little danger to the normal healthy individual in an occasional ultra-violet ray bath, but there is as much difference between ultra-violet treatment of this nature and a course of treatment for a definitely pathological condition, as there is between a normal individual taking iodized salt to prevent goitre and the expert physician treating exophthalmic goitre with iodine. Both the former are ultra-violet therapy as both the latter are iodine therapy, but the technique and the care necessary are as wide apart in the former as they are in the latter.—I am, etc.,

London, W.1, Dec. 20th, 1926. M. WEINBREN.

THE CHOICE OF A LIFE INSURANCE POLICY.

SIR,—While not wishing to overlook the excellent help which the Medical Insurance Agency has rendered to medical charities, there appear to be certain well founded objections to the advice of any such agency in questions of life assurance.

1. Some life offices have shareholders, some are mutual. It is at once apparent that a policy with a mutual office is likely to be the better bargain.

2. An insurance agency is debarred from recommending a mutual office as no agency commission is paid.

I have been to some pains to compare the premiums of a good many offices. I have in mind one great mutual office whose financial stability I imagine nobody would question. The premiums for non-participating whole-life policies are absolutely rock-bottom prices. Why, therefore, pay more? I am not forgetting the allowance made by the Medical Insurance Agency of part of the commission. But even taking this into account, I believe that one can find the best terms for any life policy in the tables of one or other of the great well established mutual offices.

On the other hand, I should say that the "doctor's motor policy" appears altogether excellent.—I am, etc.,

Derby, Dec. 17th, 1926. A. ERNEST SAWDAY.

*** We submitted this letter to Mr. Ferris-Scott, F.C.A., Secretary of the Medical Insurance Agency, who has been good enough to write the following letter of comment:

Dr. Sawday, while not unmindful of the help afforded to medical charities by this Agency, offers some friendly criticism, to which I find it a pleasant duty to reply.

In commenting upon the existence of both mutual and proprietary companies, Dr. Sawday says: "It is at once apparent that a policy with a mutual office is likely to be the better bargain." This statement covers ground which is, to say the least, controversial, and I submit, with all respect, that this point is not capable of such summary dismissal. Many problems affecting organization and management—skill in which is not confined to the mutual offices—are involved. Moreover, a comprehensive record of the past achievements of the companies in these two main groups entirely fails to indicate any such obvious superiority as Dr. Sawday suggests.

The fact is that the liability represented by dividends to shareholders can all too easily be exaggerated in the public mind.

Under life assurance the contracts extend over a considerable number of years. To select, therefore, a company—no matter how strong—which is to-day offering the lowest rate of premium and, as Dr. Sawday appears to suggest, to invite our members one and all to effect policies therein, would attribute to the Committee of the Agency a gift of prescience it does not claim to possess. We prefer to follow the example of the Government when establishing the Federated Superannuation System for University Teachers, and to approve a group of carefully selected companies. Under that group are both mutual and proprietary companies, and the Committee is constantly revising the list in accordance with the latest information, as to security, bonus prospects, and rates of premium, at its disposal.

As regards his second point, Dr. Sawday is under a misapprehension in thinking that mutual companies do not pay agency commission; the majority of them do.

The following question is also asked: If a great mutual office quotes premiums which, for non-participating whole life policies, are "absolutely rock-bottom prices," why pay more? The argument here implied is based on cost, and on cost alone. The answer lies in the fact that there is one cheaper type of policy which, incidentally, this Agency does not weary of recommending—namely, a with-profit policy in a company with a good bonus record, based upon solid past achievements. Strength is lent to this reply by the fact that the strongest advocates of the non-profit policies to which Dr. Sawday refers themselves state that with-profit policies are more attractive still.

To sum up on general lines: It appears to the Committee that while every care should, of course, be taken in the selection of the office, yet a point of much more immediate importance to the intending assured is the choice of the policy which by its nature and conditions best fits his individual needs. The aim of this Agency is, by giving unbiased advice, to assist its members to make the best choice possible in a given set of circumstances, and our daily post-bag affords us very solid reasons for believing that our efforts in this direction have not been unsuccessful.

It is perhaps too much to hope that our advice has invariably turned out to be the best possible, but we do claim that no member has been allowed to effect a policy except on liberal terms and in a first-class company, and further, that our advice has always been given without fear or favour.

B.M.A. House, Tavistock Square, W.C.1, Dec. 30th, 1926.

The Services.

HONORARY SURGEON TO THE KING.

MAJOR-GENERAL F. H. G. HUTCHINSON, C.I.E., I.M.S., has been appointed Honorary Surgeon to the King in succession to Major-General Sir Robert C. Macwatt, C.I.E., I.M.S., who has retired.

DEATHS IN THE SERVICES.

Deputy Inspector-General Henry Nanton Murray Sedgwick, R.N. (ret.), died at Southsea on December 23rd, 1926, aged 86. He was the son of Dr. Samuel Sedgwick of Antigua, and was born on that island in 1840. He was educated at King's College Hospital, taking the M.R.C.S. and L.S.A. in 1862. Entering the navy in the following year, he soon after served in H.M.S. *Octavia*, flagship on the East Indies station, and during her commission had to deal with a severe epidemic of small-pox on the ship in the Persian Gulf and Bombay. He then served in medical charge of the naval brigade during the Abyssinian war of 1868, when he was mentioned in dispatches, and received the medal and also a special promotion. In 1873, while serving on H.M.S. *Salamis* on the China station, his services were lent to the Japanese Government to organize measures for the treatment of venereal disease. In 1882 he was fleet surgeon of H.M.S. *Inflexible*, under Captain (afterwards Lord) Fisher, and served at the bombardment of Alexandria on July 11th, 1882, receiving the Egyptian medal with a clasp, the Khedive's bronze star, and the Order of the Medjidieh, 3rd class. He retired in 1892 with the rank of deputy inspector-general.

Obituary.

T. S. P. STRANGEWAYS, M.A.(HON.)CANTAB., M.R.C.S., L.R.C.P.,

Huddersfield Lecturer in Special Pathology, University of Cambridge; Director, Cambridge Research Hospital.

IT was with deep regret that we had to announce last week the death of Dr. Thomas Strangeways Pigg Strangeways, at Cambridge on December 23rd, with symptoms pointing to haemorrhage into a cerebral tumour.

He was born on December 28th, 1866; his original surname was Pigg, which he changed at the time of his marriage. In 1890 he joined St. Bartholomew's Hospital, where he gained the Matthews Duncan gold medal in 1895, and obtained the diplomas M.R.C.S., L.R.C.P. in the following year. His vivid imagination soon drew him on to the investigation of problems of etiology connected with disease, and left him little time for private practice. His devotion to his work was so altruistic that, although he had a consulting-room in Harley Street, he neglected opportunities for personal gain, and many fees which should have come into his pocket found their way as subscriptions towards the expenses of research. While still a student at St. Bartholomew's he came under the notice of Professor Kanthack, who recognized in him the attributes of the truly scientific worker. He was appointed assistant curator to the museum, and collaborated with Kanthack in early contributions to the *Journal of Pathology and Bacteriology* and the *Transactions of the Pathological Society*.

In 1897 he followed Professor Kanthack to Cambridge, where he became demonstrator of pathology, and in 1905 was appointed to the newly created post of Huddersfield lecturer in special pathology, the endowment for which had been collected by Professor Woodhead. In 1900 he was given the honorary degree of Master of Arts, and during the war he was an inspector of military pathological laboratories.

Strangeways always maintained that the best way to study disease was to have cases for investigation under the same roof as the laboratories. In 1906 his ideal was realized by the opening of the Cambridge Research Hospital, which he planned and of which he was director until his death; this scheme was made possible largely through the generosity of Sir Otto Beit. The disease chosen for study was chronic arthritis, and for many years he worked incessantly at this in close contact with his patients; as a result of this work he published several papers and evolved a classification of types which brought some orderliness out of a mass of confusion. By 1912, when the new hospital in Hills Road was opened by another generous supporter, Sir Charles Brown of Preston, Strangeways had already notes of 4,000 cases of rheumatoid arthritis. His museum of arthritic joints was second to none, and consisted of some 2,000 specimens, all of which he had himself carefully dissected and mounted. Many of these were sent to him from distant parts of the world. Although much good spade work was done, he realized that the etiology of this disease had not yet been worked out, and that it was essential that more should be known about the physiological processes of growth in order to throw light on the problems of inflammation. He decided, therefore, to study the unit of life—the cell itself—much in the same way that the chemist turns back to the atom or the physicist to the electron. He therefore began an intensive study of tissue culture. Many have heard of the Research Hospital, Cambridge, but few realize the nature of the work that is carried on within its walls, and the important bearing that this work is likely to have on medicine in the future. At the time of his death he had five whole-time workers assisting him who were investigating the physiology and pathology of growth from various aspects. Some light was thrown on the problem of differentiation of tissues by such experiments as the growing *in vitro* of a complete eye or of a limb after their excision from the embryo in rudimentary form. Other work is being done on the metabolism of the blow-fly during metamorphosis, from which also it is hoped that valuable information will be gained about the differentiation of tissues. The connexion between the study of cell growth and cancer is not far to seek, and another large and important part of his work was in connexion with this disease. His interest in the effects of x rays on cells grown *in vitro* attracted to himself a group of men at St. Bartholomew's Hospital who have been working in close collaboration with him during the last five years. The object of this side of the work was to elucidate the problems connected with the disappearance of malignant tumours under the influence of radium and x rays.

At the Annual Meeting of the British Medical Association held in Liverpool in 1912 Strangeways was Vice-President of the Section of Pathology; and at the Cambridge meeting in 1920 he was Vice-President of the Section of Pathology and Bacteriology, and took an active part in the organization of the pathological museum. He was a good teacher, and had the gift of communicating his enthusiasm to others. His manual of *Clinical Pathology and Practical Morbid Histology* was widely read by students, and passed through seven editions.

Strangeways lived in the simplest manner, and his family life was an example of true happiness. He married Dorothy, daughter of the late E. A. Beck, Master of Trinity Hall, Cambridge, who survives him with seven children.

We are indebted to a colleague and friend for the following personal appreciation:

It is difficult to convey adequately a true conception of his character. To the superficial observer he seemed to be retiring and shy, and sometimes showed a singularly brusque manner. In reality he was very different, and the mistaken impression was entirely due to his deafness, with which he had been afflicted from the commencement of his career. When once he realized that a neighbour was sincere he was ready to throw off his assumed cloak and to offer him his complete confidence. It was at such times that one realized the breadth of his imagination and the vista of ideas which led and directed him in his work. When engaged on some investigation his enthusiasm and perseverance were alike remarkable, and sleep and food became secondary matters, which could be for the time entirely ignored. Visitors he always welcomed, provided they were genuinely interested and did not visit his laboratories out of mere curiosity; insincerity or sham he hated with an intense hatred. He frequently deplored the amount of published work which was printed before its validity had been established beyond all doubt, and in his own work he would go to great pains to establish or illustrate his point of view. In the last of a series of lectures which he delivered before the University he dealt with the subject of death and immortality. He illustrated the indeterminate character of death in point of time by cultivating and actually causing to grow cells derived from mince bought from a local butcher. His capacity for work was enormous, and he often likened the joy of tackling a problem to that of a mountaineer who, having reached one peak, sees many others still in front of him to climb.

SAMUEL CRAWSHAW, J.P., M.B., CH.B., M.R.C.S.,

Late Chairman, Ashton-under-Lyne Division.

WE regret to announce the death, on November 30th, 1926, of Dr. Samuel Crawshaw in his 67th year. He had practised in Ashton-under-Lyne for over forty years, but heart trouble of many years' duration had necessitated his retirement from active work in the previous March. He received his medical education in Manchester, and after obtaining the diploma M.R.C.S.Eng. in 1883 he graduated M.B., Ch.B.Vict. in 1891.

During the early nineties Dr. Crawshaw, in spite of his increasing practice, found time to interest himself in the British Medical Association, in the reorganization of which he was one of the most prominent and hard-working leaders. In his historical survey of the constitution and government of the British Medical Association Dr. J. C. McVail referred in detail to the active and valuable work of Dr. Crawshaw (JOURNAL, 1924, vol. i, p. 1053). He was a member of the Lancashire and Cheshire Branch Council from 1901 to 1910, 1919 to 1920, and 1925. He was

secretary of the Section of Ethics at the Annual Meeting at Manchester in 1902, and from 1919 to 1920 he was chairman of the Ashton-under-Lyne Division and a member of the Representative Body; he was also a member of the Executive Committee from 1915 to 1924. He was appointed secretary of the Manchester Medical Guild in 1899, and as secretary of the Committee on Organization established by the Manchester Conference of 1900 he attended many meetings in all parts of the country without neglecting the work of his practice. This, however, proved too much for him, and he had to relinquish the secretaryship later in the year. Sir Jenner Verrall, speaking at the representatives' dinner at Bradford, July, 1924, on the occasion of the twenty-first anniversary of the present constitution of the Association, referring to the initiation, progress, and perfection of the Representative Body, said that the idea of such a body began in the minds of two or three people, but in one in particular, Samuel Crawshaw of Ashton-under-Lyne. Crawshaw realized that this thing had to be, although, of course, he did not realize the form it would take at first. It was Crawshaw who set the ball rolling. It was not so difficult to pat the ball along once it was started.

Dr. Crawshaw's energy at this time was amazing, but he paid for it later in breakdowns of health. He was president and vice-president of the Ashton District Nursing Association, and later became a trustee. From 1915 to 1920 he was honorary physician to the Ashton and District Infirmary, retiring under the regulations at the age of 60. He was generous to a fault, and gave to the poor a large percentage of his income. In 1915 he was elected as a Liberal member of the Ashton Town Council, and served there till 1925, taking a very active interest in the formation of the child welfare centre. His deep interest in infant mortality then led him to study the housing question, the smoke abatement nuisance, and the pure milk and food supply. At this time he was also serving on the Lancashire Panel Committee, and in 1921 he was made a justice of the peace, serving on the bench until his retirement. All these demands on his time and energy began to tell on his health, and a few years before his death he was advised to confine himself to professional duties, which in themselves were quite onerous. He was an accurate diagnostician and no trouble was too great to take on behalf of his patients; consequently he was much loved, and his death will be widely felt as a personal loss. Through all his work and anxieties he was most ably seconded by his wife, who, with his two sons, survives him.

The MEDICAL SECRETARY writes: The death of Dr. Crawshaw makes a sad gap among those who were in at the inception of the new constitution of the Association. Those of us who were at the memorable meeting called by the Manchester Medical Guild in 1900 gratefully remember him as the originator of that conference, and the man who did nearly all the hard work in connexion with it. He it was who focused the general discontent among the younger medical men in the country about the constitution of the British Medical Association, its lack of local unit organization and of democratic control. It was the Manchester conference which brought matters to a head. When the Council of the Association appointed the Constitution Committee, whose efforts resulted in the present constitution of the Association, Dr. Crawshaw would undoubtedly have been a member had he so desired, but the pressing claims of duty at home made him decline to take any part in the central work, and he thus never obtained the publicity and prominence to which his work and personality might well have entitled him. But nobody rejoiced more than he did when the new constitution came into operation, and so long as his health lasted he was a tower of strength to the Association in Ashton-under-Lyne. His was a very modest and lovable personality, whose simplicity and sincerity of character impressed everybody with whom he was brought into contact. Those of us who have ever been privileged to work with Dr. Samuel Crawshaw will join with his colleagues in Ashton-under-Lyne in sympathy with Mrs. Crawshaw and her family.

LLEWELLYN POWELL PHILLIPS, M.A., M.D., F.R.C.P., F.R.C.S.,

Emeritus Professor of Medicine, Royal School of Medicine, Cairo.

We regret to announce the death of Professor L. P. Phillips, at the age of 55, on New Year's Day, at his residence in Kasr-el-Doubara, Egypt, after a long illness.

Llewellyn Powell Phillips, only son of the late James Mathias Phillips, M.D., of Cardigan, was born at Taibach, South Wales, on July 28th, 1871. From Epsom College he went to Caius College, Cambridge, in 1889, obtaining first-class honours in Part I of the Natural Sciences Tripos of 1892, and then entered as a student at St. Bartholomew's Hospital. He qualified as M.R.C.S., L.R.C.P. in 1894, took the M.B. and B.Ch Camb. degrees in the following year, and in 1897 obtained the diploma of F.R.C.S.Eng. In 1903 he proceeded M.D. and obtained the M.R.C.P., and in 1909 was elected a Fellow of the Royal College of Physicians of London. His earlier posts included those of house-surgeon, extern midwifery assistant, and demonstrator of anatomy at St. Bartholomew's Hospital, and house-physician to the Royal Free Hospital.

Llewellyn Phillips's career in Egypt began with the appointment of resident surgical officer to the Kasr-el-Aini Hospital, Cairo. He subsequently became physician to that institution, and was elected professor of medicine in the Royal School of Medicine at Cairo. During the war he held a temporary commission as lieutenant-colonel R.A.M.C., and commanded the British Red Cross Hospital at Giza; he was mentioned four times in dispatches. From 1914 to 1917 he held the appointment of physician to H.H. la Hussein Kamel, Sultan of Egypt, and for his services was made a member of the Orders of the Nile and of the Medjidieh. He had contributed articles on tropical medicine to various medical journals.

The following well known foreign medical men have recently died: Professor OTTO HEUBNER, for many years director of the children's clinic at the Charité Hospital, Berlin, and author of a textbook on children's diseases, aged 84; Professor KARL FRANZ, director of the women's clinic at the Charité Hospital, Berlin, aged 56; Dr. W. OETTINGER, formerly physician to the Paris hospitals; Dr. ANDRÉ COLLIN, aged 50, Paris, a writer on child psychology; Dr. ALEXBERT WINTHROP BRAYTON, aged 78, of Indianapolis, a prominent American dermatologist; Dr. GROSSICH of Fiume, aged 77, who introduced painting the skin with tincture of iodine before operations; Professor JEDLICKA, professor of surgical pathology and treatment at the Karl University at Prague, aged 56; Professor PREYSING, director of the ear, nose, and throat department at Halle University.

Medico-Legal.

MEDICAL WITNESSES' EXPENSES.

IN a motor collision case tried recently at Romford (Essex) County Court, it appeared that the cause of action arose at Uckfield (Sussex), and that the plaintiff, who lived at Eltham (Kent), had elected to bring his action in the county court within the jurisdiction of which the defendant lived. This had involved the calling by the plaintiff of medical witnesses—Dr. Cyril Williams, attached to the Uckfield Cottage Hospital, and Dr. John Higginton of Eltham.

Dr. Williams complained that the witness fee of one guinea which he had just received was entirely inadequate to cover the expense to which he had been put in journeying from Uckfield to Romford in order to give his evidence. To reach the county court at the proper time that morning he had been compelled to travel to London the previous night; further, he had had to engage another medical man to carry on his duties during his absence.

His Honour Judge Crawford said that Dr. Williams had been called from Sussex and Dr. Higginton from Kent, to the great inconvenience of both. There was no reason whatever why that case should not have been brought in a county court which would not have necessitated such long and unnecessary journeys. Such a payment as Dr. Williams had received was ridiculous. A medical witness was entitled to reasonable expenses for all the trouble and inconvenience to which he had been put. Judge Crawford added that he had no power to order it, but he hoped an adequate sum would be paid.

Universities and Colleges.

UNIVERSITY OF LONDON.

Lectures.

A COURSE of four lectures on current views on internal secretion will be given by Professor Swale Vincent at the Middlesex Hospital Medical School, Cleveland Street, W.1, on January 14th, 18th, 21st, and 25th, at 4 p.m. Dr. D. T. Harries will give a course of three lectures on the biological action of light at University College, Gower Street, W.C.1, on January 20th and 27th and February 3rd, at 5 p.m. Six lectures on cytology in relation to physiological processes will be delivered by Dr. R. J. Ludford at University College, Gower Street, W.C.1, on January 20th and 27th and February 3rd, 10th, 17th, and 24th, at 5.30 p.m. Admission to the lectures is free without ticket.

UNIVERSITY OF GLASGOW.

DR. J. M. MUNRO KERR, Professor of Obstetrics in the University of Glasgow, has been appointed Regius Professor of Midwifery, in succession to Professor Murdoch Cameron, whose resignation took effect as from December 31st, 1926.

SOCIETY OF APOTHECARIES OF LONDON.

THE following candidates have passed in the subjects indicated:

SURGERY.—F. W. Barton, G. Danby, J. H. Gillatt, T. W. Riseley, K. Roberts, N. S. J. Roberts (Section I), J. B. Scarr, S. Wray.
MEDICINE.—A. C. F. Barrow, G. Danby, H. J. Fordham, W. E. Ivers, C. H. Spencer.
FORENSIC MEDICINE.—L. Ashkenza, R. Bobo, G. Danby, S. K. Rigg, L. W. Rose, T. de L. Walker.
MIDWIFERY.—F. G. Hardaker, T. C. Lansdale, L. Wasef.

The diploma of the Society has been granted to Messrs. F. W. Barton, H. J. Fordham, W. E. Ivers, T. W. Riseley, J. B. Scarr, and C. H. Spencer.

Medical News.

A PAPER on the forecasting and control of cholera epidemics in India will be read before the Indian Section of the Royal Society of Arts by Sir Leonard Rogers, C.I.E., M.D., F.R.S., on Friday, January 28th, at 4.30 o'clock. The chair will be taken by Sir Michael F. O'Dwyer, G.C.I.E., formerly Lieutenant-Governor of the Punjab. Tickets for the meeting may be obtained from the Secretary, Indian Section, Royal Society of Arts, John Street, Adelphi, W.C.2.

DR. A. F. VOELCKER will deliver an Emeritus Lecture on "The unscarred abdomen," in the Large Lecture Theatre of the Middlesex Hospital Medical School on Friday, January 14th, at 3 p.m.

THE mid-sessional address before the Abernethian Society of St. Bartholomew's Hospital will be given by Professor W. Blair Bell on the evening of Thursday, January 20th; his subject is "Team work in research, with special reference to the nature and treatment of cancer."

DR. PERCY STOCKS, reader in medical statistics in the University of London, will give a course of lectures at University College, London, on vital statistics, on Fridays, at 5 p.m., beginning on January 14th.

THE next meeting of the Röntgen Society will be held on Tuesday next, January 11th, at 8.15 p.m., in the British Institute of Radiology, 32, Welbeck Street, W. A paper entitled "Some experiments on the production of rapid serial skiagrams from the screen image by means of a cinematograph camera" will be read by Dr. Russell J. Reynolds. At 8.30 p.m. a special general meeting will consider the proposed amalgamation with the British Institute of Radiology.

TWO courses of lectures have been arranged by the British Institute of Philosophical Studies during the Lent term, 1927. Mr. C. Delisle Burns will give a course of ten lectures on the philosophy of social life, on Tuesdays, at 6 p.m., commencing January 11th, at the University of London Club, 21, Gower Street, W.C. Professor J. S. Mackenzie will deliver ten lectures on the world of values, on Thursdays, at 5.30 p.m., commencing January 13th, at the Royal Anthropological Institute, 52, Upper Bedford Place, W.C. Particulars may be obtained from the Director of Studies, the British Institute, 88, Kingsway, W.C.2.

THE Fellowship of Medicine announces that the series of lectures on emergencies in medicine and surgery will be resumed on January 27th, when Dr. L. S. Burrell will lecture on haemoptysis, at 5 p.m., at 11, Chandos Street, W.1. The clinical demonstrations in surgery and ophthalmology will also be resumed during the month. From January 10th to 22nd there will be a course in medicine, surgery, and the specialties at the Prince of Wales's General Hospital and one in diseases of children at the Children's Clinic and the Royal Free Hospital. From January 11th to February 5th a series of lecture demonstrations will be held at the Bethlem Royal Hospital, and from January 17th to 29th a course in cardiology at the National Hospital for Diseases of the Heart. From January 31st to February 26th the London Lock Hospital will hold a comprehensive course in venereal diseases, and a special course in dermatology at St. John's Hospital will continue for four weeks from January 31st. Classes in pathology can also be arranged. From February 7th to 19th an all-day course in diseases of children will be held by the Paddington Green and the Victoria Hospitals. For one week, starting February 21st, a general practitioner's course will be given at the Royal Northern Hospital, for which no fee will be charged. Copies of all syllabuses and the programme of the general course of work can be obtained from the Secretary of the Fellowship, 1, Wimpole Street, W.1, who will also supply copies of the *Post-Graduate Medical Journal*.

AT the meeting of the Post-Graduate Hostel at the Imperial Hotel, Russell Square, W.C.1, on January 13th, at 9 p.m., Dr. E. I. Spriggs will discuss diverticulitis; on January 14th, at the same hour, Professor D. P. D. Wilkie will give an address on cholecystography. Dinner will be served at 8 p.m. (5s.). All medical practitioners are welcome.

AT a sessional meeting of the Royal Sanitary Institute, on Friday, January 28th, in the small Town Hall, Reading, a discussion on cancer will be opened from the point of view of the physician and the public authority by Sir Stewart Abram, senior physician, Royal Berkshire Hospital, and chairman of the Health Committee. Dr. T. Skene Keith, pathologist to the hospital, will consider "Cancer research to-day," and Mr. J. L. Joyce, F.R.C.S., senior surgeon, the present position of the treatment of cancer. The chair will be taken at 7.30 p.m. by Professor H. R. Kenwood, C.M.G., M.B.

THE fourth International Congress of Military Medicine and Pharmacy will be held at Warsaw at the end of May, when the following subjects will be discussed: (1) Evacuation in a war of movement, introduced by representatives of Poland and Brazil. (2) Etiology and prophylaxis of influenza, introduced by representatives of Poland and Denmark. (3) Sequels of traumatism of the skull, introduced by representatives of Poland and Greece. (4) Methods of chemical examination of arsenobenzols, introduced by representatives of Poland and Lithuania.

AT a meeting of the Pharmaceutical Society of Great Britain in the Lecture Theatre at 17, Bloomsbury Square, W.C., on Tuesday, January 11th, at 8 p.m., a paper entitled "Notes on preparations of the *British Pharmacopoeia*, 1914," by Mr. J. H. Franklin, will be followed by a discussion, and tea and coffee will be served in the Examination Hall at the close of the meeting. Medical friends and members will be welcomed.

THE next International Tuberculosis Congress will be held at Rome in 1928 under the presidency of Professor Raphael Paolucci, president of the International Federation against Tuberculosis.

THE next German Congress of Natural Science and Medicine will be held at Hamburg in 1928 under the presidency of Professor von Eiselsberg of Vienna. The number of members has increased from 2,500 to 6,000 in the last two years.

FOR the convenience of the medical profession, especially general practitioners, Dr. Camac Wilkinson has changed the hours at the Tuberculin Dispensary. In future the dispensary will be open at 32, Fitzroy Street, London, W.1, on Mondays and Thursdays from 2.30 to 5 p.m.

A NEW periodical, the *London Weekly*, made its appearance on January 1st, under the editorship of Dr. L. Haden Guest, M.P. In arrangement and scope it resembles closely some of the other sixpenny weekly reviews, and, as its subtitle—"Home and Overseas"—suggests, much attention is given to British politics and Imperial affairs, both in editorials and in contributed articles. The first issue includes a message from the Secretary of State for the Dominions, entitled "A Constructive Empire Policy," and a paper on research into the feeding value of pastures, by Dr. W. E. Elliot, M.P., Parliamentary Under Secretary of State for Scotland, and Dr. J. B. Orr.

THE Board of Trade has issued additional lists of articles chargeable with duty as from January 15th, 1927, under the Safeguarding of Industries Act, 1921. These lists refer to optical glass, elements, and instruments; laboratory porcelain; scientific instruments; and synthetic organic chemicals. Copies of the lists may be obtained from H.M. Stationery Office, price 2d. net.

THE American Psychological Association is commencing this month the publication of a monthly journal entitled *Psychological Abstracts*, under the editorship of Professor W. S. Hunter. The annual subscription, 6.25 dollars, is payable to Mr. H. S. Langfeld, Princeton University, New Jersey.

AN epidemic of leprosy has broken out in the Tartar Republic in Russia, and an epidemic of cholera in China, with a thousand cases a day.

THE West African medical staff list for October, 1926, may be obtained from the Crown Agents for the Colonies, 4, Millbank, S.W.1. Three lists of officers are given according to their grades, their grouping by colonies, and their qualifications and service.

THE Société de Chirurgie of Paris has received from Madame Lebaudy a gift of 50,000 francs for any orthopaedist of a neutral or allied country who invents the best prosthetic apparatus for the hand. Further information can be obtained from the Secretary of the society, 12 Rue de Seine, Paris.

THE Dr. Sofia A. Nordhoff-Jung Cancer Prize has been awarded for 1926 to Dr. Otto Warburg for his work on the metabolism of cultivated tissues, with reference to the biochemical aspect of the cancer problem.

SIX further pamphlets—Nos. 52 to 57—issued by the International Labour Office deal with formic acid, the incandescent mantles industry, lead poisoning, methyl alcohol, oxalic acid, and the painting industry. The information given about lead poisoning includes a comprehensive account of the sources of poisoning, the toxic action of lead, symptoms, diagnosis, prophylaxis, and treatment.

THE *Revista Médica Panamericana* is the organ of the Pan-American Medical Association, which has recently been founded to promote an exchange of scientific ideas and methods between members of the medical profession in North, Central, and South America. It is published in Spanish four times a year.

THE Victorian Branch of the Australian Association for Fighting Venereal Diseases has issued a memorandum on the problem of venereal diseases in which the incidence, prevention, and treatment are clearly explained for lay readers. Reference is made to the resolutions passed by the Council of the Victorian Branch of the British Medical Association in June, 1922, and the constitution and objectives of the Australian Association are detailed.

Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to ***The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.***

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the BRITISH MEDICAL JOURNAL alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the BRITISH MEDICAL JOURNAL must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the JOURNAL, should be addressed to the Financial Secretary and Business Manager.

The ***TELEPHONE NUMBERS*** of the British Medical Association and the BRITISH MEDICAL JOURNAL are *MUSEUM 9861, 9862, 9863,* and *9864* (internal exchange, four lines).

The ***TELEGRAPHIC ADDRESSES*** are:

EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology Westcent, London.*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westcent, London.*

MEDICAL SECRETARY, *Mediocera Westcent, London.*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 4737 Dublin), and of the Scottish Office, 6, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 4361 Central).

QUERIES AND ANSWERS.

TETANUS NEONATORUM.

"R. H. M." asks what is the maximum dose of tetanus antitoxin serum which can be given in a case of tetanus of the new-born, and would welcome any other information about drugs and their dosage in such a case.

INCOME TAX.

"C. T. C." began practice on March 13th, 1925—he "simply put up a plate and waited for patients." His earnings for the year to March 12th, 1926, were £30 5s. 4d., and for the following year, say, £180.

*** He is not liable to income tax until 1927-28, for which year he will be assessable at £180, less, of course, the usual reliefs. The assistance received from his friends does not affect his liability, nor does the payment by him of any sums to them, except that if he pays any interest to them he should deduct tax at the standard rate and show the facts on his income tax returns.

LETTERS, NOTES, ETC.

PREVENTION OF CORYZA.

DR. W. STUART-LOW (London) writes: It is well known that a great many people are constantly contracting colds in the head—indeed, are hardly ever free—but it is not so well known that there is a definite reason for this, that it is easily remediable, and that such people are a constant danger to others—their friends in the office and the home, and their fellow travellers in trains. The chief cause of this susceptibility to nasal catarrh is an anatomically disturbed nasal interior, mostly due to an injury sustained when young (even at birth), in the football field, while boxing, or accidentally, as from falls. This explains why one or two members of a family are constantly contracting colds and why the others escape, and why some members of an office staff are always falling victims while others are immune. An individual with a normal nasal interior, breathing even a not too pure atmosphere, is much less likely to become affected by nasal catarrh than another with a disturbed nasal interior breathing a purer air. To discover the cause of constantly recurring nasal catarrh it is therefore necessary that the nose should be skilfully examined, when some such disturbing factor as I have indicated will invariably be discovered. Until it is, and the cause eliminated, the person will go on contracting head colds, to his own great danger and the jeopardy of everyone coming into contact with him. The individual with the internal anatomy of his nose disturbed is so vulnerable to nasal congestions, and therefore head colds, that he is a veritable microbe generator and a bacterial disseminator in every coughing spasm and sneezing attack to which he is liable.

MIDWIFERY IN GENERAL PRACTICE.

"B.M.OXON." writes: The allegation that women of the poorer classes cannot be confined successfully and aseptically in their own homes seems to be based on two assumptions—first, that the home conditions are unsatisfactory and septic, and secondly, that the doctor is unsatisfactory and septic. The first assumption is, in the majority of cases, true, and helps to make the second true; but as the woman and her family have to carry on all their other physiological processes—that is, live—under these conditions, why devote public money to maternity homes and services which might more profitably be spent on improving the environment for all the physiological processes, of which parturition is but one? I mean that the money could be spent on better housing, with larger rooms and proper larders for food; the provision of clean bedding or periodical disinfection of existing bedding; proper sanitary accommodation in existing houses. In the second assumption there may also be some truth, but in the vast majority of cases I am sure that a doctor who is inefficient books few confinements, and that if a doctor is not completely aseptic in his technique it is due to force of circumstances which would not exist if the foregoing improvements in his patients' homes were carried out, and if there was provided a service of maternity nurses as adequate in numbers as the present district nurse is in efficiency. As a first step towards improving the aseptic technique the provision by public authorities of sterilized drums of dressings, gown, and gloves would seem to be an inexpensive and constructive criticism of things as they are.

THEORIES ABOUT CANCER.

DR. A. W. CRAWFORD (Bolton) writes to put on record his disagreement with the view that "all questions relating to the causation of cancer are dominated by the recent discovery of Gye and Barnard that the older theories have to a considerable extent lost colour." What they have discovered, he says, is the cell which is always attacked by cancer, and the only cell so attacked, namely, the epithelial cell, and they have caught it in the early stages of its progressive development, when it has reached the stage of visibility. He maintains that cancer is purely a degeneration of the nutritive cells and the blood, and that there is no vital activity in cancer cells. In his opinion the protozoal origin of cancer, like many other theories, will soon go by the board. Fourteen years ago he published the statement that embryonic cells which became cancerous were defective in their chromosomes and their glycogen.

POSTURE AS A FACTOR IN HEALTH AND DISEASE.

DR. M. O'BRIEN writes from Perth, West Australia, with reference to the paper by Dr. Forrester-Brown with this title published in the JOURNAL on April 17th, 1926. Dr. O'Brien begins by saying that the Class D individual shown in Fig. 2 (p. 691) is a type well known in medical practice, and owes most of his disabilities to weakness of the vertebral column, which is by no means always attributable to chronic ill health. Dr. Goldthwait, in his note on the paper, wrote: "The drooped relaxed figure is less good from every point of view than the erect alert figure." Dr. O'Brien thinks there can be no doubt that this is because the vertebral column, the support of the trunk, is weak; the trunk walls (ribs, intercostal and abdominal muscles) are relaxed, but this is probably secondary to the weak spine. The feeble spinal muscles of the upper dorsal region give insufficient support to the spine, which, [illegible]orward. The lower part of the dorsal spin[illegible] to compensate this, causing the increase [illegible]. The protuberant abdomen is partly produced by the lordosis and partly in some cases by visceroptosis, due to insufficient support being afforded to the viscera by the spine and trunk walls. Therapeutics,

therefore, become a matter of strengthening the vertebral column, and, though the treatment recommended by Dr. Forrester-Brown is undoubtedly valuable, very much better results would, Dr. O'Brien thinks, be obtained by encouraging spinal development. He recommends certain physical exercises for this purpose, some of which are already in use in various systems of physical training. The patient is directed to place and support himself for increasing periods of time on his heels and palms only, and, in another exercise, on his neck resting on a support, and on his heels, the legs and body being kept straight. If this second exercise is found impossible, the knees may be bent and the weight of the lower part of the body taken by the legs and soles of the feet. In another exercise the patient in the lateral posture supports his weight on one arm and the palm of his hand, and the side of the corresponding foot. In each exercise the body is held rigid, and no other part than those mentioned touches the ground. Dr. O'Brien adds that if these exercises are taken at least once daily they will cause in time a great increase in the strength of the spinal muscles, followed by that of the osseous structure, if the treatment is started at a sufficiently early age. With improvement in the strength of the vertebral column an increase in that of the trunk walls will result automatically in the great majority of cases. If it does not, a few simple running exercises will soon achieve this, producing a man who is well set up and who holds himself erect.

THE TOOTH-BRUSH.

"H. B. N." writes: The common tooth-brush enters the mouth and scours its crannies once or twice daily, and so may be a grievous source of infection. It may be worse than a contaminated food, for an infected brush used last thing at night may furnish septic germs, which will have a whole night of undisturbed warmth and moisture during which to become implanted. The use of the tooth-brush is growing. School medical inspection, and the generally improved conditions of the population at large, have made its use almost universal. But the methods, or rather lack of methods, of the sale of the article demand speedy amendment. One need only call on any chemist to discover how archaic and nasty is the present-day method of sale. The customer asks for a brush. He is handed a box or glass case with many patterns of brushes and allowed to take his choice. Brush after brush is examined, the thumb is rubbed along the bristles to determine the degree of stiffness and one is chosen. The rest go back into stock, both thumbed and unthumbed, until another buyer comes along. The purchaser thinks he has bought a new brush, but it may be in truth a second, or third, or *n*th hand brush, already contaminated by much handling. Tooth-brushes should be sold in a strictly hygienic manner, and this casual handling stopped. The buyer of a pencil does not expect to try the lead of his choice before buying: he looks at the mark BB, B, HB, H, or HH, and knows from the sign stamped on the wood of the pencil the texture he wants. Graduations of this sort might be applied more generally to tooth-brushes, and the practice of putting them up for sale in sealed transparent envelopes should be extended. At present only a few of the more expensive kinds are sold in this way. Even so, the buyer will be wise to disinfect a new brush before it is put into use by soaking it in a 5 per cent. solution of carbolic for six hours; then, after a wash in running water for a few minutes, it will be fit for use. In a recent note in the JOURNAL Dr. J. M. MacPhail (December 18th, 1926, p. 1206) questioned whether the dirty, flabby, damp tooth-brushes which he saw too often in the bathrooms and bedrooms of his patients were not more dangerous than no brush at all. There can be no doubt that too little care is given to this useful implement. It is used and dumped into its stand with scarce a thought, and used until the bristles come loose into the mouth and the thing is an annoyance. With a very little care the brush could be kept clean and sweet. Brushes should be chosen that have the tufts of bristles set well apart and not in a close pile; good spacing allows of easy drying. The secret of care is to wash the brush after each usage, strike it smartly (bristle downwards) on to a towel, so as to shake out the water, and then put it in an airy place to dry. Further, it should be given a weekly soak in carbolic solution. Better still would it be (as Mr. A. Annesley Gomes suggests in the JOURNAL of January 1st, p. 46) to have two tooth-brushes in concurrent use, each to be used for one week, turn about. The life of the brushes would be lengthened by this treatment, so cleanliness and economy go hand in hand. The traveller must needs use other methods. For him a long metal box, containing a supply of prepared chalk, should form his tooth-brush container. Into this the brush, after washing and drying on the towel, should be placed and kept between the times of usage, so that he may find a clean and dry brush awaiting him morning and evening, wherever he may be.

CARBON MONOXIDE POISONING ON A SHIP AT SEA.

A CORRESPONDENT sends an account of an oil tanker in ballast which arrived at a foreign port with the captain dead and the first and second engineers ill from carbon monoxide poisoning. He states that in cleaning out the holds in readiness to take a cargo of gasolene the pump had to be taken apart. The second engineer descended to the hold and fell on his back, face upwards. The first engineer heard of the accident, went down, and, as he set foot in the hold, fell similarly, face upwards. The captain, learning of the double casualty, without waiting to put on a gas mask, and being a powerful man, went down at once, but, before reaching the bottom of the ladder, fell under the pump, face downwards. The three men were brought up to the deck in less than ten minutes; the two engineers were bleeding from the nose and mouth. Artificial respiration restored the engineers after one and a half hours, but the captain appeared to have died instantaneously. The ship had previously carried a cargo of benzine, and our correspondent emphasizes the necessity of the Board of Trade insisting that anybody who enters a tanker's hold should be obliged to wear a gas mask. In this particular instance gas masks were available on the deck, though they were not used. He adds that this occurrence should also serve as a warning that care must be taken when "breaking the pump," which in this case was evidently a death trap.

RESEARCH IN PRIVATE PRACTICE.

IN the course of a letter on the possibilities and difficulties of research in private practice a correspondent relates his experience in endeavouring to ascertain which tuberculous patients were benefited by injections of human tuberculin and which by bovine. His criterion was the elimination of organic acid in the urine, and in the experimental work he was much assisted by a keen and trained dispenser, who had better facilities for continuing investigations than the inconvenient accommodation of a consulting-room or small dispensary in a private residence. The financial difficulty was also harassing. Our correspondent believes that more might be done in the way of research by private practitioners if textbooks were more explicit about the present limits of knowledge.

TATTOOING.

AT a meeting of the Royal Physical Society in Edinburgh a paper was read by Dr. Douglas Guthrie dealing with "The history and significance of tattooing and other forms of body-marking." The lecturer said that the decoration of the human body by designs was an ancient custom practised in Egypt and among the Inca and Maya civilizations. At the present day tattooing reached its highest level among the Japanese artists. In Europe generally the practice was largely confined to soldiers and sailors, although the designs, which were usually symbols of love, war, and religion, could rarely be regarded as artistic. Professional tattooists now used electrically driven needles, with all the precautions of modern surgical technique. Recently it had been seriously suggested that surgeons should sign their handiwork by tattoo marks on the skin, so that a subsequent operator might know what had already been done. The significance of tattooing among various races had been the subject of much investigation. Crude scars produced by burning or cutting were made by the Australian aborigines and were believed to confer immunity against disease. Scarring was also common in Central Africa to denote the tribe or secret society to which a native belonged. Among fair-skinned races true tattooing with pigments was naturally more effective. It is believed by peoples so far removed as the Eskimo and the Fijian that tattoo marks persisted upon the soul after death and served as a means of identification in the next world. The elaborate facial tattooing known as moko denoted the social position of the bearer among the Maoris. The design of this was of great artistic merit, and the custom of embalming tattooed heads had for a time rendered well tattooed Maoris unsafe, so that the export of heads had been prohibited by the New Zealand Government in 1830. The Rev. S. Nicholson, Scottish Secretary for the London Missionary Society, who had been twenty-five years in India, described the practice of tattooing in South India. Men were tattooed as a cure for rheumatic or other pains, and the Eurasian people were almost invariably tattooed to a considerable extent. Women were to a large extent tattooed, especially on the back of the hand, the calf, the middle of the forehead, cheeks, and chin, and the motive was said to be for a protection against the evil eye. The pigment used was lampblack mixed with milk or water.

WOMEN ON TEACHING HOSPITAL STAFFS.

MR. NORMAN M. DOTT, F.R.C.S.E. (surgeon, Royal Hospital for Sick Children, Edinburgh), writes: I observe that under the heading "Medical News" in your issue of December 25th, 1926, mention is made of the recent appointment of a woman to the full staff of a teaching hospital, and it is stated that this is believed to be the first occasion on which a woman has been made a member of the full staff of a teaching hospital in the British Isles, except in connexion with the Royal Free Hospital, London. In view of this statement it may be of interest to note that in May, 1925, Miss Gertrude Herzfeld was appointed to the full surgical staff of the Royal Edinburgh Hospital for Sick Children.

RENEWAL OF MOTOR LICENCES.

FOR the assistance of owners of private motor cars and motor cycles the Automobile Association is issuing a booklet entitled *Your Motor Tax at a Glance*, which shows the various amounts due for licences, either for the year or shorter periods. Information is also given regarding the allowances obtainable in respect of old cars, refunds for surrendered licences, and the necessary procedure for renewing licences. Motorists can obtain copies, free of charge, upon application by postcard to the Secretary, the Automobile Association, Fanum House, New Coventry Street, London, W.1.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 35, 36, 37, 40, and 41 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 38 and 39.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 15.

An Address ON CHANGES IN THE CLINICAL ASPECTS OF DISEASE.*

BY

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CHANGES in the clinical characters of disease are interesting not only to those of us who from the passage of time have watched once familiar maladies alter their features, and become rare, and have seen new ones come on the scene, but to everyone, because different years often show differences in the occurrence or the prominence of certain characters and manifestations of the common epidemic diseases. This is particularly true of what we all, however much we may deplore it in others, are driven sooner or later to call "influenza." In one year it is mainly naso-pharyngeal, in others pulmonary, gastro-intestinal, nervous, or, from the presence of a rash, may imitate scarlet fever, or, as in America in 1923, may be regarded as an epidemic of dengue (vide Hamer, 1923). On the other hand, it might be argued that what are called different types of influenza are in reality distinct diseases, as might be suggested by the separation of epidemic or lethargic encephalitis, which at its onset so often simulates influenza. During the war the virulence of influenza underwent a deplorable and dramatic increase in 1918, when there were two waves—the first in the spring with a comparatively low incidence of complications and deaths, and the other in the autumn, which was associated with *Streptococcus haemolyticus* infection and a high percentage of thoracic complications and mortality; this epidemic continued into 1919 and was world-wide. Thus within a short time there was a remarkable change in the character of a familiar disease, showing that this subject may be of immediate practical importance and not merely of historical interest.

Sydenham maintained that acute diseases showed (1) a long periodic evolution with a rise, decline, and fall extending over centuries; (2) seasonal variations with waves measured in months (as in the influenza of 1918) so that their character and reaction to treatment altered in a short time, a method successful in one epidemic becoming useless or even harmful in another; (3) that there was in his rather mysterious "epidemic constitutions" a special influence—telluric, as from the bowels of the earth, or climatic—which becomes dominant and by contaminating the atmosphere and acting on men's bodies disposes them to this or that disease, and impresses some definite character on the clinical manifestations of diseases prevalent at the time to the exclusion of other symptoms, the amplitude of this wave being measured in years. Major Greenwood explains the term "epidemic constitutions" as meaning that secondary infections, such as those familiar in influenza and measles, are just as important from the point of view of morbidity and mortality as the specific causes of disease. Sydenham, of course, had no knowledge of bacteriology, but Sir William Hamer, following in the footsteps of the English Hippocrates, has for years, with attractive eloquence and great ingenuity, argued the epidemiological relationship of diseases associated with different microbic agents—namely, that members of his "catarrhal group of diseases" (influenza, cerebro-spinal fever, acute poliomyelitis, and encephalitis epidemica) are variants of the same morbid process; at one time he ascribed them to the same virus acting under different conditions. Referring in 1924 to these and other acute diseases occurring in "the influenzal group of diseases," Hamer picturesquely wrote: "Surely we may recognize the protean influenza, now merely in mufti, but changing from one civilian garb to another under our eyes, and demonstrating unmistakably that the more it changes the more it is the same thing." In 1922 he argued that the hypothetical filter-passer determines the clinical manifestations which the *Bacillus influenzae* shall produce; and in 1925 he set out his thesis to the effect that in pandemic times the virulence of the influenzal germ was different from its activity in the intervals or trailing prevalences, giving rise in pandemics to a "shock attack" or influenza, and in the intervals apt to activate various secondary or associated micro-organisms—pneumococci, streptococci, meningococci. This is a much less iconoclastic view than that all the diseases in question are due to modifications of the same micro-organism, and narrows the gulf between the extremes of the epidemiological and bacteriological standpoints.

Recorded Changes in the Clinical Characters of Diseases.

There is now no need to insist that a change of type of disease does occur. A number of diseases are known to have changed their clinical characters; thus *scarlet fever* was very mild a century ago, fifty years ago it was extremely malignant, and now again it is a mild infection, although its prevalence cannot be shown to have diminished (Brownlee). Different types of the strains of the *Streptococcus haemolyticus* of scarlet fever have been described (Griffith), and it appears that these vary in different countries (James) so that clinical differences may thus be explained—for example, the extreme rarity of the disease in India. Though in addition to differences of virulence of the causal organism the resistance and antitoxin content of the individual must be taken into account, it would appear probable that simple mild scarlet fever may be due solely to pure streptococci, whereas the malignant forms are due to a secondary infection.

Acute rheumatism, which eventually may, like scarlet fever, be proved to be of streptococcal origin, has become less acutely arthritic, though not less frequent than it was thirty years ago; widespread and excessively painful and swollen joints and profuse sweating causing the miliary eruptions once so familiar are seldom seen now. The pulmonary complications described by P. M. Latham in 1846 have become very rare, and hyperpyrexia is almost unknown.

Out of Latham's 136 cases of acute rheumatism the heart was attacked in 90, or 66 per cent., and among these 90 cases the lungs were affected in 24, there being pneumonia in 18 (6 double), pleurisy in 2, and much bronchitis in 4. Among the 46 cases in which no cardiac lesion was detected there were pulmonary complications in 5 (pneumonia in 3). It may well be that some or all of these complicated cases were different from what would now be regarded as uncomplicated acute rheumatism, and that they were actually pyaemic or septicaemic in nature.

Possibly the practical disappearance of these thoracic complications is connected with the alteration in the treatment—venesection in the past, salicylates during the last forty-five years. Secondary infections may have been favoured by the prolonged course of the disease in the pre-salicylate days, of which a verbal record remains in the answer of "six weeks" made by an authority to the question "What is good for acute rheumatism?"

Articular and tophaceous *gout* is becoming a curiosity, but we comfort ourselves by reflecting on our wise temperance as compared with our many-bottled predecessors.

Pneumonia has altered its character to a considerable extent since the reappearance of influenza in 1889, broncho-pneumonic forms being now perhaps as frequent as the frank lobar form; but this is only to say that there are several forms of the disease. Among the cases due to infection with pneumococci alone the pneumococcus types I, II, III, and IV differ in virulence, and accordingly the mortality varies, being highest in cases due to type III.

In the past the character of *small-pox* has varied, so that occasionally epidemics have been extremely mild, as was noted by Sydenham, Jenner, and others (see Newman). There has of recent years been a noticeably mild form of small-pox, both in this country and abroad, which is thought to come from North America; so mild, indeed, is it that in Switzerland the public expostulated against vaccination as more disagreeable than the disease, and some regard it as distinct from small-pox and would give it another name—such as alastrim (a Brazilian word derived from the Portuguese *alastra*="something which burns like tinder, scatters, spreads from place to place" (Jorge)), amaas or kaffir-pox, para-variola, or para-small-pox. On the other hand, there are good grounds for the view that

* Presidential Address, Medical Society of London, January 10th, 1927.

it is a mild form of small-pox due to a virus with suppression of its toxic properties for man, although its affinities for other animal species have not been appreciably changed (Ledingham). It occurs almost solely in the unvaccinated, and protects against small-pox and vaccinia; experimentally the viruses of the three diseases have been shown to be variants of the same virus (Blaxall; Ledingham; Gordon). As a rule, though not invariably, the mild form breeds true, but the mild and severe forms of small-pox may occur side by side. The objection to employing a special name, such as alastrim, is that this may make it more difficult even than it is now to maintain the necessary preventive measures of vaccination and isolation.

Acute *appendicitis* has undoubtedly become very much commoner since 1889, when influenza broke upon this country after a respite so long (since 1848) that its nature was not recognized for some little time.

The word "appendicitis," which has been criticized as barbarous on account of its Latin basis with a Greek termination, was constructed in 1886 by Reginald Fitz of Boston, Mass.; before that time it was called perityphlitis. Kelly and Hurdon unearthed a case reported in France by Meslivier in 1759. If we hesitate to accept this explanation of Erasmus's illness in 1530 and the necropsy mentioned by W. Musgrave in 1684, which may have shown evidence of past appendicitis, the first case in this country was briefly reported in 1812 as "Disease of the appendix vermiformis" by "James Parkinson Surgeon Esqr." (obiit 1824), a general practitioner in Hoxton, who was also a palaeontologist, a writer of pamphle revolution, and the author of the famous Palsy" (1817) which has made his name disease," "Parkinsonism," and "the Parkinsonian mask." In 1836 John Burne, physician to the Westminster Hospital (1835-42), in a paper read to the Medical and Chirurgical Society, referred to twenty cases he had seen, including three examined after death at Guy's Hospital; and in the same year Thomas Hodgkin, pathologist at Guy's Hospital, gave an account of the condition, which Thomas Addison probably drew on in his often quoted description (1839).

It can hardly be maintained that the condition was overlooked entirely by a generation less acute than ourselves; indeed, had it been as frequent before its operative treatment came in as it is now, it is obvious that the mortality from acute peritonitis would have been very high. For the increased occurrence of appendicitis various factors have been suggested, such as alteration in diet, greater consumption of meat—fresh, frozen, or tinned—fresh fruit, and antimony from the red rubber of bottle-stoppers. The association with the return of influenza, which has an intestinal form, is certainly significant.

A well established change in chronic disease within the lifetime of some of us is the great diminution of *chlorosis*, which may be contrasted with the, to my mind, increased incidence of pernicious (Addisonian) anaemia. The declension of chlorosis has been ascribed to several causes, such as better feeding, especially more meat, and to the change of fashion as regards tight lacing (F. P. Weber), the etiology of the disease being, according to Rosenbach and others, succinctly expressed as the corset. This explanation of the present rarity of the green-sickness of young women has not escaped adverse criticism (Elder; Waterhouse).

It is generally, though not unanimously, believed that *urinary calculus* in the Eastern Counties has undergone a well marked diminution; it must be remembered that fifty years ago operations for stone were among those most often undertaken, and therefore bulked more prominently than at the present day. The statistics collected by R. Smith and Yelloly make it clear that a hundred years ago urinary calculus was much commoner in Norfolk than in other parts of England and Wales.

R. Smith, making considerable allowances so as to avoid minimizing the incidence of calculous disease, estimated that in 1819 there were not more than 200 cases annually in the whole of the British Empire, and that there were as many cases in the Norfolk and Norwich Hospital as in either Scotland or Ireland. Yelloly found that from 1772 to 1827 inclusive there were 649 lithotomies in the Norfolk and Norwich Hospital, or one in forty admissions, and on an average 11½ a year; that stone occurred in one out of every 34,000 persons in Norfolk as compared with one out of 108,000 persons in the rest of England and Wales, with a population of nearly twelve millions; and that it was less rare in Norwich, London, and other towns than in the surrounding country districts.

The reason for this relatively high incidence of urinary calculi in Norfolk is obscure. Dr. John Yelloly, who was physician to the London Hospital from 1807 to 1818, in 1805, when the Medical and Chirurgical Society formed in opposition to the Medical Society of Lon then under the blight of Dr. James Sims's long preside was with Dr. A. J. G. Marcet one of the founders first secretaries of the new society, of which he was l treasurer, was also physician to the Norfolk and Nor Hospital from 1820 to 1832, and in 1829 and 1830 wrot the tendency to calculous diseases. He very tentati put forward the view that the "large employment o fermented farinaceous food" was, by the resulting indi tion, *a*, if not *the*, cause of the prevalence of ston Norfolk.

Syphilis, when it breaks out in a previously uninfe race, is much more virulent than in civilized and syphil countries; but the much milder type of the cutaneous bony lesions of syphilis in this country can hardly ascribed solely to some approach to relative immunity the influence of more general early recognition and effic treatment must be taken into account.

The diminution of malaria, yellow fever, plague, enteric fever, and the practical disappearance of hy phobia and scurvy in this country, have been determ by administrative and hygienic measures. It has suggested that the milder small-pox at the present tin due to the better hygienic conditions, thus correspon with the lower fatality of typhus and relapsing f when these rare diseases occur in this country, and t increased mortality in conditions of famine, as in Sc during the war. No doubt this factor is important, it is not the whole story, for in the past small-pox scarlet fever have had their mild interludes. Past explanation, which takes into account both a change in virulence of the infective agents and altered conditio environment, seems nearer the mark, but there ma some further and obscure factor to account for these i spaced variations in virulence.

Hydatid disease has become much rarer in England commoner in the Argentine Republic, but this is de dent on variations in the source of infection—namely, dogs attendant on cattle. Forty years ago hydatids by no means rare around Cambridge, now the disea most exceptional; possibly, like the extinction of malari the fens, this is connected with the draining and reclai of the land. Conversely, the influence of certain in tries in producing disease, such as silicosis, carcin (sweeps', paraffin workers', mule-spinners'), ana (benzol), and jaundice (trinitrotoluene and te chlorethane during the war), have attracted more, more skilled, attention. It is rather remarkable chimney-sweeps' cancer and mule-spinners' cancer practically confined to this country. On the other h the effect of prophylactic measures is well shown in great diminution of lead poisoning during this century

Effect of Treatment.

It may be interesting to mention incidentally an artif factor which had modified disease as many of us see namely, the influence of early and efficient treatment. modification of syphilis so that the terrible tertiary les of bone are now seldom seen may be in part due to t thorough treatment. Enteric fever has become rare, diphtheria has lost much of its terrors, thanks to phylactic and curative measures. The influence of Jenne vaccination is too obvious to labour, but attention ma drawn to an incident in connexion with inoculatio the eighteenth century: an uneducated Shetlander, Williamson, practised inoculation with small-pox cr which he dried and kept for years before using; with attenuated virus he never failed to obtain protection never had any bad results.

Surgery, too, had not been idle; thus early laparot for perforated or leaking gastric ulcer has made subphr gas-containing abscesses extremely rare. As the resul improved methods of diagnosis, and so earlier operat on cholecystitis, the character of gall-stone cases has un gone some change, and in Paris at any rate cases of st in the common bile duct have become rare (Petit-Dut and Mestrezat).

Disease: A Reaction, not a Morbid Entity.

It would indeed be strange if diseases always remained the same, for a disease, as the late Sir Clifford Allbutt insisted, is not a fixed morbid entity, such as might perhaps be visualized by the entry of an evil spirit into a man, but the reaction of that complex organism the body to some infection or injurious influence. There have been many definitions of disease, but Adami's (1910) gives a good impression of the potential variability in the reaction we call disease, and runs as follows: "Disease is a process or succession of disturbances induced by any agent which disturbs the normal activities of the organism as a whole or of its constituent parts." It is clear that the character of the reaction must depend on the condition of the individual host and on that of the cause—of the soil and the seed. Both of these may vary; for example, the difference in the manifestations of infections at the various periods of life shows how the state of the soil modifies its reaction. Variations in the virulence and doses of pathogenic organisms, supposing that the resistance of the host remains the same, would lead to changes in the reactions. With variations in the conditions of both the soil (the host) and the seed (bacteria and other environmental influences) it is clear that the clinical reactions and manifestations must alter in a corresponding degree. A highly virulent strain of micro-organism falling on a group of men whose resistance is either inherently weak or has been lowered by adverse influences should lead to an epidemic with fulminating attacks; whereas an attenuated infection acting on persons with fair powers of resistance would cause mild attacks, or fail to produce any recognizable result except to confer immunity. Further, a greatly lowered general resistance might allow micro-organisms ordinarily harmless to become pathogenic.

Experimental Epidemiology.

The experimental methods applied to epidemiology by Topley (assisted in the statistical aspects by Major Greenwood) in this country, and by Flexner, Webster, and other workers at the Rockefeller Institute, New York, who produced epidemics in laboratory animals, are throwing much light on the problems of spontaneous epidemics in man—such as the virulence of micro-organisms, the factor of the doses of micro-organisms, the susceptibility of the host, and, what is apparently a different problem, that of the herd. The variations in these factors give rise to permutations and combinations in the causation of epidemics, and further, "it is probable that additional factors not connected with the dosage of the parasite, nor with variations in the biological characters of the parasite or hosts, play a part in the spread of an epidemic" (Topley); and, though secondary infections, the part played by bacteriophages and by diet may possibly affect the relations between the parasite and the host, little is known about the additional factors. These problems of epidemics obviously bear on those of a change of type of disease, but at present they await a final solution.

Changes in the State of the Soil (the Host) as Responsible for Alterations in the Clinical Manifestations.

That continued exposure may be followed by a greater or less degree of immunity, as the result of unrecognized vaccination, in exposed persons is suggested by several observations: the increased resistance of laboratory animals who have survived an epidemic; the growing immunity in schools and institutions to diphtheria and to scarlet fever, as shown by the Schick and Dick tests; the acquired immunity to malaria and yellow fever shown by natives (who may also have had the disease); and in an indirect manner by the severity of epidemics of measles among the inhabitants of isolated countries where the disease rarely occurs—for example, the Faroe Islands (1781 and 1846), Fiji (1875 and 1907) and the neighbouring island of Rotuma (1911), and the Shetlands; the ravages of the common cold when introduced into St. Kilda; and the rapid and fatal course of tuberculosis in persons coming from regions where the disease is unknown. On the other hand, the long persistence of epidemic diseases, especially measles, shows that any racial immunity that can be thus produced is very slow. Webster, however, has brought forward experimental evidence of its occurrence, and on clinical grounds there is some reason to believe that a gradual racial immunity may be developed in the course of years.

Changes in the constitution or make-up of the members of a race must exert some influence on the liability to special diseases, and as the structural architecture of a nation becomes modified by admixture with other races, some alteration in the prevalent chronic disorders would be anticipated. The Jews are particularly prone to some common pathological states, such as diabetes mellitus, obesity, and arterio-sclerosis, and some rare conditions occur chiefly among them, such as amaurotic family idiocy, obliterating thrombo-angiitis, pentosuria, lipodystrophia, and the recently described Niemann's disease (Bloom) which had previously been included in Gaucher's splenomegaly. Draper, who holds that the association of certain diseases with special anthropometric types is as distinct as the anthropometric racial types, speaks of the incidence of the above diseases in the Hebrew race as evidence of "a pathological tendency of physiological nature."

Environment, hygienic conditions, alcoholism, food supplies, and so forth, influence the general resistance and so the susceptibility to disease. It would be interesting to know which of the two factors, the variations in the host's resistance and the pathogenic power and the dosage of the microbe, is more important in the production of infection. According to Webster the mortality of an epidemic depends less on fluctuations in microbic virulence than on variations in the susceptibilities of the hosts; but Topley's critical conclusion is to the effect that in laboratory epidemics the existence of innate differences in the resistance of the hosts is non-proven. In human disease, however, it would seem reasonable to anticipate that impaired resistance would play a more dominant part in favouring infection than microbic fluctuations.

From investigation of the streptococci constantly present in dental root infections Knott and Spencer-Payne conclude that the production of systemic and metastatic infections depends more on diminished local resistance than on the specificity and selectivity of the streptococcal strains.

The increased frequency of subacute and chronic bacterial endocarditis, and of pernicious anaemia if this be accepted, raises the question whether or not this can be correlated with correspondingly great incidence of focal infections, such as dental, tonsillar, or intestinal, which in their turn are due to a widespread diminution in resistance allowing micro-organisms, such as strains of streptococci, usually saprophytic to become pathogenic (Horder; Dawson). The definite increase of subacute and chronic bacterial endocarditis, especially in ex-service men, since the war, with its infecting and depressing conditions, is an argument in favour of the view that a diminished resistance is the probable responsible factor. War has always altered the bills of mortality more by spreading epidemic diseases, such as dysentery, enteric, typhus, cholera, and malaria, than by wounds, though in the great war there were exceptions to this rule on the Western and other fronts. Malaria, which had become extinct in Flanders, reappeared after the advent of infected Portuguese troops and flooding of the country to arrest the German advance, thus recalling the disastrous Walcheren expedition of 1809; the extremely resistant character of malaria to quinine treatment during the war in the Macedonian area is another noteworthy incident.

The adverse circumstances of war, entailing deficiency of food, destitution, overcrowding, and insanitation, may so reduce the resistance of those concerned that diseases not usually prevalent or sometimes previously unrecognized come into prominence. This, as Dr. Horsley Gantt has shown, was particularly the case in Russia, where rickets, famine or hunger oedema, famine cachexia (without oedema), acute enteritis and peptic ulcer, and typhus and relapsing fever (immediately due to animal vectors) became rampant. War oedema occurred during the Napoleonic campaigns and the siege of Paris, and, it is said, in the concentration camps during the Boer war, under the name of epidemic oedema (Maliwa); it has been seen apart from war. Scurvy on land has been a feature of wars since the Middle Ages, and out of 143 epidemics analysed by Hirsch 55 were during hostilities. In Russia recently scurvy was the least frequent of the deficiency diseases, probably because the very great food scarcity led to the consumption of bark

and leaves (Gantt), but it was prominent in some other theatres of the great war, especially in Mesopotamia, where 11,445 cases occurred in the second half of 1916. Tuberculosis increased in all the combatant European nations. In Germany and Austria rickets became extremely common, and keratomalacia and blindness appeared; in Germany there was an increase of jaundice and acute yellow atrophy, quite apart from the factor of syphilis and its treatment by salvarsan preparations. Epidemic encephalitis, which was practically a new disease described by Economo in Vienna in 1917, soon, like influenza, spread over the world, and is still with us. The environmental conditions of stationary warfare created trench fever and trench nephritis, the latter having been seen seventy years before in the War of the Rebellion in North America, and made spirochaetosis icterohaemorrhagica common instead of a curiosity. But from their etiology these conditions were more of the same nature as the epidemic infections—enteric, dysentery, cholera, malaria, and in Russia syphilis—which are an outcome of circumstances favouring mass infection, and they were not, in the main, the outcome of changes in the resistance of the troops.

Enforced moderation in diet was naturally followed by a diminution in disease due to excess (in a sense the reverse of deficiency diseases); thus in Russia Gantt reported a fall in chronic alcoholism, adiposity, appendicitis, and diabetes; the incidence of cholecystitis and gall stones gradually fell from 4.7 per cent. of all out-patients in 1914 to 4 per cent. in 1917, and then dropped suddenly to 1 per cent. in 1918 and 0.8 per cent. in 1919, thus suggesting the importance of overeating as a causal factor. In Germany the war showed a diminution in diabetes, in acute pancreatitis (Wilms), and in arterio-sclerosis, but the last became more frequent in Russia.

It is tempting to associate with the popular cry of "the wear and tear of modern life," and the nervous strain entailed by the more rapid fashion of existence, an increase of functional and organic nervous diseases, of diabetes, high blood pressure, and arterio-sclerosis. Thus in the United States of America, where intensity and "hustle" are characteristic features of life, the death rate of cardio-renal disease far exceeds that due to any other cause, and was responsible for the deaths of the last two Presidents (F. M. Allen). On the other hand, the frequency of functional nervous disease is no new phenomenon, for George Cheyne, in *The English Malady* (1733), estimated that one-third of the upper classes were thus afflicted, and Thomas Trotter, in his *View of the Nervous Temperament* (1807), went one better by putting the incidence at two-thirds of all civilized communities, poor as well as rich. It is difficult, therefore, to be certain, probable as it may appear, that neurasthenia and functional disease are so much commoner now than in the past, for statistics, as apart from impressions, such as those of Cheyne and Trotter, are hardly available, and in the comparatively short period covered by a medical generation or two it is far from easy to estimate accurately the degree of change that occurs. Although telephones, motors, and aeroplanes increase the rate of living, they also have compensating advantages, and wars and alarms were more constant in the past. It is impossible to be certain that there has been an increase of high blood pressure on account of the recent introduction of the sphygmomanometer and the absence of any statistics in the past on this point. The indirect evidence that might be sought from arterio-sclerosis is rendered doubtful by want of exact correspondence between the two, high pressure being only one, and not the sole, cause of arterial change; but arterio-sclerosis was common in ancient Egypt. The greatly increased expectation of life, which is a noticeable result of public health activities, has altered the forms of disease responsible for the bills of mortality; malignant disease, arterio-sclerosis, and chronic cardio-renal disease have become more prominent, whereas tuberculosis has declined.

Changes in Bacteria as Responsible for Alterations in Clinical Manifestations.

Variation and mutation are more readily and rapidly produced in bacteria than in higher animals and man, and serological research has shown the perplexing differe that may thus occur, for example, in the salmonella g (Andrewes, P. Bruce White).. Different strains which morphologically and culturally identical vary in their logical reactions in a remarkable manner; thus *Bac paratyphosus* B and *Bacillus aertrycke*, which are i tinguishable morphologically and culturally, are logically different and also distinct in their clinical eff the first causing paratyphoid fever, the second acute *poisoning*. Differences in virulence may, as Pas showed long ago by growing anthrax bacilli at 40° C. producing a relatively non-virulent strain, be modifie environment, nature of nutrient material, temperat and possibly other factors.

As a rule, however, the influence of culture media and c laboratory methods is in the direction of diminishing, no increasing, virulence; there are exceptional instances of incre pathogenicity induced by culture—for example, of the pne coccus (Felton and Dougherty) and of the meningococcus (E. G Murray); and Flexner and Amoss observed revival of the p myelitis virus after being in glycerol for several years. Accor to Webster, virulent strains come into being by some means subtle than animal passage.

Associated with the known different types of the typh paratyphoid group, dysentery bacilli (Shiga and Flexn and to some extent of the pneumococci, there are correl differences in the clinical manifestations; in cerebro-sp fever the different types of meningococci have been conne with different clinical reactions; thus, according to Dop the predominant infective meningococcus before the E pean war was Type A (Gordon's Types I and III), whe later it became Type B (Gordon's Types II and IV); Ne correlated the greater frequency of cases of septicae and of lesions, such as rashes, arthritis, and irido-cycl with this change to Type B. Thus changes in the clin aspects, for example, of enteric fever and cerebro-sp fever, may be due to infection with different types of typhoid-paratyphoid group and of the meningococcus. is reasonable to believe that further evolution of s varieties might be accompanied by such alterations in clinical picture as to constitute new diseases, as indeed occurred in the differentiation of typhoid and paratypl fevers. The adaptability of bacteria to altered conditi so that a harmless saprophyte living on the surface of body can be changed, in the laboratory or outside, int pathogenic micro-organism which invades the body gives rise to disease was emphasized by the late J. Adami (1918), who instanced as a probable example transformation of some previously harmless diphther bacillus into the virulent diphtheria bacillus to account the appearance at the beginning of the last century diphtheria, a disease so sharply cut that it could hav have been overlooked by all physicians until Bretonn of Tours gave his classical description in 1821. Am animals hog cholera, unknown before the sixties, wher appeared in the United States, is another example support of the view that bacteria can and do unde evolution from a saprophytic to a pathogenic state. has been mentioned above, the occurrence of second infections is a factor of importance in altering the clin manifestations of an infective disease.

The two variations—in the soil and in the seed—thou mentioned separately, must often be combined in vary degrees, and must play an all-important part in the chan in the clinical aspects of disease.

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GLEANINGS FROM THE STORY OF THE THYROID GLAND.

An Address delivered to the South-West Wales Division of the British Medical Association

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THE accounts of the physiology of the thyroid gland and the surgery of goitre given in the textbooks of my early student days took less than three hours to read and study; it is, however, necessary to point out that this apparent cramming course was not so intensive as it sounds. In the index to the fourth edition (1883) of the standard *Textbook of Physiology* by Michael Foster there is no reference to the thyroid gland. Incidentally, it was in this year that attention was drawn in Switzerland to post-operative myxoedema, as will appear later from the very interesting note sent by my friend Dr. Albert Kocher in reply to a request to let me have an epitome of the work his father, the late Professor Theodor Kocher, had done as regards the subject-matter of my address to you. I am glad to recall that both Professor Theodor and Dr. Albert Kocher visited the area of our South-West Wales Division many years ago and saw examples of our thyroid troubles, to my edification.

On the question of the surgery of goitre I have to confess that for a few years after qualifying I deprecated operations except in emergency—in fact until I visited the great master and pioneer at work in Berne. This attitude, I may add, was due almost entirely to the teaching and practice at my school, for I, being imitative, had operated on a Gasserian ganglion and did an experimental decompression on acromegaly years before I felt justified in doing a thyroidectomy. My view was nurtured in my nonage by reading the seven pages devoted to diseases of the thyroid gland in the standard work *A System of Surgery* (Holmes, vol. 3, 1883), and was fortified years later by witnessing a brilliant surgeon attack a bronchocele and wallow in an operation masked with blood and many sponges, and constantly harassed by a Clover's bag—one special sponge was conspicuously held over the field to deliver fluid if necessary; later he descanted on its value should a gurgling sound be heard indicative of air being drawn into one of the veins! He also pooh-poohed the adoption of an innovation which he flippantly described as a "cut-throat" incision.

When I witnessed the first Kocher operation performed by its originator with deliberation and care, without unnecessary spilling of blood, with unsurpassed surgical cleanliness, with non-variable speed, neither slow nor quick, but a safe "Kocher speed," I instantly became a convert. I was astonished and impressed with the novelty and value of the Kocher screen which completely safeguarded the field of operation from infection from the patient's mouth, from the anaesthetist, and from interested onlookers; the patient's hands also were secured from doing harm.

We re-read to-day, with gratitude to Professor Theodor Kocher, the nightmare which appeared under "treatment" in the *System of Surgery*, and obsessed so many like myself, knowing that it is now gone for ever; there we read such statements as that "fibrous bronchoceles are best treated by setons"; that "the best treatment for cystic bronchoceles is . . . tapping the cyst with a trocar and cannula, emptying it, injecting a solution of perchloride of iron (two drachms to an ounce of water) . . . to be repeated if necessary until suppuration is established"; and that "removal of a bronchocele is usually a grave operation . . . the danger of haemorrhage is considerable." Nevertheless, the volume contains shrewd clinical observations, and exhibits discernment and the true scientific outlook in not accepting as truth that which is not proven. For example, it is said:

> "The endemic form of bronchocele, or goitre, occurs chiefly in association with cretinism and seems to have some hitherto unexplained connexion with geographical conditions . . . the cause commonly assigned—namely, the use of melted snow, or of water impregnated with calcareous or earthy particles—is unsatisfactory. . . . Although the Korrawurrees can get nothing but snow for some months in the year, they are not so subject to goitre as those who live at the foot of hills where there can never be any snow water."

The importance of this quotation will be seen when I come to discuss Professor Kocher's views as to the causation of goitre. From that time to the present the literature on thyroid gland and goitre has grown so voluminous that I can only attempt to bring to your notice a few gleanings, after reading to you the most valuable and interesting *aperçu* by Dr. Albert Kocher of his father's work on the subjects.

NOTES ON THEODOR KOCHER'S WORK ON THE THYROID GLAND.

BY

DR. ALBERT KOCHER.

From 1866 to 1872 Theodor Kocher was assistant of Professor Lucke in Berne. During that time Lucke performed ten goitre operations; of the patients nine died. Two years after having been elected Lucke's successor in the chair of surgery at the University Theodor Kocher, in 1874, published his first paper on the thyroid gland—on the pathology and treatment of goitre. In this paper he published his first thirteen goitre operations, with two deaths only. In this paper he said that there were three forms of operation for goitre: total thyroidectomy, partial thyroidectomy, and enucleation. He said that the total thyroidectomy was an easier procedure "than partial thyroidectomy, but it is a question whether there is any connexion between the total extirpation of the thyroid gland and the altered mental condition I have noticed in one of my cases of total thyroidectomy." His goitre operations were already at that time done on a preconceived plan—he sought in each case to ligate the arteries first. A few years later (1887) he published his first operations for malignant goitre, describing a method of "*évidement*" of soft malignant tumours, especially intrathoracic ones.

In 1883 he published the results of his first 101 goitre operations. He gave at the same time a list of all the goitre operations done down to 1883. He found that with his own 101 cases 240 goitre operations had been performed. In this same paper he detailed his exact method of operating, and then described the consequence of total thyroidectomy. He had reviewed all the cases he had operated on, and in the eighteen cases where total thyroidectomy had been done he found the typical picture of myxoedema. In April, 1883, he read a paper on the consequence of total thyroidectomy at the German Surgical Congress, calling the disease "cachexia thyreopriva."

From that moment he began to treat these cases of total thyroidectomy by making transplantation of pieces of thyroid gland or goitre in many different parts of the human body —skin, muscle, arteries, peritoneum, intestine, etc.—but the effect was only temporary. Later on he reviewed these cases as often as possible; he found that those in which a real total thyroidectomy had been performed died within seven years after the operation (*no thyroid tissue could be found at the post-mortem* examination), whilst those who lived longer had developed a new but small goitre, proving that total thyroidectomy had not been done.

In the years from 1880 to 1890 he studied the question of the etiology of goitre, examining thousands of school children all over the canton of Berne, and examining especially the water at the different places. In 1889 he published a map showing a close connexion between geological formation and the distribution of goitre. At that time, in a public lecture, he urged the Government to have the drinking water in the public schools boiled, or to add iodine to it, in order to prevent goitre. In 1889 he published the results of another 250 goitre operations. In this paper he described his exact procedure in the operation he named "enucleation resection," including the collar incision of the skin. This method of operation for goitre was that used by him in all his goitre operations without any modification; it became and remains to-day the classical method of operation all over the world for nodular goitres. In fact, nothing new has been added to this method of operation anywhere or by anyone in the following thirty-seven years—that is to say, until the present time. This method not only included the collar incision of the skin now universally used, but also gave the exact method of leaving all healthy thyroid tissue behind, and so to assure a sufficient function of the thyroid, to prevent myxoedema, to avoid any lesion of the recurrent nerve and of the parathyroid glands, which became known only later on. Even nowadays, when the bilateral operation of nodular goitre is recommended by many surgeons, Kocher's enucleation resection is done on both sides. Hotz calls it the bilateral Kocher operation.

In 1892 Theodor Kocher published his paper on the origin and prevention of cretinism, in which he described a case of congenital goitre with cretinism, and showed that cretinism was due to lack of thyroid function, and could be prevented by the same measures as those by which goitre can be prevented. This point of view was very much, and for a long time, opposed, but has nowadays become the general opinion.

In 1887, when showing a case of Graves's disease to his students to illustrate a clinical lecture, he demonstrated the hypervascularization of the thyroid gland, and suggested that the symptoms of the disease were due to hyperthyroidism. He was the first to perform a successful operation for goitre in a typical case of Graves's disease. In 1897 he published sixty-nine cases of Graves's disease operated upon, with only four deaths.

In 1895 he read a paper on the action of iodine on goitres. In that paper he suggested that the normal thyroid gland must contain iodine, as the action of desiccated thyroid gland on goitres was the same as that of iodine. Unfortunately, the professor of chemistry at the University of Berne who made the investigation could not find any iodine in the thyroid glands he examined. A year later Baumann in Freiburg published his article on the normal iodine content of the thyroid gland.

In 1895 Theodor Kocher had done 1,000 goitre operations; in 1901, 2,000; and in 1905, 3,000. At the time of his death in 1917 he had personally performed 6,000 goitre operations.

In 1907 he read the opening paper at the German Congress of Internists at Munich, on the pathology of the thyroid gland, and in 1906 gave the annual oration (on the same subject) before the Medical Society of London (BRITISH MEDICAL JOURNAL, 1906, vol. i, p. 1261). This work was the starting-point of modern endocrinology, and contained all what we know at present of the pathology of the thyroid gland. In fact, nothing important has been added to it since. In 1907 he published also an important paper on malignant goitre, describing the different forms in conjunction with Langhans.

In 1908 he described his methods of gland grafting, publishing seventy-nine cases of transplantation in myxoedema, mongolism, and hypothyroidism. He specially recommended to take the transplant from a gland of a case of exophthalmic goitre, thus proving by his successful cases that the gland in Graves's disease is hyperactive and not toxic. In the same year he published the exact analysis of the blood in 260 cases of Graves's disease, showing that the leucocyte formula displayed a typical change, and a few years later he also showed a typical blood change in myxoedema, pointing out that the number of the lymphocytes in the blood was connected with the functional change of the thyroid gland. This close connexion of the lymphocytes and lymphoid tissue to the secretion of the thyroid gland has been established histologically lately by Williamson.

In 1910 Theodor Kocher gave the classical pictur *Iodbasedow*, showing that the use of iodine can pro Graves's disease in certain forms of goitre, and dra attention to the harm that can in consequence be done b use of iodine in goitres. Though at present the Mayo s has shown that Lugol's solution can in certain cases of Gra disease bring about an improvement and make the oper less dangerous, Kocher's observations and statements re quite true. The exact role of iodine in the disease is, how far from being explained.

In 1911 Theodor Kocher published the results of 1,200 o tions on the thyroid gland in Graves's disease, with 80 per complete cures. In that paper he showed how the disease be diagnosed in an early stage, and advocated early opera He described a new lid symptom which appears very ea namely, the contraction of the levator palpabrae super when the patient is made to look up and down quickly.

In 1909 he was awarded the Nobel prize for his rese work, and especially for his discovery of the function of thyroid gland. He then gave before the Academy of Med of Stockholm an address in which he drew a classical pi of the minor functional troubles of the thyroid gland—hypo-hyper-thyroidism. These conditions have been described a since without any reference to Theodor Kocher's publica In the same year he described a functional test for diag of thyroid disease, which consists of an exact blood exan tion, specification of the leucocytes, and determination of time of coagulation; thyroid substance is then administere the patient, and the blood count and coagulation test repeated, and change in a typical way, according to the fun of the gland. The diagnosis of the minor functional trou however, as well as the functional method of diagnosis, not become generally known or used, as being methods difficult for the ordinary practitioner. Albert Kocher has this method ever since, and uses it also for all the endoc glands, with similar results. To this method is due successes in endocrinologic treatment; he finds it much exact and sure than the control of basal metabolism.

At the meeting of the Swiss Surgical Congress in 1917, a months before his sudden death, Theodor Kocher reviewed his goitre operations, from which it appeared that he had at that time a mortality of 2 per mille in operations of ordi goitre and of 2 per cent. in Graves's disease. At the s time he gave a summary of our knowledge of the etiolog goitre, recommending the prophylactic treatment.

It is worth while to recall all that has been done for advance of our knowledge about the thyroid gland by The Kocher, and, under his guidance, by his people. It is n worthy that Theodor Kocher never made any fantastic st ments, but only drew those conclusions he could really pr giving entire credit to all that others have contributed to question. Since his death very little sound work has done on the subject, but very many theories have been advan It is sad to note that the credit Theodor Kocher deserves is given to him by many authors of the present day.

I feel sure you wish me, as your chairman, to thank Albert Kocher for an historical contribution which car the knowledge of his father's work beyond any records I h seen in the English language. Personally I share the fi sentiments expressed in the last paragraph: I know it be true also in other branches of surgery; still, I am g to be able to say that things are slowly mending. In review of Crile's book on the *Thyroid Gland* (BRIT MEDICAL JOURNAL, December 9th, 1922) it was said: " will agree with Professor Crile when he states that we w first of all to express our sense of the obligation of medic to Theodor Kocher in Europe for the secure foundat laid by him for surgery of the thyroid gland." Again, the *British Journal of Surgery* (1926, No. 51) G. Sc Williamson said that the term "*thyrotoxicosis*" (Koch is preferable to "forme fruste." I will add one furth illustration of a waking conscience from the youngest a latest journal, *The Leech*, of the Welsh National School Medicine, in which no fewer than nine pages (Octob 1926) are devoted to thyrotoxicosis, and due appreciation shown of the master's work.

Water Supply.

We learn from the letter which I have just read th Theodor Kocher showed himself a scientific seer as long a as 1889, when he indicated at a popular lecture his vi that the cause of goitre was in water, and urged "t Government to have the drinking water in the pub schools boiled, or to add iodine to it, to prevent goitre It is evident that the late battle-ground regarding the c

iodine and its appraisement in surgical cleanliness has been shifted to the medical preventive side in relation to goitre among school children. The value of the letter will become apparent when I read an extract from a very notable contribution on the thyroid gland by Charles H. Mayo and Henry W. Plummer, published in 1926, and described in the preface by the chairman of the Beaumont Foundation Committee as the most authoritative pronouncement upon the subject ever given: "At the time of his (Kocher) death in 1917 approximately 5,000 cases of goiter had been operated on at his clinic. In 1917 the practical application of a method to prevent simple goiter was started in the public schools of Akron, Ohio, by Marine and Kimball." There is a reference to a somewhat similar plan in my review, already referred to, of Crile's book, where recalled the fact that Kocher held goitre to be water-borne, due to "a hitherto unknown micro-organism, or more probably a chemical agent . . . made inoffensive by boiling the water. That is why he proposed, forty years ago, to boil all the drinking water, especially at the schools, to prevent goitre. But at the same time . . . he proposed to give the children twice or three times a year during some weeks a small dose of iodine to prevent goitre. He had then a malt preparation made with iodine and iron." This preparation he gave to his own three sons three times a year. "The result is that [the] three brothers have absolutely normal thyroid glands." (BRITISH MEDICAL JOURNAL, 1922, ii, 1123.) It is interesting to recall that in 1854 it became known that cholera was a water-borne disease, although the actual cause was not then discovered; we are to-day in a somewhat similar position with regard to goitre, but are very near the goal.

Incidence of Goitre in Wales.

I had hoped that the inquiry instituted by the Ministry of Health into the incidence of goitre in our country would have been ready before this, as it would have been of great interest, but unfortunately I heard from Sir George Newman, who has given me much help, that the memorandum on the subject had not yet been published. It is now over twenty years since the late Dr. Williams, M.O.H. Glamorgan, and I instituted an inquiry into the incidence of goitre, and received replies from 231 medical practitioners. In a paper read before the Medical Society of London on April 22nd, 1907, I reported that "as far as I can judge from analysis of the evidence collected, the distribution of goitres in Wales and Monmouthshire supports the view that the causation of this disease is to be found in drinking water."

Goitre is found in almost every country in the world from sea-level to 10,000 feet above, wherever soil exists for man to live on. In Wales it is fairly common in counties bordering the sea, and also in patches inland—for example, Gwendraeth valley, Llanidloes, Vale of Clwyd. It is found on soil which covers rocks a million, ten million, or a hundred million years old; the chemical composition of the geological formation is apparently of little importance—the surface soil is the only factor left that counts.

Goitre is fairly common over the ordovician rock in Cardiganshire, where, in cuttings or quarries, the mother rock may be covered with a crushed layer, called "rab" locally—evidence of the weight and direction of the enormous ice sheet that ground and rounded off the general contour of the land. There is often very little soil over the "rab"; the rock is notoriously deficient in lime salts, but goitre is not uncommon.

The Cause of Goitre—Micro-organism, Iodine Deficiency, or Endocrine Imbalance?

Evidence is accumulating so strongly, that one of Kocher's double-barrelled predictions of "the unknown organism" as the cause of goitre will, I think, shortly be fulfilled—for example, that from the Mayo Clinic: "Rosenow has isolated an anaerobic *Gram*-positive diplobacillus-like organism from the excised thyroid gland in twenty-five of thirty-two cases of goitre." "Of the sixty-eight animals injected with strains from sixteen patients (ten with exophthalmic goitre and six with non-toxic goitre) and examined soon after injection, thirty-four (50 per cent.) developed gross lesions in the thyroid."

The part iodine plays in the etiology of goitre I leave in the able hands of Colonel McCarrison, I.M.S., whose valuable work on the etiology of goitre is well known, and who has now in the press a report of his experience at the Lawrence Royal Military School, Sanawar, Punjab, India, which, in its precision, almost amounts to a scientific experiment. The work was commenced in 1913, and observations have been continued ever since. [The story is told in the paper by Colonel McCarrison published in this issue at page 94.]

Upon this aspect of the subject I have consulted Professor H. J. Fleure of the University College of Wales, Aberystwyth, whose knowledge, alike of the geology and anthropology of Wales, is unsurpassed. He writes:

"While we have made observations as conscientiously as possible on goitre, I cannot say that they have led to any very clear conclusions as to any one particular cause. We find that the administration of iodine has been undoubtedly valuable in a number of cases. It has been given in the form of iodized table salts. Whether the importance of this is the direct contribution of iodine to the system or whether the iodine acts as an enemy to some factor of the disease, we do not presume to say. Alongside of this we have found the insistence on boiled water very important, but whether this implies that the disease is connected with some filter-passing germ or of some chemical which is altered by boiling, we do not know. There is no doubt that, along with curative measures such as the above, it is very important to take measures to maintain and develop the resistance, and this is done in two ways. In the first place, therefore, attention should be given to the teeth, which for some reason which needs investigation are notoriously bad in West Wales. In the second place, Miss Fleming has urged the use of an improved vegetable and fruit diet, including fruit and fresh greenstuffs. The fruit is chiefly apples and oranges. We cannot but think that one of the problems involved is some question of a balance of endocrine secretions, and this is apparently very liable to be altered by inbreeding, so the troubles connected with this alteration of balance are specially abundant among the peoples of isolated districts."

Details in Operative Technique.

Before concluding my somewhat discursive remarks I venture to draw attention to the importance of carrying out some details in operative technique which facilitate work and give the best results in most operations on the neck and specially those for goitres.

The first is to follow the direction of Kocher's collar incision in all operations on the neck, whether small or large, and to avoid making a longitudinal incision; in this way a hazardous bloody operation is converted into a practically bloodless one without any risk of injury to nerves, for the surgeon sees every step before moving on.

The second is to place the patient in what I described in 1907 as the "Albert Kocher" position, which means a semi-recumbent or anti-Trendelenburg position, by which the superficial veins of the neck are converted into empty flat tubes during normal respiration.

The third is to remove sutures or clips and drainage tube within twenty-four hours after operation; this avoids all scarring beyond the inevitable thin white threadline left by the collar incision. It is perfectly safe to remove silk sutures—to which I am biased, by imitation of Kocher—but it is necessary to remove only an inch at a time, then secure apposition by fixing half-inch wide gauze strips with collodion crosswise to the collar incision. In order to avoid any possible risk of the buried subcutaneous portion of the silk suture, it is wise to paint the skin beforehand with iodine, then pull gently on the suture to enable the surgeon to cut the portion that was subcutaneous, thus avoiding withdrawal through the wound of the exposed portion of the silk suture, which is of the finest size for the smallest skin-needle.

Lastly, it is important in operations to mark the skin at right angles, in two or three places, before making the incision, according to its length, to serve as landmarks in restoring the skin and subcutaneous tissues to their normal disposition. I described the method in a paper read before the Medical Society of London in 1907, but as I did not explain how the idea originated, I do so now to illustrate how an idea sometimes starts from an accident. Of the 73 operations recorded, 55 were performed under local and 17 under general anaesthesia. In the remaining case no anaesthetic was employed owing to breaking of the hypodermic syringe, and I proceeded with the operation by transfixing the skin after the fashion of pre-anaesthetic days. After finishing suture of the skin with continuous

silk I discovered that a mole had been divided and that the sutured halves were at least half an inch apart. I removed the suture in order to restore the mole, which subsequently formed a landmark. I copied this hint and applied it in every operation afterwards; it is of some practical importance, more especially in the restoration of skin to the normal; the surgeon quickly realizes by marking the skin with the point of a needle (Moynihan) how almost impossible it is to get normal alignments without skin landmarks.

Arthur Keith, discussing the law of collateral or "uniform evolution" "as certainly valid for the order of animals to which man belongs," says he does not think it possible that the

"Mongolian stock had arisen from an anthropoid of the orang type, while the African negro had drawn his origin from the ancestral type of the gorilla . . . there are certainly superficial points in which the Mongolian type resembles the Bornean anthropoid, . . . Cretins of all races are alike. They cease to be Europeans or Asiatics in appearance. Cretinism is the result of a defect of the thyroid gland: . . . so potent is this gland in fashioning the features that a cretinized English child might be taken, by a superficial observer, as brother to a Chinese cretin. It is also so, when the pituitary gland becomes disordered. . . . The glands of internal secretion are parts of the machinery of evolution, not only of man but of apes. The resemblances of the orang to the Mongolian type are due to thyroid dominance in the action of their glands of internal secretions." (*Antiquity of Man.*)

The youthful Dr. Rip Van Winkle who went up the Catskill Mountains in 1883 came down to-day to find strange things to convey his successor to consultations by road and by air; he read strange records of the value of x rays, radium, and cardio-electrography in Graves's disease; but the strangest thing of all was to listen to a wireless discourse from the wonder hospital which had grown in thirty years from a cottage hospital with a staff of three to that of a University Medical School with a staff of 301—the far-away Mayo Clinic—on the revelations in the physiology of the thyroid gland, and on revolution in the surgery of goitre, carefully engineered and successfully launched from Berne.

AN EXPERIMENT IN GOITRE PREVENTION.

BEING

THE FURTHER HISTORY OF GOITRE AT THE LAWRENCE ROYAL MILITARY SCHOOL, SANAWAR, PUNJAB, INDIA.

BY

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IN a report on the causation of goitre at the Lawrence Royal Military School, Sanawar, Punjab, Northern India, submitted to the Indian Research Fund Association in 1914[1] it was shown that the disease was not due to any chemical substance (lime, magnesium, etc.) in suspension or in solution in the water supply. The conclusions were drawn that goitre in Sanawar was due to the presence of living micro-organisms in the water supplied to the children for drinking purposes; and that the disease could be eradicated by the provision of a chemically and bacteriologically pure water.

Goitre had been endemic in Sanawar since the foundation of the school in 1848. So great was its prevalence that in some years as many as 50 per cent. of the children suffered from it; while after a residence of eight years in the school about 80 per cent. became goitrous. At the time my investigations were begun (1913) no less than 66 per cent. of girls above the age of 16 years were the subjects of noticeable goitres. Many of the swellings were slight and some of them transitory, but a high proportion were true goitres (not merely physiological swellings) which caused noticeable disfigurement. Full details regarding the incidence of the disease and the investigations which led to the above conclusions will be found in the report referred to.

Following the recommendations made in this report a new pipe water supply, from the neighbouring station of Kasauli[1] was provided in 1918. Thereafter goitre began to diminish and has now disappeared. Captain P. Sav I.M.S., the present medical officer of the school, i letter to the principal, of which a copy was sent to m January 30th, 1926, writes:

"One year's experience has convinced me that goitre is entirely absent. I have not seen a single case, and I propo mention in my annual report that goitre can now be consi a thing of the past."

Similar reports were received from previous me officers. Thus one states, in a letter dated June 1921:

"There have been no fresh cases of goitre noted this The disappearance of goitre is probably due to the fact tha water supply was changed from the Sanawar spring to Kasauli supply. This fact was intimated to the Inspector-Gen Civil Hospitals, Punjab."

Again, on October 17th, 1921, the Assistant Directo Medical Services in India reported that "Since Kasauli water supply has been piped to Sanawar there been a complete absence of goitre."

In the autumn of 1923 I revisited the school, with object of seeing for myself what was then the incidenc the disease. I found one boy, aged 16, who had still enlargement of the thyroid, and ten girls, at or over age of puberty, who were the subjects of small goi some barely noticeable. The remaining 489 children free from goitre. The incidence of the disease was 2.2 per cent., or no greater than the incidence of thy enlargement among school children residing in non-end areas[1] such as Delhi (2.2 per cent.), or Kasauli, which the new water supply was derived (2.4 per ce It was no greater, also, than in another Lawrence R Military School in Southern India, at Lovedale in Nilgiri Hills. This school is situated in a region w the iodine content of the soil is very high (300 to 400 per 10 millions); at a recent examination of 452 of children I found ten cases of visible goitre, involving lobes and the isthmus, in 162 girls; and one case an 290 boys. Of these eleven cases two were in girls who acquired the swelling at the Sanawar school. It had disappeared following their transfer to the Lovedale sc My experience has been that in any community of sc children there will always be found a greater or sm number of thyroid swellings which bear no relation w ever to endemic influences.

It is clear, then, that goitre, which had been end in Sanawar for seventy years, has now disappeared; that its disappearance has been due to the introductio a new and protected water supply. Its eradication wi the short space of three years is, so far as I am aw unparalleled in the history of goitre prophylaxis. Sim instances are to be found in the literature,[2] but non which the endemic has been so carefully followed thro out its whole course nor in which the measures dec upon for its eradication have followed more exhaus study of the local conditions.

The new water supply may have caused the disappear of the disease either because it increased the iodine int of the scholars or because it was a bacteriologically water, whereas the old supply was grossly contaminat I have the assurance of the principal, contained in letter of May 9th, 1923, that "no changes of any im tance were made in the diet between 1914 and 192 There was, therefore, no increase in the iodine intake way of the food. Consequently, the question to be dec was whether or not the new water supply contained n iodine than the old. The Chemical Examiner, Punjab his report on the new water supply, dated March 1 1922, stated that "The sample is of very good qua chemically and remarkably free from impurity. It cont only traces of lime and magnesium and no iodine." I t caused 25 gallons of the new supply, as delivered by at Sanawar, to be evaporated to dryness after the addi of sodium carbonate. This was done under the su vision of the Director, Central Research Institute, Kas (Lieut.-Colonel S. R. Christophers, I.M.S.). The resi was sent to the Chemical Examiner, Punjab, for esti tion of its iodine content. In his report, dated August 2 1923, he stated that iodine was not detected in any f in the residue.

The recent work of Fellenberg, McClendon, Hereus, and hers, having emphasized the difficulties attendant on the timation of iodine in soils and water, led me to think at more refined methods of analysis might possibly veal significant differences in the iodine content of the o waters. Accordingly on my return to India in 1925, as to settle the matter finally, I secured the co-operation three chemists: Major C. Newcomb, M.D., F.I.C., M.S., Chemical Examiner to the Madras Government; r. B. Viswanath, F.I.C., Agricultural Chemist to the adras Government; and Dr. R. V. Norris, D.Sc., Prossor of Biochemistry, Indian Institute of Science, Bangare. Each undertook to examine independently the pubshed methods of iodine determination in soil and water, id to select the method which he found gave the most liable results or to evolve another for himself. While eir preliminary investigations were in progress I btained, through the kindness of Captain P Savage, M.S., medical officer of the school, and of Lieut.-Colonel . Cunningham, I.M.S., Director of the Pasteur Institute India, Kasauli, samples of soil and of water concenates from both Sanawar and Kasauli. The concentrates the old and of the new water supply were prepared, ith minute attention to detail, by Colonel Cunningham, fter the manner recommended by McClendon. Meanwhile ach of the three chemists had evolved a method of iodine stimation which appeared to be satisfactory; their ethods, however, differed in detail. The samples of soil nd water concentrates were then sent to them at Madras, oimbatore, and Bangalore respectively; each chemist eing unaware of their source. The results are given n the table.

Sample.	Iodine Content in Parts per 10,000,000.		
	I.	II.	III.
)ld water supply of Sanawar school	1.0	Trace	Trace
Vew water supply of Sanawar school ...	1.0	Nil	Nil
Sanawar hillside soil	35	16	30
Sanawar garden soil	8	5	30
Kasauli hillside soil	45	32	10
Kasauli garden soil	10	4	0

Column I, Major Newcomb's results; Column II, Mr. Viswanath's results; Column III, Dr. Norris's results.

The details of the methods of iodine determination adopted by the three observers will be given in a future report on the relation of iodine in soil and water to goitre, when the various technical difficulties and sources of error will be dealt with by them. Meanwhile it may be said that their results, arrived at independently, show a close correspondence and a general agreement* in regard to the following points with which this paper is mainly concerned:

1. The soils and waters of both Sanawar and Kasauli are poor in iodine.
2. There is no significant difference in the iodine content of the soil in the two places.
3. The old water supply of the Sanawar school contains appreciably more iodine than the new, which contains little or none; thus confirming the previous reports of the Chemical Examiner, Punjab, in regard to the new supply.

It is obvious, therefore, that the disappearance of goitre from the school cannot be attributed to the presence of iodine in the new water supply.

The conclusion arrived at in my first report, that endemic goitre in the Sanawar school was due to the bacteriological impurity of the old water supply, is thus substantiated; and the prediction that it could be eradicated by the provision of a chemically and bacteriologically pure water supply has been justified by the disappearance of the disease.

REFERENCES.
[1] McCarrison, R.: *Indian Journal of Medical Research*, 1914, i, No. 3, pp. 1 to 53.
[2] McCarrison, R.: *The Aetiology of Endemic Goitre*, London, 1913.

*The differences in the results of the three observers are not significant; they fall within the limits of experimental error.—R. McC.

CARCINOMA OF THE COLON.

AN ADDRESS GIVEN TO THE GLOUCESTERSHIRE BRANCH OF THE BRITISH MEDICAL ASSOCIATION

BY

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THE results of primary operation for carcinoma of the colon are good, contrasting favourably in this respect with cancer of the stomach or rectum. It generally kills by causing intestinal obstruction, and if we avoid this by removing the growth at an early stage the hope of cure is a good one. The disease usually originates as an ulcer or occasionally as a papilloma. It spreads slowly in the wall of the bowel and takes a long time to infect the lymphatic glands or to invade the liver through the portal vein. Mr. F. T. Paul[1] has pointed out that there are three main types of this disease. I will quote his words.

"The three varieties of carcinoma are: (1) The large soft fungating 'encephaloid' type; (2) the small hard 'scirrhous' type; and (3) the infiltrating 'colloid' type. All may be said to be primarily columnar-celled growths originating in the intestinal glands, and all ulcerate; but they follow different paths of evolution, and attain different degrees of malignancy which it is important to recognize. The scirrhous variety is always unmistakable. It produces the hard ring stricture of the bowel, and is more common than colloid cancer, but much less frequent than the soft fungating type. This latter may usually be as easily distinguished from the colloid form of growth by the following characters: It is softer to the touch. There is a good deal of fungating growth within the bowel, but generally not much solid infiltration of the bowel wall. There are usually numerous large soft glands in the neighbouring mesentery, which are septic and not malignant. In colloid cancer, on the other hand, there is a hard-edged ulcer with no fungation. There is dense hard infiltration of the bowel wall, often attaining a thickness of from one to two inches, and giving it a solid feel. The glands, if affected, are not soft, but hard and glistening. . . .

"*Misconceptions Regarding Cancer.*— . . . The really important misconception, however, concerns the relative malignancy of the three varieties of cancer. Usually the big, fungating, encephaloid type of growth is regarded as the most malignant; the colloid as being intermediate, and the scirrhous, or ring stricture, as the most benign. This arrangement is entirely wrong and out of accord with clinical experience. The colloid is the most malignant type, the ring stricture comes next, and the fungating type is the best—it being one of the least malignant kinds of cancer met with in the body.

"It is a clinical fact of considerable importance, to which I have often referred at our local medical society, that the upgrowing forms of cancer are essentially less malignant than the down-growing, ulcerating and shrinking types.

"The most common sites for the fungating type of growth are the rectum and caecum, though it often occurs in the sigmoid, and occasionally at any other part of the large bowel. Colloid cancer chiefly selects the rectum, and ring stricture the sigmoid, though neither is limited to these regions."

SYMPTOMS AND SIGNS.

The symptoms and signs are insidious in their onset and generally develop in a patient approaching, at, or over middle age. They consist of "indigestion or flatulent dyspepsia" of the intestinal type, with alternating diarrhoea and constipation; there are many urgent calls, with more or less futile attempts, to empty the bowels; naturally formed motions are rarely passed, but small pieces with, perhaps, blood and slime. Occult blood is generally found when the patient has been for some days on a meat-free diet. The abdomen gets somewhat full and distended, colicky pains are frequent and are associated with visible peristalsis. A tumour is often felt on bimanual examination of the loin or pelvis, but it is difficult or impossible to feel a growth of the splenic flexure.

Radiographic examinations after opaque meals or enemata are often of great value, especially if the findings are constant and repeated, but there are many fallacies associated with this method. Examination with the sigmoidoscope is far more reliable as regards the part of the bowel that is within its reach, but the instrument has to be used with care and discretion. In many early cases the diagnosis cannot be established without exploratory operation, and this should be undertaken whenever there is grave doubt, for it allows the growth to be removed in its early and hopeful stage.

When chronic obstruction is succeeded by acute, often the result of inflammation or plugging of the stricture by

a scybalum or sometimes by a faecalith, the abdomen becomes greatly distended, but its shape and size are very different from those due to obstruction of the small intestine, one or both flanks being full and prominent. The size and shape of the caecum become evident during spasm and pain, and other parts, such as the transverse or sigmoid colon, may become visible during colic. The patient himself may point to the site of the obstruction, having noticed pain, and especially gurgling, at a particular spot, or the medical attendant may make this observation.

DIAGNOSIS.

Cancer of the colon is often mistaken for other diseases of the colon, especially ulcerative colitis, dysentery, and sprue. We ought to be very uneasy about the diagnosis of chronic colitis, and always seek the cause of it by thorough examinations. Many patients who have been treated for one or more years for ulcerative colitis come at last to the surgeon too late for radical operation; the same is true of dysentery and sprue.

Diverticulitis of the pelvic colon mimics carcinoma to a remarkable degree, but in this disease there is usually a history (sometimes of over twenty years) of recurrent attacks and fever, with incomplete obstruction and pain, perhaps swelling, in the left iliac fossa. There is rarely any history of blood and slime, and careful radiographic examinations after opaque meals and enemata demonstrate the presence of diverticula in the colon. The most conclusive evidence is the finding of opaque spots in the bowel after the meal or enema has been evacuated, some of the opaque material having been retained in the diverticula. In the interval of the attacks these patients are often quite well. The diagnosis is most important, for operation is not always the best treatment for diverticulitis. It is possible, however, for the two diseases to coexist, as actually happened twice in my experience.

Papilloma and adenoma of the colon may be mistaken for carcinoma. One of my patients, a middle-aged woman, had severe remittent rectal haemorrhage on and off for nineteen years; when at last operation was performed there were five papillomata of the pelvic colon, one of which had become carcinomatous at the base.

Appendicitis with chronic suppuration has not uncommonly been mistaken for carcinoma of the caecum or ascending colon, but here there is usually a definite history of acute and sudden onset of pain with fever. In some cases exploration is necessary to settle the diagnosis.

Tuberculosis of the caecum, forming a massive swelling, sometimes simulates carcinoma, and so does volvulus of the pelvic colon, causing acute obstruction. In several cases where I expected to find carcinoma of the colon I fortunately only found pericolic bands, division of which brought cure. In some instances a gall stone, impacted in the narrow pelvic colon, has been mistaken for cancer, and in some a faecalith has led to the same mistake.

In old people ordinary faecal impaction with irritating diarrhoea has often been mistaken for cancer, but the mistake is easily discovered upon examination of the rectum and finding scybalous masses there. Rectal bleeding due to other causes has led to error. For instance, I remember a man who had very severe rectal haemorrhage, causing him to faint; sigmoidoscopy some days later showed blood in the pelvic colon and an apparent stricture. Carcinoma of the colon was diagnosed, but this diagnosis was not confirmed at the exploration; the source of the bleeding was found to be internal piles, which were successfully removed.

Almost any other abdominal tumour may be mistaken for carcinoma of the colon, or vice versa. I recently mistook a distended and very large gall bladder, measuring eight inches in length, for a growth of the caecum and ascending colon, but the absence of serious intestinal symptoms, and especially the history of previous attacks of biliary colic, should have prevented this mistake.

The diagnosis is not complete until it has been ascertained whether the growth is removable, therefore it is vital to look for signs of secondary growth in the liver and peritoneum. Rectal or vaginal examination often discovers secondaries in the pelvic peritoneum, rendering a radical operation impracticable. Before advising such a severe operation as removal of cancer of the colon it is also necessary to ascertain the state of the general health and of the viscera, especially of the kidney.

TREATMENT.

1. The ideal is to discover the growth early and remove it without delay, thus to cure the patient at one operation. End-to-end union, after removal of the growth, is nearly always the best and most economical, but for growths of the caecum, ascending colon, and hepatic flexure, for which the lower six inches of the ileum, the caecum, and the right colon have to be removed in order to effect a cure, it is better to make an end-to-side union between the ileum and transverse colon.

To attain success in these resections careful preparation of the patient, accuracy in sewing, perfect haemostasis, scrupulous cleanliness, and free drainage are essential. In order to drain the colon freely and prevent gaseous distension and undue tension upon stitches it is sometimes necessary to add caecostomy or to use a rectal tube passed up into the colon through the anastomosis.

CASE 1.

A medical man, aged 48, was one of nineteen children. His father and one brother died of cancer of the bowel. He himself had suffered for years from piles from which bleeding had often occurred. For the last two years there had been a good deal more bleeding from the bowel, and this had often been associated with pain in the left iliac region. In March, 1910, the bleeding became more severe and came on quite apart from defaecation. He gradually got into poor health and wasted a good deal, and a fortnight before I saw him he fainted. Mucus and much blood escaped from the rectum. The patient saw several consultants and was referred to me for operation on October 19th, 1910.

I felt an elevated growth high up in the rectum. I could not find any stricture, but only what appeared to be an ulcer occupying one side of the bowel. During the examination the growth receded out of reach, clearly showing that it was fairly high in the bowel but had intussuscepted into reach. Then the receded growth could be felt through the anterior wall of the rectum. It was thought that an abdomino-anal resection would be the best operation.

The bowels were well cleared out and the patient was kept at rest for three days and carefully prepared on a diet leaving little residue. Morphine, gr. 1/3, and atropine, gr. 1/150, were injected an hour before the operation on October 22nd, 1910, and axillary saline infusion was also commenced and continued during the operation, five pints in all being given. Open ether was administered by Mr. Plumtre. The abdomen was opened through the lower and inner part of the left rectus and the growth was at once found in the lower part of the sigmoid loop about nine inches from the anus. It was freely movable, and some enlarged glands were felt in the meso-sigmoid. The liver and lumbar glands were normal. The high Trendelenburg position was adopted, and it was decided to resect the growth abdominally and join up the colon end to end. This was carried out, nine inches of bowel and the lymphatic area being removed. Microscopic examination of the enlarged glands showed inflammatory changes only. End-to-end union was performed with two silk sutures. The first was a continuous Connell and the second a continuous Lembert suture. The packs were removed and the rent in the mesentery was closed as far as possible with catgut sutures, and the bowel was replaced. The peritoneum was cleansed of blood and the wound was completely closed in layers. The operation lasted an hour and a quarter, and at the end of it the patient was not collapsed. On opening the piece of bowel removed it contained no faecal matter, only a little blood-stained mucus. An ulcer, two inches long and one and a half inches wide, with rampart-like edges was seen; the mucous membrane around it was much congested and inflamed. The ulcer did not encircle the bowel or appreciably narrow the lumen; it had clearly obstructed and caused pain only by intussusception. There were very few enlarged glands in the mesentery, except quite close to the growth, which was a columnar-celled carcinoma.

The patient did very well; the wound healed without any trouble, and he left the home within a month. He was at work in his busy practice within two months of the operation. He remained well for thirteen years and then died of an acute abdominal catastrophe—probably ruptured duodenal ulcer.

2. If obstruction has already developed an attempt should be made to overcome this by rest in bed, restriction of diet, and the use of enemata, but too much time must not be wasted on this endeavour. If enemata are successful the patient may be carefully prepared, as above, for a one-stage radical cure; but if the bowels refuse to act, prompt relief by operation must be given.

(*a*) *Caecostomy.*—In very grave cases, when the distension of the caecum is visible, blind caecostomy (Stiles) may be performed under local or general anaesthesia. This is practically devoid of risk. Subsequent examinations may reveal the cause and site of the obstruction and a secondary

operation may be successful in removing or short-circuiting the growth. In most cases of acute obstruction, however, ıe cause and site are not clear, therefore an attempt to ɔrform a blind caecostomy may be disastrous. As already entioned, the colon may be obstructed by bands, volvulus, · foreign bodies inside it; in one famous case a medical an suffering from acute obstruction was first explored in ıe left loin, in an attempt to perform left lumbar colo-omy, but the descending colon was empty; a similar ıtempt on the right side was also futile, the ascending ɔlon being empty. The patient died on the table, and ; the autopsy the cause of obstruction was found to be a all stone impacted near the lower end of the ileum. For ıese reasons I prefer to explore the abdomen, very care-ully and gently, under light general anaesthesia, with ıe hand introduced through an opening in the right iliac ɔgion only just large enough to admit the folded hand. he liver is examined for secondary growths, the site and ıuse of the obstruction is discovered, and, if it be a rowth, its removability is ascertained. While doing this, ı a recent case, the caecum was discovered in the splenic rea, showing how futile a blind caecostomy would have een. If there are no secondary growths and the primary arcinoma is removable, valvular caecostomy is performed, ut if there is no hope of resection, either a short-circuit r a colostomy is made, for caecostomy as a permanent ieans of draining the bowel is intolerable, on account of he frequent and irritating fluid actions. As a rule it ; worth while to run a slightly greater risk in these cases n order to avoid an artificial anus.

(*b*) *Colostomy* is better than caecostomy for certain ases: (1) when the growth is irremovable and short-*circuiting is* impracticable, as mentioned above; (2) when he obstruction is low down in the colon For instance, hen the growth is in the pelvic colon and the bowel just bove it is greatly distended and more or less paralysed, aecostomy does not provide sufficient drainage, so that the lescending colon remains full and inflamed for several veeks, making it *difficult or impossible* to perform a satis-actory secondary resection. Therefore in these cases a olostomy, slightly above the growth, is the best preliminary reatment.

(*c*) *Short-circuit.*—As already mentioned, this is very uccessful as a permanent measure when the growth is irremovable. It is also valuable in some cases when the bstruction is not too severe and the patient is fairly fit. For instance, a lady with a growth at the splenic flexure, ausing complete obstruction for a fortnight, was treated by making a short-circuit between the middle of the trans-erse and pelvic colon. Nearly two months later the growth, which had shrunk to half its former size, was successfully excised, the patient remaining well now, six ears later. In this case the resection was made easier and safer by the preliminary short-circuit, there being no need to make an anastomosis but only to tie and invert the ends of the colon near the one already made.

(*d*) *Primary Resection after the Method of Paul.*—Whereas it has been proved that primary resection with restoration of the natural channel is very dangerous treatment for acute and complete obstruction of the colon, the mortality being well over 50 per cent., it has not been sufficiently appreciated that the danger lies not so much in the removal of the growth (provided it is well and swiftly done), but rather in the union of soft, inflamed, and damaged tissues, which too often in the past led to leakage at the line of suture, which cannot stand any gaseous or faecal distension. When free drainage is provided the resection and even reunion may not be too dangerous. In many acute as well as chronic cases the method of Paul (often wrongly called that of Mikulicz) is safe, the growth being removed and the ends of the colon above and below being drained with Paul's tubes. The artificial anus thus made may close spontaneously or be closed later by a comparatively safe minor operation.

The chief objection to this method, which is rarely suitable except for mobile pelvic or transverse colons, is that the lymphatic glands cannot be widely removed. In spite of this, however, very good permanent results have been obtained.

CASE II.

A married woman had suffered for many years from constipation, which during the last few months had been getting worse; no blood or slime had been noticed. In the middle of December, 1910, she was seized with severe abdominal pain; the bowels were not opened and she passed no flatus. During the following fortnight the patient was kept in bed and was given opening medicine without avail, generally vomiting it; she had one enema without effect. She took little food and had very little sleep. At the end of the fortnight the pain and sickness were better and she was sent to Guy's Hospital. The abdomen was greatly distended and three times during half an hour visible peristalsis could be seen about the position of the caecum. The patient was then suffering from severe colic. She had shifting dullness in the flanks. The abdomen was neither tender nor rigid. The temperature was subnormal. Chronic intestinal obstruction, due to growth of the colon, was diagnosed, and it was thought probable that it was somewhere about the transverse colon. Rectal examination revealed no growth in the pelvis.

Operation.

On January 2nd, 1911, the abdomen was opened by displacing outwards the lower part of the right rectus. The caecum was at once seen to be distended, and the small intestines were also very distended. A large amount of clear fluid escaped from the abdomen. On passing the hand into the pelvis a growth was felt about nine or ten inches from the anus. It was a small contracting carcinoma. The bowel above it was greatly distended. It was seen that, although it would be possible to make an anastomosis between the ileum and the bowel below the growth, it would not then be possible to perform a secondary resection of the growth. Moreover, the patient's condition was bad. Therefore a small muscular separation incision was made in the left flank, and a loop of bowel containing the growth was brought out through this wound and fixed in position by means of a Spencer Wells forceps passed through the mesentery and clamped on a pad. The incision was then closed and covered with a sealed dressing. A roll of gauze was wrapped round the base of the loop of sigmoid, and then a Paul's tube was tied into the distended bowel, one inch above the growth. The patient was infused about four pints during the night. She made very rapid improvement and regained her natural colour, her face becoming much fuller. She ate and slept well.

Five days later, on January 7th, the growth was removed with the cautery, the lower limb being divided first about two inches below the growth, then the mesentery, a wedge of which was removed, and lastly, the bowel, about three inches above the growth, was divided. The vessels were tied and the two ends of the bowel were sewn together, starting at the mesenteric border and proceeding in each direction towards the free border, leaving an aperture just large enough to admit a small Paul's tube, which was tied in. Two days later the tube was removed.

About three months later, the colostomy not closing, an operation was done to close it and to remove the glands more freely, but unfortunately a pelvic abscess formed and had to be drained, with the result that all the faeces escaped at the wound and none through the rectum. After some weeks the patient was discharged, to come in later for further treatment, but, at the end of three months, she cured herself by passing a bougie through the anus and rectum into the pelvic abscess. From this time the bowels began to act naturally and the wound healed. She was seen, in good health, eleven years later.

(*e*) *Resection with Drainage by Rectal Tube.*—In some cases, when the growth is in the pelvic colon, primary resection may be carried out with safety, provided the upper bowel is well drained by a rectal tube passed up through the anastomosis.

CASE III.

A man, aged 51, came to see me on April 29th, 1918. He had not had his bowels open for eight days. He had suffered much pain in the abdomen and was more or less collapsed, with a subnormal temperature; he had not vomited, but had felt very sick. He also had a distended abdomen, and the bowels could be seen through the abdominal wall to be in violent peristalsis. He was particularly shrivelled and thirsty because he had abstained from both drinking and eating more than a minimum for three or four days, showing wonderful strength of mind. This had brought him into a very low state. On examining by the rectum I could feel a hard lump in the recto-vesical pouch, between the bladder and the rectum. This was thought, and proved, to be a growth in the dependent loop of the pelvic colon. More enemata were tried without success, and the next day an incision was made to the left of the mid-line, the loop of colon containing the growth was brought out of the wound and the greater part of the pelvic colon, with its mesentery, removed. End-to-end union was made. Then a long tube was passed up into the colon above the anastomosis and sewn to the skin near the anus.

The patient did well, returning home three weeks later. He was heard of as being in good health eight years later.

After-Treatment.

The after-treatment of patients submitted to colectomy is just as important as their preparation before the operation. The commonest error is the too early and too frequent use of purgatives, whereas the ideal is to let the bowel rest in peace. As soon as possible I give half to one ounce

of pure liquid paraffin morning and evening and get the patient on full diet, generally within three days of the operation, with the result that the bowels usually act normally after three or four days. Sometimes the action is delayed without any harm. Occasionally it is necessary to run olive oil into the rectum through a soft catheter. No strong purgative or ordinary enema is given.

DARTMOUTH.

[1] *Selected Papers*, 1925.

THE ESSENTIAL OIL TREATMENT OF CHOLERA.

BY

ALEXANDER CANNON, M.B., CH.B.LEEDS,
CANTON.

RECENTLY Dr. Tomb introduced in the Asansol Mining Settlement, Bengal, a treatment of cholera by an essential oil mixture made up as follows:

Spt. aether.	m xxx
Ol. caryoph.	m v
Ol. cajap.	m v
Ol. jump.	m v
Acid. sulph. aromat.	m xv

One drachm, in half an ounce of water, to be taken every half-hour (in case of cholera); total average dose 8 drachms. One drachm, in half an ounce of water, daily, is an excellent preventive.

This mixture should be given immediately, when practicable, but it is claimed (and here it has been proved) that in 95 per cent. of cases recovery will be secured within a period of seven hours from the onset of symptoms. No special care need be paid to subsequent dieting. Vomiting, purging, and intestinal pains appear to be immediately controlled by this mixture. As little supervision is requisite, the value of the method in mass treatment of natives is obvious.

Manson-Bahr and others state that the cholera vibrio may be found in the stools for as long as forty-four days after the patient has commenced convalescence. Bacteriological examination so far shows that following the administration of Dr. Tomb's mixture the vibrio ceases to exist after a period of from six to twelve hours from the commencement of the treatment, thus apparently reducing the quarantine period from forty-four days to twelve hours. This is a matter of considerable importance from the shipping point of view, as it is not necessary to keep a ship in quarantine for more than twelve hours, since everyone on board (passengers and crew) can be treated as a potential cholera case and given a dose of the mixture every half-hour for four hours (which is sufficient to cure a case of cholera, seen within seven hours of the first symptoms, up to 95 per cent. recoveries, and practically 100 per cent. if given as soon as symptoms appear).

I have bacteriological proof that this mixture can also clear up a case of typhoid fever within twenty-four hours, which is a matter worth investigating, as this might prove an infallible mixture for those diseases where the germ is present in the intestines, etc.

The few cases of cholera we have had here had not taken the essential oil mixture once a day as a preventive. Most of these, when first seen, had marked choleraic symptoms with the typical rice-water stools, and on bacteriological examination, which in some cases was confirmed by Surgeon Commander R. Buddle, R.N., the cholera vibrio was found to be present, and in large numbers, in every case. Only one patient died, and he refused treatment until twenty-four hours after symptoms appeared, when I was called in to see him for the first time. He was in the algid state, and before an intravenous saline injection could be given he died. All other cases recovered in from seven to twenty-four hours of commencing treatment; those recovering in seven hours had immediately resorted to the treatment, and those who took longer to recover had awaited until their symptoms were so marked that treatment had to be strictly enforced. I append a few brief notes of cases.

Case 1.—A man, aged 35, had violent cramps, vomiting, and rice-water stools. On microscopic examination the cholera vibrio was found to be present. The essential oil treatment was given within two hours of the commencement of symptoms. Six hours later no vibrios were to be found.

Case 2.—A man, aged 32, had symptoms similar to those of Case 1, but no vomiting. Microscopic examination showed the presence of the cholera vibrio. He was given the essential oil treatment within five hours of the onset of symptoms. The vibrio ceased to exist after ten hours.

Case 3.—Lieutenant B., R.N., aged 26, also had symptoms similar to those of Case 1. His doctor at first treated him with opiates, but when he became worse the essential oil treatment was resorted to, and after eight doses at half-hour intervals the patient began "to feel himself again." Although both the surgeon commander and I had confirmed the diagnosis by microscope, when the patient was examined at the Naval Hospital, Hong-Kong, eleven hours later, no vibrios were found.

Case 4.—A woman, aged 26, with symptoms similar to the previous case and also marked tenderness over McBurney's point. The case was not notified to me until at least thirty hours after symptoms had appeared, and the patient was in a very weak condition and passing stools every minute or so. Essential oil treatment was immediately carried out, and within twenty-four hours the patient was convalescing.

Case 5.—A Chinese coolie, aged 48, had typical symptoms, as briefly described in Case 1; they began at 4 o'clock. Treatment by essential oils was commenced immediately, and at 9 o'clock the same evening the patient went home free from vibrios, and therefore a non-carrier.

Case 6.—This patient was a Customs officer, aged 32. His symptoms were similar to those of the other patients. Nine hours after treatment by essential oils no vibrios were to be found.

Case 7.—This patient, a commissioner, had the typical symptoms, but without any marked cramps; they commenced at 3.30 a.m. Microscopic examination showed numerous cholera vibrios to be present in the stools. Essential oil treatment was resorted to at once. At 6 a.m. the patient felt that he had taken a turn for the better; he was up the next morning by 10 o'clock. The stools were examined under the microscope and no vibrios found. At 2 p.m. the same day he resumed duty, although feeling rather weak.

Case 8.—In this patient, a nurse, the symptoms commenced with marked vomiting, then diarrhoea, which rapidly took on the appearance of rice-water stools. There were severe pains around the umbilicus, and the patient was so certain that she was dying that she did not want anyone to come near her and take risks. Essential oil treatment was given, and before sunrise the next morning she was well on the way to recovery.

This treatment could no doubt also be used in some kinds of intestinal toxaemia and in certain influenzal and rheumatic conditions. There seems to be no doubt that as a preventive and cure for cholera it is very efficient.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

TRAUMA AND SARCOMA.

THE relation of trauma and malignant disease is a question which has always been debated in surgery, and cases clearly illustrating such a connexion are of considerable interest. It is now generally recognized that an important predisposing factor to carcinoma is the presence of chronic irritation, which may be a condition of mild, oft-repeated injury, either purely mechanical—as is often the case in epithelioma following the irritation of a jagged tooth—or mechanical together with a chemical factor, as is seen in mule-spinner's cancer of the scrotum.

Sarcoma, however, is often stated to follow upon a single injury, usually of a mild degree. Coley[1] has found a history of such trauma in 225 out of 970 cases of sarcoma, and the definite statement is made that a single injury may give rise to sarcoma of the breast, such a history having been obtained in nearly 10 per cent. of cases of this condition.

Boyd[2] states that sarcoma may arise after injury to bone, but the injury must not be of such severity as to give rise to a fracture. This apparently controverts a statement by Johnson and Lawrence[3] that sarcoma may arise at the site of a fracture; in the latter case, however, it is often impossible to decide if the tumour was caused by or gave rise to the fracture. Sarcomatous change in the callus has been given as the primary cause. Cerebral tumour (? sarcoma) is said[2] to have followed a slight head injury. It is also stated[3] that sarcoma rarely develops in a pre-existing benign tumour, but may occasionally occur in neurofibromatosis and endothelioma.

[1] Keen's *Surgery*, vol. 6.
[2] Boyd's *Surgical Pathology*, p. 160.
[3] Choyce's *System of Surgery*, vol. 1, p. 498.

These considerations render the following case of some interest in showing the development of sarcoma in a previously benign tumour following a definite injury.

A single woman, aged 40, a tailoress, came to me on May 11th, 1926, on account of a cystic swelling on the outer aspect of the left thigh; it resembled a sebaceous cyst. I removed it on July 5th under local anaesthesia and found that it was composed of a lobulated mass of fatty tissue; I took it to be a lipoma.

She again came to me on August 16th, and complained of the recurrence of "lumps" at the site of the soundly healed wound. There was a purplish cystic mass adherent to the skin, not sharply defined from the surrounding tissues and not adherent to the deeper structures. It measured 9 by 5 cm. Under general anaesthesia I excised the growth, removing the affected skin and going down to the muscles, which appeared to be free from any infiltration.

The specimen, which appeared to be made up of fatty tissue with two or three cystic spaces containing blood-stained fluid, was sent to Dr. H. A. Cookson, pathologist to the Royal Infirmary, who reported: "Section shows the presence of a marked sarcomatous change in a myxofibroma."

It was at this juncture that I was informed that the patient had had for "some years," at this site, a small lump which looked like a strawberry. She had noticed the gradual formation of the first cyst after a fall on December 14th, 1925, when she had bruised her left shoulder, side, and left thigh. On this occasion she had been under our care for the condition of the shoulder, but had not mentioned the injury to the thigh.

Present Condition.

The patient has had x rays (massive doses) applied to the site of the growth by Dr. Paige Arnold at the Royal Infirmary. The wound is now (November 11th, 1926) soundly healed except at its lower end, where there is some slight discharge, and some irritation of the surrounding skin. As yet there are no signs of recurrence, and she says that she is feeling in quite good health. She has now returned to her work.

Sunderland. H. B. L. LEVY.

HERPES ZOSTER AT FOURTEEN MONTHS.

THE following case is, I think, worthy of being placed on record.

A female child, aged 14 months, suffering from herpes zoster, was brought to the skin department of the Belfast Hospital for Sick Children on November 25th, 1926. The skin lesions were on the left leg, the nerves involved being the first, second, and third sacral. The areas affected were the sole of the foot and between the first and second toes, the posterior aspect of the middle third of the thigh, and the outer surface of the left labium majus. There was little or no disturbance in the general health of the child. The mother is healthy, and, to the best of her knowledge, the child has not come into contact with any cases of chicken-pox or "shingles."

The age of the patient is of special interest. Boix of Montevideo in 1917 recorded two cases—one in an infant 4 days old, and one in a child 4 months old.

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ACUTE YELLOW ATROPHY OF THE LIVER.

THE case here recorded seems to be of sufficient interest to merit publication.

An electrical engineer, aged 38, was admitted to St. John's Hospital, Lewisham, on March 8th, 1924, complaining of vague pain in the abdomen. He had been feeling unwell for four weeks, had been jaundiced and confined to bed for one week, and had vomited after food for three or four days. For the preceding three months he had imbibed alcohol freely.

He was deeply jaundiced and sleepy; he could be roused with difficulty, and it seemed too much of an effort for him to answer questions. He resented the approach of anyone near him, and his breath had a peculiar odour. There were no physical signs except that he resented pressure below the right costal margin. The bowels were constipated. Both urine and faeces contained bile. Temperature 97.7°, pulse 92, respirations 20. That night he became delirious and voided urine into the bed. On the following day the jaundice deepened and he became unconscious. His breathing was stertorous and his eyes were continually rolling from side to side. The area of liver dullness was diminished. Temperature 98°, pulse 108, respirations 26. He remained in this unconscious condition during the following day, and died in the evening.

A *post-mortem* examination was made and the only abnormal conditions were found in the liver and lung. The liver was shrunken and its capsule lax. It was of yellowish colour with red areas scattered throughout, especially along the anterior border. The pathologist described it as typical acute yellow atrophy of the liver. Unfortunately no microscope report could be obtained. The right lung showed an obsolete tuberculous lesion at its apex.

It was thought the condition might have been due to salvarsan or its derivatives, but there was no history of this, and at the necropsy there was no macroscopical evidence of syphilis.

I am indebted to Dr. Guy Neely for permission to publish this case, which is apparently very rare.

Swansea. T. J. EVANS, L.R.C.P.Lond.

SCIATICA: POTT'S DISEASE.

WHENEVER pains in the area of distribution of the sciatic nerve do not promptly disappear after removal of all septic teeth and septic tonsils, an x-ray search for tuberculous disease should promptly be made in the lower lumbar spines and lumbo-sacral and sacro-iliac joints—not omitting such an opportunity to take a radiograph of the hip.

At the moment (October 8th, 1926) I have two cases under treatment which had been diagnosed as sciatica. After considerable waste of time, radiological examination revealed in each marked lateral caries of the fifth lumbar vertebra; the Calmette test was positive. The patients were placed at absolute rest, out of doors, in a double "Liston" frame. The pains disappeared within a few weeks, and periodic radiographs demonstrate steady increase in calcification.

It is a remarkable coincidence that both patients are vigorous men about 40 years of age; both had various decayed teeth, including pus bags and socket absorption; both had led an outdoor "steady" camp life; both had served in the great war, and tuberculous disease is about the last thing that the previous existence or appearance of either would suggest. The fact, however, remains, and points the moral that it is not wise to view anything as neuralgia about face, joint, or spine unless radiological examination warrants such an assumption.

Buenos Aires. JOHN O'CONOR.

Reports of Societies.

CHANGES IN THE CLINICAL ASPECTS OF DISEASE.

AT the Medical Society of London on January 10th, Sir HUMPHRY ROLLESTON, Bart., delivered his presidential address (printed in full in this issue at pp. 87-91) on "Changes in the clinical aspects of disease." After the thanks of the society had been conveyed to him on the motion of Dr. E. M. CALLENDER, who said that while they were all aware of the changes which had taken place in disease it needed a master mind to bring them into focus as the President had done, a brief discussion took place.

Sir CHARLES BALLANCE, taking up the President's remarks with regard to small-pox, mentioned that in his own early days he was closely acquainted with Sir John Simon at St. Thomas's Hospital, and Simon once told him the interesting fact that when he was a boy there was only one criterion of beauty for an Englishwoman—she was considered fair if she had not had small-pox. The part played by vaccination in bringing about this striking change could not be over-emphasized. With regard to appendicitis, the speaker said that he was at one time clinical clerk to Dr. Charles Murchison, the greatest clinical teacher he had ever known. Under Murchison he saw many cases of peritonitis treated with mercury and antimony, and he recalled one clinical lecture given by Murchison on fatal cases in which pus was found in the neighbourhood of the caecum. He himself saw these cases not only in the ward but *post mortem*, because Murchison always took his class into the *post-mortem* room, and there he remembered distinctly Murchison pointing out ulcerations of the appendix. That must have been about 1878, yet at that time there was no suggestion of operation on the appendix. Suppurative appendicitis had indeed been described and illustrated as early as 1850. He had been interested also in what Sir Humphry Rolleston had said

about hydatid disease, and he remembered one physician of the old days at St. Thomas's who always kept in his pocket an ordinary pocket-knife, and when he got a case of swelling over the liver which he said was a hydatid cyst he used to make an incision through the skin with the pocket-knife. He also carried in his pocket a piece of copper wire, which he bent round into a hook, and this he put into the cyst to pull out the daughter cysts. The speaker also commented on the great changes which had taken place in the aspects of syphilis, and the entire disappearance, thanks to better treatment, of the horrible ulcerations formerly seen.

Sir WILLIAM HAMER rejoiced in the emphasis laid by the President on a conception which sometimes had been lost sight of—namely, that what was being dealt with in disease was not merely the germ or the human body, but the reaction between the two. So magnificent an expenditure of energy had been devoted to elucidating the wonderful subject of bacteriology that the fact had slipped out of sight that, after all, the disease was the reaction. Since his retirement he had been devoting his leisure to the study of epidemiology, and he had been interested to find that the writers of the eighteenth century were quite surprisingly clear on the point that it was this reaction which had to be considered, and even in the seventeenth century Sydenham had clearly in mind the root idea of modern immunology, that the exciting cause—that is, the germ—had to work upon the blood and humors, and that it was the reactions which accounted for the different clinical manifestations; and Sydenham's contemporary Willis was perhaps even more explicit on this subject.

Sir PERCY BASSETT-SMITH mentioned the change in character which had occurred during the last thirty years in Mediterranean fever. In the old days, when the wards were full of cases of this disease, it was characterized by acute fever, intense sweating, painful arthritis, and a good deal of neuritis. Nowadays the cases were quite different. One rarely found arthritis at all, and the type of fever generally was not so severe. In the cases described from South Africa, and in those also from Italy and the South of France, there seemed to be much more tendency to haemorrhagic complications and to slight meningeal symptoms. This change of type had perhaps coincided with a change in the infective carrier. In the Riviera the carriers now seemed to be, not goats as formerly, but sheep; in Italy and also in South Africa the carrier was now thought to be cattle. It seemed possible that the organism, by passing through certain animals which were not so likely to suffer from the disease as goats or human beings, had undergone a certain amount of change in virulence and in character, and so had produced a disease which was very different from that formerly seen.

Mr. ZACHARY COPE said that a physician or surgeon could almost be "dated" by his experience or lack of experience of certain diseases. One instance on the surgical side was the acute perforating gastric ulcers which were formerly very commonly found in chlorotic young women. Such cases were now seldom encountered—he himself had not seen one for fifteen years. Cases of glands in the neck were also seen much less commonly than formerly. One might almost date a surgeon if he was found to be familiar with ileal kinks as a disease. Occasionally the effects of treatment gave rise to new diseases, which again could be dated. One example was *x*-ray epithelioma. Presently a violet-ray epithelioma might be forthcoming, though he had not himself seen a case as yet.

Dr. H. A. DES VOEUX doubted the conclusion which the President had suggested with regard to the relationship between influenza and appendicitis. Influenza was certainly not a new disease. It was known four or five hundred years ago, and was recorded in medical literature under different names. The name "influenza" was given to it early in the eighteenth century by a London physician, his reason being that, as he said, it was a disease which flowed like a river from the king in his palace to the peasant in his cottage. Dr. Des Voeux thought that appendicitis also must be a good deal older than was generally supposed. When many of those present were young they came across a good many cases of acute peritonitis—a disease which had now died out owing, he supposed, to the prompt measures taken for the removal of dangerous appendixes and of gastric or duodenal ulcers. Appendicitis in milder forms was probably fairly common long before it was diagnosed as such. Patients came with acute painful indigestion, or sometimes with recurrent attacks of bilious vomiting and abdominal pain. These, he thought, were cases due to inflammation of the appendix, and they were strikingly common thirty or thirty-five years ago.

Dr. F. PARKES WEBER said that one of the difficulties in any discussion of this kind was the change of name of diseases. This applied, of course, to encephalitis lethargica, and to many other conditions. What was not usually noticed was that the same name was used at different periods for totally different diseases. Some time before the war a disease, characterized by redness and pain in the extremities, was described as epidemic—not very common, but still not rare—in Australia, and Dr. H. Smith gave it the unfortunate name of erythroderma. People immediately began to cast about for a name which would describe this disease in children, and erythromelalgia was hit upon, which was correctly descriptive, but unfortunately had been used previously by Weir Mitchell for the malady which he first described in 1872. There was another name, so to speak, on the market—"acrodynia"—meaning pain in the extremities, and this name was suggested and had apparently gained the day, for he noticed that it was accepted in Abt's *Textbook of Children's Diseases* in America, and also in the French medical journals. But this name had been used for an extraordinary epidemic disease which swept over Europe, especially France, a hundred years ago, and from which an enormous mass of people, chiefly old people, suffered. He could not think that this disease in children for which the name "acrodynia" seemed likely to come into general use could possibly be the same as the acrodynia which created such an impression in the early part of the last century.

ABDOMINAL TUBERCULOSIS.

AT a meeting of the Section of Surgery of the Royal Society of Medicine on January 5th, the President, Mr. V. WARREN LOW, in the chair, a discussion on abdominal tubercle was opened by Mr. H. W. CARSON.

Mr. Carson said that abdominal tubercle, as seen by the surgeon, was often very hard to diagnose, and the conditions found at operation might also lead to difficulties. Cases of abdominal tubercle in which he had operated during the last eight years comprised tuberculous peritonitis, enteritis, appendicitis (in one case), and ileo-caecal tuberculosis, while the majority of patients suffered from tuberculous mesenteric glands. Dealing first with tuberculous peritonitis, Mr. Carson described three varieties—ascitic, adhesive, and caseous—the latter being really a stage of mesenteric gland tuberculosis. The ascitic form, he said, might occur as an acute manifestation, and the adhesive form represented a further repair stage of the ascitic type. The scope of operative treatment was well illustrated in the case of the ascitic type, for these cases did well after simple laparotomy. The old theory to account for this ascribed the cure to admission of air and light, while a more recent view explained it on the grounds of an outpouring of a fluid rich in antibodies into the peritoneal cavity. The adhesive cases, on the other hand, did not benefit by laparotomy, which, indeed, was often dangerous, and did well if left alone, operation being reserved for cases with obstruction. Mr. Carson stated that tuberculous enteritis was a disease of middle age, and probably only occurred in cases where infected sputum was swallowed. He described some cases of ileo-caecal tuberculosis, all of the hyperplastic type, which he had treated by resection; no cases of the entero-peritoneal type had been met with in the period under review. The case of tuberculous appendicitis had been diagnosed by pathological examination after removal. Mr. Carson referred to a paper on tuberculosis

of the mesenteric glands read before the Medical Society of London in 1918. He said his views had not changed since that time; he still held that rise of temperature did not occur in uncomplicated cases of mesenteric tuberculous glands, and, dealing more particularly with a recent series of cases, he described the principal symptoms. Pain, especially on running about, was common, and vomiting might occur. The other causes of colicky pains of this nature in a child which had to be considered were colic from dietetic causes, a relapsing appendix, worms, and ureteric calculus. The complications which might arise from tuberculous mesenteric glands included intussusception in the non-caseating type and obstruction in the caseating type. In one case haematemesis had occurred, and in another melaena had been present with other symptoms of duodenal ulcer. In caseating glands complicated operations were sometimes necessary, especially if obstruction was present. Three patients in whom resection had to be performed had died out of 19 non-caseating cases which had required operation, 10 patients were quite well, but too many cases appeared to be not entirely satisfactory as regards health after operation. It had to be borne in mind, however, that cases of mesenteric tuberculous glands were serious. In summing up, Mr. Carson stated that he was seeing fewer cases of this disease now than in past years, and he believed that if the milk supply could be satisfactorily controlled the number could be still further reduced.

Mr. V. ZACHARY COPE said that in dealing with abdominal tubercle he proposed to exclude renal tuberculosis and psoas abscess and deal with the three main forms affecting the intestine, the peritoneum, and the glands. Tuberculous glands might be small and multiple, and might form a mass in the ileo-caecal region and simulate appendicitis. They also occurred in large fleshy varieties, forming small tumours, and secondary changes comprised caseation and calcification. Tuberculosis of the peritoneum occurred in an acute form sometimes simulating acute abdominal disease or as a miliary subacute form which might occur without any symptoms. Mr. Cope then proceeded to correlate symptoms with pathological conditions, pointing out that as a general rule deterioration of health was marked in all these cases. The small glands gave rise to colicky pains, while the large ones sometimes presented themselves as abdominal tumours. Calcified glands were generally diagnosed by *x*-ray examination. Of the intestinal varieties, hypertrophic caecal tuberculosis gave rise to the formation of a tumour, while intestinal obstruction might occur in this and other forms of intestinal tuberculosis. Tuberculous ulcers generally resulted in diarrhoea, while, if they perforated, faecal fistula might follow in some cases, acute peritonitis being set up in other instances. Of the peritoneal forms, acute tuberculosis presented all the appearances of acute peritonitis, while the chronic miliary form gave rise to ascites. Dealing finally with indications for surgical intervention Mr. Cope said that this consisted of letting out ascitic fluid, remedying obstruction, dealing with perforation, opening abscesses, and dealing with fleshy glands if these were causing symptoms. He added that it was difficult to know when to touch these glandular cases.

Dr. M. CASSIDY (continuing the discussion for the Section of Medicine) agreed that tuberculous enteritis was becoming less common, due, he believed, to the general decrease in all cases of tuberculosis and to the segregation of tuberculosis cases in special hospitals and departments. He then dealt with a series of 267 cases of tuberculous peritonitis treated at St. Thomas's Hospital during a recent ten years period. He thought there was no sharp line between the ascitic and the adhesive varieties, but he disagreed with Mr. Carson as to the latter being only a stage of repair. The prognosis in uncomplicated cases of tuberculous peritonitis appeared to be uniformly good, although it might run a long course. The symptomatology was rather variable. The disease might be latent and only discovered by radiologist or surgeon. Pain was very variable and might be absent, severe, or continuous. It was more common in adults with the plastic type. Diarrhoea and constipation might both occur. The diagnosis was often difficult, especially in cases with an acute onset within the first twenty-four hours of an attack. In adults more chronic cases were confused with abdominal carcinoma. Pyrexia was not conclusive as a sign, but very important was a peculiar rubber-like resistance of the abdomen wrongly described as doughy. Chronic non-tuberculous peritonitis might cause difficulty, and cirrhosis of the liver sometimes led to error. Dr. Cassidy remarked that the diagnosis between an ovarian cyst and tuberculous peritonitis was a traditional difficulty, but he had only once encountered it. Treatment of tuberculous peritonitis consisted in simple laparotomy followed by treatment on sanatorium lines. The speaker next dealt with tuberculous entero-colitis, basing his remarks on recent work by Brown and Sampson. In one form intestinal tuberculosis was associated with pain and diarrhoea, and was usually fatal. The other variety was hyperplastic ileo-caecal tuberculosis. Diagnosis was helped greatly by radiological evidence, particularly Stierlin's "filling defect."

The PRESIDENT said that even if "caseous peritonitis" occurred with abscesses bursting at the umbilicus, the mortality was surprisingly low. The ascitic variety of tuberculous peritonitis had an excellent prognosis, and diagnosis was not difficult even in the acute forms, since children seemed so well with their apparently serious condition. There was seldom any refilling of the abdomen after operation in these cases, and he believed that Sir Almroth Wright was responsible for the view that, following operation, a fluid of high bactericidal power exuded into the peritoneal cavity. The speaker thought that adhesive peritonitis was not a stage in repair, since cases began as this type, which was often very malignant and frequently fatal. He thought that the traditional difficulty between ascites and ovarian cyst dated from the time of Spencer Wells. He did not believe that tuberculous mesenteric glands were such a serious condition, since these glands were so commonly involved in children; the symptoms ascribed to the presence of these glands might be really due to complications. Attacks of sudden severe pain in such cases usually had a mechanical cause. He generally preferred to leave such glands alone at operation.

Mr. CECIL ROWNTREE stated that he had been converted to Mr. Carson's views on mesenteric gland tuberculosis, and there was experimental work to support them. Tuberculous mesenteric glands should be regarded as a separate category, while abdominal tubercle in general could be looked upon as complications of these glands. He thought that all these patients showed pyrexia during the early stage of invasion, following which they often appeared to get well, but were never robust. Surgeons then met these cases later on because of attacks of abdominal pain, which might be spontaneons or brought on by exercise. Such patients were mostly operated upon as cases of appendicitis, and they generally got better. It was suggested that the appendix was the source of infection in these cases. If glands gave rise to symptoms he thought they should be removed by dissection.

Dr. J. A. RYLE discussed the early diagnosis of mesenteric gland tuberculosis when this still gave rise to no physical signs and no severe pain, in the stage when the patient ought to get well without surgery. Such early stages might be recognized by loss of energy in a child, accompanied by evening pyrexia of 99° or 100°. The temperature must be carefully taken, and preferably per rectum. Stomach-ache of a mild degree also occurred, which was characteristically vaguely localized in both iliac fossae. Failure to increase in weight and height was also common, and a mild, chronic diarrhoea, with pale, unformed stools, was a frequent symptom. Food was not absorbed owing to obstruction to the lacteals. In old-standing cases in adults anaemia was an important sign which had often to be looked for carefully.

Mr. MORTIMER WOOLF inquired about the necessity for resection in ileo-caecal tuberculosis. He also asked if all the glands found were necessarily tuberculous, since with an inflamed appendix, for example, enlarged glands of an inflammatory type might be expected.

Mr. CARSON, in reply, stated that he had found so many cases with symptoms, but with only enlarged glands to

account for them, that it seemed that such symptoms were not those of complications. He thought that appendicular infection acted by lowering the resistance of the glands draining that region, and he agreed that the glands seen were probably not all tuberculous.

TRYPANOSOMIASIS IN MAN AND ANIMALS.

AT a joint meeting of the Sections of Comparative Medicine and Tropical Diseases and Parasitology of the Royal Society of Medicine on January 5th, with Sir D'ARCY POWER in the chair, a special discussion on trypanosomiasis in man and animals was opened by Dr. W. H. ANDREWS.

Dr. Andrews drew attention to the importance of the subject to medical practitioners and veterinary surgeons. The classification of the various species of trypanosomes found in man and animals was difficult, but he was pleased to see that it was becoming much simplified in the more recent textbooks. It was dangerous to define new species on the basis of biological differences, and virulence and cross-immunity tests were not reliable for this purpose. The effects of artificial transmission tended to make a strain monomorphic and in many cases to increase its virulence. This mechanical transmission, as distinct from surgical transmission, should be the subject of field experiments. In Zululand, where he personally had had most experience, several species of trypanosomes occurred. *T. brucei* had not been found since its discovery; it was a monomorphic form, and the species there were polymorphic. In that country were also found *T. vivax* and *T. congolense*, the latter being the main form in cattle. The virulence of different strains was affected by many factors, such as the species of host, the breed, the age, and so on; and Dr. Andrews thought that the effect of the mammalian host on the parasite had not been sufficiently studied. A factor of importance in prophylaxis was the domestic animals which might often form a reservoir which could not be neglected. He personally was in favour of the control of wild game, as the effects of the rinderpest outbreaks had caused a marked diminution of the disease. The results of chemiotherapy were conflicting and there seemed to be two aims—namely, attempting to sterilize the animal's blood, or, alternatively, to check the first onset and allow the body to fight the parasite itself and so become more or less immune; this advantage was absent in the first method.

Dr. P. MANSON-BAHR confined his remarks to a discussion of the treatment of the disease in man. He said that there were two features to be observed when any new drug was introduced into tropical medicine. First, its action on artificially infected animals did not necessarily correspond with its effect on man; and, secondly, there was great variety in the reactions of individual patients to the same drug, man responding in a much less mechanical manner than did the ordinary laboratory animal. Dr. Manson-Bahr then discussed the actions of two recently introduced drugs. "Germanin," or "Bayer 205," or "Fourneau 309," as it was variously called, was a white flocculent powder of aniline origin which might be administered in various ways, but was generally given intravenously. A single injection caused disappearance of all the parasites from the blood stream in about eighteen hours, although there was a remarkable proliferation just immediately before their disappearance. The blood appeared to be sterilized almost immediately, but there was evidence that a Bayer 205-fast strain might be evolved, and relapses sometimes occurred after 5 grams had been given; twice this amount was generally allowed for a complete cure. This drug was a definite kidney irritant, and irritation might persist for several weeks after treatment had ceased. It did not affect the meningeal reaction, and therefore patients in the second stage of the disease were not permanently cured; they almost invariably relapsed. Intrathecal injections were dangerous and death might result. Dr. Manson-Bahr's own impression was that Bayer 205 was the drug of election in early haemic infections, especially in those instances in which the parasites had become "fast" to arsenic or antimony, and he quoted two of his own cases to support this statement. The second drug was the arsenical compound tryparsamide, which also was usually given intravenously. There was convincing evidence that the drug exerted a profound influence on the meningeal reaction in *T. gambiense* cases, and that it was the drug of election in the second and third stages of the disease, in which Bayer 205 had no effect; he quoted two cases to illustrate this point. In conclusion he expressed great hopes for the future treatment of the disease; at present the most effective treatment was a combination of the two drugs, or alternating treatment to avoid "fastness," since each seemed to be the antithesis of the other. Natives would not remain in hospital for prolonged treatment, and it was only by the use of some such rapid method that a large proportion of them could be benefited.

Dr. J. GORDON THOMSON drew attention to some aspects in the biology of the trypanosomes, and asked whether the polymorphic strains in man were the same as those in animals. He found that they tended to become monomorphic through long mechanical transmission. Thus in rats which had been injected with *T. brucei*, *rhodesiense*, or *gambiense* the organism became monomorphic and resembled *T. cruzi* or *equiperdum*. Sudden changes of hosts tended to transform these monomorphic forms back to polymorphic, and in rats arsenical drugs might have the same effect. He had found that *T. gambiense* was often very difficult to inoculate into rats; sometimes six months would elapse before the parasites would be found in the blood, but subinoculations tended to enhance the virulence until it would become fixed for that animal, although sometimes the virulence decreased. He found that, although tryparsamide appeared to cure the host, the organisms could still be found in the cerebro-spinal fluid; the host had become tolerant to strains otherwise lethal.

Dr. NEAME exhibited the eye of a dog with a keratitis due to trypanosomes. It most closely resembled the keratitis seen in dogs with distemper and the interstitial keratitis of syphilis in man.

Colonel F. HARVEY stated that in restudying some of Bruce's original slides he found that *T. congolense*, *vivax*, and *brucei* were present, and that the latter was polymorphic. Now the strains of *T. brucei* at home were monomorphic, and this had been found only once by him in a dog in Nyasaland. With difficulty flies had been infected with it, and, contrary to expectation, the form which resulted from the cyclical infection was still monomorphic. He suggested that this was the form originally sent home by Bruce. If the polymorphic variety had been sent home in a dog, the animal would have died long before reaching England, as the polymorphic *brucei* caused a very acute disease in dogs and killed them in about ten days. Another species, *T. simiae*, caused a very acute disease in monkeys and pigs, but a chronic one in goats. If, however, it was subinoculated from goats to monkeys, the disease produced was now chronic, although cyclical transmission through the *Glossina* was acute.

ASTHMA IN CHILDREN.

AT a meeting of the Brighton and Sussex Medico-Chirurgical Society on January 6th, Dr. ROBERT HUTCHISON (London) read a paper on asthma in childhood.

Dr. Hutchison said that the disease at this period of life might assume one of several forms: (1) true spasmodic asthma which was chiefly met with in later childhood; (2) the hay-fever type often diagnosed as a simple "cold"; (3) bronchial asthma—namely, bronchitis with a spasmodic element; (4) the bronchitic type. The last was peculiar to children, being chiefly met with during infancy, and its asthmatic nature was often overlooked. It was to be distinguished from ordinary bronchitis by its sudden onset and subsidence, by the fact that dyspnœa preceded the appearance of physical signs, by the comparative absence of fever, and by the presence of eosinophilia. So-called thymic asthma, or the para-asthma of some American writers, must be distinguished from ordinary asthma. The asthmatic paroxysm might be brought about either through the respiratory centre or by direct action on the bronchi. The respiratory centre might be acted upon psychologically, as by fright, excitement, or auto-suggestion; reflexly, from

the nasopharynx and stomach; and by the blood. The substance in the blood which might act either upon the respiratory centre or directly upon the air passages was a foreign protein to which the patient was hypersensitive. Hypersensitiveness might be either inborn or acquired, and it might vary from time to time. Such sensitiveness to food proteins was usually inborn, that to inhaled substances acquired. About 50 per cent. of all asthmatic children showed hypersensitiveness as demonstrated by skin tests, but in only a minority of these could the specific cause of the asthma be determined. The noxious protein might be ingested in the form of some food; inhaled as pollen or dust; or bacterial, from a chronic focus of infection. The methods of detecting the different forms of hypersensitiveness were then described. Passing to the treatment of the asthmatic tendency, it was pointed out that success lay in recognizing that asthma was not a disease of the respiratory system only. It was important also to break the "habit" of asthma. The general management of the child and the effect of climate and diet were then discussed. Great benefit was often obtained from the prolonged use of a mixture of potassium iodide, arsenic, and belladonna or stramonium. Sedatives such as chloral helped to prevent threatened attacks. Operations on the nose and throat and the use of vaccines were then considered. In the hypersensitive cases general desensitization of the patient was the ideal, but was difficult to effect; various methods of attempting it were described. As regards the prognosis of asthma in childhood, Dr. Hutchison's experience had on the whole been favourable. In a large proportion of cases the tendency appeared to be outgrown.

RESUSCITATION AFTER SYSTEMIC DEATH.

AT a meeting of the London Association of the Medical Women's Federation on December 14th, 1926, the President, Miss ELIZABETH BOLTON, in the chair, Dr. HARRINGTON SAINSBURY read a paper on the problem of resuscitation after systemic death.

Dr. Sainsbury said that systemic death, while putting an end to the corporate life of the body, viewed as a collection of associated organs and tissues, did not terminate somatic life—namely, the life of the body viewed as a collection of dissociated organs and tissues. At the moment of systemic death these organs and tissues retained more or less individual life and had their several rates of dying, though the tenure of life was not of long duration even for the most hardy. Since the blood served as a carrier of elements indispensable to the tissues, its coagulation point was a crucial factor in the determination of the possibility of resuscitation. While the blood remained fluid systemic life might be regarded as capable of resuscitation, given the persistence of a sufficiency of somatic life in the tissues generally and in the heart specially. As a practical problem the question of resuscitation would scarcely arise in the case of death at the natural term of life; here the vital powers had for a long while been manifestly ebbing, in spite of the use of such stimulants as diet and medicinal measures. Neither would it arise in the case of long drawn out and exhausting diseases, such as tuberculosis and cancer, where all the evidence indicated that there could only be a temporary rally. The likelihood, however, of a recovery of the powers of the mind and body, which, though brief, might yet suffice to permit of some important act, had to be considered, but such cases would be rare. On the other hand, the problem became eminently practical in proportion as it appeared that the inherent powers of the tissues, severally, were unexhausted and that the systemic death present was rather of the nature of a suspended animation which had arisen more or less abruptly in the heart or the lungs. In such cases, the somatic vitalities being still adequate, there was no reason why life should not proceed to its normal term if the heart and the respiratory apparatus could be restarted. At the threshold of life this problem arose in the case of the stillborn infant, in whom the indications pointed either to an arrested heart or unstarted breathing; in the average course of life this same problem recurred repeatedly as the result of accident, acute disease, during an operation, or even during the administration of an anaesthetic before the operation had begun. Dr. Sainsbury pointed out that the great disparity between the forces engaged in the respiratory and in the circulatory functions made resuscitation of the latter system a much harder task. For though the first breaths taken after birth had to overcome a very considerable inertia of the respiratory apparatus, respiration once established, the muscular effort required in normal breathing was no more than that needed to move the volume of tidal air in and out of the chest. In the absence of obstruction to the air passages, restarting of arrested respiratory motion was comparable to the slight touch which started the pendulum of a wound-up clock. On the other hand, when the circulation of the blood had failed a force had to be supplied to meet a great resistance—namely, a pressure corresponding in man to approximately 150 mm. of mercury in the aorta. Fortunately it was not necessary that the full momentum of the circulation should be generated all at once. The elasticity of the arterial system and the mechanism of the aortic valve permitted the summation of small efforts and gave the necessary time for recovery. Dr. Sainsbury said that the period during which the blood remained fluid and the heart muscle retained its contractility could not be given precisely in minutes, but must vary with the individual; in practice the longest recorded time between apparent systemic death and resuscitation would stand as a working precedent. Certain cardiologists had doubted the susceptibility of the heart to direct stimulation, but in his opinion this attitude of scepticism ran counter to most definite evidence. As to the most powerful means of revival, Dr. Carl Bodon of Budapest had collected from the literature the records of ninety cases in which the various recognized stimulants had been tried, and from the study of the results placed adrenaline first. Dr. Sainsbury gave details of the method whereby 1 c.cm. of a 1 in 1,000 solution of this drug could be injected into the cavity of the right ventricle, this dose being suitable for a middle-aged man. An alternative reliable method of stimulation was cardiac massage. Dr. Sainsbury held that the use of adrenaline should come first, on the following grounds. (1) The simplicity of the procedure and its rapid applicability, in these cases the sooner the stimulants acted the better; (2) when effective, the response would appear to be more prompt; (3) the comparatively slight risk involved; (4) the general disturbance, a negligible quantity. Dr. Sainsbury concluded his address with a discussion on the ethics of resuscitation, and asked if it was always right for a doctor to rekindle life in a patient who might not be grateful for his recall. His duty was to cure, or, failing this, to prolong life, upon terms; apart from this, he must try to make life more endurable; but was it his duty to thrust life upon an unwilling recipient? Medicine existed to relieve, not to inflict, burdens. These objections would not arise in the case of stillbirths, where the duty to suscitate (not resuscitate) was unquestionable, and in the event of sudden, unanticipated, unprepared-for death the case for resuscitation must be overwhelmingly strong. Therefore, in every hospital, in every nursing home, and in the emergency equipment of every medical practitioner, the apparatus for intracardiac injection should be kept in readiness. Adrenaline should not be kept reserved until life had departed, but in every case in which the heart was ceasing to respond to hypodermic or intravenous injections, intracardiac injections should be tried in order to forestall death if possible.

Lady BRISCOE, from her work on experimental animals, endorsed what Dr. Sainsbury had said about the case of restarting respiratory movement and the difficulty of restarting the heart. She had never found cardiac massage of much value. In cats accidentally killed from an overdose of chloroform she had noticed that the diaphragm was not excitable after death, though other muscles remained excitable. She thought that deaths from chloroform might possibly be due to direct poisoning of the respiratory muscles.

Dr. LETITIA FAIRFIELD suggested that it was dangerous to speculate about the ethics of resuscitation; a newly born infant might be resuscitated to a life of many troubles, yet no one would question the doctor's duty.

Reviews.

LAW AND TRADITION OF MEDICAL PRACTICE.

MEDICAL students and practitioners cannot complain that they are left in ignorance of the legal relations of the duties and responsibilities involved in the practice of medicine. Teachers have lectured and authors have written freely on this topic. But the exposition has been presented mainly, if not entirely, from the medical platform, and it is from this source, we fancy, that instruction has reached the student of law as well as the student of medicine. A not unwelcome departure from precedent is to find the subject discussed as the lawyers see it. Hence we are strongly disposed to receive with gratitude Messrs. SANDERSON and RAYNER'S book entitled *An Introduction to the Law and Tradition of Medical Practice*.[1] That the measure of our gratitude is modified on perusal of the volume we admit. None the less there are advantages in listening to our legal instructors, even though on individual points we believe them to be in error. A learned judge recently proposed that lawyers should lecture to doctors and doctors to lawyers; perhaps to ensure adequate instruction—for the lecturer.

Quite naturally our legal authors warn us that it is incumbent on every citizen to know the law; that ignorance of the law is no effective reply to a charge of unlawful conduct; that, lawyers excepted, members of the medical profession have to know more law than any other class of the community; and that beyond these general claims some fifty special statutes demand our particular attention. The burden is a formidable one, and Messrs. Sanderson and Rayner attempt to lighten it, not by reciting the provisions of individual statutes, but by an exposition of the purposes to which the law is directed and by an application of legal principles to existing circumstances and to actual facts. Medical practitioners are not untrained in their legal obligations, but they know these for the most part as empirical demands; and for the rough practical claims of life this knowledge is not insufficient. The present volume rests on appeal rather than on command. The provisions of the law are argued as matters of principle and as historical developments, and the enterprise makes some very readable and highly interesting pages. To this recognition of the merits of the book we must add an entirely grateful word in appreciation of the enlightened and generous interpretation which the authors bring to the motives and standards of the medical profession. In this respect we could not desire more considerate and understanding judges.

When, however, we proceed to test the book in detail the result is by no means wholly satisfactory, and we are the more bound to notice certain defects seeing that the present volume is presented as a mere preliminary sketch or summary, and is to be followed by a larger work intended to include a full discussion of the rights and duties of medical practitioners. If errors exist it were well to try to check them before they are placed in a more impressive setting. We will quote some examples. On p. 30 we are told that medical men "must not employ unqualified dispensers or chemists"; on p. 22 the Central Midwives Board is quoted as one of the authorities responsible for the education and discipline of the medical profession; p. 26 says that "it is considered advertisement to write signed articles in lay papers," and that the General Medical Council makes exception in this respect "in cases of eminent members of the profession"; in a footnote to p. 44 a list of "defence associations" includes two organizations that do not undertake this function; and when discussing the responsibilities of medical consultation, p. 23 alleges that it is "contrary to etiquette" to inform the patient that there is disagreement when this exists. We could extend this list, but the instances quoted are sufficient to show that the book, though animated by a sincere desire to understand the medical point of view; must suffer a critical revision before it can be trusted as an authority on medical tradition and practice.

Nor are the authors wholly successful in dealing with such delicate questions as unqualified practice and the medical attitude towards the relations between insanity and crime and between professional secrecy and the witness-box, though in discussing the last mentioned the motives directing the medical claim receive a degree of recognition not frequent in the legal forum.

As might be expected from their legal training the authors have considerable capacity for lucid statement, but what, we wonder, is the exact meaning of the sentence "Where an unqualified man establishes for himself such a reputation as to build up a practice, he is not unreasonably interfered with by law"? And must we accept the implication that "reputation" and "practice" attached to an unqualified person give him a status in the eye of the law different from that credited to another unqualified person who cannot boast these achievements?

In the preface "public health" and "forensic medicine" are excluded from consideration. Accept this restriction, and it yet remains strange that a book professing the present title should be free from all definition of the duties falling upon doctors under the laws relating to lunacy, notification of infectious diseases, notification of births, cremation, the status of the *Pharmacopœia*, and the use of "dangerous drugs." Guidance on these points is much more needed by practitioners than is advice on book-keeping and the issuing of accounts, and to get such guidance we would willingly have sacrificed even the learned and interesting discussion on the validity of contracts and the definition of torts.

Academically it may be an open question whether lawyers or doctors are the better equipped to write books on the legal responsibilities of medical practice. To judge from our bookshelves the doctors hold the field, and the present volume is hardly likely to disturb their peaceable possession.

We repeat that the book is an engaging one. It has a sincere motive and is eminently readable. Where it presents legal propositions we must respect its authority though even here we are not quite free from doubts. But on a number of points of medical tradition and practice it is not complete and is not well informed, and these defects seriously qualify its value.

[1] *An Introduction to the Law and Tradition of Medical Practice.* By William Sanderson, M.A., LL.B. of the Inner Temple, and E. B. A. Rayner, B.A., LL.B. of Gray's Inn, Barristers-at-Law. London: H. K. Lewis and Co., Ltd. 1926. (Roy. 8vo, pp. xiv + 76. 7s. 6d. net.)

FINLAYSON'S CLINICAL MANUAL.

WE welcome the fourth edition of the *Clinical Manual for the Study of Medical Cases*,[2] originally written by the late Dr. James Finlayson of Glasgow, who died in 1906, and so no doubt will many medical men who, now approaching the age when retirement is not far distant, were brought up on its predecessors. The last edition was published thirty-five years ago (reviewed in the JOURNAL, 1891, ii 1153), and the present work, edited by Professors C. H. BROWNING, E. P. CATHCART, and LEONARD FINDLAY, has of necessity been revised throughout, and in places almost entirely rewritten, by twenty men closely associated with Glasgow at the present time or, in the case of Professor J. Shaw Dunn of Manchester, Dr. Maitland Ramsay and Professor Adam Patrick of St. Andrews, in the recent past. There is, however, one exception to the thorough revision—namely, in the late Sir William Gairdner's classical article on the physiognomy of disease, to which the only, at any rate only obvious, addition is a page on basal metabolism. Otherwise the substance of the work has now been so greatly changed that the editors might well have brought out a manual of this kind under their own names, especially after an interval so long as to be perhaps unique among current medical textbooks, had they not dutifully been anxious to perpetuate the essentially clinical character so distinctive of Dr. Finlayson's *Manual*, and to confine the description of tests and methods to those which can be carried out in the wards or in the attached clinical laboratories.

[2] *Finlayson's Clinical Manual for the Study of Medical Cases.* Fourth edition. Edited by Carl H. Browning, M.D., E. P. Cathcart, M.D., F.R.S., and Leonard Findlay, M.D., D.Sc.; revised and augmented throughout by various contributors. London: G. Bell and Sons, Ltd. 1926. (Post 8vo, pp. xvi + 815; 4 plates (3 coloured), 143 figures. 18s.)

This is not a manual of laboratory diagnosis, but a guide the worker while in the wards, and at the present time, when much in the investigation of clinical cases may be delegated to whole-time workers in a somewhat distant laboratory, this distinction is not without its value as an example to ambitious writers of similarly entitled works as to what the clinical clerk and student really want. As the editors rightly point out in their brief preface, there is a real danger that the present multiplicity of chemical, bacteriological, and serological tests may induce the student to rely on them so much that ordinary physical examination may be neglected and become a lost art; as two out of the three editors are laboratory workers, this protest must be reckoned unbiased and therefore of all the greater weight. The methods recommended to be used have been chosen with care and there is no reason to fear that they have been unduly curtailed; there are illustrations and explanations of phlebograms and electro-cardiograms, descriptions of test meals and the examination of the faeces, and an account of the method of performing Rijmans van den Bergh's test. The significance of the Wassermann reaction, but not the method of carrying out the test itself, is given; whereas the methods of performing the Schick and Dick tests are mentioned. The twenty-one chapters in this new edition retain, embodied in present-day knowledge, the practical nature and philosophic spirit characteristic of Dr. Finlayson's original volume.

The only entirely new article is that on disease of the glands of internal secretion by Professor E. P. Cathcart, who gives a broad sketch of the various changes which may suggest endocrine disorder; he points out that operative removal of an endocrine gland being sudden differs from disease, which, being slow in its progress, allows the body time to make a whole series of protective measures. He pays a warm tribute to the Toronto physiologists in the discovery and production of insulin. The article had evidently gone to press before Dr. C. R. Harington's recent work on thyroxine appeared. The chapter on affections of the blood and lymphoid tissues has been practically rewritten by Professor Carl Browning and Dr. Ernest M. Dunlop, who have added a successful coloured plate of the blood cells. The section on the eye, which Dr. Finlayson made rather a feature in his original editions, has been wisely entrusted to Dr. A. Maitland Ramsay, now Director of the St. Andrews (James Mackenzie) Institute for Clinical Research, and those on the ear and the upper respiratory and alimentary tracts are safe in the hands of Dr. Albert A. Gray and Dr. A. Brown Kelly respectively.

In conclusion, it may be said that this new edition admirably justifies its aims and should prove as popular as its ancestors.

THE STRUCTURE OF COLLOIDS.

PROFESSOR WOLFGANG PAULI has published in a small volume two lectures he delivered on proteins and colloids,[1] the one to an assembly of medical men and the other to chemical students. The author is one of the leading authorities on colloidal chemistry, and states very clearly his belief that "all colloidal and protein reactions can be accounted for by electrostatic exchanges, provided that regard is paid to the relation between chemical configuration and the spatial arrangements and intensities of electric fields."

This view is based on the modern theories regarding the structure of molecules, and consists essentially in an extension of the laws, which are recognized by physical chemists to govern the hydration of inorganic salts, to account for the behaviour of substances when aggregated in particles of colloidal dimensions. This conception leads the author to disagree with many of the theories of Loeb, who sought to explain the behaviour of proteins chiefly by the laws governing the Donnan membrane equilibrium. The subject is of great interest to all workers in the biological sciences, for protoplasm is a colloidal substance, and there is no chance of understanding anything of the fundamental laws governing the behaviour of living matter until the laws of colloidal chemistry are placed on a secure basis. The questions that arise are of exceptional difficulty, but Professor Pauli has succeeded in enunciating a few basic conceptions in terms as simple as the subject permits.

[1] *Eiweisskörper und Kolloide.* Von Prof. Dr. Wolfgang Pauli. Wien: J. Springer. 1926. (Med. 8vo, pp. 32; 20 figures. 4s.)

THOMSON AND MILES'S "SURGERY."

THREE volumes of the seventh edition of THOMSON and MILES'S *Manual of Surgery*[1] have been issued. Their appearance, as Mr. Miles says, has been delayed by the untimely death of Professor Alexis Thomson. The book has long occupied a unique position in English surgical literature. In its style and teaching it is characteristic of the sound and thorough work of the Edinburgh school. It is perhaps a book rather for aspirants to the Fellowship than for those who seek to pass qualifying examinations; but to the latter it is a valuable book of reference, for it can be said that there is very little of importance in surgery—academic, theoretical, or practical—which cannot be found in its pages. The effort at compression has perhaps been carried a little far, and the southern student might wish for a more detailed classification.

The work is clearly and concisely written, the most modern views are expounded, and the illustrations are abundant, though the publishers might perhaps have taken greater pains to bring out more clearly some of the *x*-ray photographs. Each volume is of convenient size and has its own index. The first volume, which deals with general surgery, contains chapters devoted to general bacteriology, inflammation, suppuration, ulceration, gangrene, wounds, and the repair of tissues; tubercle, syphilis, and tumours each have a chapter, and next come others on injuries, on the blood vessels, on the lymphatic system, and on the nerves and the skin, on tendons and muscles, on bursae, and on the diseases of bone and joints. The second volume contains ten chapters on the extremities, in which the various fractures, dislocations, and deformities are described and their treatment discussed. Eight chapters follow—on the scalp, skull and brain, and on the spinal cord. The third volume deals with the thorax and abdomen, and includes a discussion of the clinical aspects of abdominal and pelvic conditions peculiar to women. In this volume the information is particularly concise. On the subject of enteroptosis the Edinburgh school appears to deprecate the majority of slinging or fixation operations of the bowel, some of which have survived a rather extensive trial. The spleen usually receives scant attention in surgical textbooks, but here a word on splenectomy for purpura haemorrhagica might have been included. The treatment of haemorrhoids by injection of carbolic acid is not mentioned. It is curious that reproductions of cholecystograms seem so far not to have found their way into textbooks.

We can thoroughly recommend these volumes as forming a valuable work of reference in surgery, and congratulate the author on the successful way in which he has prepared the seventh edition.

[1] *Manual of Surgery.* By the late Alexis Thomson, M.D., F.R.C.S.Ed. and Eng., and Alexander Miles, M.D., LL.D., F.R.C.S.Ed. Vol. I, General Surgery, Vol. II, Extremities—Head—Neck; Vol. III, Thorax—Abdomen. Seventh edition. Oxford Medical Publications. London: Milford, Oxford University Press. 1926. (Cr. 8vo: Vol. I, pp. xiv + 565, 169 figures; Vol. II, pp. xvi + 663, 297 figures; Vol. III, pp. xii + 567, 169 figures. 12s. 6d. net each volume.)

CAVERNOUS SINUS THROMBOSIS.

DR. WELLS P. EAGLETON of Newark, New Jersey, has presented, in a volume entitled *Cavernous Sinus Thrombophlebitis and Allied Septic and Traumatic Lesions of the Basal Venous Sinuses*,[1] a study of twenty-five cases of cavernous sinus thrombophlebitis he has himself observed. Naturally allied conditions such as thrombophlebitis of the jugular bulb must come into the discussion, but the main thesis is indicated in the title, and the experience of the author, if not unique, is certainly unusually large. Dr. Eagleton is already well known from his book on brain abscess and other publications relating to the intracranial complications of middle-ear and nasal infections, so that this new work will at once command attention and respect.

The twenty-five cases are very elaborately reported with full commentaries, and there is in fact so much detail that

[1] *Cavernous Sinus Thrombophlebitis and Allied Septic and Traumatic Lesions of the Basal Venous Sinuses.* By Wells P. Eagleton, M.D. New York: The Macmillan Company. 1926. (Post 8vo, pp. xxiii + 195; illustrated. 4.50 dollars.)

the reading is rather hard, but as a scientific contribution there is nothing lacking in them. There is also a full analysis of the literature on the subject with bibliography.

The cases are sufficiently numerous for a rational classification into six types depending upon the route by which the sinus is originally infected. Dr. Eagleton points out that even in a case of aural origin it may be necessary to drain an abscess at the apex of the orbit as well as to open the sinus. He also advocates, in certain cases, ligature of the common or internal carotid to give rest to the infected venous sinus, a proceeding for which he assigns good reasons. It may be strictly logical but does not appear to have been very successful, and its drastic nature is likely to cause some surprise, even if it does not excite hostile criticism. Enough, however, has been said to show that Dr. Eagleton has made a careful study of this terrible complication and has made a notable contribution to our knowledge of intravenous infections.

NOTES ON BOOKS.

DR. F. J. BROWNE, formerly of Edinburgh, where he worked with the late Dr. J. W. Ballantyne—to whose foresight he pays a becoming tribute—has produced a useful small book entitled *Advice to the Expectant Mother on the Care of Her Health*.[6] In the first chapter popular prejudices are answered by reciting the benefits to be obtained by the mother from regular visits to the doctor during pregnancy, and their eventual good effects on the child. The remaining chapters are devoted to normal pregnancy, hygiene of pregnancy, common disorders and their treatment, preparation for confinement, and hints on breast-feeding. There are no frightening references to possible complications, and the little book can be given to any expectant mother; by following the instructions given she will derive great benefit.

The Heart,[7] by Dr. A. G. GIBSON, is another of the useful Oxford Medical Handbooks, and in a small volume of one hundred pages the author has given a very fair summary of the present state of knowledge of cardio-vascular disease. The first half of the book is concerned with such subjects as general considerations on the circulation, the clinical examination of the patient, the normal heart and circulation, and instrumental methods of examination; in these chapters nothing seems to be omitted that is important from the clinical point of view. The same may be said of the subsequent chapters dealing with diseases and disorders and with the principles of prognosis and treatment. Students and practitioners, to whom the volume is addressed, will find it well worthy of careful reading.

MRS. EVELYN FULLER, who is honorary secretary of the Society for the Provision of Birth Control Clinics, has written a pamphlet entitled *On the Management of a Birth Control Centre*,[8] founded on four years' experience at the Walworth Women's Welfare Centre, of which she is the superintendent. This centre was established over four years ago by the Malthusian League, and later taken over by the Society for the Provision of Birth Control Clinics. The account of the equipment necessary for such a clinic is concise yet complete. The choice of premises, arrangement of lighting and plumbing, necessary furniture, and the most useful case records are described and illustrated. The short description of the personnel, which must necessarily include a medical practitioner and at least one medical woman, and the general management of the clinic is good. Opinion is divided on the necessity for birth control clinics, and at the present time voluntary effort must be entirely responsible for their management and control. To those who contemplate undertaking the provision of such a centre this pamphlet provides all the information required.

The forty-third annual issue of the *Year-Book of the Scientific and Learned Societies of Great Britain and Ireland*[9] retains the general arrangement of contents which has been found satisfactory in the past; the size remains about the same. In the preface reference is made to the retarding influence on science and learning generally of the prolonged dispute in the mining industry, but the reports in the *Year-Book* show that work is being steadily carried on. The societies are classified in fourteen groups: general science; astronomy, mathematics, and physics; chemistry and photography; geography, geology, and mineralogy; biology, including microscopy and anthropology; economic science and statistics; mechanical science and architecture; naval and military science; agriculture and horticulture; law; literature, history, and music; psychology; archaeology; and medicine. An index is provided. The section on the British Medical Association occupies three pages, and includes a list of papers communicated at the Annual Meeting at Nottingham last July.

The *Proceedings of the International Congress of Obstetrics and Gynaecology* in celebration of the centenary of the Coombe Lying-in Hospital, Dublin, in September, 1926, have now been issued, and copies may be obtained from the manager of the *Irish Journal of Medical Science* at Parkgate Printing Works, Dublin, price 5s. 6d. post free. The volume is illustrated with numerous plates, some coloured, and a preface is contributed by Dr. L. Cassidy, Master of the Coombe Lying-in Hospital.

[6] *Advice to the Expectant Mother on the Care of Her Health.* By F. J. Browne, M.D., D.Sc., F.R.C.S.Ed. Edinburgh: E. and S. Livingstone. 1926. (Cr. 8vo, pp. 40. 6d. net.)

[7] *The Heart.* By Alexander George Gibson, D.M., F.R.C.P.Lond. Oxford Medical Publications. London: Milford, Oxford University Press. 1926. (Fcap. 8vo, pp. vii + 108; 15 figures. 5s. net.)

[8] *On the Management of a Birth Control Centre.* By Evelyn Fuller. With an introduction by the Hon. Mrs. Graham Murray, O.B.E. London: Society for the Provision of Birth Control Clinics. 1926. (Cr. 8vo, pp. 18; 5 figures. 1s. net.)

[9] *Year-Book of the Scientific and Learned Societies of Great Britain and Ireland.* Compiled from official sources. Forty-third annual issue. London: C. Griffin and Co., Ltd. 1926. (Demy 8vo, pp. vii + 399. 18s.)

BRITISH EMPIRE CANCER CAMPAIGN.

A QUARTERLY meeting of the Grand Council of the British Empire Cancer Campaign was held on January 11th, under the chairmanship of Sir CHARLES GORDON-WATSON. The grant of £600 for the whole-time services of a medical officer to the London Association of Medical Women's Federation, which has been using some of the radium belonging to the Campaign, was renewed for a further period of one year, and a grant of £500 was made to Mr. F. C. Pybus for expenses in connexion with certain cancer research work to be carried on at Newcastle-on-Tyne. Reports were received from the representatives of the Cancer Campaign who have been visiting the principal American and Continental cancer research laboratories. It was stated that research work in the leading American laboratories was of a very varied character and was being liberally supported in the United States. The lines of research were very similar to those in Europe, but several new methods of technique were being employed. Appreciation had been expressed in the United States of the value of the *Cancer Review* published by the British Empire Cancer Campaign as an admirable connecting link between the research workers of the two countries.

A confidential report was received from the deputation of the Campaign which visited Liverpool to investigate the lead treatment conducted by Professor Blair Bell.[1] On the recommendation of the Scientific Advisory Committee a grant not exceeding £1,000 was made to St. Bartholomew's Hospital for the purpose of making new investigations of problems arising from the Liverpool work. This grant will come up for reconsideration from year to year for the next five years, and the investigations will be under the control of a scientific committee at St. Bartholomew's Hospital consisting of Sir Thomas Horder, Sir Charles Gordon-Watson, Mr. W. D. Harmer, Mr. J. E. H. Roberts, Dr. M. Donaldson, Dr. G. Graham, Professor F. L. Hopwood, Mr. J. B. Hume, and Dr. R. G. Canti. The Grand Council expressed the hope that the Liverpool medical research organization, which is now responsible for all arrangements in connexion with the investigations of Professor Blair Bell and his colleagues, will associate itself with the coming appeal of the British Empire Cancer Campaign in Lancashire and Cheshire, which has already been joined by Manchester University. It is announced that the funds subscribed in connexion with this appeal will be mainly devoted to the Liverpool organization, and to Manchester University for medical research at the Christie Hospital.

Among those elected to membership of the Grand Council was Sir D'Arcy Power, who had been nominated as a representative of the Imperial Cancer Research Fund. Sir William Willcox was elected a member of the preliminary inquiry committee of the Campaign.

[1] See BRITISH MEDICAL JOURNAL, December 11th, 1926, pp. 1132 and 1135.

British Medical Journal.

SATURDAY, JANUARY 15TH, 1927.

CHANGES OF TYPES OF DISEASE.

WRITERS of "best sellers" or of paradoxical drama may criticize us, or offer kindly suggestions for the reform of medical training and treatment in the columns of the less responsible lay journals; but so long as the acknowledged leaders in medicine show such a depth of knowledge and breadth of outlook as has been displayed by Sir Humphry Rolleston, the profession will scarcely vouchsafe more than a tolerant smile to the spectacle of fussy impertinence which the lay would-be reformer offers to the public in his highly remunerated articles.

We congratulate the Medical Society on its choice of a President, and Sir Humphry Rolleston on his surely unique record of the successive Presidencies of the Royal Society of Medicine, the Royal College of Physicians, and the Medical Society of London. In taking the changes in the clinical aspects of disease for the subject of his address to the latter society, which is printed in full at page 87, we think that he made a wise choice, for it is of great importance that every now and then we should be reminded of many things which find no place in textbooks, and of the changes which take place around us so gradually that in the stress of daily work we hardly notice them. The speaker did not profess to have any startling new facts or theories to offer to his hearers, nor did he inculcate any methods of treatment, but by looking back on the history of acute, and especially of infective disease, and aided by the perspective which time alone confers, he was able to provide much food for thought and for reflections which may greatly benefit future practice.

Less than fifty years ago, for example, articular gout or podagra, chlorosis, hyperpyrexial articular rheumatism, and malignant scarlet fever seemed to be as much in the fixed and immutable order of things as the movements of the planets, so that no one would have ventured to predict that before the fourth decade of the twentieth century such conditions would have become rare, without our knowing why. We may, indeed, flatter ourselves that improvements in our habits of life may have led to the mitigation or abolition of these scourges, but we have no more valid evidence in favour of this explanation than we have, on the other hand, for the view that those diseases, such as appendicitis, which have increased in prevalence or severity are due to a change or changes of habits and surroundings of a less benignant kind. That old enemy of health, influenza, had been well-nigh forgotten when it revisited us in fury in 1889 after forty years' absence, and in its subsequent outbreaks it has been characterized by such widely different symptoms as to arouse doubts of the identity of the infection in one year with that in another. This reflection reminds us of the fallacy of regarding diseases as fixed morbid entities, for the diseased state of the patient depends upon other important factors besides the invading poison. The discovery of certain micro-organisms and the assignment to them of the causative role in certain specific diseases seemed to justify the assumption that all other infectious maladies were due to similar causes, and that when these causes became known we should be able to assign the maladies in question each to its own microbe as an entity, and to treat it successfully as soon as an efficient microbicide was found. Greater experience has shown that such a view is based on very imperfect knowledge. The manifestations of disease depend for their nature upon more factors than the identity of the micro-organism detected in each case. The seed is no more important than the soil, which, being a living animal organism, may and does vary in its suitability to the growth of the invader. It has long been known —and the knowledge has been used again and again in prophylaxis—that the virulence of the infective organism may be modified, and it had been suspected long before it was established that apparently spontaneous modifications may occur. It has been held that thus diseases which seem to be new, such as encephalitis lethargica, may originate. Moreover, the whole story is not told when a specific organism has been found. It may be accompanied by one of another and less specific kind whose presence and activities profoundly affect the symptoms and the result of the illness. For instance, it is plausibly argued that scarlet fever runs a mild or a malignant course according to the absence or presence of a secondary organism.

Sir Humphry Rolleston referred to many more epidemiological and endemical puzzles. Why has appendicitis become, as it undoubtedly has, so much more common of late years since the days when Parkinson of Hoxton first described it? Why was urinary calculus so much more common in Norfolk than in the rest of England, and why has East Anglia lost its bad eminence in this respect? We have prided ourselves perhaps too much on having stamped out malaria in this country by drainage and other hygienic measures, just as surely as the United States abolished it from the Panama Canal zone. Yet the fens, and the deadly Kentish marshes so well described by Dickens in *Great Expectations*, are little if at all better drained than they were when it was death, or at least dreadful illness, which lurked in them ready to attack the "unsalted" stranger. There are plenty of anopheline mosquitos here, ready to spread the infection, and since the war thousands of men have returned to this country having the malarial parasites in their blood. Yet happily we are practically free from malaria. Our ignorance concerning this and other important pathological problems should not make us despair, but should inspirit our pathologists and urge them on to the many triumphs which are surely awaiting them and their successors in the years to come.

THE NEW EDUCATION PROPOSALS.

IT is not difficult to sustain the thesis that education and health are not two subjects, but merely different aspects of the same subject. This is abundantly clear if health be regarded, as it should be, not as the mere absence of disease, but as the complete development of body and mind—indeed, of the whole personality—to the full extent of whatever powers they possess. The medical profession and health administrators are concerned mainly with one aspect of this development, and the teaching profession and education administrators with another, but the work of all these must not only be intimately associated in its day-to-day performance, but should also involve a broad acquaintance of each with the aims, problems, and difficulties of the others. Such an understanding will not be without its influence upon the practical solution of such difficulties. The school medical service should

form an integral part of the public health service and administration, but that is not to claim that it can be successfully carried on without the hearty co-operation of the teacher and the education officer. The effective conduct of physical exercises and teaching of personal and domestic hygiene in the schools cannot fail to be of great service to the public health, but they are likely to be the more effective if conducted or given by a competent master or mistress in the ordinary course of the school curriculum in general accordance with a syllabus drawn up by an experienced medical authority. Psychological tests applied by the doctor and teacher are valuable, not merely in the diagnosis of mental deficiency, but as aids to the classification and advancement of individual pupils. A disregard by either of the experience and skill of the other would be foolish. Any hiatus in medical supervision such as that which now commonly occurs between the age of 14, when the child leaves school, and the age of 16, when he becomes an insured person, is peculiarly unfortunate, and may be remedied more effectively by educational than by medical reorganization. Practical illustrations of this intimate co-relationship could be multiplied, but these are sufficient to show that such new and far-reaching proposals as those contained in the Report of the Consultative Committee to the Board of Education on "The Education of the Adolescent" must be of profound interest to the medical profession, not only in their broader aspects, but also in many of their details.

On another page we publish an article expounding and discussing these proposals. Broadly, they are proposals for (1) the abolition of the present distinction between elementary, secondary, and technical education, and the regrading of school education into (*a*) primary, up to 11 or 12 years of age, and (*b*) post-primary, after that age; (2) the lengthening of the school life of the normal child or adolescent up to 15 years by compulsion after due notice, and beyond that age by attraction or persuasion; (3) the provision of a variety of school and curriculum in the post-primary stage to meet the varied needs of different pupils, establishing in the main two types of school—the "grammar school," with a curriculum predominantly literary or scientific, and the "modern school," with a more practical or vocational, but not purely utilitarian, bias in its later years; (4) the institution of new areas, with an effective unification of educational administration in each. The exact nature and bearing of each of these proposals is considered in some detail in the article printed at page 114, and, in the light of the comments there made, it is to be hoped that many members of the medical profession will make themselves acquainted with the relevant portions of the report itself. Whatever controversy may arise on certain points, it can hardly be doubted that the general suggestions of the report will commend themselves to all concerned with public health and education.

One matter should receive special notice—that relating to the areas of local administration and unification within them. The almost exact similarity between the proposals of the Consultative Committee as regards education and those of the British Medical Association as regards public health is very welcome. It is perhaps not remarkable, since the Association itself pointed out in its Memorandum of Evidence for the Royal Commission on Local Government that it was probable that the suggestions there made "would be equally suitable for the best provision and administration of education in its various forms." We should like to call attention also to one of the many valuable pronouncements in the appendix on suggestions on teaching. The Committee says: "We regard it as especially important that instruction in elementary physiology and hygiene, developing out of the lessons in elementary biology, should be given to all boys and girls in modern schools and senior classes." Why not in other secondary schools also?

Another passage, paying tribute to the late Dr. J. G. Adami, will be read with particular appreciation by members of the medical profession. It forms the last paragraph of the preface to the report. "We cannot end without recording our sense of the loss which the Committee has sustained by the death of Dr. Adami. He had been a member for the last six years; he had taken a leading part in the preparation of our last report; and he was a member of the subcommittee in which the present report was gradually drafted. He had won the affection as well as the respect of his fellow members; and he contributed generously both to their deliberations and to the shaping of their conclusions."

THE CINEMATOGRAPH.

TWENTY million persons are computed to visit a cinematograph theatre every week in the British Isles. The effect of witnessing these silent performances is of interest from many points of view, and Miss Barry has presented an interesting judgement on the mental effects.[1] She considers that the habit of watching films develops a special kind of alertness which renders the habitué in some degree a better student of human nature; he receives suggestions, and observes manners and gestures that are not apparent to the infrequent visitor. The mental effect she judges to be the very antithesis of witnessing a dramatic performance. At the theatres there is gained a new experience, one that gives temporary vigour. The cinematograph soothes and drugs, so that the watchers come out like sleepers awakened. "The theatre is a tonic, the cinema a sedative. . . . And that is why, after the feverish activity of a day of modern life, the screen calls to us more strongly than the footlights." Investigations have been made from time to time upon the physical effects of these displays. What influence, if any, has the cinematograph upon the eyes? That so many go to the pictures and so few complain is evidence that not much harm is done. But some do complain. They suffer so severely that they can never be persuaded to repeat the experience.

Apparently the first paper on the subject was published in this JOURNAL in 1917, when Mr. Bishop Harman gave an account of observations of the effects produced upon children who frequently visit these displays.[2] Such ill effects as were observed were, he considered, due to glare, flicker, rapidity of motion, bad position, concentration of attention, and duration of exhibition. Many of these defects have been reduced or even eliminated by the improvement of the film, the machine, and the places wherein the shows are given. He concluded that the shows caused no harm to most of the children provided visits were not too frequent. In a later paper dealing with the children in the myopic classes of the London area[3] he recommended that "attendance of children of myope classes at cinematograph displays should be discouraged. Short-sighted children suffer readily from eye fatigue, which may cause more lasting injurious effects. All forms of music should be encouraged,

[1] *Let's Go to the Pictures.* By Iris Barry. Chatto and Windus. 7s. 6d.
[2] Harman, N. Bishop: BRITISH MEDICAL JOURNAL, February 17th, 1917, p. 219.
[3] Idem, ibid., February 2nd, 1924, p. 204.

particularly playing and singing by ear." Dr. J. Alexander Wilson made a contribution on the subject in 1920.[4] Seeking to find the cause of eye fatigue arising out of film exhibitions, he considered that "Absence of natural colour in the photograph renders identification of the objects more difficult and increases the necessity for fixation and attention." An investigation was made by a joint committee of the London County Council in 1919 into the causes of eye-strain in cinemas; its report furnished much valuable data for the improvement of film production and exhibition, and particularly in regard to the position of the observer in relation to the screen.

Quite recently a new investigation has been set on foot by the Section of Ophthalmology of the American Medical Association, and a preliminary report has been issued.[5] Investigations were made upon 150 persons—university students and senior and junior high school children. The subjects of the observations were first examined as to their visual acuity under conditions that were held to eliminate error, then exposed to film exhibitions for one and a half hours, and immediately retested as to visual acuity. A further set of tests were made on the same lines; but for exposure to the cinematograph the reading of current magazines in a good light for forty-five minutes was substituted. "More fatigue," it is reported, "is evident after forty-five minutes of reading current magazines than by viewing either a black-and-white or a coloured motion picture for one and a half hours, if one uses the visual acuity as a criterion for fatigue. Coloured films are not more fatiguing than black-and-white, but seemed to cause less fatigue. Those who suffer eye-strain from motion pictures are those who are unable to accomplish other ocular work without fatigue." Much of the weight of these findings will depend upon the test for visual acuity employed, and upon the answer to the question whether visual acuity is the proper criterion. In the discussion that followed the presentation of the report criticism turned about two points. The first was whether distance vision of a screen which did not require accommodation was comparable to reading which did need accommodation; the second was that the fatigue experienced at cinema shows was "principally a retinal fatigue, largely associated with the fact that there is a dark interval about half as long as the light interval, interrupting the light stimulus fifteen or sixteen times a second."

The matter is one that is worthy of extended observations, particularly as to the truth of the suggestion that those who suffer from attendance at these exhibitions are those who are unable to accomplish other ocular work without fatigue.

SERUM DIAGNOSIS OF CANCER.

WHILE it is recognized that there is no specific reaction in cancer, it is held reasonable to assume, *on a priori* grounds, that tumour cells invading the tissues must act to some extent like parasites and induce defensive reactions in the organism. Numerous methods have been employed during the last twenty years in the hope of establishing a serological diagnosis of cancer—namely, complement fixation, the precipitin reaction, passive anaphylaxis, hetero- and iso-lysins of the red cells, the cutaneous reaction, carcino-lysins, the antitryptic reaction, the reducing power of the serum, the epiphanine reaction of Weichardt, surface tension reactions, Fischer's reaction of the protein equilibrium of the serum, electrophoresis, or the precipitation observed at the positive pole, variations in the serum content in sugar, cholesterin, amino-acids, fatty acids, and phosphoric acid, in the alkalinity of the serum, and in the quantity and quality of its proteins. The results have been disappointing as contributions to the diagnosis of cancer, although many of the tests seem to indicate that a tissue reaction does actually occur as the result of cancerous invasion, and will repay investigation. One of the tests which have attracted most attention is that devised by Botelho. In its original form it gave a positive result in 48 per cent. of cases of cancer; a closer examination of the conditions of the experiment and the adoption of a modification securing greater uniformity has raised the positive results to 90.4 per cent. Negative results in non-cancerous serums remained practically the same with both methods—namely, about 85.5 per cent. The principle of the test is based on the fact that, with an acidified solution of iodine, cancerous serums, in contrast with the majority of non-cancerous serums, give a permanent precipitate in the presence of definite quantities of the reagent. Botelho subsequently found that if physiological salt solution were added to the serum the results varied with the degree of dilution; with the same serum a positive result was observed in dilute serum and a negative result in concentrated serum. By taking the precaution of using serums with a definite protein content (78 to 80 per cent.) he succeeded in obtaining the more satisfactory results above mentioned. Dr. Tedesco-Polack has recently introduced a modification in the technique, which is said to yield results both more definite and more constant than that used by Botelho himself. Uniformity in the protein concentration is secured with the aid of the refractometer, and Dr. Tedesco-Polack has given full directions for carrying out each step of the test in a pamphlet[1] recently published. Observations were made on 200 cases in the Hôtel-Dieu, Paris; these are fully reported, and the general conclusion drawn is that, when it is remembered that the serological diagnoses were carried out before operation and before a histological diagnosis was made, and often in cases where the clinical diagnosis was doubtful, "it would appear, in view of the high percentage of correct forecasts, that Botelho's reaction, as practised with a preliminary correction of the refractive index of the serum, is of practical value in the diagnosis of cancer; the reaction, moreover, is easy in manipulation and interpretation."

FLOUR SUBSTITUTES IN FRANCE.

MANY people in France have been concerned, from the public health point of view, at the introduction, as the result of the financial difficulties in France, of various substitutes for wheaten flour in the manufacture of bread. It appears that in 1922 a committee advised the Ministry of Agriculture to postpone compulsory use of substitutes for flour, but that in rye-producing districts the mixture of this grain in the proportion of 10 per cent. should be allowed. In December of that year, however, the Ministry issued an order making the addition of 10 per cent. of rye, barley, maize, or rice compulsory. The difficulties in carrying out this order were so great that with the first good harvest it was revoked. This year, however, it has been revived, and buckwheat, manioc or tapioca, and what are called "D grains," have been added to the list of substitutes. The Académie de Médecine recently appointed a committee to investigate the subject, and at a meeting on November 9th Dr. Lapicque presented its report. It found that the use of the substitutes did not endanger the public health; but thought it expedient to carry its inquiries further, and to investigate the effects of the

[4] Wilson, J. A.: *Brit. Journ. of Ophthalmol.*, November, 1920.
[5] *Journ. Amer. Med. Assoc.*, Vol. 87, No. 14, p. 1123.

[1] *Séro-Diagnostic du Cancer par la Réaction de Botelho.* Par Dr. Béatrix Tedesco-Polack. Paris: Les Presses Universitaires de France. 1926. (Roy. 8vo, pp. 89.)

substitutes on the manufacture of bread. Maize, rice, and tapioca cannot, when used alone, be made into bread, since they lack the gluten necessary to agglomerate the starch grains. Added to wheat flour these grains are so much inert powder; and as the cultivation of wheat has aimed at an increased production of starch, the gluten of the wheat is now insufficient to combine the wheat and the substitute into good bread. Barley and rye can be made into bread; but barley bread is not pleasant, and rye bread, so dark as to be called black, does not rise well, and has a flavour more distinctive than agreeable. Buckwheat, though it cannot actually be made into bread, has an effect similar to rye when mixed with wheat flour in the proportion of 10 per cent. D grains are not really substitutes, since they are "offals" extracted from wheat in the production of flour. Their introduction into flour has led to difficulties in obtaining uniformity in the appearance of the bread. According to the committee, the skill of the baker is upset, commercial difficulties arise from the Frenchman's desire for white bread, and indigestion is produced by an unpalatable or unexpected flavour or appearance in the loaf. Uniformity is considered desirable on social and on physiological grounds. This cannot be obtained when several different substitutes are used, either alone or in combination. Control is impossible, since it can only be conducted through microscopical examination —a very difficult method for obtaining quantitative results. From the economic point of view the committee has not discovered any advantage in the use of substitutes; all of them must be imported; and although rice comes from a French colony the piastre of Indo-China is as independent of the franc as the pound sterling or the dollar. The only substitute of importance, in the opinion of the committee, is rye, because in certain districts in France it can be grown better than wheat; but in suitable districts the use of buckwheat might be allowed. For the rest a flour from which less offal has been extracted is productive of economy; and this economy could be increased if millers were not left continually in hopes of a return to white flour. The extraction of flour, says the committee, should be fixed for a period, say, of five years. At the request of the Colonial Union of France the discussion of the report has been postponed.

WHAT IS THE FATIGUE SYNDROME?

THE last quarterly number of the *Journal of Neurology and Psychopathology*[1] contains a paper on fatigue by Dr. R. D. Gillespie, Henderson Research Scholar in Mental Diseases. He begins by saying that there is no satisfactory definition of fatigue. It is possible, however, that his difficulty arises from the application to a special pathological condition of a word that is used in common parlance. To the ordinary man fatigue is a result of sustained labour or exertion. It is physiological, and involves nothing abnormal. The condition with which Dr. Gillespie is dealing appears to be a syndrome to which some people give the name neurasthenia, and of which one symptom, at all events, is "irritable weakness." The use of the term in this connexion appears to be confusing; and the confusion is not diminished by the sense in which it is used by the Industrial Fatigue Research Board. Consequently we find all the definitions of fatigue mentioned by Dr. Gillespie unsatisfactory, whether that to which he objects, "a diminished capacity for work"; or the evasive formula of Janet, "Fatigue is the behaviour of a man at rest: the sensation of fatigue is the desire for that behaviour"; or the definition accepted by Gillespie for clinical purposes: "A person is fatigued when he is capable of less general activity than is usual with him, or when he is capable of less activity than would be expected from his general mental and physical equipment; and when the diminution of activity is accompanied by a sensation of fatigue, or of exhaustion, or of weakness." Would it not be better to invent a new word if neurasthenia is insufficient, and leave fatigue to the layman? According to Dr. Gillespie the cause of the "fatigue syndrome" may be sought in five directions, and first in the constitution of some people who have an inborn defect of function. The second direction is auto-intoxication, but in this case he thinks it equally possible to regard the fatigue and the gastro-intestinal disturbances as having a common origin. Thirdly, overwork has been suggested as a cause; but experimental production of prolonged irritable weakness by work alone is lacking. This statement seems to be in itself sufficient to condemn the technical use of the word "fatigue." Fourthly, emotional causes have been suspected, so that for Dejerine "the real cause of fatigue lies in the emotional equipment." In favour of this theory there is some evidence, both clinical and experimental. Lastly, there are theories which Dr. Gillespie calls "psycho-analytic," according to which neurasthenia is the result of excessive masturbation. The symptoms of the fatigue syndrome are "brain-fag," poor memory, lack of concentration, irritability of temper, increased reflexes, poor sleep, anorexia, and aches and pains. He divides his cases into five groups according to the symptomatic importance of the fatigue of which the patients complained. He considers that the principal place in treatment must be assigned to psychotherapy, but that graded exercises will increase exercise tolerance and vital capacity, hydrotherapy will improve vasomotor tone, and the administration of phosphates will prolong the working power of muscle.

[1] *The Journal of Neurology and Psychopathology.* October, 1926. London: The British Medical Association. Published quarterly. Subscription 30s. per annum; single numbers 3s. 6d. net, post free.

PARA-THOR-MONE.

THE success of Collip in devising a method for preparing a stable preparation of the active principle of the parathyroid gland has at last provided a sound basis for the investigation of the clinical value of this hormone. Until quite recently opinions regarding the experimental and clinical actions of parathyroid extracts were remarkable chiefly for their discordance. The work of Collip provided an explanation, for he showed that the parathyroid contained an active principle of great potency, but that most, if not all, of the principle was lost by the usual methods of preparation. He developed a technique by means of which this elusive active principle could be obtained as a stable preparation, and it is now being prepared on a commercial scale by Messrs. Eli Lilly and Co., under the authority of the University of Alberta. Collip devised a method of biological standardization of the active principle, and the clinical unit is one hundredth of the quantity required to cause an increase of 5 mg. per 100 c.cm. in the calcium of the blood serum of a dog weighing 20 kilograms. The preparation as issued contains 20 units per cubic centimetre; it can be given subcutaneously, intramuscularly, or intravenously. The human dose ranges from 10 to 30 units a day. The drug produces a definite and powerful physiological action, and has been found to be a true specific for the tetania parathyreopriva. It has also been found of value in idiopathic tetany, infantile tetany, and sprue. It has been tried in a number of other conditions, and it is probable that it will ultimately be found to be of great clinical value, for recent research has shown that the blood calcium is unduly low in a great number of diseases. Those who desire to employ this preparation must remember, however, that, like all drugs which produce a definite physiological effect, para-thormone must be used with care and discretion. Collip found that dogs would tolerate a large single dose, but that injec-

tions of even very small amounts repeated at intervals of a few hours invariably proved fatal if the injections were continued. The first symptom of an overdose was vomiting. In clinical cases as much as 100 units of para-thor-mone have been given in twenty-four hours without ill effects, but such doses are unnecessarily large, and could not be repeated without danger. Collip's work has aroused much interest in the medical profession in this country, and limited quantities of his preparation have already been tested here, both experimentally and clinically; it is satisfactory to learn that the drug will now be available for general therapeutic use. The agents in this country are Messrs. Allen and Hanburys, Ltd.

ACETYL-ARSAN IN SYPHILIS.

ACETYL-ARSAN is best known in this country as stovarsol. It was introduced into medical practice by M. Fourneau, and is No. 190 in the series of organic arsenicals prepared by him. The full title of the drug is oxy-acetyl-amino-phenyl-arsenate. Ehrlich commenced his long series of researches on antisyphilitic remedies with a study of the pentavalent arsenical compounds. He prepared acetyl-arsan in an impure form, and thought it to be unduly toxic. Fourneau, however, obtained the drug in a pure form, and arrived at the conclusion that it is a powerful antisyphilitic of very low toxicity. Ehrlich found that pentavalent arsenicals were less potent than trivalent arsenicals, and devoted his attention to the latter in the hope of obtaining a drug of which a single dose would produce a complete cure. In recent years, however, increasing attention has been paid to the pentavalent arsenicals. The new American drug tryparsamide is, for example, a member of this class. The characteristics of stovarsol are that it is absorbed rapidly, is of low toxicity, and is excreted rapidly in the urine. It is stated that it never causes optic neuritis, a danger which led to the abandonment of atoxyl, which was the first pentavalent arsenical to be used extensively in trypanosomiasis. Laurent[1] has employed acetyl-arsan extensively for more than three years, and reports very favourably on its action as an antisyphilitic. He found the drug particularly useful in the treatment of congenital syphilis in infants, because it could be injected hypodermically without producing irritation. Levaditi states that the drug is more active if given by mouth than when injected, and that it is of value in amoebic dysentery and yaws as well as in syphilis. The determination of the exact value of an antisyphilitic remedy is, of course, a problem which requires much work and a long period of time over which to test the drug. The clinical reports, however, are to the effect that acetyl-arsan has a remarkably low toxicity, and that it has a strong antisyphilitic action. The latter action is shown by its effect both on the clinical symptoms and on the Wassermann reaction.

STUDY OF MEDICAL HISTORY.

IN announcing lately that the Annual Meeting of the British Medical Association, to be held at Edinburgh next July, would include a Section devoted to the history of medicine, we mentioned that the University of Edinburgh was the first medical school in Great Britain to recognize the importance of this study by establishing a lectureship in it. This was done eighteen years ago, and appropriately enough the president of the new Section and the lecturer at Edinburgh are one and the same person—Dr. John D. Comrie. In an appreciative editorial comment on this announcement the *Journal of the American Medical Association* of December 4th, 1926, states that a few American medical schools have now regularly established courses in medical history, and that the Johns Hopkins University Medical School has just established a professorship in it, conferring the first appointment on Dr. William H. Welch, whose services to this branch of study, as well as to bacteriology and pathology, are almost as well known to our readers as they are in the United States. Professor Welch, it may be added, is one of the twenty eminent corresponding members of the Historical Section of the Royal Society of Medicine. Commenting on the matter generally our contemporary writes: "The mark of the cultured man is a knowledge of the foundation and processes by which his art and his science reached their prestige. Unfortunately, too few physicians care to give the time or the interest necessary for even a moderate acquaintanceship with medical beginnings." If we may judge from the appreciation shown by readers of very varied tastes for the "Nova et Vetera" column of the BRITISH MEDICAL JOURNAL, and from other signs of increasing attention, we should say that the profession of Great Britain takes a keener and deeper interest to-day than ever before in the historical side of medicine. Apart from any other consideration, an occasional glance at the past helps to keep the present in perspective, and to point the way for future advances.

[1] Laurent: *Annal. des maladies vénériennes*, July, 1923, and April, 1924.

LISTER CENTENARY: LONDON CELEBRATION.

THE centenary of the birth of Lord Lister falls on April 5th, 1927, and a committee has been formed to organize a celebration in London. At the suggestion of the Royal College of Physicians of London, the Royal College of Surgeons of England, and the Royal Society of Medicine, the initiative was taken by the Royal Society, which is acting as a co-ordinating centre. The executive committee comprises representatives of the universities, learned societies, and medical bodies of the country, and, as recorded in the SUPPLEMENT of January 1st, the Council of the British Medical Association has nominated as its representative the President of the Association, Mr. R. G. Hogarth. Invitations to send delegates have been addressed also to various medical institutions in the Dominions and abroad. The celebrations will take place on Wednesday and Thursday, April 6th and 7th. They will include a reception of delegates and the delivery of short addresses by some of them, a commemorative service in Westminster Abbey, a reception at the Royal College of Surgeons, a conversazione at the house of the Royal Society, a dinner with the Merchant Taylors Company in its hall, and the delivery of discourses on Lister as physiologist, pathologist, and surgeon. The details of the programme are still under consideration, and we hope to give further particulars in a later issue. We have already published a preliminary note on the Lister celebration in Edinburgh, which will be held next July in order to coincide with the Annual Meeting of the British Medical Association.

X-RAY CINEMATOGRAPHY.

THE practicability of obtaining on a cinematograph film rapid serial skiagrams of the moving organs of the body and of the movements of the joints in health and disease was demonstrated by Dr. Russell J. Reynolds at a meeting of the Röntgen Society on January 11th. The films which he put through the projector, as was only to be expected, left much to be desired from the point of view of what the photographer would call "pluckiness," and something also from that of sequence, and the results were a prophecy rather than a fulfilment. The subject is still in the experimental stage, but what remains to be done to bring the work to the pitch of efficiency required in practice is chiefly certain optical improvements and the provision of photographic material of greater sensitivity. Dr. Reynolds has been engaged in this work for more than five years, and with the spirit of the pioneer he has been undaunted by frequent disappointments. There are two

methods by which moving x-ray pictures may be obtained. One is by the direct action of the x rays on a moving film after the rays have passed through the subject under examination. This seems the most obvious method, but it would be extremely costly and difficult to manipulate, if not altogether impracticable. The method Dr. Reynolds has preferred consists in taking a series of photographs of the shadow cast on a suitable fluorescent screen. These photographs are obtained by means of a cinematograph camera fitted with the necessary adaptations for the purpose. One of the principal difficulties has been to obtain sufficient light from the screen to produce an impression on the film, and as the light emitted from the screen is ordinarily blue, a very real problem is presented. Again, it is necessary to protect the camera with its unexposed film from the action of the rays, and this has involved the interposition of a sheet of lead glass between the fluorescent screen and the lens. The subject under examination has also to be protected. To reduce exposures to the minimum the x-ray tube is excited only for the interval of time required to permit of exposure, and Dr. Reynolds has worked out an ingenious method of synchronizing the opening and closing of the camera shutter with the switching off and on of the high-tension current. Dr. Reynolds was fortunate enough to secure the co-operation of the Kodak firm in obtaining a specially sensitive film and also a specially prepared fluorescent screen, fully 30 per cent. more brilliant than the French calcium tungstate screen which he had up to that point been using. With these improvements he was able to get quite passable impressions of the thorax of a boy with exposures of a quarter of a second for each picture, and the image of the thorax could be seen even with an exposure of only one-eighth of a second. To ensure the smooth movement of the camera mechanism he installed a small motor, and when this device was brought into play, in conjunction with the latest film and screen obtainable, he was able to get a satisfactory serial skiagram of the hand, showing the skeleton, with exposures of one-eighth of a second. This, together with the thorax picture, which showed the outline of the heart, was exhibited at the meeting. Professor E. A. Owen, of University College, North Wales, who assisted Dr. Reynolds in some of the earlier work, stated that he considered Dr. Reynolds had made a really valuable contribution to medical radiology. The need was for still more rapid x-ray films and greater brilliancy of illumination of the intensifying screen under x-ray action. One improvement which both Professor Owen and Dr. Reynolds foreshadowed was the use of a quartz right-angled prism to reflect the light from the screen at right angles, and so keep the camera out of the direct path of the rays, with consequent elimination of the lead glass protection. Although Dr. Reynolds projected many feet of film, he pointed out that in practice it would be necessary to take only a very few pictures—just sufficient in most cases to give one cycle of movement, which could, of course, be repeated any number of times on the positive film from the negative without having to subject the patient to prolonged radiation.

RARITY OF MALIGNANT MELANOMAS IN NEGROES.

IT is an old observation that malignant melanotic tumours occur in the anal region of horses; most commonly, according to Sir John Bland-Sutton, the affected animal is grey, but it may be white, and occasionally it is black. But very little reference is made in the extensive literature on melanomas to their racial incidence, and it is therefore interesting to hear from Dr. J. T. Bauer[1] that they have seldom been observed in negroes and deeply pigmented orientals. Melanomas are so striking that their existence is a matter of common knowledge; they cannot be said to be common tumours, and no doubt the difficulty of recognizing them in dark-skinned individuals may help to account for the rarity of their reported incidence. At any rate, this last and commonplace explanation must be taken into consideration before seriously regarding their rarity in negroes as a corollary to their reputed frequency in grey and white horses. Dr. Bauer has collected eighteen examples of malignant melanomas in negroes; in three the eye was affected, in the others the skin; he devotes his attention to the latter. Except for one which arose on the forehead, the cutaneous melanomas occurred on relatively unpigmented parts of the body, eleven being on the feet. Trauma appears to be the most important factor, and may precede the recognition of the growth by several years; this possibility, it is stated, should be considered whenever the nail-bed is injured and an indolent ulcer follows. From histological examination of two malignant melanomas —one of the thumb, the other of the big toe—in negroes, Dr. Bauer concludes that the pigment-containing cells were derived from connective tissue, and that the tumours were melanosarcomas. He does not offer any explanation for the relative rarity of malignant melanomas in negroes, and contents himself with saying that probably a number of undetermined factors are responsible.

[1] J. T. Bauer: *Bull. Ayer Clin. Lab., Pennsylvania Hospital*, 1926, No. 10, pp. 5-12.

THE EPIDEMIC OF INFLUENZA.

THE epidemic of influenza, which it is now recognized is prevailing in various parts of Northern Europe, seems to be of a mild type, though the customary stories of households stricken down almost simultaneously so that it has been difficult to maintain domestic service, are numerous. It has been stated that it is more prevalent in towns than in the country districts, but this does not seem to be true of this country. In Spain, according to a bulletin issued by the Health Section of the League of Nations, an epidemic was prevailing as early as the beginning of December, and in Switzerland it began about December 10th in the cantons of Berne, Basel, and Geneva; it is now prevalent in Zürich and Soleure, where schools have been closed. In Denmark it began in the third week of December. An epidemic had not been recognized in Germany down to January 8th, but the number of hospital admissions in Berlin has been increasing. The *Times* correspondent reported recently that there were 1,000 cases at Cologne and as many as 3,000 at Stuttgart, that the unofficial estimate for the Rhineland was 8,000 cases, and for Baden over 40,000. In Holland it is reported that since Christmas the number of absences for sickness among the staff of the public services is from 10 to 20 per cent., and two or three times as high as in January, 1926. From France the reports to hand refer only to Paris, and it is stated that of the 139 deaths from influenza in that city most were attributed to bronchopneumonia. The epidemic seems to be of the respiratory type in Belgium, and, so far as our information goes, in this country also.

AN AUSTRALASIAN COLLEGE OF SURGEONS.

A PLAN is on foot to establish an Australasian College of Surgeons. Preliminary meetings of surgeons were held some time ago in each Australian State, and two delegates from each and two from New Zealand attended a meeting held in Sydney last August. At this meeting it was agreed that it was advisable to form a College of Surgeons of Australasia, and forty foundation members were nominated. They were asked to take steps to formulate a constitution, and to place their scheme before those surgeons who attend the Australasian Medical Congress which is to be held under the auspices of the British Medical Association at Dunedin, New Zealand, early next month. It is expected that a final decision will then be reached.

INFANTILE PARALYSIS.

THE BROADSTAIRS OUTBREAK IN 1926.

We are indebted to Dr. A. M. Watts, M.O.H. East Kent (No. 1) United District, for the following extracts from his report on the recent outbreak of acute poliomyelitis in Broadstairs and St. Peters.

The urban district is situated at the north-east corner of Kent, between the boroughs of Margate and Ramsgate, placed on the chalk cliffs jutting out into the North Sea and facing the south-east, with a coast-line of nearly four miles. There are two and a half miles of promenades, and the foreshore provides several stretches of firm sands, which are swept daily by the sea. The population found by the census of 1921 was 15,471.

Owing to its reputation as a healthy seaside resort there are many private boarding schools and day schools in the district, the population of these being about 1,150 children. The total number of private schools is about twenty-six. There are also some thirteen convalescent homes, with accommodation for 900 persons, mainly children, and also holiday homes. Some 850 children attend the four elementary schools, and 150 a secondary school provided by the Kent County Council at Ramsgate, where 800 children belonging to the four sanitary districts in the Isle of Thanet are educated.

Cases of Poliomyelitis and Polio-encephalitis Notified (1926).

For the week ended—	In England and Wales.	In Kent.
September 4	43	1
„ 11	53	2
„ 18	77	5
„ 25	44	3
October 2	68	1
„ 9	51	5
„ 16	78	23
„ 23	89	37

Previous Cases in the District.

It is an interesting fact that during the five years ended 1925 only two cases of the disease were notified in the urban district, and they occurred in 1925; that no cases were notified in 1926 prior to October 14th; that no cases were notified during the first ten months of the year in the borough of Margate, in the adjacent rural district of the Isle of Thanet, and only two in the borough of Ramsgate.

Possibility of Infection being Introduced from Abroad.

I understand that there were severe and fatal outbreaks of poliomyelitis and polio-encephalitis in the neighbourhood of and along the coast of Brittany during the summer. It is possible that the infection was brought to France by American visitors. The boy who died in the school in Broadstairs first affected had spent his holidays in Brittany, and he may possibly have introduced the disease into the school. At another school the first case, an abortive one, was that of a boy who spent his holidays in Brittany. In a third school a boy who died had spent his holidays in Norway.

Inquiries were made as to whether any of the cases had been recently vaccinated. It was found, however, that none had been done.

It is well known that the disease may be conveyed from person to person by healthy carriers, and the investigations which were made in connexion with this outbreak tend to show more than ever the importance of this factor.

History of the Outbreak.

On October 14th I received eight notifications of cases at a private boarding school, one of a mistress in an adjoining girls' school, and of four cases in the town—two in two day schools. On the next day I received two notifications, one of these being a boy who attended the Ramsgate County School. On October 16th I had four notifications, two more private schools being affected. On October 18th I received nine notifications, five fresh schools being affected. On October 19th thirteen notifications were received, one other school being affected. On October 20th four cases were notified, one being a patient in a convalescent home. On October 21st three were notified; one of these belonged to one of the elementary schools. On October 23rd four were notified, two of these at another convalescent home. On October 25th three were notified. On October 26th four were notified, one of these in an elementary school. On October 27th two were notified; one of these attended an elementary school and one was in another private school. There was one notification on October 29th and one on November 11th. This makes a total of 63. One of the notifications was withdrawn, which leaves a total of 62. In addition to these cases, two boys from the private school first affected were removed to their homes and afterwards developed the complaint, and one of them died. Then there was the case of a waiter, aged 22, employed in a hotel in Broadstairs during the season, who left the town on October 6th, developed the disease on the 16th, and died in a London hospital on October 21st; and that of a young woman, aged 29, who stayed in Broadstairs from October 2nd to October 9th, was taken ill on the 18th, and died on the 22nd. Apparently she was not well during her stay in Broadstairs. These two cases were not notified. Then there was the case of the brother-in-law of the headmaster of one of the schools, who had been staying in Broadstairs for three weeks. He visited the school on October 10th and had lunch there. He left Broadstairs the following day and was taken ill with the complaint on October 16th (boys were taken ill in the school on October 13th). It will thus be seen that the total number of cases in connexion with the outbreak was probably not less than 67, and that the total number of private schools affected was thirteen. In these, thirty-five children were affected, one mistress, and two members of domestic staffs. There were three cases in the Ramsgate Secondary School; two in the Broadstairs Council School (Girls' and Infants' Departments); and one in St. Peter's Church of England School (Infant Department). In one convalescent home there were five cases (two children and three members of the staff), and in another convalescent home there was one case.

In addition to the above fifty cases there were twelve others not connected with schools or institutions, except indirectly—for example, one whose brother attended a school where a case occurred.

The following table shows the number in attendance and of cases in the various schools.

Boarding Schools.	No. in Attendance.	Cases.
A.—Boys	73	9 boys, 1 staff
B.—Girls	53	3 girls
C.—Girls	74	2 girls, 2 staff
D.—Boys	21	5
E.—Boys	28	1
Totals	249	23
Mixed Boarding and Day Schools.		
F.—Boys and girls	50	5
G.—Boys	42	1
H.—Boys	24	3
I.—Boys	27	1
J.—Girls	6	1
K.—Boys and girls	26	2
L.—Boys and girls	70	1
M.—Boys	73	1
Totals	318	15

On October 14th and the five following days thirty-one cases were notified in twelve private schools. The age of the oldest person notified was 30 and the youngest 1 year.

The numbers notified between the following ages were: From 1 to 5 years, 7; 5 to 10 years, 18; 10 to 15 years, 27; 15 to 20 years, 5; 20 to 25 years, 2; 25 to 30 years, 3—a total of 62 cases. The males numbered 38 and the females 24.

The number of cases removed to the Isle of Thanet Joint Hospital was nine. Of these, five belonged to a convalescent home, two were on the staffs of two private boarding schools, and of the two others one attended the Ramsgate County School and the other the Broadstairs Elementary School.

Deaths from Infantile Paralysis.

Following are brief notes of four cases of infantile paralysis in which death occurred.

1. A boy, aged 10, at a private boarding school, was taken ill on October 10th; temperature 102°. The following day the temperature was 101°, and his back was stiff. On October 12th he had symptoms of asthma in the morning; in the afternoon the head was retracted, and at 5 o'clock he had convulsions which lasted twelve minutes and were followed by death.

2. A woman, aged 28, a teacher at a girls' boarding school, attended St. Peter's Church on October 10th. She went to Ramsgate on October 11th, and was taken ill the following day at 6 p.m. She died at midnight on October 14th, from respiratory paralysis, after losing all reflexes and developing paralysis of the deltoid.

3. A boy, aged 8, a day scholar at a private day and boarding school, was taken ill with vomiting and coryza on October 10th. He continued getting about until October 15th, when he was seen by a doctor. His temperature was then 102°; he complained of severe headaches and some stiffness of the neck. The knee-jerks, which were present on October 16th, were absent on the following day; on this day the temperature was 101°, pulse 120, and nystagmus was present. On October 18th there was paralysis of both lower limbs and of most of the muscles of the upper limbs; the next day the diaphragm also was paralysed. On October 20th the temperature was below normal, pulse 120, respirations 40. On October 23rd the patient became cyanosed; pulse rate 160; he was conscious until a quarter of an hour before the end.

4. A boy, aged 5, who attended the infant department of an elementary school, was taken ill on October 25th. A doctor was sent for early on October 26th. The symptoms included paralysis of the palate, absence of knee-jerks, and stiffness of the neck. He died about 2.30 p.m. from paralysis of the respiratory centre.

The cases which were notified varied in intensity—some were very mild and had no paralysis, perhaps only a rise of temperature with nystagmus, others presented serious symptoms. Two boys who attended the same school and sat next to each other had the meningeal type of the disease, but both recovered. Others had paralysis of the lower limbs. In several cases the patients were taken ill with symptoms which were thought to be due to influenza. These subsided, but after four or five days the symptoms of infantile paralysis developed.

The date of onset of the earliest case notified was October 4th, but half the cases were taken ill between October 10th and 13th; then eighteen cases between October 14th and 18th; the remainder between October 19th and November 6th.

Most of the schools affected were situated in the northern portion of the district and near the sea. The school with the largest number of cases was the one situated nearest the sea.

The serious effect which is produced by an attack of infantile paralysis is, of course, the loss of power which results. Out of sixty-two cases notified in this outbreak, paralysis was noted in twenty-nine. As to how many of these patients will be permanently paralysed it is impossible to say.

As four deaths occurred out of the sixty-two cases notified, the mortality was 6.4 per cent., but if the outbreak is considered to have consisted of sixty-seven cases, then we have seven deaths, which gives a mortality of 10.4 per cent.

The interesting features of the outbreak were the facts:

(1) That the disease was limited mainly to the children attending private schools in the district, particularly boarding schools; that most of these schools were situated in the northern part of the district, and that the private schools had very little communication with each other.

(2) That the disease started almost simultaneously in all the schools affected, and that the outbreak ceased almost entirely at the end of a fortnight.

(3) That the disease did not spread to the adjoining districts.

(4) That the disease did not spread in the elementary schools.

It is now two months since the last case was notified, and there is every reason to believe that the urban district is free of infection.

EDUCATION OF THE ADOLESCENT.

THE Consultative Committee of the Board of Education has just published its Report on the Education of the Adolescent.[1] It is an extremely important and very interesting discussion of the subject. While it is, of course, primarily of interest to those who are directly concerned, whether as teachers or as administrators, with public education in England and Wales, it should make its appeal also to many others who are interested in a more general way in the bearing of our educational system on the social, economic, and political life of the community, as well as to those, as in Scotland and elsewhere, who have to do with an educational organization of a different character. The suggestions of this report, too, if carried into effect, must have a marked influence upon the school medical service in all its aspects, and involve repercussions, educational and medical, upon public health in general. No apology is needed, therefore, for commending its study to the medical profession as to others. The fact that the report extends to some three hundred and sixty pages in all need not be a deterrent, for it is pleasant to read, both as to print and as to style, and if the portions of the report which are of the nature of preface and appendix as well as those of an historical character are ignored, as they may well be by some readers, the actual number of pages to be read may be reduced to not many more than one hundred. Within that relatively small amount of reading matter there is contained abundant material for the consideration of all who are concerned for the welfare of the children, and so for the future welfare of the country.

The Position To-day.

The present position of the organization of public education in this country is as follows. All normal children are required to attend school from 5 years of age until the end of the school term in which they become 14, usually described as the age of 14+. Children who are physically or mentally defective must attend school from 7 to 16 years of age. Local authorities for elementary education are required to provide accommodation and suitable instruction for all these children, except that small proportion of them who are receiving a satisfactory education under some other auspices. There are other schools, carrying on education to the age of 16 or 18 years, which are aided or maintained by local authorities for higher education, either established by those authorities or of an older foundation. Usually at least 40 or 50 per cent. of the children in these "secondary" schools have come from the public elementary schools, and it is obligatory to provide in them a considerable number of free places each year for such children. These "free-placers" enter the secondary school as the result of an examination at the age of about 11 years. It is only recently that the obligation to attend school to the age of 14 years has not been subject to a considerable number of exemptions at the option of education authorities, and as a result of the stricter obligation it is found that a larger proportion of children than previously tend to remain at school beyond the compulsory age. For such of these children as have not entered secondary schools it is necessary to provide a suitable advanced curriculum, and most progressive authorities of populous places have provided this either by special classes or courses at the top of the ordinary school, or by drafting such children into schools (commonly known as central schools) with a special curriculum with some practical or vocational "bias," or, to a much smaller extent, into junior trade or technical schools in which the work aims at a substantial measure of personal craftsmanship of a character appropriate to local industries. The children are as a rule admitted to the advanced courses or to the central school as a result of the same examination as that for the free places in secondary schools—that is, at about 11 years of age.

[1] London: H.M. Stationery Office or through any bookseller. 1926. 2s. net paper; 3s. net cloth

"Elementary" and "Secondary" Education.

The Consultative Committee thus found that the distinction between "elementary education" as conducted in public elementary schools and in central schools on the one hand, and "secondary education" as conducted in secondary schools and technical schools on the other hand, was, in fact, breaking down, and that the condition of things is at present educationally anomalous and administratively absurd. The education given in some central schools under one code of regulations and one system of grants by one kind of authority does not differ fundamentally from that given in some secondary schools under a different code of regulations and a different system of grants by a different kind of authority. The Committee found, too, that it was the practically unanimous opinion of those who submitted evidence to it, whether administrators or teachers, that there should be a regrading of education into two phases: (1) primary education, the education of childhood, and (2) post-primary education, the education of adolescence, and that the division should be made in the average case at the age of 11+. Medical and psychological opinion will endorse this. Educational organization should be based on the actual facts of child development. The beginning of a new stage in education should, if possible, coincide with a new phase in the life of the individual, and, as the report says:

"By the time that the age of 11 or 12 has been reached children have given some indication of differences in interests and abilities sufficient to make it possible and desirable to cater for them by means of schools of varying types but which have, nevertheless, a broad common foundation."

The strong recommendation of the Committee on this matter is sure at no distant date to have practical effect given to it, in spite of certain formidable administrative difficulties which will be referred to later, and in spite of some awkward questions with regard to denominational religious instruction to which it may give rise in some instances.

Proposed Regrading and Reorganization.

Broadly, it is recommended that (in addition to the junior technical or trade schools which should be continued in suitable localities) the new post-primary or secondary education should be of two main types: (1) the "grammar school" type, corresponding to that given in the present "secondary schools" which, though they may vary considerably among themselves, follow in the main a predominantly literary or scientific curriculum and carry the education of their pupils forward to the age of 16+ or even 18+; (2) the "modern school" type, giving at least a three (preferably a four) years' course from the age of 11+, with a practical or vocational bias in the last year or two years. This second type of post-primary education might be given either in special schools, corresponding to the present central schools, or in some cases by separate and properly organized advanced courses in the ordinary school. This last alternative deserves careful consideration. The great majority of the Committee think that such an arrangement should be regarded as temporary or transitional, though they recognize that it will be necessary for some time to come. No doubt there are advantages in marking the new phase of education by the removal of the pupil to a different building, but there is force in the note written by Miss E. R. Conway, in which she is supported by the National Union of Teachers, that:

"The teaching of the older and brighter children acts as a stimulus to the staff, and their removal will destroy a source of interest for the teachers and of ambition for the children. The fact that older and younger children are dealt with in the same school building is also a valuable aid to character training, giving the older pupils that sense of responsibility to their younger and weaker colleagues which develops into the mutual care and consideration which is so helpful in the life of a community."

It is at all events clear that there may be local authorities in whose case the situation, accommodation, and arrangement of their schools, and the general character of their teaching staff, may make it both economically and educationally preferable to develop and equip advanced courses in their elementary school buildings (with sufficient division to mark the new phase) rather than to build new central or special schools, and that in some localities this may even be desirable as a permanent and not merely as a temporary arrangement.

The Age of Compulsory School Attendance.

Two important and interrelated questions at once arise from a consideration of this scheme for educational regrading and reorganization: (1) Should the age of compulsory school attendance be raised to 15 + or even 16 years? (2) What has become of the day continuation schools contemplated by the Education Act of 1918? The former question receives prominent consideration in the report: the latter is apparently ignored, perhaps because the Committee regarded it as an established fact that those schools would never materialize. Yet it remains true that under the consolidating Act of 1921 (Sections 75 to 79) it is the duty of education authorities to establish and maintain part-time day continuation schools for young persons already in employment, who were to be compelled to attend them for a certain number of hours each week between the ages of 14 and 18 years. Such schools were established for a short time in London and in Birmingham, and other authorities were preparing to establish them when the obligations were suspended. It is a fact, therefore, that this system of further education has had no chance of proving its worth, and there are those who, like Mr. H. A. L. Fisher and Sir Robert Blair, would prefer its re-establishment to any compulsory raising of the school age for whole-time attendance. There can be little doubt, however, that the Committee is right in taking for granted that the great majority of employers, parents, and teachers alike would prefer for the adolescents with whom they have to deal one year's further whole-time attendance at school rather than the compulsory part-time attendance extended over several years. The Committee makes the definite recommendation that "legislation should be passed fixing the age of 15 years as that up to which attendance at school will become obligatory after the lapse of five years, that is to say, at the beginning of the school year 1932," though three of the members, while agreeing in principle, do not agree that the changes should, or can, be effected in so short a period of time.

Unfortunately the President of the Board of Education has issued with the report a letter in which he declares that he has no intention whatever of adopting this recommendation; and this though there is no prospect of the alternative method of day continuation schools maturing. He points out, truly enough, that at present local education authorities have it in their power, with his sanction, to raise the school age in their own areas, and that only two authorities have actually availed themselves of this; but he omits to mention that the one definite pronouncement on this matter by the representatives of education authorities in conference has been "that it is not desirable to raise the school-leaving age to 15 unless the change is made compulsory over the whole country." (Association of Education Committees, June, 1924.) The reason behind this is that progressive authorities are prevented from adopting a by-law raising the age in their area because this would immediately be a handicap to their children in the labour market as compared with the children in neighbouring areas who could enter employment in local industries at the earlier age.

It is, of course, certain that the extension of compulsory school life by even one year would involve most authorities in a good deal of increased expense for accommodation, equipment, and teaching staff, though perhaps not so much as is commonly stated. This is the reason why long notice should be given, as suggested, of any extended obligation; and no doubt this is the real reason why the Minister, Lord Eustace Percy, opposes it. It must be recognized, too, that there is a relatively small proportion of children in the public elementary schools of a mental calibre which does not justify a continuance of school education beyond the present compulsory age. This, together with urgent economic considerations in some instances, would make necessary the continuance of the proviso allowing education authorities to grant exemption from attendance in suitable cases. The trouble is that without legislative compulsion, and with the present discouraging temper and restrictive

policy of the Board of Education, there will be large numbers of boys and girls whose further education would be an individual and national advantage, who will never have any opportunity of receiving it.

An Interesting Parallel.

One big administrative difficulty would arise in the adoption of the proposals of the Consultative Committee. Though temporary troubles may be surmounted by friendly arrangements between local education authorities, the existence within county areas of separate authorities for elementary and for higher education would have to disappear. The Committee recognizes and states this, and makes proposals to meet the situation. It is of very great interest to find that these proposals are almost exactly parallel to those made by the British Medical Association with regard to public health administration where similar difficulties arise. These are set out in some detail in the Memorandum of Evidence to be given before the Royal Committee on Local Government (SUPPLEMENT, January 30th, 1926, pp. 36-38), particularly in paragraphs 10, 11, and 16. It was there suggested that complete powers of public health administration should be given to areas that reach a certain minimum standard of population, and that for complete unification of such administration a radical revision of areas would be desirable, instituting larger areas arranged with some natural urban centre as the focus of each. The Association's memorandum even says—

"It seems probable also that areas so constituted would be equally suitable for the best provision and administration of education in its various forms. In each case it is possible that a few larger administrative groups or provinces would be desirable, in the one case for university or higher technical institutions, and in the other for the establishment of teaching hospitals."

The corresponding recommendations of the Consultative Committee are:

34. We recommend that at as early a date as possible legislation should be introduced for the transference to authorities for higher education of all powers and duties of those authorities for elementary education only which are concerned with areas that do not reach a certain minimum standard of population, and for the vesting of full powers in respect of higher education in those authorities for elementary education only which are concerned with areas that attain such a minimum standard.

35. Finally, we recommend that consideration should be given to the question whether it may not be a desirable objective of educational development that provincial authorities for education should be instituted, in which the authorities for elementary education only and the authorities for higher education shall both be ultimately merged.

It would be an immense gain, not only to administrative simplicity, but to practical efficiency, if reforms on these lines were carried out; and the reinforcement of the British Medical Association's somewhat radical proposals by these important recommendations of the Consultative Committee to the Board of Education is to be welcomed.

France.

[FROM OUR PARIS CORRESPONDENT.]

The Laennec Celebrations.

How ought a great man to be honoured? The question was asked long ago by King Ahasuerus, as may be read in the Book of Esther. Our age seems singularly wanting in imagination, for the answer of the modern Haman may be summed up in one single word—speeches. We have just been celebrating the centenary of Laennec by a flood of speeches, of the magnitude of which the official list gives only a feeble notion. A foreign delegate said to me that he had had to digest not less than forty "ragouts" of eloquence in three days, and he had still to go to the final banquet! It was considered that the memory of the great French clinician should be celebrated officially by the city of Paris, the head of the State, the Academy of Medicine, the Faculty of Medicine, various hospital organizations, and, lastly, the Pasteur Institute. The foreign delegates had no easy task, and nobody will be surprised to be told that it was Sir StClair Thomson who discharged it with the greatest success; he managed to establish a record both for brevity and for humour. He charmed his audience by declaring that he was doing his best to undermine the work of Laennec by the use of the bronchoscope, doing with that tube inside what Laennec had done with his tube outside. The famous first stethoscope used by Laennec was exhibited in the hall of the Academy of Medicine, as were many other touching personal souvenirs. It is not without interest to observe that Laennec spelt his name in the way it is spelt here, and pronounced it in two syllables. Very discreetly did some of the foreign delegates teach a lesson to the successors of Laennec, but so successfully that the Academy, in its report of the centenary, at last suppressed the unfortunate diaeresis. Among the speeches special attention ought perhaps to be drawn to Professor Calmette's remarkable review of his own researches in the vaccination of the new-born against tuberculosis. Is not the truest homage we can pay to our great dead to carry on their work? And has not Calmette found a suitable answer to the question put by Ahasuerus?

Vaccination and Encephalitis.

At a recent meeting of the Société Médicale des Hôpitaux M. Comby related a case of acute encephalitis occurring in relation to vaccination. The patient was a girl, aged 18 months, and the symptoms appeared twelve days after vaccination. Lumbar puncture yielded a fluid containing only four lymphocytes per cubic millimetre, 0.20 of albumin, and 0.50 of sugar. After five days of coma, accompanied by contractures, the patient recovered. About fifty analogous cases have been collected in which the results were less fortunate. Dr. Netter has argued that the vaccine was not the direct agent in producing the encephalitis, which he attributes to a secondary infection. Nevertheless, vaccinia is a general disease, and the inoculation of cerebral substance from patients who had died of the condition produced a vaccinal pustule in the rabbit. After full consideration of the subject Dr. Netter advises, now that we are able to use very virulent vaccines, that vaccination should be very lightly performed by a simple single scarification.

Martyrs of Medicine.

We have all been profoundly moved by learning of the death, at the age of 24, of Henri Vadon, a hospital intern in Paris. He was a young man who had already attracted the attention of his teachers by his brilliant intellect and by his capacity as a worker. He died of experimental cancer, if one may so say, after an accidental prick made when conducting a *post-mortem* examination on a person who had died of cancer. As Professor J. L. Faure has pointed out, this is the first authentic observation of inoculation of cancer in man, and deserves to find its place in literature as proof positive of the parasitic nature of cancer. Henri Vadon was not under a delusion as to the nature of the disease with which he had been attacked; he watched its progress from day to day, and continued to perform his duties and to carry on his researches to the extreme limit of his strength. His tragic fight against death lasted for over two years.

The BRITISH MEDICAL JOURNAL has already announced the attempt upon the life of M. Froment, professor of neurology at Lyons; readers will be glad to know that he is making satisfactory progress. Professor Froment was treated where he fell, in his own ward, and his first act when he was again allowed to begin to do some work was to inquire into the condition of his would-be assassin, who was also his patient.

G. MONOD.

England and Wales.

THE MANCHESTER COMMITTEE ON CANCER.

THE lecture by Professor A. H. Burgess on cancer of the gastro-intestinal tract, published in these columns on January 1st, was one of a set the Manchester Committee on Cancer arranged to be given during this winter session as part of its campaign of propaganda. The lectures are addressed to the medical profession, but the propaganda will eventually be extended to the public by various methods. The Manchester Committee owes its origin to the medical officer of health, Dr. R. Veitch Clark, who some time after the issue by the Ministry of Health of its memorandum on

cancer to local authorities called together a provisional committee which, with its subcommittees, held preliminary discussions. In December, 1924, it was decided to reconstitute the committee in a more formal manner so as to bring it into official relation with the bodies in the city of Manchester concerned with the problem of cancer in all its aspects. A communication was therefore sent to the various hospitals in Manchester, to the University, and to the Public Health Committee of the city council, and to some other bodies, asking them to nominate representatives. The reconstitution was completed towards the end of February, 1925.

The Manchester Committee on Cancer now consists of officially appointed professional and lay representatives from the Public Health Committee of the city, from the University, from the Manchester Royal Infirmary, the Christie Hospital and other large hospitals in the city, and the Radium Institute. The object of the committee is to establish a properly correlated and single effort in Manchester for cancer research and for the control and treatment of all cancer cases. In November, 1925, a public appeal for £20,000 was launched to cover the expenses of an agreed plan of work for a period of three years; as a result £12,000 was received, and the limited scheme which the pecuniary resources made possible was put into operation in May, 1926. The chairman of the committee is Dr. Veitch Clark, and the deputy chairman Sir William Milligan, who is also chairman of the Executive Subcommittee; a Research Subcommittee has been formed, with Dr. E. M. Brockbank as chairman, and Professor R. B. Wild as deputy chairman. Dr. C. C. Twort has been appointed pathologist to this committee; he will work at the University, and will have the assistance of a full-time chemist, Dr. Ing, Ph.D.Oxon., who has recently been engaged in conducting special researches on oils. Dr. Twort, who began duty in May, had completed the equipment of his laboratory at the end of July, and was then able to begin research work. The main line of experimental research to be undertaken is in connexion with the origin and prevention of mule-spinner's cancer, a condition which, as our readers are aware, is closely associated with the Lancashire cotton industry. Another line of work the committee has instituted is a special statistical inquiry, for which purpose two full-time investigators have been appointed—Dr. Gretta Mary Wardle and Dr. John Murray—to conduct certain specified pieces of work; both have had special experience in this direction. They will be guided by the Ministry of Health's memorandum on the results of treatment in cases of cancer of the breast for the years 1910-13 and 1919-1921, an analysis of which was published on August 14th, 1926 (p. 318). A regular and complete system of record-keeping in respect of all cases of cancer in the city is being established, and specimens from cases of cancer in the hospitals and in private practice will be collected for submission to the histologist in the hope that conclusions may be reached as to the efficiency of the treatment afforded to the different types of cancerous growths. Further, each case of cancer occurring in the city, or treated there, will be subjected to continuous supervision, so that any recurrence of the growth or intermediate condition associated with the cancer may be recognized at the earliest possible date and the patient referred immediately to the private medical practitioner, with a view to suitable treatment being provided without delay. At present the two special investigation officers mentioned are engaged in reviewing the records of the Manchester Royal Infirmary and the Christie Hospital; in this way 687 cases have already been investigated. The cases are followed up in the homes and the results obtained by treatment noted.

Dr. C. Powell White has been appointed histologist (part-time) to examine specimens from each case of cancer coming to the knowledge of the committee. This work is considered essential to ensure correct diagnosis, which is, of course, an important part of adequate and successful treatment. By the correlation of this information with that obtained from the records and specimens and the type of treatment adopted in each case knowledge of the best form of treatment of the different types of cancer will, it is hoped, be improved.

A special propaganda subcommittee has been appointed to take action with a view to informing the public on the subject of cancer, its incidence and treatment. The Public Health Committee of the city has delegated its statutory powers in this respect to the Committee on Cancer, and the Manchester Insurance Committee has sent a subscription to the funds for this specific purpose. A course of post-graduate lectures on cancer, for medical practitioners, of which Mr. Burgess's lecture was one, forms part of the general scheme. The course, which is given in association with the University of Manchester and the Manchester Royal Infirmary, will consist of twelve lectures; the first was given by Dr. Veitch Clark on October 1st, 1926, and the last two, on x rays and radium in the diagnosis and treatment of cancer, will be delivered in February. Leaflets for distribution to the general public are in course of preparation, and the question of public lectures on cancer is at present under consideration.

HEALTH OF LONDON IN 1925.

On August 21st, 1926 (p. 347), we reviewed that portion of Volume III of the Annual Report of the London County Council for 1925 which contains the reports of the county medical officer and school medical officer. The following observations refer to the remainder of the volume, which was published more recently as a separate part.

Under its tuberculosis scheme the County Council is itself responsible for the residential treatment of patients. It is reconditioning its institution at Grove Park, Lee, for advanced cases of both sexes. The metropolitan boroughs, on the other hand, provide dispensary treatment. One borough council proposed to equip its dispensary for natural and artificial sunlight treatment. While it declined to approve a grant for such equipment at a borough tuberculosis dispensary, the County Council took steps to provide this elsewhere in 1925.

Under the powers possessed by the Council, 2,300 samples of milk consigned to London railway termini from thirty-three counties were bacteriologically examined; 107 samples, or 4.6 per cent., contained tubercle bacilli. The Council's veterinary inspector visited 98 farms concerned, and examined 2,864 cows. Of these cows 53, or 1.8 per cent., were tuberculous or otherwise unhealthy; 30 others had been slaughtered. The County Council is the local authority for administering the Tuberculosis Order, 1925—which came into force on September 1st, 1925—in the county outside the City of London. The Order aims at the destruction of every cow suffering from tuberculosis of the udder or giving tuberculous milk, and of every bovine animal showing definite signs of tuberculosis. As the Council, under its General Powers Act of 1904, already had authority to seize and slaughter any cow suspected to be suffering from tuberculosis of the udder, the Order will not greatly modify its practice in this field. The Milk and Dairies (Consolidation) Act, 1915, which also came into operation on September 1st, 1925, provides for the repeal within one year of so much of any local Act as covers the same ground. The powers of the County Council, therefore, under Part IV of the London County Council (General Powers) Act, 1907, with respect to the taking and examination of samples of milk, were due to expire as at August 31st, 1925. The bulk of the new Act, as affecting London, will be administered by the metropolitan borough councils.

In connexion with the smoke nuisance, it was arranged during the year with the railway companies running steam-driven trains in London that a series of joint observations should be made from the footplates of engines by the Council's coal officers and officials of the companies. The observations showed that, while some smoke proceeding from locomotives may be the result of negligence, there are occasions when its emission cannot be entirely avoided. In the matter of main drainage, experiment has established the fact that London sewage responds well to activated sludge treatment. The sludge is sunk in the Black Deep of the Thames estuary. Allegations had been made that waste material deposited here by the Council and others was causing shoaling of the Edinburgh Channel, one of the principal access-ways to London for large ships; but the Board of Trade, having heard evidence during the

year, saw no reason to discontinue the present uses of the Deep. As regards housing, the Council in 1925 completed 2,023 houses and flats with accommodation for 14,848 persons. Between 1894 and the close of 1925 the output of the Council has been 21,178 tenements and houses and three lodging-houses, sufficient for 140,000 people. The programme of work in hand comprises 15,000 additional houses, apart from rehousing under slum clearance schemes.

GIFT TO ST. THOMAS'S HOSPITAL.

A contribution of £104,000 has been made to the general funds of St. Thomas's Hospital by Mr. W. R. Morris, in response to an appeal by Mr. George Roberts, a governor and one of the almoners, who has himself contributed generously. In an official statement by the secretary of the hospital it is announced that, while an outlay of about £175,000 a year is required, the assured annual income of the hospital only reaches the figure of £73,000, the balance having to be provided by voluntary help. The patients and those responsible for them contribute about £44,000 each year, so that a considerable balance remains to be raised. Mr. Morris's donation will therefore render substantial assistance in placing the finances of the hospital on a more satisfactory basis, and the deep gratitude of the governors has been expressed to him for his munificent gift at a time when help is so much needed.

NORTHAMPTON GENERAL HOSPITAL.

The 183rd annual report of the Northampton General Hospital records that the year 1925 was memorable in marking the completion of fifty years' work on the part of the Northamptonshire Hospital Week Committee in obtaining funds for the hospital. During that period a sum of nearly £133,500 was raised. It is noteworthy that in the first ten years of its existence the amount raised was £7,187, while during the fifth decade the contributions exceeded £88,400. On December 1st, 1925, the Lord Lieutenant for the county, the Marquess of Exeter, supported by the mayor and corporation of the borough, formally declared open the Crockett wards, and the Bishop of Peterborough dedicated the building. In order to secure an adequate annual income to maintain the services of the hospital efficiently, the committee is endeavouring to obtain a larger number of annual subscribers of one guinea and upwards, since the majority of the in-patients are totally unable to contribute towards their maintenance in hospital. The number of in-patients treated during the twelve months from August 1st, 1925, to July 31st, 1926, was 3,533, an increase of 511 over the preceding year. The ordinary income, £33,879, was, however, less by £741. The expenditure amounted to £36,497.

Scotland.

INFECTIOUS DISEASES IN SCOTLAND.

As mentioned last week, the commencement of an outbreak of scarlet fever at Grangemouth has been traced to a dairymaid. The epidemic has now reached considerable proportions, 104 cases having occurred by January 7th. As many as 26 cases had been notified in one day. It has been found necessary to utilize the hospitals of various neighbouring local authorities for the patients. The schools remain closed, and the Public Health Committee of Grangemouth Town Council has recommended that no social or other functions should be held meanwhile. The epidemic appears still to be of a mild type, and a large proportion of the persons affected are adults, some being over 50 years of age. An epidemic of measles has manifested itself in Edinburgh, where last week 140 cases were notified. The cases are generally of a mild type, but the more severe are being removed to hospital, especially from houses which are poor or overcrowded. A severe epidemic of measles occurred at the corresponding season last year, and in the present epidemic many children who then escaped are now being attacked.

ROYAL INFIRMARY OF EDINBURGH.

At the annual general meeting of the Court of Contributors to the Royal Infirmary of Edinburgh it was reported that negotiations for the purchase of the site of George Watson's College, which is situated immediately to the west of the infirmary, have now been completed. As has already been announced, it is intended to use a portion of the college site for the erection of a new gynaecological and maternity hospital, and arrangements have been made to amalgamate the Royal Infirmary and the Royal Maternity and Simpson Memorial Hospital. The conditions of purchase, which were described some time ago, included a gift of £10,000 from Sir John Findlay to adjust the difference between the price which the infirmary was prepared to give and that which the Merchant Company was prepared to accept for the college and its site. It is understood that it will not be possible to adapt the existing building of the college for hospital purposes, and that it will therefore be demolished. The site will not be available for several years.

The report presented to the recent annual general meeting of the League of Subscribers to the Royal Infirmary showed that a total sum of £21,382 had been gathered from groups of employees in public works and business establishments, and from staffs of schools, banks, and Government offices. This was £26 more than in the previous year, and would, it was stated, have been much larger but for the depressed industrial conditions connected with the coal strike. Of the total, £15,862 was raised in Edinburgh, and the remainder from country districts. The number of workers who contributed was 1,406. The largest contribution was that of the London and North-Eastern Railway Company workers, who subscribed £2,273. Since the institution of the league eight years ago the contributions had increased almost fivefold, and altogether a total of £137,574 had been collected. These figures do not include contributions from miners in the Lothians and Fifeshire, who for many years have contributed systematically; in a normal working year a sum of £15,000 had been regularly subscribed from the coal and shale workers. Sheriff G. L. Crole, a member of the board of management, said that the managers of the Royal Infirmary were greatly encouraged by the practical interest that the workers themselves took in a hospital which was peculiarly their own. It was reckoned that the amount lost by the coal stoppage and industrial unrest had been £7,555. Expenditure had also gone up, and a serious item had been the outlay for 6,000 tons of coal used by the Infirmary during the year at an average price of 66s. a ton, but at a cost of 91s. 8d. a ton during the strike. Fortunately, it had been possible to make savings to the extent of £4,000 in various departments, and the total increase in expenditure had been thereby reduced to £2,149. It had been possible to show a credit balance on the whole year's accounts amounting to £14,600. The negotiations with the Edinburgh Merchant Company regarding the purchase of George Watson's College would, he believed, soon be completed. The college would have to be pulled down and the Infirmary would not get entry upon the site for at least five years, but the ground would ultimately be of great use for extensions. There would probably be a large new maternity and gynaecological hospital on the site, and ninety beds would be freed for the surgical department. There would also be space to build a new nurses' home, which was urgently required.

WAR PENSIONS HOSPITAL.

The Glasgow Town Council has agreed to extend for one year the tenancy of the ground at Bellahouston Park at present occupied by the War Pensions Hospital. An application had been made on behalf of the Government for a lease of five years from Whit-Sunday, 1927, and the agreement to continue the lease for one year is a compromise reached in consideration of the large amount of work which is still being done at this hospital. Sir George T. Beatson, chairman of Glasgow War Pensions Committee, headed a deputation to the town council, and urged upon this body the importance of continuing the hospital. He stated that 200 beds were still occupied, that 1,284 cases had been

treated during the past year, and that 491 operations had been performed in the hospital. He did not think that the civil hospitals would be able to undertake this work, and it would be a difficult and costly matter to find a new institution.

NURSING SERVICES IN SCOTLAND.

At the thirty-eighth annual meeting of the council of the Scottish Branch of the Queen Victoria's Jubilee Institute for Nurses, which was held in Glasgow last month, Mr. Ewan Macpherson, chairman of the Scottish Board of Health, moving the adoption of the report, entered a plea for greater co-ordination between the services undertaken by the nurses of this institute and the work of health visitors under local authorities. It had been found possible in some counties and in one or two burghs to make arrangements under which the district nurses carried out as part of their duties the work of health visitors. There were some 400 district nurses acting as part-time health visitors, although certain local authorities felt that the work could be done better by their own whole-time visitors, of whom there were between 400 and 500 in Scotland. The Board of Health had done everything in its power to encourage co-ordination. The Countess of Mar and Kellie, who was in the chair, stated that there were now 418 nursing associations, employing 802 nurses, affiliated to the institute. These nurses had undertaken nearly 100,000 cases during the past year, upon whom 1,750,000 visits had been paid. This was an increase of 162,000 visits. In addition 300,000 visits had been paid in connexion with public health work, including child welfare. In response to the appeal in connexion with a national memorial to Queen Alexandra, approximately £75,000 had now been received out of the £150,000 aimed at. The money collected would all be spent in Scotland, where some 600 additional district nurses were required. When this was achieved every corner in Scotland would have the attention of skilled nurses.

Correspondence.

PHARYNGEAL DIVERTICULA.

SIR,—In your issue of last week Dr. William Hill questions my opinion that the tumour in the case published by Godlee and Bucknall (*Lancet*, 1901) under the title of "*A pharyngeal pouch of large size removed by operation*," was a cervical air sac originating from the laryngeal ventricle, and not a pharyngeal diverticulum.

Henle (Breslau), in 1904, recorded a similar case of an elderly man, who for ten years had suffered from an "aerial tumour" on the right side of the neck, which had gradually developed. It extended upwards, under, and beyond the angle of the jaw, and downwards close to the clavicle. Its connexion with the larynx was shown to exist by a canal through the thyro-hyoid membrane.

These cases, of which a considerable number have been recorded, represent reversions to the condition present in the ape, and it was to these air sacs that Virchow gave the name of "ventricular laryngoceles."

May I say at once that my opinion was not formed in a casual way, nor on the bare facts, as suggested by Dr. Hill, that the sac contained air, and that its neck was traced up to the thyro-hyoid membrane, though this may have appeared so since I was unable to enter into details owing to the short time at my disposal during the discussion on his paper at the British Medical Association meeting at Nottingham.

If Dr William Hill will refresh his memory by referring to my monograph "The so-called prolapse of the laryngeal ventricle, and eversion of the sacculus," a paper read at the third summer meeting of the Section of Laryngology, Royal Society of Medicine, in June, 1921, and published *in extenso* in the *Journal of Laryngology and Otology* in June, 1922, he will find that I touched on the subject of laryngoceles, and under this heading I referred, in considerable detail, to the case under dispute. Before re-grouping this case under that heading very careful consideration was given to all the evidence obtainable, as also to other cases recorded. The skilled advice and support of the late Professor S. G. Shattock—the greatest pathologist since the days of Virchow—was also sought and obtained. Everyone knows with what meticulous care he always investigated any problem or case submitted to him before he expressed any final opinion. It appears to me very unlikely that his opinion was wrong.

In any case I am afraid that Dr. William Hill has not yet convinced me that I have erred in so regrouping this case, since all the evidence he has brought forward in favour of the air sac being a pharyngocele, with perhaps the exception of the microscopical report, equally favour the assumption, and in my opinion more so, that the tumour was a laryngocele. Rare as laryngeal sacs are in man, I believe I am correct in stating that cervical air sacs of pharyngeal origin are rarer still

In the case recorded by Godlee and Bucknall an indirect laryngoscopic examination showed no abnormality in the larynx, nor would one expect to find any abnormality in the case of either a pharyngocele or a laryngocele. If, however, this case had occurred at the present day, and not during the early days of endoscopy, and an investigation had been carried out by the direct method of examination in conjunction with the passage of a probe through the thyro-hyoid membrane, it is possible that the probe would have been detected held up in the ventricle of the larynx. It appears to me to be much more likely that the deglutitory symptoms which Dr. William Hill refers to were caused by the pressure of the tense air sac on the pharynx, rather than "tumefaction due to inflation of the tissues of the faucial pillar and adjacent side of the pharynx." Has this latter condition ever been observed in connexion with a pharyngeal air sac? I doubt it.

The rapid increase in size of the air sac in the short space of six months from a tumour described as looking, when first seen, like an enlarged thyroid lobe, to an enormous sac extending to the middle line of the neck, the posterior border of the sterno-mastoid muscle, up to the angle of the jaw, and down to the clavicle, is surely strong evidence of its laryngeal origin and connexion. Such rapid increase in size could hardly occur by inflation through a small internal opening in the region of the posterior faucial pillar, especially if this opening—as suggested by Dr. William Hill—was at the same time obstructed by tumefaction.

I agree with Dr. William Hill that Godlee and Bucknall were undoubtedly aware of the existence of cervical air sacs originating from the ventricle of the larynx, but this does not exclude the possibility that, impressed with the idea that the tumour was connected with the pharynx, they did not give sufficient thought or consideration to the possibility of its origin from the laryngeal ventricle. Throughout the notes of their case there is not even a suggestion made by them of this possibility.

So far as the microscopical evidence is concerned it would appear quite possible that, under the impression that the air sac communicated with the pharynx, the glands were taken to be muco-salivary instead of mucous glands, with which they might have been readily confused. As is well known, the sacculus ventriculi laryngis contains a large number of mucous glands.

Since the publication of Dr. William Hill's letter I have discussed the case with Mr. Lawrence, at the Royal College of Surgeons, and he is also inclined to agree with Professor Shattock. He considered that it would be most interesting to have the microscopical section re-examined with a view to clearing up any discrepancy in the gland structure. I have therefore communicated with University College Hospital in the hope that the slide can be traced. If it is traced and definite muco-salivary glands are found in the section then, and only then, will I believe that Dr. William Hill is right, for the presence of these glands would distinctly suggest, if not confirm, the pharyngeal origin of this air sac. I shall then consider that he has proved his case. On the other hand, if they are found to be mucous glands, I have no doubt that Dr. William Hill will do the same.

I wish to take this opportunity of correcting an error in Dr. William Hill's reply to the discussion on his paper at the Nottingham Meeting (see BRITISH MEDICAL JOURNAL,

1926, ii, pp. 1171-72). He says "the suggestion of Keith, mentioned by Dr. Irwin Moore, that 'pneumatocele' was a preferable term to 'aerocele' he was prepared to accept, but he could not agree with the suggestion of Dr. Moore, following Sir Arthur Keith, that the pneumatocele recorded by Godlee and Bucknall was a laryngocele." These opinions were not expressed by Sir Arthur Keith but by Professor Shattock.—I am, etc.,

London, W.1, Jan. 11th. IRWIN MOORE.

MEDICAL POSTS IN INDIA.

SIR,—From time to time advertisements appear in the JOURNAL inviting applications for medical posts in India. Intending applicants for any such would be well advised carefully to consider the terms offered. In the JOURNAL dated November 27th, 1926, under the heading "Lucknow University," applications are invited for the post of professor of anatomy. The terms offered are Rs.1,450 a month; passage money is not mentioned, but it is definitely laid down that private practice is not allowed. From this salary 8 per cent. is to be deducted to go to the university provident fund, so that the salary is in reality Rs.1,334. There are two more deductions, neither of which is mentioned; these are income tax at 9 pies per rupee, which amounts to Rs.62½ a month, and profession tax, which is not under Rs.10 a month. The net salary is thus Rs.1,261 and 12 annas, say Rs.1,260. It is improbable that any house under Rs.150 a month will be available. A motor car is absolutely essential; its cost to keep and run, exclusive of depreciation, will be about Rs.200 a month after purchase. Clubs will come to Rs.100 at the very minimum, and servants not less than Rs.200 monthly. The total is Rs.650; this leaves only Rs.610 a month for the purchase of food, clothes, and the hire or purchase of furniture. The result of all these deductions and expenses will be that possibly, after exercising great and uncomfortable economy, the amount left over each month will come to Rs.300, which equals just over £20.

If by chance the applicant is married there would be the necessity of keeping his family in the hills for at least four months in the year, because Lucknow is impossible in the hot weather. On the pay offered this could not be done. The pay is not a living wage, as any "successful" applicant would find to his sorrow.

On a par with the above were the recently advertised vacancies for an entomologist and one or two similar scientific posts in Calcutta—a town where the expenses would come to at least three times those of Lucknow.

As it is quite impossible for anyone who has never been in the East to have any conception of what he will be up against, it is only fair that the examples given should be made public.—I am, etc.,

December 16th, 1926. OBSERVER.

THE SMALL HOSPITAL.

SIR,—It would warm many of our hearts to see in your mighty JOURNAL a plea for the really small and efficient hospital. The big hospital authorities who have now command of the situation seem determined to despise and make difficult the position of these hospitals, and yet I believe that from the point of view of maintaining the efficiency of the medical profession generally and getting improved treatment of the sick, the small local hospital has a very strong case.

There are two movements on foot to-day which will tell directly against these hospitals.

1. The training of nurses. None of this training in such a hospital counts now, though six months' training under proper conditions would be very valuable. The consequence is that the obtaining of probationers to start in a small hospital is now very difficult.

2. The new pension scheme. This scheme, in my opinion, is going to be of very little use to nurses. It is a scheme conceived in the interest of whole-time officials—a good thing, no doubt, but not understood as the main object. The effect on the small hospitals will be to add considerably to the cost of administration, as they will have to join in, but the premiums they will have to pay will be paid simply in order to exist—they will not be of any benefit to them. The scheme will in the end simply mean an addition to the salaries of the full-time official, and perhaps to a few of the best-paid nurses in the large hospitals.

It is astonishing how difficult it is to get the ear of administrators; they love the easy and the big thing, but the small local hospital is a very human institution which is worth preserving.—I am, etc.,

Letchworth, Jan. 2nd. NORMAN MACFADYEN.

DIET FOR DIABETICS.

SIR,—I read with interest the reviews of *The Diabetic Life* and *Self-Care for the Diabetic* in your issue of January 1st (p. 18), but was surprised to find the two following remarks stated as if they were proven and generally accepted, at least outside Great Britain—namely: "... the severest cases may, with the help of insulin, take considerable quantities of white or brown bread with advantage to their nutrition"; and "it begins to be time that 'high fat' diets for diabetics gave place to ordinary diets with adequate insulin." These statements by your reviewer would give the impression that the above method of treatment has been widely accepted as being the best. It has certainly been advocated by a few workers in France and America, but has been rejected as unsuitable by the great majority of workers on the Continent, America, and Great Britain. In common with many others, I tried the high carbohydrate method in the early days of insulin, and found it unsuitable in all except the mildest cases for the following reasons: (1) A marked hyperglycaemia resulted except during a few hours of the day when insulin action was at its maximum; (2) the liability to unpleasant hypoglycaemic reactions was frequent if enough insulin was given to bring the blood sugar anywhere near normal; (3) the increased expense of and local discomfort from the large and more frequent doses of insulin were a considerable handicap.

My reason for writing this note is to correct the impression that high carbohydrate diets and large doses of insulin have been proved and generally accepted as the best form of treatment. On the contrary, the "very English attitude" of giving moderate amounts of carbohydrate, total calories, and insulin is widely accepted in all countries as the most practical and satisfactory.—I am, etc.,

G. A. HARRISON.

Department of Chemical Pathology, St. Bartholomew's Hospital, Jan. 8th.

MONGOLIAN DEFECTIVES.

SIR,—In your issue of December 4th, 1926 (p. 1080), under the above heading, Dr. Crookshank states that "the homologies between the Mongolian defective, the racial Mongol, and the orang are indisputable." He further mentions that all good Darwinians accept as axiomatic the assumption that homologies prove descent.

Now, is there not another factor in this question which is even of more importance—namely, the order of development of the principal organs? The comparison of man with the anthropomorphous apes brings to light a very important fact—namely, the existence of an inverse order in the development of the principal organs. In man the sphenoidal angle of Virchow diminishes from the time of birth, whilst in the ape it is always increasing. A similar contrast has been remarked by Gratiolet upon the brain itself.

In the ape the temporal sphenoidal convolutions, which form the middle lobe, make their appearance and are completed before the anterior convolutions which form the frontal lobe. In man, on the contrary, the frontal convolutions are the first to appear, and those of the middle lobe are found later.

It is evident that an organized being cannot be a descendant of another whose development is in an inverse order to its own. Consequently, man cannot be considered as the descendant of any simian type.—I am, etc.,

REGINALD COCK, M.R.C.S.Eng.

London, E.2, Dec. 31st, 1926.

THE AGE INCIDENCE OF RHEUMATISM.

SIR,—The most recent observations upon the age incidence of rheumatism agree in stressing the early age in childhood at which symptoms appear, and the interesting letter of Dr. K. Simpson in the JOURNAL for January 1st (p. 42) lends further support to this conclusion.

One of the most urgent problems in medicine is that of heart disease in childhood. Modern statistics unite to show the extreme frequency with which carditis is associated with the initial onset of rheumatism. Thus, out of 100 fatal cases of rheumatism in children under 12, Poynton found *post-mortem* evidences of active heart disease in no less than 86. More recently, Mackie has investigated in New York 366 cases of rheumatic fever in children. Of these, 78.1 per cent. of children between 5 and 10 manifested signs of heart disease during the first attack, whilst between 10 and 15 the percentage rose to 79.2. This being so, our primary aim should be to prevent the first attack. Acute rheumatism being so markedly hereditary and familial in distribution, we should concentrate upon children coming of such parentage in the endeavour to raise their resistance to the rheumatic virus, of whatever nature this be; for to such procedure only can the term "prevention" be truly applied. In this regard I agree with Llewellyn that most of what has been written on the prevention of rheumatic heart disease deals neither with the prevention of rheumatism nor of heart disease, but with their arrest or control when either or both are actually present.

In order, then, effectively to cope with the problem of the potentially rheumatic child it is essential that the signs which point to a possible onset should be detected at the earliest opportunity. To wait for the development of definite stigmata of the disease is to lose much valuable time. It is probable that rheumatism resembles tuberculosis in that the seeds of disease become sown in soil which is rendered suitable for their germination by faulty hygiene and other environmental factors from infancy onwards.

Between the ages of 2 and 5 there is a gap in continuity of medical supervision. This gap should be bridged, and to this end a "children's cardiac clinic" was instituted last year under my direction at the St. Marylebone General Dispensary to deal particularly with the type of child generally regarded as "rheumatic." Parents are encouraged to bring their children for examination whenever possible prior to the manifestation of rheumatic symptoms, and for treatment where the disease already exists. The preventive aspect is held to be the prime objective. By timely advice to parents, together with the institution of appropriate therapy to raise the *vis resistentiae* of the child against unfavourable climatic and other influences, it is believed that weakly children of rheumatic stock may themselves be aided to work out their own immunity.—I am, etc.,

London, W.1, Jan. 6th. J. F. HALLS DALLY.

ANTIGENS FOR THERAPEUTIC IMMUNIZATION.

SIR,—Messrs. Parke, Davis and Co. have made the mistake of taking my strictures in a personal sense. This is in no way correct. It was the *system* whereby uncontrolled vaccine products can be put on the market that I was indicting and not this particular firm. As a matter of fact, I have a very great respect for Messrs. Parke, Davis and Co.'s work.—I am, etc.,

Eastbourne, Jan. 9th. GEOFFREY SHERA.

The Services.

DEATHS IN THE SERVICES.

MAJOR WILFRID COWAN NIMMO, R.A.M.C. (ret.), died in Queen Mary's Hospital at Roehampton on January 2nd, aged 47. He was born on August 8th, 1879, was educated at Westminster Hospital, where he gained an entrance scholarship, and took the M.R.C.S. and L.R.C.P.Lond. in 1903. After serving as house-surgeon and as resident obstetrical assistant at Westminster Hospital, he entered the R.A.M.C. as lieutenant in 1905, and attained the rank of major in 1915; he was placed on temporary half-pay on account of ill health in 1925, and retired three months later (July 31st). He served as a surgical dresser in the Imperial Yeomanry Field Hospital in South Africa in 1900-1, and also throughout the recent great war, being mentioned in dispatches in the *London Gazette* of October 19th, 1914.

Obituary.

C. EDWARD WALLIS, M.R.C.S., L.R.C.P., L.D.S.,

Senior Dental Surgeon, King's College Hospital.

We much regret to announce that Mr. Edward Wallis, senior dental surgeon and lecturer on dental surgery at King's College Hospital, died in that hospital from bronchopneumonia on the night of January 4th. His name will long be associated with the dental clinics of the London County Council, to which he devoted a large part of his time and energy from their inception twenty-five years ago. He will be remembered also as one who in his life and work exemplified the fact that dentistry is a part of medicine.

Charles Edward Wallis, eldest son of the late Augustus Wallis, was born in London in 1868. From Bedford Grammar School he went to King's College, London, and worked as a student in the old hospital building behind the Law Courts while Lister was still in charge of surgical wards there. Having obtained the M.R.C.S. and L.R.C.P. diplomas in 1894, he went for the first of many voyages, as ship surgeon, to the Arctic regions and the tropics, Canada, the Cape, and the United States. After a further period of study in Paris and at the Royal Dental Hospital, he took the L.D.S. in 1897, and decided to start practice in London as a dental surgeon. Election to the visiting staff of King's College Hospital and of the Victoria Hospital for Children soon followed, and at this early stage in his career he became impressed with the possibilities of oral hygiene in the young. A part-time post in the Public Health Department of the London County Council gave him the opportunity to make investigations, and in 1907 he presented a report to the International Congress of School Hygiene on the condition of children's teeth in the elementary schools of the metropolis. In 1911 he was appointed to supervise the school dental clinics set up by the London County Council, and as a result of this experience he wrote an account of the foundation and management of such clinics for the guidance of others. He published also several papers on the care of the teeth in public elementary schools, and contributed the article on dental care to Newsholme's *School Hygiene*.

These activities by no means used up Wallis's capacity for work. He was a member of the representative board of the British Dental Association, and for some years chairman of its editorial committee; he served on the International Committee for Oral Hygiene, and was consulting dental surgeon to a number of public institutions and charities. For some years he lectured on surgery to the nursing staff of the Victoria Hospital for Children, and in many other ways maintained contact with medicine as a whole. Thus he was a frequent attendant at medical meetings, and had been vice-president of the Chelsea Clinical Society and of the Medical Officers of Schools Association. As a Fellow of the Royal Society of Medicine he took an active part in the work of the Odontological Section, and served on the council of the History of Medicine Section. Indeed, historical subjects always made a strong appeal to him; he was an enthusiastic archaeologist, and had a wide knowledge of old London and old Paris. At the Annual Meeting of the British Medical Association in Birmingham in 1911 he was vice-president of the Section of Odontology. A few years later he was elected to the Metropolitan Counties Branch Council, and from 1916 onwards he held office in the Marylebone Division, first as honorary secretary, then as vice-chairman, later as chairman, and throughout as representative of the Division in the Representative Body. Since 1920 he had been a member of the Journal Committee, and his friendly interest in the work of the JOURNAL could always be counted upon.

Dr. E. GRAHAM LITTLE, M.P., in a tribute to Mr. Wallis's memory, speaks of his wide range of information and refers in particular to a lecture on the art of war in Rome which Mr. Wallis founded on the fine quarto volume *De re militari* published in the year of Shakespeare's death

by Justus Lepsius. This lecture, which had been delivered originally to the Casual Club in London, Mr. Wallis afterwards gave at many places along the Western front in France. Dr. Little also refers to Mr. Wallis's paper on ancient dentistry given to the Royal Society of Medicine, and mentions that he was engaged at the time of his death in preparing an essay on Harley Street, for which he had been collecting material for many years. Dr. Little concludes his tributes as follows: In his professional work Wallis enjoyed the respect and confidence of the whole profession. He never spared himself, was singularly indifferent to pecuniary rewards, and was always ready to do a kindness. His courage in facing persistent ill health was such that even his most intimate friends were often unaware that he was ill; pain never dimmed the brightness of one of the gayest and most cheerful spirits that our generation has produced.

Mr. BISHOP HARMAN writes: A record of long and consistent work such as that of C. E. Wallis is impressive. But to those who knew Wallis intimately the impress of his personality was still greater. He was a man of even temper, genial, kindly, with ever a smile of greeting. Even when his health and vitality was at the lowest, when illness confined him to the wards of his hospital, King's, he would still present a smile to his visitor. To meet him at the meetings of the Association was a pleasure. His gift did not lie in speech or debate, though he could hold his own when moved to the effort; but he had a flair for general converse, such as marks the beginnings and endings of meetings; then his interest was obvious, and kindly suggestions came freely, and not infrequently bore good fruit. The Marylebone Division will miss him, so also will the Metropolitan Counties Branch Council, and not a few members of the Representative Body. One of his chief hobbies lay in the discovery of old social interests. A walk with him about the old streets behind the former Association House and round Covent Garden was a delight and a source of unfailing illumination.

SIR HARRY EDWARD DIXEY, D.L., M.D.,

Chairman, King Edward VII Memorial Sanatorium, Worcestershire.

WE regret to announce the sudden death, on January 6th, of Sir Harry Dixey, at his residence in Malvern, in his seventy-fourth year.

Harry Edward Dixey, who was born in 1853, was the son of the late Charles Anderson Dixey of Highgate. He was educated at Highgate School and the University of Aberdeen, where he graduated M.B., C.M. in 1878, proceeding M.D. in 1881. He held the post of house-surgeon to the Preston Royal Infirmary, after which he began to practise at Droitwich and Malvern, where his professional ability and keen interest in public life won him a very distinguished position. For administrative work he showed remarkable talent. He held the chairmanship of the St. John Brine Bath Hospital in Droitwich, and of the King Edward VII Memorial Sanatorium for Worcestershire. He was also chairman of the Worcester City and County Nursing Association. He found time to play an active part in local government and was an alderman of the Worcestershire County Council; he was a deputy lieutenant for the county, and a justice of the peace, and in 1921 he was appointed sheriff. In previous years he had been an active supporter of the Volunteer movement, holding a commission as surgeon captain in the 8th Worcestershire Volunteer Regiment. He had long been a member of the Worcester Division of the British Medical Association, and served as its representative from 1906 to 1910. He was president of the Worcester and Hereford Branch in 1899, and a member of the Parliamentary Bills Committee in 1900-1.

His kindness and tact, together with his skill in various forms of organizing and administrative work, was widely recognized and highly appreciated. In recognition of his distinguished public services the honour of knighthood was conferred upon him last year. He married Ellen Mary, daughter of Mr. J. Dyson Perrins of Malvern.

Dr. JAMES JARDINE, who died at Richmond, Surrey, on December 7th, 1926, in his eighty-first year, was educated at Edinburgh University and at the Royal College of Surgeons, Edinburgh, where he graduated M.B., C.M. in 1871. In the same year he was appointed parochial medical officer of Middlebie in Dumfriesshire, and in 1874 became surgeon to the British Consulate in Kiu Kiang, China, where he remained till 1880. From 1882 until a few years before his death he practised in Richmond and helped to found the Richmond Nursing Guild. Always keenly interested in gynaecology, Dr. Jardine was elected, in 1904, a member of the council of the British Gynaecological Society. For many years he was a Fellow of the Royal Society of Medicine, and a member of the British Medical Association. His conscientious keenness in clinical investigation won him the respect and affection of his patients, by whom he will be greatly missed. He leaves a widow, three sons, one of whom is in the medical profession, and two daughters.

Dr. WILLIAM MILNE ANDERSON, who died on December 29th, 1926, aged 68, was the third son of the late Alexander Anderson, Esq., of Skene, Aberdeenshire, and younger brother of Lieut.-Colonel James Anderson, R.A.M.C.(ret.). He was educated at Aberdeen Grammar School and University, where he graduated M.B., C.M. in 1881. He held the posts of house-physician and house-surgeon at the West London Hospital. In 1886 he commenced private practice at Dulwich, where he held several local medical appointments. He was for many years a member of the British Medical Association and of the West London Medico-Chirurgical Society, and contributed several papers to medical journals. Dr. Milne Anderson's personality endeared him to his many patients and friends. He was very hard-working and led a strenuous professional life. Overwork during the war caused his health to fail, and in 1920 he retired to live at Alford in Aberdeenshire, where he hoped to regain health. He improved for a time, but became eventually a confirmed invalid. He leaves a widow, two daughters and a son.

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

THE following candidates have been approved at the examination indicated:

DIPLOMA IN MEDICAL RADIOLOGY AND ELECTROLOGY (*Part I.*—
P. Bauwens, E. E. Carter, G. Chambers, J. C. Coutts, A. M Craib,
R. M [illegible] F. Cummins, H. Fisher, N. Fram,
D. B one, W. H. Hudson, J. J. Luddy,
A. T. " ansky, R. D. Saigol, W. H. Steele,
E. J. Yeo.

UNIVERSITY OF LONDON.

UNIVERSITY COLLEGE.

THE University College Committee, with the authority of the Senate, has accepted a gift of £500 from Lady Godlee for the foundation of a Rickman Godlee lectureship, in memory of the late Sir Rickman Godlee, Bt., F.R.C.S., a Fellow of the College.

The following distinctions and awards have been reported to the committee: The Professor of Anatomy, Dr. G. Elliot Smith, to be Huxley Lecturer at the University of Birmingham for the current session; the Royal Medal of the Royal Society has been awarded to Professor A. V. Hill; the Symington Prize for Anatomy of the Queen's University, Belfast, has, on the advice of the council of the Anatomical Society of Great Britain and Ireland, been awarded to Dr. H. Woollard.

The following candidates have been approved at the examinations indicated:

M.D. (*Branch I,* [illegible] B. Cullinan,
F. Davies, V. Fe J. Kohlyar,
W. A. Robb, N. *ychological*
Medicine): Em *nd Diseases*
of Women): H. Stephens.
(*Branch V, State Medicine*): D. Davidson.
M.S.—(*Branch I, Surgery*).—G. F. Gibberd, W. R. Spurrell.

UNIVERSITY OF LIVERPOOL.

THE following candidates have been approved at the examination indicated:

D.P.H.—(*New Regulations*): J. S. Bradshaw, Helen Standring, S. A. Talib, O. F. Thomas, T. S. Townsend. (*Old Regulations*): Olive L. Jones, Eleanor Lancelot, Vera M. Macfarlane.

Medical News.

COLONEL SIR JOHN LYNN-THOMAS, K.B.E., C.B., C.M.G., F.R.C.S., has been appointed a Deputy-Lieutenant for the County of Cardigan.

THE sixth international congress of the history of medicine will be held at Leyden and Amsterdam from July 18th to 23rd, 1927, under the patronage of the Prince of the Netherlands, with Dr. J. G. De Lint as president. Those intending to join the congress should send their names to the secretary, Dr. J. E. Kroon, Stationsweg 25, Leyden, before April 1st. The subscription, which is 10 florins for members of the International Society of the History of Medicine, 5 florins for their relatives and medical students, and 12.50 florins for others, should be sent to the treasurer, Dr. F. W. T. Hunger, Van Eeghenstraat 52, Amsterdam.

AT a meeting of the Society of Medical Officers of Health to be held at 1, Upper Montague Street, Russell Square, W.C., on Friday, January 21st, at 5 p.m., there will be a discussion on the education of the public in regard to modern methods of disease prevention (premunization, immunization, etc.). Different points of view will be presented by the following speakers: The government department, Dr. S. Monckton Copeman, F.R.S.; the medical officer of health, Dr. C. W. Hutt; the press, Lord Riddell; the public, Dean Inge; the laboratory director, Professor J. C. G. Ledingham, F.R.S.

THE Post-Graduate Hostel's programme for next week includes an address on Tuesday by Dr. J. M. T. Finney of Baltimore on the surgery of gastric and duodenal ulcer. On Wednesday Mr. Foster Moore will lecture on acute glaucoma, and on Thursday Professor A. W. Sheen will discuss the early recognition of surgical emergencies. The meetings are held at the Imperial Hotel, Russell Square, W.C., at 9 p.m., and dinner (5s.) is served at 8. All medical practitioners are welcome.

THE Fellowship of Medicine has arranged daily clinical demonstrations in ophthalmology at the Royal Eye Hospital, Southwark, during the week beginning January 17th, at 3 p.m., and on January 19th Mr. D. C. L. Fitzwilliams will give a special demonstration in the wards at St. Mary's Hospital at 2 p.m. These demonstrations are open to members of the medical profession without fee. At the London Lock Hospital there will be a comprehensive course in venereal diseases from January 31st to February 27th comprising clinical instruction in the out-patient department and formal lectures. A four weeks' course, beginning on January 31st, at the St. John's Hospital for Diseases of the Skin, will consist of instruction in the out-patient department and bi-weekly lectures; classes in pathology can be arranged also. From February 7th to 19th an all-day course in diseases of children will be held jointly by the Paddington Green Children's Hospital and the Victoria Hospital. The Royal Northern Hospital will hold a one-week course for general practitioners, starting February 21st, for which no fee will be charged. The Fellowship can provide for post-graduates practical courses in anaesthetics and in obstetrics, and also arrange for clinical assistantships at the Samaritan Hospital for Women. Copies of all syllabuses and the programme of the general course of work can be obtained from the Secretary of the Fellowship of Medicine, 1, Wimpole Street, W.1.

THE Sims Woodhead series of ten educational health lectures arranged by the People's League of Health will be given in the lecture room of the Medical Society of London, 11, Chandos Street, Cavendish Square, W., on Monday, January 31st, and the following Mondays at 6 p.m. Information regarding the lectures may be had from Miss Olga Nethersole, R.R.C., 12, Stratford Place, W.1.

A NEW course of lectures at the Hospital for Sick Children, Great Ormond Street, W.C.1, was commenced on Thursday last, when Dr. Hugh Thursfield dealt with the treatment of bronchitis and bronchopneumonia. The lectures will be continued on Thursdays at 4 p.m., ending on April 7th, when Dr. Pearson will discuss vomiting in infancy.

THE spring session of the James Mackenzie Institute for Clinical Research, St. Andrews, commences on Tuesday, January 18th, at 4 p.m., when Dr. Maitland Ramsay will deliver a lecture on so-called acute rheumatic iritis. On Tuesday, January 25th, at the same hour, Professor Herring will discuss the physiological aspects of blood pressure. Lectures will be continued on succeeding Tuesdays, terminating on March 29th, when Dr. Fyfe will speak on laboratory observations in acidosis.

THE annual general meeting of the Society of Superintendents of Tuberculosis Institutions will be held at 122, Harley Street, on Monday, January 17th, at 3 p.m. A discussion on the observation case will be opened by Dr. F. R. G. Heaf and Dr. N. Bardswell, and short papers will be read by other members.

As already announced, a conference has been called by the Labour party to consider the present position of nurses. It will be held at the Caxton Hall, Westminster, on January 28th, and will be opened by Mr. Ramsay MacDonald. At the morning session, when Mr. Frederick Roberts, formerly Minister of Pensions, will preside, a discussion on the Sick Nursing Services will be opened by Dr. Somerville Hastings. In the afternoon, when Mrs. Sidney Webb will be in the chair, discussions will take place on nurses employed by the State, to be opened by Mr. George Gibson, General Secretary of the National Asylum Workers' Union, and on public health and preventive services, by Miss A. Sayle, of the Women Sanitary Inspectors' and Health Visitors' Association. Discussion will range round the draft report issued by the Standing Joint Committee of Women's Organizations and the Labour party's Advisory Committee on Public Health, but it is not proposed to adopt specific resolutions or take amendments. The object of the conference is to afford an opportunity for an interchange of opinion, and all suggestions made will receive consideration before the official report is issued. Among the bodies which will send delegates to the conference are the General Nursing Council, the Royal British Nurses' Association, the College of Nursing and Queen Victoria's Jubilee Institute for Nurses, the British Red Cross Society and the Order of St. John of Jerusalem, the National Association of Insurance Committees, and several hospitals in London and the provinces. The British Medical Association has nominated Sir Jenner Verrall, Mr. H. S. Souttar, F.R.C.S., Dr. G. F. Buchan, Dr. Alfred Cox, and Dr. G. C. Anderson to represent it.

THE Gifford Edmonds prize in ophthalmology of £100 is offered for the best essay on the causation and differential diagnosis of proptosis. The award is made every two years, and preference will be given to original work based on any branch of the subject. A notification appears in our advertisement columns, and further particulars may be obtained from the Secretary, Royal London Ophthalmic Hospital, City Road, E.C.

DR. GEORGE CRAN, M.B.E., V.D., was entertained on January 6th by his friends and patients at a complimentary dinner in the Town Hall, Banchory, in recognition of fifty years' zealous professional services in the district, and handsome gifts were presented to him and Mrs. Cran.

DR. A. T. BRAND having resigned the post of medical officer to the Driffield Workhouse, which he has held for forty-three years, the guardians have placed on record their great appreciation of his services.

DR. W. H. ANDREWS, a report of whose recent paper on trypanosomiasis in man and animals appears in our present issue, has been appointed to the post of Director of Veterinary Research in the Ministry of Agriculture's laboratory at Weybridge, in succession to the late Sir Stewart Stockman.

DR. J. C. BRIDGE, one of the medical inspectors of the Factory Department of the Home Office, has been appointed to succeed Sir Thomas Legge as Senior Medical Inspector of Factories.

THE American Society for the Control of Cancer announces that two prizes, each of 50,000 dollars, have been offered by Mr. W. L. Saunders of New York, one for the discovery of the nature and prevention of cancer, and the second for the invention of an absolute cure; the offer is open for three years to medical practitioners or laymen and may be renewable. The terms of the awards will be announced later, and further information may be obtained from Dr. C. N. B. Camac, 76, East 56th Street, New York.

MESSRS. J. AND A. CHURCHILL announce for early publication new editions of Professor A. J. Clark's *Applied Pharmacology*, and of Jameson and Marchant's *Synopsis of Hygiene*.

SINCE September there has been a great increase in scarlet fever in Berlin, the number of cases being almost double what it was in the corresponding period in the previous year, and several schools have had to be closed.

A REPORT on the results of convalescent care of the neuropsychiatric patient, made under the auspices of the Advisory Committee on Convalescence of the Hospital Information Bureau of the United Hospital Fund of New York, has been received. The medical direction of this study was in the hands of Dr. Irving Pardee and Dr. Thomas K. Davis, acting on behalf of the committee on neurological convalescence of the Public Health Committee of the New York Academy of Medicine. Its purpose was to evaluate the customary procedures for the treatment of such cases in convalescent homes, and the hope is expressed that the interpretation of the findings made may lead to better classification and to improvement in the present methods. Among the findings are the marked shortage of beds for neuro-psychiatric convalescent care and the large percentage of patients (35 per cent.) between 20 and 30 years of age.

Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to ***The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.***

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the BRITISH MEDICAL JOURNAL alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the BRITISH MEDICAL JOURNAL must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the JOURNAL, should be addressed to the Financial Secretary and Business Manager.

The ***TELEPHONE NUMBERS*** of the British Medical Association and the BRITISH MEDICAL JOURNAL are *MUSEUM 9861, 9862, 9863,* and *9864* (internal exchange, four lines).

The ***TELEGRAPHIC ADDRESSES*** are:

EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology Westcent, London.*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westcent, London.*

MEDICAL SECRETARY, *Medisecra Westcent, London.*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 4737 Dublin), and of the Scottish Office, 6, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 4361 Central).

QUERIES AND ANSWERS.

"W. H. F." asks for suggestions for the treatment of persistent cough following acute influenza which has resisted all sedatives.

RHEUMATOID ARTHRITIS.

"M. B." asks for suggestions for the treatment of a lady, aged 60, with rheumatoid arthritis. Having tried other measures without avail, he started to treat her some time ago by intravenous injections of T.A.B. vaccine. The initial dose was 25 million, which he gradually increased by four stages to 100 million, but from the first the reaction was abnormally severe, including violent rigor, pyrexia of 2° to 4°, and a pulse increase to about 140 a minute, but no perspiration. The rigor begins about forty-five minutes after the injection, and lasts for upwards of one hour. The patient becomes slightly cyanosed during it, and when it is over she is quite exhausted and falls into a deep sleep. He has tried reducing the dosage and then increasing it again, but without benefit, the length and severity of the rigor being undiminished. There are no obvious contraindications in the case. "M. B." asks whether in the circumstances it would be advisable to restart the treatment, and would welcome any suggestion for lessening the severity of the reaction.

INCOME TAX.

"COLONIAL" retired from a colonial service and returned to England on December 18th, 1925; on January 10th, 1926, he went abroad and returned in March, 1926. He has been assessed to income tax as a British resident for 1925–26; is this correct?

*** We are of opinion that "Colonial" cannot successfully contest the view taken unless he can show that when he returned to England in December, 1925, he came without the intention of establishing a residence in this country—not necessarily of purchasing or leasing a house, but of making this country his residential headquarters in future. How far he is likely to succeed on those lines must, of course, depend on many circumstances which are within "Colonial's" power to allege and, if necessary, prove.

LETTERS, NOTES, ETC.

HERPES AND VARICELLA.

DR. CYRIL HELM (Great Horkesley, Colchester) writes: On October 5th a man developed typical herpes zoster on the chest. The vesicles dried up, but a fresh eruption occurred on October 20th. On October 25th his daughter, aged 4, developed chicken-pox. The child had not been in contact with any other case. So certain am I that the father infected the child that in future I shall regard every case of herpes zoster as a potential source of infection for chicken-pox.

DR. R. LYNN HEARD (Bexley, Kent) writes: There has lately been a resuscitation of correspondence as to the relation of these two diseases. For a number of years I have had no doubt as to their being merely different manifestations of the same infection. When children have been in contact with persons suffering from herpes (in one case pudendal) I have more than once prophesied that in a fortnight or so the child would develop chicken-pox—which forecast has been verified. I have also met an instance in which chicken-pox in a child was followed by herpes in its grandfather, who resided in the same house.

DR. A. H. SPICER (London, W.) writes: Captain X. Y. noticed a patch of herpes zoster on October 11th. He came to me three days later with a slight but typical rash of varicella, noticed that day. He visited his niece on October 12th or 13th, and she came out with a profuse varicella rash on November 2nd. The patch of herpes was single, and, although the patient was 64 years of age, was quite painless. He apparently infected the niece a day before his varicella rash developed.

HOSPITAL BOARD REFORM IN CAPETOWN.

"SPES BONA" writes with regard to the proposed changes in the constitution of the Cape Hospital Board, to which reference was made in the JOURNAL of September 18th, 1926 (p. 638). He states that the number of persons engaged in the administration of hospitals in the Cape peninsula is much less than the 200 mentioned. He attributes the apparent procrastination and inefficiency of the board to the retention of administrative control by a small number of officials who are ignorant of the hospital needs of the peninsula and conduct hospital affairs without reference to the wishes of the majority of the board. He thinks that the present system of centralization is unworkable, and that the proposal to reduce the number of the board members to eighteen will throw so much work upon them that they will be unable to control effectively the ten hospitals and institutions concerned.

*** While we consider that this subject is more suitable for discussion in the South African medical papers, we think it right to allow this note to follow the previous comment in the JOURNAL. Further discussion, however, should be continued in South Africa, where the facts are more fully known and the matter strictly belongs.

A HOSPITAL ORGANIZER.

PROFESSOR HEINRICH CURSCHMANN left no autobiographical notes which would have served as the basis of a biography, and his sons, in order that such details as it was in their power to collect should not be lost, have published a small volume (Berlin: Springer), written in association with two of his colleagues, who give a brief account of his professional career. The volume pretends to be no more than an outline; to portray so full and active a life within the space of a few dozen pages would be impossible. But his sons have ably performed a pious duty, and the facts amassed will be of value when a full biography comes to be written. The five chapters deal with Curschmann's ancestry and early life in Giessen, Mainz, and Berlin; his work as medical director of the hospital in Hamburg; his professorship in Leipzig; his hobbies in the field of literature and art; and his last years and final illness (Addison's disease). An appendix contains a complete list of his scientific writings, which cover a wide field. His chief studies were in connexion with the infective fevers, the great epidemic of typhoid fever in Hamburg in 1885–86 directing his attention to that subject and affording material for observations in the disease, which became his main interest to the end of his life. Mention should also be made of his work on aortic sclerosis, pericardial effusion, and arthritis deformans; and in this country his name is generally associated with the so-called Curschmann's spirals. In his own country the work for which he is chiefly renowned is, probably, the founding of the Eppendorf Hospital in Hamburg. When he was appointed director of the general hospital in that city it early became evident to him that the accommodation was insufficient for the number of patients. He strenuously opposed suggestions for the extension of the old hospital, and projected a scheme for a large new hospital beyond the suburbs of the city. Conditions became intolerable during the typhoid epidemic; not only were the wards overcrowded, but it became necessary to convert the corridors and even the cellars of the old building into wards. The plan of the new hospital, with its 1,100 beds, was Curschmann's own conception, and was carried almost to completion under his own eyes in daily inspections during the progress of the work. This was an undertaking that exactly suited Curschmann's genius; he was a born organizer, as had already been proved in his management of the old hospital. The new Eppendorf Hospital was scarcely completed when Curschmann received an offer of the post of professor of medicine in Leipzig. This he accepted, but although it had always been his ambition to become an academic teacher, he missed in the new post his old work of organization, and always looked back on the Hamburg days as the happiest in his life. However, he was able to introduce improvements in the hygienic arrangements of the hospital in Leipzig, and it was due to him that the clinical library, with its fine series of medical journals, was brought into the foremost place among the libraries of Germany. The chapter on art and poetry (Curschmann was himself a skilful draughtsman) brings out the sentimental side of the German character, and completes the sketch of a very vigorous and interesting personality.

THE Automobile Association announces that it has opened an office at 11, The Avenue, Southampton; the small office at the docks will be retained. A new A.A. office has been opened also at 10, Middle Row, Maidstone.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 43, 46, 47, and 48 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 44 and 45.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 23.

SOME APPLICATIONS OF PHYSIOLOGY TO MEDICINE.

IV.—HIGH BLOOD PRESSURE FROM THE PHYSIOLOGICAL ASPECT.*

BY

J. A. MacWILLIAM, M.D., F.R.S.,

REGIUS PROFESSOR OF PHYSIOLOGY, UNIVERSITY OF ABERDEEN.

(From the Physiological Laboratory.)

IT need hardly be said that the problem of the causation and mechanism of persistent high blood pressure has proved one of exceptional complexity and difficulty. High pressure is a condition or symptom, like pyrexia, probably of different types and modes of causation.

Methods of Estimation.

As regards the measurement of the pressure a combination of the auscultatory and tactile methods is by far the best—very superior as regards accuracy and convenience to various oscillatory and other methods that have been proposed. It may be taken that the readings obtained are in the vast majority of cases an approximately correct estimate of the pressures actually present within the artery. In a very limited number of cases with thickened *contracted* arteries local resistance to compression in the arterial wall may lead to an over-estimation of the intra-arterial pressure, an error that can be obviated by the method of repeated or continued armlet compression. But it is to be noted that in a certain number of cases the method of repeated compression may in turn introduce sources of fallacy if the auscultatory method, *per se* is used. For in some individuals compression, repeated a number of times or kept on for some time, may cause serious disturbance in the auscultatory indices—for example, the systolic reading may come to be much too low, while the diastolic reading becomes too high. The error is detected by combination with the tactile method; the tactile systolic index is now found to be considerably higher than the auscultatory systolic, the pulse beat being easily felt at the wrist long before the armlet compression has been reduced sufficiently to allow the sound constituting the auscultatory systolic index to be recognized. This is one of the instances which illustrate the necessity of checking the auscultatory systolic index by the tactile method—recommended as a routine procedure by Professor Spencer Melvin and myself[23] many years ago. The source of fallacy in question is in my experience seldom, if ever, of importance in high-pressure cases, so the matter need not be further pursued in the present connexion.

Systolic and Diastolic Pressure Levels.

Since Melvin and Murray[27] stated the systolic and diastolic pressure levels in young adults in 1914, evidence on a large scale has become available as to the "normal" pressures in healthy persons—systolic readings 110 to 125 mm. being most common (sitting position), while the value may sometimes be as low as 100 to 105 mm. in subjects in good training, or may be as high as 130 to 140 mm. in some young persons in good health, there being evidently a setting of the normal pressure at different heights. The diastolic level in young adults is usually between 60 and 80 mm.; the pulse pressure has ordinarily a value of 40 to 45 mm.

The relation of age to the pressure values is a matter on which much evidence has accumulated in recent times, thanks largely to the American insurance statistics (Symonds,[40] Rogers and Hunter,[35] MacKenzie,[21] and others), in which records from hundreds of thousands of individuals are available; also to the work of Stocks and Karn[38] in this country. The results led to a correction of a current idea as to there being an extensive rise of pressure in normal persons as life advances and as body weight increases. It is true that there is a very appreciable rise in the later half of life, but this is much more limited than has been currently believed by clinicians, dealing with persons who come under their observation for some ailment or other. Thus the average systolic pressure, in the enormous numbers examined, has been found to show only a comparatively small increase, whatever may be the significance of the much higher pressures recognized in some individuals who enjoy good health.

When the averages of very large numbers are dealt with, it is evident the rising pressure of childhood undergoes some acceleration about puberty and reaches the normal adult level somewhere in the age period of 17 to 20; there is some evidence of a slight subsequent lowering in the early adult years. The pressure then alters little up to the age of about 40, after which a more definite progressive rise becomes manifest. But the actual increase under the combined influences of age and the usually associated increase of weight is on an average under 15 mm., in some statistics much less.

The statistics bear strong testimony to the relative constancy of systolic pressures at different ages, when estimated with the necessary allowances and corrections; they make clear that exceptionally high pressures in healthy persons must be very infrequent, otherwise the averages would be much higher. It is noteworthy that the statistics have largely been obtained in America, with its stress and hurry of life. The importance of hereditary influences or familial tendencies is marked in regard to the occurrence of unusually high pressures, and the association of high pressures with obesity is a notable one, though by no means invariable. At all ages persons of heavy build have higher average systolic pressures (for example, 10 mm., etc.) than persons of light build.

The importance of the diastolic pressure reading and the consequent obtaining of the pulse pressure value need hardly be emphasized. Diastolic pressure represents the resistance against which the contracting left ventricle has to force open the aortic valves, and it represents the constant stress which the arterial walls have to stand. Its importance with regard to the bursting of a weakened artery is great, more than the transient systolic rise caused by each heart beat. This is illustrated by the comparative rarity of cerebral haemorrhage in cases of aortic regurgitation, with its high systolic but low diastolic pressures. Systolic pressure taken by itself may give very defective and misleading indications, for the systolic readings may be at the same level in profoundly different conditions of the circulation.

The diastolic pressures afford data valuable for interpretation of the condition present. Normal or supernormal systolic pressure taken by itself does not necessarily indicate efficiency as regards the mass movement of the blood in the circulation.

Modes of Death in Subjects of High Pressure.

Taking the average results of very large numbers as regards health and duration of life, it is clear that the dice are loaded against the subjects of high pressures, though of course there are many individual examples of long life and activity under those conditions.

In excessively high pressures the fatal ending seems to come by cerebral haemorrhage in about 20 per cent., changes having supervened in cerebral vessels by this time. The not infrequent occurrence of cerebral haemorrhage (like pulmonary and gastro-intestinal haemorrhages) during sleep was long a puzzling phenomenon in view of the accepted conclusion that the blood pressure is lowered during sleep. Why should the haemorrhage take place during a period of reduced pressure? Observations by the present writer[22] on the remarkable rise of pressure that may be associated with disturbed sleep, exciting dreams of motor effort, nightmares, etc., afford an explanation. In contrast with the definite lowering of pressure attending on sound sleep, the steep rise during disturbed sleep may reach an elevation attained in the same individual in the waking state only during vigorous or even violent muscular exertion—for example, systolic pressure rises to 182 and 200 mm. from normal levels of 125 to 130 mm.

[3446]

* Read at the James Mackenzie Institute for Clinical Research, St. Andrews, October, 1926. Previous articles of this series were published in the BRITISH MEDICAL JOURNAL, 1923, vol. i, p. 51; vol. ii, pp. 215, 278, and 1196.

respectively, while diastolic pressure rises from 75 to 105 mm., etc.

It is significant that an American observer (Krumbhaar[20]) has recently found that a relatively large number of ruptures of the heart occur during sleep. In about 50 per cent. of high-pressure cases death is ascribed to cardiac failure. Of course the work of the heart is greatly augmented by the excessive resistance against which it has to pump out its contents. But the reserve power of the healthy cardiac muscle, as Sir James Mackenzie repeatedly emphasized, is very great; the heart is an organ of phenomenal power and endurance, granted a good supply of normal blood to its walls. What usually happens is not simply the wearing out of such a heart by excessive work, but the defeat of a labouring heart impaired by defective nutrition due to lesions of the coronary circulation, and deficient quality of blood resulting from damaged kidneys and other organs. The remaining proportion of deaths has been attributed mainly to uraemic conditions, but are really complex in causation in presence of widespread derangements of function in the later stages.

Interpretation of High Pressures.

The phenomenon of persistent elevation of the arterial pressure may be regarded from different standpoints and given quite different interpretations. It may be looked on as a result of irritative and deranging influences (circulatory toxins or other causes) frequently leading to the development of symptoms of ill health, increasing the work of the heart and tending to cardiac failure, stressing the vascular walls, promoting their degeneration and predisposing to cerebral haemorrhage, kidney changes, etc.

From another point of view the high pressure may be looked on as essentially a compensatory process, while attended in the long run by certain unfavourable effects on the heart and blood vessels. The raised pressure is regarded as compensatory in the sense of its maintaining the circulation or driving more blood through some vital organ that requires it—for instance, the brain, kidney, heart muscle, etc.—either when the flow has been subnormal or when a higher pressure and more rapid flow would be useful in view of functional or structural defects in the tissue.

Janeway[17] concluded that in some persons an average pressure far above the normal is necessary to ensure the requisite capillary blood flow, the optimum arterial pressure sometimes being 200 mm. or more, instead of 100 to 145 mm. Oliver[22] remarks: "We are apt to forget that high arterial pressure is not infrequently a necessary evil and should sometimes be regarded as one of the natural defences of the body." Herringham,[16] referring to certain high-pressure cases, says: "I make little doubt that a high blood pressure is necessary for the life of these patients."

Clifford Allbutt[1] wrote long ago: "High pressure is an attempt of the organism to maintain the equilibrium of the circulation." In his last work[2] he remarks: "The truth is that as high pressures creep on stealthily, the system as silently adapts itself to them; so that blindly to try to reduce excessive pressures permanently to the normal would be as harmful in practice as fallacious in reason." While advising gradual reduction towards the level suitable for the particular individual, he severely criticizes the teaching, based on the belief that high pressure is compensatory, that treatment should not be applied to high pressures: "If an ergot-like poison were crimping up one's arteriolar system or directly irritating the vasomotor centre, would one decline to relax the system for fear of destroying compensation? Certainly not."

While it is well known that a lowering of pressure is sometimes attended by unfavourable symptoms, this does not necessarily prove that the elevated pressure had primarily been compensatory. The rise may have been due to irritative morbid influences in presence of which habituation or adjustment had at length developed, a new pressure level being established. Later, if a fall occurs, readjustment at this phase may not be practicable, especially in presence of failing heart action with defective regulating mechanisms and probably deterioration in kidney efficiency, structural lesions, etc.

It is obvious that with declining heart power relaxation of the arterioles by vaso-dilator drugs would naturally produce unfavourable results, since the physiological mechanism which tends to keep up the aortic pressure by vaso-constriction in presence of defective cardiac output would be upset. But such considerations do not establish the beneficial or compensatory nature of high pressures while the heart is efficient.

It was long ago suggested that high blood pressure might be useful, as far as the kidney is concerned, when there is an excess of material of some sort to be excreted or when the functional power of the organ is defective from structural or other causes. A recent paper from this laboratory by C. Reid,[24] dealing with a mixed series of high pressures, some with and some without renal involvement, yields evidence that does not support the idea of a compensatory function with regard to renal function. Substantial lowering (20 to 60 mm., etc.) of pressure by drugs of the nitrite series or by venesection did not impair the power of the kidney to concentrate urea or diminish the total urea excretion in the vast majority of cases; the urea and non-protein nitrogen of the blood were not increased during the periods of reduced pressure—there was no accumulation of these bodies in the blood to indicate defective excretion. *Evidently renal function was well maintained, so far as* urea and non-protein nitrogen are concerned. Some clinical observations as regards phenolsulphonephthalein by Gruber, Shackelford, and Ecklund,[11] and on guanidine by Major,[21] afford similar indications; the excretion of these substances in the urine was not lessened during periods of lowered pressure.

Causation of High Pressures.

It is hardly necessary to recall the various influences that have been invoked to account for the development of high pressures: (1) nervous, (2) endocrine, (3) toxic, and (4) renal.

While it is obvious that some powerful agency is at work, the search for definite pressor bodies (from any source) in the circulation has proved to be singularly inconclusive. Clifford Allbutt said: "Such catch phrases as intestinal toxins, kidney inadequacy, endocrine disorder, and the like are but dust in our eyes."

Mechanism of High Pressures.

Ideas as to the relations of high pressure and the frequently associated arterial sclerosis have varied much. The old view of von Basch regarded sclerosis as the cause of the high pressure, while the later one of Huchard made the high pressure primary and the sclerosis secondary. At the present time it is accepted that there are two distinct conditions; there may be sclerosis without high pressure at any stage, and high pressure without sclerosis, though persistent high pressure favours the development of sclerosis.

Studies on the viscosity of the blood in high-pressure conditions have not provided any explanation applicable on a wide scale, though a limited group of high-pressure cases associated with polycythaemia and augmented viscosity has been recognized. In the absence of a great increase in blood viscosity or of blood volume (conjoined with ineffectiveness of the normal mechanism of accommodation of such increased volume) it is evident that high pressure must depend on excessive frictional resistance or diminished capacity of the vascular system, or a combination of these factors. The factor commonly accepted as the main one is increased peripheral resistance — increased frictional resistance to the onward movement of the blood from the arteries, dependent on narrowing of the outlet by active contraction of the arterioles or by structural change.

In view of the work of Krogh, Lewis, Dale, and others, which has emphasized the independent powers and strong contractility of the capillaries, the question naturally arises as to the part which these may play in determining excessive resistance in high-pressure conditions, as distinguished from the normal state in which the capillary resistance seems to be slight. Some observations on capillary pressures on the skin, made by modern methods, are described (Boas and Frant[8]) as showing the presence of excessively high values in some types of high arterial pressure, in contrast to cases of simple high pressure (hyper-

piesia, primary or essential hypertension, etc.); this suggests the possible existence of two categories of high arterial pressure, one with and the other without high capillary pressures.

It is to be remarked, with reference to the numerous studies of capillary pressures that have been made by different observers, that measurements of capillary pressure in the skin afford no valid evidence as to the average pressure in the capillary system as a whole, or as to the fric-tion in the total capillary bed. For the capillary pressures in the skin (finger, etc.) are profoundly influenced by local conditions of arterial tone, with the result that the digital capillary pressure may rise while the pressure in the brachial artery falls, and vice versa. And the conditions in the skin area and the splanchnic area of the circulation are frequently opposed, as in muscular exercise, etc. There are no means of determining the relations between the pressures in the skin capillaries and in those of internal organs.

It is not warrantable to speak of "capillary pressure" in the same sense as "arterial pressure," for the latter has a definite value practically identical in all the larger arteries, while the former shows diverse and varying pressure values in the multitude of capillary districts. Still, if it should be confirmed that the skin capillary pressures fall into two categories in cases of high arterial pressure, such a differentiation may prove to have clinical signifi-cance.

Apart from the question of capillary resistance playing an important part, it is evident that a diminished *capacity* of the capillary system would have important effects on the circulation. But there are no means of gauging the size of the total capillary bed.

In the healthy person at rest the arterial pressure which is normal for that individual is remarkably constant within narrow limits, apart from ascertainable disturbing con-tions; the regulating nervous mechanism (medullary centres) is very efficient, as shown by there being little or no change in aortic pressure when the peripheral resistance is markedly increased by artificial compression of large arterial trunks like the brachial or femoral. But in the high-pressure subject this regulating mechanism has ceased to be adequate; the pressure remains at an abnormally high level, and is often subject to sudden and extensive variations, sometimes in the absence of any recognizable cause or from slight exciting influences that would have little effect in the normal individual. The normal regu-lating mechanism includes the depressing or inhibitory effect on the vasomotor centre of high blood pressure acting (1) directly on the centre and (2) through afferent impulses from the heart, aorta, sinus caroticus,* etc. In addition, there is the controlling influence of the vagus centre on the cardiac pump, this centre being also influenced directly by the blood pressure in it and reflexly by afferent impulses from the heart, aorta, and sinus caroticus. Additional recent evidence with regard to this mechanism is to be found in experimental inquiries by Anrep and Starling[4] (cross-circulation experiments), Hering,[15] Nash[20] (sinus caroticus), Daly and Verney,[12] The observations of Eyster and Hooker[13] on the influence of afferent impulses from the aorta have recently been corroborated.

Some Occasional Postural Effects in Man.

Recent observations by me have shown that in some persons the sudden assumption of the horizontal posi-tion may cause an abrupt fall of general arterial pressure of variable amount, sometimes associated with a marked though transient attack of giddiness; the latter is probably due to the pressure change, being absent in these subjects when the pressure fall is not very considerable. Evidently what happens is that the increase of blood pressure in the head on lying down flat, due directly to the hydrostatic factor—the difference in the influence of gravity—depresses the vasomotor centre, causing vascular relaxation and a marked fall of aortic pressure, sufficient sometimes to disturb the equilibrating mechanism of the brain. These unusual cases, not subjects of high pressure so far as has been observed, are explicable as depending on an exaggera-tion of the normal depressing or inhibitory action exercised on the vasomotor centre by a local rise of blood pressure. The fall of pressure is not explained by depressed heart action, there being little alteration in the rate of the heat; pronounced vagus slowing is not observed. Here the vagus centre is not made to show enhanced controlling power over the heart by the increase of blood pressure in the head, which is sufficient to produce strong though very temporary depression of the vasomotor centre. Hence an excessive susceptibility of the vasomotor centre is postulated in the subjects showing this reaction. The brief duration of the marked fall of pressure is a point of difference from the experimental results of Anrep and Starling, who found a continued effect on the vasomotor centre from increased blood pressure in the head in their cross-circulation experi-ments. The reaction in man described above is in contrast to the less uncommon occurrence of giddiness on suddenly standing or sitting up from the recumbent posture, asso-ciated with a lowering of the blood pressure in the head from the direct influence of gravity—as well as other possible causes of disturbance of the equilibrating mechanism. In the cases above referred to giddiness did not occur on suddenly standing or sitting up—only on lying down.

Relation of the Medullary Centres to High Pressures.

Increased peripheral resistance, raising the arterial pressure, evidently depends essentially on constriction of the minute vessels, due to the overactivity of the vasomotor centre or to causes acting directly on the vascular tubes. But there is more involved than a simple increase in peri-pheral resistance, however produced; for a rise of pressure from this cause acting alone would, in accordance with Marey's law, induce slowing of the heart by enhancing the controlling action of the vagus centre. But in high-pressure cases this slowing is wanting, the pulse usually being normal in rate or more or less extensively accelerated. Thus in a series of 241 cases Mannaberg[26] found 55 per cent. with normal pulse rates, 43 per cent. with quickened pulses (mostly in women), and only 3 with slow pulses. The high pressure fails to bring out the normal controlling influence of the vagus centre on the heart rate, an indica-tion that alongside of the constricted state of matters in the peripheral vessels there is an altered condition in the medulla, affecting the vagus centre and no doubt the closely related vasomotor centre—overaction of the vaso-motor centre producing excessive general vascular constric-tion, alongside of altered behaviour of the vagus centre. Accepting the conclusion that in high pressures over-activity of the vasomotor centre is caused by pressor agencies, whether nervous or chemical, it is evident that such pressor action may act in two ways: (1) by a direct irritative action on the centre, or (2) indirectly, by impair-ing the blood supply and oxidation in the centre, and thus exciting it to overactivity, as such conditions are known to be very effective in doing.

Starling[27] has suggested a local impairment of this kind as being possibly due to claudication of the vessels supply-ing the centre, or to toxic damage of its capillaries or interference with the oxidative process, and that such may be responsible for certain forms of high pressure. Following upon this suggestion Bordley and Baker[9] have recently re-ported the finding of arterio-sclerosis in the medulla in a number of high-pressure cases, in contrast to the findings in subjects who had had normal pressures. But it remains to be seen whether such sclerotic changes are primary or secondary.

There are various phenomena of high-pressure cases that are difficult of explanation on the hypothesis of limitation by structural causes of the medullary blood supply.

1. The frequently marked effects of continued mental and muscular rest—often involving a lowering, for the time being, of the pressure more extensive than can easily be accounted for by the slowing of the heart and the absence of the pumping movements of the skeletal muscles which promote the venous return to the heart during move-ment, etc.

2. The remarkable lowering of many abnormally high pressures that has been noted during sleep (Brooks and Carroll,[10] Müller,[29] Blume,[7] Katsch and Pansdorf[19]). A

* The "sinus caroticus" is a name applied to the first portion of the internal carotid artery immediately above the bifurcation of the common carotid. It receives afferent fibres from a twig of the glosso-pharyngeal nerve.

notable constancy of pressure levels during sleep (for example, 5 mm. variation during sleep) has been observed, in contrast to the extensive variations often seen in the waking state. Katsch and Pansdorf found an unusual range of reduction during sleep in essential hypertension, in contrast to other forms of hypertension where there was little or no reduction.

3. The occurrence in some cases of extensive variations of pressure from day to day or at shorter intervals (hours) —apparently not accountable for by changes in heart action.

4. The apparently "spontaneous" recoveries from high pressures sometimes seen.

5. The pressure-reducing effects of the ingestion of large amounts of water, to be referred to later (Orr and Innes).

There is obvious difficulty in reconciling such considerations with the idea of a high-pressure mechanism depending on the existence of established structural changes in the vessels of the medulla or the general circulation; they point to a notable variability of resistance, as contrasted with a fixed increased of resistance set up by structural alterations in the vascular circuit. An assumption that such variability of pressures is explicable by changes in the cardiac action is not warranted.

It would appear that the incidence of the pressor influence responsible for high blood pressures is primarily on the central nervous system, not directly on the peripheral vessels as a whole. The disturbance of the medullary regulating mechanism is evidently due either to (1) interference with the normal blood supply to the brain or the medullary portion of it, or (2) the influence on the centres of some abnormal disturbing agent arriving in the blood, or (3) nervous impulses reaching the centres from other parts of the brain or from peripheral structures.

As regards (1) it remains to be seen whether indications may be derived from a study in high-pressure subjects of the behaviour of the respiratory centre, which from its close topographical and functional relations with the vagus and vasomotor centres would naturally be affected by inadequacy of the blood supply to this part of the brain stem.

Suggested Pressor Substances.

Salt, cholesterol, urea, adrenaline, "renin" (from damaged renal tissue), and many other substances have been under trial, and have either been acquitted or given a verdict of "not proven."

There has long been a presumption that protein derivatives—products of incomplete or perverted metabolism or results of microbic action in the alimentary canal or the tissues—are frequently concerned in the genesis of excessively high blood pressures, though a pressor agent in the blood has not been identified or isolated. Experimental investigations (feeding, etc.) on this subject have given conflicting results in recent years. Thus Mosenthal,[28] Squier and Newburgh,[36] Strouse and Kelman,[39] and Anderson[3] report no elevation of pressure from increased protein feeding in high-pressure cases, while some other observers—for example, Nuzum[31] and others among recent workers—have reported different findings. Foster describes a reduction of pressure from long-continued low protein diet, and Benedict a reduction from normal under a diet of low calorie value and low protein content. Again, in a collection of low-pressure cases it has been found that high protein feeders are 28 per cent. less numerous than among normal blood pressures.

Allbutt concluded that there is no evidence of the accumulation of non-protein nitrogen in the blood or default in the urine, that intestinal disorder is incidental, and that there is no proof of the absorption of intestinal poisons to be got from examination of the urine. It is to be remarked that feeding experiments deal more directly with the amount and completeness of protein metabolism rather than with possible perversions of this process in certain types of this subject.

In view of the recognized hereditary liability to the development of high pressures—as strikingly illustrated in many families—under the influence of nervous strain, worry, unfavourable habits of life, dieting, etc., there may well be inborn susceptibility to derangement in the metabolism of proteins and associated substances in these subjects.

Orr and Innes,[22] working in this laboratory, a few year ago made the remarkable observation that ingestion o large amounts of water tend to induce a notable lowerin of elevated blood pressure—a result attributed to the wash ing out of intermediate metabolites, presumably of protei origin. Whatever be the ultimate explanation, th pressure change is often both marked in extent and o much longer duration than is commonly the case with depressor agencies. Reduction from such a pressure a 200 mm. to normal, maintained over many months, has bee effected. Decided results seem to be obtainable in a con siderable proportion of high-pressure subjects. The appli cation of this method is being made the subject of furthe investigation; it is clearly worthy of being given a extended trial. The slight preliminary rise of pressur which may follow the ingestion of large amounts of wate does not seem to have been attended by any unfavourabl results in primary or essential hypertensions.

A pressor agent recently suggested by Major and Stephen son[23] is guanidine—a substance which, on intravenous o intramuscular injection, gives a rapid and extensive elevatio of arterial pressure. The excretion of guanidine was foun to be markedly interfered with in experimental uraniu nephritis (dogs), and in a number of high-pressure patient a diminished output was observed and compared with th normal daily average of about 100 mg. It is suggeste that guanidine, as being somewhat difficult of excretion might be partially retained in developing kidney defec at a phase too early to be recognized by the usual tests. In this connexion it would be interesting to have evidenc as to the blood pressure in tetany—for example, from para thyroid defect, where guanidine has been found in th blood by Noël Paton and his associates; also whether an high-pressure cases are favourably affected by parathyroi feeding and calcium salts. Hyperthyroidism, though some times associated with high blood pressure, is ruled out a a common cause by the results of examination of the basa metabolism.

Relation to Kidney Conditions.

While kidney conditions have long been prominently in question, whether in primary or secondary relations, it i now generally accepted that high pressures frequently occu (hyperpiesia, primary or essential hypertension, etc.) apart from any recognizable lesion or functional defect of the kidneys as examined by modern methods. Still there can be no question that the presence of kidney defect, whether it be primary or secondary, constitutes a formidable handicap on the subject of high pressure and profoundly influences his chances of health and duration of life. This is so, whether the detriment arises through (1) limitation of the excretory function of the organ, leading to the retention of noxious irritant substances in the circulation, or (2) to the entry into the blood of some product of damaged renal tissue—for instance, the "renin" of Tigerstedt and Bergman, suggested as a causal agent by Batty Shaw[5] in some high-pressure cases.

Experimental reduction of the amount of kidney tissue below a certain limit (for example, to one-third) has been shown to lead to a rise of blood pressure; this has been assumed to be due to the action of retained substances (of unknown composition) which ought to have been excreted. The actual presence of such bodies of a pressor nature has not been demonstrated in the blood. In these reduction experiments there is the complication of the possible absorption into the circulation of pressor substances from damaged renal tissue, as indicated by the recent evidence adduced by J. R. Cash[11] in which 50 to 85 per cent. diminution of renal substance was associated with a pronounced rise of arterial pressure.

Relation to Depressor Substances.

Defect of depressor substances in the circulation is evidently one of the conceivable causes, assuming that the normal blood pressure is maintained by the interplay and balance of pressor and depressor influences. As is well known, chemical substances of depressor nature are very widely distributed in the animal tissues, and many observers question whether the substances are mainly of the nature of histamine and choline or are quite separate from these bodies—a question which is in dispute, as shown

by the recent contributions of Vincent and Sheen[41] and others. If high pressure can result from default of depressor substances the failure of the search for separate pressor agents in the blood might conceivably be accounted for.

A tissue extract that has recently been the subject of active investigation is liver extract, which has been found to have pronounced depressor effects, studied by various observers. As prepared by James, Laughton, and Macallum,[18] the active extract is stated to be free from the shock-producing substance histamine and from choline. Fresh extract is necessary, and while the experimental effects are marked, the clinical data in high-pressure cases in man are not conclusive. Major reports striking and lasting effects in certain high pressures of recent origin without recognizable lesions, while not overlooking the occurrence of occasional "spontaneous" recoveries in such cases. In "fixed" pressures of long standing there was little evidence of specific effect with the liver extract. Some observers interpret the depressor effects of the liver extracts which they used as being due to histamine and choline (Best, Dale, Dudley, and Thorpe[6]).

Conclusion.

From the foregoing considerations it is evident that while the incidence of the disturbing agency on the medullary regulating centres is clearly indicated, precise and adequate knowledge of the causation and mechanism of high pressures is defective. The fact of high pressures coming under observation in man only, and the consequent inapplicability of many of the methods of experimental research, have to be borne in mind as limiting the modes of attack upon the problem. While it is obvious that much more knowledge is necessary for the definite solution of the question involved, it has seemed advisable to take stock of the present situation as it appears to a physiologist, in order to avoid the waste of laborious work in accumulating data such as are already available. It is necessary to keep an open mind as to the possibility of a solution being found in an unexpected direction—in the discovery of a precise causal agent or agencies different from those that are mostly in question at the present time as bearing on the condition of high pressures, which may prove to be multiform in causation and mechanism as also in clinical type.

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THE INSECT TRANSMISSION OF ONCHOCERCA VOLVULUS (LEUCKART, 1893),

THE CAUSE OF WORM NODULES IN MAN IN AFRICA.*

BY

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AMONG the families of parasitic nematodes which infest man none surpasses in diversity of interest the family Filariidae. This is due both to the pathogenic effects produced by some species, and also to the strange biological adaptations in the human host and in those insect vectors so far known. Complex problems are presented by the larval habits of different species, some living in the blood stream, others having their chief habitat in the skin; some showing the remarkable phenomenon of periodicity, the causes of which are still obscure. No less important are its historical associations; since it was with the species *Filaria bancrofti* of this family that Manson worked when, in 1878, he made the discovery—destined to revolutionize the tropics—of the part played by insects in the transmission of human disease. From this observation dates all that research into the association of insects with disease which has already produced such significant results and which is daily achieving fresh discoveries in the ever-widening domain of human and animal parasitology.

The Genus Onchocerca.

Included in the family *Filariidae* is the genus *Onchocerca* (Diesing, 1841), which has one species, *O. volvulus*, parasitic in man in Africa, another species, *O. caecutiens*—so closely allied with *O. volvulus* that some authorities consider it identical—parasitic in man in Central America, and several species parasitic in domestic and other animals in various parts of the Old and the New World. Naturally the two species which are parasites of man are of great direct importance. They have a restricted geographical distribution, the ill effects produced by them being confined to the limited regions in which they occur. Of a different order, and affecting man much more widely, are the indirect ill effects produced by those species which infest domestic animals, especially cattle.

Onchocerca volvulus (Leuckart, 1893) infests man in tropical Africa with an intensity which varies in different localities. In West Africa there are large areas in which a very high percentage of the total population is infested. Prout (1901) in Sierra Leone was one of the first to describe it. The worms live in nodules in the subcutaneous and deeper tissues, and give rise to larvae which find their way into the skin; an infested area of skin may contain vast numbers of larvae, so much so that not even the smallest portion can be removed without numerous larvae being found. Different observers have attributed to the worm an etiological significance in the production of very diverse pathological effects, which depend on the distribution of the worm itself in the body and of the larvae in the skin. Several forms of skin disease, itch, ulcers, as well as glandular enlargements, hydrocele, and elephantiasis, are some of the conditions with the production of which this worm is credited.

Mode of Transmission of Onchocerca.

The transmitting agents of several of the Filariidae are already known, if we accept invasion of the proboscis as evidence of the insects being capable of transmitting; up to the present time, however, no one has succeeded in demonstrating by what means any species of the genus Onchocerca is transmitted from man to man or from animal to animal. As a result of investigations carried out at intervals during the past four years I believe that I am now in a position to state that the conditions essential to transmission of *O. volvulus* are fulfilled by a biting insect, a species of the genus Simulium, named very appropriately *Simulium damnosum*. These investigations were undertaken in the Konno district of the Sierra Leone

* An address delivered before the Sierra Leone Branch of the British Medical Association.

Protectorate, where the worm is common. More detailed accounts are being communicated to the *Annals of Tropical Medicine and Parasitology*, in which the first experiments were published in February, 1926.

The Konno District.

The Konno district of the Protectorate of Sierra Leone lies to the north of the railway line which traverses the Protectorate from west to east. It is a hilly region drained by several large rivers and a multiplicity of small streams; the hills are in most cases clothed with dense bush right to the summit. Each village has in its immediate vicinity several streams; swampy areas produced by silting up and overflow of the streams are numerous and biting insects are plentiful. The population is largely agricultural, and both sexes spend much time working on farm lands situated in the dense bush; the streams are used for latrine purposes as well as for washing and drinking. The result is a goitrous population and one heavily infected with urinary schistosomiasis; intestinal diseases, helminthic, protozoal, and bacterial, are rife. The following facts concerning the disease caused by *O. volvulus* demonstrate its prevalence and illustrate the kinds of observation made in order to ascertain its pathogenic effects on the population.

The Subcutaneous Nodules.

The character of the subcutaneous nodules produced by *O. volvulus* varies from a smooth, soft, just palpable nodule to a large, irregularly nodular, hard mass of the size of a large walnut. The first type is usually found in the region of the great trochanter, on the ribs, and on the scalp; the second is generally closely associated with joints, more especially the elbow and knee joints; neither type is usually adherent to the skin, but in some cases, especially over the region of the great trochanter, the skin over the nodule is thickened, partly adherent, and polished on the surface from pressure.

Distribution of the Larvae.

The larvae of this species were seldom found by me in the blood, only a rare larva being present occasionally in the blood film, and that probably derived from the infected skin. The larvae are present in the skin, and may often be found there in large numbers, even when no nodules can be discovered. They are not, however, evenly distributed over the body; thus, while of 93 persons whom I examined by making four sections of the skin of each—that is, from the scapular, loin, thigh, and ankle region—over 45 per cent. proved to be infected with *O. volvulus*. The larvae occurred in these sites in the following order of frequency from the highest to the lowest: loin, thigh, scapular region, and ankle.

Diagnosis of Infection.

The presence of the worm in the body may be detected either by puncture of the nodules and the discovery of the larvae in the aspirated fluid, or by cutting off with a razor small pieces of the skin, which are then teased with strong needles in a drop of water, so as to liberate the active larvae; apparently the first discovery of microfilariae in the skin of man by this latter method was made by O'Neill in 1875 on the Gold Coast. The larvae, although they do not live in the blood, have nevertheless to be distinguished from those of *F. bancrofti*, *L. loa*, *A. perstans*, and also from *Ag. streptocerca*, the last named being a skin microfilaria described by Macfie and Corson (1922). It was found in the Konno district that only 40 per cent. of those who had *O. volvulus* larvae in the skin had also subcutaneous nodules, while of those in whose skin larvae could not be found 16 per cent. had nodules. The examination of skin gave, therefore, a higher percentage of positive findings, and it has the advantage of being easier to carry out in natives than puncture of the nodules.

Pathogenic Effects of the Worm.

In view of the fact that many observers have recorded severe lesions of the skin, glands, and, in the case of the American human Onchocerca, of the eyes, it was advisable to ascertain whether similar effects would be found in Sierra Leone.

The Eyes.—Sixty-one cases in whom the eyes were examined and the skin was searched for larvae yielded 29 instances of *O. volvulus* infection. Only 6 of the 61 had any abnormal condition of the eyes and only 4 of these 6 belonged to the infected group. The eye conditions pterygium, blepharitis, and defect of vision were not associated with the presence of nodules in the head, and the last named appeared to be rather associated with advancing years than with the infection with *O. volvulus*. The examination revealed the fact that in the Konno population the eyes did not suffer notably from either toxic or other effects produced by the worm.

The Skin.—In an examination of 60 people 17 were found whose skin displayed no trace of disease visible to the unaided eye. This absence of obvious skin disease did not, however, prove to mean that none of these 17 cases was infected; for in point of fact no fewer than 8 of them were proved to be infected with *O. volvulus* by the discovery of its larvae in the skin. It was thought that the age of the person might have some bearing on the question, on the assumption that skin disease as a result of infestation might be a transitory condition on the one hand or a late developing one on the other. Against this, however, was the fact that the youngest case showing larvae in a good skin was 24 years of age, while the oldest was 51. The conclusion reached was that infection with *O. volvulus* does not necessarily connote obvious disease of the skin, although it may often coexist with it.

The Glands.—In 68 cases the glands were examined, and it was found that of those having *O. volvulus* larvae in the skin only 27 per cent. had enlarged glands, while of those not having larvae in the skin 32 per cent. had enlarged glands. Admitting that such skin examination as described must inevitably fail to reveal more than a fair percentage of cases, it may be said that on the whole this investigation did not yield definite evidence of pathogenic effects on the glands.

Thus neither in the case of the eyes, the skin, nor the glands did this Konno population show pathological effects definitely and solely attributable to *O. volvulus* infection. It is nevertheless probable that in localities where hyper-infection with the worm occurs a different clinical picture may be produced; very suggestive of this is the work of Ouzilleau (1913), who ascribes to the agency of *O. volvulus* lymphatic gland enlargement, hydrocele, and elephantiasis, occurring in a region in the Congo where *F. bancrofti* could not be found while *O. volvulus* was common. Dyce Sharp (1926), who has made a study of onchocerciasis in Nigeria, observes that the larvae of *O. volvulus* occur with great frequency in hydrocele fluid, and that, while possibly innocuous, they may well stand in some causal relationship to this condition as well as to elephantiasis.

Experiments to Discover the Transmitting Agent.

The investigation of the problem of transmission was begun in 1923-24 and continued in 1925 and 1926. The question was approached from the view that, as the larvae occur not in the blood but in the skin, any blood-sucking arthropod to be capable of transmitting it would have to damage the skin and dislodge the larvae in its efforts to reach blood. The Congo floor maggot *Auchmeromyia luteola*, common in Konno houses, seemed a possible agent in so far as producing damage to the skin is concerned, and specimens of this were first dissected, but no larvae were found. At several villages in December, 1923, and January, 1924, it was observed that *Simulium damnosum* Theob. was biting viciously and in great numbers beside the streams; it was noticed that although this species attacked the skin readily it was slow in reaching the blood and appeared to have difficulty in getting through the skin; this delay led to the belief that, in biting, this insect inflicted considerable damage on the skin, a belief which was strengthened by an examination of the biting apparatus of the fly. One hundred specimens captured were examined for larvae in the gut, but nothing was found, and owing to pressure of other work the search was abandoned temporarily.

Discovery of O. volvulus Larvae in the Gut of Simulium damnosum.

In 1925 at another village the search was resumed, and this time with success; infection of the gut with larvae morphologically identical with those of *O. volvulus* was discovered in 20 out of 780 flies—that is, in 2.6 per cent.—captured on unselected boys. Two men known to be infected with larvae of *O. volvulus* in the skin and in whom no other microfilariae could be detected were then submitted to the bites of the flies; as a result the percentage of gut infection in the fly rose at once to 17. The most heavily infected person was then submitted alone to the flies, the following regions being exposed to them in successive experiments: the loins and upwards gave 28 per cent. of gut infections; the waist and hips only gave 59 per cent. of gut infections; finally the person was exposed so that the flies could bite only on a four-inch-wide band of skin round the body, having the nodules, which were present near each trochanter, in the centre of the band; this experiment gave a positive gut infection in the flies of 80 per cent.

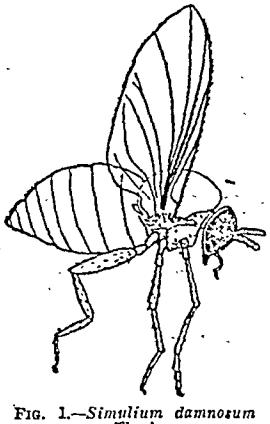


FIG. 1.—*Simulium damnosum* Theob.

Development in the Thorax of Simulium damnosum.

During the dissection of the thorax of 1,320 wild Simulium caught on unselected boys 15, or 1.1 per cent., were found to have developmental forms of some nematode larva present in the muscles of the thorax. Extensive examinations of samples of the population and of animals and a study of the biting habits of the fly led to the exclusion of other members of Filariidae and to the conclusion that the thoracic forms found were in all probability derived from *O. volvulus*. Flies fed on selected cases as described above were kept alive as long as possible and the thorax dissected; the effect was seen in a progressive rise of the percentage of thorax infection, first to 10 per cent., then to 32 per cent., and finally, in flies fed on the four-inch band in the heavily infected case, to the high figure of 82 per cent. No development actually into the head was observed in the course of these experiments, although one form was found partly embedded in the posterior part of the head. It was therefore impossible to make any definite statement at this time beyond recording the fact that the larvae of *O. volvulus* are readily ingested by *S. damnosum*, and that development up to a certain stage occurs in the gut and thorax of this blood-sucking insect.

Development of O. volvulus in the Head of Simulium damnosum.

In 1926 a further series of experiments was carried out and evidence was obtained that the development in the thorax continues with progressive increase in size and morphological modification till the larvae, having invaded the head region of Simulium, finally reach the proboscis. They enter the labium of the fly, where they remain coiled up and ready to emerge, which they do at once when provided with favourable conditions. The experiments are too numerous and long to give in detail here, but they may be summarized briefly as follows:

In six experiments 502 flies were allowed to feed freely on the heavily infected case referred to above; of this total 201 were dissected at a period later than the third day, and in the thorax of 127 of them (63 per cent.) developmental forms were discovered; in the head developmental forms were found in 34 (16 per cent.). The earliest infection of the posterior part of the head was five days, and of the anterior part of the head seven days, after the infecting feed. The development of *O. volvulus* in the fly from the time it is taken up from the skin until it reaches the labium and is mature and presumably capable of infecting a human being occupies about ten days. During this time the larva has undergone great changes in form; not only so, it has also increased in size from about 250μ long by 7μ broad to over 760μ long by 20μ broad.

Summary of Development in the Fly.

The skin forms taken into the gut of Simulium accumulate at the margin of the blood coagulum lying between this and the gut wall. They are very active and the majority pass out of the gut within twenty-four hours and may be found in the posterior part of the thoracic muscles in forty-eight hours. They have altered completely in shape, having increased in width and acquired a characteristic caudal spine-like appendage which may be either straight or much curved; they have also lost a great deal of their mobility. Several moults appear to occur before the form is reached which is capable of invading the head. The advanced thoracic forms show progressive stages of development of the alimentary canal, which is differentiated first into anterior and posterior portions, of different calibre and separated from each other; these unite later to form the uniform gut of the proboscis form, which runs from the head to open in a slit-like anus in front of the tail.

The Effect of Temperature on Development.

Differences in the rate of development were noted at different temperatures. It became evident that, although almost identical percentages of flies had acquired infection at the higher and lower temperatures used, the lower temperature had a retarding influence on development to such an extent that the flies usually died before the head became infected. Thus of 78 flies which lived for six days or over and were dissected, the absolute maximum temperature being 88° F., the absolute minimum 49°, and the average minimum 58°, only 5—that is, 6 per cent.—became infected in the head. Better results as regards head infection were obtained with an absolute maximum temperature of 87°, an absolute minimum of 63°, and an average minimum of 68°. In these circumstances, of 52 flies which lived six days or over and were dissected, 16—that is, 31 per cent.—were found infected in the head.

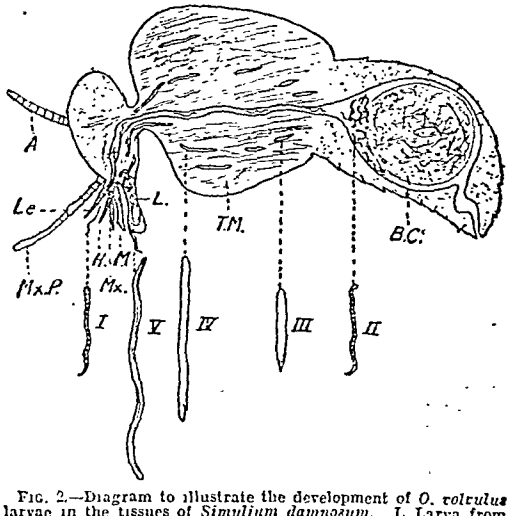


FIG. 2.—Diagram to illustrate the development of *O. volvulus* larvae in the tissues of *Simulium damnosum*. I, Larva from infected skin. II, Larva in mid-gut. III, Larva in thoracic muscles (early stage). IV, Larva in thoracic muscles (late stage). V, Larva in head and labium. A, Antenna. B.C., Blood coagulum. T.M., Thoracic muscles. L, Labium. Le., Labrum-epipharynx. H., Hypopharynx. M., Mandible. Mx., Maxilla. Mx.P., Maxillary palp.

Ovarian and Parasitic Development.

In flies allowed to feed on severely infected skin and then kept in tubes a heavy mortality ensued. Part of this appears to be due to the large number of worms developing in the fly's tissues; part was attributable to the ill effects of retention of the ova owing to the experimental conditions not being suitable for oviposition. Low temperature retarded the development of the ovaries as well as of the

parasites, and the two processes presented a definite correspondence in developmental rate. A correspondence of this kind is to be expected if the fly, after ovipositing, is to be capable of infecting at the next time of biting.

Emergence of Larvae from the Head of Simulium damnosum.

When the larvae had taken up their final position in the labium and were fully developed they were observed to emerge spontaneously into a drop of monkey serum which had been warmed; this phenomenon evidently depends on a definite attraction exercised by such serum, because a drop of warmed normal saline solution did not produce the same stimulating effect on them. Apart from such spontaneous emergence the larvae were seen to emerge when very light pressure was applied to the head region with a needle.

Experimental Inoculations into Animals.

Two monkeys were inoculated intra- and sub-cutaneously, the first in the flank and the second in the head, with advanced forms of larvae contained in the heads of flies. Neither of the monkeys showed any immediate reaction, the incisions healing by first intention, nor has any development so far become apparent. As, however, only two months have elapsed since the first animal was inoculated it is too early to express any opinion as to the ultimate result.

The Habits of Simulium damnosum.

Simulium damnosum Theob. in the Konno district is a small stout fly about 3 mm. long, almost black, and of inconspicuous appearance. It belongs to the same group of flies as those which are sometimes called Buffalo gnats, Turkey gnats, and black flies, and is common in many parts of equatorial Africa. It occurs in Uganda, where it is known as Mbwa, and in the Sudan, where it is called Kilteb; in the Konno it is called Mooli, and in Lokkoh, Poondee gootena = short mosquito. It is a notoriously vicious biter and is much dreaded in regions where it is numerous. The fly is to be found in the bush and grass in the vicinity of water; collectors always went to the waterside in order to find it easily. It dislikes strong sunlight and heavy rain; it likes shade and humidity; a great deal of its movement is by crawling and hopping, rather in the manner of a flea. In tubes it moves towards the light, a fact which can be made use of in changing flies from one tube to another. Only the female was found biting, and the biting habit is diurnal. It proved unwilling to come out far in strong sunlight to feed; it preferred to feed, if situated in fairly open country, during the hours when the sun was not strong, the early morning and late in the afternoon. It makes no sound and bites most frequently low down on the body, from the waist downwards, choosing especially shaded portions of the legs. The presence of overhead shade gives it an opportunity of biting higher up on the body. Palm-tree climbers state that it bites them in the dense palm bush even when they are far above the ground. The fly takes from one and a half to five minutes to engorge; when it has fed it looks remarkably distended, and is so heavy that it flies with difficulty. It was not found to follow man for any distance, and it is not a fly which attracts the attention by flying round the face. One may, in fact, walk along a path without seeing a single fly, although in the grass a yard or two away there may be dozens of them concealed. For this reason many Europeans who pass from rest house to rest house, and do not frequent the streams and marshy areas, may be entirely unaware of the presence of this noxious insect.

With this brief account of the habits of *Simulium damnosum* we may conclude the section dealing with *O. volvulus*. From the experiments recorded it appears extremely probable that this worm is transmitted from man to man by the bite of *Simulium damnosum*. At the same time it must be stated that the only unequivocal evidence will be that furnished by recovery of adult worms from animals or man infested by larvae which have developed in laboratory-bred flies as a result of feeding upon *O. volvulus* infested human beings. Such evidence I regret that I am not in a position to place before you, as up to the present time I have not been able to obtain laboratory-bred flies.

We may now pass on to consider very shortly two other species of the genus Onchocerca—namely, the American human parasite *Onchocerca caecutiens*, and a parasite of domestic cattle, *Onchocerca gibsoni*.

Onchocerca caecutiens.

This species was erected by Brumpt not so much on morphological as on biological grounds; it is a parasite of man in certain parts of Central America, and produces in man worm nodules which occur almost exclusively on the head. Brumpt (1919) named this species *caecutiens* ("blinding") because of the very remarkable account given by Robles in Guatemala of the severe eye symptoms and lesions which are associated with its presence, and which disappear with dramatic suddenness after removal of the nodules from the head. Robles (1919) records several instances in which the nodules formed by this species had eroded right through the cranial vault and were lying directly upon the meninges. On epidemiological grounds Robles several years ago suggested that two species of Simulium locally called "coffee flies"—that is, *S. dinelli* and *S. samboni*—were possibly the transmitting agents of this worm.

This American species is considered by some to be morphologically identical with the African one which has been discussed above. One of the points upon which Brumpt lays stress in the differential diagnosis of the two species is that the nodules caused by the American species are situated in the head in 99 per cent. of cases, whereas the African species causes nodules which in only 1 per cent. of cases are situated in the head. I may record here the fact that in one village in the Konno district I recently found that many of those who had nodules had them in the head. In a population of 66 examined, 33 (50 per cent.) presented nodules in some region of the body. Of the 33 who had nodules, 8 (24 per cent.) had them on the head, the diagnosis being made by puncture. On searching for an explanation for this unusual incidence two points were noted which appeared suggestive. The first was that this little village of eleven houses occupied less space than any other village of the same number of houses seen by me; the houses were arranged in a close ring practically touching each other. The second fact was that the village was shaded by large trees, as was also the path down to the river beside which the village was situated. In such a place as this it was possible for *Simulium damnosum* to attack the upper parts of the body without exposing itself to the sunlight. I concluded that it might be because of the local conditions as regards high shade that so many persons in this village presented nodules on the head. From inquiries which I have made from persons familiar with the conditions on the coffee plantation in Guatemala it appears that coffee in that country is most commonly grown under overhead shade. This fact might partly explain the incidence of the nodules of this species in the head, more especially if the lower parts of the body are covered by trousers and some kind of footwear.

Onchocerca gibsoni.

Of the numerous species of Onchocerca affecting domestic animals that which produces effects most similar to those of *O. volvulus* is *O. gibsoni* Cleland and Johnson, 1910. This species is a parasite of cattle; it produces worm nodules which damage the meat and render it unsaleable. Australia is one of the greatest sufferers from the effects of this species, and its presence in cattle entails a very heavy annual loss. Gilruth and Sweet (1911) state that no cattle station in Queensland is entirely free from the parasite, and that on some stations the infection amounts to 100 per cent. The worms live in nodules of varying size, some of them being subcutaneous and palpable or even visible, while others are situated deep in the intermuscular planes, in the connective tissue. They occur in such numbers in many cases that, although there is no evidence that either infection or injury to the health of man could result from consumption of meat containing

them, a carcass is rendered so unsightly by them that it is unfit for use. This has in the past led to the condemnation of such infected carcasses at the ports of London and Liverpool. It has been estimated (Commonwealth of Australia, 1917) that the discovery of the source of infection with worm nodules may eventually save Queensland over £1,000,000 a year if the grazier is aided in preventing infection.

Very little experimental work appears to have been done in Australia with any species of Simulium in connexion with the genus Onchocerca, although very numerous unsuccessful experiments are recorded with the larger biting insects such as tabanids. Yet Simulium is by no means unrepresented in Australia, several species having been described, one of which is suggestively named *furiosum*. Lea (1917) records a species of Simulium very abundant in the south-eastern parts of South Australia, occurring in thousands and causing series annoyance to horses and cattle. In view of the results obtained with *Simulium damnosum* and *O. volvulus* I would suggest that a species of Simulium may prove to be the carrier of *O. gibsoni* in Australia, or at least that this work on *O. volvulus* points to the desirability of carrying out a series of similar experiments with various species of Simulium and *Onchocerca gibsoni* in Australia.

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ANALYSIS OF A SERIES OF CASES OF CARDIO-VASCULAR SYPHILIS.

BY

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THIS article deals with 105 cases of cardio-vascular syphilis among in-patients of the National Hospital for Diseases of the Heart, London, during the years 1919 to 1923 inclusive. An inquiry was sent to each patient so as to ascertain, as far as possible, his subsequent history, and, where practicable, the patients were re-examined in June, 1923, on which date 21 cases could not be traced. All the patients had positive Wassermann reactions in the blood serum. The series includes three patients each with a history of acute rheumatism, none of whom had mitral stenosis. One case terminated in an infective endocarditis. The symptomatology and course of these cases were not unlike the others, and they have not been excluded. The youngest patient was aged 22, the oldest, 71, the average age being 48 years. There were 97 males and 8 females—an approximate proportion of ten to one. Of the 105 patients, 31 had a history of chancre, and the average time between infection and admission to hospital was twenty-four and a half years.

Cardio-vascular syphilis in the first twenty years of its course is a latent disease; once it manifests its symptomatology its progress is rapid, as is indicated in dealing with the mortality. Valvular involvement in the form of aortic regurgitation occurred in 81 patients; no organic valvular lesion was found in the remaining 24. The critical symptoms, single or multiple, were as follows: shortness of breath, 55 cases; pain (cardiac), 44; giddiness, 17; palpitation, 16; fainting attacks, 11; cough, 4; haemoptysis, 1; swelling of legs, 1.

The relation of these symptoms and signs to the presence or absence of valvular lesions may be tabulated as follows.

Signs and Symptoms in 105 Cases of Cardio-vascular Syphilis: Group I, with Regurgitation; Group II, with no Valvular Lesion.

(The percentages are of the respective groups, not of the total cases.)

Signs and Symptoms.	Group I (81 Cases).		Group II (24 Cases).	
	No.	Per cent.	No.	Per cent.
Dizziness and giddiness	34	42	13	54
Faintness	4	5	3	12
Shortness of breath	71	88	17	75
Loss of weight	3	4	2	8
Night sweats	2	2.5	—	—
Swelling of legs	20	25	3	12.5
Pain—Slight	30	37	10	41
" Moderate	13	16	5	20
" Angina pectoris	9	11	1	4
Cough	13	16	—	—
Haemoptysis (no aneurysm)	7	9	2	8
" (with aneurysm)	3	4	—	—
Epistaxis	2	2.5	—	—
Cyanosis	16	20	8	33
Pallor	32	40	2	8
Character of impulse:				
Faint	8	10	3	12
Slapping	12	15	3	12
Heaving	33	41	3	12
Signs of cardiac failure	20	25	3	12
Extra-systoles	6	7.5	4	16
Superficial arteries thickened	70	87	17	80

The average age of patients in Group I was 47 years; of those in Group II 49 years. The average time of infection before admission was: in Group I 25 years (24 cases); in Group II 24 years (7 cases).

Enlargement of the heart was detected in the groups of cases to the following extent. In the first group (of 81 patients with valvular involvement) slight enlargement of 3¾ inches or less from the mid-line to the left occurred in 2 cases (3 per cent. of the group); of moderate degree, 4 to 4¼ inches from the mid-line, in 13 cases (16 per cent.); and of great degree, or more than 4¼ inches, in 62 cases (77 per cent.). In the second group (of 24 patients without valvular involvement) the corresponding figures were: slight enlargement, 6 cases (25 per cent.); moderate, 4 cases (17 per cent.); great, 10 cases (42½ per cent.). Enlargement of the heart half an inch to the right of the right margin of the sternum was found in the first group in 21 cases (26 per cent.); an increase of 1 inch in 18 cases (23 per cent.); and an increase of 1½ inches in 7 cases (9 per cent.). In Group II the figures were: half an inch in 6 cases (25 per cent.); 1 inch in 2 cases (8 per cent.); 1½ inches in 1 case (4 per cent.). The average systolic pressure in the two groups was 154 in Group I and 141 in Group II. The pulse pressure was 86 in the first group and 52 in the second, while the difference between the systolic pressures of the leg and arm was 51 in the first group and 28 in the second.

The symptomatology of the two groups is not very dissimilar. There were no complaints of cough or bleeding from the nose in the patients who had no organic valvular lesions. Shortness of breath, the earliest symptom of failure of compensation, was somewhat more prevalent among the valvular group. Unusual symptoms were night sweats, haemoptysis (without aneurysm), and loss of weight. There was no evidence of pulmonary tuberculosis or of secondary infection of the cardiac valves in these cases.

Clinical Signs.

Thickened superficial arteries were not invariably present. The average systolic blood pressure in the brachial arteries was about 150 mm. of mercury; extremes (110 to 200) occurred, but were exceptional. At this particular time of life (45 to 50) arterio-sclerosis of a different type exists—the arterio-capillary fibrosis of Gull and Sutton. This is accompanied by a blood pressure higher than 150 systolic as a rule.[1] Where a systolic blood pressure of above 150 was found in the syphilitic cases there were probably other factors—either a high degree of aortic incompetence, or a complication of this diffuse form of

arterio-sclerosis. The blood pressure in the leg was generally higher than that in the arm, especially in the cases of aortic regurgitation. Dr. Strickland Goodall has pointed out that for a given degree of aortic regurgitation the greater the difference between leg and arm systolic pressures the better the prognosis. Dr. Goodall explains the difference as due to the existence of good vasomotor control. In a failing case of aortic regurgitation this control goes and the difference of pressure becomes less; hence the importance of this factor in immediate prognosis.

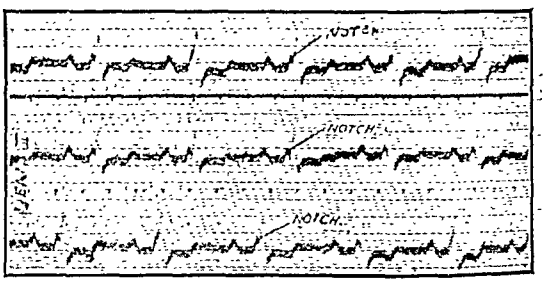
Enlargement of the Heart.—In the majority of cases the heart was greatly enlarged, but this was not restricted to cases of aortic regurgitation. The amount of enlargement varied with several factors—namely, the amount of regurgitation, the systolic blood pressure, and the state of compensation. In certain of the non-valvular cases with good compensation there was an enlargement of five inches to the left of the mid-line with a systolic blood pressure of 140 mm.; hence there was some other factor present which was not determined.

Aneurysm.—Of the 19 cases of aneurysm in this series aortic regurgitation was present in 17. In 15 of these the average systolic blood pressure (brachial) was 154 mm.; one patient had a pressure of 204 mm., but this must be regarded as exceptional. The height of blood pressure has no bearing on prognosis in these cases. It would be expected that those with the higher blood pressure would rupture the sac and die the earlier, but two patients with systolic blood pressures of 110 and 120 mm. respectively died within two years. Of the 19 patients, 10 had died within two years of diagnosis, and 5 were known to be alive; one patient was alive seven years after the diagnosis. The aneurysmal sac was seen and confirmed by x-ray screening in each case. The sac was situated intrapericardially in one case; it involved the ascending aorta in 7 cases; the arch in 6 cases; the ascending aorta and arch in 2 cases; the arch and thoracic aorta in 2 cases; and the thoracic and abdominal aorta in one case. There was also one case of aneurysm of the right coronary artery. The pressure of the aortic aneurysm was not accompanied by enlargement of the heart in one case of this series; there was no valvular lesion, and the systolic blood pressure was 130 mm. of mercury. Another patient died from a huge aneurysm involving the descending thoracic and abdominal aorta. He was a large man and a stoker by trade; his heart weighed 14 oz. *post mortem.*

Various Minor Signs.—Of the 105 cases albumin was found in the urine of 18 cases only; it was not a constant constituent. Albuminuria is therefore not a sign of cardio-vascular syphilis; its occasional appearance is not explained, as it was present in cases without cardiac failure and without renal involvement. In syphilitic heart disease tachycardia of high degree plays no part. The highest pulse rate of each patient while in hospital was recorded; the average of these rates was 105 a minute. The cardiac pain might be described as mild, moderate, and severe. The mild type was limited to the precordium, the moderate type radiated somewhat, and the severe form had the distribution of classical angina pectoris. These three types were phases of the same symptom, for in several cases the mild type became more severe with progress of time. About 75 per cent. of the patients had cardiac pain in the course of the disease—an incidence greater than that of other forms of heart disease. There were 10 cases of auricular fibrillation and 21 cases of heart-block; in 14 of the latter the auriculo-ventricular interval was greater than one-fifth of a second, 4 had a right bundle lesion, and one a complete auriculo-ventricular dissociation. One had an acute gummatous infiltration of the main bundle with invasion of other parts of the heart musculature. The latter case cleared up completely with treatment. Three of the patients with heart-block had Stokes-Adams attacks with loss of consciousness and twitchings; in these three the attacks were of short duration only. Involvement of the central nervous system was indicated as follows. In one case there was a pseudo-bulbar paresis. The tendo Achillis reaction was absent on one or both sides in 9 cases, and the knee-jerks in 4. In 4 cases the pupils were of the Argyll Robertson type; in 3 cases they were unequal; in 2 irregular; and in 2 sluggish in reaction to light.

Electro-cardiographic Findings.

Electro-cardiographic investigations were made in 66 cases with aortic incompetence, and in 19 cases without organic valvular lesions. Of the latter, 6 showed left ventricular preponderance; some of these had a normal systolic blood pressure; 44 of the 85 cases photographed showed this type of preponderance. Fifteen cases showed inversion of the T wave in the second lead. In cases where electro-cardiographs were taken at intervals of months there occurred an improvement in the general condition, where there was a change from an inverted T to an upright T. Forty-nine of the other cases showed delay, or delay and diminished amplitude of the wave. Of 85 patients 64 showed changes in this wave. Among those dead at the end of 1923, 21 cases had been electro-cardiographed; 15 showed changes in the T wave; of the other 6, 2 had aneurysms, one had a bizarre Q.R.S. complex in one lead, one had heart-block, and the last had auricular fibrillation. There is evidence here that changes in the T wave in the second lead are significant of severe myocardial damage.[2] Another point of importance in these photographs is the appearance of a small notch in the Q.R.S. complex (see accompanying tracing).



If this notch is seen in a case of unknown etiology a Wassermann test should be performed. The pathogenesis of this notch is unknown at present; it appears occasionally in other cases of myocardial mischief than those due to syphilis, and it renders the prognosis somewhat more serious. Twenty-five patients of the series showed this notching; of these, 6 were dead in 1923, one was alive three years and one four years after it was found. In the others this notch was noticed only in 1923 and the majority seemed to have a serious prognosis according to clinical findings. Two patients in whom the notching appeared in a series of photographs died during their stay in hospital. In a third patient the notching became less under treatment and he improved in health at the same time. In one case the T wave in the second lead became depressed during the attacks of angina pectoris. Willius and Barnes from the Mayo Clinic report similar occurrences with myocardial infarction.[3]

Mortality.

Down to the end of 1923 thirty patients had died out of 105, or 28 per cent.; 21 cases were not traced, hence the mortality was 36 per cent. of the total number traced. The average duration of symptoms before death was 4.2 years, the limits being one to twenty-two years. The deaths occurred on an average one year after the first admission to hospital. The course of the disease is rapid when once established. In 28 of these cases the heart was greatly enlarged; of the 2 other patients one had heart-block with Stokes-Adams attacks and the other had angina pectoris. A grave prognostic value must be attached to the signs of cardiac failure—namely, venous pulsation signs at the bases of the lungs, oedema of the legs, enlarged liver of the congestive type, and ascites. One or more of these signs had appeared in 22 of the 30 cases; 14 other patients showed some signs of cardiac failure and were not dead by the end of 1923.

Ten cases of auricular fibrillation occurred in the series; of these, 2 patients died. Some were known to have been fibrillating for several years. There were 21 cases of heart-block and 5 patients died. Six patients had bundle lesions or auriculo-ventricular dissociation; of these, 3 died and 3 were seriously ill.

Nine patients who died had aneurysm of the aorta; one

had aneurysm of the coronary artery. Angina pectoris occurred in 10 cases and 3 patients died. Among 11 necropsies no gross changes were found in the kidneys. In 2 cases adherent pericardium was found. The weight of the heart ranged from 23 to 32 oz., all being much enlarged. It appears that syphilitic pericarditis is a clinical entity; it was diagnosed in yet another patient who did not die. In South Africa a haemorrhagic blood-stained pericardial effusion occurs in natives with a positive Wassermann reaction in the serum; this is relieved by tapping and antisyphilitic measures.

Distinction between the Aortic Regurgitation of Rheumatism and that of Syphilis.

Rheumatic cases generally appear in young adults; syphilitic cases in the middle-aged. A history of the rheumatic infection may often be found, whereas that of syphilis is most difficult to elicit; it was only present in 27 per cent. of this series.

In the great majority of rheumatic cases there is a definite stenosis, with the typical facies; the aortic valve is generally the first to be involved in acute rheumatism. Confusion is caused sometimes by the occurrence of the presystolic murmur at the apex in cases of pure aortic regurgitation (Austin-Flint murmur). The distinction may be made by (1) the facies; (2) the pulse pressure, which is greater in aortic regurgitation with the Austin-Flint murmur, smaller in mitral stenosis and aortic regurgitation; (3) the pulmonary second sound is accentuated in mitral stenosis.

As pointed out by Dr. Strickland Goodall, in rheumatic cases the general progress of the disease is from the left cusp of the mitral to the left posterior cusp of the aortic valve; they have a common blood supply, and the aortic wall is not affected as a rule. The diastolic murmur is therefore blowing in character, and its area of maximum conduction is down the left side of the sternum. In syphilis the aorta is roughened, and the cusp most often involved is the right posterior. Hence the murmur is harsh in quality and the maximum conduction is down the right side of the sternum. In syphilis the accompanying signs in the central nervous system are of great diagnostic value. The arteries are thickened in pure rheumatic cases only where the pulse pressure is extremely high from large degree of aortic regurgitation.

Treatment.

Large doses of potassium iodide were usually employed, and mercury by inunction of blue ointment; in some cases arsenobenzol compounds were given intramuscularly. The intravenous administration was followed by some fall of blood pressure. The impression received from the cases directly supervised was that arsenobenzol compounds were unsuitable for the later stages of cardio-vascular syphilis. Digitalis was used in conjunction with iodides and mercury where cardiac failure was present.

In two cases of aneurysm of the aorta pain was greatly relieved by the administration of doses of horse serum twice a week or of haemoplastin twice a week. The explanation offered is that clotting was produced in the sac.

Conclusion and Summary.

1. The age incidence, the sex incidence, and the latent period after infection are similar in cardio-vascular syphilis and tabes dorsalis.

2. Once the symptoms and signs of cardio-vascular syphilis occur the course of the disease is, as a rule, rapid.

3. Signs in the nervous system are important in making a diagnosis.

4. The initial symptom is not constant, but in the majority of cases is either shortness of breath or cardiac pain, and, less often, giddiness and palpitation.

5. Cyanosis occurs in a greater percentage of cases without aortic regurgitation, and pallor in a great percentage of cases with aortic regurgitation.

6. The superficial arteries are thickened in the majority of cases, but the blood pressure is rarely above 150 mm. of mercury. Such a thickening with a similar rise of blood pressure occurs in the senile form of cardio-vascular degeneration.[1] Systolic blood pressure in the leg is greater than that in the arm, especially in cases with aortic regurgitation.

7. The heart is often much enlarged even in cases with no aortic regurgitation, and where the blood pressure is low.

8. A syphilitic myocardial degeneration may occur without valvular mischief, and sometimes without thickening of superficial arteries.

9. Cardiac pain is often mild in degree at the beginning and progresses to true angina pectoris.

10. Different portions of the heart and blood vessels are affected maximally in different cases.

11. There is often an inconstant albuminuria of no significance.

12. The electro-cardiograph findings which have a prognostic value are: (*a*) Changes in T wave in lead 2. (*b*) Occurrence of interference in auriculo-ventricular conduction. (*c*) Notching of the Q.R.S. complex. (*d*) Auricular fibrillation.

13. The signs of cardiac failure are also of prognostic significance.

14. The *mortality of the disease is high*, once it has passed out of the latent stage.

15. It is necessary to diagnose these cases in the latent stages so that treatment may be more successful.

16. The distinction between aortic regurgitation of syphilitic and of rheumatic origin is necessary on clinical grounds.

17. Haemostatic serum is useful in certain cases of aneurysm with pain.

My thanks are due to the honorary staff of the National Hospital for Diseases of the Heart, London, for permission to use their records, and particularly to Dr. Strickland Goodall for his kind advice and elucidation of several matters in the text.

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THE EFFECT OF POSTURE ON CASES OF PNEUMOTHORAX.

BY

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WHEN a patient with pneumothorax moves from side to side or from the recumbent to the erect position the intrathoracic pressure is altered, and the intrathoracic viscera and any effusion that may be in the pneumothorax cavity are also moved.

Intrathoracic Pressure.

Dr. Lawson[1] pointed out that this pressure varies with posture in cases of artificial pneumothorax. The variation may be very considerable, and this should always be borne in mind when giving a refill. Some physicians give refills with the patient sitting in a chair, others with him lying flat on his back, and others with him lying completely or partially on one side. If we have records of previous refills it is usually possible to tell in what position they were given by putting a needle into the pneumothorax cavity and moving the patient until the usual pressure is found. If the patient lies on the pneumothorax side the weight of the viscera will render the intrathoracic pressure in the pneumothorax cavity higher than if he lies on the healthy side. In one of my cases the pressure was −4+2 with the patient lying on the left (pneumothorax) side, but −10−0 when he was lying on the right side. After a refill of 450 c.cm. of air the pressures were +1+3 and −5+2 respectively. In other words, when this patient was lying on the healthy side he could raise the pressure in his pneumothorax cavity as much by turning on to the treated side as by having a refill of 450 c.cm. It is possible, therefore, to use posture if we wish to stretch adhesions, for by making the patient lie on the healthy side a continual drag on the adherent areas would be produced. Of course posture will affect the

intrathoracic pressure more when the lung is free than in cases where it is bound to the chest wall by adhesions or adherent pleura. It will also have a greater effect if the mediastinum is freely movable.

Position of the Thoracic Viscera.

By making an *x*-ray examination of the patient in various positions it is possible to judge to what extent the mediastinum is movable and also to see exactly where the lung is held up by adhesions and where the visceral pleura is in contact with the chest wall but not actually

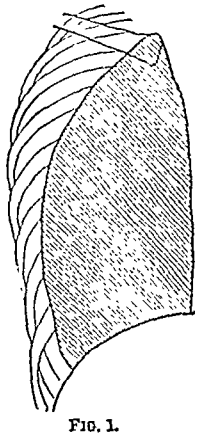


FIG. 1.

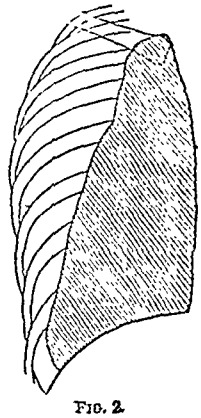


FIG. 2.

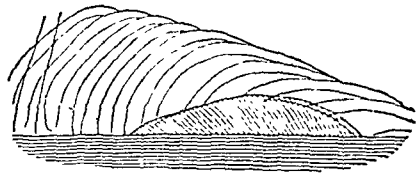


FIG. 3.

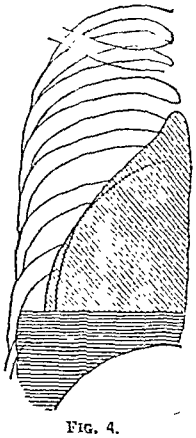


FIG. 4.

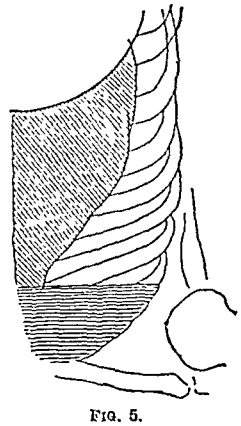


FIG. 5.

adherent. Fig. 1 shows a case of artificial pneumothorax with the patient in the recumbent position. Fig. 2 shows the same patient in the erect position, and it will be seen how great is the difference in the position and shape of the lung.

Effusion in the Pneumothorax Cavity.

Of course fluid is freely movable in these cases, and it can readily be shifted by making the patient lie on one side (Fig. 3), if it prevents a good *x*-ray examination of the diaphragm or base of the lung, as in Fig. 4; or if he is active and sufficiently well he may stand on his head, when the fluid will *gravitate to the apex* and a clear view of the base will be obtained by *x* rays (Fig. 5).

My thanks are due to Dr. Stanley Melville, who took the skiagrams from which these tracings are made.

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A CASE OF TUMOUR OF THE BRAIN WITHOUT SYMPTOMS.

BY

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THE case here recorded has a certain clinical interest and is of some importance from the medico-legal point of view.

An elderly male Egyptian was knocked down by a motor car whilst crossing the street, and was removed to hospital in a semi-conscious state.

On admission the pulse was 100, the pupils equal and reactive to light, there was no Babinski sign, and the deep reflexes of the legs were exaggerated. There was paresis of the left arm and spasticity of the other three limbs. The cerebro-spinal fluid was found to be of normal tension and was discoloured with blood.

The patient gradually got worse, and died five days after admission without regaining consciousness. His temperature gradually rose to 38.4° C. before death, and his respirations rose from 24 to 38 per minute.

On dissection a bruise was found in the temporal muscle above the right ear, and under this a linear fissure in the skull running forwards and downwards into the middle fossa and terminating in the right sphenoid bone. There was about 1 c.cm. of clotted blood between the dura mater and the bone in the region of the crack. The dura was thickened and adherent. The brain was intensely congested and the pia arachnoid looked blood-stained, although no actual extravasated blood could be observed. The brain was not damaged on the side of the injury, but on the opposite side there were two lacerations—one the size of a shilling on the left temporal lobe where it rested on the petrous temporal bone, the other about half the size towards the temporal pole adjacent to the small wing of the sphenoid. There were no other signs of violence, nor haemorrhage into the brain substance. On section, however, two tumours were found in the right hemisphere—one situated in the anterior part of the Sylvian fissure where the horizontal and ascending rami take origin, the other situated at the end of the sulcus temporalis superior in the gyrus angularis. Neither of these tumours could be seen on the surface, but on making serial horizontal sections the following relations could be ascertained.

A. The anterior tumour had no distinct boundaries, it took origin between the pia mater and the arachnoid, invaded the brain substance forwards into the frontal lobe and upwards into the pars triangularis, and reached the white matter of the middle temporal gyrus. The anterior extremity reached the roof of the anterior horn of the lateral ventricle. The grey and white matter of the island of Reil, the claustrum, and the external capsule were destroyed in their anterior half. The tumour touched the anterior extremity of the lenticular nucleus and destroyed the lateral part of the internal capsule at the level of the head of the caudate nucleus. Above the level of the basal ganglia there were several small cavities, one of which was 5 mm. in diameter.

B. The posterior tumour consisted of a well defined cheesy mass measuring 1.5 by 2 cm. and was enclosed in a capsule. It destroyed the grey matter of the angular gyrus and invaded the white matter as far as the forceps major.

On microscopical examination both tumours were found to be of syphilitic origin, invading the brain substance from the pia arachnoid. In and about the tumours the blood vessels showed intense infiltration with lymphocytes, and the brain tissue adjacent to the vessels was in a state of softening. The cavities mentioned above showed degeneration of the brain substance with a neuroglial wall and with a similar condition of the vessels around them.

From the clinical aspect the presence of such extensive invasion of the brain by tumours without apparent symptoms is rather a remarkable feature, and an effort was made to obtain the previous history of the victim. He was, unfortunately, an old man who lived by himself, and we could obtain no information about him except that he had been in a "debilitated" state for about three months, but used to look after himself without assistance and was able to lead an apparently normal life. We could not ascertain from his relatives or neighbours whether he had complained of any symptoms, and presumably he had not.

From the medico-legal aspect the case is important in that it shows that a person may be walking about leading an apparently normal life while suffering from an advanced disease of the brain. When an individual so suffering is the victim of an accident such as this person sustained the question of responsibility must arise, and it is at least an open question whether the central lesion did or did not play a part—first, in causing the accident, and secondly, in leading to a fatal issue after the accident.

We can readily understand that lesions of this extent might at any moment cause an oedema of the brain which might lead either to loss of consciousness or to loss of co-

ordination, and either cause the victim to fall under the car or prevent him from getting out of its way. After such an accident it might easily be believed that an injury to a brain already the seat of advanced disease was more likely to be fatal than would a similar injury in an ordinary brain.

A final point of some interest is the relative position of the site of injury and the position of the so-called contrecoup lesions. The blow struck the head just above the right ear, whereas the two contrecoup lacerations were found on the left temporal pole and on the lower surface of the temporal lobe. These are by no means exactly opposite the site of injury, and are the usual site for contrecoup injuries whatever the site of the original violence.

My thanks are due to Professor O'Farrel and Dr. Boulgakov for their help in the preparation of the case.

ZINC GLYCO-GELATIN:

*SOME OF ITS USES IN GENERAL PRACTICE.**

BY

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THE merits of zinc glyco-gelatin were first brought to the notice of the profession by Unna for its efficacy in the treatment of dry forms of eczema, but, as far as I am aware, this plastic amalgam has not yet received a place in the equipment of the general practitioner, and it is the contemplation of this anomaly in the usual custom and fashion of the profession that induces me to bring to your notice the result of my experience of its use, now extending over twenty years, in other conditions which are met with in everyday practice—such as arthritis, dermatitis, erysipelas, erythema nodosum and simplex, myositis, periostitis, phlebitis, and varix of the leg, synovitis, "tennis leg," minor thrombosis, contusions, and sprains of the joints of the limbs, to mention the chief.

The amalgam employed in these cases is composed of oxide of zinc 1 part, gelatin 2 parts, glycerin 3 parts, and water 4 parts, prepared and compounded by a skilled pharmacist. When once the principle of the rationale has been grasped the selection of cases becomes comparatively easy, but it should also be realized that, as so much of the after-success depends upon the care devoted to technique, the task should not be undertaken in a perfunctory fashion. By way of illustrating what these injunctions imply, take the condition of a leg (by far the more common part) requiring a dressing. The following outline of directions, which, in principle, apply to all cases, naturally falls under two headings—preparation and application.

Preparation.

1. If necessary, previously instruct the patient to remain in bed for such a time as is likely to allow oedema to subside to a minimum.
2. Set the process of melting the solid amalgam going.
3. Thoroughly sponge the surface extent with methylated or rectified spirit twice or thrice over, to remove fatty excretions and loose epithelium.
4. Dredge the surface well with a dusting powder composed of calomel one part and starch four parts, using the palm of the disengaged hand to rub it uniformly all over.
5. Select an open-wove bandage (texture used throughout) of an appropriate width, and cut it into a sufficient number of strands to encircle the leg from the ankle to the knee-joint, due provision being made (in the form of a "many tail" arrangement) for allowing each strand to overlap the other, by half of its width, and, at its junction in front, the ends to overlap one another by two inches, in the series of their implacement from below upwards.

Application.

As the paste, when spread, cools and sets quickly, it is advisable to apply the *immediate* part of the dressing in two sections—namely, lower, from the upper border of the ankle-joint to the commencement of the calf; and upper, from the junction of the calf to within half an inch of the knee-joint.

1. With a brush, as rapidly as possible, apply a coating of the paste over the lower section, but leaving the flexure of the ankle-joint free, by demarcating the lower boundary of the painted extent along the upper border of the joint, from a middle point in front, outwards and downwards, on each side, including both malleoli, to short of the plantar border of the heel, then continued posteriorly to meet at a point just above the insertion of the tendo Achillis.
2. Apply the strands in their "many tail" order over the painted extent, due tension the while being maintained by the hands between the ends so as to secure uniform and even apposition of the fabric to the surface.
3. Over the implaced strands run a single length of a continuous bandage, avoiding "reverses" here (which at no stage should ever be plied over the crest of the tibia); if uniformity cannot otherwise be secured, then cut the length, fix the free end down with a daub of the paste, and encircle anew, and thereafter firmly pass the hands, one on each side, over the bandaging, in a series of semicircular sweeps from below upwards.
4. Repeat 1, 2, and 3, on the upper section, which completes the application of the *immediate* part of the dressing.
5. Rapidly apply a second coating of the paste over the *whole* bandaged extent.
6. Over this run a second bandage, but applied in the opposite direction to the first, the hands being used as before; thereafter ("reverses" on either side being now permissible) run a third and a fourth bandage in alternate directions, the hands being used in the same way, which completes the affixation of the zinc glyco-gelatin dressing.
7. Finally, encompass the foot, from behind the toes, and the ankle with a bandage, in the usual fashion, which finishes the complement of the whole appliance.

While the surface should be unbreached and free from exudations, yet dry incrustations firmly adhering to the skin, which maceration with spirit has failed to detach, should offer no barrier to the choice of selection of cases. Except for the purpose of treatment, flexures of joints, which come into play, should not be included in the immediate dressing. In the case of the ankle-joint the same purpose is equally well served by the method of No. 7, which possesses the inestimable advantage over the orthodox instructions of permitting the bandage to be renewed as often as hygienic attention to the foot may demand, without impairing efficiency.

As a rule, first and second dressings should last from three to six months, and, on an average, third and subsequent dressings should remain serviceable from nine to ten months, or even longer. Fortified with this appliance, in about 95 per cent. of leg cases patients are enabled to walk about, while treatment is going on, in conditions of (*a*) subacute and chronic varix, immediately; (*b*) dermatitis, erysipelas, erythema nodosum, and periostitis, within a week; and (*c*) arthritis, myositis, phlebitis, synovitis, and minor thrombosis, within a fortnight—respectively after the affixation of the dressings. On a minimum enumeration of the records traceable, over seventy cases belonging to the varix category, and more than forty cases of the other classifications, have been treated during the past twenty years with unqualified benefit to the patients; and I venture to claim for this method of treatment, on the average of selected cases (in addition to its outstanding merit of enabling the patient to walk about, as aforementioned), a greater measure of all-round efficiency, in the way of (1) affording the comfort of relief from pain, (2) preventing the development of complications in the affected areas, and (3) effecting a cure, or expediting the recovery, or promoting the betterment, of the morbid conditions, than could have been hitherto, or can be at present, obtained from any of the other forms of treatment known to me in the course of over forty years' experience of general practice.

A précis of one classic case may suffice to convey some idea of the changes which this appliance is capable of effecting in a morbid condition which the practitioner has hitherto regarded with a *non possumus* attitude to benefit from any form of treatment whatsoever.

Mrs. M., aged 50 years, figure short, rotund, and expansive, weight 17 st., had for twelve years been afflicted with a varicose ulcer on each leg, deeply eroded, and of diameter 3½ and 3 in. respectively. After months of ordinary treatment the ulcers healed. The case was selected—with misgivings—for zinc gelatin treatment.

Before treatment the girth of the legs, at the middle of extent of lower section, measured 12 and 11½ in. respectively; the structures were thickened and indurated, deeply brawny and tender, and the outline of the venous main and anastomotic

* Abstract of a paper read before the Eastbourne Medical Society.

branches everywhere undefinable on the inner surface of the lower section.

After treatment the girth of legs, at same mesial, measured 9¼ and 9 in. respectively; the structures were soft and pliant, colour more normal and no longer tender, and outline of the same venous system easily delineated, and, with the exception of a few scattered indurated valvular pouches, the lumen of the vessels appeared to be more or less patent throughout the lower section of both legs; while over the sites of former ulceration extensions of vascular branches are plainly discernible injecting the waxy white cicatricial coverings with fine arterioles and network of venules from around their marginal borders.

These, then, comprise the salient features of the comparative changes which had been effected, in this instance, by means of a renewal of the dressings, on an average of once in ten months, for close on seven years, when the dressings were tentatively discarded in favour of ordinary roller bandaging support, which the patient continuously wore, in her household work, during the remaining thirteen years of her life, without any threat of recurrent ulceration or sign of varicosé stagnation in the interval.

I think we have ample evidence here suggestive of the appliance being no ordinary implement of a mechanical contrivance, and that the amalgam is potential of some therapeutical virtue the unusual results in this instance would seem to imply. And what has been accomplished in this instance is but a replica, of outstanding dimensions, of the imprimatur of restorative benefactions conferred upon the recipients in each of the other sixty-nine cases of more or less chronic varix. And what is true of chronic cases equally applies to those of the acute and subacute classifications; and I know of no other form of treatment which gives such speedy relief to the agony of the victim of "tennis leg" as the envelopment of the limb in a glyco-gelatin dressing.

Whatever may be the explanation of its rationale of action, if it were only for its *par excellence* efficiency in chronic varix and acute phlebitis of the leg (whereas in the former it stands alone, and in the latter it has no compeer, as far as known, in present-day therapy) the zinc glyco-gelatin appliance should merit an abiding place in the armamentarium of every well equipped general practitioner.

A NOTE ON TWO CASES OF A FOREIGN BODY IN THE URINARY BLADDER.

BY

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THE two cases here recorded are of interest as they illustrate some of the complications which may result from the presence of a foreign body in the bladder.

CASE I.—*Perforation of Bladder Wall: Haematuria: Perivesical Abscess.*

The patient, a girl aged 19, was admitted to the London Hospital under Dr. Cecil Wall, who kindly referred her to me. She stated that she was quite well and free from symptoms until five days previously, when she noticed that the urine was deeply stained with blood. The haematuria persisted until her admission to hospital. She also complained of pain and tenderness in the left iliac fossa, and slight pain on micturition in the hypogastrium and urethra. She said that the frequency of micturition was not increased.

For the first two nights after admission her temperature was raised to 99.2° and 100°, but subsequently became normal.

On abdominal examination a hard, tender fixed lump was felt in the left iliac fossa immediately above the inner half of Poupart's ligament. A skiagram showed a rod-shaped body lying transversely in the bladder, and projecting beyond the brim of the true pelvis on the left side. Cystoscopy confirmed the skiagram, and the foreign body was recognized as a penholder, painted with blue and red stripes, and encrusted with phosphates. There was oedematous cystitis on either side where it was in contact with the bladder wall. The urine was deeply stained with blood.

Suprapubic cystotomy was performed and the penholder removed. It was 13 cm. long, made of wood, and was firmly fixed. On the left side it had perforated the bladder wall, and its point extended into the indurated swelling above Poupart's ligament. The swelling was incised, and a small amount of pus escaped. The bladder and abscess were drained. The wound healed rapidly, and the patient passed all her urine naturally on the tenth day after operation.

CASE II.—*Large Vesical Calculus: Incontinence.*

The patient, a single woman, aged 59, was brought to the cystoscopy department of the London Hospital on June 27th, 1924, complaining of incontinence of urine. She had been perfectly well until June, 1923, when she found that she could not control her bladder, and had great frequency of micturition. She wetted her bed at night and her clothes [illegible] became worse, until the urine dripped aw[illegible] as given a portable urinal, but it was not [illegible] seldom went outside the house. During t[illegible] had lost a great deal of weight and strength, and had suffered considerably from thirst and a dry mouth. The bowels were constipated, with occasional attacks of diarrhoea. Her urine had been thick and offensive for some time, but there had been no haematuria.

The patient was a thin, wasted, rather excitable woman. She was somewhat unstable mentally, for she had unaccountable fits of giggling, and was very vague as to the history of her illness. Her friends stated that she had "always been a bit queer." The tongue was dry and furred.

Abdominal examination revealed a round, hard mass immediately above the pubes. This mass was also felt through the anterior wall of the rectum. Examination of the external genitals showed great hypertrophy of the labia minora. The urine was alkaline and extremely offensive; it contained a thick white deposit of pus and phosphates, and one-third volume of albumin. Clinical examination was otherwise negative. The systolic blood pressure was 104 mm. of mercury, the diastolic 70 mm.

Skiagrams of the pelvis showed a large calculus in the region of the bladder, with a long narrow shadow of greater density running through it transversely.



Operation.

On July 1st, 1924, suprapubic cystotomy was performed. The bladder was adherent to the wall of the pelvis on either side and anteriorly to the back of the pubes, while superiorly the peritoneum was stripped off with great difficulty. The bladder was entirely occupied by a phosphatic calculus surrounding the foreign body. The stone crumbled under the fingers, and was removed piecemeal. The foreign body was wedged firmly across the bladder, and could not be removed until the bladder incision had been extended laterally to the right.

On examination of the empty bladder a pouch was found on either lateral wall, corresponding to the extremities of the foreign body. Two drainage tubes were placed in the bladder, one for irrigation and the other for drainage, and the bladder wall was closed round them with catgut. A glove drain was placed in the cave of Retzius.

The accompanying figure shows the foreign body and the fragments of the stone. The foreign body proved to be an ivory penholder, 9.6 cm. long and 0.55 cm. in diameter. The fragments of stone weighed 44.1 grams and the foreign body 6 grams, so that the total weight was rather more than 1½ ounces. The stone was composed of calcium phosphate with a trace of oxalate.

Convalescence was slow but uneventful, and the patient was finally discharged from hospital on August 12th, six weeks after the operation, with the wound healed.

On September 26th she came back with a history of occasional leakage through the suprapubic wound. The wound, however, appeared to be soundly healed, and she was discharged after six days.

On October 24th she was seen again in the cystoscopy department, feeling and looking very well. She could walk about well, and had perfect control over her bladder. She was able to go all night without passing urine, and the average interval between the acts of micturition during the day was four hours. The bladder capacity was 6 ounces.

The usual complication of a foreign body in the bladder is, of course, a deposition of phosphates which gradually forms a calculus with the foreign body as its nucleus; but in the first case the foreign body gave rise to a comparatively rare complication—namely, the perforation of the bladder wall with fairly profuse haematuria and the formation of a perivesical abscess.

In the second case the most striking symptom was the incontinence, for which the patient had to wear a urinal. Further points of interest, apart from the size of the calculus, were the adhesion of the bladder to the pelvic wall and the impaction of the foreign body in the bladder, so that it could not be removed until a very large opening had been made.

That the wound should have taken six weeks to heal soundly was not unexpected in view of the foul state of the urine, the severity of the inflammation of the mucous membrane, and the size of the bladder incision.

The remarkable power of recovery latent in the bladder wall is illustrated by the fact that the patient could easily retain 6 ounces of fluid and empty the bladder completely some fourteen weeks after the wound had healed, although she had previously been incontinent for a year.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

CELLULITIS OF THE SCALP TREATED BY INTRAVENOUS COLLOIDAL SILVER.

I THINK that the following case is of interest as it would appear to indicate a simple treatment for a serious condition.

On November 29th, 1926, a woman, aged 62, was admitted to Andover War Memorial Hospital suffering from a scalp wound in the occipital region (about 1½ in. long) and a mild degree of concussion. For the next few days she ran a high evening temperature and looked very ill. She complained only of severe headache and had all the appearances of suffering from a toxaemia against which she was incapable of fighting. A thorough general examination failed to reveal any definite cause for her condition. The only fact noted was that the wound, though not discharging, was gaping and showing no signs of healing.

On December 6th the diagnosis of the patient's condition was made obvious by the appearance of an isolated patch of cellulitis over the forehead. She looked so ill as to appear almost moribund. On the following day the affected area had extended, although the inflammation seemed, if anything, less intense.

An intravenous injection of 10 c.cm. of collosol argentum was given. There was a striking and immediate improvement in the patient's condition, and two days later the cellulitis had almost disappeared, the tongue was clean, and there was no headache. The edges of the wound, which was now discharging slightly, looked healthy, and had approximated. The treatment was repeated, and the patient made an uneventful recovery, being discharged well on December 21st.

So far as I am aware, colloidal silver has not been previously used in a similar case.

Andover, Hants. R. S. WEIR, M.B., Ch.B.

POTASSIUM SILVER IODIDE IN THE TREATMENT OF GONORRHOEA.

THE double iodide of potassium and silver ($KAgI_2$) is a crystalline substance readily soluble in a small quantity of water. On dilution the solution begins to precipitate silver iodide, but the precipitation is not complete until a fairly high dilution is reached.[1] The precipitated silver iodide is in a very finely divided condition and a part of it is in a colloid state. It has a tendency to creep up and adhere tenaciously to the sides of a test tube, and would presumably creep into the crypts and ducts of the urethra and adhere to them and to the gonococci found there. The unprecipitated portion is still in the form of a double salt and in a state of molecular dispersion. In this condition it would presumably diffuse through the walls of the cells, and on being further diluted by the tissue fluids would precipitate more silver iodide inside the tissues. The decomposition of the double salt on dilution tends to be reversed by the presence of excess of potassium iodide.

The potassium silver iodide was prepared as described by Mellor (*loc. cit.*). One part by weight of crystallized potassium silver iodide and four parts of potassium iodide were intimately mixed and dissolved in water as required in the strengths of 0.5 gram, 1.0 gram, and 1.5 grams, in 20 c.cm. in each case. Each of these dilutions contains a fine suspension of silver iodide, some of it in a colloidal state, and a true solution of the double salt.

Method of Treatment.

Of the above solution 20 c.cm. is placed in a glass syringe. The tip of the syringe is introduced into the meatus and the solution is injected slowly and steadily, with the fingers grasping the glans to prevent escape of the fluid. At the same time the patient is asked to keep his nostrils closed and breathe freely through the mouth. After injection a soft bandage is applied over the glans tight enough to prevent the injected fluid from coming out. The bandage can be removed after fifteen to thirty minutes. The injection distends the urethra fully, opening out the crypts and recesses, and a portion perhaps enters the bladder. The solution seems to reach the prostate and seminal vesicles, as on massaging the prostate and vesicles two or three days after the injection the expressed fluid is seen to contain some silver iodide. In acute cases the anterior urethra is washed out twice, using 10 c.cm. of the first strength each time, before the injection of 20 c.cm. is given, and the bandage applied. In chronic posterior urethritis an injection of the second strength is given after urination, with prostatic massage, and later in the treatment the third strength is used. The treatment has the advantage that the injections need only be given twice or thrice a week, as the silver iodide persists in the urethra and continues to exercise its antiseptic action.

Results.

Under this treatment the discharge decreases very rapidly and after about six injections disappears, though in many cases on prostatic massage a few extra-cellular diplococci may be detected microscopically in a smear. After about twelve to fifteen injections gonococci completely disappear, and even after provocative treatment and prostatic massage a smear shows their absence. Cases which come with a stricture do not readily respond unless the stricture is dilated prior to the injection. Cases of prostatitis, vesiculitis, and cystitis respond readily. A case of gonorrhoea with acute retention of urine was treated by hot hip baths with repeated catheterization and injections. The patient recovered rapidly.

I wish to thank Major Clive Newcomb, I.M.S., chemical examiner to the Government of Madras, for his guidance and help, and Lieut.-Colonel R. B. B. Foster, I.M.S., superintendent of the Government Royapuram Medical School, Madras, for permission to publish this note. I am also indebted to my assistants, Mr. N. Raghavayya, assistant lecturer in chemistry, Royapuram Medical School, Madras, and Dr. C. R. Krishna Pillay, for their active co-operation with me.

[Dr. Naidu sends notes of ten cases: in all of them gonococci were detected microscopically in smears, the injections were well borne, and none of the patients complained of any considerable pain.]

Madras. S. RAJAGOPAL NAIDU, B.A., M.B., B.S.

[1] Mellor, *Inorganic and Theoretical Chemistry*, vol. iii, p. 432.

GASTRECTOMY FOR SARCOMA OF THE STOMACH.

SARCOMA of the stomach being a fairly rare condition, the following case may be of interest.

A man, aged 27, was admitted under my care to the Victoria Hospital, Keighley, on December 12th, 1926, with a history of indigestion extending over three months. On admission he was much emaciated—the emaciation, he stated, had become very apparent during the previous four weeks. He had severe pain almost immediately after food (even liquids), and there was frequent vomiting. On examination the abdomen was much retracted and a large sausage-shaped tumour could be readily seen and palpated in the epigastrium. The tumour was fairly movable and very tender, even on the slightest pressure.

On December 17th I performed gastrectomy. The tumour was found to involve practically the whole of the stomach, there being only a very small portion of the cardiac end apparently free from disease, which made the anastomosis between the resected end of the stomach and the jejunum rather difficult. The tumour did not involve the duodenum, but there were many enlarged glands in the gastro-colic and gastro-hepatic omenta. One hard nodule was also detected in the liver.

After operation the usual treatment to counteract shock, etc., was carefully carried out, and from the third day after operation

the patient was able to take fluids and meat jellies freely by the mouth, and expressed himself as feeling very comfortable. On the tenth day, however, he died suddenly from heart failure.

The stomach was sent for pathological examination to Mr. Alfred Gough of Leeds, who reported as follows: "The tumour forms a large cake about an inch thick. It lies essentially in the muscular coat. The mucosa extends over it for some distance, gradually thinning out, and giving place to an ulcerated surface covered with granulation tissue. The tumour is composed of spindle cells rather loosely arranged with a good deal of intercellular substance. It is a myxosarcoma."

Boyd, in his book on *Surgical Pathology* (p. 293), under the heading of Rare Conditions of Stomach and Duodenum, says: "Sarcoma of the stomach is of equal frequency in men and women. It is usually of the round-celled variety, but may be spindle-celled. It starts in the submucous coat, and may attain an enormous size, bulging into the cavity or growing outwards to form a mass outside the stomach."

H. STEWART BRANDER, M.D., Ch.B.,
Honorary Surgeon, Victoria Hospital, Keighley.

Reports of Societies.

THE ETIOLOGY OF EPILEPSY.

AT the meeting of the Section of Neurology of the Royal Society of Medicine on January 13th, with Sir J. PURVES-STEWART in the chair, a discussion on epilepsy was opened by Dr. W. ALDREN TURNER.

Dr. Aldren Turner said that the essential feature of epilepsy was a disturbance of consciousness, occasionally sudden, swift, and brief, which might or might not be accompanied by spasm or convulsions. Certain psychical phenomena might be associated, such as dream states and visual hallucinations. There had been a tendency during recent years to broaden the basis of epilepsy mainly from the psychical side, and to regard as epileptic certain states of disturbed consciousness of longer duration, including somnambulism and stupor. It was now generally accepted that there was no single clinical entity to which the name "epilepsy" might be applied. Three special groups were to be distinguished: (1) organic; (2) toxic, infective, or metabolic; (3) psychogenic; other varieties might be designated "epilepsy of unknown origin." The suggestion had been made that the phenomena of epilepsy might be explained by the circulation of toxic substances in the blood, arising, for example, from defective carbohydrate metabolism in the small intestine. There could be little doubt that some cases of epilepsy at the commencement of the illness were attributable to toxic, infective, or metabolic agencies; these included, for example, epilepsy following any of the exanthemata, also a form of epilepsy associated with intestinal stasis and the toxaemia resulting therefrom. A quite unjustified degree of importance had been attached to the relation of epilepsy to glandular disturbance. With regard to the metabolic group of epilepsies, there was considerable clinical evidence in favour of the existence of such a group, but so far convincing biochemical evidence was lacking. Emotional causes had come to be regarded as of great importance, but it was only of recent years that it had been revealed how emotion acted in mental illness. A group of epileptic reactions had been discovered which would appear to be attributable to emotional influences. It was difficult to distinguish between the hysterical and the epileptic type of fit, and certain attacks could not be classified as either. According to some workers, a study of the types of epileptic attack had demonstrated that some disturbance of the emotional state and some reaction against expressing the emotion had been found in every instance, but it was doubtful whether an intensified emotion was sufficient to give rise to that dramatic crisis, the major epileptic fit. The whole subject of the epileptic fit as an expression of an emotional state involving a disturbance of consciousness required fuller examination. It seemed that in all forms of epilepsy an additional factor had to be detected; it would most probably be found in a constitutional defect conveyed through inheritance or acquired later. Dr. Turner had investigated the temperamental qualities of a large number of epileptics; only a few were of the absent-minded and day-dreaming type, while the self-satisfied and self-opinionated also formed only a small group. The outstanding feature of the epileptic temperament was nervousness and anxiety; a great part seemed to be played by fear and apprehension in the development of their mental outlook. There had been a tendency of recent years to under-estimate the importance of inheritance, but in this group of illnesses it was impossible to survey the family history of any large number of epileptics without obtaining direct evidence of epilepsy in the family in quite a substantial proportion of cases. His own investigations, covering quite a large number of cases, showed an hereditary history in 33 per cent.

Dr. GEORGE RIDDOCH said that at the London Hospital during the past two years a number of workers had approached this problem from the clinical and biochemical sides. Most of the questions which they set out to elucidate were still unsolved; notably, the etiology of epilepsy, and the mechanism of the production of the seizure. Very little was known about etiology, and it was difficult to assess the hereditary factor. Family histories were hard to obtain, especially in patients of the hospital class, but at least one-third of the cases of epilepsy studied revealed a definite family history. The old question of insanity and its bearing upon epilepsy had been taken up, and it appeared that mental disorders of that class were *no more* common among epileptics than among non-epileptics. It was found that the epileptics who had a significant family history were the first-born in a disproportionate number of cases, a fact which might point to trauma at birth, resulting in brain lesion. One investigation made at the London Hospital concerned the effect of starvation upon epilepsy. In a number of epileptics it was found unquestionably that starvation lasting for a fortnight, with water only, had a beneficial effect, the fits either ceasing altogether from the beginning of the period or diminishing in frequency; the good effect continued after the starvation period was over. He did not put this forward as a therapeutic method, but only as an investigation. In connexion with the study of the mechanism of the production of seizures, he related some experiments on cats and rabbits in which characteristic convulsions after the injection of certain substances had been investigated. It was also found with these animals that bromide given in increasing doses and increasing concentration gradually diminished the severity of the seizures and finally eliminated them entirely.

Dr. W. RUSSELL BRAIN described the results of biochemical investigations in epilepsy also made at the London Hospital. There was no confirmation of the suggestion that epilepsy was caused by a reduction in the calcium-iron concentration in the body fluids. Hitherto no metabolic abnormality in epilepsy had been conclusively proved or generally accepted, but a good deal of work at the London Hospital had been directed to the study of the blood cholesterol. It had been stated that epileptic women were most likely to have fits at that period in the menstrual cycle when the blood cholesterol was known to be at its minimum, and two French observers had stated that they had found in epilepsy a fall in the level of the blood cholesterol *during the attacks*, though they believed this to be the result and not the cause of the attacks. It was therefore resolved to investigate the behaviour of the blood cholesterol in epilepsy, and the level of the blood cholesterol was thereupon determined in a large number of epileptics. From figures which he exhibited, comprising some thirty or forty normal persons of each sex, and about an equal number of epileptics, it appeared that normal individuals had a higher blood cholesterol content than the epileptics. It was also found that in epileptics from whom blood had been taken within twenty-four hours of the attack the blood cholesterol, both in the whole blood and in the plasma, was considerably lower than in the case of epileptics from whom blood was taken more than twenty-four hours after the attack; in the latter the figures were much nearer to those exhibited by the normals. Dr. Brain concluded that there was a relation between a low level of the blood cholesterol and an epileptic attack. In a few instances which it was possible to observe continuously the attack was found also to be preceded by a prolonged fall in the level of the blood cholesterol; therefore the

reduction in the blood cholesterol in epileptics was not the result of the attack. What the exact relation was between these phenomena they did not know, but the investigation was continuing. He expressed indebtedness to Dr. R. Langdon-Down for much help in connexion with this work. Replying to Dr. JAMES TAYLOR, who said that it was a well known fact that many epileptic women during pregnancy had no attacks, and who asked whether the cholesterol was less or more abundant during pregnancy, Dr. RUSSELL BRAIN said that during pregnancy it was generally regarded as above normal.

Dr. KINNIER WILSON referred to his recent Harveian Lecture (BRITISH MEDICAL JOURNAL, July 3rd, 1926, p. 1), and said that in a paper to be published shortly in the same journal he was dealing with the problems of epilepsy so far as they concerned life assurance; he therefore confined himself to some clinical and physiological points. Epilepsy was certainly not a disease entity but only a symptom; recurrent fits were symptomatic of many different morbid processes, and there might easily be more than one cause of idiopathic epileptic attacks. Epileptic symptoms were not themselves always a sign of disease. Experimental convulsions could be readily brought about in animals which were anatomically and physiologically normal. In many fits, as every clinician knew, movements occurred which were quite ordinary, such as champing of the jaws, smacking the lips, spitting, and clutching. Most of them had seen cases in which not more than one or two epileptic attacks had ever occurred, and to assume that these were due to disease was most questionable. The attack was physiologically only the setting free or loosening of a discharge of accumulated neural energy. Any neural mechanism at any physiological level might be epileptogenous. The crux of the problem concerned the circumstances in which accumulated neural energy was discharged. They did not know what decontrol meant physiologically, nor whether the constellations of neural cells discharged spontaneously or because they were touched by equally unknown effluents. But it was possible to unify to some extent their conceptions of the varieties of epileptic attacks on the supposition that they were due to accumulated static energy manifesting itself in a dynamic form, whatever the structural or anatomical site.

Dr. T. GRAINGER STEWART remarked that they had all, in their practices, seen certain cases which fell into definite groups. There were cases, for instance, in which the association of the attack with certain physical changes was a constant feature. In trying to discover the etiology of epilepsy, he thought it was important to consider epilepsy, not as a disease, but as a manifestation of something abnormal, and to collate certain cases in which similar clinical features and physical changes could be demonstrated throughout the series. Such a group of cases might then form the subject of united investigation. He described one of three similar cases which he had seen and which seemed to belong to a definite group. The case was that of a school teacher who had been exposed to air raids, which possibly might account for a psychical factor. Her family always knew when an attack was pending because of her offensive perspiration. After the development of the attack, instead of being a fresh-complexioned, comely woman, her skin became greasy and blotchy. Her pulse also at these times was abnormally slow, although previous to the development of the attack it was quite normal. He had seen two other cases in which the offensive perspiration, the slow pulse, and the change in the condition of the skin had been associated with epilepsy. Why this occurred, and what was its cause, he did not know, but after treatment with belladonna they made a complete recovery. The longest term for which it was necessary to treat them was six weeks. He could not explain why the belladonna had this effect, but believed that such a group of cases might advantageously be studied and some definite advance be made.

Dr. G. A. SUTHERLAND said that his own problem, like that of others, had been the difficulty of recognizing and diagnosing cases as being really due to epilepsy, and he was afraid he had blundered in classifying as "petit mal" cases which were not due to that condition at all. One matter specially deserved attention—namely, the condition of the circulation, and in particular cerebral anaemia. Gowers and Clifford Allbutt had laid very great stress on the fact in connexion with epilepsy that there were no changes in the circulation. The cerebral attacks in epilepsy were supposed to be due to a sudden "explosion" in the brain cells—that was as good a pathology as any. In circulatory attacks, which were liable to be confused with epilepsy, the heart might be organically sound or it might be diseased, but there was not necessarily any evidence of disease in the patient in the intervals between attacks. Again, just as in epilepsy itself, so in these circulatory conditions, the attacks were of two kinds, one mild, and evidenced by fainting, and the other severe, leading to convulsive movements; both of these were due to cerebral anaemia—it was simply a question of degree. The changes to which he referred might take one of two forms—either an extreme tachycardia or an extreme brachycardia. In the latter condition the attacks were due to the standstill of the ventricle. Mackenzie had said that if the ventricle of the heart remained still for a period of ten seconds cerebral symptoms would predominate; these symptoms might take the form of syncope or they might go on to a form of severe convulsion with stertorous breathing. The other condition was not so well known. Tachycardia took the two forms of paroxysmal tachycardia and, sometimes, auricular flutter. The attack of paroxysmal tachycardia started suddenly, so that the similarity to an epileptic fit was very much increased thereby. This was the type of case in which the diagnosis of petit mal or epilepsy might easily be made. He thought it would be well to look into the question of the circulation during the period of the fits. The heart should be carefully examined to see whether there were any changes such as those to which he had alluded. By paying close attention to the cardiac conditions during fits, a class of fits might be found of which little notice had hitherto been taken, and a wrong diagnosis might be prevented.

Dr. ALDREN TURNER, replying, thought that the arrest of the circulation mentioned by Dr. Sutherland was more probably a consequence of the seizure than its cause. As for the biochemical side of the investigations, he could not satisfy himself that any light on the subject was being obtained from that study. He felt great difficulty also, with regard to the animal experiments brought forward by Dr. Riddoch, in admitting that it was useful to compare the condition in epilepsy with the convulsions induced in animals by injections, and asked whether the experimenter had ever observed on any occasion in these animals recurring attacks of petit mal. Although the major epileptic fits were the more dramatic, petit mal was the outstanding criterion of epilepsy to the physician. Unless Dr. Riddoch had seen recurring seizures of petit mal following these injections, the speaker felt that these animal experiments were of very little value in the study of epilepsy as commonly understood.

SURGERY OF THE COMMON BILE DUCT.

AT a meeting of the Liverpool Medical Institution on December 16th, 1926, Professor R. E. KELLY read a paper entitled "Some observations on the surgery of the common bile duct."

Professor Kelly said that his paper was based on the records of 50 cases in which the common bile duct had been explored; these cases brought to light many interesting conditions. They showed that the common duct might be packed with stones without jaundice, and even without pain; that stones might be found in the common duct together with an enlarged gall bladder; that malignant disease might be associated with attacks of pain and a variation in the depth of the jaundice; that stones might occur with deepening jaundice and no pain; and that malignant disease and stones might be associated. Professor Kelly thought that mere palpation of the common duct was insufficient to give accurate information of the condition of the duct or its contents. He suggested that every dilated common duct should be explored with the finger, probe, or catheter, and that failure to reach the duodenum by these means should be followed by a transduodenal choledochotomy. He discussed the difficulty in

distinguishing malignant disease from impacted stones in the ampulla of Vater. He thought that malignant disease in this situation was very grave, and that reported cures were sometimes due to mistaken diagnoses. With regard to the details of the operation, he had used all the incisions recommended, and for particular reasons liked them all. He thought, however, that in the very obese, with a wide costal angle, the complete transverse incision gave particularly good access and a strong scar. On many occasions he had used the double catheter—one passed upwards into the hepatic duct, and the other down into the duodenum, facilitating the supply of liquid nourishment.

Vital Capacity in Heart Disease.

Dr. WALLACE JONES gave an account of investigations into the vital capacity in heart disease. A simple water spirometer was used, and the readings were expressed as percentages of the standard normal vital capacity calculated by means of West's formula. Fifty normal men and fifty normal women were examined to see how closely the actual vital capacity corresponded with the calculated vital capacity. The result showed that though marked individual variation occurred, the average figure was very close to the calculated normal. In organic cardiac disease there was a marked fall in the reading, the average being between 50 and 60 per cent. of the normal figure. The vital capacity was lowest in the mitral stenosis group, especially when associated with auricular fibrillation. In functional cardiac disease the average reading was 85 per cent.—a very high figure in view of the marked dyspnœa which was generally associated with this condition. A group of cardiac cases was also kept under observation for a considerable time, and though the vital capacity improved with increase in the cardiac reserve power, the readings only followed slowly the changes in the heart condition.

JAMES MACKENZIE INSTITUTE.

AT the James Mackenzie Institute for Clinical Research, St. Andrews, on December 21st, 1926, Dr. WALTER ELLIOT, M.P., gave an address on clinical research in its relation to the public health services. He expressed first his conviction of the valuable results which must accrue from the meeting of public health administrators and general practitioners, and laid it down as a fundamental rule that every respect must be paid to the opinions of those in touch with the living being; the "clinician of the farms" had knowledge with regard to stock unpossessed by many professors. The fact that research figured in the agenda of the Imperial Conference last autumn for the first time in history marked a distinct stage in the attitude of the administration towards it. But there was a danger that too much reliance was being placed upon the word "research," and that anyone getting into difficulties had only to pronounce the magic word to have his difficulties overcome. There was also the danger of clinical research coming to be looked upon as something apart from the practice of medicine, whereas it should grow and flower out of the daily work of practitioners. This required observation, intuition, imagination, just as much in the clinician in his daily round as in the laboratory worker.

In the relationship of clinical research to the public health services there was a danger that the turning on of the enormous machine of administration to the work of people who were "on their own" and unco-ordinated might do more harm than good. One way to avoid this danger was to have a proper conception of the work and difficulties of research, both in the minds of the administrator and of the clinician. The administrative worker must come into contact with the growing process which research represented.

Dr. Elliot summarized his conclusions thus: (1) Public health work would increasingly concern itself with research. (2) Control, especially superimposed control, would of necessity fail, and opportunities for work were the most that organizations could hope to offer. (3) The independence of scientific institutions ought to be jealously guarded so as to provide the necessary check on the rapidly increasing undertakings of State research.

Reviews.

PHYSIOLOGY FOR THE MEDICAL PRACTITIONER.

PROFESSOR J. J. R. MACLEOD of Toronto is to be congratulated on the success of his book, a fifth edition of which is called for since its first appearance in 1918. Although *Physiology and Biochemistry in Modern Medicine*[1] is as admirable as ever, both in its material and its mode of presentation, the serious question arises whether it is as good a book in its present form as, say, the first and second editions. We are of opinion that Professor Macleod has made a mistake in expanding his excellent and original book, designed as it was (to quote from the preface to the first edition) to review "those portions of physiology and biochemistry which experience has shown to be of special value to the clinical investigator. The work is not intended to be a substitute, either for the regular textbooks in physiology or for those in functional pathology. It is supplementary to such volumes." There was a very real need for a book which would interest men whose work lay on the clinical side—a book which would bring before these workers, clearly and definitely, the salient facts of physiology. And now at the behest of "various teachers of physiology" Professor Macleod has been inveigled into changing his outlook, into, indeed, that time-wasting sport of trying to kill two birds with one stone. In the preface to the new edition he states that his "manual has been expanded in the present edition in order that it may also be used as a textbook of physiology for students of medicine." There is enough of the excellent original to the fore to prevent the book from falling between two stools, but, if the aim is to be achieved of making this compendium serve both as a textbook of physiology and a scientific bedside guide in the study of disease, the next edition will require to be expanded still more in order that the pure physiology aspect may be adequately treated. Many of the present stimulating sections, sufficient though they be for the worker who has already studied physiology in one of the standard works, will require drastic alteration and extension if they are to be the sole sources of information, and sundry gaps will require filling. We hope and believe that, for instance, sleep, phonation, and reproduction each and all are still part and parcel of physiology.

Although we regret the alteration in the plan of the book, and believe that Professor Macleod's better judgement will endorse this regret, it goes without saying that the volume is well up to its old standard of interest and information and that it will prove invaluable to the clinician who wants a good working knowledge of modern physiology. The sections on circulation, respiration, and metabolism—except the chapter on dietetics, which is really inadequate—are excellent and stimulating surveys of their respective fields.

MENTAL HYGIENE.

DRS. HENRI BOUYER and MARTIN-SISTERON have written a volume entitled *L'Hygiène Mentale et Nerveuse Individuelle*.[2] Though many works have been devoted to the subject of the prevention of diseases of the body, the medical profession has concerned itself but little with the preservation of the mental health of the community. Twenty years ago Sir Thomas Clouston was responsible for a book in which he endeavoured to utilize our knowledge of the mind and nervous system and their disorders, with a view to developing a science of mental hygiene. Since then the importance of this subject has been increasingly recognized, and there is now a growing body of literature dealing with the application of psychiatric knowledge to the problem of the prevention of mental disorder. The book with which this notice is concerned deals clearly and adequately with the subject, and the student and practitioner will find it useful as a textbook of mental hygiene,

[1] *Physiology and Biochemistry in Modern Medicine.* By J. J. R. Macleod, M.B., LL.D.Aberd., D.Sc.Tor., F.R.S., assisted by Roy G. Pearce, A. C. Redfield, N. B. Taylor, J. M. D. Olmsted, and by *others.* Fifth edition. London: H. Kimpton. 1926. (Roy. 8vo, pp. xxxii + 1054; 291 figures. 42s. net.)

[2] *L'Hygiène Mentale et Nerveuse Individuelle.* Par Dr. Henri Bouyer et Dr. Martin-Sisteron. Préface de M. le Dr. Henri Claude. Paris: A. Maloine. 1926. (5¼ × 7½, pp. iv + 352. *20 fr.*)

for the profession is still in need of further information on this matter. As Professor CLAUDE observes in his preface to this volume, "What examiner in the faculties of medicine dare set a question on mental hygiene?" He insists, furthermore, on the necessity of interesting the medical profession, and all those who believe in the progress of the social organization, in a subject which will one day be regarded as of primary significance. The considerable incidence of mental disorder in the community certainly makes it desirable that no efforts should be spared to bring about its diminution.

ATLASES OF HUMAN ANATOMY.

In *Baillière's Synthetic Anatomy*,[3] by Dr. J. E. CHEESMAN, we have an atlas quite different from those to which we are accustomed. Instead of a series of separate figures drawn to different scales and reproduced on separate pages, Dr. Cheesman has provided a series of diagrams representing the anatomical arrangements of a part as they may be seen, so to speak, in serial longitudinal sections, all drawn to a uniform scale on transparent sheets, capable of being superimposed on each other. In other words, the student can study the anatomy of a part in layers, lifting up or laying down one sheet after another. Further, by looking through the superimposed sheets he can, within limits, study at one and the same time several layers. The figures are necessarily somewhat diagrammatic, or, as Dr. Cheesman prefers to describe them, conventional; for the structures in the various layers have to be regarded as running in parallel horizontal planes, as otherwise it would be impossible to obtain a connected or continuous view of them. The aim has been to give a definite, composite, and stereoscopic mental picture of every region of the body, step by step, and part by part. The atlas will be published in twelve parts, of which the first three, dealing with the upper extremity, are already issued. If we take the part dealing with the shoulder and upper arm as a fair index of what the other parts will be, each part will consist of some twelve figures, most of them coloured. While the idea of the atlas is perhaps not entirely original in every respect—the old "window atlas" in which sections could be lifted up and folded back and so parts underneath exposed to sight might, we think, be regarded as an earlier form—there can be no question that in the hands of Dr. Cheesman the plan has undergone a process of elaboration which makes it in all essentials an original piece of work and one which we think may well prove helpful to the student, particularly in revision, for, as in all atlases, the stereoscopic representation tends to be defective; to obtain a true conception of depth it would appear that there is no substitute for dissection. The atlas is accurate to an unusual degree for a first edition; the figures are not lacking in artistic finish, and the dissections and planes have been chosen with judgement and skill. There have evidently been technical difficulties in the exact application of colour to the blood vessels—difficulties which have not been in many cases entirely surmounted. We consider, however, the atlas a highly commendable production on which both Dr. Cheesman and the publishers may be warmly congratulated. As the price of each part is only half a crown, and as each part can be purchased separately, we have no hesitation in advising any student who experiences difficulty in his study of anatomy to purchase a part and to find out for himself if he receives material assistance—as we think he will—from the method here devised.

The *Atlas of Human Anatomy*[4] by CARL TOLDT inevitably invites comparison with the similar atlas by Spalteholz. Judged by number of pages or illustrations, Toldt's is the larger, and yet it is published in two volumes, whereas Spalteholz's is published in three. Naturally the subjects chosen for illustration are largely identical, but there is a striking difference in the manner of their reproduction, for whereas in Toldt's the figures are line drawings, in Spalteholz's they are half-tone. The atlases illustrate very clearly the advantages and disadvantages of the two methods, the line drawing permitting of much greater detail, while the half-tone, sacrificing a certain amount of detail, succeeds in conveying the clearer conception. There is a danger in line drawings of attempting too much detail, with the result that definition is obscured, if not actually lost, a danger which Dr. Toldt has not always been able to avoid, as, for instance, in the figure, numbered 353, of the calcaneum. The absence of any illustration showing the auriculo-ventricular bundle suggests that the atlas is not in every respect abreast of the times. A certain carelessness is also evident here and there—the crowns of the teeth, for instance, in figure 556. We note, too, a repetition of the error that angulus Ludovici means angle of Ludwig. On the whole, however, the atlas—which must have entailed in its preparation great patience and labour as well as ingenuity—reaches a very high standard of excellence, and the choice between it and Spalteholz's must largely depend on the preference which the student may have for a line or half-tone drawing; it must partly depend, too, on the depth of his purse, for Spalteholz's is more than half again as expensive as that of Toldt's, the result no doubt of the more generous use of colour by Spalteholz.

L'Anatomie en Poche[5] is a small pocket atlas with 297 illustrations—a kind of companion volume in French to the well known Gray's *Pocket Anatomy*. The illustrations, of which many are coloured, follow the usual lines, with, however, a definite bias to the diagrammatic, particularly evidenced in those dealing with the nervous and lymphatic systems. The main advantage of the atlas lies clearly in its size and the consequent ease and frequency with which it may be consulted. The illustrations are on the whole well chosen, clear, and accurate. The book is, we think, likely to prove of assistance to those students who, for one reason or another, find during the day short intervals of leisure, as, for instance, on railway journeys.

LOCAL ANAESTHESIA FOR THROAT, NOSE, AND EAR.

DR. KING has rendered a service of inestimable value, not only to laryngologists, but also to general surgeons who employ local anaesthesia, by setting out in an impartial yet authoritative manner the present position relating to the properties and employment of local anaesthetics.

This occupies about half of his book entitled *Local Anesthesia in Otolaryngology and Rhinology*.[6] The second part of the volume consists of the reports of the committees of the American Medical Association on the toxicity, advantages, and disadvantages of the various local anaesthetics in nose and throat work. This is edited by Dr. Emil Mayer, the chairman of the research committee on local anaesthesia. The third part consists of a folded table, contained in a pocket in the cover, setting forth the details of forty-three cases in which death occurred under local anaesthesia.

The book is worthy of careful and serious study by all who use local anaesthetics; the general conclusion is that cocaine should never be injected, and only applied in weak solutions, but that for injections novocain in dilute solution is both safe and efficient. The great majority of accidents have followed the use of cocaine, and it is worth noting that Dr. Rudolph Matas, the celebrated surgeon of New Orleans, has advised that the use of cocaine should be abandoned altogether. While the recommendations do not go to this length, yet the use of cocaine paste is unsparingly, and as we believe rightly, condemned. The use and value of antidotes and methods of resuscitation are left a little uncertain, but it appears that experimentally the use of calcium salts in cocaine poisoning has no value. It is clear, however, that if the recommendations put forward are universally adopted accidents will almost, if not entirely,

[3] *Baillière's Synthetic Anatomy.* By J. E. Cheesman. Part I, The Upper Arm and Shoulder; Part II, The Forearm; Part III, The Hand. London: Baillière, Tindall and Cox. 1926. (Double post 8vo, 1 folder and 12 figures each part. Complete in twelve parts, 2s. 6d. each part.)

[4] *An Atlas of Human Anatomy.* By Carl Toldt, M.D., assisted by Prof. Alois Dalla Rosa. Adapted to English, American, and International Terminology by M. Eden Paul, M.D.Brux., M.R.C.S., L.R.C.P. Revised edition. New York: The Macmillan Company. 1926. (Double demy 8vo, First Section, pp. 401, 377 figures and index; Fourth Section, pp. 402-985, figures 641 to 932 and index. 42s. net.)

[5] *L'Anatomie en Poche.* Par Victor Pauchet et S. Duptet. Paris: G. Doin. 1926. (4½ × 7½, pp. 316; 297 figures. 25 fr. net.)

[6] *Local Anesthesia in Otolaryngology and Rhinology.* By James Joseph King, A.B., M.D. New York: Paul B. Hoeber, Inc. 1926. (Med. 8vo, pp. xi + 205; 21 figures. 5 dollars.)

cease to occur, and it is also apparent that accidents, both fatal and also of minor degree, have been far more frequent than the number reported might lead us to assume.

The new anaesthetic borocaine is not mentioned, but apart from this the summary is complete and unbiased. It may be that the ideal agent for local anaesthesia has yet to be found, but for the moment Dr. King seems to have said the last word on this important matter.

SURGERY AT THE SALPÊTRIÈRE.

PROFESSOR A. GOSSET, professor of clinical surgery in the Faculty of Medicine of Paris, and surgeon to the Salpêtrière, has done well to follow the lead of J. M. Charcot, Pierre Marie, and other physicians who have shared the medical riches of the great infirmary with the world, by deciding to bring out *Travaux de la Clinique chirurgicale de la Salpêtrière.*[1] This first volume, in the preparation of which he has been assisted by fourteen collaborators, contains much interesting material, and its 118 well executed figures are in keeping with the character of the text. Of the sixteen articles, Professor Gosset has written the whole or part of five. Together with Ivan Bertrand he describes as gliomas the tumours often pedunculated and commonly arising from the lesser curvature of the stomach, which have been recorded as sarcomas, leiomyomas, or fibromas; as they are especially derived from the sheath of Schwann they are here divided into massive, myxomatous, ulcerated, and pedunculated schwannomas. With J. Charrier and Ivan Bertrand, Professor Gosset records, with a well illustrated account of their histology, two cases of polycystic gliomatous tumours of peripheral nerves. He also writes on choledochotomy for gall stones, with W. Mestrezat, on the nature and mode of formation of "white bile," and on cholecystography with G. Loewy. These three valuable articles on biliary disease are supplemented by Petit-Dutaillis and Mestrezat's critical contribution, fortified by many observations, on hypercholesterinaemia, and on cholelithiasis, in which they show that from a diagnostic point of view this is of very little value. The wide range of activity of the department is shown by the inclusion of J. Magrou's account of tumours in plants, and his record in conjunction with P. Rouché of actinomycosis in a war wound. Radium treatment of cutaneous cancer is regarded by E. Wallon as the most satisfactory method; Francillon-Lobre reports on radium therapy in 155 uterine fibromyomas during the past five years at the Salpêtrière, and P. Rouché and J. Paul contribute their observations on the blood of cancerous subjects after radium treatment. Two unusual cases of interest are published respectively by D. Petit-Dutaillis on intermittent hydronephrosis in a horseshoe kidney, and by R. Soupault and Ivan Bertrand on a thyroid adenoma of the benign chorion-epithelioma type.

There are other attractive articles in this new publication, which will ensure its welcome by scientific surgeons.

DAME LOUISA ALDRICH-BLAKE.

IN his brief preface to a concise biography of *Dame Louisa Aldrich-Blake*,[2] Lord RIDDELL says, "I have tried to show what she was as well as what she did." In this aim he succeeds well, for the reader gets from it a clear conception of a remarkable woman.

Lord Riddell's task cannot have been easy, for written material from which to glean information was scarce, and revelations of an intimate nature were not part of Dame Louisa's habit of mind. Nevertheless, from the dry facts of ancestry, environment, and achievements the author has contrived to create a picture which lives. He compares Dame Louisa to a "stately frigate, which rarely furls its sails, and is set on a steady course through the buffeting waves of life." She led a life internally serene, and externally concentrated on achievement of purpose. In reply to an inquiry from Lord Riddell as to how she succeeded in being so disinterested, she gave this characteristic answer: "Never having been compelled to earn my living, I have been freed from the strivings that inevitably beset the lives of most professional people."

An interesting chapter is that one which contains quotations from Dame Louisa's collection of aphorisms. The address she gave at the School of Medicine for Women in 1900 sets forth her philosophy, and is quoted at some length. "No man is a hero to his own valet," but many greater folk might well envy the unspoken testimony in the bare statement made by the author that Dame Louisa's maid was with her for twenty-five years, and in the note of true devotion sounded by her chauffeur in his description of the final journey to Bicknor.

THE WAR HISTORY OF THE UNITED STATES ARMY MEDICAL DEPARTMENT.

THE medical history of the United States Army in the great war is being published at intervals as each subject is completed for the press. Thus the first volume to appear was the last of the scheduled series—namely, Part I of Volume XV, containing tables of anthropological measurements of recruits. It came out in 1921, and no other volume was published until 1923, when Volume I on the administrative work of the Surgeon-General's Office in Washington and Volume V on the military hospitals in the United States were issued. These were followed in 1924 by Part II of Volume XI on surgery, in 1925 by Part II of Volume XV on casualty statistics, and more recently by Volume VIII on field operations. Only one-third, therefore, of the complete series has so far been published. In this connexion it may be recalled that the eleven volumes of the comprehensive British medical history of the war were completed in 1923, and that by the end of that year all but the last two, which did not emerge from the press until early in 1924, had been published.

Volume VIII of the United States history[3] is a massive volume of 1,097 pages, and is the equivalent of the four volumes of the general history of the British medical services, whose arrangement it follows closely. The first section, on field operations, gives a general account of the United States medical organization and of its medical units in the field, together with a brief chapter of less than three pages on the veterinary service, which came under the administration of the medical department in 1916. Section II deals with the work of the American divisions incorporated in French armies during the operations subsequent to the German advance in 1918 south of the Somme, and during the operations on the Aisne and Marne, which inaugurated the allies' advance to victory. It was not until after this phase of the war that the American Expeditionary Force was in a position to concentrate as an army on its own front and with its own lines of communication. The U.S.A. First Army was then organized in August, 1918, and in the middle of September was allotted the task of carrying on operations on the St. Mihiel front and in the Meuse-Argonne sectors. The work of its medical services during these operations is recorded in Sections III and IV of the volume. The Second U.S. Army was organized in time to take over the St. Mihiel front from its First Army before the armistice, but made no active advance until three days before the cessation of hostilities. Its operations, together with contemporaneous operations of certain American divisions with French armies in Champagne and Flanders, are described in Section V. The next section is a single chapter on the training of the U.S.A. Second Corps with the British Second Army and the subsequent activities of the corps with our Fourth Army during the advance to victory. The final section of the volume contains chapters dealing with the occupation of Germany after the armistice by the U.S.A. Third Army, which had been in course of preparation, and with an account of American medical services in Italy, North Russia, and Siberia. The last hundred pages form an appendix containing brief histories of each division

[1] *Travaux de la Clinique chirurgicale de la Salpêtrière.* Publiés par A. Gosset. Première série. Paris: Masson et Cie. 1926. (Imp. 8vo, pp. 254; 118 figures. 8s. 4d.)

[2] *Dame Louisa Aldrich-Blake.* By Lord Riddell. London: Hodder and Stoughton, Ltd. 1926. (Demy 8vo, pp. 91; 8 plates. 6s. net.)

[3] *The Medical Department of the United States Army in the World War.* Volume VIII: Field Operations. Prepared, under the direction of Major-General M. W. Ireland, by Colonel Charles Lynch, Colonel Joseph H. Ford, and Lieut.-Colonel Frank W. Weed. Washington: Government Printing Office. 1925. (Sup. roy. 8vo, pp. 1097; 23 tables, 4 charts, 60 plates, and 99 figures: 3 dollars.)

the field, extracts from field service regulations and the manual of the medical department, and tables of organization of the United States Army.

It is not possible to examine critically, or to do full justice to, a volume of this kind in a review of the length possible to us. Generally speaking, the medical experiences and the lessons learnt from them are similar to what has already been recorded in the British official medical history of the war. The Americans appear to have been in a constant state of anxiety on account of shortage of medical personnel. In one place it is stated that the armistice was the only thing that saved the medical department from disastrous situation because of this. Yet at that time the U.S.A. medical services had 30,591 medical officers and 81,341 enlisted men. With these enormous resources, more than double those of the British medical services for a much larger force and employed over a much longer period of time and in more varied and wider fields of war, one can only surmise that, if there was so serious a shortage, the personnel could not have been distributed economically. The number and variety of specialists and specialist teams also appear to have been a distinct drain not only on personnel but also on transport and equipment. Specialists were to be found in every zone of operations in the field, and we read of surgical, orthopaedic, psychiatric, tuberculosis, urological, and gas treatment experts in divisional triage stations, and even in advanced dressing stations. Also, on more than one page, the multiplicity of clearing and special hospitals is noted as causing confusion and wastage of personnel and transport.

The printing, illustrations, and maps in Volume VIII are beyond praise, although some of the maps are too crowded with detail to make it possible to follow them with ease. As a book of reference and study for British readers it will prove a useful supplement to the British medical history of the war, as in many respects it confirms and emphasizes several of the lessons we had already learnt before our American colleagues came on the scene. The price, it may be noted, is exceptionally low for a work of this kind.

NOTES ON BOOKS.

DR. F. H. RICHARDSON finds that, notwithstanding the flood of books on what is called the new psychology, it is not easy to find concrete suggestions for parents on the management of the early years of childhood. He has endeavoured to supply the want by his *Parenthood and the Newer Psychology*,[10] wherein he aims at setting forth the cardinal principles of this psychology, and at applying the principles in such a manner that the parent shall better understand his child. His chapters inform us that the greatest thing in the world is love; that the greatest danger in our lives is arrested development; that the strangest thing in the world is our consciousness; and so on. The greatest opportunity ever offered is said to be the education of a child. This appears to be an arduous task, and it is surprising that the American father can find time to do it. He must visit his child's school, not once, but several times each term, as a leisurely observer of the pabulum with which his child is being fed. Mentally he must place himself in positions similar to those in which his child is being put, in order to judge of the situation. If he finds the teacher's explanations muddled, and if he evaluates properly the feelings of his son, he must begin to look about him for a better school, and be prepared, if necessary, to dispense with a much-loved motor car or a highly prized style of living in order to obtain better educational facilities.

The second part of the third volume of the system of medicine,[11] edited by Professor G. VON BERGMANN and R. STAEHELIN, is devoted to diseases of the alimentary system. Affections of the liver, bile ducts, and pancreas are discussed by Dr. Friedrich Umber of Berlin, who prefaces his clinical study by remarks on the development, structure, and chemical composition of the liver. A bibliography of ten pages is appended in which British names are conspicuous by their absence. The chapter on the diagnosis and treatment of intestinal diseases in general is written by Professor F. Seiler of Berne. To the first part of the fourth volume Professor Paul Morawetz of Leipzig and Dr. Gerhard Denecke of Marburg contribute an article on the blood and its diseases, including a consideration of its physiological chemistry and methods of clinical examination. Professor Felix Lommel of Jena writes on diseases of muscles, bones, and joints, Professor Max Klotz of Lubeck on rickets, and Professor W. Alwens of Frankfort on late rickets, osteomalacia, senile osteoporosis and osteopathies due to starvation. Professor Leopold Lichtwitz is entrusted with the section on diseases of metabolism, including diabetes mellitus, gout (in which he has the collaboration of Dr. Steinitz of Hanover), obesity, malnutrition, and various anomalies of the urine. An appendix contains an article by Dr. Erich Meyer of Göttingen on diabetes insipidus. The book is a laborious compilation which will no doubt be found useful for reference.

Hygieia, or Disease and Evolution[12] is Dr. BURTON PETER THOM'S contribution to the To-day and To-morrow Series of Messrs. Dutton of New York. Though Dr. Thom is not a very clear exponent of his object, we gather that he is a convinced optimist. The disease factor in evolution has, he thinks, two aspects—the biologic and the sociologic. Diseases not only eliminate the unfit; epidemics may be a further blessing in disguise by acting as milestones in the progress of humanity. Thus, according to Dr. Thom, the Black Death more than anything except the advent of Christianity broke the power of the strong over the weak, and inaugurated the glorious era of industrialism w[illegible] the earth and all that dwell therein. [illegible] beneficial work, disease will ultimately disappear, and the prohibition of alcohol, it is held, will help its disappearance, and assist in the advent of the golden age when misery will be no more, and peace, health, and happiness will reign supreme.

In their *Health Visitor's Guide*[13] the Misses ASHBY and EARP state that there should always be a period of at least two years between the birth of one child and the next, thus effectively eliminating any more families of twenty. They advise scrubbing the nipples with a nail-brush to make them tough and supple; and they quote, apparently with approval, a child who, when asked to play a game, said, "No, I have been naughty; I must stand in the corner." Apart from such slight eccentricities their little book is a useful compendium for the health visitor, and may help, as suggested in the preface, to condense and "pigeon-hole" her knowledge.

The aim of *Baillière's Nurses' Complete Medical Dictionary*,[14] edited by Dr. H. CLIFFORD BARCLAY, is to fulfil at once the purpose of a dictionary and an encyclopaedia for nurses. The present edition contains a number of new words dealing with the subjects of electricity, midwifery, ultra-violet rays and *x* rays, and contraception. The work as a whole fulfils a useful purpose, but is sadly in need of revision. In addition to the presence of many words not in common use we have noted several errors, such as "empyaema," "labium minor," and "a white striae," as well as the statement that Koplik's spots are found in anaemia and are caused by the Leishman-Donovan parasite, that typhus comes from flea-bites, and paratyphoid is caused by the paracolon bacillus.

The Nursing Mirror Pocket Encyclopaedia and Diary, 1927,[15] is the result of a thorough revision of previous issues, while several new subjects have been introduced. This handy book is constructed on most practical lines, and will be found very helpful as a pocket reference guide for most contingencies that are likely to be encountered in nursing. The alphabetical arrangement of the contents and the careful attention paid to separating clearly the various paragraphs facilitate quick reference.

DR. CARL POROTZKY'S book on gymnastics for nervous children[16] is intended for doctors, teachers, and parents; it consists of a brief description of thirty-nine exercises, each of which is accompanied on the opposite page by an excellent photograph of the child engaged in its performance.

[10] *Parenthood and the Newer Psychology.* By Frank Howard Richardson, A.B., M.D. New York and London: G. P. Putnam's Sons. 1926. (Extra post 8vo, pp. xx + 200. 7s. 6d. net.)

[11] *Handbuch der inneren Medizin.* Zweite Auflage, herausgegeben von G. von Bergmann und R. Staehelin. Dritter Band, Zweiter Teil: Erkrankungen der Verdauungsorgane II, und Vierter Band, Erster Teil: Blut-Bewegungsapparat-Konstitution-Stoffwechsel. Berlin: Julius Springer. 1925. (Roy. 8vo. Bd. III, pp. ix + 723, 119 figures; G.M. 48. Bd. IV, pp. xii + 1033, 126 figures; R.M. 69.)

[12] *Hygieia, or Disease and Evolution.* By Burton Peter Thom, M.D. To-day and To-morrow Series. New York: E. P. Dutton and Co. 1926. (Post 8vo, pp. 107.)

[13] *Health Visitor's Guide.* By Lucy E. Ashby and Kate Atherton L. Earp. London: Faber and Gwyer, The Scientific Press, Ltd. 1926. (Fcap. 8vo, pp. viii + 131. 3s. net.)

[14] *Baillière's Nurses' Complete Medical Dictionary.* Edited by H. Clifford Barclay, M.D., F.R.C.S., etc. Third edition. London: Baillière, Tindall and Cox. 1926. (Imp. 32mo, pp. vii + 248. 3s. 6d. net.)

[15] *The Nursing Mirror Pocket Encyclopaedia and Diary, 1927.* Twentieth year, enlarged and thoroughly revised. London: The Scientific Press, Faber and Gwyer, Ltd. 1927. (Imp. 32mo, pp. xix + 385; illustrated. 1s. 6d. net.)

[16] *Konzentrationsgymnastik für zerstreute und nervöse Kinder.* Von Dr. Med. Carl Pototzky. Leipzig: G. Thieme. 1926. (Post 8vo, pp. 80; 34 plates. M. 3.)

PITFALLS IN DIAGNOSIS.

ADDRESS BY PROFESSOR FINNEY OF BALTIMORE.

DR. J. M. T. FINNEY of Baltimore (Professor of Clinical Surgery, Johns Hopkins University) addressed the Post-Graduate Hostel, at the Imperial Hotel, London, on January 18th, and the Section of Surgery of the Royal Society of Medicine on the following day. In both cases the announced subject was "The pathology and diagnosis of gastric and duodenal ulcer," but in addressing the post-graduate audience Dr. Finney took a wider range, and spoke of pitfalls in making a diagnosis in abdominal conditions generally. He adopted as his "text" the title of a book recently published in the United States by a well known war correspondent. The title was "Concerning the operation," and the book was written during the convalescence of the author, and contained some reflections which Dr. Finney found more thought-provoking than complimentary.

Diagnosis, said Dr. Finney, was sometimes spoken of as if it were a routine matter—as though any fool could make it. He himself, however, found great difficulty in reaching a positive conclusion, even with the best help he could obtain from instruments of precision. Some surgeons were accustomed to inveigh against the physician on this matter of gastric ulcer, saying satirically that the ulcer had been "cured" medically half a dozen times already. Well, perhaps it had, perhaps it had not. One surgeon in the States was accustomed to say, with a wave of his hand, "The aseptic scalpel is the absolute panacea for all surgical ills." That sounded well; it caught the gallery. But what about the percentage of mortality in every surgical operation? Even in the best hands, under the best conditions, in the best hospitals, there was an appreciable mortality rate in surgery, also an appreciable percentage of unsatisfactory results after operation. It puzzled him to hear surgeons claiming 100 per cent. of cures for a given procedure.

In certain cases, even with the most skilled help, it was necessary to make an exploratory incision in order to ensure the diagnosis. With the open abdomen the surgeon was dealing no longer with a theory, but with a condition. In the absence of some definite, demonstrable pathology he found himself closing the abdomen again, and he thought that was good surgical judgement. It seemed to him that most of the bad results in surgery were due to the non-discovery of a definite pathological condition at the time of operation. Given the definite pathological diagnosis, the rest was easy. The actual art of surgery was a thing that almost anybody could acquire. It was a question of manipulative skill and of sufficient experience as a result of repeated operations. But surgical judgement was the rarer thing. It was not altogether intuitive—though some people seemed naturally to do the right thing—but most of it was just downright hard work, careful observation, and the exercise of one's reasoning capacity.

Dr. Finney was specially impressed with the difficulty of differentiating between a variety of possible things in dealing with abdominal conditions. Some years ago he was called out into the country to see a young girl who had pain in the stomach, vomiting, and so forth, and whose case, from the description, looked like a typical appendicitis. But after a close examination the only thing he was sure of was that this was not an acute appendix. The country doctor in charge of the case asked him what he was going to do, expecting him to do something. He replied that if he had the girl in hospital at Baltimore he would not operate. But he was compelled to return to Baltimore, and was begged to do something before he went. The case was put to the girl's parents, who were sensible folk, and they said, "Would it not be safer to take the appendix out?" Rather against his better judgement he took the appendix out, and found, as he expected, nothing there to account for the condition. Returning to Baltimore, he received next day a laconic telegram from the doctor; it read simply, "Measles"! Every surgeon must have seen these abdominal cases, looking very much like appendicitis, in association with certain of the acute exanthemata, probably arising from some form of congestion. Shortly after this case he was called to see a child in Baltimore with a similar condition. With this experience fresh in his mind, and as the characteristic signs of an acute appendix were not present, he asked casually whether any measles were about, and learned that actually there was a case of measles in the same house. This case, again, proved to be measles; but, just to show how fatal it was to argue from one case to another, he was called shortly afterwards to another case presenting similar features, and on the strength of this experience he suggested measles; at two o'clock the following morning he was summoned by telephone to perform an operation for acute perforated appendix. The whole point of the matter was not to be too cocksure about diagnosis. It was better to have an open mind and the humble sense of being human and prone to mistakes.

Many years ago, before the x rays were available, he was called to see a boy who was suffering from severe abdominal pain and upset. It appeared that he had been eating nuts. Sir William Osler, who was in Baltimore at that time, used to say that every circus that came to town brought an epidemic of appendicitis owing to the consumption of peanuts and circus lemonade by the juvenile community. There appeared to be reason to suspect appendicitis in this case. But when Dr. Finney was sent for to operate he refused to accept the ready-made diagnosis. He satisfied himself that this boy had not acute appendicitis. One feature of the case was that the boy insisted on lying with his thigh curiously flexed, maintaining this position day after day. He thought of hip disease, of everything except the right thing. The boy had no local abdominal signs, though he insisted that his pain was abdominal. Sir William Osler was asked to examine him. By that time the boy had developed a cough, and as there was a history that he had visited a house in which there were several cases of typhoid fever, Osler, with this in his mind, said that it looked like an atypical typhoid, but beyond that he would not commit himself. Other diagnosticians were called in, but without result. Not until a week afterwards did the true condition reveal itself. It was an acute osteomyelitis in the ilium, and the pain had been referred to the abdomen. By that time the condition was septic, and although an operation was done, the boy died.

In diagnosis and in choice of operation also it was very important not to go upon preconceived ideas. Nothing militated so much against success. To determine the best thing to do, once the condition was diagnosed, was not a rigid matter at all; the whole of one's judgement had to be bent to the particular case in hand. There was no one surgical procedure which was applicable to all cases. The choice of procedure must depend upon the surgeon's judgement, experience, and observation of his own previous work and of the work of others. In gastric ulcer, for example, if the surgeon accepted the view, which was held by the Mayo Clinic, that 70 per cent. of gastric ulcers developed cancer, he was not doing his duty to his patient unless he did a wide resection. If he held that the proportion of cases in which this eventuality occurred was smaller, then the question arose whether one was justified in sacrificing so large a proportion of a vital organ like the stomach to relieve what might be an innocent ulcer. That was a question which would be answered by one man in the affirmative and by another in the negative, but the important thing was for the surgeon to have a reason for the operative course he followed—gastro-enterostomy or any other—which he could successfully defend against anybody except the fanatic. One famous surgeon in the United States, Murphy, was fond of using two words, which, Dr. Finney thought, ought never to be used in surgery—the words "always" and "never." Surgery was not as easily predictable as all that. If a thing was said "always" to happen, there would be found to be occasions when it did not happen; if it was said "never" to happen, it would be found happening. He begged surgeons to work out a philosophy in all these matters, and above all things to remember that every unnecessary operation was a reproach to surgery.

SMALL-POX IN THE NORTH OF ENGLAND.

OWING to the large number of cases of small-pox reported lately, both from Sheffield and the district around and from the county of Durham, we have thought it well to seek authoritative information on the spot. For the particulars given below we are much indebted to Professor F. E. Wynne, medical officer of health for Sheffield, and to Professor T. Eustace Hill, medical officer of health for the county of Durham. It will be seen from this general survey of the progress of the epidemic that, while there has been a very considerable prevalence of small-pox in both areas, the cases have been mild, and delay in diagnosis from this cause has favoured the spread of the disease.

THE SITUATION IN SHEFFIELD.

Sheffield was free from small-pox from 1910 until 1922, when eleven cases were discovered and dealt with between April and June. This outbreak appeared to be controlled by a very drastic policy of isolation and vaccination of contacts and a strict search for possible cases in the neighbourhood. Small-pox, however, was prevalent in adjoining areas in Nottinghamshire, Derbyshire, and Yorkshire. In 1923 three cases were discovered, followed by four in 1924. All of these cases were typical of the very mild type which has recently become familiar. A few had well developed eruptions, quite characteristic of the old type of small-pox, but even these cases escaped without any constitutional disturbance whatever.

On October 6th, 1925, a case was discovered in one of the elementary schools. This case was traced through a series of unrecognized cases to two boys who had been in contact with small-pox at Middlesbrough in June, and had there contracted the disease. Their illness had been regarded as chicken-pox; no doctor had been called in; they returned to Sheffield early in July, and before the end of the year forty-four cases had been notified. It was evident that the city was faced with the possibility of an outbreak on a large scale, and a hutment camp at Redmires was taken over from the Education Committee and equipped as a small-pox hospital. During the early months of 1926 the epidemic lingered on, but it was still possible to isolate all contacts in the houses retained by the corporation for this purpose, and in the summer months there seemed to be ground for hope that the epidemic had been overcome. In October of last year, however, the notifications began again to rise rapidly. The total number of notifications in 1926 was 163, of which 107 were made between October 1st and December 31st. For the first fortnight of the present year the notifications have been as follows: Week ending January 8th, 20; week ending January 15th, 157.

The resources of the city are now strained. It is not possible to remove all cases on the day of notification, and a large number of contacts are isolated in their own homes and are suffering serious inconvenience. The accommodation at the Redmires camp is being increased immediately up to 300 beds, and arrangements are in hand for the erection and equipment of further huts at once. Additional staff for the medical officer of health and the medical superintendent of the hospitals has been provided, and will be increased if necessary.

A campaign in favour of vaccination has been instituted in which the Sheffield press has cordially and most warmly co-operated. Thanks very largely to the four Sheffield newspapers, many thousands of persons in the city are being vaccinated or revaccinated. Public vaccinators and insurance practitioners are finding grave difficulty in coping with the demands made on their services. On Friday last, January 14th, a case of concealment of the disease was successfully prosecuted by the town clerk on the advice of the medical officer of health, but there is no doubt that other misdemeanours of this sort are occurring, which cannot always be detected or "proved."

From the medical point of view the most important fact is that while the majority of cases continue to be of a very mild type, often presenting some difficulty in diagnosis, there is now nearly always a history of symptoms at the stage of onset which are very marked and generally diagnosed as "influenza." This did not occur in the cases seen in 1922-24. Again, a considerable number of the cases seen in 1926 and in the first two weeks of the present year have not only had quite serious constitutional symptoms, but characteristic and severe skin lesions, some of which will probably lead to permanent disfigurement. All of these more serious cases are directly traceable to cases of the very mild, so-called "alastrim" type. There has as yet been no fatal case in Sheffield, though there was one in Mexborough, closely adjoining, and others recently elsewhere.

The situation at present is causing great concern to the Sheffield civic authorities, as it affects not only the health but the commercial prospects of the city. Neither effort nor money is being spared, and the health department is working in close co-operation with the Ministry of Health.

SMALL-POX IN DURHAM COUNTY.

The present epidemic of small-pox in the county of Durham may be said to have started in the early part of 1925. During the two previous years cases of small-pox occurred in a few districts; thus in 1923 there were 23 cases in the borough of Stockton, but the disease was stamped out by the second week in July, after which no cases occurred in the borough up to the end of the year. During the last quarter of 1923 an outbreak occurred in the Southwick urban district, adjoining Sunderland, and in the colliery village of Castletown, adjoining Southwick, 11 cases being reported from these two areas, but these two outbreaks were effectively dealt with, as is evidenced by the fact that no cases occurred in Southwick or the Sunderland rural district during 1924. Altogether 37 cases were notified during 1923, and 3 of them were probably not cases of small-pox. In the following year 21 cases were notified, 6 of them being in the Billingham urban district adjoining the borough of Stockton, while there were 4 cases in each of the boroughs of Durham and Stockton and 2 in the Stockton rural district. There is no doubt that the infection during 1923 and 1924 in the borough of Stockton and adjoining districts was the result of infection carried from Middlesbrough, on the other side of the Tees, where small-pox had been seriously prevalent. During the last quarter of 1924 there were only 3 cases in the whole of the administrative county.

During the first quarter of 1925 16 cases were notified in the administrative county, of which 8 were in Billingham, 4 in Brandon, and 3 in Annfield Plain, but these small outbreaks were effectively dealt with, for no cases were reported either from the Billingham or Brandon urban district during the last six months of 1925, and the last case in the Annfield Plain urban district during that year was in July. During the second quarter of 1925 there were 79 cases notified from the administrative county, the largest number of centres of infection being in the north-west of the county—namely, the urban districts of Blaydon, Leadgate, Ryton, Stanley, and Whickham, from which districts 32 cases were notified. For some time previously small-pox had been prevalent in certain districts in Northumberland, adjacent to the north-west boundary of Durham, and there appears to be very little doubt but that the infection of small-pox was carried across the border into these districts in north-west Durham, facilities for such spread being increased by the fact that in Northumberland a number of cases occurred which were not treated as small-pox, and there was also inadequate hospital accommodation for the isolation of such cases. During the same quarter there was an outbreak in a village in the Auckland rural district, 18 cases in all occurring during a few weeks, the spread of infection in that village being undoubtedly due to the first cases being treated as influenza and not recognized as small-pox. During the third quarter of 1925 the prevalence of small-pox considerably increased, almost entirely in districts in north-west Durham, 53 cases being reported from the Blaydon urban district, 27 in the adjoining Ryton urban district, and 23 in the Stanley urban district; while there were also 14 cases in the small Leadgate urban district, 8 cases in the Consett urban district, and 4 in the Benfieldside urban district, all situated in the north-west of the county. During the fourth quarter of

1925 the disease became seriously epidemic, and 729 cases of small-pox were notified, 357 of these being in the Blaydon urban district, 52 in the adjoining Ryton urban district, and 17 in the Whickham urban district. The disease also became seriously prevalent in Chester-le-Street and in the populous rural districts of Chester-le-Street, Easington, Houghton, Lanchester, and Sunderland. The total number of cases notified during 1925 in the administrative county was 976, and in addition there were 91 cases notified in the county boroughs, Gateshead 44, West Hartlepool 32, South Shields 10, and Sunderland 3; Darlington being the only county borough which was free from infection during the whole year.

During the whole of 1926 the disease was seriously prevalent in practically all the populous areas of the county during some part of the year, and cases occurred in every one of the forty-five sanitary districts with the exception of the borough of Stockton and the urban district of Barnard Castle. During the first quarter of the year there were 1,349 cases, of which 338 occurred in the Blaydon urban district, while over one hundred cases were reported from Chester-le-Street (175), Easington (157), and Houghton (103) rural districts. There were also 192 cases notified in the Gateshead county borough, and 172 in the South Shields county borough during the quarter. During the second quarter of 1926 there was a slight decline in the notified cases to 1,200, only 53 cases being reported from Blaydon, but the epidemic was marked in the urban districts of Brandon (89), Hetton-le-Hole (122), Stanley (200), and in the Lanchester rural district (128); while 64 cases were reported from the Gateshead county borough and 170 from the South Shields county borough. During the third quarter the number of cases notified in the administrative county declined to 800, only 19 cases being reported from Blaydon, but there were 118 in Hetton-le-Hole, 144 in Stanley, and 148 in the Easington rural district. Cases were also reported from all the county boroughs, the greatest incidence being at Gateshead (51) and at South Shields (35). During the last quarter of 1926 the epidemic took on much more serious proportions, 2,445 cases being reported, of which 558 were in the Brandon urban district, 145 in Crook, 171 in Hetton-le-Hole, 156 in Jarrow borough, 99 in Shildon, and 147 in Willington, while there were 304 cases in the Lanchester rural district, 188 in the Chester-le-Street rural district, 174 in the Easington rural district, and 164 in the Sedgefield rural district. Cases were reported from all the county boroughs, those with the greatest incidence being Gateshead with 129 cases and South Shields with 25 cases.

The disease during the whole period of its epidemicity in Durham has been generally of an extremely mild type with very few deaths. Although there were 5,794 cases notified during 1926, the total number of deaths registered in which small-pox was given as a primary or secondary cause was only 11, and during the last quarter, when 2,445 cases were notified, there were only 2 deaths in the administrative county, and in both of these small-pox was given as the secondary cause of death.

This very mildness of the disease has led to its spread in two ways; first, it has been extremely difficult to persuade the community of its seriousness, and it was not uncommon for people exposed to small-pox to state that they did not mind if they contracted the disease as they would be able to get a few weeks' treatment in a comfortable hospital with plenty of food, and very numerous instances have come to hand where there has been absolute neglect of precautionary measures on the part of individuals and families. Secondly, the disease was spread in a number of districts owing to the illness not in the first place having been diagnosed as small-pox, numerous cases having been treated as chicken-pox or influenza until suspicions were aroused as to the true nature of the epidemic.

Undoubtedly the spread of the disease has been facilitated also by the unvaccinated state of the large majority of the people in the county, and almost without exception those infected by small-pox had been either unvaccinated or else have been adults who have only been vaccinated in infancy. Moreover, even in districts where small-pox has become epidemic, there has generally been a great reluctance on the part of the people to take advantage of the protection offered by vaccination. It is very probable also that social conditions associated with the prolonged coal dispute have been a factor in the spread of the disease.

Although at the time that small-pox first became prevalent there was in every sanitary district special hospital accommodation for small-pox cases, over 200 beds being available, there have been times during 1926 when the accommodation proved itself to be quite inadequate for the prompt isolation of cases, in spite of the fact that considerable extensions in small-pox hospital accommodation was provided in a number of districts, and that two hospitals which had been used by the county council for the treatment of tuberculous cases, with accommodation of approximately 50 beds, were handed over to the district sanitary authorities for the treatment of small-pox. There has generally been a pooling of the small-pox hospital accommodation throughout the county, and in addition large numbers of cases have been isolated in the small-pox hospitals at Newcastle-on-Tyne, Middlesbrough, and Darlington, as a result of willing co-operation by the authorities concerned, and a large number of cases are still being treated in these hospitals outside the administrative county.

With the object of assisting the district sanitary and small-pox hospital authorities the Ministry of Health, with the consent of the county council, has issued regulations under Section 2 of the Public Health (Prevention of Disease) Act, 1913, as amended by Section 61 of the Public Health Act, 1925, empowering the county council, in certain circumstances, to provide additional small-pox hospital accommodation, and these regulations came into force in the early part of this year.

Although a large proportion of the population of Durham county is still unprotected by vaccination, there has, during the last eighteen months, been a large increase in the number of persons vaccinated. If the population could be brought to realize the absolute protection afforded by efficient vaccination the epidemic might be stamped out in a very short time, and the great financial loss, not to mention the suffering involved, brought to an end. It is estimated that each case of small-pox costs local authorities something between £10 and £12 per case in isolation, disinfection, etc., which means that during 1926 the cost of the small-pox epidemic to the district sanitary authorities has been at least £60,000.

It is interesting to note that in the Blaydon urban district, which, as the figures in this report show, was the original storm centre of the epidemic, the disease has apparently been stamped out, as not a single case was notified during the last quarter of 1926; while from the adjoining Ryton district there has not been a single case notified during the last six months of 1926.

The epidemic has been a great strain on the public health officers throughout the county, and it can be said without hesitation that, generally speaking, the spread of the disease has not resulted from any laxity on the part of those officers. Conferences of medical officers of health and medical officers of hospital authorities were held in May, 1925, and again in December, 1926, and various resolutions were passed, which were forwarded to, and considered by, the district sanitary authorities of the county of Durham. One of the resolutions passed recommended the compulsory notification of chicken-pox, which now operates throughout the county, and at the meeting held in December, 1926, the following resolutions were passed:

1. That in the opinion of this conference the present epidemic of small-pox would not have occurred if the stringency of the Vaccination Acts had not been weakened, and that prompt vaccination or revaccination of susceptible persons is of the utmost importance if the present epidemic of small-pox is to be brought under early control; and that if such vaccination or revaccination was secured small-pox in the county would be stamped out within three months.

2. That in the opinion of this conference hospital authorities of districts where the available accommodation is inadequate for the prompt isolation of all cases of small-pox should utilize, as a temporary measure, their ordinary isolation hospitals for the treatment of small-pox, where such hospitals are suitably situated for the purpose, and make arrangements with adjoining sanitary authorities for the treatment of their ordinary infectious cases in the adjoining hospitals, a pooling arrangement being instituted both as regards the isolation of cases of small-pox and cases of ordinary infectious diseases.

3. That if in any district there is available accommodation for small-pox cases in convenient empty buildings, arrangements should be promptly made for the use of these buildings for the isolation of small-pox cases; and that local hospital authorities should also consider the advisability of at once erecting temporary hospital accommodation to enable them to promptly isolate all cases occurring.

4. That the medical officer of health for each sanitary district should communicate with every medical practitioner in his district, calling his attention to the urgent importance of keeping a careful look-out for all suspicious cases of rash and of at once acquainting the medical officer of health of such cases, and that a copy of the monograph of Dr. McConnel Wanklyn, entitled *The Accurate Diagnosis of Small-pox*, should be issued by the medical officer of health of each sanitary district to every medical practitioner practising in that district.

5. That this conference urges upon the Ministry of Health the importance of amending the Vaccination Acts with the object of making vaccination more general and efficient, as vaccination affords the quickest, most scientific, and most economic means of preventing and arresting outbreaks of small-pox.

6. That a copy of the report of this conference be sent to the press, all medical officers of health of counties and county boroughs, the British Medical Association, and the Society of Medical Officers of Health, urging their unanimous support to the resolution relative to vaccination.

THE DRIFT OF MODERN ANTHROPOLOGY.

BY

SIR ARTHUR KEITH, M.D., F.R.S.

IT is useful for medical men to keep in touch with what is happening in the anthropological schools of Europe, for if anthropologists know their business and pursue it, what they teach as a theory in one year is not unlikely to become the basis of political practice in another. The political, or rather the economic, bearing of anthropology is very evident in the work which Dr. Walter Scheidt has written to serve as a general introduction to the study of human races.[1] The author is one of the younger anthropologists who have been bred in the schools of Munich and of Freiburg; for them evolution is not a dead process, one concerned in shaping human races which lived long ago and far away, but a very living thing, and is now determining the destinies of the nationalities of Europe. Dr. Scheidt and his colleagues regard evolution as a reality, and they are making it their business to find out how evolution in its widest sense is working out its ends under the conditions of modern civilization. Dr. Joseph Deniker's treatise[2] is of another kind; it is a clear exposition of all that relates to the identification of human races, to their distribution and to their ways of living. Anthropology is treated in this French treatise as if it were an academic discipline and had no ultimate bearing on human thought or action. Both of these works, in their respective ways, will provide their readers with an introduction to the wide and systematic study of anthropology; but for those who are about to begin this study Dr. Dahl's simple and living observations made on natives of the Australian bush[3] may serve their purpose better than the two more ambitious and systematic treatises.

To-day Dr. Dahl is the leading authority, not only in Norway, his native country, but throughout the world, on all that relates to the breeding and habits of fishes, but thirty-four years ago he was a young graduate, and had then placed at his disposal, by a generous fellow countryman, a sum of money which permitted him to spend three years in collecting natural history specimens. Two of these years were spent in Arnhem Land, the most northern part of Central Australia, where he made the acquaintance of other hunters and collectors, the native blacks. He spent month after month in their company gathering specimens and noting with a sympathetic and understanding eye their aptitudes and mode of gaining a subsistence. His book is an account of what he did, saw, and thought during these two years, and although it has only now appeared in an English dress, the original was written in Norwegian so long ago as 1897. It is the kind of book which will never grow old, and is a welcome addition to instructive books of travel.

Dr. Dahl describes the natives as "gatherers, catchers, and capturers"; they loved comfort, yet rarely erected a shelter; they enjoyed the warmth which clothing gives, yet never made it; they saw men sow and reap, but refused to copy them. Yet they had to labour harder and longer to obtain a bare subsistence in the "bush" than the Chinese gardeners who supplied Port Darwin with its vegetables. A little picture drawn by Dr. Dahl gives an intimate glimpse of what a primitive life means. He stepped from his tent one morning, having enjoyed a breakfast of damper, ham, and coffee, and had not proceeded far when he came across a native, also at breakfast. The native held in his hand, not a spoon, but a digging stick, wherewith he was laboriously searching for a sufficiency of earth nuts to provide his morning meal. It is well to realize what "primitive life" signifies before we praise it unduly. Another observation by Dr. Dahl helps us to explain a matter which often puzzles students of modern civilization. Less than two hundred generations back our ancestors lived much as those blacks do now, and yet we find among us individuals who are endowed with all the qualities which go to make excellent clinicians. Dr. Dahl's description of how a native hunter sets to work when he wishes to discover whether or not a hollow tree holds an opossum helps us to understand the form in which our clinical abilities had their earliest manifestation. Dr. Dahl observed that the hunter first percussed the trunk and noted the sound emitted; if still in doubt he placed his ear against it and listened; if still unsatisfied he took a long wand, and, wetting the point, climbed the tree until he reached an opening in the trunk, where he thrust in the wetted point of the wand. If on withdrawing the wand he found opossum hair sticking to it, or if it smelt of that animal, then he knew his prey was within, and at once, with his stone knife, took surgical measures for its exposure and capture. A century ago Laennec applied these old-world hunting methods to the human chest, and was acclaimed a discoverer. Modern genius is often a mere perversion of a primitive ability. One is very apt to underestimate the mental outfit needed for leading a primitive life. Most of us, even if we can swim and dive, would be at a loss to know how to recover a 60-lb. turtle which we had seen disappear in the depths of a pool. Yet the Australian black knows how to do it. On diving and reaching his booty he simply turns the carapace with the head of the animal upwards; whereupon the turtle, having to follow its head, makes for the surface, and once upon the surface all that the swimmer has to do is to keep his captive's head turned shorewards, where both arrive in due course. All great inventions are simple when we know how they are made. The native who discovered the management of turtles in deep water had a brain of a high order.

Dr. Dahl asks a question of the greatest interest to everyone, and returns an answer which, I think, most students of mankind will accept as true. Are the aborigines of Australia what they are for lack of opportunities, or are they what they are because of their mental outfit? Dr. Dahl sums up the evidence, and comes to the conclusion that it is not possible, by any process of education whatsoever, to convert an aboriginal tribe into a civilized community. Dr. Scheidt, if he knew of Dr. Dahl's opinion, would agree with it, for he realizes that we who form the nationalities of Europe come of an ancestry which has been sifted in the sieve of civilization for some two hundred generations; those ancestors whose mental abilities and proclivities fitted them for the restrictions and discipline of civilization have come through the meshes of the selective sieve; the families and breeds which refused to bend their necks to the yoke have been rejected and thus eliminated. If an aboriginal population is to become fit to live our lives it must do what our ancestors have done—go through

[1] *Allgemeine Rassenkunde, als Einführung in das Studium der Menschenrassen.* Von D. Walter Scheidt, Privatdozent fur Anthropologie an der Universität Hamburg. Rassenkunde: Erster Band. München: J. F. Lehmann. 1925. (Sup. roy. 8vo, pp. vii + 585; 21 plates, 144 figures. M. 30.)

[2] *Les Races et les Peuples de la Terre.* Par Dr. Joseph Deniker. Deuxième édition, revue et considérablement augmentée. Paris: Masson et Cie. 1926. (Roy. 8vo, pp. viii + 750; 2 plates, 340 figures. 65 fr.)

[3] *In Savage Australia.* By Knut Dahl, Professor of Pisciculture at the Norwegian College of Agriculture, Oslo. London: Philip Allan and Co., Ltd. 1926. (Med. 8vo, pp. xii + 326; 27 figures. 21s. net.)

the sieve of selection for hundreds of generations. Dr. Scheidt is fully alive to the importance of Darwin's law of selection; but he lays even greater stress on Count Gobineau's doctrine of race. In a long and meritorious historical introduction, Dr. Scheidt, a German anthropologist, gives the French count, who began to preach his doctrine of race in the middle of last century, a foremost place among the students of mankind. Put briefly, this doctrine implies that a nation's destiny depends entirely on its racial composition.

It is interesting to note what the French anthropologist has to teach concerning these matters, for Dr. Deniker, although born in Astrakan, was in all respects a Frenchman. Dr. Deniker was bred in the school of Topinard; some forty years ago he was known to anatomists by contributions made to the embryology and anatomy of anthropoid apes. Then he took to the study of human races, and published in 1900 the first edition of the work noted here [a review of the first edition appeared in our pages, April 28th, 1900, p. 1030]. On the eve of the great war he had made preparations for a second edition, but died just as the war ended, and so it has come about that this work, although issued in 1926, is in reality a production of pre-war times. Nevertheless, it is a valuable record of fact and opinion, compiled by one of the foremost anthropologists of Europe. Nowhere in his pages does the name of Gobineau appear; indeed, we are quite convinced that if the matter had been put to him, Dr. Deniker would have rejected the doctrine so forcibly promulgated by Count Gobineau.

It was, in fact, Deniker more than anyone who gave rise to the conception that all the nationalities of Europe are mongrel entities. He believed that war, commerce, and repeated migrations had utterly confused the racial issues of Europe. Certainly a survey of historical records leads to such a conclusion; but there is much to be said against Deniker's doctrine of racial confusion, only it would take us too far afield to discuss such a large problem now. It is more to the point to note the criteria on which Dr. Deniker relied to separate the racial types of Europe from each other. They were three in number—stature, shape of head, and colouring. All of these characters are variable even within human stocks which we have reason to believe have been isolated and uncontaminated for many generations. The degree of variability among the individuals of a true race or breed of mankind is much greater than is usually believed. We have only to attempt to apply Dr. Deniker's criteria to the population of any part of the British Isles to realize the chaos which follows such an attempt. Dr. Deniker's scheme of classification, however well it looks on paper, breaks down the moment we attempt to put it into practice in the field. So far as his account of human races is concerned, I think that the one given by Mr. A. H. Keane in *Man Past and Present* (a new edition of which was prepared by Mr. Quiggan and Professor Haddon, and issued in 1920) is superior in every respect. Dr. Deniker, however, included a survey of man's structure and culture as well as of his racial distribution, and thus his book covers a much wider field than does Mr. Keane's treatise.

In the middle part of last century—when Count Gobineau's first book appeared—anthropologists discriminated unhesitatingly Saxon from Celt by their respective mental, moral, and emotional characters. Everyone is familiar with the detailed critical lists then drawn up; indeed, they are still the stock-in-trade of politicians. Dr. Deniker dismisses such modes of racial discrimination as "banalities." Indeed, he cites only one exception to his general condemnation, and that is contained in the report of the expedition which Professor Haddon led to the Torres Straits. Tradition and education do materially affect the actions and reactions of man's mind, but no one who takes into account all the evidence of everyday experience can do otherwise than come to the conclusion that human races differ profoundly in mental outfit. Our difficulties lie in discovering reliable and effective methods of measuring mental differences; our present methods have hardly a rule-of-thumb value. Even Dr. Scheidt, who estimates Gobineau's doctrine of race so highly, is in agreement with Dr. Deniker as to the futility of our present methods of measuring the mind of a race.

Dr. Deniker, like Dr. Scheidt, believes that a race retains its physical characters however much its environment may be changed. Amongst other examples he cites the case of German settlers in Siberia and in Brazil; at the end of four generations these settlers are still German in their physical characteristics. He holds that any race—the fair Nordics, for example—can be acclimatized in *time* to arctic or to tropical conditions; this is one of the few passages in which Dr. Deniker touches on a practical problem. He admitted that South Europeans will become fitted for life in the tropics in a smaller number of generations than will be the case with natives of North Europe. Acclimatization, Dr. Deniker held, can be brought about only in one way—through the operation of Darwin's law of "natural" selection; the mortality, he conceived, would be heavy in the earlier pioneer generations, but ultimately, after an undefined number of generations, there should emerge descendants of the original race well adapted for a full and healthy life under tropical conditions. It is possible that amongst the Queenslanders of to-day there may emerge certain families who find that they can tolerate a tropical temperature better than their neighbours, and by means of such selected families the white fringe may gradually creep northwards into the tropics. Even Dr. Deniker, I think, would never have suggested that the experiment of acclimatization should be tried by plunging a European community in the midst of tropical surroundings.

Dr. Scheidt as well as Dr. Deniker has much to say concerning the offspring which results when one primary human race is crossed with another. Both authors agree that a hybrid child is in reality a mosaic of characters rather than a real blend. There is no doubt that Mendel's laws can be applied to many of man's inherited characters, but it is also clear that our knowledge concerning the modes of human inheritance is still in its infancy. Dr. Deniker hardly touches on the laws of heredity, whereas Dr. Scheidt, as is now usual in German treatises on anthropology, deals with them at great length. We see, too, that biometrical methods are receiving very full treatment in the anthropological systems of Germany. In short, the tendency to-day is to base anthropology on the methods of experimental biology rather than on the principles of human anatomy. Nevertheless, a full knowledge of the human body is the ultimate foundation of anthropology.

VITAL STATISTICS FOR ENGLAND AND WALES, 1926.

WE are indebted to the Registrar-General for the following statement regarding the birth rates and death rates and the rates of infantile mortality in England and Wales and certain parts of the country during 1926. The statement is issued for the information of medical officers of health. The birth rate and infantile mortality rate for London have been provisionally corrected for transfers.

ENGLAND AND WALES.

Birth Rate, Death Rate, and Infantile Mortality during the Year 1926 (Provisional Figures).

	Birth Rate per 1,000 Total Population.	Death Rate per 1,000 Population (Crude Rate).	Deaths under One Year per 1,000 Births.
England and Wales	17.8	11.6	70
105 county boroughs and great towns, including London	18.2	11.6	73
158 smaller towns (populations from 20,000 to 50,000 in 1921)	17.6	10.6	67
London	17 1	11.6	64

The death rate for England and Wales relates to the whole population, but that for London and the two groups of towns to the civil population only.

England and Wales.

The birth rate is 0 5 per 1,000 below that of 1925, and, with the exception of the rate in 1918, the last year of the war, is the lowest recorded.

The death rate is 0.6 per 1,000 below that recorded in the previous year and is equal to that of 1923, the lowest recorded rate.

The infantile mortality rate is 5 per 1,000 births below that of 1925, but 1 per 1,000 above that of 1923, the lowest on record.

British Medical Journal.

SATURDAY, JANUARY 22ND, 1927.

HIGH BLOOD PRESSURE.

PHYSIOLOGY has long been, and is now more than ever, recognized as the basis of scientific physic; forty years ago the late James Andrew, senior physician to St. Bartholomew's Hospital, often recommended his clinical clerks to take Michael Foster's *Physiology* as their textbook, thus, though it is in no way really analogous, momentarily recalling Sydenham's advice to Sir Richard Blackmore to read *Don Quixote*. Since then the study of disordered function has displaced the pursuit of a structural basis for the manifestations of disease. Within the last three years two Harveian Orators have respectively insisted on "The debt of science to medicine" (Sir Archibald Garrod in 1924) and on "The debt of medicine to the experimental method of Harvey" (Sir John Rose Bradford in 1926)—two sides of a shield, but both showing the inseparable ties of physiology and medicine. During and since the war physiologists have been busy in helping to apply physiology to the prevention and elucidation of disease. Among physiologists who have thus brought physiology into more intimate touch with medicine is Professor J. A. MacWilliam of Aberdeen, who has long been actively engaged on the problems of blood pressure, and practising medical men owe much to him for popularizing the auscultatory method of estimating it; this was before the war, and in collaboration with his pupils Melvin and Murray. Since then he has written a series of papers, among which special reference may be made to a comprehensive one in *Physiological Reviews* (1925, v, 303-335), and to the last of several that have appeared in these columns. It is on "High blood pressure from the physiological aspect," and was given as a lecture before the James Mackenzie Institute for Clinical Research at St. Andrews. It is printed in the opening pages of our present issue.

In this paper Professor MacWilliam brings forward many interesting and suggestive points which deserve attention. Thus, as evidence of the importance of combining the auscultatory and tactile methods in estimating the blood pressure, he points out a fallacy resulting from repeated or continued compression by the armlet—namely, that the systolic pressure may appear to be lower by the auscultatory method than by the tactile procedure. A review of the numerous mass statistics now available of blood pressure at different ages shows that clinical observers have overestimated the normal rise in blood pressure in the second half of life, and that it does not amount to more than 15 mm. Hg. It is remarkable that cerebral haemorrhage, the incidence of which in persons with high blood pressure is estimated to be about 20 per cent., often occurs during sleep, when the systolic pressure normally falls. Light is thrown on this paradox by the observation that, whereas in sound sleep the blood pressure falls, in disturbed sleep the systolic pressure may rise by 50 to 70 mm., and the diastolic by 30 mm. Hg. Recollecting what occurs in the waking hours as the result of emotion, this effect of excitement during sleep is not surprising.

The view that high blood pressure is a compensatory process is criticized, and shown not to be supported by the argument that lowering of the blood pressure may make the patient worse. Further, some quite recent observations of Dr. C. Reid are quoted against the hypothesis that a heightened blood pressure necessarily improves renal efficiency as regards the excretion of nitrogenous waste products. While it is possible that there are two categories of supernormal blood pressure—one with, the other without a raised capillary pressure—there is no certainty that the pressure in one set of capillaries is an index of the general capillary blood pressure in a way analogous to arterial blood pressure.

The possible causes of high blood pressure are discussed at some length, and, although the matter is still left open for final decision, the pressor influence of supernormal blood pressure would appear to be exerted primarily on the central nervous system rather than directly on the peripheral vessels as a whole. Impaired blood supply to the vasomotor centre in the medulla is admitted as a cause, but the difficulties in ascribing this to an arterio-sclerotic condition of the blood vessels supplying the medullary vasomotor centre are set out. The existence of pressor substances, such as renin and guanidine, on the one hand, and of a deficiency of depressor substances on the other hand, is impartially discussed. Reference is also made to the observation of Drs. Orr and Innes that large quantities of water by the mouth reduce high blood pressure, and, further, keep it down for comparatively long periods. This method of treatment, which, of course, has been practised empirically at spas, is thought to act by washing out metabolites presumably of protein origin. This fall of blood pressure was observed both in normal and hyperpiesic persons, and it will be interesting to hear the results of the further investigations which Professor MacWilliam promises, for it is obviously of much practical importance to know in what kind of case the method is likely to be successful. On *a priori* grounds patients with impaired renal excretion would appear to be unsuitable, and Drs. Orr and Innes find that when the diuresis cannot keep pace with the intake of water, as may occur in renal inefficiency, there is a rise of blood pressure above the original level before the fall appears. But if this were the only contraindication, the washing-out treatment should be much more effective than it has been in the past in persons with pure hyperpiesia—that is to say, without any renal change or disorder.

THE SECOND VALUATIONS OF APPROVED SOCIETIES.

THE results of the valuations of approved societies are of great interest and importance, not only to the societies themselves, but to the medical profession also, as well as to all who are concerned with making the most of all available resources to improve the health of the nation. These results have not at the present time any direct bearing upon the question of the remuneration of insurance practitioners, for the cost of medical benefit (which, of course, includes a number of items in addition to this remuneration) is now, up to the limit of 13s. per insured person, a first charge on the insurance fund; but they determine the sum which, during the five years following the valuation, will be available for the provision of "additional benefits," which may, and usually do, include several "treatment benefits" as well as increased cash payments to sick insured persons. The first valuations were made as at December 31st, 1918. The second valuations have been, for convenience and

economy, effected in two groups, as at December 31st, 1922 and 1923, respectively. The report of the Government Actuary on these second valuations has just been issued, and a summary will be found in this week's SUPPLEMENT (p. 27).

The result of the first valuations was a surprise; the result of the second valuations would have been even more surprising if intelligent anticipation had not in large measure forestalled it. With a very small proportion of almost negligible exceptions, it is true, as Sir Kingsley Wood declared not long ago, that "approved societies are extraordinarily prosperous bodies, piling up huge surpluses which are, of course, partially built up by State contributions." The first valuations disclosed an aggregate surplus of £17,192,968, of which £9,184,087 was certified by the valuers to be disposable in the provision of additional benefits. The second valuations show total surpluses exceeding £42,000,000, and of this £27,000,000 is available for distribution as additional benefits in the ensuing quinquennium, the remainder being carried forward. These disposable surpluses must not be confused with the total of the accumulated funds of societies, which are represented by much larger figures. The purpose of the carrying forward of these relatively large amounts from the surplus to the next valuation is to provide for the possible contingency of the next ensuing quinquennium being markedly less prosperous than that over which the valuation extends. In that disappointing eventuality the carried-over amount would be available to assist in maintaining the then existing additional benefits over a further period. Even assuming that the great war has been the cause of a considerable part of the prosperity of approved societies, and recognizing that the rate of interest earned by capital over the past few years is not likely to be maintained at the same level, the contingency referred to must be regarded as remote and the provision made for it generous. To quote Sir Kingsley Wood again: "In all probability the amount of the surpluses, especially on the third valuation, will remain undiminished." As the Government Actuary's report itself says: "The general result of the valuation is to disclose a very strong financial position. . . . The level of the surpluses brought out on the present occasion is markedly higher than that disclosed in 1918."

Prominent among the factors, in addition to those mentioned above, which have resulted in such an advantageous situation has been the favourable sickness experience between the two valuations. This has been especially favourable as regards men, but, though there has been a continuous increase in the claims of women, particularly in the case of prolonged illness, these claims still remain below the expectation. There can be no doubt that the work of the medical profession—not merely the skill and attention given by insurance practitioners, but the efforts made by other branches of the profession to improve health conditions and increase the vitality of the industrial population—has been one of the most important contributory causes of this satisfactory state of affairs. The reduction in the birth rate, too, has, of course, resulted in a lessening of the amount required for maternity benefit. The year 1926 is outside the period over which the second valuations have extended, and it is well known that during the greater part of that year the sickness claims of insured persons directly affected by the coal stoppage were largely increased. The causes of this abnormal increase are the subject of anxious consideration by the Insurance Acts Committee, as well as by the Ministry of Health and approved societies. It is to be hoped that conditions such as these will not recur, for the effect on a financial position less strong than that now shown to exist might be serious, and must in any case be important; but it must be remembered that the second valuation period has itself included a time of prolonged industrial depression, which had an inevitable effect on contribution income.

Of the total number of insured persons 97 per cent. (some fourteen and three-quarter millions in all) are entitled to participate in the additional benefits to the provision of which this large sum of £27,000,000 is allotted. The benefits themselves, however, whether treatment or cash, will be very unevenly distributed. Each society or branch is separately valued, and is an entity for these purposes, and the sums at their disposal per member are unequal. Their schemes for the character of the additional benefits to be made available are also diverse, some preferring cash benefit to treatment benefits, and some providing one kind of treatment benefit rather than another. It is possible that the sums allotted to certain treatment benefits by certain societies may in the event prove not to be correctly proportioned, and it is to be hoped that some adjustment may be allowed, if necessary, in this matter; but the total sum available should be adequate for its purposes, and it does not appear from the report that there is any financial reason why the extension of the insurance scheme in the direction of a specialist, consultant, and laboratory service, as recommended by the Royal Commission, should meet with any undue delay. The situation does show, however, with its large surplus on the one hand and its unequal and unsatisfactory division on the other, that when viewed from the standpoint of the prevention and cure of sickness the approved society system is very imperfect, and may even be regarded as an obstruction to the full use of these large sums of money in the interest of public national health. As the Minority Report of the Royal Commission puts it, if an approved society "is composed of extremely healthy members it can, by providing a wide range of additional benefits, many of a medical character, enable them to become still more healthy. If, on the other hand, it is composed of members whose standard of health is below the average, or who may be engaged in hazardous occupations or occupations which call for a higher degree of physical strength than others, the current expenditure on cash benefits leaves no margin for surplus, and as a consequence that section of the community who need all possible services of a preventive and curative character are limited strictly to the bare statutory benefits of the Act."

SIR BERKELEY MOYNIHAN.

MANY beyond the ambit of the city and its University, and not influenced by the individual sentiment of loyalty a great medical school inspires, will be interested in the announcement made in a letter published elsewhere in this issue (p. 163) to the effect that a fund has been opened in Leeds to get Sir Berkeley Moynihan's portrait painted. That will be at any rate its primary object, and in the circumstances the most interesting and appropriate. His is a great name in surgery, and the record of his achievements will remain, but it will not wholly explain to future generations the position he has attained in the profession to-day; for this some understanding of a remarkable personality is necessary, and nothing will better help to convey it than a good portrait. Subscriptions, which must not exceed £5, are to be sent to the Treasurer, Moynihan Portrait Fund, Town Hall, Leeds.

DIET AND CANCER.

To the irresponsible amateur it may seem easy to ascertain the causal relationship between tomatoes or meat-eating and cancer or appendicitis; he may think it as obvious as that between Tenterden Steeple and the Goodwin Sands or the influence exerted by the cat population on the fertility of red clover. But the scientific worker knows how many and dangerous are the pitfalls which beset such an inquiry, and how much watchful patience and hard work are needed to come at any trustworthy result. The report to the Ministry of Health on diet and cancer[1] by Drs. Monckton Copeman and Major Greenwood, just published, offers a case in point. As Sir George Newman remarks in his prefatory note, although of late years knowledge has increased of the effect of dietaries on nutrition in general as well as in specific morbid conditions, we have no evidence supporting a direct connexion between dietary and cancer, even cancer of the gastro-intestinal system. Therefore it seems to us that it was certainly worth while to enlist the willing help of Cardinal Bourne and other leading authorities of the Roman Catholic organization in an inquiry into the deaths from cancer in religious communities, whose members live under strict dietary rules, which vary in different communities, but involve in all more or less complete abstinence from meat and from rich and abundant food; all of these practices have been accused of contributing to the production of cancer. Such considerations no doubt moved the Departmental Committee on Cancer to undertake this investigation. The conclusion is that previous statements as to monastic communities cannot be substantiated, and that the incidence of fatal cancer in all such religious orders as were investigated is not lower than that in the general population at like ages; this applies to females as well as to males. The authors of the report testify gratefully to the value of the help of Cardinal Bourne and that of Monsignor Jackman and others who undertook what they justly describe as a most laborious business. While Drs. Copeman and Greenwood state that the labour has not all been in vain, they evidently entertain a certain sense of grievance that they should be expected to devote their energies for long periods to the investigation of "assertions supported merely by the vague pseudo-statistical evidence which is customarily cited respecting the roles of certain articles of common consumption in the genesis of cancer." To the main body of the report are appended some interesting notes on the incidence of fatal cancer upon inmates of prisons and mental hospitals. In the former case the inmates resemble those of religious houses only in the circumstance that they receive a diet less varied and less rich in proteins and fats of animal origin than the general population. An investigation of Goring's data leads to a negative conclusion, but the authors suggest that a further investigation may be desirable, and express a hope that they may be able to undertake it. As regards the mental hospitals, the factors involved are so many and the circumstances so different from outside life that no inference can safely be drawn from such statistics as exist.

[1] Ministry of Health Report No. 36. H.M. Stationery Office. 1926. Price 9d.

MEDICINE IN ANCIENT GREECE.

ONE of the periodical social evenings of the Royal Society of Medicine was held on January 17th, when the guests were received by Sir James Berry, the President of the society, and Lady Berry. In the library there was disposed an interesting collection, lent by the Wellcome Historical Medical Museum, bearing on medicine and surgery in ancient Greece, and this was the subject of an illustrated talk by Professor A. W. Sheen of Cardiff. The lecturer began with Aesculapius, who, he said, was probably a real person, subsequently made into a god. His sons, Podalirus and Machaon, were also famous for their skill in medicine, though they were warriors as well, and Machaon was wounded, which was a matter of great concern to the Greeks, for, said one of them, "A physician is worth a host of other men." After mentioning some of many references to medicine in Homer, Professor Sheen spoke of the health temples—a remarkable development of Greek medicine—and gave an account of the famous temple at Epidaurus, with its open-air wards and facilities for the entertainment as well as the treatment of patients. The cult of the serpent, which was sacred to Aesculapius, was practised in the healing of various conditions, including blindness, as witness Aristophanes:

> Then the god clucked
> And out there issued from the holy shrine
> Two great enormous serpents . . .
> And underneath the scarlet cloth they crept,
> And licked his eyelids as it seemed to him.

The pinnacle of Greek medicine was reached during the latter half of the fifth century B.C., in the time of Hippocrates. The medical school of Hippocrates was established on the little island of Cos—all that was greatest in ancient Greece appeared to have come from her islanders—where there was worked out a startlingly rational system of treatment of disease. Professor Sheen took his audience through a few extracts from the works of Hippocrates to show the character and genius of this remarkable man, or perhaps of his school, for some of the work suggested the existence of a clinical unit quite of the modern type. One quotation had a very modern note: "This I know moreover, that to the human body it makes a great difference whether bread be fine or coarse." There were very detailed statements in the writings of Hippocrates concerning operation arrangements. Professor Sheen quoted some passages which seemed to suggest that Hippocrates anticipated stethoscopic methods, and proved how rational he was with regard to epilepsy, which at that time was looked upon as a "sacred disease." Hippocrates regarded it as in no wise more sacred than any other, but as having a natural cause from which it originated like other affections. The vote of thanks to Professor Sheen was proposed by Dr. Cawadias, who mentioned that he had lived in Epidaurus during the greater part of his childhood and youth, and, indeed, that his father had been instrumental in discovering the famous health temple. He reminded the audience that one of Sir William Osler's favourite quotations, taken from the work of Sir Henry Maine, was to the effect that, apart from the blind forces of nature, everything that moved us to-day was of Greek origin. The vote of thanks was seconded by Lady Berry, and heartily carried.

AMALGAMATION OF RADIOLOGICAL SOCIETIES.

AT a special general meeting of the Röntgen Society on January 11th it was agreed, with one dissentient, to amalgamate the society with the British Institute of Radiology. The proposer of the effective resolution, Dr. G. W. C. Kaye, said that negotiations between the two bodies had been proceeding for two years. The title of the new organization would be, "The British Institute of Radiology incorporated with the Röntgen Society." There would be no alteration in the character of the work and objects of the society in consequence of the amalgamation. All the present members would be accepted without entrance fee as members of the new body on an expression of their willingness to adhere to the new memorandum and articles of association. A new class of members was proposed in the shape of associates, as it was felt that there was a considerable body of medical men, not sufficiently interested in the subject to seek full membership, but desirous of some connexion with such an organization.

The annual subscription for full members would be raised from its present rate of two guineas to three guineas. In return for the increase the members would have the advantage of the library and other facilities at the Institute's premises in Welbeck Street, as well as an enlarged and improved journal. Provision had been made to ensure the continuance of the Silvanus Thompson Memorial Lecture of the society and the Röntgen award. Dr. A. E. Barclay, in seconding the resolution, said that he hoped the character of the Röntgen Society, whose membership had always included physicists and makers of apparatus as well as medical men, would be fully reproduced in the new body. As an earnest of this the new and enlarged council was to be, as the Röntgen Society's council always had been, half medical and half lay. The chief discussion at the special meeting centred round a provision in the proposed articles whereby the council of the united body may at any time submit for approval to the members a system of classification of members according to qualifications or other distinctions, the members in a particular class to be allowed to use after their names an abbreviated title. This was interpreted by some of the lay radiographers who have been members of the society for many years as likely to result in de-grading to their disadvantage, and their spokesman asked for an explicit assurance that all members would continue in the new body on an equal footing, and that in fairness to the long-established lay radiographers, through whom very largely x rays were introduced to the medical profession, their status would be safeguarded. Dr. Kaye declared that there was no immediate intention to act upon this provision. It was inserted, as things were often inserted in articles of association, so that in some, perhaps remote, eventuality a certain course might be taken without the necessity of altering the articles. As the scheme stood at present lay radiographers, like other members, automatically entered into the membership of the new body. Dr. N. S. Finzi, the president of the society, spoke to the same effect. A motion was, however, persisted in, that with a view to allaying the apprehensions of some members who were well established lay radiographers, the meeting should declare its intention of protecting the professional interests of such members should they be jeopardized by the amalgamation. This was lost by a large majority, but Dr. Finzi from the chair pointed out that it had not been negatived on its merits, but simply on the ground that it was unnecessary in view of the assurances which had been given. The resolution for amalgamation is to be brought forward for confirmation at a further meeting of the society on January 25th.

ANTHRAX AT THE ZOO.

ALTHOUGH the most important single source of loss among captive wild animals is tuberculosis—as Dr. H. H. Scott, the pathologist to the London Zoological Society, showed in a paper recently reported in this JOURNAL[1]—occasionally more spectacular outbreaks are encountered which are of direct medical interest. Thus, for example, in the Edinburgh Zoological Gardens some years ago there were several fatal cases of glanders among the great cats (glanders in carnivores is usually a very acute disease, although chronic in the normal host, the horse), which was traced to an infected horse which had been used for food. In the last few days of last year two of the elephants in the London Zoological Gardens died suddenly from anthrax. This disease is not uncommon in domestic animals in this country, especially in Scotland; and it is very common in Asia, where, in addition to destroying large numbers of domesticated mammals, it is a veritable scourge to elephants—in Burma alone it is estimated that over 5,000 die yearly from this cause. Fortunately the disease has not been previously encountered in the London Gardens, although menageries in other parts of the country have been attacked. Thus, for example, in 1911 Mr. Somers, a veterinary surgeon, reported an outbreak in which four great cats, two polar bears, five other mammals, and a vulture died from acute anthrax, while several other animals showed symptoms of the disease, but recovered.[2] The attack in the recent outbreak in the elephants was very acute, and the animals died within forty-eight hours. The origin of the infection is unknown, but some of the foodstuffs are suspected. Apart from its scientific interest, the outbreak has a definite public health significance, as four of the men who came in contact with the carcasses contracted the disease. Thanks, however, to the very prompt diagnosis of anthrax in the animals by Dr. Scott—he had diagnosed it within an hour of the necropsy—immediate and energetic steps were taken by the authorities of the Zoological Society to prevent the infection spreading and to detect any already affected. All in-contacts were examined, and these four cases were detected at an extremely early stage—long before the malignant pustule had developed its typical form. They were removed to St. Thomas's Hospital, and, under serum treatment, are, we understand, progressing favourably. The premises at the Zoological Gardens have been disinfected, and all steps have been taken to prevent any possibility of risk to the public visiting the gardens. The authorities at the Zoological Gardens are to be congratulated on the prompt steps they took to diagnose and search for anthrax in the animals and in-contacts, and for the energetic measures which they and the Government departments interested in the outbreak put in force to prevent the subsequent spread of the disease. The incident, too, serves to indicate some of the possible dangers from wild animals, and to commend the wise policy of prompt necropsy of all animals which the London authorities have adopted.

[1] BRITISH MEDICAL JOURNAL, December 4th, 1926, p. 1053.

THE PREVENTION OF HEART DISEASE.

DR. J. A. NIXON of Bristol has had the opportunity, along with Dr. Phillips, medical superintendent of the Southmead Hospital, of watching the effects of prolonged rest in bed upon several children suffering from rheumatic fever and chorea with early carditis, and has reported the results in a recent number of the *Bristol Medico-Chirurgical Journal*. Dr. Nixon observes that every writer since Francis Sibson, whose article in Reynolds's *System of Medicine* was published in 1877, has advocated rest for the rheumatic heart. Sibson found that cases of rheumatic fever were less often attacked by carditis when kept rigidly at rest, and this the Bristol observers say may be accepted as proved beyond a shadow of doubt. The question to which they particularly direct the attention is as to what happens to patients treated by a rigid system of rest whose hearts are already affected. Although Dr. Nixon has formed the impression that patients so treated escape with less serious damage to the heart, he says that the observations at Southmead did not encourage the hope that a sound heart will result from prolonged rest in bed, even when the child has been in hospital before the very earliest sign of cardiac involvement was observed. In deciding whether a child should still be kept in bed the general and local cardiac conditions must be considered. The general conditions include cessation of pyrexia, abatement of joint pains and choreic movement, and relief of cyanosis or dyspnoea. The local conditions comprise the rate and rhythm of the heart, the position of the apex beat, the size of cardiac dullness and the size of the heart as estimated by x-ray examination, the disappearance of bruit, and the

[2] *Veterinary Record*, February 25th, 1911.

clearing up of pericardial signs. In spite of the most careful attention to these points he concludes that the physician has little or no control over the result. "One begins to wonder," he says, "whether rheumatic fever, like syphilis and encephalitis lethargica, is a disease which throws out no recognizable signal of arrest, and has no known criterion of cure. We must all have seen the length of time during which choreic movements may persist in Sydenham's chorea without pyrexia or cardiac lesion. Presently an acute pyrexial exacerbation occurs and the heart becomes affected. The disease in such a case would, no doubt, have been regarded as cured if the movements caused by a chance involvement of the corpus striatum had not continued." Dr. Nixon, therefore, raises the question whether a new attack of rheumatic fever is merely a relapse in the course of a single infection. The experience at the Southmead Hospital of trying to stem the progress of rheumatic carditis by a rigid system of rest, such as that advocated by Sir Archibald Garrod, does not inspire confidence in the opinion that by such measures heart disease in adults can be prevented. Dr. Nixon is inclined to associate himself with the warning uttered by Dr. J. A. Glover, during the discussion on rheumatic infection in children, at the Annual Meeting of the British Medical Association in Bath, to the effect that it is rheumatic fever we must study to prevent, and that we really know very little about the etiology of the disease. Rheumatic fever can be, and habitually is, prevented, Dr. Nixon observes, from attacking the children of a certain social grade, seeing that rheumatic fever is practically non-existent in our great public schools. In his view it is probable that nutrition rather than environment is the main factor in preventing attacks and recurrences.

VOCATIONAL GUIDANCE.

THE National Institute of Industrial Psychology[1] was formed some two years ago to provide a scientific association for studying the human factors which enter into industry and commerce, and for applying the results in practice. On behalf of commercial firms it conducts investigations into the effects of movement, rest, lighting, humidity, ventilation, seating, methods of payment, and so forth, and particularly into the value of systematic selection and training of workers. It is an attempt to apply the methods of psychology to everyday work. An experiment is being conducted in the London area by the Institute in collaboration with the London County Council and the Ministry of Labour, aided by a grant from the Carnegie United Kingdom Trust. During the past two years 600 children leaving elementary schools at the age of 14 years have been given vocational advice based on mental and physical tests. The children are followed up so that there may be gathered some judgement of the value of the method in the light of the success of those advised. The tests applied to the children are twofold. There is a general examination based upon the findings of the school teachers which appraises general intelligence, attainment in school subjects, practical ability, and deftness. The special examination by the psychologists estimates ability for clerical work, mechanism, dressmaking, engineering, packing, memory for form and design, attention and concentration. The results are discussed at a conference between the two sets of workers, and their separate recommendations show a very high proportion of general agreement. Proof of the value of these findings and recommendations must be sought for in the after-history of the children. The follow-up is as yet in its early stages, but so far as they go the figures are encouraging. Information has been obtained in 161 cases. Of these 103 are in work of the same or similar kind to that recommended, and 58 in different work. In the former group there are no children who have expressed dissatisfaction, and only 4 have changed their posts more than twice; in the latter group 18 are dissatisfied, and 10 have had from three to eight different jobs in less than a year. If a friendly hint is not out of place, we would suggest that the Institute, or the editor of its future reports, might well study the psychology of its readers in the arrangements of the printing. The paper and type are excellent, but the lines of print extend right across the page, and are eight inches long. Such a length is most uncomfortable and wearing, and by no means conducive to study.

[1] National Institute of Industrial Psychology. Vocational Guidance Experiment. Second report. 1926. 329, High Holborn, London, W.C.1.

RECENT ADVANCES IN THE TREATMENT OF ANAL FISTULA.

IT is said that more reputations are lost over the treatment of anal fistula than in any other department of surgery. It is certainly true that in few conditions is it so difficult accurately to determine the extent of the disease or to forecast the probable duration and extent of the treatment that may be required, for unsuspected pockets and innocent-looking but tortuous side-tracks may render what promises to be a successful operation a complete and exasperating failure. At a meeting of the Subsection of Proctology of the Royal Society of Medicine held on January 12th two new methods were described which would appear to hold out considerable promise of minimizing the chance of unsuccessful operations, and of shortening the prolonged and tedious period of convalescence. Mr. E. C. Norbury and Mr. C. N. Morgan described a means of determining the exact topography of a fistula by the injection of lipiodol followed by stereoscopic x-ray photographs. As is well known, lipiodol has already proved its worth in the radiography of spinal tumours and of such diseases of the lungs as bronchiectasis, and owing to the density of its x-ray shadow the narrowest fistulous track, with all its unsuspected branchings, is clearly revealed. The technique is quite simple, and the pictures obtained permit a fairly accurate estimate of the extent of operative intervention necessary, and the probable duration of the after-treatment, to be arrived at. At the same meeting Mr. W. B. Gabriel brought forward the suggestion that the after-treatment of fistulae might be materially shortened by the simple expedient of using Thiersch grafts for the granulating wound. Photographs of various stages of a case treated by this method were shown, and it was evident that a considerable amount of time had been saved. If further experience confirms the value of these two procedures, all surgeons will have reason to be grateful to Mr. Norbury and Mr. Gabriel for introducing easy methods of simplifying and shortening the treatment of a tedious and troublesome condition.

CENTENARY OF UNIVERSITY COLLEGE, LONDON.

IN order to obtain further financial assistance for the extension of its buildings, the veteran Sir Philip Magnus on April 27th last delivered an interesting address on the birth of University College, London, one hundred years ago, which has now been printed by the University of London Press (price 1s.). It contains many historical details about the origin of University College, or, as it was first called, London University. Although universities were established in or before the twelfth century in Salerno, Bologna, Padua, and Paris, and although Sir Thomas Gresham in 1548 endowed seven professorships with the intention that there should be a university in London, it is remarkable that no effective steps were taken until 1825, when Thomas Campbell the poet and Isaac

Lyon Goldsmid the banker, who were friends, and often met as members of the Literary Club, advocated the establishment "of a great London University" which should be liberal in the sense of being free to all, irrespective of religious belief; for at that time Roman Catholics, Nonconformists, and Jews were excluded from Oxford and Cambridge. Campbell and Goldsmid lost no time in interviewing Mr. (later Lord) Brougham, and Campbell's famous letter, occupying nearly two columns in the *Times*, appeared on February 12th, 1825. Two years later, on April 30th, 1827, the foundation stone of the present building was laid by H.R.H. the Duke of Sussex. When the first working session was nearing its close, and there were more than 550 students, steps were taken to apply for a charter which, *inter alia*, would have empowered the new University to grant degrees. This proposition met with considerable opposition, due to the strong feeling, bordering on contempt, held by many, especially those with orthodox religious views, for "the Gower Street institution." Eventually a compromise was arrived at, and two charters were granted by King William IV—one creating a new and distinct body, to be called the University of London, with power to confer degrees; and the other incorporating the previously existing London University as University College, London, the students of which would be eligible, together with those of other duly recognized teaching bodies, to obtain degrees on passing examinations at the newly constituted University of London. Sir Philip Magnus gives a sketch of the difference between "a College" and "a University," and recalls the circumstances which led up to the passing of the Act of 1871 abolishing all religious tests for admission to the universities.

INFLUENZA.

THE epidemic now under way has begun to influence the mortality rates, although not very seriously. In the great towns of England and Wales the deaths certified as due to influenza, which had amounted to 69 and 86 in the two previous weeks, increased to 172 in the week ending January 8th. The increase in that week was relatively very much greater in London, for which the figures are 16, 17, and 72. The notifications of pneumonia tell the same story—an increase from 1,173 and 1,514 to 2,033 in England and Wales, and from 174 and 193 to 345 in London. In the extra-metropolitan districts the largest proportional increase in pneumonia was in the south-east, but the populous north-western and Yorkshire areas also showed substantial increments. In London the total mortality assigned to pneumonia, bronchitis, and other diseases of the respiratory organs, and to influenza, in the three weeks ending January 8th, was almost the same as twelve months ago—1,159 against 1,135. Some further increase is to be expected. In fact, in the week ending January 15th the deaths from influenza in London increased to 137, and those in the great towns to 326; while London notifications of pneumonia reached 370, and those in England and Wales numbered 1,869. But the present visitation seems to be of a mild type, and bids fair to be less formidable than that of 1922, or even than the milder recrudescence of 1924. We shall not, however, seek to enter the fellowship of the prophets. Indeed, those of the fellowship who do forecast epidemics confine themselves to dates of occurrence, and offer no opinions as to duration or severity. The *Times*, we notice, is still a staunch supporter of Dr. Brownlee's thirty-three weeks' cycle, but we are surprised that none of the newspaper paragraphists have come upon Mr. Spear's simpler, and on the whole more successful, rule, which is described and illustrated in the annual report of the London County Council for 1925 (Volume iii, pp. 34-37). Mr. Spear's rule for predicting the date of the next maximum is as follows. Subtract the serial number of the week in which a maximum of influenza mortality occurs from 34½, then double the remainder will be the number of weeks to the next maximum. For instance, in 1921 the week of maximum influenza in London was the thirteenth. Subtracting from 34½ we have 21½. Hence we should expect the next maximum in forty-three weeks. Actually the next maximum occurred forty-one weeks later, in the second week of 1922. In thirty-three years Mr. Spear's rule gave a result correct within four weeks twenty times, while Dr. Brownlee's method only scored eight "inners." Mr. Spear remarked that "there are several instances in which the hypothesis fails, but with the reservation which thus attaches to any particular forecast it may be noted that a prevalence of influenza is indicated about the end of 1926." This has been verified, and his rule, which would give a maximum of mortality about the third week of the year (in London), is not likely to be far wrong. This balancing of epidemics about the thirty-fifth week of the year has been noticed in the data for Copenhagen as well as in London experience; the rationale of it is difficult to grasp. Mr. Spear's method stands on a quite different basis from Dr. Brownlee's. Dr. Brownlee reached his interval by a periodogram analysis of several years' data, and the result is an average result; he did not take each successive epidemic as a new starting-point. It must also be said that Mr. Spear's criticism of Dr. Brownlee's process, quoted in the London County Council report (p. 36) ignores Dr. Brownlee's quite cogent rejoinder (see the Ministry of Health's *Report on the Pandemic of Influenza, 1918-19*, p. 576). Dr. Brownlee's object, illustrated in several of his other researches, was a much more philosophical one than any sporting attempt to "spot winners." He has always looked at the secular problem of an epidemic disease as a whole, seeking a general description of its evolution and evidence of changes in the *tempo* of that evolution. Since for influenza the statistical record is short and exceedingly imperfect, it was not to be expected that a complete elucidation would be obtained. Dr. Brownlee's attempt remains, however, as a good example of the method that must, when data are sufficient, lead us to important discoveries. For merely "spotting winners" we should give preference to Mr. Spear's plan, although, were betting on dates as common as in the eighteenth century, we should not expect to make more than a moderate competence by its use.

INTERNATIONAL CITATION.

WE have recently received from Professor Léon Bernard, writing from the Institut d'Hygiène of the University of Paris, a letter in which, after thanking us for the terms in which his book on pulmonary tuberculosis was noticed in these columns, he protests against one sentence in our review. Having said that though Professor Bernard was essentially a product of the French school, he yet did not carry "his ideas to the degree of exclusivism that is so annoying in some of his compatriots," the review continued: "It is true that he has been rebuked by the Americans for neglecting to take notice of their work." But we pointed out that in his preface he said that he had not set out to write a treatise, but rather to record his own opinions, founded on the investigations of himself and of his pupils. The essential passage in Professor Bernard's letter may be translated as follows: "I desire to challenge the general criticism made against French authors that they neglect the opinion of foreign writers. If you will compare the large French treatises with similar works published by English, American, or German writers you will not fail to agree with me that this criticism is unjust, and that French authors cite foreign writers much more often than they are themselves quoted by their colleagues in other countries." We are very glad to publish this disclaimer on Professor Bernard's authority.

Union of South Africa.

[FROM OUR CORRESPONDENT IN CAPETOWN.]

MEDICAL FACULTY OF CAPETOWN UNIVERSITY.

THE medical faculty of the University of Capetown has greatly increased its activities in recent years, and the following account of the conditions under which medical degrees are granted by the University will be read with interest.

Three degrees are granted—namely, Bachelor of Medicine and Bachelor of Surgery (M.B., Ch.B.), Master of Surgery (Ch.M.), and Doctor of Medicine (M.D.). The University also grants a post-graduate diploma in public health (D.P.H.).

The entrance examination for the degree of M.B., Ch.B. is the matriculation examination, conducted until 1917 by the University of the Cape of Good Hope, and now by the Joint Matriculation Board. Students may enter at the commencement of the first term (March), which is the method advised, or at the commencement of the third term (July). Registration as a medical student is obligatory. The curriculum occupies six years from the date of registration as a matriculated student; alternatively, the degree of B.A., embracing certain qualifying courses, may be taken, and thereafter the final four years of the curriculum for the degree of M.B., Ch.B. Medical students attend the Somerset Hospital, where clinical instruction is given by the honorary medical staff. A fee of ten guineas entitles a student to a perpetual ticket to the hospital. No candidate can be admitted to the degree of M.B., Ch.B. until he or she has attained the age of 21 years. University residences for both men and women students are provided. Students not living with their parents or guardians must satisfy the authorities that they are residing at houses approved by their parents or guardians.

Curriculum for the Degree of M.B., Ch.B.

The courses for the first professional examination and the minimum number of hours to be allotted to lectures and practical work in the several subjects are: botany special, 60 hours; zoology special, 80 hours; physics special, 120 hours; inorganic chemistry special, 150 hours; anatomy I, 200 hours. The courses in anatomy I, physics special, and inorganic chemistry special extend over four terms, those in botany special and zoology special over two terms.

The courses for the second professional examination are: organic chemistry special (extending over two terms), anatomy II, physiology and physiological chemistry I. The courses for the third professional examination are: bacteriology, pathology, and pharmacology; a course in psychology is also required. In the final professional examination the courses are: medicine, surgery, obstetrics, and gynaecology, public health, medical jurisprudence, and toxicology, and courses in the following special subjects: ophthalmology, psychological medicine, venereal diseases, skin diseases, diseases of the ear, nose, and throat, and diseases of children.

In the fourth year the courses for candidates who begin at the commencement of the academic year are: (*a*) in the first two terms, principles and practice of surgery, clinical surgery (surgical dressership), revision anatomy, obstetrics, anaesthetics; (*b*) in the second two terms, surgery, clinical surgery, obstetrics, practical and clinical obstetrics, anaesthetics, and medical jurisprudence and toxicology.

The courses for the fifth year are: (*a*) for the first two terms of the calendar year, principles and practice of medicine, clinical medicine, gynaecology, practical and clinical obstetrics, public health, and vaccination; (*b*) for the second two terms, principles and practice of medicine, clinical medicine, practical and clinical obstetrics, gynaecology, infectious diseases, psychological medicine, vaccination, and leprosy.

In the sixth year the courses are: clinical medicine and clinical surgery, operative surgery, [illegible]ical obstetrics (not fewer than [illegible]ases of the ear, nose, and throa[illegible] of children, venereal diseases, [illegible] in addition, optional courses in tropical medicine and radiology.

The final professional examination consists of two parts. Part I: (*a*) medical jurisprudence and toxicology, and (*b*) public health. These may be taken separately. Part II: (*a*) medicine, (*b*) surgery, (*c*) obstetrics and gynaecology, [illegible]sycho-logical medicine, venereal diseases, sk[illegible] the ear, nose, and throat, and diseases of [illegible] may not enter for the second part of the final professional examination unless he has completed the first part. Before being admitted to the degree of M.B., Ch.B. each candidate is required to subscribe to the following declaration: "I, A.B., solemnly declare that as a graduate in medicine of the University of Capetown, I will exercise my profession to the best of my knowledge and ability for the good of all persons whose health may be placed in my care, and for the public weal; that I will hold in due regard the honourable traditions and obligations of the medical profession, and will do nothing inconsistent therewith; and that I will be loyal to the University and endeavour to promote its welfare and maintain its reputation."

MEMORIAL TO THE LATE DR. S. B. SYFRET.

New wards for non-European patients, forming a memorial to the late Dr. Stephen B. Syfret, who was accidentally drowned while bathing at Hermanus in February, 1919, were opened at the Rondebosch and Mowbray Cottage Hospital on October 25th, 1926. The wards provide accommodation for six male and six female patients, and with bathrooms, etc., form a self-contained block connected with the main hospital building by a passage way. Running the whole length of the new block is a stoep wide enough to permit of beds being brought out. The cost of the new extension was £3,466; half of this amount was raised by public subscription, the other half being met by the Cape Hospital Board. In the passage way is a large photographic portrait of the late Dr. Syfret, and a mural tablet with the following inscription:

"Dedicated to the memory of Dr. Stephen Syfret, who in his lifetime was a member of the honorary medical staff of the Rondebosch and Mowbray Cottage Hospital. This building was erected by his many friends and the Cape Hospital Board as a memorial to his life and work, especially amongst the poor."

After this tablet had been unveiled by Mrs. S. B. Syfret, Mr. A. B. Reid, on behalf of the memorial committee, handed over the new block to the Cape Hospital Board, on whose behalf it was accepted by Mr. M. C. Vos, chairman. Mr. Reid referred in sympathetic terms to the noble work of Dr. Syfret, both as a doctor and as a man, work which had commanded from all sections of the community the highest respect and affection. Dr. Syfret, he said, had in a special sense been the friend of the poor, both white and coloured, and his death was an irreparable loss. After his untimely end it had been felt that his memory should be perpetuated by some practical token of their regard, and this addition to the hospital where he had laboured and had been loved was the outcome.

PORTRAIT OF THE LATE DR. A. REITH FRASER.

In recognition of the invaluable services rendered to the Cape (Western) Branch of the Medical Association of South Africa (British Medical Association) by the late honorary secretary, Dr. A. Reith Fraser, it was decided by the council of that body to procure a suitable likeness of Dr. Fraser to be hung in the rooms of the Association in Capetown. As the result of the efforts of a small sub-committee to which the work was entrusted, an excellent photographic enlargement of a portrait of Dr. Fraser was placed in position in time for the annual general meeting last November. In addition to the portrait, some seventeen originals of Dr. Fraser's pen-and-ink caricatures of his colleagues in the profession have been framed and hung in the vestibule of the Association's rooms The expense involved was met by small individual subscriptions on the part of members of the Branch.

PRESENTATION TO DR. G. W. ROBERTSON.

A pleasant little ceremony took place at the Government Bacteriological Laboratory in Capetown on November 23rd, 1926, when Dr. G. W. Robertson, on the eve of his retirement from the office of Government pathologist, was presented with a cheque. Dr. Hugh Smith, in making the presentation, explained that it was a token of the very high esteem in which Dr. Robertson was held by his colleagues all over the Union and in Rhodesia and the South-West Protectorate, a large number of whom had taken part in the movement. Had it not been for Dr. Robertson's express wish to make the ceremony as informal as possible, there would no doubt have been a large attendance. Dr. Hugh Smith concluded by speaking of the good relations that had always existed between Dr. Robertson and the members of the profession, and by giving him the best wishes of the subscribers for the future.

Dr. Robertson qualified in London in 1893, and came to South Africa four years later as assistant bacteriologist to the Health Institute, at that time established at Grahamstown. In 1901 he was transferred to Capetown, and since then had occupied the post which he now vacates. He retires on pension at his own request, although he has been asked repeatedly by his department to continue in office. His many friends will be glad to learn that he has not

severed his connexion completely, for his part-time services will be retained by the Government in the capacity of consulting pathologist to the vaccine station at Rosebank. The remainder of his time will be fully occupied in agricultural activities on his beautifully situated farm near Stellenbosch.

THE CAPE HOSPITAL BOARD.

The reconstituted Cape Hospital Board came into office on October 26th last. Its membership under the new Provincial Ordinance has been reduced from thirty-six to eighteen. The following persons constitute the new Board:

Hospital Representatives: The Rev. A. P. Bender, Messrs. W. D. Hare, A. E. Adams, E. Graham Green, and Mrs. Duncan Baxter.
Divisional Council Representatives: Mr. J. Michau, Chevalier Callanan, and Dr. C. J. Juritz.
City Council Representatives: Mr. W. James and Mrs. H. Horwood.
Wynberg, Durbanville, and Simonstown Municipalities: Mr. H. F. East.
Administrator's Nominees: Mr. M. C. Vos, Dr. P. M. Dancel, and Mr. C. H. Dickinson.
Joint Peninsula Institutions Representative: Dr. F. M. Morris.
Representatives of the Honorary Medical Staffs of the Cape Hospitals: Professor A. W. Falconer, Dr. Julius Petersen, and Mr. H. A. Moffat.

The last-named three were elected by ballot by the honorary visiting medical officers of the New Somerset Hospital, the Woodstock Hospital, Rondebosch and Mowbray Cottage Hospital, the Victoria Hospital (Wynberg), and the Peninsula Maternity Hospital.

India.

RABIES IN SOUTHERN INDIA.

THERE was a slight increase in the number of patients treated in the antirabic department of the Pasteur Institute of Southern India, at Coonoor, during the year ending February 28th, 1926; the total was 572, as compared with 489 in the previous year. Antirabic vaccine was also issued to local centres for 4,072 persons, as compared with 4,402 in the previous return. The percentage of reports of the progress of the patients treated has improved very much, and it is evident that greater care is now taken to detect cases of rabies. Registration of deaths from this cause has been in force in the Madras Presidency since 1913, and in 1922, 1923, and 1924 there was a pronounced increase, which was attributed to the interest aroused by the issue of antirabic vaccine to district headquarter hospitals. Statistics collected over many years at the Pasteur Institute show that, on an average, death occurs in one out of thirty-six persons bitten by rabid animals treated with antirabic vaccine, as compared with one out of sixteen not so treated. It appears from the figures available that between 1913 and 1924 at least 60,000 persons in the Madras Presidency were bitten by rabid animals, but only about 10,000 of them received antirabic treatment. Eight scientific papers dealing with research work of various kinds done in the Institute were published during the year in the *Indian Journal of Medical Research*.

OUT-PATIENT LEPER CLINICS IN BURMA.

In response to an appeal by the Burma Branch of the British Empire Leprosy Association, subcommittees have been formed in nearly every headquarters town throughout the province, and over 57,000 rupees have been collected. In his report on the public health administration of the province, Lieut.-Colonel E. Bisset, I.M.S., director of public health, describes how a public meeting in connexion with the appeal led to a greatly increased attendance for out-patient treatment at the St. John's Leper Asylum, which is three miles out of Mandalay, and Dr. Peacock, the medical officer of the asylum, decided to open a small out-patient dispensary in the town for diagnosis and early treatment. At this dispensary forty-four patients were treated between May 1st, 1925, and March 31st, 1926; eight of them were too far advanced for dispensary treatment and were advised to enter the asylum. As the result of the first year's work Dr. Peacock concludes that out-patient leper clinics, if cautiously conducted, would be very popular in Burma, being within easy reach of the people and distinct from existing asylums, so that there would be no danger of loss of employment resulting from treatment. He thinks that such dispensaries would make it possible to get into touch in course of time with the entire leper population, which could not happen if treatment was limited to resident leper institutions. Such clinics would not be expensive to maintain, and would serve as centres for the supply of information about leprosy to those infected as well as to the healthy members of the public. It was reasonable to hope that patients would come for treatment in the earlier and more curable stages of the disease. Dr. Peacock adds that the clinic has brought to light the frequency of leprosy among Europeans and Anglo-Indians.

PROGRESS OF VACCINATION IN INDIA.

Reports on vaccination work during the last three years in the Central Provinces, the Presidency of Madras, and the Province of Assam indicate that, although there has been some increase in the number of vaccinations, yet the proportion of the vaccinated population is still so low as to call for greater efforts along educational and administrative lines. Revaccination in particular is neglected, and in some districts the indifference of the vaccinators is held to be largely to blame. While vaccination is compulsory in some towns, many rural areas escape, although the opposition is less marked among villagers. In Bihar and Buldana local schoolmasters have been trained as vaccinators with very good results, and it is suggested that this procedure might well be more general. Major T. D. Murison, I.M.S., director of public health in Assam, strongly urges that each municipality should be provided with a well equipped small-pox hospital, and that the disease should be made notifiable in rural areas where it is prevalent. In Madras, where the health department was reorganized in 1923, there has been a considerable increase in the number of health inspectors and first and second class vaccinators; the probationary class is gradually disappearing. Major A. J. H. Russell, I.M.S., director of public health, refers to the urgent need for compulsory vaccination throughout the presidency, and of fuller powers being given to the district and municipal health officers. The registration of vital statistics is still imperfect, but in spite of these drawbacks very considerable progress has been made during the three years in vaccination in Madras, so that the hope is entertained that small-pox will gradually be brought under control. There is still need for more prompt notification of outbreaks, since many deaths occur before preventive measures can be taken. Lanoline lymph has now been replaced by glycerin lymph, and successful vaccinations have reached the high figure of nearly 95 per cent. The small-pox mortality in Madras steadily declined during the three years. In his annual report on vaccination in the Punjab for the year 1925-26, Lieut.-Colonel W. H. C. Forster, I.M.S., director of public health, reports a great increase of vaccination in the province during the last three years. He states that vaccination is the only protection the general population has against the disease, since small-pox hospitals do not exist, except in Simla, and systematic segregation and disinfection are not attempted. He hopes that still further progress will follow when each district has been supplied with a medical officer of health. The education of public opinion by systematic propaganda has proved extremely valuable, but he is pessimistic about the possibility of opening the eyes of municipalities to their responsibility in this connexion.

MADRAS GENERAL HOSPITAL.

At the Madras Government General Hospital 67,689 out-patients and 9,916 in-patients were treated during 1925; there was an increase of non-European patients and a decrease of Europeans as compared with the previous year; surgical operations numbered 2,974, or 504 more than in 1924. Clinical instruction was given to 251 students. In his report of the work of the hospital during 1925 Lieut.-Colonel M. N. Chaudhuri, I.M.S., gives a full statistical account of the administrative side, while the three surgeons

and the three physicians supply clinical details, including brief notes of the more interesting cases. Comment is made on the rarity of Pott's fracture among Indians, only 10 cases having been admitted during the three years 1923-25, as compared with 119 cases of fracture of both bones of the leg and 101 cases of fracture of the femur treated in this period. The X-Ray Institute is being enlarged, and a considerable amount of new apparatus, including a deep x-ray therapy outfit, a "radiostat" high-tension transformer, tungsten arc and mercury vapour lamps, and a new diathermy apparatus, has already been installed; three whirlpool baths will be added shortly.

University of Bombay.

The *Bombay University Calendar* for the two years 1925-26 and 1926-27 indicates the steady progress that is being made in the spread of educational facilities in this part of India. A list is given of the twenty-six colleges now affiliated to the University—namely, Elphinstone College, Bombay; Deccan College, Poona; Wilson College, Bombay; St. Xavier's College, Bombay; Gujarat College, Ahmedabad; Rajaram College, Kolhapur; Baroda College, Baroda; Fergusson College, Poona; Samaldas College, Bhavnagar; Dayaram Jethmal Sind College, Karachi; Bahauddin College, Junagadh; New Poona College, Poona; Karnatak College, Dharwar; Maganlal Thakordas Balmukunddas Arts College, Surat; Willingdon College, Sangli; Sind National College, Hyderabad; Hansraj Pragji Thackersey Arts College, Nasik; Sydenham College of Commerce and Economics, Bombay; Secondary Training College, Bombay; Poona Agricultural College, Poona; College of Engineering, Poona; Nadirshaw Edulji Dinshaw Civil Engineering College, Karachi; Government Law College, Bombay; Indian Society's Law College, Poona; Grant Medical College, Bombay; and Seth Gordhandas Sunderdas Medical College, Bombay. At the convocation for conferring degrees on August 18th, 1926, the Chancellor, the Right Hon. Sir Leslie Wilson, G.C.I.E., presided, and the Vice-Chancellor, Sir Chimanlal H. Setalvad, K.C.I.E., delivered an address which is printed in full in the *Calendar*. He emphasized the importance of concentrating the colleges and hostels in a university quarter. The provision of university extension work among adults was also desirable, and a college of technology was required to include mechanical and electric engineering, textile industries, and applied chemistry.

Ireland.

Clean Milk.

In the third of a series of articles specially contributed to the *Irish Independent*, Professor J. W. Bigger, M.D., of Trinity College, Dublin, described pasteurization as a process in which milk was heated to a temperature sufficient to kill the greater number of bacteria present. The correct method was to heat the milk to 145° F. for half an hour, and then to cool it rapidly. Almost all the bacteria capable of causing diseases, including tuberculosis and typhoid fever, were killed, but it did not render safe a dirty and badly contaminated milk. It also killed the bacteria which caused milk to sour, and so a pasteurized milk kept sweet longer than if untreated. The objections to pasteurization were that it interfered with the digestibility of milk, and it destroyed, either partially or completely, the vitamins so essential for growing children. If pasteurized milk was used the vitamins lacking in it must be replaced by the addition of other foods containing them, such as cod-liver oil and fresh fruit. Pasteurization was improper if used, as too often it was, to render saleable a milk which had deteriorated, to mask careless methods, or as a substitute for the cleanliness which ought always to be exercised in the collection of milk. The hygienist could not countenance pasteurization by a dealer who purchased milk from farmers at a distance, who made no investigation of the conditions under which the milk he pasteurized was produced, and who paid the same price for clean as for dirty milk. Milk should be protected from contamination from the farm to the consumer's house, and the most satisfactory method of achieving this was to supply it in bottles filled and sealed at the farm. Properly carried out, bottling was excellent, but if badly done it was dangerous. No one should be permitted to bottle milk unless he had proper plant for the thorough cleansing and sterilization of his bottles; to put milk into unsterile bottles was criminal folly. Legislation was necessary for grading milk, since at present the terms "Certified" and "Grade A" were unprotected and meaningless. A good judgement of the quality of milk was given by noting the length of time it kept sweet. Good milk would remain sweet for several days, and any milk which soured within twenty-four hours, without being kept at a warm temperature, was dirty. Milk must be protected against contamination in the home by being kept in the bottle until required or in a jug covered with a plate to keep out flies and dust. Every vessel used for milk should be washed, first with cold water, then with hot water and soda, and finally scalded with boiling water. Jugs used for milk should be plain, without crevices, inside or out, where dried milk, containing millions of bacteria, might lodge. Milk should always be kept in the coolest part in the house, and the bottle or jug be placed in a large basin filled with the coldest water available; this should be replaced by fresh water when it became warm. All these precautions were necessary, whether the milk was raw or pasteurized. If these conditions were fulfilled, and the milk became sour, it was certain that it had been contaminated by dirt. Those in Ireland who desired further information would find the Irish Clean Milk Society ready and anxious to supply it.

Ulster Medical Society.

A meeting of the Ulster Medical Society was held in the Medical Institute, Belfast, on January 13th; in the absence of the president, Dr. Nolan, the chair was taken by Dr. Loughridge (Whitewell). After routine business, the chairman proposed the following resolution, which was seconded by Dr. O'Flaherty (Belfast), and carried with acclamation:

> The Ulster Medical Society desires to place on record the pleasure and appreciation of its Fellows and members that the honour of Knighthood has been conferred by His Majesty the King upon Dr. Thomas Houston, a past-President of the society, in recognition of his invaluable services to scientific medicine. The council unanimously recommends that the name of Sir Thomas Houston be added to the list of honorary Fellows of the society.

The meeting was purely a clinical one, and a number of interesting cases were shown by Dr. F. M. Allen, Professor Fullerton, Mr. H. P. Hall, Mr. S. T. Irwin, Dr. R. Marshall, Dr. Ivan McCaw, Mr. R. J. McConnell, and Mr. G. R. B. Purce. Dr. Marshall's exhibit of eight cases of congenital lues of varying types included one resembling pernicious anaemia, one with spastic paraplegia and mental deficiency, one resembling osteo-arthritis, and one with classical teeth and enuresis, all improved by arsenic treatment. The exhibitors demonstrated their several cases with the aid of charts, x-ray photographs, and typed histories.

Scotland.

Vital Statistics for Glasgow in 1926.

A HEALTH bulletin issued by the Glasgow Public Health Department shows that the number of deaths recorded during the past year in the city was 15,626, as compared with 15,332 in 1925, representing a death rate of 14.2 as against 14.0 per 1,000 for the previous year. The death rate from tuberculosis of the lungs was the lowest yet recorded, being 0.85 per 1,000 of the population, while the rate for 1925 had been 0.92. With regard to other forms of tuberculosis, the number of deaths had been 320 for 1926 as against 395 for 1925, death rates respectively of 0.29 and 0.32 per 1,000. It would thus appear that non-pulmonary tuberculosis is tending to be less severe in type, probably in consequence of the improvements in

facilities for treatment made during recent years. The infant mortality rate for the year was 103 per 1,000 births, as compared with 102 in 1925 and 119 in 1924. The year 1926 showed the third lowest infant mortality rate yet recorded, despite the fact that there had been a severe epidemic of measles. The births registered during the year were 24,394, giving a rate of 22.3, which was 0.9 lower than the rate for 1925.

EXTENSION OF PERTH INFIRMARY.

A new maternity block at Perth Royal Infirmary has been erected and equipped, at a cost of about £15,000, by Lord Forteviot, and was opened on January 11th. The new building is one of the first separate maternity institutions to be erected in connexion with a hospital in Scotland, and is a self-contained unit, situated to the north of the infirmary. The one-story building contains two large wards of eight beds each, with separate special side wards, two containing one bed each, and two with two beds, thus accommodating in all twenty-two patients. All the wards face south, the large ones being placed at either end of the building and having windows on three sides. Adjoining one of them is a large room for cots; additional accommodation includes a lecture room, linen room, waiting room, and an examination room. A pillared verandah, with a glass roof, extends nearly the whole length of the building, and the wards connected with it, by means of French casements opening to the floor. At the north side of the building is placed the theatre, lighted from the north by a window extending almost the whole length of the wall, and by a large roof light; adjoining rooms for sterilizing and the preparation of dressings are provided. The building is centrally heated by radiators; all the wards have open fire-places, and the ventilation is entirely modern. With the opening of this maternity unit Perth will become a training centre for qualification for the C.M.B. certificate.

THE PROBLEM OF EVOLUTION.

The first of a course of ten weekly lectures on evolution was delivered by Professor J. Y. Simpson in the Department of Natural History at Edinburgh University on January 12th. The course is intended to be a continuation of a series of lectures on the philosophy of natural history started in 1886 by the late G. J. Romanes and continued by him for five years; later on they were resumed by Dr. A. D. Darbishire, lecturer in genetics, who unfortunately died in 1915. After a consideration of the meaning of the term "evolution," Professor Simpson gave an historical review of various ideas on evolution which had been advanced from the time of the early Greek philosophers to the close of the eighteenth century. All these ideas had offered only the alternatives of transformism and creationism, and as the former conception grew in exactness the influence of the latter waned. Examples were given of popular notions in regard to transformism, such as that of the transformation of the barnacle into the barnacle goose, as related in the work of Silvesten Giraldus Cambrensis (1187). The transformist's view of the sixteenth century was definitely stated by Sir Walter Raleigh in a passage occurring in his *History of the World* (1614). Leibnitz's law of contiguity and unity had created a favourable atmosphere for the teaching of transformism. The doctrine of descent with modification from previously existing forms was, Professor Simpson said, more surely founded now than ever before, but great uncertainty had recently developed as to the method of evolution and the factors involved in it. The problem was now seen to be much more complex than was originally supposed. The doctrine of descent was an induction from a large number of facts whose basis continually broadened and so became more secure.

TRAINING THE BLIND.

The annual social meeting of the Mission to the Outdoor Blind for Glasgow and the West of Scotland, held in St. Mungo Hall, Glasgow, was attended by some nine hundred persons with defective eyesight. Dr. A. S. McGregor, medical officer of health for the city, presided, and in the course of an address stated that negotiations were now in progress for the acquisition of a factory in the north-east part of the city, where it was hoped to provide facilities for training between two and three hundred young blind persons in various forms of manual work. He expressed the opinion that there was still room for a great deal of improvement in the conditions of work and life for blind people. Mr. W. R. Halliday, a member of the home teaching staff of this mission, recently received a notice that the President of the French Republic had, on the recommendation of the Department of Labour, Health, and Social Welfare of the French Republic, conferred upon him a gold medal in recognition of his services on behalf of the blind. The activities of Mr. Halliday have done much to awaken public interest in the methods adopted in other countries for dealing with the blind; and the mission in Glasgow and the West of Scotland has, through his efforts, been brought into close relation with other kindred organizations in France and Germany.

England and Wales.

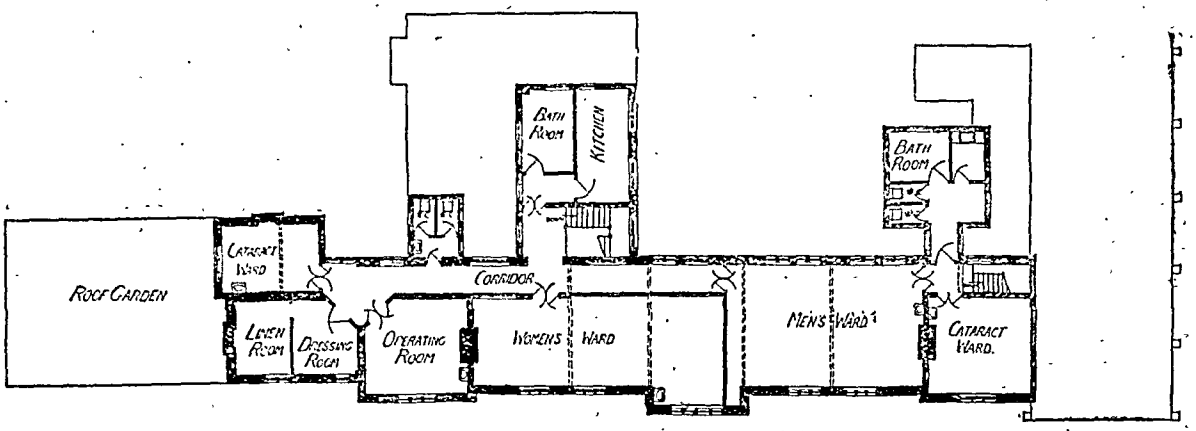
WELSH NATIONAL MEDICAL SCHOOL.

THE special meeting of the court of the University of Wales was held in Shrewsbury, according to notice, on January 14th, but did not arrive at a decision with regard to the draft charter prepared by the court for the incorporation of the Welsh National School of Medicine as an independent school of the University. The attendance of members from South Wales was good, but that of members from North and Mid Wales was, it is reported, meagre. The adoption of the petition to the Privy Council embodying the terms of the new charter proposed by the University Court was moved by the Hon. W. N. Bruce and seconded by Alderman William George. The grounds for the dissent of University College, Cardiff, were developed by Principal Trow, who moved an amendment, seconded by Dr. Rocyn Jones, to refer the matter back to the council of the University. Principal Trow repeated the arguments against the establishment of the School of Medicine as a separate unit, and reinforced them by reading the answer of Mr. Alexander Grant, K.C., to certain questions submitted to him by the college. Mr. Grant held that in the draft charter the council of the University had exceeded its powers, and that it could not, under its present charter, or under the suggested altered charter, engage directly in teaching work or set up a school or schools under its direct control for the purpose of providing education in any subject; the proposal also, he considered, infringed the rights of the college under its charter. Mr. Grant concluded by advising that the matter was one for settlement, and that the college council should consider carefully any reasonable proposal that the University might put forward. A vote was taken by ballot, and the amendment carried by 53 votes against 48. It was understood that negotiations would be continued between the council of the University and the college, and it was subsequently decided that their result should be brought before the July meeting of the University Court.

AN OPHTHALMIC CLINIC.

The Coventry and Warwickshire Hospital.

Adjacent to the Coventry and Warwickshire Hospital is the Sir Thomas White School for Girls, a large building which during the war was used for the accommodation of wounded soldiers, and for the eye department, which was housed on the ground floor. During the period of financial depression which followed the war the whole block was closed, and for four years eye cases were treated in the general surgical wards. When the depression passed away the building was remodelled and a new lavatory block added. The ground floor was used for medical wards and for maternity work. The upper floor was rearranged and adapted for the eye department, and was opened for cases



The Coventry and Warwickshire Hospital: Ophthalmic Wards.

on March 1st, 1926. Sufficient time has now elapsed to show that it is well adapted for its purpose.

We are indebted to Mr. T. Harrison Butler, ophthalmic surgeon to the hospital, for the following description of the ophthalmic clinic, and for the block plan by which it is illustrated.

The operating theatre is floored with "parvino pavement," and the walls are enamelled dark green. Excellent illumination is given by a large side window with a south aspect. The operations are all performed early in the morning, so this aspect is satisfactory. A blind outside the window enables the theatre to be darkened for discission operations. The majority of the operations are carried out under a Rayner triple-beam lamp, which concentrates three beams upon the eye and avoids shadows. A Weiss point-o'-light projector is employed during discission. A Mellinger ring giant magnet is used for the extraction of steel fragments from the interior of the eye—a somewhat frequent operation at Coventry. Adjoining the theatre is a linen room and a dressing room for the staff. No one is admitted to the theatre who is not wearing special shoes.

The following table shows the number of patients treated during 1926.

Number of Patients treated during 1926.

Foreign bodies	3,429
New out-patient cases	1,667
Out-patient attendances	3,475
In-patients from March 1st to December 31st ...	288
Operations in theatre, March 1st to December 31st	231
Total attendances, including foreign bodies ...	6,904

There are four wards—including large male and female wards, and two small wards; these are used as occasion dictates as cataract wards or for private patients, who are admitted under two schedules of fees, which include the fee of the surgeon, which is seven or fourteen guineas according to the means of the patient. This arrangement has worked well. The wards, which are enamelled white, are lighted by a row of windows facing south. As far as possible those patients whose eyes are bandaged occupy the beds under the window, and no complaints have been made of discomfort from glare. At night the wards are illuminated by indirect light reflected from the white ceiling.

There are two beds in the male cataract ward, and nine beds and one cot in the large male ward. The large female ward contains eight beds and four cots. The small female ward has one bed and one cot. It opens by a French window on to a roof garden, where in suitable weather the children sleep and during the day have the advantage of sunshine. It is proposed later on to build a roof over this garden so that extra beds can be accommodated.

The out-patient department consists of an examination room opening out of the general waiting hall and a large dark-room about thirty feet long. This length allows the refractions to be done without the use of cycloplegics, which are used only for children and for difficult adult cases. It is furnished with a slit-lamp, a Lister daylight illumination perimeter, and suitable testing lenses and standard illumination test types.

The whole of the department, both in- and out-patient, is under the charge of one sister, who has her own nursing staff. This plan leads to co-ordination of the two departments and to greater efficiency.

DEVELOPMENTS AT STOCKPORT INFIRMARY.

A new orthopaedic department at Stockport Infirmary has been built and equipped at a cost of £9,000; it was opened on January 13th by Lady Sheffield, one of the governors. The new building, which was urgently required to relieve the crowded state of the out-patient department, and to deal more effectively with the large number of crippled and deformed patients, has been erected adjoining the nurses' home at the back of the out-patient department. It includes a large room for massage, and good accommodation for electrical treatment and ultra-violet light therapy. The department is fully equipped with up-to-date apparatus, and there is a gymnasium for Swedish remedial exercises. Additional bedrooms for the staff have been constructed on the upper story of the building, thus supplying a much-needed extension to the nurses' home. It was stated at the opening ceremony that since 1917 the number of cases treated at the infirmary had increased by 50 per cent. Lady Sheffield said that Cheshire had already opened a number of after-care clinics for children, and it was hoped to establish several more in parts of the county where it was not possible to provide after-care treatment in connexion with hospitals. The cost of the new department has been met by voluntary donations, for which an appeal was issued last June. A large percentage of the patients treated will be crippled and deformed children.

CENTRAL MIDWIVES BOARD.

The Central Midwives Board at its meeting on January 6th, when Sir Francis Champneys was in the chair, received with regret the resignation of Miss M. O. Haydon, and recorded its appreciation of her services. In response to a request from the guardians of Newcastle-on-Tyne the Board agreed to continue its approval of Dr. Haslam as lecturer until March 31st, 1928. The Board considered that this would give the guardians ample opportunity to make arrangements for the pupils of the Wingrove Hospital to attend courses of lectures elsewhere. In reply to a letter from the secretary of the Midwives Institute, the Board stated that the use of the approved form for keeping ante-natal notes was obligatory, but that the existing stock might be worked out subject to the approval of the local supervising authority. The Board declined to undertake to send to the council of the Midwives Institute directions or orders for local supervising authorities, but promised to forward any that in its judgement might be helpful. The Board agreed that the London County Council should have the right to send two representatives to any conference of representatives of local supervising authorities under the Midwives Act which the Board might convene.

Correspondence.

THE MENTAL DEFICIENCY BILL OF 1926.

SIR,—May I beg space for some comments on Dr. Tredgold's important letter in the JOURNAL of January 8th concerning the bill which was withdrawn, rather than abandoned, just before the end of the last session of Parliament?

1. With the greater part of this letter, which refers chiefly to the working of the Mental Deficiency Act of 1913, I wholly agree. I have, indeed, for several years been convinced that the words "from birth or from an early age," which limit the definition of all persons proposed to be dealt with under the Act, had, as a matter of fact, occasioned considerable difficulty in administration under the Act. I do not think that this difficulty should have been found insuperable by medical men in the matter of certification; but some revision of the definition seems to have been necessitated even from a legal point of view alone.

2. I agree, further, that some such alteration as is contained in Section I, Clause (2) of the proposed new bill should be made, especially if it should still be deemed desirable that the present hard and fast distinction between the "lunacy" and "mental deficiency" Acts should be preserved. But before considering this clause as it stands in the draft bill I wish to emphasize my accord with Dr. Tredgold when he says, in the second paragraph of his letter, that in his experience (which has been very wide) of the working of the Act of 1913 he had "never known, or heard of, a single instance in which a person has been dealt with under it who was not in need of supervision." The need of the Act is clearly of an opposite kind. I have no doubt that most adverse criticisms of it have been mainly inspired by imperfect knowledge of facts, and a kind of obsession by the vague phrase "the liberty of the subject."

3. In considering the chief proposed alteration in the bill for 1926, which runs thus: "Mental defectiveness means a condition of arrested or incomplete development of mind, whether innate or induced after birth by disease, injury, or other cause," some important questions arise. In his approval of this clause Dr. Tredgold seems to assume that the aim of a mental deficiency bill is mainly, or at least most prominently, to protect the several classes of persons described: to be, as it were, the "charter of the feeble-minded"; and thus would regard the interests of the community at large, such as concern, for instance, the harm done by many feeble-minded persons, as of somewhat secondary importance. And, further, he seems to imply that the present coexistence of one law for the "insane" and another for the mentally deficient must continue. Now the group contemplated in the new definition includes the subjects of arrested or incomplete development of mind, whether innate or induced after birth by disease, injury, or other cause. These words, however, imply a distinction under the appearance of a single group devised for practical purposes: the cases of those with arrested development are indicated apart from those affected by "other causes." Those affected by the other causes, mentioned and unmentioned, are such as suffer from mental disorder or decay arising after the mind has attained to that degree of development which would enable the individual to transact the ordinary affairs of life.

It is to be noted that the new defining clause introduces the consideration of distinct pathological causes in connexion with these two groups; and it appears to follow that a considerable number of the last named group would approach clinically and naturally much closer to the class of mental cases now dealt with under the Lunacy Acts than it does at present. This would probably increase the acknowledged element of difficulty in certification which it is now sought to diminish or remove; and the introduction of the words "or other cause" would form a fresh stumbling-block for critics.

The advisability of avoiding the more or less disputed nature of the various causative elements in the production of cases of mental defect of all kinds, including, of course, all cases needing care and control under both the existing "lunacy" and "mental deficiency" Acts (*for these are all marked by defect of mind*), was fully realized by most of those who dealt with these matters on the Royal Commission for the Care and Control of the Feeble-minded, which published its report in 1908, and led up at last to the production of a bill in Parliament in 1912. It appears to me still that, as in the existing Lunacy Act and in the Mental Deficiency Act of 1913, it is much more important and less liable to cause difficulty, to define the actual condition of those especially requiring control, than to bring under any legal definition the matter of the causes of such conditions. The first Mental Defect Bill of 1912 was withdrawn by the Government, partly because of parliamentary opposition on the ground of its alleged interference with "liberty." The recommendation of the Royal Commission that the jurisdiction over the whole matter of mentally affected persons should be dealt with by one comprehensive authority was, as far as I remember, omitted from the bill on account of considerable opposition by some lunacy authorities at the time. The second bill, of 1913, introduced as its first section the statutory definitions of the various classes to be dealt with, some of which have now led to the proposal of the bill that has recently been withdrawn.

It is chiefly because I have in mind a certain class of mental cases, several of which fall readily under the group which is characterized by Dr. Tredgold as the subject of arrested mental development, but others of which are not clearly classifiable, that I greatly question the substance of the proposed Clause (2) of the first section in the bill of 1926. I am not convinced by Dr. Tredgold that this clause would not apply to adults quite as much as, or more than, that of the Act of 1913. I note that he admits that it would apply to such young persons in whom mental defect has been brought about before the termination of adolescence. In fact, any such bill must apply to adults.

One class of cases I would specially note is that of some criminals, the early lives of whom are often difficult or impossible to trace, but appear closely similar to those whose early history can be traced. It seems clear from Section 5 (*b*) of the new Act that adults, including such persons as have been just mentioned, would be included under the newly proposed definition in Section 1, Clause (2), for it is stated in 5 (*b*), with regard to certain persons: "If the place in which he is being so detained under the order of the court is not a prison or such a place of detention as aforesaid he shall be removed therefrom to a prison, or, *if he is child or young person*, to a place of detention."

This point seems important when the wording of the new legal meaning of it is closely considered; and is of special importance when it is applied, as it must be, if accepted, to the certification of criminals charged with more or less serious crime. There has lately been a great tendency (especially in the United States), which may easily become dangerous, to regard an increasing number of criminals as mentally diseased—defective or insane—who, it is said, should be treated as diseased persons rather than punishable law-breakers; and I would urge that the new definition of "mental defectiveness" is at once too vague and too comprehensive to afford a practicable substitute for the old definition which qualifies "mental defect" as "existing from birth or early years." For this new definition introduces the question of the *cause* of mental defect, and adds to those specified the words "*or other cause.*" I think that all cases of mental deficiency or "unsound mind," or "insanity," from whatever cause or causes arising, should, for the benefit of the community at large, as well as of themselves, be dealt with by one legal authority, the nature of each case being decided, as at present, by experts after due examination and observation, and that the old interpretation in the glossary of the existing Lunacy Act—that "lunatics" means persons of unsound mind, or "idiots"—is sufficiently definite and comprehensive to indicate all the mentally affected persons who are now dealt with by legislation, or whom it is desirable so to deal with by any further measures of care or control.

Sound scientific research is revealing more and more

clearly the dependence of mental disorders generally on discoverable physical causes, and thus the practical knowledge of such disorders must increase. The definition, however, of persons whom it is necessary to care for or to control should be made as simple and as intelligible as possible for practical reasons. And I would venture to suggest something like the following as a workable definition for the particular group now generally recognized as cases of "mental deficiency," and specially dwelt on by Dr. Tredgold: "*Mental deficiency means incomplete development of mind, either existing from birth or observed subsequently before the attainment of complete adolescence.*"

I have not touched upon any part of the Act of 1913 other than that of which the bill of 1926 proposes amendment, but I desire to express a hope that a form of words in the stead of "moral imbecile" may be substituted some day for this very equivocal and inaccurate term. Perchance this term might suffer abolition in lieu of correction?—I am, etc.,

London, W.2, Jan. 14th. H. BRYAN DONKIN.

MOYNIHAN PORTRAIT FUND.

SIR,—The retirement of Sir Berkeley Moynihan, Bt., K.C.M.G., C.B., etc., President of the Royal College of Surgeons of England, from the active staff of the University and General Infirmary at Leeds, affords to the general public, to those who have benefited by his skill and knowledge, and to his colleagues in the University and the medical profession, an opportunity of showing their high appreciation of his conspicuous services, not only to surgery, but also to the city of Leeds.

It is suggested that public recognition should take the form primarily of a portrait of Sir Berkeley Moynihan, to be placed in the Board Room of the General Infirmary.

The Moynihan Portrait Fund Committee, representative of public life, having been formed, invites public support, and on its behalf we shall be glad to receive donations. Whilst the smallest subscription would be welcomed, it is suggested that no individual amount should exceed £5. Cheques should be drawn in favour of the Treasurer, Moynihan Portrait Fund, and sent to the Lord Mayor's Rooms, Town Hall, Leeds.—Yours, etc.,

For the Moynihan Portrait Fund Committee,

HUGH LUPTON, *Lord Mayor of Leeds*,
Chairman and Treasurer.
L. R. BRAITHWAITE,
Vice-Chairman.
J. B. BAILLIE,
J. KAY JAMIESON,
T. F. BRAIME,
Members.

Leeds, Jan. 14th.

SMALL-POX IN THE COUNTY OF DURHAM.

SIR,—At a recent conference of medical officers of health in the county of Durham the position in regard to small-pox in the county was discussed and certain resolutions were passed. It was decided that a copy of the report of the conference, including the resolutions, should be sent to medical officers of health, to the press, to the British Medical Association, and to the Society of Medical Officers of Health, urging their unanimous support of the resolution (No. 5) relative to vaccination.

This resolution reads as follows:

"That this conference urges upon the Ministry of Health the importance of amending the Vaccination Acts with the object of making vaccination more general and efficient, as vaccination affords the quickest, most scientific, and most economic means of preventing and arresting outbreaks of small-pox."

One must necessarily sympathize with members of the public health service in Durham, on whom the present long-continued prevalence of small-pox must necessarily have thrown a heavy burden in extra work, worry, and anxiety. As, however, an appeal is being made to the public health service and the medical profession generally to support the resolution, it is necessary and proper that the issue raised should be carefully considered.

Although the wording of the resolution has been drawn in general terms, its object is clear—namely, to press the Government to tighten up the vaccination laws so as to make infant vaccination again compulsory, in fact as well as in theory. At present, of course, vaccination is really only compulsory in name.

How far does the history of compulsory vaccination in relation to small-pox bear out the claims made on its behalf? Briefly the history is as follows: It was in 1853 that vaccination of infants was first made compulsory in this country. In 1867 another Vaccination Act was passed with the object of making compulsion effective. The appointment of vaccination officers was provided for, though not made compulsory. In 1871 the great pandemic of small-pox reached Britain, and in that and the following year it swept the country, causing heavy loss of life. A further Act was passed making the appointment of vaccination officers compulsory.

During the two following decades, 1873-92, a vigorous policy of compulsion was pursued, and with much success so far as the proportion of infants vaccinated was concerned. This period, indeed, marks the high-water mark of compulsory vaccination. For England and Wales the proportion of infants successfully vaccinated averaged 87.3 per cent. of the births. The proportion dying unvaccinated, etc., accounted for 9 per cent., whilst the residue "unaccounted for" was only 3.7 per cent. We are never likely to obtain a larger amount of vaccination than was the case during this period. Indeed, it is fairly certain we could never attain again to anything approaching it. But what was the sequel as regards small-pox? During this period, be it observed, vaccination alone was trusted to and was regarded as our chief line of defence, and those modern methods of controlling small-pox—notification, isolation, surveillance, and vaccination of contacts—which have since proved so effective, were still in their infancy. The Infectious Diseases (Notification) Act, for example, was not passed until 1889, though it is true that many towns had local Acts earlier than this year.

Under these circumstances vaccination proved quite incapable of preventing widespread and fatal epidemics. Let me quote just a few examples.

(1) Sheffield had a serious epidemic in 1887-88. The disease ran riot. There were 4,705 cases, of which 4,151, or 88 per cent., were in vaccinated persons. Dr. Barry, who reported on the outbreak for the Royal Commission, stated that "Sheffield had obeyed the vaccination laws better even than the average of large towns." At this time compulsory notification of disease was not in force in Sheffield.

(2) In 1892-93 Warrington had an epidemic which was officially reported on for the Royal Commission by Dr. Savill. There were 667 cases, of which 62 proved fatal. Now Warrington was such a well vaccinated town that Dr. Savill wrote: "It might perhaps at first sight be a matter of surprise that a comparatively well vaccinated town like Warrington should have been the scene of such a severe epidemic of small-pox. I estimated that nearly 99.2 per cent. of the inhabitants had been vaccinated once in their lives before the outbreak, . . ." It can hardly be contended that neglect of vaccination had anything to do with this outbreak.

(3) In 1897-98 Middlesbrough had a serious epidemic. There were 1,411 cases, and of these no less than 1,213, or 86 per cent., were in vaccinated persons. Moreover, 103 of these vaccinated cases proved fatal.

These examples could be multiplied indefinitely. The total number of deaths from small-pox during the two decades was 3,832. During the second half of the period, as modern measures came more and more into vogue, the disease rapidly receded, most of the deaths occurring during the first half.

In the face of experience such as this it must surely be obvious that vaccination, however efficacious it may be in protecting the individual, is quite unreliable if trusted to as a weapon for protecting the community.

In 1889, in consequence of the strength of the agitation against compulsory vaccination, the Royal Commission was appointed, and they presented their final report in 1896. As the result of their recommendations the Act of 1898 was passed, with its loophole for the "conscientious objector." The loophole was further enlarged by the Act of 1907.

The medical profession were all along opposed to the "conscience clause," believing that it would lead to a decrease in vaccination. The event has proved that they were right. Since the "conscience clause" was passed vast numbers of parents have taken advantage of it, and infant vaccination has steadily fallen till now less than 50 per cent. of infants born are vaccinated. To-day, as we have said, infant vaccination is really compulsory only in name.

But the sequel as regards small-pox has been most unexpected. So far as the old-fashioned fatal small-pox goes—the kind of small-pox that caused the disease to be so much dreaded, the kind of small-pox that the Government of this country had in mind when they first made vaccination compulsory—it has virtually disappeared. Deaths from small-pox have quite ceased to influence our national statistics. In Leicester, the most unvaccinated city in the country, where less than 9 per cent. of all births have been vaccinated during the past forty years, there has not been a single death from small-pox for twenty-one years. Other unvaccinated towns have had a similar experience. Modern methods of fighting the disease, which have taken the place of infant vaccination, have proved so successful that it is no exaggeration to say that in this country severe small-pox is now more amenable to control, and causes a smaller mortality, than any other serious infectious disease.

What sort of a case, then, can we possibly make out to justify a reversion to really compulsory vaccination, a measure which would inevitably arouse great opposition among large sections of the public, and which is also by no means free from objection on medical grounds, for vaccination, after all, constitutes a definite, if temporary, interference with health?

The one and only argument is that an ultra-mild, non-fatal strain of small-pox—so different in its effect upon health from "old-fashioned" small-pox that some have even questioned if it really is small-pox at all—has gained access to this country, and, largely on account of its very mildness, is proving more difficult to control than the "old-fashioned" severe strain. Nevertheless, most districts invaded, where energetic measures have been taken, have successfully stamped it out. A few districts, including the county of Durham, where doubtless there have been special difficulties, have hitherto been less successful.

This failure in the county of Durham was attributed at the conference to the inadequacy of the available hospital accommodation, to the failure of medical practitioners to recognize the nature of the disease, and to neglect and indifference on the part of the public owing to the mild character of the disease. Possibly at the outset there were other causes.

Sir George Newman, in his report for 1925, speaking of small-pox, refers to a certain district in the North of England in which

> "all the ordinary measures necessary to limit the spread of the disease were neglected for a prolonged period, with the result that the infection overflowed and became widespread in surrounding districts. There is reason to believe that spread of the malady took place from that ill-administered district into at least eight other districts in the vicinity, and that the prevalence of small-pox which occurred on Tyneside was in no small measure due to the long-continued neglect in the district in question."

It is quite certain that any attempt to tighten up the Vaccination Acts would meet with strong and bitter opposition from a large section of the community. Incidentally, it will do nothing to increase the popularity of the medical profession. Of much greater importance is increased hostility to vaccination, which will almost inevitably ensue, making it more difficult to secure "emergency" vaccination when we really need it.

In view of the arguments set forth above, I would appeal to medical officers of health and the medical profession in general to consider carefully whether the proposal to press the Government to amend the Vaccination Acts in the direction indicated is really necessary or even desirable.—I am, etc.,

Health Offices, Leicester, Jan. 11th. C. KILLICK MILLARD.

*** A report on the small-pox situation in Sheffield and in the county of Durham will be found at page 147.

SURGERY IN GENERAL PRACTICE.

SIR,—I entirely agree with the remarks of "An Occasional Surgeon" in your issue of January 1st, p. 42. I am on the staff of a small hospital, and have for some years done practically all the surgery in a large general practice.

In reply to the eminent surgeons who criticize the general practitioner, I would make the following points: An eminent surgeon operates on a patient. In many cases he never sees that patient's wound again. The report of a house-surgeon, sister, or nurse, however capable, is a poor substitute for personal observation. When I operate on a patient I visit him several times a day for the first few days, and do all the dressings myself. I should say that I have a very clear conception of my own limitations; there are some operations which I should not attempt.

The following sidelight on the patient's view of the "eminent specialist" may be of interest. A few years ago I operated on a little boy for hernia. The grandparents are very wealthy people to whom expense is of little account. Recently the grandmother got an attack of subacute appendicitis. Thinking that possibly they would prefer someone more important than myself to perform the operation I wired to a London surgeon, warning him that I might want him. When I mentioned this to the patient's husband he was most indignant. He said that I had operated on the little boy with every satisfaction, and that if any operation was to be done I was to do it.

Incidentally I may say that the London surgeon, on receipt of my wire, sent two telephone messages—the first to the effect that his fee for coming would be 100 guineas (the distance is about 130 miles by rail), and the second to make it quite clear that this fee would not include the operation (if any).—I am, etc.,

January 1st. ANOTHER G.P. SURGEON.

THE PUBLIC, THE DOCTOR, AND THE MASSEUSE.

SIR,—Dr. Murray Levick's letter (December 11th, 1926, p. 1142) raises a point of the greatest practical importance. Phototherapy is now being given indiscriminately by a large number of nurses, masseuses, "institutes," and so on, and it is time that the dangers of this practice should be brought before the public and the medical profession by those who are qualified to do so.

It is unfortunate that lecturers and writers of books on actino-therapy lay such stress on its complete safety. Those who have had practical experience of this treatment know that different patients react in different ways and degrees to ultra-violet light, and that, to obtain good results, these differing reactions should be observed after each treatment and the subsequent exposure regulated accordingly. When the treatment is given to a healthy person merely as a "tonic" this exact supervision may not always be necessary, but the case is very different when such conditions as tuberculosis, asthma, and skin diseases are being dealt with.

Dosage cannot always be regulated according to the degree of skin erythema alone, but the constitutional symptoms must also be considered; and in such cases accurate observations and deductions can only be made by those who have been trained in clinical medicine. The choice of lamp, the dosage, the question of combining local with general treatment, and so on, are all matters which should not be left to unqualified persons to decide.

Dr. Kerr Russell, in his letter (December 18th, 1926, p. 1196), has pointed out the rashness of installing lamps in the home, and with this opinion I can only express the most emphatic agreement.—I am, etc.,

London, W.1, Jan. 4th. HUBERT M. ODDY.

MATERNAL MORTALITY.

SIR,—After forty years of general practice and a considerable amount of obstetrics during that time, one must have formed some views on the practice of that art.

I contend that we of the medical fraternity are going through a very unfair interference and criticism as to our work, by those who are riding hard for a whole-time service. We hear the specialist put in the forefront, the

midwife extolled for carrying out the dictums laid down by a certain section, and the medical practitioner is put forward only as a cleaner-up of any mess someone else creates, and takes the blame thereof.

I consider that in midwifery the general practitioner is the specialist, from his constant practice, and that this position should be recognized. We hear the doctrine of masterly inactivity extolled without any reference to the feelings, health, strength, and circumstances of life of the patient; they are only a cipher to be bandied about, for so many hours, in useless and feeble efforts at natural delivery, notwithstanding that with the strenuous lives we are living, and the bad food we have still to eat, and the heavy taxation and small means, the majority of patients are far from normal at the best of times.

The great sin of medical men seems to be the too frequent use of instruments. I would rather say it is the frequent want of a better acquaintance with those instruments, which is the fault of the schools in which they have been taught; properly used they have no danger.

It is the much advocated waiting, causing the foetal parts to lie for hours pressing on maternal parts with no hope of shifting, which causes soddening of the tissues, allowing germs an easy entrance at those points, and thereby causing sepsis. Again, who would dare to perform the simplest operation on a patient prepared as an obstetric case is prepared (in the majority of cases it would be suicidal), and yet the powers that be talk of germs being introduced by making a vaginal examination. There is no risk in examinations if the hands are surgically prepared each time; I strongly object to gloves in obstetrics because of the impossibility of their being sterilized over and over again.

Recent instruction as to reporting cases with a temperature of 100° F. sustained for three days is going to do infinite harm. First, it will alarm the patient; secondly, the many trivial causes for such elevation of temperature, well known to the general practitioner, make it quite unnecessary; and thirdly, it will utterly demoralize the nerve of young practitioners, who very soon would become quite unable to sustain the anxiety of conducting any case.

I have read Dr. J. S. Fairbairn's address (January 8th, p. 47) with great interest, but do not agree with the trend of his argument when he links medical men, midwives, and specialists together with hospitals as the solution. I would suggest: hygiene of the home; beds in the local hospital for special cases, attended by general practitioners, who should be left alone, away from the continual vexatious instructions of those who are working for whole-time service; better teaching in hospital as to the handling of those helps we have for the alleviation of suffering—forceps, turning, and artificial dilatation such as with de Ribes's bag, and judging the proper time to interfere when the natural efforts are from many causes futile.

I consider the Queen Victoria's Jubilee Institute to be one of the best of institutions, and the nurses are excellent; but I also think, with their limited experience, far too much is expected of them, and I certainly condemn the suggestion that drugs should be placed in their hands. We practitioners are put through a very severe test before drugs are placed in our hands; why should nurses with comparatively no training be allowed to use them? Even we are now forced to account for what we use—another vexatious restriction on our position as registered medical men. Also, I think sedatives are only another excuse for delay in obstetrics, because the medical man has not the courage of his opinion against the fads of to-day, which will be pushed on one side for other fads in due course. Of course, there are times in obstetrics when morphine is good, but they are the exception, not the rule.

In conclusion, I would like to suggest that a partial solution would be:

1. A coming down to earth with our ideas—cutting our coat to the amount of cloth we can afford.
2. Hygiene of the home.
3. Surgical preparation on all sides for an operation of much importance.
4. A general idea for all, with freedom of action.
5. A closer study of those helps which we possess by students while they are students.
6. A little less of statistics and more of the practical experience of the forever slighted general practitioner.

Finally, I would suggest that the medical practitioner should be allowed to have a voice in carrying out his practice, without the incessant interference of those who live on statistics, and use them in preference to practical experience. Of course, I am only speaking of practice, not research.—I am, etc.,

Wallington, Surrey, Jan. 13th. A. Z. C. CRESSY.

HEREDITARY MUSIC.

SIR,—In view of your notice of Dr. Louis Vezoux's *L'Hérédité Musicale* (January 8th, p. 70) your readers may be interested in Dr. Mjoen's investigation into the inheritance of musical talent. He examined the 442 children of 114 marriages, classifying musical talent in three grades—superior, musical, and poor.

When both parents were superior 72 per cent. of the children also were, the remaining 28 per cent. being musical; none were poor. When both parents were poor 90 per cent. of the children were also, 10 per cent. were musical, and none were superior. When both were musical 39 per cent. of the children were superior, 49 per cent. musical, and 12 per cent. poor. The marriages of superior with poor yielded 26 per cent. superior, 37 per cent. musical, and 37 per cent. poor.

These results certainly point to musical talent depending on Mendelian factors, though not of the simplest kind, and partially recessive to normal. Dr. Mjoen emphasizes that, whilst the qualities of the parents are usually a good clue to the qualities of the children, they are not infallible. The qualities of the stock, as judged by the collaterals of the parents, determine the abilities of the children. He quotes one particularly interesting case of a concert player, herself the mother by a musical husband of seven highly gifted children. But he was for long puzzled to account for her own talent, since her father, mother, and seven brothers and sisters had no musical gifts, until he found that she was the illegitimate child of a great musician belonging to a family of artists.—I am, etc.,

London, S.W.1, Jan. 11th. ELDON MOORE.

ERYTHROEDEMA AND ACRODYNIA.

SIR,—In the discussion following Sir Humphry Rolleston's presidential address at the Medical Society of London, on "Changes in the clinical aspects of disease" (BRITISH MEDICAL JOURNAL, January 15th, p. 100), the disease *erythroedema*, to which I alluded, has been mistakenly printed *erythroderma*. I may add that the former name, first applied in 1914 to an apparently new disease in children by Dr. H. Swift of Adelaide, in Australia, had the disadvantage of wrongly suggesting that true oedema was one of its obvious symptoms. This is not so, but nevertheless the term is preferable to "acrodynia," the name of an epidemic disease supposed to have attacked about 40,000 persons during 1827-28 at Paris. The two diseases can hardly be the same, and yet the article by Dr. W. Weston on the new disease in Abt's *Pediatrics* (vol. ii, p. 986) has been headed "acrodynia," and cases have recently been exhibited under that heading at the Paris Société de Pédiatrie, and at the Lyon Société Médicale des Hôpitaux and at the London Royal Society of Medicine (Section for the Study of Disease in Children). Cases of erythroedema should not be permitted to masquerade under the term "acrodynia" any more than under "erythromelalgia," though symptomatically the latter term is a good one, signifying the presence of redness and pain in the extremities.—I am, etc.,

London, W.1, Jan. 15th. F. PARKES WEBER.

MIGRAINE AND ACETONURIA.

SIR,—The letters by Dr. Fawkes, "Consulting Surgeon," and Dr. P. J. Cammidge on this subject are most interesting, but to me they contain a contradiction, equally interesting—namely, that sugar deficiency is the cause, and that glucose is the proper treatment of migraine.

I also suffered for years from migraine, characterized by hemicrania (usually over the left eye, and relieved by

pressure upon the eyeball), nausea, and depression, and then vomiting of sour material. After vomiting and sleep the attacks passed away, but recurred about once or twice a week. I lived very plainly and used no alcohol, but I took sugar, treacle, and jams to excess. On stopping these the attacks ceased. I have for long taught that sugar in excess is the cause of "sick headaches," and I think two of my surgical colleagues in Newcastle can testify that cutting out sugar relieved them also of hemicrania.

In the out-patient department of the Royal Victoria Infirmary I have often seen middle-aged women complaining of "bilious attacks." When I asked one of these patients how much tea she drank, she would admit two cups for breakfast, one in the morning, one after the mid-day meal, two in the afternoon, and two for supper—that is, eight cups of tea daily. I then asked how much sugar she took in her tea, and the answer usually was two or three teaspoonfuls, with sweetened condensed milk in addition, say, thirty teaspoonfuls of glucose daily.

Now the sugar standard of Nature is the sweetness of milk, and a baby or young animal can grow and thrive on the proportion provided therein. And, rightly or wrongly, I consider most cases of migraine are due to sugar excess in adults, and particularly in thin persons, who are unable to convert sugar into fat, and who possibly produce lactic acid, which, irritating the nerve endings in the stomach, produce the reflex which we name migraine.

The reflex may, of course, come from quite different irritants, such as the fats, coffee, and whisky of "Consulting Surgeon," just as the nasal reflex of asthma may come from different irritants, and just as the reflex of epilepsy may come from gastric irritation, from a tight prepuce, an undescended testicle, or from the onset of puberty in girls. But among the irritants setting up migraine, I venture to think that sugar in excess is one, and commoner than is perhaps generally thought.

This seems contradicted by Dr. P. J. Cammidge's experience; he states: "If the blood is also examined an abnormally low sugar content is generally found, thus accounting for the beneficial effect of glucose to which Dr. Fawkes refers." I wonder what the explanation really is? Does a large intake of sugar mean improper assimilation, with the formation of acetone, lactic acid, or other irritant?—I am, etc.,

Newcastle-on-Tyne, Jan. 1st. T. M. ALLISON.

CHOLECYSTOGRAPHY.

SIR,—With reference to Professor Evarts Graham's letter (January 1st, p. 41), as I have been associated with Mr. Huddy in this work, I beg leave to point out that his reason for publishing this case was, not to criticize the methods of Professor Graham, but further to bring out the advisability of the drug being given in small doses and in two portions in preference to a single dose. Although as large doses have been given by other observers without fatality, they cannot, in view of this case, be considered without danger. The patient was particularly big and heavy, and as such might have been considered safe.—I am, etc.,

Birmingham, Jan. 11th A. RUSSELL GREEN.

MEDICAL POSTS IN INDIA.

SIR,—Under the heading "Medical posts in India" in the JOURNAL of January 15th (p. 120) "Observer" wisely advises intending applicants to consider carefully the terms offered; and not so wisely proceeds to criticize unfavourably the terms offered (JOURNAL, November 27th, 1926) by Lucknow University for the post of professor of anatomy. "Observer's" letter appears to me full of inaccuracies with regard to expenditure, and conditions of living in India generally; and on referring to the advertisement in the issue of November 27th I find that his statement regarding the terms offered is also inaccurate and misleading. He fails to state that the appointment would be temporary—about eighteen months—and that the salary for a permanent incumbent would be Rs.1,450-50-1,650; also that the deduction of 8 per cent. salary for the University Provident Fund—a wise form of insurance in India—would take effect only if the applicant were permanently appointed. With regard to the other two deductions mentioned:

(1) Income tax.—9 pies per rupee compares very favourably with 4 shillings in the pound sterling at home.

(2) Profession tax.—I am not familiar with this tax, which is stated to be not less than Rs.10 monthly.

With regard to cost of living, "Observer" (assuming the applicant to be a bachelor) states that "after exercising great and uncomfortable economy" the unfortunate professor might have a credit balance of Rs.300 a month; but that with a wife and family, involving a move to the hills during the hot weather, it would be impossible to live on the pay offered. The best answer to this is that scores of military officers and other Europeans in India manage to do it on a much lower salary. A bachelor living in the club, or in a "chummery," at such a place as Lucknow should be able to keep a motor bicycle or small car, play cricket, golf, tennis, and almost any game, except polo, and do himself reasonably well on Rs.600-800 a month. A great deal would, of course, depend on the size of his wine bill at the club.

I express no opinion as to whether or not a commencing salary of Rs.1,450 monthly (about £1,300 a year at present) is reasonable and adequate remuneration for a professor of anatomy in a provincial university in India, but at any rate it is a living wage. Finally, "Observer's" statement that living expenses in Calcutta are at least three times as much as in Lucknow is simply ridiculous.

I am aware that the cost of living in India, as everywhere else, has gone up tremendously, but "Observer" appears to take a much too gloomy view of the matter.—I am, etc.,

January 15th. LIEUTENANT-COLONEL (Ret.).

HISTORY OF DIPHTHERIA.

SIR,—A mere fleet surgeon should be in agreement with a surgeon-general, but when Sir Humphry *Rolleston* ascribes the discovery of diphtheria to Bretonneau in 1821 (JOURNAL of January 15th, p. 90) he traverses one of the traditions of my family, which holds, as have some other people, that diphtheria was first separately described, in 1765, by m[illegible] Francis Home, President of the Royal [illegible] of Edinburgh, 1775-77; and professor [illegible] in the University, 1768-98. In his essay on croup (1765) he mentions a false membrane in the larynx, and in his *Principia Medicinae* (third edition, 1770) speaks of the return of fluids through the nose in deglutition and the raw bleeding surface left if the membrane is pulled off, further recommending "bronchotomy" to prevent suffocation. His portrait is to be shown to the Epidemiological Section of the Royal Society of Medicine on January 28th.—I am, etc.,

W. E. HOME,
London, W., Jan. 15th. Fleet Surgeon.

ESSENTIAL OIL TREATMENT OF CHOLERA.

SIR,—I was much interested in Dr. Cannon's article on "The essential oil treatment of cholera" in your issue of January 15th (p. 98). Before I went to India in 1890 someone with experience of tropical disease advised me to use oil of cajeput in cholera. I was able to put this in practice during an epidemic of cholera among the European troops at Quetta, in the early nineties, with such good results that I determined to use cajeput again in any future cases I might have, but I did not again come in contact with cholera. Lapse of years must be my excuse for the lack of scientific detail in this very bald statement, but it is quite accurate as far as it goes.—I am, etc.,

E. C. FREEMAN, M.D.,
Bury St. Edmunds, Jan. 17th. Colonel, late R.A.M.C.

Obituary.

SIR ISAMBARD OWEN, M.D., F.R.C.P.,
Lately Vice-Chancellor of the University of Bristol.

WE regret to have to record the sudden death, in Paris on January 14th, of Sir Isambard Owen, who, during his residence in London, was an earnest worker for the British Medical Association.

Isambard Owen was the son of Mr. William George Owen, who became chief engineer of the Great Western Railway. He had been associated with Mr. Isambard Brunel in the construction of that railway, and when in 1850 his son was born was residing at Chepstow. His father afterwards removed to Gloucester, and Isambard Owen was sent to the King's School there and later to Rossall. He went up to Cambridge (Downing College) at the age of 18. Later on his old College made him an Honorary Fellow. Having resolved to take to medicine he entered the Medical School of St. George's Hospital, with which he remained connected until he left London. He was elected assistant physician and afterwards physician. He was dean for five years, and from 1899 lecturer on medicine until his appointment to be Principal of Armstrong College, Newcastle-on-Tyne, in 1904. He had graduated M.B.Camb. in 1876 and proceeded M.D. in 1882; in 1885 he was elected Fellow of the Royal College of Physicians of London.

Prior to his appointment at Newcastle Owen had shown a lively interest in higher education and had taken an active share in the discussions for the reconstitution of the University of London. Earlier than this he had been largely instrumental in the establishment of the University of Wales. While still a young man he had become a member of the great London Welsh Society of Cymmrodorion, and in 1879 became a member of its council; there then existed University Colleges at Aberystwyth, Bangor, and Cardiff, all in receipt of Government grants. Attention was first directed to intermediate education, and the Welsh Intermediate Education Act was passed in 1889. In 1887 Owen organized a public conference which passed resolutions disclosing a strong feeling in favour of the establishment of a national Welsh University, and it was at that early date recognized that women should be afforded the same facilities as men. In March, 1888, after a further conference of an academic character, held at Shrewsbury in January, a series of resolutions were laid before a meeting of Welsh peers and members of Parliament. In 1891 Isambard Owen was one of the representatives of Cardiff at a University Conference appointed by the University Colleges of Aberystwyth, Bangor, and Cardiff, and the Conference of Joint Education Committees. The difficult task of this conference was to frame a scheme which would commend itself to all these colleges, lay and academic elements alike, and to the rising intermediate education authorities, as well as to the religious bodies, the local authorities, and the general public of Wales. Something approaching unanimity was required to give any hope of success in getting a scheme passed into law. A draft scheme prepared by Isambard Owen and Principal Viriamu Jones was submitted to the conference, which laid down certain broad principles and provided for the appointment of a draft charter committee to prepare a scheme in detail. Of this committee, which began its meetings in April, 1892, Isambard Owen was an active member, and to him was entrusted the delicate and arduous duty of drafting a definite scheme. The University conference reassembled in January, 1893, adopted the scheme, remitted it to the county councils, the colleges, and the Intermediate Education Conference, and commended it to the public. For six months it was actively debated, but ultimately was found to have gained general assent. Both during and after this time an immense amount of work had to be done in defending the scheme and converting it into charter form; but Isambard Owen proved equal to all calls upon his time and energies, and the charter was approved by Parliament and passed under the Great Seal. Isambard Owen was appointed one of the Crown Members of the University Court, and when it met in April, 1894, he consented to act as honorary secretary till the statutes were completed and a registrar could be appointed. In January, 1895, Lord Aberdare was elected Chancellor, Principal Viriamu Jones entered office as first Vice-Chancellor, and Isambard Owen was elected Senior Deputy Chancellor. The Chancellor's place, when absent, is, in the University of Wales, taken by one of two deputy chancellors. The Vice-Chancellor is the academic head of the University, but not the chancellor's deputy unless specially elected as such. The vice-chancellorship can only be filled by the principal of a college. As originally contemplated, the duties of a deputy chancellor would have been limited to occasional presidency of the University Court or its committees, or of a congregation of the University, in the absence of a resident chancellor. The death of Lord Aberdare a few weeks later and the subsequent election of the then Prince of Wales (afterwards King Edward VII) to the chancellorship made the senior deputy virtually the acting head of the University in all but purely academic matters, and his office became an arduous and responsible one. He discharged all its duties with his accustomed grace and assiduity, and when he became officially connected with other universities he retained his connexion with Wales as a member of the council of University College, Cardiff, and a governor of University College, Aberystwyth. The honour of knighthood which he received in 1902 was a recognition of the work he had done for Wales in promoting the establishment of the national University.



Photograph by] [Lafayette, Manchester.

SIR ISAMBARD OWEN.

Isambard Owen's chief contribution to the long-drawn-out discussions on the reconstitution of the University of London was a scheme for a University of Westminster, drafted in consultation with Sir James Fowler in 1897. It proposed to leave the existing University of London alone, and would have given to the medical schools all that they had asked for, and especially the possibility of their students obtaining a degree in medicine or surgery on terms of equality with students of other universities. It was, we are told, the twenty-first scheme which had been put forward. It differed from its predecessors by placing the chief power in the hands of a council of the faculty, the institutions represented therein being left to organize themselves, instead of entrusting this duty to a commission in the composition of which they had had no voice. A general committee was formed, containing 140 persons attached to one or other of the London medical schools,

and for a time the prospect of the scheme seemed good, but the London University Commission Bill was passed soon after the Westminster scheme was published in the BRITISH MEDICAL JOURNAL of December 25th, 1897 (pp. 1869-71), and it consequently went into abeyance and was never, so far as we are aware, revived. Owen loyally accepted the recommendations of the Royal Commission, and was vice-dean from 1901 to 1904 during Sir James Fowler's tenure of office as dean of the Faculty of Medicine of the University of London.

In 1904 he gave up his work in London to become Principal of the Armstrong College at Newcastle-on-Tyne.

Sir ROBERT BOLAM has been good enough to send us the following note:

Sir Isambard Owen's work in Newcastle-on-Tyne covered a brief period of five years. He followed Principal Gurney, and saw the finish of the construction and the official opening of the fine west front of Armstrong College. Probably through his personal influence King Edward and Queen Alexandra combined this function at the college with the opening of the New Royal Victoria Infirmary. Owen's great achievement in the Northern University, however, was undoubtedly the passing of the University of Durham Act in 1908. Before the successful issue of his diplomatic effort the place of Armstrong College in the University scheme was relatively subordinate. By the new Act Newcastle, with its College of Medicine and Armstrong College, became equally with the colleges at Durham represented in the administrative mechanism of the University The course of the negotiations themselves and the final achievement were remarkable tributes to Owen's genius for organization.

In 1909 he was appointed Vice-Chancellor of the newly constituted University of Bristol. The University had been formed by the combination of three institutions—a university college, a technical college, and the old-established medical school. Of the value of his work for the University Professor J. A. NIXON of Bristol has been good enough to send the following estimate:

Sir Isambard Owen came to Bristol as Vice-Chancellor of the University in its opening years. His mark had already been made in the academic field by his administration of the Armstrong College in Newcastle-on-Tyne and his strong hand in the University of Wales. He found several difficult situations to negotiate in those early years. They were not of his making, and he faced them with a striking detachment, which proved of the utmost value when the troubles had been overcome. It was a great factor in producing an atmosphere of concord that the Vice-Chancellor, the principal officer of the University, had played no part in the transactions which led for a time to serious discord. His neutrality and impartiality strengthened his position for the future.

The young University owed a great deal to his knowledge of university affairs. He was in touch with the other universities of the kingdom, and in conference and congress it was no small asset that the spokesman for the newest university should be already known and capable of commanding attention. In his handling of Government departments there was something of a "wizardry" that may have been, like that of a recent Premier, his birthright—for Sir Isambard Owen was in some of his gifts unmistakably Welsh. It showed in his deep, melodious voice, in his power of oratory, which, though restrained, could alternate quickly between deep emotion and light humour. His education at Cambridge, and his professional life in London as a physician at St. George's, had bred in him a wide sympathy with the humanities as the basis of university education. Thus, in spite of the overpowering attractions of science to the undergraduate of a modern university, Owen strove vigorously and successfully for a place in the sun for the Faculty of Arts and polite learning in general. There was a good deal of the artist in him; pictures and music appealed warmly to him. With medical affairs he concerned himself scarcely at all. It seemed as though he felt that his retirement from the practice of medicine had deprived him of all claim to advise on matters medical in his own university, though he sat on the General Medical Council as its representative from 1910 until 1925. Many of his colleagues knew him as Worshipful Master of the St. Vincent Lodge of Freemasons in the Province of Bristol. He was an ardent Freemason, and in the chair of his Lodge he won lasting affection and widespread admiration; he attained to high honours in the Province in recognition of his labours and his talents. Although at times in his later years he seemed frail and weary, and even ill, he never appeared old. He had a very young heart in him, so that when news came that he had died suddenly in Paris, at the age of 76, the realization of the full tale of his years could scarcely overcome the feeling that the end had come unexpectedly young.

The British Medical Association had from its first institution desired to contribute to the advancement of medicine, especially on its clinical side, and suggestions had been made from time to time that it should enlist the interests of its many members in the collection of clinical and epidemiological information. When, therefore, in his address as President of the Annual Meeting at Cambridge in 1880, Professor (afterwards Sir) George Murray Humphry dwelt on the undeveloped capacities for good collective work which the Association possessed, described the advantages which might be expected to accrue from the successful utilization of those capacities, and made a definite suggestion, it was at once accepted, and on the motion of the then Chairman of the Committee of Council, seconded by Mr. (afterwards Lord) Lister, a committee was appointed to consider how it might best be carried into effect; on its recommendation a Collective Investigation Committee was appointed at the next Annual Meeting (Ryde, 1881). The plan had a very good send off, for it was warmly supported at a meeting of the Metropolitan Counties Branch in the autumn of 1880 by Sir William Gull and Sir James Paget. Its first secretary was Dr. Mahomed of Guy's Hospital; after a couple of years he was succeeded by Dr. (now Sir) Wilmot Herringham, and he by Sir Isambard Owen. The committee worked very energetically and issued a large number of inquiry forms. Reports founded on these returns were prepared, one by Sir George Humphry on centenarians, another on chorea by Sir Stephen Mackenzie, and yet another by Sir Henry Butlin on cancer of the breast. Isambard Owen's own contribution was on the connexion of disease with habits of intemperance; it was published in this JOURNAL in June, 1888, and reprinted in the *Collective Investigation Record* which the committee had instituted. His conclusions were that habitual indulgence in alcoholic liquors beyond the most moderate amount had a distinct tendency to shorten life, and that of men who had passed the age of 25 the strictly temperate, on the average, lived at least ten years longer than those who become decidedly intemperate. Another conclusion was that alcoholic excess or the gout which it induced probably plays a special part in the etiology of chronic renal disease. The report expressed regret that the returns to the inquiry were not far more numerous than they actually were, and it has to be confessed that the scheme generally did not fulfil the high hopes which had attended its birth.

Isambard Owen was an active member of the Association while he continued to reside in London. He was one of the honorary secretaries of the Metropolitan Counties Branch from 1892 to 1897, and its representative on the Central Council from 1895 to 1899. He was one of the honorary local secretaries of the London meeting in 1895. He was a member of the Parliamentary Bills Committee from 1894 to 1897, and of the Medical Charities Committee from 1899 to 1902. He had been secretary of the Section of Medicine at the Annual Meeting in Birmingham in 1890, was vice-president of that Section at the Annual Meeting at Nottingham in 1892, and its president at the Annual Meeting at Swansea in 1903.

Isambard Owen was a good friend and a charming companion. Slim and rather frail in appearance, he was capable of withstanding fatigue, whether physical, in his favourite pastime of cycling, or mental, when completing under pressure some of the laborious inquiries he undertook. He formed opinions only after full examination, but then held them tenaciously. His manner was always conciliatory, but opponents of a different temperament were often surprised how trenchant could be his criticisms, uttered in a quiet tone and often illuminated by a flash of humour.

Sir Isambard Owen married in 1905, and is survived by Lady Owen and two daughters, to whom, on behalf of the Association and the profession at large, we desire to offer our sympathy.

THOMAS CLAYE SHAW, B.A., M.D.Lond., F.R.C.P.,

Emeritus Lecturer on Psychological Medicine, St. Bartholomew's Hospital.

THE death of Dr. Thomas Claye Shaw, in his eighty-sixth year, removes from the medical profession a remarkable personality. Dr. Claye Shaw was educated at King's College, London, where he was Senior Warneford Scholar. He became B.A. of the London University in 1860, M.R.C.S. and L.S.A. in 1864, and M.B. in 1866. He took the degree of M.D. in 1867, qualifying for the gold medal, and in 1880 was elected a Fellow of the Royal College of Physicians. Turning his attention to mental disease, he became medical superintendent of the London County Asylum at Banstead, in Surrey. Subsequently he was appointed lecturer on psychological medicine at St. Bartholomew's Hospital, and lecturer on clinical insanity at St. Luke's Hospital in the City. At one time he was examiner in mental physiology and psychological medicine at the University of London, and to the Board of Studies of the Army Medical Service. With the Rev. H. Hawkins he took an active and early part in the foundation of the After-Care Association. Dr. Claye Shaw was an ex-president of the Society for the Study of Inebriety, and a member of the Medico-Legal and the Harveian Societies. He was associated with the Psychological Section of the British Medical Association as honorary secretary at Manchester in 1877, as vice-president in London in 1895, and as president at Exeter in 1907.

Dr. Claye Shaw was rugged in appearance, and rugged also, though kindly, in manner. He was, perhaps, one of those who want knowing; but to those who knew him he was kindness itself, helpful in an emergency, and of sound judgement on all occasions. As a lecturer he was very attractive, and his classes at St. Bartholomew's Hospital were always well attended. He was outspoken, and dogmatic as far as his subject would allow. Those who were at the hospital in the nineties will remember an occasion on which he gave the opening address at the Abernethian Society. He came prepared with an address "for men only." He was startled, but unabashed, at finding a mixed audience of students and nurses.

Most of Dr. Claye Shaw's writings were articles in journals, hospital reports, and medical dictionaries. But he wrote one book, *Ex Cathedrâ Essays on Insanity*, which we reviewed in December, 1904. In that review attention was called to Dr. Claye Shaw's breadth of view and originality, to the illuminating character of this Book as a psychological study of insanity, and to the useful provocativeness of theories wherein he was at variance with other authorities. In 1913 Dr. Claye Shaw aroused much discussion by an address to a medical audience. He warned the modern woman that her new activities in sport and independence in life would mar the beauty of her face, change her nature, and alienate male sympathy. At the beginning of the war he made a scathing attack on the mentality of the German in general and the Kaiser in particular. In an article on the psychology of sport he displayed his keenness for this form of mental relaxation by advocating the setting up of public memorials to all outstanding figures in the world of sport.

Dr. Claye Shaw was virile and robust in mind and body, with, perchance, a tinge of genial eccentricity acquired from long contact with the insane. Latterly, those who knew him well, and admired his great qualities, had seen little of him. He lived in retirement at Cheltenham with his wife, who predeceased him by less than two years. He had two daughters.

We regret to announce the death of Mr. FREDERICK GEORGE LARKIN of Grove Park, Kent, in his 80th year, on January 13th. Mr. Larkin received his medical education at Guy's Hospital and obtained the diplomas M.R.C.S.Eng. in 1870 and the L.R.C.P.Edin. and L.M. in 1882. He early attracted notice as a pioneer in surgery, for in 1869 he read a paper before the Guy's Hospital Physical Society, in which he suggested excision of the kidney as the result of some careful practical research he had already accomplished. This paper aroused considerable interest and paved the way for the first operative measures at Guy's Hospital and elsewhere for the treatment of stone in the kidney and other renal diseases. In 1915 he was elected to the Fellowship of the Royal College of Surgeons of England as a member of twenty years' standing. Mr. Larkin became known also in medico-legal circles in consequence of his connexion with the Whitechapel tragedy, and published the report of the *post-mortem* examination on Harriet Lane (JOURNAL, vol. ii, 1875, p. 730). In the next year he gave evidence as principal witness for the Crown in the celebrated Wainwright case, and was congratulated on his careful examination and lucid account. He won widespread popularity as a general practitioner, taking a special interest in renal and general surgery and the treatment of fractures. Apart from his surgical work, his chief recreation was music, and particularly Church music. He served as choirmaster in two churches successively, and for many years was closely associated with the Westminster Abbey choir, in which he sang at the jubilee celebrations of Queen Victoria and the coronation services of King Edward VII and the present King. His musical compositions include a dramatic song "The Shipwreck" and various pieces of Church music. He was buried at Heath near Canterbury, where he was born.

Dr. HENRY BERTRAM DISMORR, who died at Hallidays, Purton, on January 4th, was a son of Dr. Henry Dismorr, formerly of Lewisham. He was educated at Clifton and Guy's Hospital, obtained the diplomas M.R.C.S., L.R.C.P. in 1900, and after a two years' appointment as assistant medical superintendent at Lewisham Infirmary and medical officer of Lewisham Workhouse, commenced practice at Wroughton, Swindon, where he was much respected by his colleagues. For upwards of twenty years he struggled, with occasional breakdowns, against the pulmonary disease which led to his retirement in 1922, at the age of 45. Dr. Dismorr took a keen interest in all sports, and was a prominent Freemason. He was honorary secretary of the Swindon Division of the British Medical Association from 1914 to 1923, and member of the executive committee from 1915 to 1923. He was also a member of the Wiltshire Branch Council from 1915 to 1923. He leaves a widow and one daughter.

Dr. WILLIAM POWER EVERARD, who died on January 2nd, at his residence in Athlone, obtained the diplomas L.R.C.P., L.R.C.S.Edin., and L.R.F.P.S.Glasg. in 1889. He was first appointed medical officer of the Brideswell dispensary district, and was subsequently transferred to Glasson. For the last eighteen years he had been in charge of a dispensary district in Athlone, where his unfailing kindness won him numerous friends. He was on the staff of the St. Vincent Hospital, Athlone.

The Services.

NAVAL MEDICAL COMPASSIONATE FUND.

At the quarterly meeting of the directors of the Naval Medical Compassionate Fund, held on January 18th, when Surgeon Vice-Admiral Sir Joseph Chambers, K.C.B., C.M.G., Medical Director-General of the Navy, was in the chair, the sum of £135 was distributed among the several applicants.

R.N.D.S.

At the recent competitive examination of candidates for entry into the Royal Naval Dental Service, the undermentioned were successful: W. E. L. Brigham, L.D.S., L. F. Fairey, L.D.S., S. Mawer, L.D.S., F. D. Manners, L.D.S., L. A. Moules, L.D.S., G. Baker, L.D.S., W. C. G. Ford, L.D.S., L. R. Armstrong, L.D.S., H. M. Hill, L.D.S. The names are given in the order of merit shown at the examination.

AMALGAMATION OF NURSING SERVICES.

THE Queen Alexandra's Imperial Nursing Service and the Queen Alexandra's Military Families' Nursing Service have been amalgamated by a Royal Warrant. The combined nursing service will be named "Queen Alexandra's Imperial Military Nursing Service," and its members will wear the same uniform and badge as at present exist for the Q.A.I.M.N.S.

Universities and Colleges.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

A QUARTERLY Council meeting was held on January 13th, when the President, Sir Berkeley Moynihan, Bt., was in the chair.

Honorary Fellowship.

The President reported that H.R.H. Princess Mary, Viscountess Lascelles, had consented to become an honorary Fellow of the College. The President also stated that Princess Mary hoped to attend at the College on Monday, February 14th, to hear the Hunterian Oration, and that there would then be a suitable opportunity for presenting the diploma to Her Royal Highness.

Lister Centenary Celebrations.

Sir Berkeley Moynihan was nominated to represent the Royal College of Surgeons of England at the celebration in London of the centenary of the birth of Lord Lister, which falls on April 5th, 1927.

Appointments.

Mr. Thelwall Thomas was re-elected to represent the College on the Court of Liverpool University.

Mr. E. Rock Carling, Mr. A. E. Webb-Johnson, and Mr. Claude Frankau were introduced and admitted members of the Court of Examiners.

Diplomas.

Diplomas were granted jointly with the Royal College of Physicians: In Public Health, to twenty-six candidates; in Psychological Medicine, to ten candidates; in Laryngology and Otology, to seven candidates.

The diploma of Fellowship was granted to one candidate, the diploma of Membership was granted to three candidates, and the Licence in Dental Surgery was granted to one candidate, these having now complied with the regulations.

Medico-Legal.

A DUBLIN SURGEON'S FEES.

AN action was heard recently in the High Court in Dublin by Mr. Justice Hanna in which Mr. Denis Kennedy, F.R.C.S.I., a well known Dublin surgeon, claimed £1,468 from the executors of the will of Susan Fay, for work done and services rendered by the plaintiff as a medical practitioner for the deceased, a widow, who had resided at Sandymount, Dublin. The defendants pleaded that the plaintiff did not render the services alleged, and said that the fees charged were not agreed fees, and they were exorbitant and unfair. While denying any liability, the defendants brought into court the sum of £526, which they said was sufficient to satisfy plaintiff's claim. The deceased, it appeared, was operated upon several times by the plaintiff, and otherwise attended at a private hospital and at her own residence before her death.

The plaintiff gave evidence, and outlined the nature of the operations and his subsequent work for the deceased in hospital and at her home. He said that his charges were reasonable. If she had been a very wealthy woman he might have charged more. In cross-examination, the witness said that he never brought a patient into court. Asked what was the highest fee that he had ever received for an abdominal operation, he replied that he once received 400 guineas for an operation and attendance in hospital afterwards. A hundred guineas was not an exorbitant fee for an abdominal operation if the patient was fairly well off. He was in attendance on this lady for nearly two years. He never sent his account to the deceased, as she never asked for it, but she said his fees would be all right. Mr. J. S. McArdle, F.R.C.S.I., gave evidence; he said that the usual fee for operations of this kind was 100 guineas, but it was not the maximum fee. He would not like to take it at anything less than Mr. Kennedy took. The witness said that he had performed 2,000 operations similar to this one. He had received payment for about 25 per cent. of them. His minimum fee for such an operation was 50 guineas. Mr. R. C. B. Maunsell, F.R.C.S.I., said that these were full fees, but certainly not excessive. Asked if it was not usual to send a bill before the patient died, witness said that in some cases it was kind not to do so.

Mr. Fitzgerald, K.C. for the executors, said that they had found it impossible to give the court the expert evidence that was expected. Notwithstanding every effort made by the executors and their solicitors to procure the attendance of a surgeon in Dublin or Belfast, not one of them could be got who would go into the box and tell the court what, in their opinion, was the value of plaintiff's services. The plaintiff's income in fees from this patient worked out at practically £1,000 a year. The executors had met the demand by bringing into court a substantial sum, beyond which they did not think they should be asked to pay. A good deal had been made of what was called the standard fee of a surgeon, but counsel would define it as being what the hope of life would wring from a patient.

In giving judgement for plaintiff for the sum of £680 and costs, Mr. Justice Hanna said that he was bound to take into consideration that the plaintiff was in the first rank, and exercised the very highest degree of surgical skill. He was also bound to consider the position in which Mrs. Fay was. She was a lady who had come into the bulk of her estate through a second marriage, and lived in moderate circumstances in Sandymount. He had nothing but commendation for the executors, who, when faced with a claim which they thought exaggerated, submitted to the court. That was the best way for executors to protect themselves from criticism, and equally Mr. Kennedy had no alternative but to come into court. The amount might have been left to some eminent surgeon to decide, but it was equally possible that it would be difficult to get a medical man to decide as between a colleague and an outsider. He was not inclined to cheesepare with Mr. Kennedy, and, accordingly, in respect to the first three operations, he awarded the fees of £100 for the first operation, £75 for the second, and £50 for the third. It had been argued that the attendance after operations should be complimentary, but, having regard to the evidence, his lordship thought that there was a good deal more to be done than mere normal attendance and examination. Attendance would be covered by £75 in respect of the first three operations. There were six minor operations, for which he awarded £15 each; for attendance during four months, £40; attendance at the deceased woman's residence at Sandymount during seven months, £100; for the Leeson Street Home operation, £75, and treatment and attendance, £50, and to cover general attendance, £25.

Medical News.

THE Hunterian Oration before the Royal College of Surgeons of England will be delivered at the College by Sir Berkeley Moynihan, Bt. (President), on Monday, February 14th, at 4 p.m.

A DISCUSSION on the treatment of cleft palate will be held at the Section of Surgery of the Royal Society of Medicine on Wednesday, June 1st, at 5 p.m. Sir James Berry will open the discussion and will be followed by Mr. Grey Turner and a large number of other surgeons. All speakers are invited to present statistics and show cases to demonstrate the result as to speech.

THE following promotion and appointments to the Order of the Hospital of St. John of Jerusalem are announced. *As Knight of Justice (from Knight of Grace):* Major Sir John Lumsden, K.B.E., M.D. *As Knight of Grace:* Lieut.-Colonel E. J. T. Cory, O.B.E., T.D., M.D. *As Officers (Brothers):* Dr. Marcus A. J. de Lavis-Trafford, O.B.E., Dr. A. R. McLeod, Colonel R. A. Needham, C.I.E., D.S.O., I.M.S., Dr. Louis Patrick Stokes, Major Hugh T. Galbraith, Dr. Robert D. A. Douglas, M.B.E.

TWO sets of post-graduate courses have been arranged at the Royal Northern Hospital for the current year. Course I is open to all practitioners free of charge. It consists of weekly lectures or demonstrations on Tuesdays at 3.15 (the next being on January 25th by Dr. Malcolm Donaldson on salpingitis); and of intensive courses, each lasting a week, to be held in February, May, and October. Tea is provided on each occasion. Course II, on recent advances in medicine, and suitable for the M.R.C.P. and other higher examinations is held thrice yearly at a charge of five guineas; the next will be during the first fortnight in March. Further particulars may be obtained from the Dean, Dr. E. G. Calvert, Royal Northern Hospital, Holloway Road, N.7.

A NEW series of post-graduate clinics arranged by the University of Sheffield commenced on January 14th, when Dr. Wilkinson discussed cerebral complications of middle ear suppuration. The meetings are held at the Royal Hospital, Sheffield, and are open to all qualified medical practitioners without fee; they will be continued on Fridays, at 3.30 p.m. until March 25th.

A POST-GRADUATE course on diseases of the nervous system will be held at the National Hospital, Queen Square, from January 31st to March 25th. It will include clinical lectures, out-patient work, and demonstrations, and the fee will be five guineas. A course of lectures on the anatomy and physiology of the nervous system will be arranged if there are sufficient applicants. A special course of clinical demonstrations on methods of examination of the nervous system will also be given. Further information may be obtained from the Secretary of the Medical School, National Hospital, Queen Square, W.C.1.

FOUR lectures on a survey of the public health, based on the report for 1925 of the Chief Medical Officer of the Ministry of Health, will be delivered by Sir Robert Armstrong-Jones at Gresham College, Basinghall Street, E.C.2, on January 25th, 26th, 27th, and 28th, at 5 p.m. *Admission to the lectures* is free to men and women.

THE lecture to the congress of the Royal Sanitary Institute to be held at Hastings next July, will be given by Sir W. H. Willcox, K.C.I.E., M.D., on chronic rheumatism in its relation to industry. The congress will have six sections, and there will also be seven conferences.

THE third annual Sims Woodhead Memorial Lecture will be delivered in the Arts School, Benet Street, Cambridge, on Thursday, January 27th, at 5.15 p.m., by Mr. W. McAdam Eccles, M.S., F.R.C.S. His subject is "Alcohol in the light of modern research: points accepted and disputed." The Vice-Chancellor of the University will preside. Seats will be reserved on the 3 p.m. train from King's Cross.

THE Fellowship of Medicine announces that on January 27th the opening lecture of the new series on emergencies in medicine and surgery will be delivered by Dr. Burrell on hæmoptysis, at 5 p.m., at 11, Chandos Street, Cavendish Square. On January 25th Mr. Victor Bonney will give a demonstration at the Chelsea Hospital for Women, at 2 p.m. From January 31st for four weeks the London School of Dermatology (St. John's Hospital) will hold a clinical course in dermatology; classes in pathology can be arranged. From February 7th the London Lock Hospital will give a four weeks' clinical course in venereal diseases and a series of lectures. Also starting on this date there will be a combined two weeks' course in diseases of children in which the Paddington Green and Victoria Hospitals are participating. The Fellowship also organizes courses in obstetrics and anæsthetics, and can arrange appointments as clinical assistants at the Samaritan Hospital. Copies of all syllabuses, the *Post-Graduate Medical Journal*, and the programme of the general course can be obtained from the Secretary of the Fellowship of Medicine, 1, Wimpole Street, W.1.

THE programme of the Post-Graduate Hostel, Imperial Hotel, Russell Square, W.C.1, for next week includes an address, on Tuesday, by Professor C. C. Choyce, on pre-Listerian surgery, and a discussion, on Thursday, on the thyroglossal tract. Dinner (5s.) will be served each day at 8 p.m., and the meetings begin at 9 o'clock. All medical practitioners are welcome.

THE Child Study Society, London, has issued its syllabus of lectures and discussions for 1927. At the meeting on March 17th a paper on "Completion of the education of the parent" will be communicated by Dr. J. R. Rees, with the President of the society (the Hon. Sir John A. Cockburn, K.C.M.G., M.D.) in the chair. At the annual meeting on April 28th a discussion on problems in the upbringing of children will be opened by Dr. J. Norman Glaister. Both meetings will be held at 6 p.m., at the Royal Sanitary Institute, 90, Buckingham Palace Road, S.W., at which address full particulars of the society can be obtained on writing to its secretary, Miss H. M. Richards.

A MEETING of pathologists attached to various London and provincial hospitals was held at the London School of Medicine for Women on January 7th, when it was decided to form a society entitled the British Pathologists Association, to develop the application of pathology in relation to medicine, and to protect all those engaged in its study and practice. It was agreed that membership should be open to all registered medical practitioners engaged in pathological work; the annual membership fee was fixed at one guinea, no entrance fee being required. Dr. C. Powell White of Manchester was appointed president of the new association, and Dr. S. C. Dyke of Wolverhampton, secretary.

ON his retirement Dr. John R. Staddon, after forty years' service as medical officer to the Ipswich Board of Guardians, was entertained by the past and present staff at Heathfields at a farewell supper, and presented with a Sheraton dining table and an illuminated address, together with a cut-glass cigarette bowl from the patients in the infirmary.

DR. AND MRS. D. J. THOMAS of Portheawl have been presented by the inhabitants of Nantymoel with a silver tray and entrée dishes and a wallet of notes as a mark of esteem for the services rendered by them during the past forty years.

DR. CHARLES SINGER'S second lecture on the "History of medicine" will be given at the College of Medicine, Newcastle-upon-Tyne, on Friday, February 11th, at 4.45 p.m. All medical practitioners in the neighbourhood are invited to attend.

SIR JOHN HERBERT PARSONS has written *An Introduction to the Theory of Perception*, which will be published by the Cambridge University Press next month in the Cambridge Psychological Library, the series in which his earlier work on colour vision also appeared.

THE Sollux Publishing Company, Slough, has published translations in English of Rost's *Biological Basis of Ultra-violet Therapy*, Jesionek's *Light as Stimulus*, and Bach's *The Treatment of Wounds*, all at 1s. It has also published in English Huldschinsky's *The Ultra-violet Light Treatment of Rickets*, at 6d., and Heusner's *Light Therapy in Pulmonary Tuberculosis*, at 1s. 6d.

THE nature and properties of acriflavine have been fully reported upon in the BRITISH MEDICAL JOURNAL; in fact, they were, we believe, first described by Professor C. H. Browning of Glasgow and his colleagues in our columns. The British Drug Houses, Ltd. (16, Graham Street, City Road, London, N.1), have now put on the market preparations in solution, tablet, and other forms, for the use of medical practitioners. The same firm also supplies euflavine and roflavine.

THE Kaiser Friedrich Hospital at San Remo, which is primarily intended for visitors to the Riviera, was reopened at October under a staff of German physicians.

A PLAY entitled *La Vocation*, which is the joint work of André Pascal (Dr. Henri Rothschild) and Professor Pierre Delbet, has recently been performed at the Théâtre de la Renaissance in Paris.

FROM the French census, taken on March 7th last, it appears that the population of France was 40,743,851 on that date, as compared with 39,209,666 in 1921. But out of this increase of 1,500,000 in five years less than half a million were great that in some areas they form a very substantial proportion of the population. Thus in the department of the Seine one-tenth of the inhabitants are foreigners; in Seine-et-Oise one-thirteenth; while in the Alpes-Maritimes no-less than one-third of the population is foreign.

DURING September four cases of plague were notified in Guayaquil, and 21,233 rats were caught, 30 of which were infected.

A FRANCO-DUTCH Scientific Committee has recently been formed as an independent section of the centre for Franco-Dutch studies at Paris. The new committee consists of French and Dutch subsections. In the Dutch subsection physiology is represented by Professor J. J. A. Buytendijk, medicine by Professor A. A. Hijmans van den Bergh, and bacteriology by Professor P. C. Flu.

THE Bureau of the Far East at Singapore reports that for the week ending December 25th there were 21 cases of plague with 10 deaths, 296 cases of cholera with 276 deaths, and 304 cases of small-pox with 79 deaths.

TWO persons, one of whom was the well known physician Professor Ellermann, have recently died of anthrax at Copenhagen after using infected horse-hair shaving brushes.

Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to **The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.**

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the BRITISH MEDICAL JOURNAL alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the BRITISH MEDICAL JOURNAL must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the JOURNAL, should be addressed to the Financial Secretary and Business Manager.

The **TELEPHONE NUMBERS** of the British Medical Association and the BRITISH MEDICAL JOURNAL are *MUSEUM 9861, 9862, 9863, 9864* (interna' exchange, four lines).

The **TELEGRAPHIC ADDRESSES** are:
EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology Westcent, London.*
FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westcent, London.*
MEDICAL SECRETARY, *Mediocrity Westcent, London.*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 4737 Dublin), and of the Scottish Office, 6, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 4361 Central).

QUERIES AND ANSWERS.

"F. J. B." asks for suggestions for the treatment of a baby, aged 6 weeks, suffering from burns (now healed) of third degree on face, with a view to preventing contractures and scarring.

INCOME TAX.

Appointment: Expenses.

"D. W. T." held a hospital appointment from February to October, 1922; his earnings from April 5th to October, 1922, were £198 10s., and he is asked to pay £6 10s. for 1922–23. Can he claim any relief, especially as regards expenses consequent on illness occurring in that year?

*** The tax payable for 1922–23 appears to be as follows:

	£	s.	d.
Salary	198	10	0
Deduct one-tenth earned income relief	19	16	6
Assessable income (say)	179	0	0
Personal allowance	135	0	0
Income chargeable to tax	44	0	0
Tax due thereon at 2s. 6d. in the £ = £5 10s.			

"D. W. T." cannot claim to average his earnings for purposes of assessment, and the expenses to which he refers are not allowable.

LETTERS, NOTES, ETC.

MATERNAL MORTALITY.

"F. U." (Cornwall) writes: It is distinctly amusing to read that "the great lights" of the English obstetrical world are only now grasping an elementary fact which was taught over twenty years ago at the Rotunda Hospital, Dublin. Hastings Tweedy's great dictum then was, "the great thing to teach is not how to put in forceps, but *when* to do so"—namely, distress on the part of the mother or foetus as shown by pulse and temperature, and not for the mere sake of shortening labour. Provided doctors will keep these instructions in their midwifery bag and read them before each confinement, I do not deplore the so-called lack of self-reliance exhibited by some nurses which Dr. Fairbairn seems to regret. A nurse cannot always be certain of an occipito-posterior position, and I do not believe the man who states he can be always certain of that position without an examination under an anaesthetic. Provided the general practitioner is properly taught when a student, which he certainly does not seem to be—at least in England—and provided he is keen on the work and that the local hospitals will let him have the use of a bed should he require it, a great deal would be accomplished. This last point seems to be very hard to manage on account of the "closed door" policy of most hospital staffs, though in many cases the men on the staff frankly state they are interested in surgery, not midwifery, and do a very small midwifery practice, though general practitioners themselves. I claim to speak with some experience; I have been at work for twenty years, but, except for Caesarean section, I have never sent a case to hospital. I have had practically every emergency that can crop up; I averaged eighty cases each year for the last eight years, and in twenty years I have had one maternal death—a case of placenta praevia to which I was called by another doctor when the patient was moribund from haemorrhage. Railing at the general practitioner will get us nowhere. In Dr. Fairbairn's book there is much contradiction by the various authors in their choice of treatment, and certainly treatment is advocated which is, to put it mildly, questionable. I refer to the giving of 1 c.cm. of pituitrin in face presentation. Let me forestall critics and say that I never perforate unless in case of a hydrocephalic or when the foetus is dead or the mother placed in a serious position by well meant but futile efforts of somebody who has tried to drag "a highly impossible head through a highly impossible pelvis."

DR. JAMES COOK (Dennistoun) in a letter on this subject writes: I have read Dr. Fairbairn's article (p. 47) with great pleasure, but I am astonished by the figures as to the mortality at the East End Mothers' *Lying-in Home*. The *forceps delivery rate* would suggest that it is specially blessed with normal cases. And a total death rate of 1 in 1,500 with not a specialist to take the credit of it is hard to be believed. I think all practitioners will agree that there is no more heart-rending situation than that of a death in childbed. If an institution run by midwives is the solution of this problem let us provide these without delay, for such delay entails the needless loss of four mothers in every 1,000 births still attended by doctors. I would suggest that midwifery should cease to figure in the student's curriculum, that these cases should be attended by women only; then, being freed from the contamination of the man doctor, sepsis and death would cease altogether. The general practitioner would hang his forceps on the wall and study midwifery no more.

HERPES AND VARICELLA.

DR. T. COMPTON (Bognor) writes: I have just had the same experience as that quoted in the letters of Dr. Cyril Helm and Dr. R. Lynn Heard (January 15th, p. 124). On December 17th, 1926, an old lady of 76 developed well marked herpes zoster, beginning in the left dorsal region [illegible] front of the chest. On January 8 [illegible] aged 10, developed well marked [illegible] number of spots. This was particularly puzzling to me as I could trace no source of infection for the attack.

DR. FRED. W. GAVIN, Assistant M.O. Surrey County Council, writes: The following case is of interest in connexion with the alleged relation between herpes and varicella. On December 20th, 1926, a gardener developed herpes zoster ophthalmicus. On January 5th his three children—two girls, aged 8 and 9 years respectively, and a boy, aged 5—all showed definite chicken-pox. The source of this outbreak of varicella could not be traced apart from the above-mentioned herpes. It is interesting to note that the time between the herpes and chicken-pox is sixteen days. The children were seen by me at one of the school clinics.

A SKIN TEST FOR APPENDICITIS.

DR. A. COWAN GUTHRIE (London) writes to recommend a test which he has found useful in establishing a diagnosis of appendicitis in early and doubtful cases. A hypodermic syringe is filled with 1 c.cm. of anticoli vaccine (250 million to the cubic centimetre). The surface of the abdomen is sponged with methylated spirit, and over the right iliac region a few short scratches, rather more than half an inch in length, are made with the hypodermic needle, care being taken to penetrate only the superficial layer of the epidermis. A few drops of the vaccine are then ejected upon the excoriated surface. The same proceeding is carried out over the left iliac region with a sterilized empty hypodermic needle to act as a control. Within a few minutes, if the test be positive, a well marked inflammatory area shows around the excoriated surface on the right side, extending to rather more than an inch in circumference. This hyperaemic area stands out clearly defined in twenty-four hours, and may last from two or three days to a week. Dr. Guthrie adds that in all cases where a positive reaction occurred pathogenic *B. coli communis* was found in the faeces, and the clinical signs and subsequent history established the value of this test in suspected appendicitis.

TREATMENT OF INFLUENZA.

DR. ALEXANDER FRANCIS (London) writes: Now that influenza is so rife would you allow me to draw attention to the value of Dr. Carl Spengler's "Grippe I. K." Five drops taken in milk at the beginning of an attack will either cause it to abort or greatly modify its course. If the fever is high five drops rubbed on the flexor surface of the forearm (which Spengler claims is ten times more effective than drinking it) will quickly cause a reduction of the temperature. It has been proved to be of value in pneumonia supervening upon influenza. It can be obtained in this country from Messrs. Allen and Hanburys, Ltd.

COMMUNISM AND MALTHUSIANISM.

DR. B. DUNLOP (London, W.) writes with reference to the review (JOURNAL, January 8th, p. 62) of a book on communism: I doubt if the majority of communist leaders have included "eugenic selection for propagating the species" and "limitation of families" in their sociology. The first of these considerations clashes with their basic idea of equality; and as to the second, I know that leaders of the Soviet revolution in Russia scorned the Malthusian suggestion that a high birth-rate would cause a chronic food shortage even under their social system.

THE LABORATORY ASSISTANTS' ASSOCIATION.

HIGH ideals and steady work confer popularity as well as success [illegible] the growth of the Pathological and [illegible] Assistants' Association since its [illegible] 1912 was only to be expected. Its membership has now increased to 412, and the report for the year 1925–26 foreshadows further progress in several directions. Lectures and demonstrations arranged by the four divisions of the association in Great Britain and its component branches have been well attended, and the classes and discussions which deal with practical points in laboratory technique will undoubtedly benefit pathological research generally. Examinations for the certificates of the association were held in July in London, Manchester, Glasgow, and Cardiff, and the insistence on practical efficiency, rather than on theoretical knowledge, renders this side of the work of the association very valuable. It is announced that pathological chemistry will henceforth be one of the major subjects of examination. The competition for the two prizes provided by the fund raised in memory of Professor W. S. Greenfield attracted several papers and exhibits of high quality. The senior prize, of the value of £15, was won by Mr. E. C. Haddon, of Entebbe, Uganda, for a dissertation on the nature and origin of the enrichment principle in culture media. The junior prize was awarded to Mr. P. W. Powles, of Cambridge, for an exhibit of the isolation and cultivation of the bacteria composing the film on teeth. The Simon Woodhead prize this year will be given for the best essay on the ideals of a laboratory assistant. A conference will be held a [illegible] The official organ of the association— [illegible]—is issued quarterly and has been [illegible] from overseas are prominent, and, in addition to news and original articles, special attention is given to practical notes on laboratory technique and abstracts of articles in other periodicals. The employment bureau of the association is becoming increasingly useful, both to members and to pathologists generally. Valuable assistance has been rendered in various ways by the Pathological Society of Great Britain, the London School of Hygiene and Tropical Medicine, and the Wellcome Bureau of Scientific Research. Further information about the association may be obtained from the general secretary, Mr. H. Gooding, 10, Holbeck Grove, Victoria Park, Manchester.

WOMEN ON TEACHING HOSPITAL STAFFS.

DR. MARION GILCHRIST (Glasgow) writes: Mr. Norman M. Dott, F.R.C.S.E., has pointed out (January 8th, p. 86) that there has been a woman on the surgical staff of the Royal Edinburgh Hospital for Sick Children since May, 1925. May I say that we in the West have been even more progressive, as a woman—Dr. Katharine Mary Chapman—was appointed chief of the radiological department of the Glasgow Royal Infirmary in June, 1920, and also university lecturer, and held this appointment for several years.

A CORRESPONDENT, writing from Liverpool, informs us that Dr. Mona Roberts of that city was appointed honorary anaesthetist to the Royal Infirmary—a teaching hospital of the University of Liverpool—in 1914.

A DISCLAIMER.

DR. HAROLD DEARDEN (London, W.) writes: My attention has been drawn to certain references to myself in the press of a laudatory character. I wish to disclaim all responsibility for these notices and to state that I am doing all in my power to prevent their repetition.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 40, 41, 44, and 45 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 42 and 43.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 27.

An Address
ON
THE MODERN TREATMENT OF HERNIA.

DELIVERED TO THE NORTH-EAST ESSEX DIVISION OF THE BRITISH MEDICAL ASSOCIATION, DECEMBER 3RD, 1926.

BY

GEOFFREY KEYNES, M.A., M.D.CANTAB., F.R.C.S.ENG.,
FIRST ASSISTANT, SURGICAL UNIT, ST. BARTHOLOMEW'S HOSPITAL;
SURGEON, CITY OF LONDON TRUSS SOCIETY.

THE treatment of hernia is a well worn subject, and one which cannot be dealt with to any purpose without introducing some technicalities. I dare to hope that even these will not prove uninteresting, since upon them depends the success or failure of the treatment of conditions which are seen so commonly by every practitioner of medicine or surgery. It can also be claimed that important advances in surgical treatment have been made in very recent times, and I may be able to bring to your notice methods which are still but little known. Although the subject is so well worn that surgery might be thought to have arrived almost at the point of final standardization, and that the results had been brought as near to perfection as might be, yet I have an uneasy feeling that we are rather further from attaining perfection than is commonly supposed, and that the economic loss to the community from the prevalence of all forms of hernia is still much greater than it ought to be.

Since 1919 I have worked at the City of London Truss Society in Finsbury Square, a charity which during the last 120 years has dispensed appliances for the treatment of hernia to some three-quarters of a million patients. We still see several thousand patients each year, but it is, of course, obvious that the advance of surgery has greatly reduced the need for the use of trusses. A large proportion of our patients are past middle age, for nearly all the younger patients now obtain treatment by operation at the hospitals. The very existence of trusses is to some extent a confession of surgical failure, but I think there will always be some scope for their use, although it will contract year by year. It is my experience at the Truss Society which has given me the slight uneasiness already mentioned. An apposite story is related of John Langton, one of my distinguished predecessors in Finsbury Square. The incident took place at a meeting of the Royal Medical and Chirurgical Society, a precursor of the Royal Society of Medicine. A discussion turned on the results of the operation for the cure of hernia, and a surgeon assured the meeting that the hernias operated on by him never recurred. Langton thereupon rose to his feet, pulled out of his pocket a paper on which was written a list of the patients he had seen at the Truss Society with recurrent hernias and the names of the surgeons who had done the operations. "Your name, Sir," he said, "stands at the head of the list." The moral of the story, I fear, still holds good, for patients who have been disappointed in what they were led to expect was going to be "radical cure," tend to gravitate to the Truss Society rather than to return to the surgeon whom they regard as responsible for their disappointment. During the last ten years a record has been kept of patients with hernias that have recurred after operation; over 350 such patients have been seen, although this record is probably not quite complete.

Truss Society, 1917—1926.

Recurrent hernias:	
Inguinal	275
Femoral	90
	365

Clearly, therefore, there is still room for improvement in surgical technique. To some extent the result may perhaps be explained by the fact that there is a tendency for hernias to be operated upon at hospitals by the more junior operators, but I am sure that the blame can only be very partially shifted in this way. I believe that very few of the simpler cases of hernia dealt with by routine operations will show a recurrence. The failures are due rather to a lack of elasticity in the methods in general use, so that the more difficult technical problems are not always met by adequate adaptability on the part of the operator.

In the past, as the literature shows, an immense amount of ingenuity has been expended upon the details of ordinary operative procedure. I do not propose, however, to cloud the issue by dwelling on a great variety of methods of performing a routine operation for, say, congenital oblique inguinal hernia. I wish instead to direct attention to the comparatively few variations which I have introduced into my own practice for dealing successfully with the more difficult problems. I shall survey in succession the treatment of inguinal, femoral, umbilical, and ventral hernias.

INGUINAL HERNIA.

In operating on an ordinary oblique inguinal hernia I believe that the prime necessity is the complete removal of the sac, and that the other details of the operation are of small account. The difficulties will arise in treating direct inguinal hernias and oblique hernias in older patients whose muscles are atrophied and internal abdominal rings stretched. In the second type the conditions have approximated to the direct inguinal hernia, the deep epigastric vessels having been pushed towards the pubic spine. It is the close relation of the direct hernial sac to the pubic spine which is the chief cause of the difficulty in retaining the hernia by means of a truss. Patients with these hernias are often thin, and a truss-pad covering the whole area of the protrusion almost inevitably impinges on the pubic spine, and is thus rendered both inefficient and painful. Operation is therefore to be recommended for these patients, but if the routine operation for inguinal hernia is performed recurrence will almost certainly take place within a comparatively short time. The reason of this is not obscure, for the protrusion occurs in the triangle bounded by the deep epigastric vessels on the outer side, the edge of the conjoint tendon on the mesial side, and the pubic bone below. The transversalis fascia is bulged through this space and, even when the wide-mouthed sac has been ligatured and removed, it is impossible to suture the internal oblique muscle or the conjoint tendon to the inner part of the inguinal ligament in such a way as to form a strong floor to this part of the inguinal canal; for there is an actual deficiency in the floor of the inguinal canal which must be permanently closed (Fig. 1). A simple and satisfactory way of doing this is to use a flap derived from the internal oblique layer of the rectus sheath. The external oblique aponeurosis is lifted up, and can be separated from the internal oblique layer without difficulty. A semicircular flap is cut and turned over from above through 180 degrees so as to lie beneath the spermatic cord. The cut edge is then sutured with thick catgut to the inguinal ligament from the pubic spine outwards, almost to the internal abdominal ring. This flap then completely covers the site of the protrusion, and forms a new strong floor to the inguinal canal (Fig. 2). It is not under tension, and will therefore not tend to retract afterwards. The same procedure can be used for the smaller recurrent hernias and for others in which there is any doubt as to the efficacy of the ordinary operation. No additional shock or risk to the patient is thereby created. The results of this operation have been excellent, and no recurrence has yet taken place in a series of twenty-one hernias that I have dealt with in this way. The operation can be performed under a local anaesthetic with advantage both to patient and surgeon.

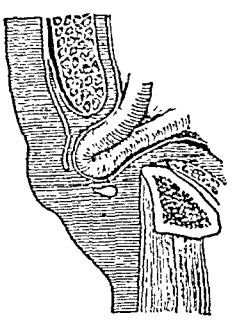


FIG. 1.—Diagrammatic section through the parts concerned in direct inguinal hernia, showing the two layers of the anterior rectus sheath.

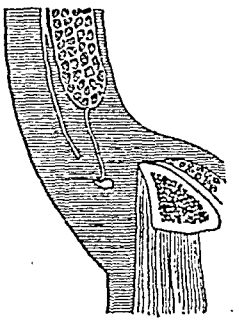


FIG. 2.—The same after removal of the sac, and suturing of a fascial flap to the inguinal ligament.

I shall now pass to the consideration of a much more serious problem—namely, the treatment of the large inguinal hernias in old and middle-aged patients, which until recently have been regarded by most surgeons with the greatest misgiving when the question of operation arose. The cause of these large hernias may be long neglect or the use of inefficient trusses. The patient may be very fat or very thin. At the best the hernia can be controlled by a large and perhaps irksome truss; at the worst it cannot be controlled at all by any truss, however ingenious. The hernia seems to slide out, round, over, or under any appliance that can be devised, and shows an almost devilish malignity in circumventing the efforts of surgeon and instrument-maker. If the patient is stout, the propulsive force exerted by his abdominal contents when he coughs or strains seems to be explosive, and in addition he is often engaged in a strenuous occupation, such as gardening or carrying quarters of meat in Smithfield Market. The final result will be that he becomes completely incapacitated, and the only appliance that can be used is that known as a "bag-truss"; this is not really a truss at all, but is, as its name implies, a bag designed to support the weight of the hernia, which would otherwise drag with its whole force on the skin of the scrotum, causing extreme discomfort to the patient. By the time that the bag truss stage is reached the operative prospects are, it must be admitted, wellnigh hopeless — not because the hernial aperture is too large, but because often the contents of the sac can no longer be accommodated within the abdominal cavity. Such a patient is likely to have been seen by more than one surgeon before he reaches this stage, but an operation has been thought to be likely to fail, and so he goes from bad to worse. I wish to insist that at the present time no patient should be allowed to reach this pass, since the hernia is now curable at an earlier stage.

Two years ago a most useful surgical tool was put into our hands by Professor Gallie of Toronto, and I believe that by its aid a cure can now be almost guaranteed to any patient suffering from even the largest hernia. The principle of Gallie's operation is not new in that it involves the use of a fascial transplant, but it is quite new in that the transplant is used in the form of a suture taken from the patient's own thigh. Gallie proved by experiments on animals that fascial sutures thus implanted are never absorbed, but *remain as healthy fascia* where they are put, so that a hernia treated by their aid remains cured. He had further successfully tested the method in a hundred human beings before he published it to the world. The operation is a major one and is by no means easy. Absolute asepsis is essential, and all skin surfaces must therefore be kept covered throughout th operation. The first stage is the incising of the stretche external oblique fascia and the isolation and removal of th hernial sac with all redundant tissues, so that the clea spermatic cord only remains. Meanwhile a second operato has incised the whole length of the opposite thigh, and he prepared three or four sutures each ten inches in lengt from the fascia lata. These sutures are threaded on larg curved needles specially adapted for the purpose. Th further stages can best be indicated by a series o diagrams.[1]

FIGS. 3, 4, AND 5.—GALLIE'S OPERATION FOR INGUINAL HERNIA.

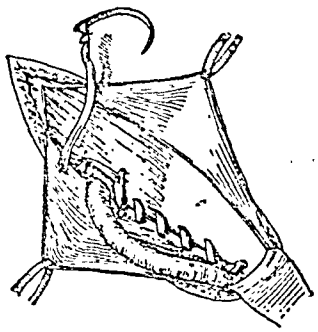


FIG. 3.—*Insertion of the first fascial suture and formation of a new internal abdominal ring.*

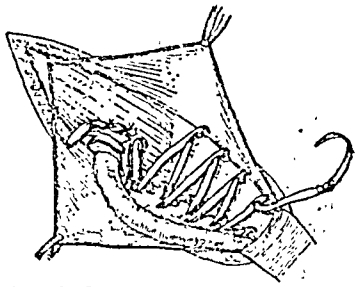


FIG. 4.—*Insertion of the second row of fascial sutures.*

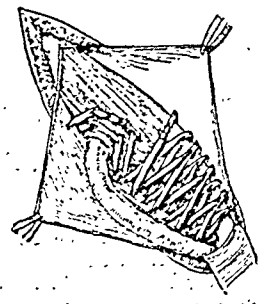


FIG. 5.—*Completion of the fascial sutures.*

1. The aponeurosis of the internal oblique is approximated to the inguinal ligament by a simple running suture which begins at the pubic spine and ends where the spermatic cord normally emerges from the abdomen; at this point it is locked by being passed through itself (*Fig. 3*).

2. A new internal abdominal ring is formed by a series of locked stitches passing from the inguinal ligament round the spermatic cord to the inguinal ligament on the outer side of the cord. A second row of similar stitches may be inserted in the opposite direction.

3. The first suture line is now oversewn by two or three layers of fascial stitches, passed zigzag fashion and self-locked at frequent intervals. These sutures are not under any tension, but are simply lying upon the first suture line so as to form a fascial grid which will in due course consolidate into a thick layer of tissue such as will effectually prevent any recurrence of the hernia (Figs. 4 and 5).

4. The spermatic cord is replaced upon the new floor to the inguinal canal thus formed, and the external oblique aponeurosis is sutured over it. This layer is probably thin and redundant, so that it must be overlapped by as much as is necessary to make all snug beneath it. This suturing can be done with a fascial strip if any remain over, but it is not essential, since the cure is not depending on this *suture line* for its permanence.

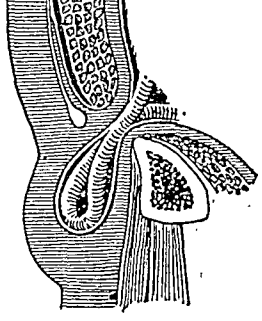


FIG. 6.—Diagrammatic section through the parts concerned in femoral hernia.

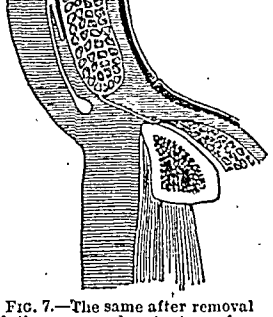


FIG. 7.—The same after removal of the sac, and suturing of a fascial flap to the ligament of Astley Cooper.

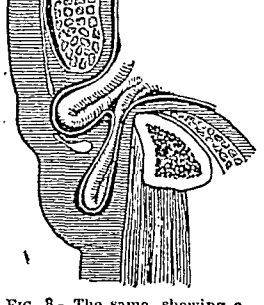


FIG. 8.—The same, showing a combination of direct inguinal with femoral hernia.

The patient must remain in bed for a fortnight, and at the end of this time he can be assured of possessing a very solid defence against future hernial protrusions, at any rate in the inguinal region. No attempt should be made to close the gap in the fascia lata, which does not

[1] For the very important smaller details of the operation the reader is referred to Gallie's original article, *Brit. Journ. Surg.*, 1924, xii, 283.

in any way incapacitate the patient afterwards. The whole operation will probably occupy from sixty to seventy-five minutes, so that a general anaesthetic will be contra-indicated for a stout and wheezy patient. The risk of bronchitis can be greatly reduced by the use of a local anaesthetic. My experience has shown me that the operation can be done more easily and cleanly with a local than with a general anaesthetic, and I should prefer to use it as a routine.

The results in the seven very large hernias for which I have used the operation during the last two years have been entirely satisfactory. One patient had two enormous direct hernias, the apertures of which would admit four fingers held flat. Gallie's method is, indeed, applicable to most of the worst hernias that are likely to be met with in ordinary practice.

FIGS. 9, 10, AND 11.—OPERATION FOR FEMORAL HERNIA.

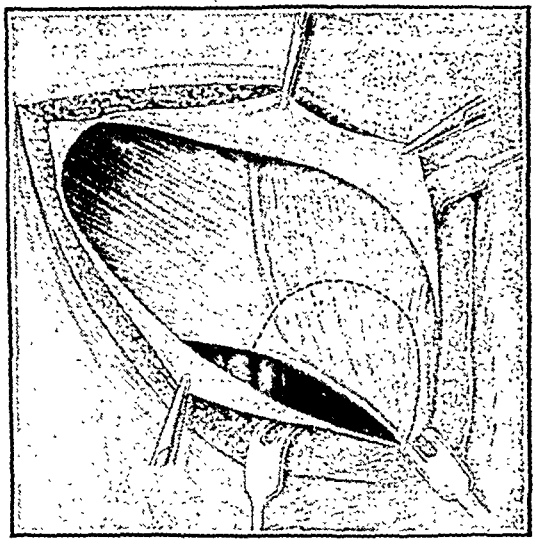


FIG. 9.—Internal oblique aponeurosis exposed and area for flap marked by dotted line.

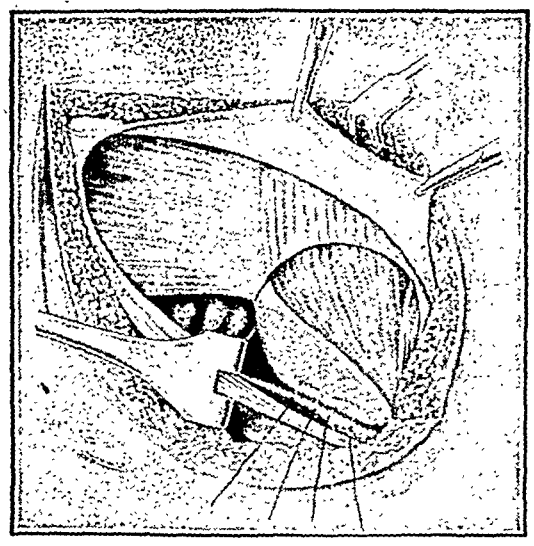


FIG. 10.—The flap turned down (exposing the rectus muscle) and being sutured to ligament of Astley Cooper. The femoral vessels retracted outwards.

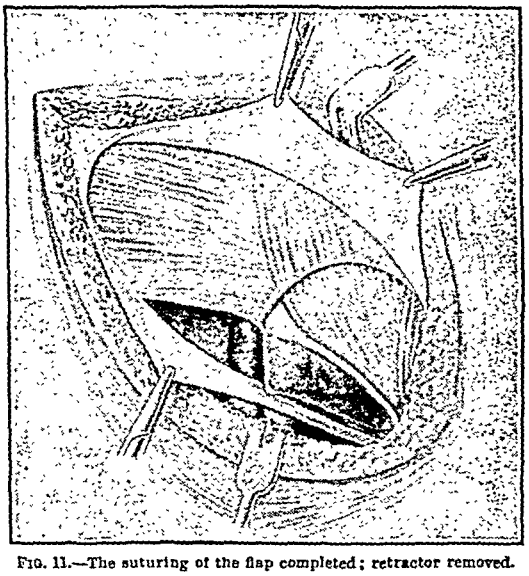


FIG. 11.—The suturing of the flap completed; retractor removed.

FEMORAL HERNIA.

The treatment of femoral hernia is to me an even more interesting subject than inguinal hernia. Opinions are more sharply divided concerning it, while the general complacency as to the results appears to me to be even less justifiable than in the case of inguinal hernia. I hold strongly the view that femoral hernia should never be treated with a truss unless the patient refuses operation or is obviously unfit even for an operation with a local anaesthetic, and this is justified by the well known fact that the incidence of strangulation among femoral hernias is very much higher than it is among inguinal hernias. With this view most surgeons will agree, and in a large proportion of cases operation is performed. The rate of recurrence is, however, surprisingly high, and I find that during the last five years I have seen no fewer than 41 cases of recurrent hernia after operation among the comparatively small number of patients with femoral hernia attending the City of London Truss Society. This high rate is partly to be explained by the fact that the prevalent method of dealing with a strangulated femoral hernia leads almost inevitably to recurrence, and partly by the fact that the inguinal or "high operation" has not yet completely replaced the femoral or "low operation." The figures are as follows:

City of London Truss Society, 1921-1926.

Recurrence following "low operation"	27
Recurrence following strangulated hernia	14
	41

That is to say, one-third of the recurrences followed an operation for strangulated hernia; the remainder followed the orthodox "low operation."

Starting even from the morphological standpoint the problem of femoral hernia is a difficult one. In the case of inguinal hernia there is the clear-cut difference between the congenital and acquired varieties, and it is recognized that for the vast majority, since they are congenital, the removal of the sac is the basis of cure. But controversy still rages round the origin of femoral hernia. The congenital school, championed by Hamilton Russell of Melbourne, holds to the developmental origin during the growth of the limb bud, whereas Sir Arthur Keith leads the party which preaches that it is acquired. The discussion, though of great academic interest, is not, in my opinion, of much practical importance, as I am satisfied that, whichever theory be true, the mere removal of the sac is not curative. This point Professor Gask put to the test a few years ago. In 10 patients the hernia was treated by laparotomy with complete removal of the sac from within the peritoneal cavity. In 6 of the cases so treated the hernia promptly recurred, and this method of treatment had to be abandoned. The so-called "low operation" is also, in my opinion, unsatisfactory, and should no longer be used. In this operation a vertical incision is made in Scarpa's triangle (which usually results in a very ugly scar). The hernial sac is then isolated and ligatured as it emerges from the saphenous opening. Finally, the inguinal ligament is sutured to Cooper's ligament, or a purse-string suture

is used in an attempt to close the crural canal. The complete removal of the sac by this means is almost impossible for anatomical reasons; neither can it be supposed that an approximation of two tense structures, such as the inguinal ligament and the pectineal fascia, or the ligament of Astley Cooper, can be permanently maintained. That many patients treated by this method have been cured cannot be denied, for often the aperture through which the sac emerges is narrow, and a film of scar tissue is efficient in closing it; but as a routine procedure I believe it is theoretically unsound, and the recurrences that I have seen confirm this view in practice.

The inguinal operation is admittedly a more intricate proceeding, and demands an accurate knowledge of the anatomy of the parts concerned. The skin incision is made as for an inguinal hernia, which is an advantage to the patient, since it is in the line of cleavage of the skin and gives a very good scar, unlike the vertical incision used for the other operation. The lower flap of skin is raised and retracted, and the hernial sac is defined, isolated up to its neck, and opened. If it contains a large mass of omentum which cannot be reduced, this must be removed. The external oblique aponeurosis is then cleaned and incised as for inguinal hernia. The lower edge of the internal oblique is then retracted upwards with the spermatic cord or round ligament. The floor of the inguinal canal in its inner half is thus exposed and is incised. The opening is enlarged and, being on the inner side of the deep epigastric vessels, is immediately over the neck of the femoral sac above the inguinal ligament. The neck of the sac is seized, and the sac pulled up through the crural canal. Before being finally removed the sac must be carefully examined and any tissue on its inner side must be peeled away, for often this tissue is the lateral part of the fundus of the bladder. When the neck of the sac has been thus defined, it is ligatured flush with the parietal peritoneum and the sac is removed. Any operator who is unaware of this quite common relationship between the bladder and a femoral hernia is sure sooner or later to endanger a patient's life by including the bladder in his ligature. It now remains to deal with the opening of the crural canal. No attempt need be made to close this, for it is better to shut it off from the abdominal cavity by bringing down a curtain from above. This can be done in most cases by suturing the lower edge of the internal oblique with two or three mattress sutures to the strong extension of the lower horn of Gimbernat's ligament, known as the ligament of Astley Cooper. This procedure is open to objection in that a structure is again being dragged down out of its proper line of action into contact with another tense structure. In practice, however, it is found to be efficient when the opening of the crural canal is small. In most patients the lower edge of the internal oblique, being muscular, not aponeurotic, comes down without much tension. The muscle fibres no doubt undergo fibrosis afterwards, but the fibrous curtain so produced remains as an efficient bar against the recurrence of the hernia. The objection has been brought against the inguinal operation that it weakens the floor of the inguinal canal just in the position where a direct hernia is liable to develop. It is clear, however, that the internal oblique muscle, if used in the way described, is closing this deficiency in the floor of the inguinal canal at the same time that it is forming a curtain between the crural canal and the abdominal cavity.

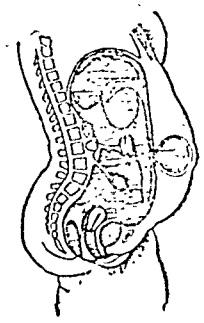


FIG. 12.—Diagrammatic section through an obese woman, showing the relation of the umbilical hernial sac to the surface.

This operation has been found to be efficient in 125 patients operated on by several surgeons in the wards of the Surgical Unit at St. Bartholomew's Hospital during the last six years. I was myself responsible for about a third of these. Most of the patients have been reviewed at intervals since they left hospital. In the great majority the crural canal was of the common small size, and I have found signs of recurrence in only three instances. I believe, however, that the operation described, though better than the low operation, is not to be relied upon where the opening is of larger size or where it has been deliberately enlarged as in dealing with a strangulated hernia. I have therefore devised another procedure for use in the more serious cases. The operation is probably not new, but I have been unable to find any description of it in the literature of the subject.

The principle involved is an extension of the plastic operation already described for the treatment of direct inguinal hernia. The earlier stages of the operation are carried out just as has been already detailed. But when the sac has been removed a rather large semicircular flap is cut from the aponeurosis of the internal oblique layer of the rectus sheath, and this is turned over through almost 270 degrees so that its lower edge can be sutured t the ligament of Astley Cooper or even to the periosteu of the pubic bone from behind Gimbernat's ligament t the femoral vessels (Figs. 6, 7, and 8). This stron aponeurotic curtain is under no tension at all, and remain as a permanent and efficient bar against recurrence of th hernia. Nor is any deficiency left in the floor of th inguinal canal. The suturing of this flap is not an ea thing to do. The sutures must be inserted at the botto of a deep hole, and the femoral vessels are in immine danger of being injured unless properly safeguarded. have found the operation is greatly facilitated by usir a wide retractor with a slit in the centre of the blad The instrument is so inserted that it retracts and protec the femoral vessels both above and below the ingui

FIGS. 13, 14, AND 15.—OPERATION FOR UMBILICAL HERNIA.



FIG. 13.—The sac and contents have been defined and separated. The dotted lines indicate the lateral extensions of the incision.

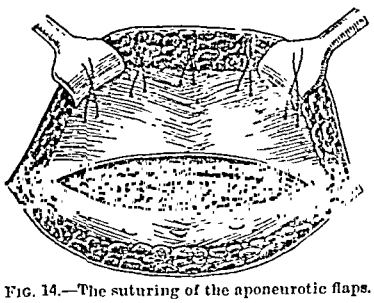


FIG. 14.—The suturing of the aponeurotic flaps.

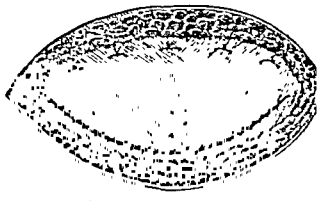


FIG. 15.—The operation completed with tw rows of sutures.

ligament, which is itself occupying the slit in the centr Adequate room for working is thus obtained, and th retraction of the vessels outwards ensures that they con closely up against the outer edge of the aponeurotic fl when they are released. When the sutures are being i serted the needle carrying them must be made to emer below the crural canal and is then passed back aga through the canal, so that the sutures are tied above th inguinal ligament. Three deep sutures are usually enough a fourth is sometimes inserted to secure the outer edg of the flap to the inguinal ligament over the femor

vessels (see drawings). The external oblique aponeurosis is then sutured as before. The stages of the operation are shown in the accompanying drawings (Figs. 9, 10, 11).

This operation I have now performed twenty-one times:

Reasons for which the Operation was done.

Large hernia	11
Recurrent hernia	4
Strangulated hernia	3
Prevascular hernia	1
Bilocular hernia (Fig. 8)	1
For demonstration	1
	21

It will be seen that in all except one case the circumstances made the routine operation unlikely to result in a permanent cure. In every patient so far treated in this way the result has been satisfactory. Several patients have been men doing heavy work. I make no apology for having done the operation on one occasion in order to demonstrate it to another surgeon, for I believe it to be theoretically the best operation for all cases; it takes, however, a somewhat longer time to perform than the other operation, and it seems unnecessary to use the more elaborate method when the simpler suffices.

One of the most important applications of the inguinal operation, and of my own modification of it in particular, I believe to be in the treatment of strangulated femoral hernia. The low operation may be actually dangerous, and should seldom be used. It is well known that a common form of strangulated hernia is the so-called "Richter's hernia," in which less than the whole circumference of the intestine is nipped in the neck of the sac. Sometimes the sharp edge of Gimbernat's ligament causes a local necrosis of the wall of the gut where it is in contact with it, so that perforation is liable to occur. If any attempt is made to deal with the hernia from below, the manipulation may only result in the premature reduction of the contents. The perforated gut slips back into the peritoneal cavity, and the patient is likely to die of general peritonitis. Even if this does not occur, it will be difficult to deal satisfactorily with the strangulated gut from below unless the crural canal is first greatly enlarged. Often this has been done in the past by dividing Gimbernat's ligament, and I believe it is the destruction of this important structure which has contributed largely to the very high rate of recurrence following the relief of a strangulated femoral hernia, as illustrated by the figures already given. I believe, therefore, that the high operation should always be used when the hernia is strangulated, and that it is usually more important to do the operation properly than to save time. The peritoneal cavity must be opened above the inguinal ligament before the hernial sac is opened, and the loop of gut entering the hernia must be identified. The surgeon then has complete control of the situation, and the patient is protected against the danger mentioned above. The sac is then opened, and the constriction at the neck is relieved, not by dividing Gimbernat's ligament, but by nicking the anterior margin. In this way only the fibrous tissue in the neck of the sac is incised, or at the worst some fibres of the inguinal ligament. The strangulated gut can thus be reduced, and is treated appropriately according to the condition found. The sac is then removed and the peritoneum closed. It now remains to finish the operation in such a way that the hernia will not recur. Gimbernat's ligament has not been damaged, but the opening is likely to be fairly large after the hernia has been reduced. Recurrence can be prevented by turning down a flap from the rectus sheath, as already described, the operation being done with the same care as would be used in doing it under ordinary conditions.

I have insisted that the time factor is not necessarily of great importance because I have found that the operation can best be done under a local anaesthetic. The patient suffers very little disturbance by this method, and there is no necessity for haste. I have done the operation in this way on a frail old lady of over 80, who made an uninterrupted recovery, and it has been equally satisfactory in other patients. The last one that I operated on had a hernial sac measuring 5 by 3 inches and containing a large mass of omentum with several inches of strangulated gut; size, however, is no bar to the successful employment of local anaesthesia, and this patient was undisturbed by the operation, and made an uneventful recovery.

Umbilical Hernia.

Umbilical hernia as seen in children does not often call for operation, and when it does so a cure can usually be effected without difficulty, whatever form of operation is used. The case is very different, however, with the other common type—namely, the obese woman with a large umbilical hernia—and the problem of treating such patients is a very difficult one. The hernia is usually protruding into a sac which is larger than it appears to be on the surface, owing to the fact that it is obscured by a layer of fat several inches in thickness (Fig. 12). Sometimes it is possible to make the patient comparatively comfortable by applying a truss or a combination of abdominal belt and truss, but it is obvious from the anatomical nature of the case that the control of the hernia can never be more than partial. The risk of strangulation always remains a grave one, and it is well known that when this occurs the patient's life is in great danger. The lot of an obese woman with a hernia is, indeed, an unenviable one, and I feel that we do not perhaps do quite as much as we might to alleviate her discomfort. Her lungs usually show emphysema and chronic bronchitis; her heart muscle is likely to be infiltrated with fat. Her figure, with its immense capacity for propulsion of abdominal contents through any weak point in its armour, seems to offer little chance of a permanent cure of the hernia. Nevertheless, I believe that we tend to take too gloomy a view of the prospects of operation, and the source from which the ray of hope emanates is a flaskful of novocain-saline-adrenaline solution.

I have found the radical cure of umbilical hernia under local anaesthesia to be a practicable undertaking even in the most obese of patients, and the post-operative terrors of vomiting, coughing, and heart failure are thereby largely removed. It is, of course, difficult to make sure of doing an efficient infiltration of all the layers by injection through the skin, but a preliminary superficial infiltration, followed

FIGS. 16, 17, AND 18.—GALLIE'S OPERATION FOR VENTRAL HERNIA.

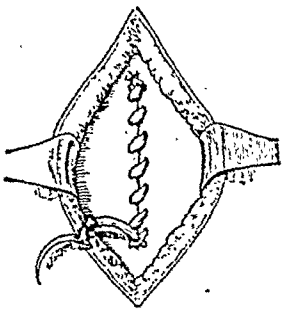


FIG. 16.—Insertion of the first fascial suture.

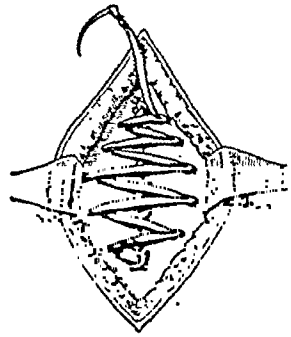


FIG. 17.—Insertion of the second fascial suture.

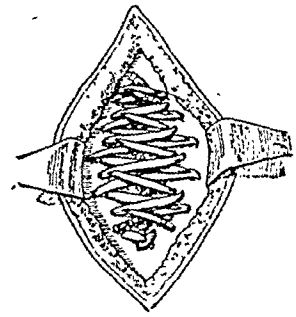


FIG. 18.—Completion of the fascial filigree.

by an infiltration of the deeper layers after the skin incision has been made, will give complete anaesthesia of the parts concerned. The details of the operation have been the subject of controversy. Some surgeons advocate a longitudinal incision encircling the stalk of the hernial sac, removal of which is followed by suture of the aponeurosis of the linea alba, which is always greatly widened in these patients and can be overlapped from side to side. My own feeling is in favour of the other method advocated by the surgeons of the Mayo Clinic, their observations being based upon the results obtained in a large number of patients. The incision in this operation is transverse in both skin and aponeurotic layers. When the skin has been incised the hernial sac is defined and isolated, and the surface of the aponeurosis is cleared of fat for some distance around it, especially at the sides. An incision is then made through aponeurosis and peritoneum close to the neck of the sac, and this is carried right round the neck so that the sac, with its contents, is separated from the abdominal wall (Fig. 13). The sac is then opened and its contents either cut away or replaced in the abdomen as seems best; afterwards the peritoneum is sutured. The incision in the aponeurosis is next extended to either side as far as, or even into, the sheaths of the widely separated rectus muscles. Material can thus be obtained for overlapping the aponeurosis from above and below the situation of the former hernia, and this double layer should, in theory, form an effective bar to the recurrence of the hernia. The edge of each layer of aponeurosis is separately sutured to the other so that the strain of any coughing or vomiting after the operation is borne by a double row of sutures (Figs. 14, 15). Cure must finally depend, however, upon a firm adhesion between the surfaces of the overlapping layers of aponeurosis, since the sutures of catgut or kangaroo tendon which are commonly employed are but a temporary means to the end in view.

I have recently reviewed the patients who have been operated upon for umbilical hernia in the wards of the Surgical Unit at St. Bartholomew's Hospital. The numbers are not large enough for them to form the basis for definite conclusions, but the results at any rate show that there is at present no ground for complacency, for among ten patients operated upon by the transverse method, recurrence has taken place in three within a period of five years. The chief grounds advanced by the surgeons of the Mayo Clinic in favour of the transverse operation were the mechanical conditions governing the tension of the abdominal wall. The recti are widely separated and acting weakly, so that when the abdominal muscles contract the obliques are the strongest agents and will tend to pull open a longitudinal scar, but to close a transverse one. But after having performed the operation by their method with great care on a number of patients and having found a recurrence taking place in a patient in whom everything seemed favourable and an entirely satisfactory result had been expected, I have come to the conclusion that there is still need for improvement in some part of the treatment. The advantages of using a local anaesthetic I have already mentioned. The weak point in the technique to which I am inclined to attribute the chief responsibility for the failures is the use of dead materials for suturing the aponeurosis. Evidently these sometimes retain their hold on the tissues long enough for adhesion between the layers to take place; but sometimes they do not, and I believe that if fascial sutures are used for this purpose a cure is likely to be obtained with much greater certainty. It is clearly another department in the treatment of hernia in which the principle of Gallie's operation ought to be employed.

POST-OPERATIVE HERNIA.

It only remains to deal with the miscellaneous hernias which are so liable to follow emergency abdominal operations of all kinds, and sometimes follow operations that were not to be classed as emergencies. Most of the former are unavoidable, most of the latter avoidable; the present discussion, however, is concerned only with their treatment when they have appeared. Those that are met most commonly in practice are in the right iliac fossa after drainage of an appendix abscess, or in the epigastrium after an operation for a perforated ulcer. Others are in the mid-line above the pubes following a prostatectomy. Another type, common in my experience at the Truss Society, is found in obese middle-aged women following a gynaecological operation, and occupies the greater part of the mid-line between the umbilicus and the pubes.

Many of these post-operative hernias can be more or less controlled with some form of truss, though operation is always to be preferred unless the patient's physical condition renders him unsuitable for it. Unfortunately, many patients have suffered enough under the first operation to make them reluctant to undergo a second. They are naturally unable to appreciate the fact that the repairing operation can usually be performed under a local anaesthetic with comparatively little pain or discomfort. The surgeons to the Truss Society have consequently had to devise many forms of truss for these hernias, which, however, I should prefer not to discuss under the title given to this paper, for the *modern* treatment of the condition can, I believe, offer an almost certain cure. In most instances, as I have said, a local anaesthetic can be used with advantage. For many of the interstitial hernias following operations for appendicitis a technique suffices, which aims at excising all scar tissue with careful suturing, of each layer in turn after it has been cleaned and defined. The case is different with the ventral hernias, especially those of the suprapubic variety, for it is difficult to find undamaged tissues for accurate suture, and recurrence has frequently followed the most painstaking attempts. The application of Gallie's principle is again found to be the solution of the difficulty, the procedure being similar to that already described for inguinal hernia, though somewhat simpler. The more difficult part of the operation is likely to be the preliminary stage—namely, the removal of the sac, followed by replacement of the contents in the abdominal cavity and suturing of the peritoneum. When this has been done the other anatomical layers used need not be defined. Even the thicker parts of the scar tissue at the edges of the opening may be used. These edges are approximated with a simple running fascial strip suture, which is locked at either end (Fig. 16). The first suture is then oversewn with at least two layers of zigzag stitches, frequently self-locked, exactly as already described for dealing with the aperture of inguinal hernias (Figs. 17, 18). If the hernia is immediately suprapubic, the first suture at any rate must begin at its lower end deep to the pubic bone itself, so that not the smallest protrusion can possibly occur afterwards at this point. Gallie's technique is so satisfactory for the repair of these hernias that it should be used without hesitation whenever there is any uncertainty as to the success of a less drastic method.

CONCLUSION.

I wish to make somewhat high claims for treatment carried out on the lines I have indicated, for I believe that by their means success can now be assured even in those cases in which formerly the results were most in doubt. The main points that I have tried to make are:

(1) The great value of a local anaesthetic in making the operation easier for the surgeon and less dangerous for the patient, with elimination of most of the accidents likely to influence adversely the prospects of permanent cure. The risk of toxic effects on the patient, even in so extensive an operation as Gallie's method, is *nil*, since a solution of novocain 0.2 per cent. in normal saline solution with adrenaline 1 in 200,000 is all that need be used.

(2) The uses to which a fascial graft of the patient's own tissue may be put, the graft being derived from the actual operation area. In this connexion I have described an operation for femoral hernia which may be new and has proved satisfactory in a considerable number of cases.

(3) The very great advance which has resulted from the addition of Professor Gallie's technique to the surgeon's operative repertory. This again involves the use of the patient's own tissues, though the graft is taken from a distance and employed in the form of a living suture.

I am aware that even more extensive plastic operations have been described in the past, but these I regard as applicable only to such exceptional circumstances that they do not come within the scope of this survey. I am also aware that some surgeons still advocate the use of foreign materials such as silver filigrees for inguinal hernias and iron staples for femoral hernias; but although these methods may give excellent results in some hands, I believe that they are contrary to the general trend of modern surgery, which prefers to discard such artificial aids when cure can be obtained without the introduction of any foreign materials.

ACUTE INTESTINAL OBSTRUCTION DUE TO INTRA-ABDOMINAL CAUSES.

BY

SIR HENRY GRAY, K.B.E., C.B., C.M., F.R.C.S.ED.,

MONTREAL.

IN the earlier years of my surgical experience there was a very decided prejudice against the employment of surgical measures in the treatment of acute intestinal obstruction. This prejudice was, in a measure, not to be wondered at, because the results of surgical intervention at that time, when surgery was a "last resort," were extremely depressing.

In those days, judging from my experience in Scotland, there were, relative to the number of operations performed, a good many more cases of acute intestinal obstruction compared with the number encountered in more recent years. A considerable proportion of cases occurred as a sequel to abdominal operations. That number was greatly reduced owing, I think, to more rational and careful methods of conducting such operations and their after-treatment. For example, one important item in preventing adhesions and band formation is strict attention to the exclusion of raw surfaces by "peritonealization" of pedicles and careful suturing of the abdominal wall. The irritation of rubber tubes and other stiff material used as intra-abdominal drains stimulates adhesions, from the formation of fibrous tissue, and predisposes to obstruction from kinks or bands. I have for many years almost entirely given up the use of such intra-abdominal drains as a routine, except after operations on the biliary passages, liver, or pancreas.

All cases of intestinal obstruction are urgent—some more so than others. This urgency is dependent on the age and general condition of the patient, on the actual cause of the obstruction, and on its site. Very young and very old individuals, or patients enfeebled by concomitant disease of vital organs, are likely to go under rapidly. They cannot endure the intense pain, and may quickly succumb to shock. If pain is not typically severe in such a case the attendant may be tempted to procrastinate, but it must be remembered that the effects of toxaemia are apt to be more intense and rapid in them and to be less easily combated than in more robust individuals.

The effects on the bowel itself vary greatly according to the cause. Slight constriction or simple kinking may at first merely prevent passage of intestinal contents. Later on, increased pressure of these contents, and the congestion due to the thin-walled veins being more readily occluded than the arteries, may ultimately bring about exactly the same state of affairs in this primarily simple occlusion as in the more dangerous condition of strangulation, whether caused by band, volvulus, or intussusception. The degree of interference with the circulation of the bowel, with the nerve supply, with the mucous membrane, and the lymphatics, and with the walls of the gut as a whole, influences the rapidity with which symptoms appear and their severity.

A tight snare caused by a band over or around the bowel may affect the whole of its constituents so much, from the onset, that gangrene will occur rapidly, and be followed by peritonitis. In some cases the snare may merely be tight enough to cause, at first, occlusion only of the veins of the bowel, but this brings on congestion and distension, so that the snare gradually becomes tighter, with involvement of other structures and corresponding increase in the severity of all the symptoms. The ultimate result of embolism or thrombosis in the mesenteric vessels is practically identical.

Apart from the purely mechanical factor in acute intestinal obstruction, there is another and almost equally important one—the absorption of toxic material from the bowel. This material is derived either from bacterial decomposition of the bowel contents above the obstruction, or from imperfect metabolism of protein contents (producing proteoses), which may have been swallowed, but more likely are secreted or exuded directly into the bowel through its mucous membrane. Toxins of the second class are more dangerous and rapid in their action. Their effect is best seen in obstruction high up in the small bowel, where bacterial decomposition is not prominent. The jejunum has been called the "poisonous proteose level" in obstruction. In these cases toxaemia becomes evident very soon, producing definite prostration or symptoms of actual shock. Persistent vomiting is established at an early stage, and is probably dependent as much on the toxaemia as on mechanical causes. Both symptoms pass off just as quickly as they appeared, after the contents of the bowel are drained away through an enterostomy. The origin of these toxins, however, is still a matter of debate. Apparently the presence of bacteria is necessary before they can provoke a fatal issue. Vomiting and toxaemia may be long postponed when the obstruction is low down in the bowel. A third important factor is the rapid depletion of the body fluid as a whole and of some of its constituents in particular. This has often a marked effect on the general circulation. In some cases the sunken eyes, pallid or "blae" facies and hands, and shrunken limbs are striking features. But these are symptoms of advanced cases of obstruction, which, in ordinary circumstances, at least of town practice, should not be allowed to occur.

ETIOLOGY AND PATHOLOGY.

In infants and young children intussusception is by far the most frequent condition which produces obstruction of the bowels. Improper feeding, causing inco-ordinate and excessive peristalsis, as well as swelling of the lymphoid accumulations which are prominent anatomical features in the wall of the bowel at this time of life, are probably the most frequent causes of this. During ordinary peristalsis, as opposed to segmentation, a distal part of the intestine dilates while the part immediately proximal to this contracts and forces the bowel contents onwards. If the contraction is excessive, the contracted part may be forced into the dilated part, which, in turn contracting, tends to carry this apex of the intussusception still further. This is apt to occur more easily in a child, in whom the equilibrium, so to speak, of the bowel is not so highly developed as in an adult, and these lymphoid swellings are apt to be caught and forced onward by the peristaltic wave. As the process develops, the bowel becomes more and more infolded, causing congestion, swelling, occlusion of the gut and its vessels, and traction on nerves, with attendant haemorrhage and shock. In early stages the symptoms may abate because the intussusception may recede. But later on it remains strangulated and will speedily become gangrenous. In such cases the symptoms are severe and persistent, until their severity is masked by the exhaustion of the bowel and of the patient.

Children with complete obliteration or high-grade stenosis of a segment of bowel are often in such poor condition that surgical intervention is out of the question. If, however, there is no doubt of an obstruction, as revealed by persistent vomiting, local distension, and possibly by x-ray evidence, it may be worth while to give an otherwise healthy child its only chance. A rapid short-circuiting operation is usually the best procedure. Obstruction at this age may be due to a diaphragmatic hernia or to strangulation through a hole in the mesentery.

Intussusception in older children and adults is usually due to some accompanying pathological condition, most frequently a polypus, and more rarely a stricture. Intussusception or, as it is more often called, prolapse of the sigmoid or rectum, may occur without such accompaniment, and may be predisposed to by a curious ballooning of this

part of the bowel which occurs in some cases and which is not satisfactorily explained. The ballooned condition may have a distant relationship with the equally unexplained condition called Hirschsprung's disease—an idiopathic and apparently congenital condition of the large bowel, in which the lower part is most severely and most frequently affected.

Intussusception in adults is, however, comparatively rare. At this age the most usual causes of intestinal obstruction are fibrous bands, internal hernia, Meckel's diverticulum, volvulus, impaction of concretions, sudden blockage of a chronic stenosis brought on by tubercle or cancer, or pressure from a tumour outside the bowel, and chronic or recent adhesions causing acute angulation of the bowel. The last is usually the cause of obstruction accompanying acute peritonitis from appendicitis or salpingitis, or after an abdominal operation. In inflammatory cases the symptoms of obstruction may mask those of the cause; the case usually becomes much more urgent when obstruction supervenes.

In all these cases there need not be at first any actual microbial inflammation of the bowel wall, so that, with careful coaxing, the bowel usually recovers, after being released. I should like to point out, however, that strong purgative medicines given by the mouth, and endocrine or other selective remedies, such as pituitrin and eserine, administered subcutaneously, sometimes defeat the object with which they are given. Immediately after operation the bowel may not be in a condition to respond to drastic stimulus. The so-called adynamic or paralytic ileus may possibly occur after any abdominal operation, but especially if the bowel has required much handling, and where over-distension has existed previous to operation.

The most frequent and serious form of paralytic ileus is that caused by peritonitis affecting the lower half of the abdomen, which is occupied by both small and large intestine, both of which become affected by the peritonitis—hence Sampson Handley's term "ileus duplex." This term indicates that both large and small bowel are affected and must be treated, in my opinion by caecostomy and jejunostomy; Sampson Handley recommends a jejuno-colostomy. In such cases stagnation occurs in the distended, sodden, flabby loops of intestine, and the poisonous contents of the bowel, acting on the intestinal wall, tend to keep up the paralytic condition. Unless the vicious circle can be broken, either by emptying the bowel above the obstruction as much as possible at operation, or, better, by making one or more openings in the bowel through which its contents gradually drain away, the patient will die.

With reference to the acute toxaemia which occurs especially when the obstruction is situated high in the small intestine, it appears that the poisons absorbed from the upper jejunum, and especially from the duodenum, exert profound metabolic changes, which can be easily appreciated in the blood, and are evidenced by great diminution in the chloride content, increase in blood urea, and in the capacity of the blood for carrying CO_2. Such changes are early appreciable in paralytic ileus. In the later stages this toxaemia exerts an evil effect upon the kidneys. These organs often undergo acute inflammation, which shows as changes in the tubular epithelium or as a more diffuse nephritis. The urine may contain granular and hyaline casts, albumin, and even occasional red blood cells. It usually becomes normal again rapidly when the obstruction is relieved and the fluid deficiency of the blood is made up. These changes in the blood, especially the deficiency in chlorides, give valuable indication for treatment. The chloride deficiency can be remedied by giving ordinary or hypertonic solution intravenously. J. W. Ross of Toronto[1] has suggested the use of intravenous infusion of hypertonic saline solution (60 to 75 c.cm. of 20 per cent. sodium chloride for an average adult). This suggestion was based on the observation of Hughson and Scarff[2] that violent peristalsis immediately followed the injection of this solution and persisted for an hour. With more dilute solutions there was a latent period and less active response. They found also that absorption of toxic products from the gut was delayed. Thus the administration of hypertonic saline has three beneficial effects: (*a*) replenishment of depleted chlorides, (*b*) retardation of absorption of toxic bowel contents, and (*c*) stimulation of active peristalsis. After the hypertonic solution has produced peristalsis, ordinary isotonic solutions may be required to replace lost body fluid.

SYMPTOMATOLOGY.

As has already been indicated, the clinical symptoms of obstruction may vary considerably, chiefly according to the site and the cause of the obstruction. At the same time there are certain phenomena which are almost invariably found, forming quite a characteristic symptom-complex. Over a period of days or even of weeks the patient may be subject to occasional recurring colicky pains, generally in the same part of the abdomen. These pains may gradually or suddenly increase in severity with development of the typical syndrome. Such patients are usually the subjects of adhesions or of growth.

The symptoms, however, usually appear with dramatic rapidity. If a loop of the bowel suddenly becomes acutely strangled, severe local irritation and pain are caused, resulting in variable manifestations of shock or, as it is called by some, peritonism. The patient may become more or less collapsed, with feeble pulse, clammy skin, drawn features, and intense pain in the abdomen. He may vomit owing to the shock, and the lower bowel may respond to the irritation by evacuating its contents. After this preliminary storm may come a more or less pronounced calm, although there may persist considerable steady pain in the abdomen, usually referred to the umbilical region when the small intestine is the seat of trouble, and to the hypogastric region when the large bowel is affected. In some cases the respite may be so definite that the patient drops off to sleep. Very soon, however, the pain becomes more intense, and is accompanied by spasms of colic, which become so severe that the patient writhes in agony. These spasms occur more frequently and are more intense when the small intestine is affected. When the large bowel is blocked the spasms are bad, but, while they may make the patient sweat with pain, he does not usually cry out as does the sufferer from colic of the small intestine.

Persistent vomiting soon sets in. At first any food remaining in the stomach is evacuated, then bilious material, then more or less clear watery material as the contents of the small intestine regurgitate into the stomach, and finally, as congestion and decomposition increase, the vomit becomes brownish—it is often described as being faeculent in character. At this stage vomiting is frequently "forcible," "pump-like," strikingly different from the overflow, in mouthfuls, which characterizes the act when peritonitis and paralysis of the bowel are present and cause steady regurgitated accumulation in the stomach. When the latter type of vomiting threatens there is urgent need for *high enterostomy—one or several*. The higher the situation of the obstruction in the small intestine, the more severe usually is the persistent pain, the more frequent is the colic, and the earlier is the onset of vomiting. The patient is usually earlier and more profoundly collapsed—the combined result of toxaemia and implication of the superior mesenteric plexus.

If the strangulation or volvulus of any part of the bowel is severe, the congestion and distension of the affected coils may be so great that the resultant persistent pain may almost overshadow the colicky pain which is caused by peristalsis of the bowel above the strangulation. In such cases localized bulging of the abdomen, accompanied by the sensation of a tumour mass on palpation (which used to be called von Wahl's symptom), may develop quite early, and before general distension occurs. This tumour is felt more easily during expiration and under anaesthesia.

The tumour mass, often sausage-shaped, which is frequently felt in cases of intussusception, varies in bulk and position according to the presence or absence of colic and spasm. During a spasm the mass becomes larger and progresses towards the rectum. In the intervals between spasms the mass may be followed with the fingers towards the iliac fossa, the tumour decreasing in size. Frequently it cannot be palpated, but absence of tumour should not interfere with diagnosis; presence of tumour merely confirms it. I have only once felt the apex of an intussus-

ception per rectum. Dance's sign is merely the appreciation of a vacuity in the right iliac fossa from which the caecum, etc., has taken flight.

Pressure with the flat of the hand, though stated to relieve the pain, does not do so, but often aggravates it, especially when a coil is strangulated. A succussion splash in the distended coils above the point of strangulation may be elicited in the intervals between spasms of colic, and may point to the site of the obstruction; this is also sometimes indicated by an area of great tenderness in the abdomen.

While general distension of the abdomen occurs fairly rapidly if the lower part of the small intestine is affected, it may not occur in strangulation of the upper part; the stomach alone may cause localized bulging. Distension is said to occur much later in obstruction of the lower part of the colon or in the rectum. It is suggested that when the small intestine is irritated and blocked, a considerable exudation of fluid occurs into the lumen of the bowel, which is not sufficiently rapidly absorbed, but that when the lower colon is blocked the upper part still goes on absorbing fluid fairly well. This explanation is not quite satisfying. In the large intestine gas-producing bacteria are ordinarily far more numerous than in the small bowel, and the former is, therefore, more tolerant of decomposition than is the small intestine, in which irritation, congestion, and distension are more likely to produce increased and abnormal secretion and inflammatory exudate, which, with the half-digested food material, promote decomposition and gas formation. Owing to congestion of the obstructed loops free fluid may accumulate in the peritoneal cavity, and may even be sanguinolent. In later stages its serous character may be lost owing to the onset of peritonitis.

Obstruction in the small intestine has been shown to render the bowel more permeable, so that imperfectly digested proteins, etc., gain entrance to the blood; this may explain the excessive amount of urea in the blood. This excess disappears at once when the obstruction is relieved and the bowel has resumed its function.

Constipation is a very prominent feature and should always be impressive, because when colic occurs without obstruction it is always accompanied, sooner or later, by the passage of gas or faeces. But here, after the bowel has become emptied of contents below the site of obstruction, constipation becomes absolute, usually neither flatus nor faeces being passed. Since ordinary colic is the result of indigestion, purgatives or enemata are often administered in an attempt to cure constipation when it is present. In cases of obstruction purgatives increase the colic and may bring on more violent vomiting. Because the bowel below the obstruction may have been more or less loaded with faeces, the first or even a second enema may have what is called a good result. But the giving of an enema will not relieve the pain and colic, unless in some rare cases of intussusception or kinking of the bowel where reduction takes place. Further enemata are unproductive. Thus there should not be great difficulty in diagnosis when the pains continue unabated or even exaggerated. The result of the first enema may be disregarded, but if subsequent enemata are followed by the passage of flatus or faeces the probability is against complete intestinal obstruction. If such obstruction is present, constipation is usually absolute after the first enema has evacuated the lower bowel; this fact is a most valuable aid in early decision about the case.

If the obstruction is not relieved the muscular coats of the bowel become exhausted, and on that account pain may be relieved to some extent. At this stage the nervous mechanism of the bowel is liable to become poisoned by toxins manufactured in the stagnating contents ("splanchnic intoxication"); this may result in paralysis or at least paresis of the bowel. Sooner or later organisms penetrate the walls of the bowel at or above the obstruction, add to the paresis, and cause peritonitis. A circumscribed patch of gangrene may occur owing to the pressure of the obstructing band on the outer wall of the bowel. Ulceration, commencing in the mucous coat, may result from the excessive stretching and consequent ischaemia, or one or more loops whose circulation has become obstructed, whether by band or twist, may become necrotic *en masse*. Perforation may occur through the gangrenous area.

The picture presented by the patient at this time is a very miserable one. Some describe it as a condition of secondary shock. In large part the symptoms are due to more or less profound toxaemia and to loss of fluid, from persistent vomiting and sweating. The face is drawn and pale, often dusky, the eyes are sunken, the skin is cold with clammy sweat. The nose, ears, and fingers may be mottled and blue, with stagnating capillary circulation. The pulse is feeble, thready, rapid; respiration is rapid, often sighing, and the temperature is probably subnormal. There is persistent, insatiable thirst. There is only occasional colicky pain. Vomiting becomes of an overflow character. The patient may be unusually alert mentally; he often does not realize the seriousness of his condition, and the end may come rapidly.

Allowing for individual idiosynerasies, there is no doubt that the amount of pain in intestinal obstruction varies considerably even while the pathological conditions are very serious. Stenosis and congestion may vary very widely, as may the clinical symptoms. Although usually the intensity of the symptoms is an indication of the severity of the pathological developments, yet sometimes there is no such correlation. Symptoms may be severe while the cause and pathological results are comparatively insignificant, and vice versa.

The chemical condition of the blood, the permeability of the blood vessels and of the mucous membrane, may be such that bleeding results very readily when the bowel is squeezed and becomes congested. One may find a strangulated loop of intestine full of clotted blood. I well remember a case of intussusception in which by far the most prominent symptom was severe haemorrhage from the bowel. The griping pains were so slight that the medical attendant could hardly decide upon invoking surgical aid, yet a well developed ileo-colic intussusception was found. Although the haemorrhage had been profuse, the intussusception was reduced with extraordinary ease. Comparable conditions are seen when, from the straining and consequent congestion caused by vomiting or difficult defaecation, bleeding either from the nose or from the bowel occurs—sometimes quite profusely.

Lulls in the storm of obstructive symptoms occasionally occur and may be so decided that the patient and his friends may refuse to allow operation, however clear the diagnosis may be.

There is usually so great urgency in most of these cases that it is dangerous to wait for the results of special laboratory examinations, even though the urine and blood may give most valuable indications for both operative and post-operative treatment. The questions, whether blood urea is present in large excess, and whether chlorides have largely disappeared from the blood, ought not to influence the operative procedure. It is possible to decide, from the urgency of the vomiting and appearance of the vomitus, and, at operation, from the state of the bowel proximal to the obstruction, whether these constituents are likely to be found in abnormal quantities in the blood, and much more certainly it can be decided whether that part of the bowel is likely to recover its tone or not before the patient dies. Over-distended but still contracting bowel is likely to recover; over-distended but inert bowel, incapable of response to external stimulus such as pinching, will almost certainly not recover if left to itself. Before the latter condition has developed, gangrene of the strangulated part will probably have occurred. The only chance for the patient in such cases is either to excise the gangrenous part and flaccid bowel above, as Arthur Barker advised, or to make a smaller excision and then perform enterostomy, single or multiple, in the bowel higher up. The procedure I want to emphasize especially is enterostomy, through which opening the poisonous contents of the upper bowel are drained away.

TREATMENT.

Sir Berkeley Moynihan, in his book *Abdominal Surgery*, says that of any twenty consecutive cases of average intensity in fifteen operation has been too long deferred.

Again, "To operate early in a case of intestinal obstruction is an experience that few surgeons often enjoy." The mortality after operation in these cases is far higher than it might be. There are "few surgeons who, in a series of twenty or more cases, can show a lower mortality than 50 per cent. Anything over a 10 per cent. mortality is the mortality of delay." Serious consideration of the symptoms which I have detailed ought to establish the diagnosis within a few hours.

The use of morphine or other sedative is frequently a bar to early diagnosis, because it is often used without good judgement, though it is often necessary to give morphine when the patient is seen for the first time, on account of the excruciating pain and impending shock. But, as Moynihan says, avoid needless repetition of morphine; this does the harm. If a small dose of morphine fails to relieve the recurrent colicky pains, apprehension should arise that early operation may be required. There is no absolute necessity to give morphine, and still less is there justification to repeat the doses until diagnosis is established. When that is done, then, as Moynihan remarks, "*morphine is a remedy and not merely a refuge.*"

There are certain necessary procedures which are necessary to operation and which become increasingly important as the condition develops in intensity.

First, it is necessary, if the patient has been vomiting at all, to wash out the stomach thoroughly, especially before giving a general anaesthetic, otherwise he runs the risk of being drowned by his own vomit or of inhaling vomited material and bringing on septic pneumonia. Spinal or even local anaesthesia does not entirely obviate these risks.

Many years ago I was called to a remote village, to find the patient, a large, heavy man, in a very pitiable and distressed state owing to neglected chronic obstruction which had suddenly become acute. I thought that while he would not stand a general anaesthetic, he would be able to control his vomiting, so that it would not choke him, if we gave him a spinal anaesthetic. I wanted to avoid for him the further distress of having his stomach washed out, since he was very nervous and had a bad heart. I neglected to tell him that his legs might become paralysed temporarily. When the spinal anaesthetic took effect, he suddenly realized that he could not move his legs. He took fright, became greatly excited, fainted, vomited profusely, and was really drowned by his own vomit, although his enfeebled heart failed also.

In some cases, when vomiting persisted and was tending to become overflow in character, I have left the stomach tube *in situ* during the operation, or if the stomach and upper intestine were found distended when the abdomen was opened, I have passed it again.

The next indication is to restore as far as possible the depleted body fluids which have been extracted from the tissues everywhere. The increasing diminution of the chlorides of the blood has apparently a great deal to do with the recuperative powers of the patient; the loss of these chlorides must be made up, but no excess be given. Therefore give, according to the size of the patient, the state of his heart, and the effect on his pulse and general condition, intravenous, subcutaneous, and rectal infusions of saline solution. His tissues will tend to take it up rapidly, so encourage absorption by making the solution isotonic. The saline may have to be given before or during the operation, as well as later on. In the most severe cases it may be necessary to give hypertonic saline, as Ross has recommended.

I think it is better not to give active aperients after operation until the bowel has had time to recover its tone. Such a stimulus may, I believe, have the opposite effect to what is desired and cause the debilitated bowel to cease to function. I prefer to give enemata, to empty the bowel from below so that less strain is required to push on what may come along from above, and at the same time I try to coax back vitality and vigour and co-ordinate movements in the injured part by such simple remedies as belladonna by the mouth, or, if sickness threatens, atropine or eserine hypodermically in small doses. The first enema is usually given on the day succeeding that of operation. When evidence of activity becomes manifest in spontaneous passage of flatus or faeces or even by desire to go to stool, then I give, for example, small repeated doses of cascara and belladonna, or even a dose of castor oil and laudanum. As soon as the patient feels desire for it, I give him ordinary food so as to stimulate normal peristalsis and prevent noxious adhesions.

The part of the bowel which has been strangled tends to form adhesions. On more than one occasion I have had to open the abdomen again on account of fresh obstruction from this cause. Sometimes, if the bowel has been severely congested and dilated, although it may recover its colour quickly at operation, it may require several weeks before it works properly; in these cases the pulse remains abnormally rapid. Both feeding and the administration of medicinal intestinal and cardiac stimulants may have to be carefully regulated.

In discussing actual operative measures I wish first to lay stress upon the situation and manner of the incision. I almost invariably make a long, at least six inches, paracentral incision on the right side, a good inch from the mid-line, and displace the rectus from the mid-line outwards. I like to infiltrate the area of incision with 1/2 per cent. novocain solution (*plus* adrenaline) so that I may, if necessary, carry the making of the incision under *local anaesthesia alone at least as far as the peritoneum* and at the end of the operation be able to close the abdomen without more general anaesthetic than may have been required for intra-abdominal manipulation. This reduces the length and strain of general anaesthesia very greatly, and it is a much more simple business than making, for example, paravertebral injections. A short gas and oxygen anaesthesia will not harm the patient unless his condition is very desperate. I think that the long incision, by permitting easier examination and handling, more than makes up for the extra time expended on it. When sutured in layers post-operative hernia is avoided more by this than by any other method of making a long incision.

Having opened the abdomen, the hand is inserted into the lowest part of the pelvis and pulls up any collapsed coils there. The collapsed bowel is then followed upwards *until the point of obstruction is reached.* If no collapsed bowel is found in the pelvis the caecum is examined. If the caecum is collapsed the obstruction must be above it; if distended, then the obstruction is below it, so the sigmoid is next inspected; if this is collapsed the obstruction lies between the caecum and sigmoid. When there is much difficulty in arriving at a diagnosis of the site of obstruction I allow the distended coils of bowel to come out of the abdomen, but I cover them carefully with warm dry towels and gauze strips to prevent undue cooling. There is really no necessity for more elaborate apparatus. I prefer dry material to moist material; the latter, by its evaporation, fosters cooling of the bowel. If warm lotion is continuously poured over it in order to obviate cooling there results a sloppy mess besides the introduction of extra risk. I do not think that evil results follow the use of dry material so much as when moistened packs are used.

After finding the obstruction further proceedings range from the mere snipping of a band to the difficult and tedious separation of adhesions, short-circuiting, or the actual excision of a gangrenous loop followed by entero-anastomosis. In the last case I prefer to make end-to-end anastomosis whenever possible. If the patient is very bad it may be compulsory, after dealing with the cause of obstruction, simply to bring the gangrenous loop well out of the abdomen, fix the viable proximal and distal parts of the bowel to the edges of the wound, and open the loop. One or more enterostomies should be made above the affected loop through separate small wounds. Enterostomies, reserved for the worst cases, procure the advantage of draining different parts of the bowel and at the same time permit the introduction of saline solution. Every surgeon of experience knows how inert the bowel may become, and though drainage effectively empties one loop, adjacent loops may remain distended. The bowel kinks very readily in such circumstances. The saline solution must be introduced at very low pressure—over-distension prevents recovery of tone, besides tending to cause kinking. I believe that the performance of enterostomy gives better results than emptying the proximal bowel during operation. The latter procedure demands too much handling of the bowel and tends to increase shock; the same remark applies, of course, to wide excision of the bowel. In the

most desperate cases it is permissible only to make enterostomy, under local anaesthesia. In such cases I think that one opening should be made in the bowel by incision above the umbilicus and another well below it. The upper opening will combat the proteose toxaemia, the lower will combat the septic toxaemia.

It is sometimes difficult to decide when to perform enterostomy. I believe that if strong colicky pains have persisted right up to the time of operation and if, at the actual operation, the bowel responds to local stimulation, such as pinching, it will likely recover without enterostomy. If, however, the colicky pains have become feebler, if general distension of the abdomen is present, and if, at operation, the coils are found to be in any degree flaccid and floppy and do not respond definitely to local stimulus, enterostomy is compulsory. In cases of doubt, rather make an enterostomy than not. Vomiting will not get rid of the toxin, nor will a paretic bowel pass it downwards. As Wilkie of Edinburgh pointed out, paresis of the bowel is an important contributory factor to toxic absorption. The bowel will not recover unless the toxic contents are removed. If the obstruction has been in the large intestine I like to make a caecostomy as well as an enterostomy. In cases of this degree of severity I should also administer 20 per cent. hypertonic saline intravenously.

Sir William Taylor of Dublin has given indications as to the likelihood of having to perform enterostomy in cases of obstruction. Roughly speaking, according to him, the necessity corresponds to the stage of the illness, and he defines three stages. In the early stage it is only necessary to treat the cause. In the second stage, when distension of the bowel has occurred, the obstruction should be relieved and jejunostomy performed. Drainage may be required for only twenty-four to forty-eight hours. In the third stage the condition of the patient is so bad that it will not permit exploration, therefore jejunostomy only should be done, and later on, if the patient recovers, the obstruction may be dealt with. In my opinion that "if" is a big one; I prefer to ascertain what the pathological condition inside is. There is practically no hope for a patient who has to deal with, for example, a gangrenous loop of bowel in his interior. Enterostomy alone will not save him. Before giving up all thought of exploration, I like to see the effect of stimulation by drugs, intravenous infusions of saline solution, and blood transfusion.

In making an enterostomy, I think a Pezzier's catheter is a suitable tube to use, and of a medium size, but an ordinary large catheter serves the purpose equally well and is easier to remove. The latter has to be fixed by suture. Only exceptionally are there solid particles in the small intestine, so that the contents drain through comparatively small tubes.

I prefer to make the enterostomy, when the condition of the patient permits, after drawing the selected loop of bowel through a hole made in the omentum. When practicable, the tube is inserted in the bowel in a manner similar to the Witzel method employed in gastro-enterostomy, but in many cases one has to dispense with this refinement and simply insert the tube through a straight puncture, surrounding it by a purse-string suture. One of the fine chromic catgut sutures is left long and is used to moor the bowel to the abdominal wall. The loop of bowel is pushed back through the hole in the omentum, which is then made to lie snugly around the tube. If the enterostomy has been made from the exploratory incision, I draw the tube, before inserting it into the bowel, through a new small incision in the abdominal wall; this is usually most suitably made somewhere to the left of and slightly above the umbilicus. By this precaution contamination of the main wound is avoided. For suturing such easily torn bowel as is met with in this condition the so-called "atraumatic needle" advertised by the London Hospital appeals to me. The traumatizing "catch" of the thread at the eye of the needle experienced when ordinary needles are used may tear and cause a leak.

After multiple enterostomy I like to remove one tube at a time, the upper before the lower. The upper part of the small intestine seems to recover tone more quickly than the lower; the character of the toxin producing the paresis of the bowel may account for this as well as the fact that the paresis has usually been present in the lower bowel for a longer time. I have an impression that the higher the enterostomy the longer it takes to heal. The tubes may be removed and the stomata allowed to close as soon as the patient is established in convalescence—that is, really, when vomiting has stopped and the bowels have "moved" satisfactorily. Evacuation of toxic contents is one important factor, but restoration of peristalsis is also essential to recovery.

A simple application for preventing excoriation of the skin round an enterostomy is ethereal rubber cement solution (1 in 4) applied several times a day. The ether evaporates and leaves a thin film of rubber over the skin.

It is sometimes almost impossible to tell, from the appearance of the bowel, whether the colour and the swelling are due to intense congestion and subperitoneal or interstitial haemorrhage alone or whether gangrene has actually occurred. The presence of the haemorrhagic effusion constitutes the difficulty. The purple colour of mere congestion soon gives way to a more normal appearance when strangulation is relieved, but effused dark blood does not dissipate and there may be no change of colour or only in patches. Of course, the discoloured, flaccid, inert, and often brittle state of the really gangrenous bowel is easy to distinguish—but there are all gradations. It must be remembered also that interstitial extravasation of blood has probably taken place before gangrene has occurred. I have never found the following test to fail, though I have used it for many years. I incise, with a sharp knife, the peritoneum and very superficial fibres of the muscular coat of the suspected part of the intestine. If the circulation is intact, definite bleeding, although possibly in small amount, will occur. It is found, then, that each time a clean piece of gauze is pressed lightly on the incised part it will be stained with fresh blood. Viability of the bowel is still more certain if the blood can be seen oozing steadily from the cut. If gangrene has occurred, the first or second piece of gauze may be definitely stained, but not more. There is practically never any doubt in actual experience. If the gut is viable the small incision is closed by a mattress suture of fine linen or catgut.

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PYELITIS FROM INFECTION WITH MORGAN'S NO. I BACILLUS.

BY

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As I have been unable to find any reference to urinary infection with Morgan's No. I bacillus, I think that the following two cases are worth recording. The association of this bacillus with infantile diarrhoea, and as a concomitant organism in bacillary dysentery due to the bacillus of Shiga and Flexner, is generally recognized. Recently I have found this organism in the faeces of many patients suffering with symptoms of bacillary dysentery, when repeated attempts have failed to isolate any other dysenteric organism. While believing it be pathogenic, I had no positive proof of this until I isolated it from two cases of very definite pyelitis.

CASE I.

Private L., aged 24, a British soldier at Khartoum, stated that while in India (Agra) he had the first symptoms of his present condition. In February, 1923, he had a sudden sharp pain in the left side, which remained localized, was worse when he was in bed, was not propagated, and had no relation to micturition. For several days he had frequency of micturition and noticed that his urine was thick. The acute symptoms passed off in a fortnight on the exhibition of urotropine. Two months later (in April, 1923) he had a similar attack; pus was found in the urine, but no blood or casts were seen.

No further symptoms occurred until November, 1925, when he had to be relieved on guard duty because of a sudden onset of acute pain in the left lumbar region. The symptoms again passed off in ten days, but a further attack occurred only one month after. A radiogram then taken showed no detectable pathological condition.

The present attack, when the patient first came under my notice, was on March 15th, 1926. While on police duty he was

seized with pain in the left lumbar region; it was unaccompanied by any nausea, or alimentary or urinary disorder, although he admitted having a slight headache. There was some tenderness over the left kidney, but none over the left ureter or bladder.

While in hospital the patient had slight pyrexia in the evenings of the first three days—98.8°, 99°, and 99.2°—and again on the seventh, eighth, and ninth days of 100.8°, 99.2°, and 98.8°; the rise in temperature was associated each time with an exacerbation of pain. The urine was alkaline and contained a trace of albumin and a heavy deposit of pus cells, with a few red blood corpuscles and epithelial cells; but no casts or crystals or other abnormal constituents, nor tubercle bacilli were found.

An organism giving the bacteriological characters of Morgan's No. I bacillus was grown in pure culture. This organism was again isolated on March 25th, April 15th, and April 18th, each time in pure culture. A blood culture made on April 8th remained sterile. The results of agglutination tests of the patient's serum against the bacillus isolated proved interesting. Using Professor Dreyer's macroscopic technique, the following results were obtained: On April 2nd, agglutination in a dilution of 1 in 125 in an hour; on April 20th, agglutination in a dilution of 1 in 500 in an hour. In each case a normal human serum was put up as a control. The patient had the first three doses of an autogenous vaccine in the interval between the two agglutination tests.

CASE II.

The second case occurred in a British subject who was in the Khartoum Civil Hospital in February, 1926. He had a typical attack of pyelitis with pyrexia which lasted about three weeks. The urine was alkaline and contained a heavy deposit of pus cells and many coliform bacilli. I isolated Morgan's No. I bacillus from the urine, but in this case there were a few *B. coli* colonies present also.

The organism in each case gave the following cultural characteristics, etc.: On agar slopes a thin yellowish-white film was formed, having a sticky feel when touched with the platinum wire, while small colonies closely resembling *B. dysenteriae* were grown on MacConkey's medium. In broth a diffuse turbidity was produced. The bacillus was motile and Gram-negative.

The usual sugar reactions were tested. The result was alkaline with litmus milk; acid and gas with glucose and with galactose; acid on the fourth day with glycerol, and slight with indol. In tests with all the other substances there was no reaction.

Conclusions.

While the findings are very definite in Case I, they are more doubtful in Case II.

Both patients are receiving vaccine treatment, an autogenous vaccine having been prepared in each case.

EXTENSIVE DIVERTICULOSIS WITHOUT SYMPTOMS.

BY

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THE following case is notable as indicating the existence of extensive diverticulosis for at least fourteen years without giving rise to symptoms. Other pathological conditions were also present within the abdomen, including congenital abnormality of the small intestine.

A married woman, aged 51, who had borne six children and had a tendency to obesity, was admitted to the David Lewis Northern Hospital, Liverpool, on May 3rd, 1926, under Mr. G. C. E. Simpson. She complained of "wind" since an operation in 1912, and stated that for the last year she had suffered from occasional attacks of pain in the epigastrium, occasionally going through to the right shoulder-blade; they had no relation to food, and occurred irregularly either by night or by day, were sometimes accompanied by jaundice, and invariably by vomiting. The vomit was frothy, yellowish, and tasted sour. She said she had had typhoid fever when 6 years of age. On February 21st, 1912, she was operated on for gall stones, and five months later a hydatid cyst of the left hepatic lobe was removed. Both operations were performed by Mr. Murray at this institution. She brought to hospital with her a copy, which she herself had made at the time, of her old case-sheets, and also the two summary sheets dealing with the operations. On the back of the first summary sheet was found a pencil drawing of a portion of large intestine showing diverticulosis of the mesenteric attachment. This, she said, was drawn by Mr. Murray in the out-patient department to illustrate her condition. Mr. Simpson, who was then assistant honorary surgeon, remembers the occasion well.

Condition on Admission.—She was slightly jaundiced, the tongue was coated, and the breath foul. She was not constipated. Nothing abnormal could be discovered in the abdomen, and Murphy's sign was not elicited. Faeces and urine contained no abnormal constituents. A fractional test meal showed the presence of blood and bile in the stomach, with 0.03 free hydrochloric acid and 0.07 active.

Operation.

Mr. G. C. E. Simpson opened the abdomen on May 10th, when slight hepatoptosis became evident. The gall bladder, which was adherent to omentum, was full of small faceted stones. The pancreas and the appendix were in a state of marked chronic inflammation. From the caecum to the beginning of the rectum were hundreds of diverticula containing beads of faeces, and varying in size from that of a pea to that of a cherry. They were of the acquired type[1]—that is to say, they were hernial protrusions of mucosa. The vast majority were in the concavity of the mesenteric attachment and the appendices, but there were also numerous small protrusions through the taeniae and peritoneum-covered muscular wall. The contents of all those in which it was attempted could be emptied easily into the bowel. There was no evidence of inflammatory reaction round these diverticula, and Mr. Simpson was able to say, having seen the case in 1912, that the only notable progress was an increase in size.

Another interesting condition present was an arrested rotation of the small intestine. The duodenum, with the superior mesenteric artery on its inner side, turned back on the head of the pancreas in the shape of a double S. The duodeno-jejunal flexure was at McBurney's point, the mesentery running thence upwards to the left. The mesenteried caecum, which was entered by the ileum from the right, was slightly left of the mid-line in the upper umbilical region. This arrest had apparently occurred at the eleventh week after the caecum had entered the abdomen through the narrowing umbilical orifice.[2] The gall bladder and the appendix were removed; the colon, with its diverticula, being symptomless, were left.

The patient made an uneventful recovery, leaving hospital in very satisfactory health.

I am indebted to Mr. G. C. E. Simpson for permission to publish this case.

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ULTRA-VIOLET LIGHT FROM OPEN ARC WITH TITANIUM ELECTRODES.

BY

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IT is now established that ultra-violet light has important biological effects. Many diseased conditions have been treated with it and much enthusiasm has been evoked over its possible therapeutic value. It has been pointed out that if a list of the diseases said to have been benefited was made it would probably begin with acne and go through the whole official nomenclature to zona, including housemaid's knee and the minor psychoses. But the fact that its value is in many cases overstated and its mode of action is at present rather mysterious is no reason why its effects should not be thoroughly explored.

GENERAL.

The rather widespread impression that these rays are dangerous is illusory. They cause nothing comparable to the injuries that may follow the imprudent use of *x* rays. Their penetration is very slight and confined at the most to the lower layers of the epidermis. Even at this slight depth we begin to recognize two kinds of action, depending upon the degree of exposure and the precise wave-length of the light employed. It is at present difficult in medical practice to restrict the wave-length to any narrow degree of the ultra-violet spectrum. Where this has been done experimentally we have evidence that rays beyond the visible spectrum down to 290 $\mu\mu$, which have been spoken of as "biologic," are of such a nature as to stimulate biological processes, particularly as the lower limit is approached, whilst beyond this the still shorter rays, called "abiotic," exhibit a lethal action, though on account of their restricted penetration this is of little importance unless the exposure is prolonged. Even these shorter rays, if used with brief exposures, may perhaps act biologically. Taking the germicidal effect as a test, Browning and Russ got a maximum effect between 280 and

255 $\mu\mu$. Hausser and Vahle obtained the maximal erythema effect on the human skin between 300 and 290 $\mu\mu$. Leonard Hill found that rays at 275 $\mu\mu$ killed infusoria in twenty minutes, that rays at 275 and 257 $\mu\mu$ produced erythema, whilst rays at 232 $\mu\mu$ were ineffective (using the lines in the cadmium arc). As regards penetration, he found that under certain conditions rays shorter than 330 $\mu\mu$ did not penetrate what he describes as a thin layer of the horny epidermis, which resembles in this a 3 per cent. solution of quinine. It might here be pointed out that the solar radiation available at the earth's surface does not include rays shorter than 300 $\mu\mu$. The eye is more transparent to ultra-violet radiation than the external skin. The cornea is transparent to rays longer than 295 $\mu\mu$, and the lens is the chief barrier to ultra-violet rays reaching the retina. Probably no rays shorter than 380 $\mu\mu$ can reach the retina. Conjunctival inflammation from exposure to ultra-violet radiation generally subsides rapidly and is strictly comparable to the inflammatory effect which such radiation has on the skin.

The effect on the blood of exposure to ultra-violet rays has been studied by Koopman amongst others. He found the concentration of erythrocytes to be unchanged; the leucocyte count at first increased, then fell; the lymphocyte count became more permanently increased. Clark points out that this depends upon the wave-length. Rays of 400 to 300 $\mu\mu$ cause leucopenia, rays of 300 to 200 $\mu\mu$ produce lymphocytosis. Balderry and Barkus found that exposure to ultra-violet rays increases the alkalinity of the blood, and thus runs parallel to the degree of pigmentation. Pech has recently pointed out that there seems to be an antagonism between the red end and the violet end of the spectrum so far as the characteristic effects of ultra-violet radiation are concerned. If this is correct it tends to indicate that the source of the radiation should possess as little as possible of the red end, and suggests that the carbon lamp falls short of an ideal source. Evidence also has been advanced that exposure to ultra-violet rays increases the metabolic rate, but the proof at present is incomplete.

The most impressive and important observations are, however, in relation to the effects in such deficiency diseases as rickets, and it seems legitimate to assert definitely that such diseases may practically be cured thereby. And here we may also refer to the exalted resistance to disease which exposure to ultra-violet rays brings about, and which accounts for the beneficial effect of sun-ray treatment in such diseases as tuberculosis.

Mode of Action of Ultra-violet Rays.

At present we can do little more than speculate on the mode of action of ultra-violet radiation. It appears necessary to revise our views somewhat as to the functions of the skin, or at any rate its deeper layers (Malpighian layer). It has long been recognized to be a protective covering and a mechanism for the regulation of the temperature of the body. But in recent years evidence has been accumulating that it may possess other functions—notably that of acting as a regulator of internal functions by means, perhaps, of secretions formed in its deeper layers. It may, indeed, play a direct part in the general metabolism of the animal body.

In order to influence this possible cutaneous metabolism it is, of course, essential that any environmental stimulus should penetrate the external protective and indifferent layers of the epidermis. It is conceivable that part of the advantage accruing from the old practice of blistering, or the application of mustard poultices, lay in the indirect stimulation of the deeper layers to appropriate secretory activity rather than in the excitation of superficial nerves which seems to be involved in the older explanations of the efficacy of "counter-irritation." The undeniable advantages of the effect of sunlight and the different forms of light-ray treatment seem most probably to depend upon certain radiations of sufficient penetrating power stirring up the activity of the Malpighian layer of the skin, and thus leading to an augmentation or modification of their processes. But evidence has lately been adduced that some of the longer rays may actually penetrate into the dermis.[1]

The Source of Ultra-violet Radiation.

I have been engaged now for some twelve years in studying the effects of radiations from different sources upon the body, particularly in different diseased conditions. In my experience the most potent rays are from metallic arcs in which titanium is the prevailing element. Titanium rays are rich in lines in the extreme ultra-violet, and are of great potency when applied to bacteria. There is a rich line spectrum also in the region of 300 $\mu\mu$. The richness of the bright lines in the ultra-violet region in the case of titanium radiation means considerable effect with short exposures. Three minutes' exposure of the naked body may bring a tingle to the spine, and with repetition produces pigmentation. In the majority of cases two or more baths produce marked results. Patients who are mentally disturbed are benefited, and many forms of anaemia react to this ray treatment. Examination of the blood before, during, and after treatment has demonstrated in some cases a rapid return to a normal condition and to a permanent improvement.

For the purpose of treatment a suitable apparatus has been designed to operate from one to twelve arcs, and applicable in either the standing or recumbent position.

A comparison of the spectra from the titanium arc with those from iron and carbon arcs makes it clear that the radiations from the titanium arc are very rich in rays of shorter wave-length.

I have been greatly assisted by my technical colleague Mr. W. G. Moore, who has designed special apparatus and electrodes for the different forms of treatment.

Cases.

Of the many different kinds of cases I have had under treatment during recent years I will report some in which a diseased state left what is presumably chronic fibrosis.

Case A.—A woman, aged 28, with chronic arthritis. At the age of 18, during a course of nursing, she developed rheumatic fever. She recovered and resumed duty, but would constantly have to go off duty on account of pains in the wrists and ankles. Eventually she had to give up work in April, 1918. In September, 1918, many joints became affected and gradually got worse until November, 1920, when she went into Bath Hospital, remaining until February, 1921. In March, 1921, she had her tonsils removed. In April, 1921, she went into another hospital and had the legs, which were drawn up, put into plaster and straightened under an anaesthetic. No improvement followed. When this patient came to me she could only walk feebly with assistance, and suffered much pain. All her joints were swollen; there was complete fixation of knees, hips, and elbows; the ankles and wrists were also affected. It was decided at first to try and improve the knees, ankles, and wrists. For this the rays were applied daily focally for three minutes. After four days the rays were applied to the whole body and light massage given to the joints. At the end of a month the patient could walk and flex the knees. At the end of nine weeks she was able to walk well, going up and downstairs, getting in and out of buses, etc. She is now at her home in the country doing household duties, and taking good walks.

Case B.—A man, aged 75, was received as a case of "arthritis" dating from 1915; he had been confined to bed for eighteen months. On examination there was almost complete fixation of the knees and hips, and the tissues around felt hard. He suffered almost continuous pain, could only stand for a few minutes and walk but a short distance. He had tried many kinds of electrical treatment without deriving benefit. The rays were applied focally to the base of the spine, hips, and knees every other day for two weeks, followed by light massage. They were then applied to the whole body in the hope of improving the general health. After two months there was a marked improvement, and at the present time the patient is free from pain and can walk a considerable distance. He expresses himself as feeling a different man.

Case C.—A doctor, aged 50, had suffered for years from Dupuytren's contraction of the right forefinger, and had been advised that surgical intervention was the only remedy. The hand was exposed to intensive rays for periods of from four to five minutes. After ten treatments the tissues became softened and the finger could be straightened. The improvement is maintained.

Case D.—A woman, aged 30, had suffered with severe varicose veins of the legs, which had both been operated on. She was sent to me complaining of pain in the ankles which prevented walking, and also kept her awake at night. On examination both external ankles were found to be swollen and varicosed. Intensive rays were applied every other day for two weeks, after which the pain disappeared. The rays were then applied twice a week for a fortnight, and the condition further improved. The patient can now walk long distances, play golf, etc., without any discomfort.

Case E.—A woman doctor, who had suffered for years with chilblains on both feet, had endured much pain and could get no relief. Focal radiation was applied to the feet for periods of three to five minutes twice a week. After ten treatments the chilblains disappeared, and although cold and wet weather prevailed she had no recurrence.

Case F.—A man, aged 57, with severe anaemia, diagnosed as probably pernicious. The blood count at the commencement of treatment (September 23rd, 1924) was as follows: Red blood corpuscles 2,600,000, white corpuscles 23,000, haemoglobin 46 per cent. Counts taken at monthly intervals showed a gradual improvement, and the last count, taken in April, 1925, showed a decrease of white blood corpuscles to 9,000 per cubic millimetre. The patient when last seen seemed practically normal.

Another type is seen in the following case.

Case G.—A man, aged 35, with neurasthenia of some years' standing. He was melancholic, had lost his grip on life, and had to give up his work. He suffered from insomnia and loss of memory. In this case the whole body was treated for three minutes every other day, gradually increased to four and a half minutes. There was marked improvement at the end of two weeks. At the end of a month he was able to take a fresh post, and I understand that he has not suffered since.

These cases are only samples, and I feel convinced that titanium rays, used with discretion, are frequently of extraordinary value. When there is an obvious psychological element in the diseased condition titanium rays are often of extreme value, but I believe that the improvement is out of all proportion to the mere "psychical appeal" a course of treatment involves.

At the present stage it has been deemed advisable to withhold treatment in certain cases, but the success attending such a large percentage of those who do come under treatment seems to justify further strenuous investigation. It may be pointed out that three to four minutes' exposure to the titanium rays is equal to many hours of the sun's rays. Considerable caution is required in the selection of cases. At present phthisis in an advanced stage is one disease for which these rays should never be used.

Among other forms of disease in which the results of this treatment are highly encouraging are tuberculous wounds, septic and irritant conditions of the skin, sciatica and lumbago, etc., but space will not allow me to deal with these in detail at the present time.

I append some controlled laboratory observations on the bactericidal effects of titanium rays. I quote these as indicating the richness of the radiations in the extreme ultra-violet.

"Experiments were carried out with the titanium rays as evolved in the apparatus used in the treatment of patients. Petri plate cultures were used, one series containing twenty-four-hours' cultures of the test organism, and the other thickly sown with the respective test organisms an hour before the exposure. To avoid the temperature factor the rays were used openly, and not focused on the plates. The results were as follows:

"A. *Pneumococci.*—A twenty-four-hours' culture on blood agar was exposed for five minutes to the rays. Some of the growth was then removed and inoculated into blood agar tubes. No growth of the organism was obtained after forty-eight hours' incubation at 37° C. A similar plate not exposed, and kept as a control, gave rich subcultures under the same conditions of incubating. A blood agar plate thickly spread with a young culture of the pneumococcus was exposed to the rays for five minutes and then incubated for forty-eight hours. No growth of organisms took place except at one margin where there was a fringe of colonies at the outer circumference of the medium. This was found to be due to the holder casting a shadow at the lower extreme edge of the plate, and so this area unavoidably escaped subjection to the rays. A control plate of pneumococci similarly spread and incubated yielded a rich growth of the organism.

"B. *Streptococci.*—A *Streptococcus pyogenes* plate showing twenty-four-hours' growth of the organism and exposed to the rays for five minutes was sterilized, no growth of the organism being obtained. The control plates gave rich growths. The newly spread plate of the streptococcus submitted to the rays showed no growth except at the extreme margin where shadow was unavoidable. The control plate showed a rich growth under similar conditions of incubation.

"C. *Typhoid.*—A *B. typhosus* plate culture containing a confluent growth of twenty-four hours was sterilized by five minutes' exposure. Subcultures could not be obtained. The newly spread plate of *B. typhosus* exposed for five minutes gave no growth of the bacilli except at the extreme margin where the shadow prevented exposure. The control plate showed a rich growth of *B. typhosus.*

"D. *Anthrax.*—A forty-eight-hours' culture of *B. anthracis* showing spores was spread on agar plates and one of them given ten minutes' exposure, the extra time being allowed to compensate for the very resistant character of the spores of this organism. After forty-eight hours' incubation the exposed plates showed growth of the bacillus at the shadow margin and a very occasional colony towards mid-centre of the plate. The control plate showed rich confluent growth, and on comparison it was seen that the control plate contained at least 90 per cent. more growth than the exposed plate, not counting the colonies at the shadow margin, which it is fair to regard as an unexposed portion."

REFERENCE.

[1] Macht, Bell, and Ivers: *Amer. Journ. Physiol.*, 1926, lxxvi, p. 210.

ADVANCED TETANUS CURED BY INTRATHECAL INJECTION OF ANTITOXIN.

BY

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THE *prophylactic value of antitoxin* was fully established during the war, but even at the end of it doubt was expressed as to its value in the treatment of the clinically declared disease. Permin and Faber,[1] quoting Danish statistics, give a mortality of 79 per cent., the prognosis varying directly with the incubation period prior to development of the primary symptoms. Cases developing symptoms in ten days or under from the primary trauma show a mortality of over 90 per cent. British cases in the war showed a mortality of 50 per cent., the common causes of death being cardiac failure and exhaustion.

In considering the treatment of declared tetanus the pathology has to be taken into account. A combination has formed between the toxin and the motor nerve cells of the central nervous system, toxin is circulating in the blood, and is still being manufactured in the wound.

Sherrington's experiments on monkeys showed a 56 per cent. cure of experimentally established tetanus by intrathecal injection of antitoxin. The early researches of Sicard[2] showed much quicker results in the time of onset of spasms by injecting tetanus toxins into the subarachnoid space than by the intravenous or subcutaneous routes. Hence, *per contra*, antitoxin administered intrathecally should act more powerfully and quickly than by the other routes.

The case about to be described illustrates the value of treating the various pathological phenomena of established tetanus by the intrathecal administration of powerful doses of antitoxin, by supporting the patient's heart and general system during the muscular spasms, and by removing promptly the site of infection.

A Chinese boy, aged 12½, had his left leg crushed in its middle third by the wheel of a Chinese cart. A bad compound comminuted fracture of both tibia and fibula was the result, and the native doctor was immediately called to attend.

The child's condition became progressively worse, and on the ninth day following the accident he was brought to hospital. Below the seat of injury absolute dry gangrene had been established, and when the patient was lifted off the stretcher the lower part of the leg fell off. There was no haemorrhage. The child had fever (102° F.) and a rapid pulse (120), and definite head retraction was present, with masseteric spasm and the typical "risus sardonicus" of declared tetanus.

In view of these facts I at first refused to operate, but, on the pleading of the parents, attempted what I regarded as a forlorn hope.

The child was given morphine 1/6 grain, and put under ether anaesthesia. A pint of intravenous saline was administered and a rapid circular amputation performed at the seat of election, no attempt being made to suture flaps. Two premolar teeth were extracted with difficulty to permit easy feeding, and then a large intrathecal injection of antitoxin was administered.

Arguing on the principle that the lumbar enlargement of the cord was the site of attack, the lumbar puncture needle was introduced through the eleventh dorsal intervertebral space, and about 15 c.cm. of cerebro-spinal fluid drained off; 20 c.cm. of standard antitoxin, representing 20,000 units, were then injected. The shoulders and pelvis of the patient were raised, in order to make the site of injection the most dependent part, for four minutes, and 4,000 antitoxin units were then administered subcutaneously.

On the next day typical opisthotonic and pleurothotonic spasms were present; the trismus was much worse, and there was considerable rigidity of the rectus abdominis muscles. The temperature was 101°, and the pulse 134. The wound was slightly septic. A further intrathecal injection at the same site, of 20,000 antitoxin units, was administered, and followed by 10,000 units subcutaneously. Mouth-feeding with a tube and funnel was established through the dental space previously prepared, and rectal saline (10 ounces, with 5 per cent. glucose and 30 grains of potassium bromide) were administered every four hours.

On the third day the temperature was 100°, and the pulse 126; opisthotonos and trismus were present; 4,000 units were administered subcutaneously, and salines and tube feeding were continued.

On the fourth day the opisthotonos was very slight, but trismus persisted. The temperature was 99°, and the pulse 118; 4,000 units were again administered subcutaneously, and rectal and tube feeding continued.

On the fifth day opisthotonos had practically disappeared, and there was a slight relaxation of the masseteric spasm. The child's general condition was much better.

On the sixth day all spasm had practically disappeared, although there was some difficulty in swallowing, and tube feeding had to be continued. The masseteric spasm completely disappeared with the dysphagia; the child made an uneventful convalescence, the stump healing by granulation; he left hospital on the twenty-eighth day.

This case illustrates how the energetic and persistent symptomatic treatment of an apparently hopeless case of tetanus was rewarded. It appears to justify the claims made for the value of the intrathecal injection of antitoxin, and I consider that intrathecal injection at the anatomical site of the anterior horn cells of the spinal cord, supplying the injured muscles which are the actual seat of toxin manufacture in the wound, is all-important for its success. In this case the lumbar enlargement of the cord was fully impregnated with the antitoxin, and this appeared to be the successful factor in the case.

REFERENCES.
[1] Permin and Faber: *Communications de l'Institut Sero-Thérapique de l'Etat Danois.*
[2] Widal, Sicard, et Ravaut: *Bull. Soc. Méd. des Hôp. de Paris*, 1901.

Memoranda:
MEDICAL, SURGICAL, OBSTETRICAL.

CARCINOMA OF THE THYMUS GLAND.

A SHORT time ago I examined a man who complained of gnawing, but not severe, pain in the region of the junction of the cartilages of the eighth and ninth ribs on the right side. It appeared to be a case of intercostal neuralgia. There were no other symptoms so far as I could discover.

Treatment was continued for six weeks, but did not relieve the pain, and there was increasing anaemia and some wasting. Later a small triangular area of dullness with tubular breathing was detected behind, close to the spine, and I informed the relations that probably cancer of the lung was developing, and was the cause of the symptom of severe pain in the region mentioned from pressure on the intercostal nerves. No expectoration.

X-ray examination showed cloudiness and small dark areas over the lungs. The radiologist suspected tuberculosis, but it was obvious that the dark areas were due either to byssinosis—the patient was a collar cutter by profession and ran a small private factory of his own—or else that the areas were secondary deposits over the lungs. Irregular temperature, but not a daily one, developed, and, as was to be expected, pleural exudation took place. On several occasions large quantities of fluid were removed; microscopical examination of this gave negative results.

As the relatives were always in doubt as to the cause of the illness, a *post-mortem* examination was allowed; this showed well marked massive cancer near the root of the right lung with secondary nodules in both lungs. On the right the growth was adherent to the dome of the diaphragm, which was perforated, and there was a fan-shaped involvement of the liver. One possibility was that the carcinoma started from the mucous glands of the larger bronchi at the root of the lung, and that the secondary nodules arose along the lymphatic vessels surrounding the bronchi. The second and most likely supposition is that the cancer started in Hassall's corpuscles in the only partly atrophied thymus gland.

The microscopical report is as follows: "The section shows a malignant new growth composed of irregular angular cells. It may be derived from a growth originating in Hassall's corpuscles of the thymus, but further information about the history is desirable."

May I offer the suggestion to those who so ably work on the cancer problem that humanity may become susceptible to cancer when the thymus gland does not completely atrophy, but takes on an altered function, producing a blood plasma saturated with thymic juice, rendering the body thus susceptible to cancer organisms (?), and that any local source of irritation which lowers the organ's resistance allows cancer to originate and settle in that locality?

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A LARGE VESICO-URETHRO-VAGINAL CALCULUS.

THE two reports on vaginal calculi published in the JOURNAL by Lieut.-Colonel W. F. Brayne (January 2nd, 1926, p. 17) and by Mr. E. Farquhar Murray (February 6th, 1926, p. 238) prompt me to record the following case:

A married woman, aged 52, was admitted to the Mansfield and District Hospital under the care of Dr. Hunnard for incontinence of urine.

She stated that a year earlier she began to suffer from frequency and pain at the end of the act of micturition, but fearing that it might be a cancer she did not consult a doctor. The intermittent attacks of pain subsided to give place to a persistent aching. At first she had some control over micturition, but none for six months. The urine was thick and foul-smelling, and she was very distressed on account of the bad smell emanating from her, and by fear of cancer.

On vaginal examination a stone was seen projecting from the anterior wall of the vagina, wedged in a large gap about two inches long and one inch wide. The gap stopped short of the external meatus of the urethra. Urine was continually dribbling away from the upper part of the fistula. The stone was removed, and she had very severe cystitis; repair of the fistula was not attempted. The stone was white, smooth except at the top end, and more or less rounded. It weighed 4¼ ounces, and measured 4½ by 4 inches; its nucleus, according to *x*-ray appearances, consisted of oxalate.

Mr. D. Greig, the curator of the Museum of the Royal College of Surgeons, Edinburgh, to whom I sent the stone, considered it a rarity. At Dr. Hunnard's request I performed a plastic operation under spinal anaesthesia, six weeks after the first. The patient made an uneventful recovery.

I am informed now, after a year and a half, that she is in excellent health, and has full control over micturition, though she has slight frequency, having to empty the bladder every four hours, no doubt due to the fact that the bladder contracted during the time she had incontinence, and its capacity for holding the normal quantity of urine diminished.

I am much indebted to Dr. Hunnard for permission to publish this case.

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AN ALTERNATIVE TO CIRCUMCISION IN PHIMOSIS.

AFTER many years in general practice, during the greater number of which I had a partner or employed an assistant, I was struck with the fact that not one of them knew that there was an alternative to circumcision in the treatment of phimosis. Therefore I infer that a good many others do not know it. It was taught me by my principal when I was an assistant in 1883. It is as follows.

With strict antiseptic precautions, an ordinary silver probe is taken in the right hand and with the left hand the foreskin is drawn back as far as possible, the orifice being slightly stretched. The probe is then insinuated between the glans and the foreskin, about the centre, and is coaxed back until the blunt point is seen or felt to have gone as far as the base of the glans. The probe is then gently worked laterally, first to one side and then to the other, so as to break down the adhesions between the mucous membrane of the glans and the prepuce. In doing this the point of the probe should be worked round as far as the fraenum on either side, and in bringing it out care should be taken to break down the adhesions which surround the orifice of the prepuce. Some cases have very few adhesions, and the little operation is quite easy. When the adhesions are more extensive, it can always be managed with a little patience. When done successfully it should be possible for the foreskin to be drawn back to the base of the glans quite easily. The surfaces should then be cleansed with boric lotion and smeared with carbolized oil, and the foreskin drawn forward again. The nurse should be instructed to draw back the foreskin once or twice a day, to prevent it adhering again. On several occasions, owing to not having a good nurse to hold the baby, I have had to complete the operation at a second sitting, but have nearly always managed it at one. On one occasion I damaged the fraenum in bringing the probe round. There never appeared to be any redundancy of skin afterwards, at all events none to cause inconvenience.

I have never come across a case in an infant which I could not manage easily. With one case in an older patient I failed.

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Reports of Societies.

ABORTION: MEDICO-LEGAL AND ETHICAL ASPECTS.

A JOINT meeting of the Medico-Legal Society and the Section of Obstetrics and Gynaecology of the Royal Society of Medicine was held on January 21st to consider the medico-legal and ethical aspects of abortion. Sir ARTHUR CLAVELL SALTER (Mr. Justice Salter) presided over a very large attendance.

The Medical View.

Dr. J. S. FAIRBAIRN began by outlining, for the benefit of non-medical members of the audience, the medical causes for which abortion might be induced, including diseases peculiar to pregnancy on the one hand, and on the other diseases which pregnancy aggravated or which made it particularly dangerous. In diabetes or kidney or heart disease there was general agreement that if the condition was serious and did not improve in spite of medical treatment, abortion might be induced. With regard to tuberculosis, certain forms of malnutrition, and certain nervous and mental states, there was divergence of opinion as to the advantages of terminating the pregnancy. In the case of women who had been insane in a previous pregnancy, the usual rule was that, if a second pregnancy followed soon, it should be terminated. On the other hand, if there had been some complication not likely to recur, such as excessive bleeding or septic infection, which was clearly the provoking cause of the mental disorder, it was usual to allow the pregnancy to continue. The commonest reason, especially in hospital, for interfering with pregnancy was that some damage had already occurred; in that case the treatment was not the induction of abortion, but the completion of an abortion already started. The original principle that guided the profession was that induction was lawful only if the woman's life was endangered by the pregnancy, but this had been rightly extended to include cases in which serious or permanent damage to health might result. During the last twenty-five years there had been an increasing extension of the practice, and many in the profession acted on the supposition that it was not unlawful to take into consideration other than purely medical factors, including social, economic, and eugenic reasons. The present meeting arose out of a discussion at the British Medical Association Annual Meeting in Nottingham (BRITISH MEDICAL JOURNAL, August 7th, 1926, p. 237), and Dr. Fairbairn drew attention to a case cited by the opener of that discussion—the case of a barrister and his wife who took the view that, "the prospective baby being theirs, it was their own affair whether they allowed their work to be completed or not"—as an instance of the casuistical arguments sometimes employed. The pregnancy was terminated in that case, on the ground that rapidly recurring pregnancies affected the mother's health, but within six months pregnancy happened again, and this time interference was refused, but the couple went to another doctor who was more pliable. The rule might be inferred "one abortion per patient," but it did not work, for what happened was "one abortion per patient per doctor"! The effect of the spread of loose views was to produce a vicious circle, for as the public learned that abortion could be easily procured under the guise of medical indications, each individual failed to see why her medical attendant should hesitate in her case, and thus pressure was put upon doctors. The causes of a lowered professional standard were the greater safety and more frequent resort to operative procedure through medicine, the effect of the attitude of the general public on the profession (the ethical standard had been greatly lowered from the same causes which had given an impetus to the conception-control movement), and the changed social conditions which made women more liable to depression and nervous exhaustion under the strain of child-bearing. He advocated that none other than purely medical considerations should be allowed to weigh, and dissented from the "hopelessly inverted" statement of the position by the opener of the discussion at Nottingham that "It is an ethical question of great interest to what extent we as doctors have the right to insist that a woman shall pass through an ordeal which she is unwilling to face, even if we do not think that she will sustain any permanent injury from so doing." It was not a question of "the right to insist," it was a question whether there was any right to interfere with normal pregnancy. This matter should be thought out in terms of hospital rather than of private practice. The private practitioner was more directly under the influence of his patients and their relatives; in hospital factors other than medical did not weigh, and unless her condition was very urgent the patient was kept under observation and treatment until it was seen that all other measures of relief had failed before abortion was induced. Abortion-mongering was but infanticide anticipated by a few months. Perhaps it was too much to expect the populace to think the non-sentient embryo of much account, but medical men knew that the little heart was beating very soon after the patient was aware that she was pregnant. The Soviet Republic of Russia had legalized abortion (BRITISH MEDICAL JOURNAL, October 30th, 1926, p. 802), and the spread of loose views in the profession regarding its responsibility must tend towards a similar state of affairs in this country. Medical indications alone should be considered in deciding on the induction of abortion; such indications should be defined as those clearly involving danger to life or health of mother, or damage to the pregnancy sufficient to interfere with its future development, and the onus of proof should rest on the practitioners concerned. In border-line cases observation of the patient away from home and failure of other methods of treatment should have proved abortion to be the only recourse.

Legal and Ethical Aspects.

Lord RIDDELL summarized the law relating to abortion. The legal position might be stated as follows: if the mother died in consequence of an illegal operation the person performing it might be charged with murder or manslaughter, but these offences could not be committed with respect to a child in the mother's womb, as the child was not *in rerum natura*. If, however, the child was born alive and subsequently died owing to injuries received *en ventre sa mere*, the offender was liable. In Russell on *Crimes* acts were described as lawful which were done in the course of proper treatment and in the interest of the life or health of the mother. *Midwifery by Ten Teachers* stated that operations of this kind were confined to cases in which the life of the mother would be endangered or her health likely to be permanently damaged by the continuation of the pregnancy. Lord Riddell thought the word "permanent" inaccurate. Induction was not only justifiable, but a duty when the pregnancy indicated grave danger to the mother's health, whether the result was likely to be permanent or not. But it was not justified for the purpose of avoiding the minor risks of pregnancy. The practitioner must not be influenced by the appeals of the patient or her relatives to relieve her of these ordinary risks and discomforts, nor by economic considerations in the case, nor by his compassion for a woman in a distressing situation. He must remember, however, that the mother's life must never be sacrificed for the unborn child, even though she be suffering from incurable disease; on the other hand, the possibility of diseased offspring was no indication for abortion. It could not be denied that there were practitioners ready to seize on any reason to justify abortion when desired by the patient, and offences could not be readily detected in the case of a married woman attended by two medical men. The practitioner dealing with a pregnant unmarried woman was faced with a problem of great difficulty. If he procured abortion his motives were open to question; if he failed to do what was necessary to preserve the life or health of his patient he was liable to grave moral condemnation and possibly legal consequences. The practitioner should always act openly, and seek the support of a second opinion, and if his motives were right he had little to fear. The patient, however, should not be prejudiced by her medical adviser's conscientious scruples. If the practitioner thought abortion necessary, and therefore legally justifiable, but his conscience would not allow him to pro-

cure it, the patient should be made to understand that she was being attended by a doctor whose convictions she might or might not share. Lord Riddell sketched the history of abortion from pagan times, and said that the doctrine that the mother was to be sacrificed or risked for the benefit of the unborn child was a relic of the Dark Ages and was biologically unsound. A point to be noted was that even the Roman Catholic Church discriminated between early and late abortion. The decretal of Gregory IX (1244) defined abortion as homicide if the child had quickened, otherwise not.

Border-line Cases.

Dr. H. RUSSELL ANDREWS, taking the place of Dr. Watts Eden, who was unable to attend, thought that Dr. Fairbairn was going too far when he suggested that the profession in any general way had given up the former definite indications for the induction of abortion. If not, he could only think that Dr. Fairbairn associated with a laxer type of general practitioner than he did himself. Some cases which came to the consultant were easily dealt with, and after investigation a common-sense talk with husband and wife convinced them that the pregnancy ought not to be interrupted. At the other end of the scale were cases in which there could hardly be any difference of opinion that continuation of the pregnancy was fraught with danger to life or possible impairment of health. It was the border-line cases which gave anxiety, and personally he had often had a cowardly wish that the patient's medical adviser had chosen some other consultant. The medical man must sympathize with the tired, exhausted, anxious patient who felt that she could not face the ordeal of many months' disability and ill health, but he realized that he must not allow his judgement to be swayed by sympathy alone, and looked for some definite peg on which to hang his decision one way or the other. The condition was often complicated by what was actually an obsession or fixed idea in the mind of both husband and wife, based on advice given some months or years before, by one or more doctors, that there must not be another pregnancy. On two or three occasions, when he thought that this advice had been given lightly and on insufficient grounds, and remarked that there was a great difference between advising against another pregnancy and destroying life, he was met with the retort that there would not be much difference if only doctors would be more logical. It was impossible to lay down hard and fast rules for the conduct of border-line cases; each case must be judged on its merits. Dr. Andrews then described in detail two cases in which he had been consulted during the last few months, and in which he had felt justified in advising induction.

Criminal and Non-criminal Abortion.

Sir TRAVERS HUMPHREYS said that from his point of view the subject was divided into two parts: criminal and non-criminal abortion. By the latter he meant the steps which were taken by a qualified man to get rid of a condition in his patient which he was satisfied, on medical grounds alone, was dangerous to the patient's life or health. With that the law had no concern whatever. It might be that the patient asked a medical man to induce abortion because, for example, she feared social disgrace or for other non-medical reasons. These might form matters for advice to the patient so long as she was not in the condition of pregnancy, but in considering the induction of abortion he was not entitled to let anything weigh with him except the health of his patient—her medical welfare as distinct from her social or economic welfare. To say that a medical man would fortify his view by obtaining the best opinion he could, and that he would not interfere with the ordinary course of nature except for the gravest reasons, was only to say that he would do what a doctor would do in any case involving grave issues. Criminal abortion in this country was recognized as a very serious crime, and in the United States, France, and Belgium the law was similar to our own. In the Belgian penal code there was a provision that any person who caused abortion, even without desire to do so, by violence, or, as we should say, by ill treatment, was liable to extreme punishment. Those who studied French journals might be disposed to doubt whether in France the practice of abortion was regarded with quite as much distaste as it was by French law, but the mere fact, if it was a fact, that a certain number of people disregarded the law did not alter the law. It must be the law in every civilized country that criminal abortion was regarded in a very serious light, and the fact that abortion was legalized in Soviet Russia did not alter the case, because he was speaking of civilized countries. The induction of abortion, at all events by any other than the most highly qualified and skilful person, was fraught with the gravest possible danger to the woman. No doubt the increasing prevalence of the crime of abortion in this country was due to the widespread belief that abortion, at least in the early stages of pregnancy, was without risk; but he had heard Sir Bernard Spilsbury combat that idea in the witness-box, and say that there was no such thing as safe procurement, even in the early stage. He hoped medical men would impress that fact upon any of their patients who might be under misapprehensions on the subject.

General Discussion.

Dr. HALLIDAY SUTHERLAND referred to the effect of tuberculosis upon pregnancy. It had no constant influence. Women, even in advanced stages of the disease, had brought forth healthy children at full time. There were cases in which the onset of pregnancy was associated with increased severity of the disease, but others in which it was associated with amelioration. He quoted figures from the Stockholm maternity clinic which showed that actually the pregnant tuberculous woman had a rather better expectation of life than the non-pregnant tuberculous woman. He did not doubt that a very early diagnosis of tuberculosis might be of considerable value to those who desired to arrange an "irreproachable" abortion for non-medical reasons, but he hoped that as a result of the present discussion the medical sanctions for abortion, so far from being extended, would be curtailed. Every advance in medical treatment must reduce the occasions on which danger to life or health might be cited in defence of that which was, at best, an act of despair, and at worst a crime akin to murder. If any section of the profession were carried away on the wave of criminal sentimentality passing over the country he would suggest that their activities might be checked by making abortion compulsorily notifiable.

EARL RUSSELL said that, in view of the existing law, it struck him as curious that from some of the cases quoted on the medical side the practice of gynaecologists should have been extended to a degree which went far beyond the narrow consideration of risk to life or health, and amounted in many cases to relieving the patient from a very inconvenient and unpleasant time. It showed how doctors, as he had always maintained, were the high priests of modern civilization and were above the law. The doctors declared in their gynaecological discussions what it was right to do in cases of this sort, and Sir Travers Humphreys said that there was no appeal to a legal tribunal. Sir Travers said that the sole thing they had to consider was the interest of the patient. If that was the case, surely one would apply to the question of removing a foetus the same tests and considerations as one would apply to the removal of any tumour. All operations were dangerous, and Sir Travers had stressed the dangers of abortion. But in these cases of very dangerous operation the choice was generally left to the patient. The ethical view, as stated by Dr. Fairbairn, given the present state of our law, was perfectly correct and unassailable, but the ultimate ethical law was not necessarily that embodied on the statute book, and he was inclined to take the German view which Lord Riddell had quoted, in which it was insisted that the foetus was not yet an independent human being, and that every woman, by virtue of the right over her own body, was entitled to decide whether it should become one. In a matter of this sort the mother, and the mother alone, ought to be the arbiter. What was at present on the statute book was there on religious grounds, and probably could be defended on those grounds, but there was no justification for imposing those grounds on others. Great efforts were being made for the preservation of child life, and he would be the first to recognize the undoubted moral duty of the mother to do the best she could for the child

that was to be born, but that did not affect his view that the mother should be mistress of the situation, and the State, unless it said that deliberately it took a certain course for reasons of population and the like, had really no abstract right to deal with the matter. That was not the existing law, but it was his view of the fundamental ethics.

Professor LOUISE MCILROY agreed with most of what Dr. Fairbairn had said. She held also that when any abortion took place it ought to be notified to the State, just as was a stillbirth or a live birth. She knew that it was easy for those of them who were specialists in a large city to take a high ethical view, but it was not so easy for the struggling practitioner in his district when perhaps a patient of means and influence wanted him to take this course. He was inclined in such circumstances to look about for some medical excuse for performing abortion; knowing that if he refused she might be the means of greatly injuring his practice. It had been said that this was a woman's question, but the question whether pregnancy should be terminated was a moral question which affected both sexes equally. She greatly resented the assumption of some patients that they could go to the consulting room and lay down to their doctor a line of treatment in much the same spirit as they would approach the bargain counter. She was sure she was speaking for other members of her specialty when she said that none of them looked upon the induction of abortion as anything but homicide. As time went on, and methods of treatment improved, abortion would be regarded as a confession of failure, and would be practised less and less by gynaecologists. In one aspect, however, it was a woman's question—namely, in the cases of pregnancy following rape. There she would like to have legal permission to prevent continuation of the pregnancy, for she saw no reason why the woman should suffer it.

Dr. F. J. MCCANN said that an extraordinary wave of abortion-mongering had proceeded over Europe since the war. Bills were now tabled in the German, Austrian, and Swiss parliaments seeking to legalize abortion during the first three months. He was one of those who held that there was no ethical reason for procuring abortion. Unless strong opposition were taken to the first ethical loophole being made it would be disastrous to the country. The reason why abortion was spreading was because it was believed that in the early stages there was no life and that abortion in those stages was free from risk. It could not be too widely known by the public that there was life from conception onwards, and that there was grave danger from abortion even in the most skilled hands. He had seen danger arise from merely dilating the neck of the womb without the necessity of emptying it. He was inclined to criticize the lawyers for certain legal confusions. Thirty years ago the Royal College of Physicians took counsel's opinion, which was that the law did not forbid the procurement of abortion during pregnancy or the destruction of the child during labour where such procurement or destruction was necessary to save the mother's life. It was on that pronouncement that many of them had acted ever since. But there were some peculiarities about the law. One, for example, was that, whether the woman was really pregnant or not, an attempt made by another person with the idea of procuring abortion was a crime, but if the woman made the attempt herself she committed a crime only if she was pregnant.

Dr. MARIE STOPES protested against Dr. Fairbairn's statement that the movement for "constructive birth control" tended to produce a slackening of moral fibre. The ethics of abortion had not been touched by any speaker in a fundamental way. Everybody had spoken as if this was an exceptional condition in which a patient came to a medical man, and, if he refused to do what she wanted, there was no more to be said. But abortion was going on all over the country, by other than medical practitioners, in an open and barefaced manner. Thousands of persons assumed that it was the most natural thing, involving no legal or other consequences. She protested strongly against the sale of abortifacients, some of them under her own name, in shops not far from Wimpole Street. She had been to Scotland Yard on the subject, and was told that she had no protection. The law on the subject was so feeble that it could be defied by the participators in this shameless trade, who apparently could use any name they pleased in connexion with their abortifacients, and the person concerned had no redress.

Dr. BERESFORD KINGSFORD supported the view taken by Earl Russell that in fundamental ethics the mother should be the mistress of the situation. If depriving the community of potential citizens was really the offence, what about the sale of contraceptive appliances? If abortion prevented the State from having hundreds of future citizens, these appliances—as to which he expressed no opinion—prevented it from having thousands, perhaps hundreds of thousands. But the fact was that the country was getting more children than it needed. It did not need them in peace, because it had more people than it could employ; nor in war, because it had been shown that true reliance in war was not upon a C3 population, but upon the united voluntary effort of the King's dominions.

Sir BERNARD SPILSBURY said that biologically the individual must be regarded as starting life from the moment of conception. The fact of birth was a mere incident in the life of an individual. Regarded from that point of view, the only sanction for abortion that could be recognized was that the life or health of the mother was seriously endangered by pregnancy. Legally the destruction of the foetus *in utero* was not murder, but morally it certainly was unless there was justification for terminating the pregnancy prematurely owing to danger to the mother from its continuance. There could be no question that abortion was extremely rife. Probably the cases that came into court were only a small proportion of those in which abortion was procured, and the proportion that came into court was lower than it was a quarter of a century ago, partly because the skill of the professional abortionist had increased of recent years.

Dr. ARCHIBALD DONALD deprecated the view that this was purely a question for the mother—apparently not even for the father. He owed a great deal to the sex, but in these matters he was bound to say that many women seemed to have no moral sense whatever. With regard to medical reasons for inducing abortion, the cases of the kind with which he had been concerned had been, as to the great majority, cases of excessive vomiting of pregnancy; in other cases the patients were seriously ill from heart trouble or uraemia or such conditions. It would be a great disaster if the medical profession departed from its traditions in this matter.

Mr. Justice Salter's Summing Up.

The CHAIRMAN said that, looking at this question in the precise—he would not say pedantic—manner to which lawyers were accustomed, it seemed to him to narrow down to this: what was and what ought to be the law with regard to artificially procuring abortion? Every doctor desired to be within the law, and desired the law to be so framed that his duties as a citizen might never conflict with the duties of his profession. Taylor, in his *Medical Jurisprudence*, had a section headed "Justifiable abortion," but laid it down that there was no such thing as abortion justified in law, and the editor of the latest edition of that work had retained that opinion. It seemed to him (the learned judge) to be at least arguable that the Legislature, in forbidding the unlawful use of instruments or drugs, implied that there was such a thing as lawful use. Dr. Fairbairn's position was that either the law allowed, or should be amended to allow, abortion in every case where, after all due examination, delay, and inquiry, it was the considered opinion of the medical man that abortion was absolutely necessary to save the life of the mother or to prevent grave, possibly permanent, injury to her health. The mother's life, certainly; the mother's health, in the grave sense of the word, yes; and there was a third class where it was a question of the future health of the child. Suppose it became clear during the pregnancy that one or other parent was afflicted with some disease very commonly inherited, would there be medical justification for abortion? He would regard that as a very difficult case indeed. Then there were non-medical cases in which it was sought to justify abortion on such grounds as that the child would be unwelcome or expensive, that pregnancy

would interfere with the mother's social amusements, that abortion would be a means of avoiding disgrace and exposure, or—stronger in its appeal than any of these—that the unfortunate woman had been the victim of rape. Two speakers had urged that the prospective mother was the mistress of the situation. He certainly agreed that she should have more say than anyone else, but if he might put into blunter English the contention of those speakers it was that abortion should be lawful in any case in which the mother desired it or even consented to it. That seemed to him to go rather far. Here was a living thing, approaching the moment of birth, having in many senses a separate existence already, and the mother was to be at liberty, if she pleased, to have its life ended! After it was born was she still to have that right, and, if not, why not? The ethics of this question could not be considered without bearing in mind the close connexion which there always was between abortion and infanticide. In the later pagan era there was an enormous traffic in the "exposure" of unwanted children, who were taken by speculators and reared as slaves or prostitutes. He had been impressed by a phrase used by Professor McIlroy, that abortion was homicide, and justifiable abortion was justifiable homicide. If abortion were ever sanctioned outside the medical area—in the interest of eugenics, for example, or for economic, social, or personal reasons—he would have great fear that within the medical area there would arise a large class of pliant doctors who would be very easily persuaded that there were sufficient medical reasons in a given case. And in this matter, as in so many others, it would be all to the advantage of the rich, while the poor would find it more difficult to get a favourable "opinion." Some speakers had boggled at the idea of many abortions on the same woman. But if one, why not many? He believed that if it were ever proposed to extend the liberty of abortion outside very strictly recognized and limited medical grounds those who proposed such a change would find themselves up against an enormously powerful body of public opinion—a body rather inarticulate, perhaps, and influenced rather by atavistic ideas, but none the less powerful. One of the most striking features of the early Christian Church was its attitude towards abortion, which in the later pagan era had been practised enormously, and was regarded in the light of a venial wrong, much as sexual excess was regarded. The attitude of the infant Church was from the first uncompromising, and never wavered, and he was certain that if it were ever proposed to extend the liberty of abortion that spirit of unswerving opposition would rise again. The discussion had revealed the great difficulty and delicacy of the question, and certainly its profound importance, and it had been a great satisfaction to him to take the chair.

GASTRIC AND DUODENAL ULCER.

AT a meeting of the Section of Surgery of the Royal Society of Medicine on January 19th, with Mr. WARREN LOW in the chair, Professor J. M. T. FINNEY of Baltimore, U.S.A., gave an address on gastric and duodenal ulcer which was very comprehensive and included abundant references to the literature of the subject. At the end of the lecture he showed a series of diagrams and sketches through the epidiascope illustrating the operations of Billroth, Mikulicz, and others, and, in greater detail, his own technique in the operation of pyloroplasty.

Professor Finney discussed the several theories which had been advanced to account for the formation of ulcer; one of the first was the inflammatory theory advocated by Abercrombie. It was true that various degrees of gastritis were frequently found in conjunction with chronic ulcer, but there was no basis for assuming that these might be the cause rather than the effect of ulceration. In the neurogenic theory disturbance of the nerve supply of the stomach had been held to explain the various conditions associated with ulcer. Many authors had written on this subject, but so far the results had been of little value either in pathology or treatment. In favour of the circulatory object of chronic ulcer was the fact that the parts of the stomach from which the circulation had been shut off were subject to the action of digestion, and there were other circumstances which suggested a circulatory cause. On the other hand, the infrequency of demonstrable changes in the blood vessels around the ulcer, and the fact that ulcers commonly occurred at an earlier age than was usual for arterial disease to manifest itself, might be regarded as evidence against the theory. The idea that gastric ulcer started from a diseased condition of the blood vessels depended on the findings in a comparatively small group of cases. Gastric ulcer had been recorded in association with most of the diseases to which the blood vessels were subject, but in the majority of cases of gastric ulcer no changes were found in the blood vessels except those secondary to the ulcer. The bacterial theory of gastric ulcer origin had its advocates, and many bacteria had been described as the causal agent of ulcer, but for the most part the bacterial condition might also be considered as secondary. One worker at the Mayo Clinic had called attention to the localized infection of the mucous membrane by streptococci. There remained the digestive theory, but it was now generally believed that the gastric juice had little or no part in the beginning of the ulceration, and it had also been shown that when there was initial injury, this and the subsequent digestive action together, if unaccompanied by the continuance of the underlying cause, whatever that might be, were insufficient to prevent healing. The characteristic appearance of stomach ulcer was probably due, not to a specific cause, but to the action of the gastric juice, which kept clean the base and edges of the ulcer. The clean base and edges justified no conclusion as to the cause of the ulcer. Altogether, peptic ulcers probably originated from various causes acting on favourable tissue, and that was all that could be said at present. The multiplicity of methods whereby acute ulcers might be experimentally produced had tended to clear rather than to obscure this problem.

The malignant transformation of ulcers had been first suggested by Cruveilhier in 1839. The surgeon's treatment of ulcer must be profoundly influenced by his opinion as to the proportion of cases in which ulcer of the stomach might be the origin of carcinoma. If he believed that over 50 per cent. of gastric ulcers went on to carcinoma he was bound to advocate more radical procedure than if he believed the proportion to be less than 5 per cent., and it was between even wider limits than these that the estimates ranged. While the tendency towards carcinoma was generally recognized, the criteria on which opinions were based as to the likelihood of this development varied widely, and it was of obvious importance that these criteria should be standardized as far as possible. Professor Finney gave statistics to show the wide variation in numbers by different observers, and quoted with approval the more conservative estimates of Ewing, adding that there was no reason to believe that carcinomatous transformation occurred in more than 10 per cent., or at most 15 per cent., of gastric ulcers. The operating surgeon should be able to classify lesions which really fell into the two groups, simple ulcers and ulcerating carcinoma. If a surgeon was unable to differentiate these, which now and then happened, and if in addition he believed that 50 per cent. or more ulcers would go on to be carcinomatous, he would be consistently radical in his procedures; but if he was able to distinguish between these two he would have little hesitation in treating simple ulcers conservatively. Professor Finney thought that about 85 per cent. of all cases might be recognized without microscopical aid as benign. Of the remaining 15 per cent., on microscopical examination about 5 per cent. would be found utterly benign, another 5 per cent. would present recognizable carcinoma, while the remaining 5 per cent. would require microscopical study of serial sections to enable their true character to be ascertained, which even then could not always be done. His experience was that where the surgeon was in doubt the pathologist was still more uncertain, though this was no reproach to the pathologist. In these doubtful cases of stomach ulcer, as in doubtful tumours of the breast, the more common error was to call a benign condition malignant than to call a malignant condition benign.

Professor Finney, passing to treatment, said that the operations usually performed for ulcer might be considered as either conservative or radical. The conservative might be subdivided into (1) procedures directed towards local excision, cauterization, and suture of the ulcer; (2) local excision *plus* gastro-duodenostomy or pyloroplasty; (3) the latter procedures alone. The radical operation was devoted to extirpating not only the ulcer but the ulcer-bearing area of the stomach. The surgeon must be guided by the conditions found in the individual case in deciding on the character of the operation, bearing in mind, as the three main considerations, the importance of removing the ulcer-bearing area of the stomach, the efficacy of reduction of gastric acidity by a large resection, and the possibility of carcinomatous transformation. Those three points decided for or against a wide resection. Previous to any surgical operation there should be a period of preparation, unless the operation was one of emergency. He prepared his patients according to a regular routine, and in patients so prepared infection was reduced to a negative quantity. Pre-operative and post-operative care was of the utmost importance in stomach cases; the latter was always, in his experience, carried on in conjunction with the family practitioner. One of the important parts in the preparation was to instruct the patient to practise antiseptic tooth-cleansing and rinsing of the mouth for several days previous to operation. The patient was kept on sterile food, and repeated observation by various authors showed that the acid stomach would sterilize itself under these conditions in approximately forty-eight hours. This rule did not apply in cases of carcinoma of the stomach walls. Transfusions were given if the haemoglobin percentage was under 60. The points for the surgeon to bear in mind were meticulous attention to detail, complete asepsis, and the gentle handling of the tissues. Each surgeon had his favourite operation, and this was unfortunate, for he was therefore liable to practise it when, in the circumstances of the case, some other operation was preferable. Professor Finney, summarizing his conclusions, said that since the cause of ulcer was unknown, and its presence was undoubtedly a menace to the comfort and happiness, and possibly even the life, of the patient, it would appear that resection of the ulcer, where practicable, was indicated in cases in which it had failed to yield to good medical treatment. No surgical procedure of any kind should be performed on the stomach without previous consultation with a competent physician. Resection of the ulcer did not guarantee non-recurrence, though, if the resection was thorough, recurrence was very rare. That form of surgical procedure which least disturbed the normal physiological relations of the stomach and intestine, other things being equal, should be the operation of choice. Pyloroplasty or gastro-duodenostomy, associated where possible with resection of the ulcer, would appear to be preferable. The particular method must be determined by the conditions found present at the operation. The acceptance of this proposition would relegate to the second or third place the procedures of gastro-enterostomy and extensive gastric resection. In his own case the best results, both immediate and late, had been secured by pyloroplasty or gastro-duodenostomy where this was possible. Gastro-enterostomy should be regarded as an operation of necessity, never as an operation of choice. Nor was he convinced that the sacrifice of large portions of the stomach wall, in view of the vital nature of this structure, was either indicated or justifiable as a routine procedure for simple ulcer. In the presence of malignant disease, of course, the most radical procedure was the most conservative, but the same rule did not hold in the case of benign conditions.

Sir ANTHONY BOWLBY expressed to Professor Finney the appreciation of the Section, remarking that it might almost be thought that Professor Finney was a specialist in this particular branch of the subject, but, in fact, his knowledge of every other branch of general surgery was equally thorough. As chief medical adviser to the American army in the war he had done much to promote harmonious working together of British and American surgeons. Sir JAMES BERRY, seconding the vote of thanks, expressed the pleasure taken by the Royal Society of Medicine in welcoming a great American surgeon. Sir GEORGE MAKINS associated himself with the tribute, and strongly approved Professor Finney's endorsement of the rule, which had fallen more or less into abeyance, that the surgeon should act in close co-operation with his medical colleagues.

Dr. J. L. JONA (Melbourne) mentioned experiments which had driven him to the conclusion that one of the points in the pathogenesis of gastric and duodenal ulcer was, not hyperacidity, but the absence or diminution of the normal pancreatic juice. Mr. ETHELBERT FLINT (Leeds) agreed as to the advantages of gastro-duodenostomy over gastro-enterostomy. Out of 200 cases in which the former operation had been practised, in only nine had he failed to mobilize the duodenum, and the nine included four in which the adhesions were so marked that he thought it was not advisable to disturb them. The mortality was th same as with gastro-enterostomy, and the outlook appeare to be much better, for patients on whom gastro-enterostom had been performed commonly suffered a certain amount disturbance afterwards. Mr. F. A. G. JEANS (Liverpoo held that chronic ulceration, however long it had existe was not very likely to lead to malignant disease. He adde the remark that whatever they did, however slight radical the operation, there would always remain a ra of men who were "inveterate ulcerators and persiste perforators." Mr. R. P. ROWLANDS could not see th advantage of doing a partial gastrectomy for a simp ulcer. He had been a great believer in Finney's operatic for many years. Mr. A. J. WALTON viewed with apprehe sion the movement, especially on the Continent, towar these partial gastrectomies, which he thought not on dangerous but quite unnecessary. With regard to theori of ulcer formation, he considered hyperacidity an impo tant factor, and thought that a certain type of activ muscular, energetic man tended to get such hyperacidit and to increase it, by the way, by cigarette smoking.

CHRONIC NON-TUBERCULOUS INFECTION OF THE LUNGS.

AT a joint meeting of the Sections of Medicine, Surger and Laryngology of the Royal Society of Medicine o January 25th there was a special discussion on the trea ment of chronic non-tuberculous infection of the lung It was opened by Dr. L. S. T. BURRELL, who confined h remarks to three conditions—bronchiectasis, abscess of th lung, and pneumomycosis. In a mild case bronchiectas might cause the patient little if any inconvenience, and th treatment should not expose him to greater risk than th disease. The cause should first be looked for, and, if foreign body, removed. The simple means of postur drainage and creosote inhalations were often sufficient t cure. In more severe cases, if unilateral, and if the lun could collapse, artificial pneumothorax was successfu Phrenic avulsion had been practised with pneumothora especially if there were many diaphragmatic adhesions, bu in the speaker's experience had not been of much valu Aspiration and washing out of bronchiectatic cavities gav very good results; occasionally thoracoplasty was successfu but there were many disappointments. Partial lobectom by cauterization seemed to be a promising operation; bu lobectomy was extremely dangerous. An acute abscess o the lung would often yield to simple treatment by rest healthy conditions, and posture. When these were unsuc cessful artificial pneumothorax should be tried early After a time the lung could be allowed to re-expand, withou any return of symptoms. Sometimes a partial thoracc plasty became necessary. Dr. Burrell thought pneumc mycosis a rare condition. Recently, in a case with sign and symptoms of pulmonary tuberculosis no bacilli wer present, but persistent mycelia. The *x*-ray picture showe coarse mottling. The patient improved rapidly on larg doses of potassium iodide.

Mr. TUDOR EDWARDS described the *x*-ray appearance o an abscess connected with a bronchus. He thought arti ficial pneumothorax the best treatment, especially when th

abscess was near the hilum of the lung. At the periphery secondary infection of the pleura was liable to occur from breaking down of adhesions. Drainage of a bronchus was rarely satisfactory. In dealing with a case of abscess of the lung *x*-ray pictures should be taken from several directions. Drainage would be necessary for four to six weeks. There was a liability to secondary bronchiectasis. In chronic bronchiectatic abscess the bronchoscope should be used to eliminate the possibility of a foreign body. Mr. Edwards was against pneumothorax in bronchiectasis. Pneumotomy was better. The main wall should be opened with the cautery, and the cavity cauterized and packed. Sometimes a permanent fistula had been established. The cavities should be evacuated through the bronchoscope. Drainage through the chest wall was unsatisfactory. Phrenic avulsion might reduce the amount and fetor of discharge. In lobectomy the mortality was 50 per cent., and improvement in technique was required.

Mr. EWART MARTIN described the advantages of the bronchoscope in association with lipiodol injections. He noted the curious fact that in America foreign bodies were often found in the lungs, while in this country they were comparatively rare; but it was probable that many foreign bodies were overlooked. Bronchoscopy allowed of the localization of a lesion, the removal of pieces of tissue for examination, and the taking of swabs. It aided treatment for the removal of foreign bodies and for chronic infections. By its means aspiration and lavage of abscesses and bronchiectatic cavities could be carried out. Difficulties in aspirating from the upper lobe could be met by special tubes.

Dr. K. D. WILKINSON thought the etiology of bronchiectasis should always be considered. He had had little experience of foreign bodies as a cause. The disease, he thought, often began in children as a sequel to pneumonia or influenza. Early diagnosis was difficult, as there was no dividing line between bronchitis and bronchiectasis. There might be fetid pus without any dilatation being shown by lipiodol. Milder cases, especially in children, should be treated by postural drainage, creosote inhalation, and vaccines. His experience of artificial pneumothorax had been unfortunate. He had seen one success by drainage through the chest wall. The cautery was sometimes useful; and after the first cauterization there was no shock. In severe unilateral cases only surgical treatment could be of any use.

Mr. C. A. S. RIDOUT said that physicians had only recently begun to ask the [illegible]. Bronchoscopy was chiefly useful [illegible] showed a definite bronchiectatic area in one lung, or in both. Under local anaesthesia a series of bronchoscopies could be performed, one every few weeks, the tubes emptied by suction, and lavage subsequently employed. Mr. Ridout described the technique of the operation. He thought the emptying of the cavities was of more importance than the lavage. He had seen a patient die of acute oedema an hour or two after the lavage.

Mr. J. E. H. ROBERTS thought that a mistake had been made during the discussion in not distinguishing between various stages of bronchiectasis. Advanced cases could not be cured; and with improved diagnosis and treatment advanced cases ought not to occur. Prophylactic treatment should always be in mind. Cases of unresolved pneumonia and lung abscess should not be lost sight of, but carefully watched for developments. Foreign bodies should be removed early, and phrenic evulsion and vaccine therapy used where necessary. When a case was established the physician, the surgeon, the radiologist, and the laryngologist should work together. Cases were nearly always unilateral at first. If there was no cure in a few months phrenicotomy should be done as a preliminary measure. Thoracoplasty gave good results in early cases. Cauterization was a severe operation, with a mortality of 20 per cent. It might be questioned whether this operation and lobectomy were justifiable. Mr. Roberts favoured treatment by surgical crescendo—division of the phrenic first, then thoracoplasty, then the cautery, and lobectomy last of all.

Dr. F. G. CHANDLER called attention to the necessity of discriminating between chronic bronchitis, non-tuberculous fibrosis, bronchiectasis, pressure by an aneurysm, and even chronic abscess or an old empyema. Fibrosis might lead to bronchiectasis through traction on the bronchi. If progressive, the best treatment was artificial pneumothorax. The traction on the bronchi was released thereby. In other cases gomenol might be injected. Advanced bilateral basal "glove-finger" cases of bronchiectasis could only be treated by palliative measures. In a bilateral, rather advanced, lower lobe case, postural drainage and creosote had produced great temporary improvement. For other cases Dr. Chandler had used artificial pneumothorax and phrenic evulsion. He preferred to try all these measures before resorting to rib mobilization or thoracoplasty. Some cases of lung abscess cured themselves. In others treatment by artificial pneumothorax was indicated; but there was a risk of empyema. Drainage was the best treatment, if the pleura had first been made properly adherent by packing.

Mr. H. S. SOUTTAR described two cases to illustrate the need for always searching for foreign bodies. The first was that of a woman who had inhaled a mutton bone; the second case showed the advisability of exploring the chest in doubtful cases of long standing. If properly done the procedure was as satisfactory as exploration of the abdomen. Good adhesions should first be obtained by packing. A large area of the lung should be exposed. A large cavity should then be worked out with a cautery at a low temperature.

Mr. V. E. NEGUS considered bronchoscopy under local anaesthesia to be easily practicable with competent assistants. He had removed a fibroma, which had caused suppuration, from a secondary bronchus. The diagnosis of carcinoma was facilitated by the bronchoscope. Mr. Negus thought that the function of the circular musculature of the bronchioles was not sufficiently recognized, nor the part taken by swollen mucous membrane and by granulations in upsetting the normal mechanism. He showed diagrams to demonstrate the retention of pus in bronchiectatic cavities, and how irrigation might do more harm than good.

Dr. GEOFFREY MARSHALL said that the respiratory tract was well equipped with defences against infection; but that the defence might be broken down by the inhalation of a foreign body, gross structural changes, or repeated invasions by pathogenic organisms. He called attention to the bad results of prolonged drainage in empyema, and to the permanent damage sometimes resulting from acute pneumonia. He was of opinion that chronic bronchitis, localized in the upper lobes, was associated with sepsis in the nose, throat, or sinuses. He could find no mention of this in textbooks; but often the only cure for this form of bronchitis was to cure the sinuses.

Dr. HUGH THURSFIELD, who was in the chair, said that physicians had been told during the discussion that they did not send their cases early enough to the surgeon or laryngologist. The fact was that it was only during the last three or four years that surgeons or laryngologists had been able to give any help in the treatment of bronchiectasis. He thought the position of the laryngologist the more logical. He had noted also that in these cases a serious condition might sometimes develop in so short a time that it might be said that it was impossible to catch a particular case in its early stage.

Dr. STOLKIND recalled the case of a child with repeated attacks of pneumonia, in whom gangrene set in, and cauterization was attempted. The operation was unsuccessful, and *post mortem* a portion of a bone ring was found in the abscess.

Mr. TUDOR EDWARDS, in reply, dealt with some of the points discussed, and agreed with the necessity for air-tight drainage in empyema.

Mr. EWART MARTIN emphasized the advantages of introducing lipiodol through the bronchoscope. Other methods led to breaking up of the oily globules, so that under the *x* rays quite a different kind of picture might be produced.

Reviews.

HERPES.

IT is somewhat of a shock to realize that the vast amount of experimental work collected by LEVADITI in a monograph[1] reviewing the present position of knowledge about the pathogenesis of herpes is almost entirely a post-war growth. Levaditi's object is to give a detailed survey of the experimental work that has been done by himself and his colleagues, Harvier and Nicolau, and others, but he has done far more than this, for his monograph embodies the central ideas of one of the chief pioneers who have studied the nature and affinities of neurotropic viruses; and for that reason, as also because it contains his reply to recent criticisms, it will be welcomed by all who are in any way concerned with this elusive, fascinating, and rapidly developing branch of experimental medicine. The initial discovery in connexion with experimental herpes was made by an ophthalmologist, Grüter of Marburg, about 1911, who found that material taken from a dendritic ulcer of the human cornea was capable of reproducing this lesion on the cornea of the rabbit; that this herpetic keratitis was transmissible in series; and that it was due to a virus that was apparently specific and withstood 36° C., but was destroyed by exposure for half an hour to 56° C. Grüter did not publish his observation, nor did Kraupa, who confirmed it. In fact, the first publication was in 1919 by Lowenstein, who had obtained still further confirmation and had found that herpes material from a variety of sources produced this specific keratitis in the rabbit. Further confirmation by Doerr and others was now rapidly forthcoming, and it became established that the virus of herpes is capable of exciting a specific keratitis in the rabbit, materials from a large number of control cases being uniformly negative in this respect.

In October, 1920, Doerr and Vöchting noticed that rabbits affected by herpetic keratitis may develop nervous symptoms—symptoms that suggested an invasion of the central nervous system by the herpes virus. About this time Levaditi and Harvier succeeded in producing encephalitis in rabbits with a virus obtained from the brain of a human case of encephalitis lethargica, and in 1921 Blanc drew attention to the striking similarity in the effect of this encephalitis virus and of herpes virus respectively on the rabbit's cornea. Shortly after that Levaditi, Harvier, and Nicolau, and independently Doerr and Schnabel, succeeded in showing experimentally the identity of the herpes virus with that isolated by Levaditi and his colleagues from the brain of the human case of encephalitis lethargica. Levaditi deals very fully with the experimental properties of the virus of herpes, and in an historical review of the pathology of zona (as the French call herpes zoster) pays a well deserved tribute to the classical work of Head and Campbell. Consideration is given also to the result of investigations with material from cases of zona, and the conclusion is reached that the experimental transmission of this disease has not yet been achieved.

Among other interesting information and suggestive work we are told that rabbits affected by herpetic keratitis may develop an acute nasal discharge which contains the herpes virus. The observations reported as to the receptivity of man to cutaneous inoculation with herpes virus are also of considerable importance. It would seem that the greatest success was obtained in instances such as erysipelas or cerebro-spinal fever, where there appears to be a natural predisposition to acquire herpetic infection. Similarly in encephalitis lethargica the "takes" were good. On the other hand, in varicella all the attempts to produce a herpetic vesicle with material from herpes cases were negative.

It is particularly noteworthy that while Levaditi adheres strongly to the view that the virus of herpes and that of encephalitis lethargica are one and the same, he admits that it is possible that the virus obtained by him from the encephalitis brain may have been adventitious, thus affording an example of scientific candour and open-mindedness that is as inspiring as it is rare.

[1] *L'Herpès et le Zona.* Par C. Levaditi. Paris: Masson et Cie. 1926 (Med. 8vo. pp. viii + 388; 87 figures, 1 plate. 5s. 4d.)

"SHOCK-THERAPY" IN THE PSYCHOSES.

IN a volume entitled *Traitement des maladies mentales par les chocs*[2] Mlle C. PASCAL and M. JEAN DAVESNE record their extensive experience of the treatment of mental disease by the introduction of a variety of different agents into the organism in an attempt to imitate the effects of intercurrent disorders upon the psychoses. As every psychiatrist knows, these effects are sometimes remarkable, since a bodily illness, such as pneumonia or enteric fever, may bring about an amelioration or even a cure of an apparently hopeless case of insanity. The authors have applied "shock-therapy" to a large number of patients, both acute and chronic, and have utilized a number of different methods. At first the fixation abscess method, which consists in the provocation of a purulent focus by the subcutaneous injection of turpentine, was employed. Subsequently, the following agents were utilized for injection: colloidal metals; peptones; vaccines (polyvalent and aspecific); milk; nucleinate of soda; horse serum (haemostyl); and blood taken either from the patient himself (auto-haemotherapy), or from another patient in a state of remission (homo-haemotherapy). The technique of the various methods is fully described, and a description is given of the biological and clinical changes observed as a result of treatment. These therapeutic methods, it is stated, are free from danger, and have no harmful effects if the techniques indicated are rigorously carried out.

In an interesting chapter the authors discuss the manifestations of what they describe as "mental anaphylaxis," and endeavour to explain the nature of the psychopathic constitution in biological terms as a profound humoral and neuro-vegetation defect. The book is written in a spirit of hopefulness and enthusiasm, and the authors believe that the methods of investigation which they describe contain, not only the principle of the cure of the chronic psychoses, but also their secret. We can recommend this original and interesting monograph to the attention of psychiatrists.

REPORTS OF THE ST. ANDREWS (JAMES MACKENZIE) INSTITUTE.

THE third volume of the *Reports of the St. Andrews (James Mackenzie) Institute for Clinical Research*,[3] edited by Professor DAVID WATERSTON, is the first to appear since the founder's death, and Dr. Maitland Ramsay, who has devotedly undertaken the part of honorary director, gives, as is only appropriate, an eloquent account of Sir James Mackenzie's life and of those ideals in medicine which made him leave London at the zenith of his career there to take up pioneer work at St. Andrews. He compares him as "a man of many doubts" with Sydenham, and graphically describes how he delighted in astonishing visitors to the Institute by questions such as "How does cancer kill a man?" "Why does he die?"

Of the eleven other articles, the first, also by Dr. Maitland Ramsay, on ocular disturbances associated with signs of defective elimination, is not, as its title might suggest, a lecture concentrating on diseases of the eye, and should be read by everyone who desires information on the clinical manifestations of renal inadequacy, which was described by Sir Andrew Clark forty years ago. Illustrations of the effects of the condition are naturally taken from ophthalmology, and it is pointed out that toxic amblyopia exactly like that ascribed to tobacco may occur in lifelong abstainers from tobacco and alcohol. Dr. L. H. Bryson writes on the capillary system in relation to clinical symptoms, and, after summarizing recent knowledge on the subject, applies the theory of functional unit control to certain diseases. Dr. Alexander Hynd describes the observations made in the Chemistry Department of the Institute on the nature of urinary protein, specially in eclampsia; Dr. Norman M. Maclennan, late bacteriologist to the Institute, advocates the establishment of a closer

[2] *Traitement des maladies mentales par les chocs.* By C. Pascal and Jean Davesne. Paris: Masson et Cie. 1926. (5¼ × 7¾, pp. xv + 182. 2s. 6d.)

[3] *Reports of the St. Andrews (James Mackenzie) Institute for Clinical Research*, vol. iii. Edited by Professor David Waterston, M.D., F.R.C.S.E. Oxford Medical Publications. London: Milford, Oxford University Press. 1926. (Med. 8vo, pp. 227; frontispiece, 46 figures. 10s. 6d. net.)

relation between the sciences of chemistry and bacteriology, and together with Dr. J. H. P. Paton records some interesting clinical and haematological observations on mumps, such as that alterations in the total and differential leucocyte count have no diagnostic value. Dr. Paton also contributes four systematic studies made at a boarding school for girls, dealing with routine examination, the apparent size of the tonsil, the incidence of infectious diseases, and influenza. The work of the children's department is described by Dr. A. Rowand, who follows it by three studies of groups of cases collected from its records. The ischaemic type of pain, which is so well known in intermittent limp, is, in Dr. Orr's experience, much commoner than is usually believed, and cases of exhaustion are detailed by Dr. W. B. MacTier, who briefly discusses their origin. There is a well illustrated article on the radiology of duodenal ulcer by Dr. Paton and Mr. W. J. Smith, and Dr. A. Cancella d'Abreu of Lisbon, who attended the post-graduate course in June, 1925, contributes an article on viscero-sensory reflexes, and takes the opportunity of paying a tribute to the founder.

AN ATLAS OF CYSTOSCOPY.

DR. OTTO KNEISE'S *Handatlas der Cystoskopie*,[4] unlike many other works with a similar title, is really an atlas of cystoscopy. In other words, it consists of a collection of excellent coloured plates illustrating various pathological conditions of the bladder, with only an amount of text necessary to explain them. Several German handbooks on cystoscopy have already appeared, but it cannot be said that the majority of these are a credit to the country that produced the first satisfactory cystoscope. The plates in Dr. Otto Kneise's work are, however, of a higher order. Not only has the artist succeeded in portraying what he has seen through the cystoscope, but the makers of the blocks have succeeded in retaining the quality of the paintings in the coloured plates. This is by no means easy, as may be gathered from the hideous and overcoloured plates that are frequently found in atlases on cystoscopy. Another error that has been avoided in Dr. Kneise's atlas is the portrayal of rare conditions that are only met with once or twice in the lifetime of a genito-urinary surgeon. Interesting as it may be to a writer to record the discovery of an unusual cystoscopic condition, the inclusion of these rarities in an atlas of cystoscopy is of little use to the reader. What is required is the portrayal of various forms of normal bladder and of the commoner pathological conditions met with in urological practice. If the selection made by the author is to be criticized it must be on the ground that he has not been sufficiently generous in his pictures of the various types of normal ureteric orifices that may be met with. The commonest error made by the inexperienced cystoscopist is to mistake for an abnormality what is only a variation of a normal trigone, and for this reason the portrayal of the variations of which the healthy bladder is capable is of great value.

However, apart from this there is little that can be said in criticism of Dr. Otto Kneise's work. His atlas should be of great use to all students and practitioners wishing to familiarize themselves with the commoner conditions that may be met with in cystoscopic practice. The fact that the chief virtue of the work lies in the excellent coloured plates and that the text is of secondary importance will no doubt commend it to those who are not conversant with the German tongue.

HOLT'S "DISEASES OF CHILDHOOD."

The Diseases of Infancy and Childhood[5] by HOLT and HOWLAND, has established its position as a standard text-book, and the appearance of a ninth edition would in ordinary circumstances require only brief notice. But since the last edition (1922) both authors have died—Dr. Holt in 1924, after a long life, and Dr. Howland only last June, at the comparatively early age of 53. The work of preparation of the present volume was, however, complete before his death.

The first edition, which appeared in 1896, was then the most complete account of diseases of children in America, and gave a powerful impulse to the special study of the subject there. That premier position it has retained ever since, and it has widely extended its influence throughout the English-speaking world. The book's appeal was to the practising physician; it was the account of clinical experience, both in hospital and private practice; clinical phenomena were always referred to and based on pathological processes; and, wherever possible, statements were supported by the author's own statistics. In successive editions the book became a storehouse of facts, well arranged and expounded with a brief matter-of-fact precision, and drawn to moderate and well balanced conclusions. These qualities seldom fail to secure success, and in the case of this book success was rapid and lasting. Another feature of the book was its emphasis on the preventive side of medicine in childhood, and large sections were devoted to healthy growth and to the conditions of management that would secure it. As to the tangled subject of the feeding of sick infants, little space was given to theories of causation, schemes of classification, or elaborate dietetic formulae, but an adequate, clear, and helpful account was provided of the various clinical types, their pathology, their symptoms, and their treatment.

In 1911 Dr. Howland's name appeared also on the title-page, and he brought to the book his special knowledge of metabolism, biochemistry, and pathology. It was a happy alliance of the bedside and the laboratory. Holt himself in his later years turned towards laboratory studies on the dietetics of childhood. But the book continued to keep its predominantly clinical character, and under its combined authorship fully maintained its strong position, and also its original plan and arrangement. The new edition has been brought up to date and a few new subjects are included. To the world of medical science it is a notable memorial of Holt's life and work; but Dr. Howland's untimely death is a heavy loss, both to future editions and also to pediatrics.

HEREDITARY SYSTEMATIC DISEASES OF THE NERVOUS SYSTEM.

IN a work on the morphology and histology of hereditary systematic diseases of the nervous system[6] Professor KARL SCHAFFER expounds his theory that these affections are in reality due to one and the same process; their varied symptomatology depends, he thinks, on variations, in localization and course, of a lesion that is identical in all. He regards the fundamental lesion as a degeneration, and adopts the term heredo-degeneration to include the group. The theory has given rise to considerable discussion, and Professor Schaffer has spared no pains to support it by very complete and detailed descriptions of illustrative cases and a number of unusually clear photographic plates. He recognizes that the ultimate proof of heredo-degeneration must rest on the family history, but he claims that heredo-degeneration has certain characteristic features which serve to distinguish it apart from the history. A family history is not always obtainable, and, moreover, it must be admitted that heredo-degeneration may appear *de novo* by way of mutation, and in these circumstances the family history would be negative. The characteristic features of heredo-degeneration are, according to the author:

1. The presence of a particular form of degeneration.
2. Its blastodermic electivity, the ectodermal being picked out to the exclusion of mesodermal.
3. Its system-electivity, certain definite strata or functionally related groups of neuronal elements being affected.
4. Its segment-electivity, certain definite segments of the nervous system—hemispheres, cerebellum, cord, and so forth—being involved.
5. The degeneration must be in its origin endogenous in the nervous elements; the proof of the presence of an exogenous poison as the cause of the neuronal degeneration would exclude

[4] *Handatlas der Cystoskopie.* Von Dr. med. Otto Kneise. Zweite Auflage. Leipzig: G. Thieme; London: H. Kimpton. 1926. (Med. 4to, pp. 119; 18 plates, 106 figures. 42s. net.)

[5] *The Diseases of Infancy and Childhood.* By L. Emmett Holt, M.D., Sc.D., LL.D., and John Howland, A.M., M.D. Ninth edition, revised and reset. New York and London: D. Appleton and Co. 1926. (Med. 8vo, pp. xiv + 1018; 157 figures, 5 plates. 35s. net.)

[6] *Histopathologie der Hereditaer-Karl Schaffer.* Monographien und Psychiatrie. Heft 46. pp. 253; 135 figures. R.M. 24.)

a case from the group of heredo-degenerations. For instance, a lenticular degeneration of hepatic origin, although showing hereditary features, is exogenous as far as the nervous system is concerned.

The fundamental lesion affects both the neuronal elements and the glia cells. The nerve cells, in the more acute conditions, exhibit a marked swelling of the cytoplasm, with an abundant deposit of lipoid granules; the endocellular reticulum is destroyed, the Nissl bodies disappear except immediately around the nucleus, and the latter exhibits pyknotic changes. In more chronic cases the swelling is less marked and may be local within the cell. It is somewhat characteristic that the swelling, especially in the acute condition, affects not only the cell body, but also the dendrites. The branched glia cells exhibit similar changes and, in exceptional cases, may show increased fibrillation, resulting in sclerosis. The unbranched glia cells proliferate and, in the author's opinion, take part in the removal of the degenerated nerve cells. In purely chronic conditions the nerve cells appear to undergo pyknosis and atrophy, and are finally removed by the action of the unbranched glia cells. Hereditary spastic spinal paralysis may be taken to illustrate the application of the author's theory. That this disease comes under the heading of systematic heredo-degenerations is, the author thinks, shown by the following facts, which, he holds, can be demonstrated in the cases examined.

1. The neuronal elements alone are affected, to the exclusion of any causal changes on the part of the connective and vascular tissues. There is, therefore, blastodermic electivity.

2. By virtue of the primary systematic affection of the pyramidal tracts a system electivity is present; this, in cases of pure primary lateral sclerosis, is a single-system affection, but it may become a combined systematic affection if Goll's columns are also involved. But even in cases of pure lateral sclerosis there is in reality a combined system-disease, since two cortical systems are, according to the author's observations, also affected—namely, an intracortical associative system corresponding to the third layer of the cerebral cortex, and a cortical projective system, corresponding to the fifth layer and the pyramidal fibres proceeding from it.

3. Pure lateral sclerosis has its starting-point in the cerebral hemispheres, and therefore exhibits a segment-electivity.

Conclusions of a similar kind are reached with regard to hereditary chorea, progressive muscular atrophy, spino-cerebellar ataxia, Friedreich's ataxia, and the infantile, juvenile, and adult forms of familial idiocy. The author sums up the results of his observations in two propositions: (1) Systematic heredo-degeneration has a developmental basis, as indicated in the anatomical triad of blastodermic, segmental, and systematic electivity; (2) the primary seat of the affection is the neuronal cytoplasm, the lesion taking the form of swelling, with subsequent destruction of the cell. The anatomical triad constitutes the general, the swelling of the cytoplasm the special sign of heredo-degeneration in its morphological aspect. There is, he admits, a class of cases which bears a general resemblance to those of heredo-degeneration, but in which the cell changes are teratological instead of degenerative. An interesting case of the kind—one of non-familial idiocy—is described. Certain neuronal systems were absent and the general histological architecture of the brain was abnormal. Such cases have to be distinguished from those of heredo-degeneration, the degenerative changes in the nerve cells, above mentioned, being absent.

"BRAIN."

THE new issue of *Brain*[7] (Part IV of vol. 49) contains an article on the pituitary adamantinomata (from the National Hospital, Queen Square) by Drs. Macdonald Critchley and Redvers N. Ironside. These tumours arise in the neighbourhood of the infundibulum from epithelial remains of the foetal cranio-pharyngeal duct. After giving a short account of the development of the hypophysis and infundibulum the authors describe the clinical and pathological features of seven cases they have observed. Changes in the appearance of the sella turcica as seen by *x* rays are almost constant, and in addition shadows due to calcified areas in the growths are very characteristic. Acromegaly does not occur, but adiposity with infantilism or sexual regression are common, lethargy is frequent, and pressure on the optic tracts produces various defects of the fields of vision.

Dr. Richard Irvine Poston, of the Ancoats Hospital, Manchester, discusses the occurrence of vestibular phenomena in epidemic encephalitis. He describes an interesting series of cases exhibiting spontaneous vertigo in the acute or chronic stage of the disease, and includes an historical reference to epidemics of vertigo occurring at various times in France, Switzerland, and Japan, which bear a close resemblance to groups of cases arising in recent epidemics of encephalitis. The view is put forward that many of the ocular phenomena of encephalitis are due to disturbance of the vestibular nucleus or its connexions rather than to disease of the ocular nuclei. An account is given of the writer's investigation of cases of encephalitis by the Babinski-Weil tests of vestibular function. Dr. Douglas McAlpine gives an account of investigations carried out in the laboratory of the Hospital for Epilepsy and Paralysis, Maida Vale, on the anatomo-pathological basis of the Parkinsonian syndrome following epidemic encephalitis. Details are given of the pathological findings in eight cases, in which the only constant lesions were found in the cells of the substantia nigra of the mid-brain; no noteworthy changes were found in the basal ganglia, though in the earlier stages of the disease these ganglia are affected by the inflammatory process in common with the greater part of the brain and brain-stem. Some results of faradic stimulation of the cerebellum in monkeys and armadillos are extracted from the unpublished writings of the late Dr. R. H. Clarke, who collaborated for several years with Sir Victor Horsley in his experimental work. Movements were obtained especially of the head and eyes, but also of the trunk and limbs. Very strong stimuli were required when applied to the cortex, but when the needles were inserted deeply towards the roof of the fourth ventricle movements were obtained with small currents. These papers show that, contrary to their original and published opinion, Horsley and Clarke concluded finally that all these movements were due to spread of the stimuli to motor centres in the vicinity of the cerebellum, and that they afford no evidence for the existence of motor centres in the cerebellum itself, either in the cortex or the intrinsic nuclei.

[7] Published in London by Macmillan and Co., and in New York by the Macmillan Company. Yearly subscription in this country 24s., to be sent to Messrs. Macmillan, St. Martin's Street, London, W.C.2. Price of this part 6s. net.

NOTES ON BOOKS.

THE fifth German edition of the classical work by Professor HAJEK on the *Nasal Accessory Sinuses*[8] was recently reviewed in this JOURNAL (July 31st, 1926, p. 204), and the appearance of a translation will be welcomed by his English-speaking colleagues. The translation by Dr. HEITGER and Dr. HANSEL has been well done, and has certain advantages over the original, being divided into two bound volumes, making it more attractive in appearance and more convenient to handle, whilst the printing, paper, and reproductions of pictures are of excellent quality. Much of the information which has been added in the form of footnotes might with advantage have been embodied in the text. The most instructive portion of the book is perhaps the exhaustive and well illustrated study of the anatomical variations of the accessory sinuses; proper appreciation of the pathological changes and their surgical treatment must have such a foundation as is here provided. The various methods of taking skiagrams of each group of sinuses are described in detail and their interpretation discussed. The explanation of anatomical details is assisted by plates illustrating various difficult points. Diagnosis and treatment are discussed in connexion with each group of sinuses, the author basing himself partly on long personal experience and partly on the voluminous literature of the subject. The whole is so well balanced and arranged that everything is in proportion and free from the repetition which is a common defect of big books owing to a desire to leave nothing unsaid. The book is quite without a rival in its particular subject.

[8] *Pathology and Treatment of the Inflammatory Diseases of the Nasal Accessory Sinuses.* By Professor Dr. M. Hajek. Translated and edited by Joseph D. Heitger, A.B., M.D., and French K. Hansel, M.D. M.S. Fifth edition, completely revised and enlarged. London: H. Kimpton. 1926. (Sup. roy. 8vo: Vol. I, pp. xvi + 294; 7 plates, 130 figures. Vol. II pp. viii + 408; 56 figures. 75s. net the two volumes.)

On first opening Dr. BALYEAT'S book on *Hay-Fever and Asthma*[9] the reader cannot fail to be struck by a series of illustrations, designed to impress upon his memory certain common causes of these complaints. Thus there is a family of cats sunning themselves on the steps just prior to entering the house, whose inhabitants may suffer in consequence. Then there is a boy playing with a dog, a frequent cause of his asthma. Next comes a horse, Kentucky bred, to show that horses may cause asthma, and so on. The last of the series depicts a lady seated before a mirror. Her right hand is stretched out to pick up the powder-puff from the dressing-table, for she is about to powder her nose, and the orris-root in the powder may give her asthma. These and other illustrations equally ridiculous and conspicuous give an altogether false impression of the book, for the text is excellent. Dr. Balyeat practises in Oklahoma, and gives a thorough account of the local flora in relation to asthma and hay-fever, laying stress on the fact that the important plants are inconspicuous with air-borne pollen, whilst plants with brilliant flowers, such as roses, pollinated by insects, are often unjustly blamed. It is clearly important that those who make a study of these diseases *should be acquainted with the botany of the locality.* The book is intended to give an account of the nature and treatment of asthma and hay-fever in simple language mainly for the benefit of patients, and the author has accomplished this very well.

Drs. ROBERT DUPONT, ROGER LEROUX, and JEAN DALSACE have provided[10] in a succinct and convenient form a guide to the clinical methods of obtaining material for examination in the laboratory, as, for instance, by the performance of lumbar and pericardial puncture, both of which are illustrated by diagrams. Pathologists and bacteriologists, but the latter perhaps in particular, often suffer from the manner in which specimens are collected and transmitted to them, and they will no doubt desire that this handbook should have a wide circulation. The first part deals with haematological, bacteriological, and other examinations, and the remaining portions with biopsies. Professor G. ROUSSY, in his preface, says that this is the first time that a book of the kind has described the technique of biopsies with the immediate microscopical examination during the course of an operation of tissues, so as to inform the surgeon, for example, whether he is dealing with an innocent or malignant growth. This may be true of France, but the latter method has often been advocated and described in this country, especially by Dr. E. H. Shaw, and in America. The risks that have been attributed to the method are discussed, and in connexion with the belief that generalization of a malignant growth may be thus started the authors state that they have done thousands of biopsies without observing this accident. It is perhaps a natural sign of the times that the price is stated, not in francs, but as two shillings.

Mr. GEORGE MULLINS, in his book *Unemployment*,[11] advances the view that unemployment has resulted from failure to co-ordinate agricultural with industrial production. If the agricultural labourer produces food, not only for himself, but also abundantly for the industrial dweller in towns, and so sets a high standard of living, he utilizes the services of many craftsmen, with the betterment of efficiency and enrichment of the lives of the members of the community. For a long time past agriculture has been depressed, wages are low, and labourers flock to towns; with the result that there is really a world shortage of food, and the advance guard of civilization starves. And the form of its starvation is unemployment. The remedy Mr. Mullins proposes is that the industrial worker shall be made to resume a proportion of his original work of food production. New factories should be built on large areas of land, and the workers housed in cottages with a half to one acre of ground to each house. The workman would be employed for a seven-hour shift in the factory for five days a week. A certain number of hours each week would be devoted to the cultivation of his land for the production of vegetables, fruit, honey, pigs, rabbits, and goats. The labourer would be required to acquire the freehold of his cottage, and would only be allowed to dispose of it to another labourer working on similar terms to himself. He would also be given a share in the profits of the company, not in cash, but in shares, which he would not be able to sell while he retained his work, though they would become equal to ordinary shares if he left his job. It will be seen that Mr. Mullins combines in his remedy several modern efforts for improving the lot of the worker; and that his views on food shortage are borne out by Sir Daniel Hall's remarks at the meeting of the British Association last summer.

Dr. KURT SCHNEIDER'S studies of registered prostitutes[12] consist of two parts. The first contains details of seventy women arranged in twelve psychiatric groups according to their degree of impulsiveness, restlessness, and mental defect. The second presents a composite picture of the life-history of these women considered under the three periods of childhood, the stage between leaving school and registration, and their life under the control of the police. An appendix by Dr. LUISE VON DER HEYDEN gives detailed information of the subsequent history of 62 of the 70 women; 19 were still under police control eleven years after completion of Dr. Schneider's inquiry, while 43 had been taken off the books in consequence of marriage or the assumption of a respectable occupation. The work is a valuable contribution to the psychological study of the prostitute, and as such will appeal alike to the psychiatrist, the criminologist, and the sociologist.

[9] *Hay-Fever and Asthma: A Practical Handbook for Hay-Fever and Asthma Patients.* By Ray M. Balyeat, A.M., M.D. Philadelphia: F. A. Davis Company. 1926. (Post 8vo, pp. 198; 27 illustrations. 2 dollars.)

[10] *Technique des prélèvements et des biopsies dans la pratique clinique.* Par Robert Dupont, Roger Leroux, et Jean Dalsace. Préface du Professeur G. Roussy. Médecine et chirurgie pratiques. Paris: Masson et Cie. 1926. (5½ × 7¾, pp. viii + 142; 50 figures. 2s.)

[11] *Unemployment.* By George W. Mullins, M.B.E. London and New York: Longmans, Green and Co., Ltd. 1926. (Demy 8vo, pp. xiii + 140. 6s. 6d. net.)

[12] *Studien über Persönlichkeit und Schicksal eingeschriebener Prostituierter.* Von Dr. med. et phil. Kurt Schneider. Zweite durchgesehene Auflage vermehrt um einen Anhang. Die Späteren Schicksale. Katamnestische Untersuchungen von Dr. Rer. Pol. Luise von der Heyden. Berlin: J. Springer. 1926. (Sup. roy. 8vo, pp. ix + 281. R.M. 18.)

PREPARATIONS AND APPLIANCES.

A Safeguard for the Water-cooled Mercury Vapour Lamp.

Dr. M. WEINBREN, medical officer in charge of the ultra-violet department, Queen's Hospital, Sidcup, suggests an arrangement for protecting the water-cooled mercury vapour lamp (Kromayer type) from the destruction which would result if the lamp was allowed to burn without there being circulation of water. To prevent this accident he inserts a red lamp in parallel with the Kromayer lamp, and controlled by the same switch. This red lamp is suspended from the water-tap, and lights up when the Kromayer lamp is switched on. If, through carelessness or accident, the water has not been turned on, the lighting-up of the red lamp immediately draws attention to the tap. Dr. Weinbren adds that, while an apparatus could be designed which would automatically switch on the water as well as the current, this apparatus would be rather complicated and expensive. The red pilot lamp serves the same purpose equally well, and only costs a shilling or two.

ROYAL MEDICAL BENEVOLENT FUND.

AT the last meeting of the committee forty-four cases were considered and £769 13s. 6d. voted to forty applicants. The following is a summary of some of the cases relieved.

Widow, aged 36, of M.B. who died suddenly in November last. Left with one child, aged 2, entirely unprovided for. Has recently had a major operation herself, and will not be fit for work for six months. Late husband had to help to support his mother and sister, which debarred him leaving adequate provision for his wife and child. Emergency grant of £10 sent, and a further sum of £26 in four instalments was voted.

L.R.F.P. and S., aged 84, with wife, aged 80, who is paralysed and helpless. Only income £12 from investments; old age pension £52. Allowance of £90 per annum from younger son, who also pays for the maintenance of elder son in a mental hospital. Elder daughter, aged 51, is at home and looks after her parents, while the younger earns 25s. a week in a warehouse. Rent and rates amount to £36 per annum. Emergency grant of £10 made, and a further sum of £40 in twelve instalments voted.

Daughter, aged 52, of M.D. who died in 1874. She lost money on a boarding house which had to be given up at the end of nine months. Teaches music, but from lack of pupils asks the Fund for assistance. She is lame. Voted £18 in twelve instalments.

Widow, aged 65, of L.R.C.P.Ed. who died in 1919. Applicant has worked as a deaconess for years until August last, when she had to give up on account of leg trouble. Total income £90 per annum. Rent 11s. a week. Voted £26 in twelve monthly instalments.

Widow, aged 45, of M.R.C.S. who died last November. Left with girl of 14 and boy of 12. No private income, and only £100 from insurance. Has had £150 from mother-in-law, but it is uncertain whether this will be continued. Now lives in three rooms at a rental of 12s. a week. Voted £20.

Widow, aged 53, of M.D. who died in December last. Left with six children aged 11 to 21. Only the eldest one earning. One son studying the law, others at school. Voted £20.

M.R.C.S., aged 73, has had to give up work on account of old age and deafness, and has just lost an allowance of 10s. a week through the death of a sister. Has the old age pension. Wife has a post in a school. Children unable to help in any way. Voted £40 in twelve monthly instalments.

Subscriptions may be sent to the Honorary Treasurer, Sir Charters Symonds, at 11, Chandos Street, Cavendish Square, London, W.1.

The Royal Medical Benevolent Fund Guild still receives many applications for clothing, especially for coats and skirts for ladies and girls holding secretarial posts, and suits for working boys. The Guild appeals for second-hand clothes and household articles. The gifts should be sent to the Secretary of the Guild, 58, Great Marlborough Street, W.1.

A MEDICAL REVIEW OF SOVIET RUSSIA.*

V.—THE MEDICAL PROFESSION, SOVIET SCIENCE, AND SOVIET SANITATION.

BY

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(Formerly Chief of the Medical Division of the American Relief Administration, Leningrad Unit.)

PART I.

SOCIAL CONDITIONS, 1914-1922.

IT will be interesting to the physicians of other countries to know of the personal life and work of their colleagues in the U.S.S.R. (Union of Socialistic Soviet Republics). Before describing their present condition I shall give a brief review of their life during the past decade.

After 1914 there was a gradual decline in the standard of living in Russia. By 1917 deprivations had become chronic. Then the exhaustion of two revolutions, blockade, famine, and disease precipitated wholesale misery, from which Russia is just beginning to recover. What corresponded to the worst period in the rest of Europe was only the prelude to the Russian experiences. It is important to remember not only the intensity of this suffering, but its duration. A barefooted, tattered Russian physician said to me in 1922, on receiving an English newspaper, "It has been so long since I have even heard of anything civilized it seems like hearing from another world." Another doctor said he was so accustomed to going all day without anything to eat that he never felt hungry (in 1924) when he missed a meal. In Russia as early as 1916 there were four meatless days a week, and sugar had entirely disappeared in many districts. Salaries had been raised 20 per cent., but the cost of living had doubled or trebled.[1] During the great war there were fewer Russian doctors but more Russian wounded than in other countries.

When fighting with Germany ceased the Russian physician was mobilized into whatever army was occupying his section of the country—whether white, red, or allied. This civil war and proletarian revolution, which lasted with some intermissions until 1922, left the population without medical assistance, and country medical clinics were closed and disorganized.

The declared purpose of the second revolution was socialism through the elevation of the proletarian, and the destruction of the social superstructure. It brought disaster to all those who lived on a higher level, and lowered the standard of life to that of the peasant.† The doctor's position was more hazardous than the peasant's, as shown by his higher death rate.

When fighting was over and Communistic rations were abandoned (end of 1921) the physicians returned to their former positions, often without remuneration. The official salaries were too little to live on, and were often paid several months late, and the population had no money to pay for private practice. If any valuables had been retained, they were sold for food. Well known professors and clinicians became destitute, and in 1918-20 many physicians entered the hospitals with hunger oedema, and death from starvation became frequent. Though the official ration often did not suffice for one person, it had to be divided among the family, and a medical practitioner, in order to sustain himself, had to hold several appointments, hurrying from one to the other on foot through the snow, going several miles to get a pound of bread.‡ At one time it was the duty of a physician to work in at least three places, and if he did not he received a compulsory appointment.

Later on, in spite of the shortage of doctors in Russia, there was unemployment in their ranks because they could not pay for a State licence as there was no paying practice. Some gave language lessons, did manual labour, etc. In April, 1923, 400 physicians were registered as unemployed in Leningrad.

During the period of epidemics the death rate of physicians was much higher than that of the rest of the population. A dean of a university told me that "they were taken ill in masses. One city lost 42 physicians out of 300 in one winter." In a single clinic of Moscow in a few days there were eight cases of typhus, ending with the death of Professor M. and his assistant. In another clinic Professor S. was the only one to survive. In one of the clinics of the Military Medical Academy (formerly the clinic of Professor Sirotinin) every doctor died from typhus.

"In Odessa, in one month of the spring of 1922, out of 92 doctors engaged in examining children for the American relief kitchens, sixteen caught typhus. This is the more spectacular side; the more important part of it is that in many of the districts where the after-effects of the famine are worse, there is not more than one doctor for 100,000 persons." (S. M. Keeny.)

During the war there were 24,000 doctors in Russia. About 50 per cent. of them suffered from typhus, and 3,000 died of this disease alone. This high mortality has been attributed to a peculiar susceptibility of the nervous and vascular systems in physicians. Professor Chernoroutsky says, in a personal communication: "Other infections which have no special effect on the nervous system give an average prognosis, but typhus, meningitis, etc., have a bad prognosis. For in medical men the mortality of typhus between the ages of 50 and 60 was 87 to 100 per cent., compared with 33 to 50 per cent. for other people." The following table from the Obookhoff Hospital, Leningrad, shows their high mortality compared to others.

Occupation.	Number.	Morbidity (Typhus).	Mortality (Typhus).	Percentage Mortality of Total Number.
Surgeons	24	12=50%	3=25%	12.5%
Physicians ...	80	40=50%	8=20%	10.0%
Sisters	95	60=52%	10=16%	9.6%
Servants	416	91=25%	28=23%	6.6%
Nurses	827	257=30%	30=11%	3.6%

Dr. Semashko states that "during the height of the epidemics of typhus and relapsing fever practically 100 per cent. of the doctors on the Eastern Front were stricken, and their mortality was 70 per cent."[2]

The increased morbidity and mortality of the physicians can be explained, according to Professor Grekoff, by their extreme exhaustion and by the hard conditions of their life. But in spite of his difficulties the fact that the physician had some useful work to perform acted as a mental stimulant. A well known physiologist, who had had hunger oedema in 1920, told me that his work had kept him alive. In many families I noticed that those who had nothing to do died sooner of starvation than those who were working, although they had the same amount of food. As a contrast to the physician was the pitiable mental condition of those who had no work.

Scientific Work.

Scientific work almost ceased.

"Constant anxiety for food and fuel, endless waiting in queues, a half-starved beggarly existence could not but strongly affect the life of scientists. From 1918 to 1920 they, as well as all the other inhabitants of the cities, never left their houses without a bag on their backs in which to bring home bread, potatoes, etc., received as rations. An eminent professor lived the winter through in his bath-room, as it was the only place that could be heated. It was a usual thing for men of science to carry up to their apartments wood and water, and to empty the sewage, as the lavatories did not function."

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* Previous papers on medical and scientific work in Soviet Russia by Dr. Horsley Gantt were published in the BRITISH MEDICAL JOURNAL in 1924: I, A Review of Medical Education in Soviet Russia, vol. i, p. 1055; II, Hospitals and Health Conditions, vol. ii, p. 336; III, Scientific Work, vol. ii, p. 533. The first part of section IV, on "Change in type and incidence of disease," was published on August 14th, 1926, p. 303; Part II of this section was commenced on October 23rd (p. 747) and concluded on October 30th (p. 802).

† For an accurate, first-hand account of contemporary peasant life, see M. G. Hindus, *Broken Earth*, 1925, International Publishers, New York.

‡ A professor in a large university told me he was delighted on one occasion to receive two pounds of butter for a lecture, after walking eight miles.

Professor Bechtereff states that the neuro-psychical energy of an organism decreases with the decrease of nutrition. A general depression of personality results, with passivity and a lack of will power. In 1923 one of the survivors wrote:

"Besides resulting in a high mortality among the scientists in Leningrad—the centre of mental life of the country—these hard years decreased the capacity and energy of those who survived."

Leaving aside the difficulty of working in unheated laboratories, examinations could not be done owing to the lack of gas, water, and illumination. There was a total absence of both Russian and foreign literature.*

"In order to write down one's observations one had to use grey paper of a bad quality which was stealthily bought from speculators (trading being prohibited). The home-made ink was usually prepared out of some dye hardly suitable for the purpose."

Many scientists left Leningrad or were employed in some other kind of work. But,

"notwithstanding all the terrors, scientific life did not cease altogether. During the most difficult periods one could see men of science working in their overcoats, fur caps, and snow-shoes. Half-starved men continued to carry out their experiments on half-starved animals. Dead animals were cooked and fed to the living. After an operation the animal was often taken home for the night to be kept near the stove with the investigator."

Scientific meetings were held, although the members had to go on foot and to sit in overcoats. Often a lamp or candle had to be used instead of electricity. By the end of 1919 scientific life began to revive. In spite of the bad conditions several new scientific societies were formed during these years and important work was carried on.

In some institutes lack of money and equipment continued. Professor X. told me that when he went to a university library to work during the winter of 1923-24 the ink was frozen, and that during part of the time when he was lecturing the temperature was 10° C. below freezing; but the students continued to attend in spite of the cold.

The members of the Russian medical profession during these years gave themselves freely and often without any pay. They rendered the people no small assistance in checking the epidemics and carrying on other sanitary measures. Although foreign relief supplied much of the material and sometimes the organization, the actual work was done by the natives, as the number of foreigners was too small to count for more than a stimulus.

Worthy of mention is the uprightness and unselfishness of the Russian physicians during these horrible and hopeless years. This was at a time when the strain of living was so great that some of the population were driven to eating human flesh and even killing members of their own family. In distributing large quantities of relief supplies through the Russian physicians, I never knew of a single case of theft by them, although they were in dire need. There were many cases of heroic unselfishness, such as the following from Vologda, a town of 50,000 inhabitants near Archangel. On an inspection trip there we found the chief surgeon, among others, in great need. He had not had a new suit or overcoat for ten years. He was wearing trousers that were more patches than pants, and out of his salary of less than a pound sterling monthly (in April, 1923) he had a wife and nine children to support. On returning to Leningrad we sent him (and some other doctors there) a relief clothing package. A few days later we received a gracious letter saying that he had given the package to a colleague more needy than himself, enclosing a letter of thanks from the recipient.

As late as September, 1925, I have seen research workers paying one-half of their monthly salary for paper to chart their results, and many professors give part of their salary to support the laboratory where they work.

Present Conditions.

Since 1922 there has been a gradual improvement in both living and working conditions. Fighting and famine are now past, and order has been restored. The currency has been stabilized, and salaries, though small, are paid regularly. As the former war communism has been abandoned in a certain degree, many of the more famous doctors are now better off. Unemployment of doctors has disappeared, except for those recent graduates who prefer living in the cities to working in the villages. A full professor receives now 80 to 150 roubles (£8 to £15), an assistant about half as much, the younger clinical clerks 20 to 40 roubles (£2 to £4). Young scientific workers receive nothing, or from 7 to 100 roubles (less than £1 to £10). These salaries are without rations. Manufactured articles and clothing are considerably more expensive than in England; plain food and room rent are somewhat cheaper. Besides the loss of personal property and private income, professional salaries have dropped to one-half or less, and the cost of living has doubled or trebled compared with the pre-war standard. The population is divided into categories; the cost of lodgings, train tickets, telephones, etc., depend upon a person's category—that is, whether he is in Government employ, a member of a union, in private business, and so on. In 1926 (June) the cost of living had risen about 40 per cent., and salaries about 30 per cent., over 1925; on foreign articles there is a prohibitive duty (300 to 2,000 per cent.); for example, a lemon cost in the summer of 1926 as much as 8 shillings.

The physician's condition is considerably better than in 1922-23, when his daily income was equal to seven times his tram fare, or one pound of sugar, and his yearly salary equal to the cost of two overcoats.

Even at present it is impossible for a person with a family to do more than stave off actual starvation on the official salary. However, he supplements this; for during the past few years the Russian physician has learned many ways of making two ends meet. In the first place, most of the eminent professors have three posts, in spite of the ruling that no one may teach in more than two places. A few write textbooks.* Those not so eminent give language lessons, etc. Prominent clinicians have regained their practices and are making a comfortable living.† Those physicians who are old or cannot obtain outside work are still in dire circumstances; no one has become rich. I do not know of a single doctor in Russia who possesses a motor car. Automobiles owned by the Government are, however, at the disposal of the officials of the public health department. Communists receive 193 roubles monthly, in addition to many privileges, and have some other opportunities of earning money. A prominent Communist doctor who occupied several positions told me in 1925 that the maximum he was able to earn was 400 roubles a month. This general lack of wealth mitigates, by comparison, the misfortune of the poorest. Living in Russia is cheaper than the costs indicate, because the standards of life are lower and wants are reduced to a minimum.

When I asked a Ukrainian doctor in 1925 how he managed on his salary he replied, "By not eating much and going hungry." To one with an Anglo-Saxon appetite it does seem that the Russian physician gets along remarkably well on little more than weak tea at frequent and irregular intervals. The need for dressing is also reduced to a minimum, although it may be due to traditional tendency or personal preference rather than present finances that some appear at work without socks and shirts in the summer. The doctor also buys few books or journals, and

* "When a foreign journal reached Petrograd, those who desired to read it wrote their names in order and patiently waited the happy hour when their turn came." From December, 1918, there was only one medical journal in the whole of Russia for the next year.

* All textbooks are censored, accepted, and printed by the Soviet Government. Seventy-five roubles are paid for sixteen ordinary textbook pages, 20 per cent. of which is paid when the contract is signed, 60 per cent. when the manuscript is completed, and 20 per cent. when the book is published. As the book is the property of the State, there are no further profits for the author. Professor Pavlov received 25 roubles for each 8,000 words of his book on conditioned reflexes. For the special articles the Soviet Government desires written it pays, I understand, as much as ten times this amount.

† There are no rules prohibiting professors, the chiefs of hospitals, etc., receiving patients at their homes. The fee for an office visit is 1 to 5 roubles, and for a house call 2 to 20 roubles. A former surgeon to the Tsar's family told me that in 1925 he received 10 to 100 roubles for a major operation. Bills are not sent in Russia, but the patient (or his family) hands the doctor what he considers the proper amount as he leaves the house. Semashko states, "private practice in Soviet Russia is entirely free, although it is now not an important source of income, and it continues to decrease rapidly."

his amusements are limited. If his wife is lucky or clever, she too does some kind of remunerative work, such as teaching.*

Vacation and Recreation.

The lack of recreation and vacation has been trying to the Russian physician. It was out of the question for him to go to the theatre, club, etc.; for if any were open he had no money.† Except for the past three summers few, including Communists, have had any vacation for six to ten years. Professor Pavlov was two summers without a vacation. A Russian scientist whom I met in Denmark in the summer of 1924 told me that that was the first time he had been out of Leningrad for ten years. He was then travelling on the proceeds of a book he had just written. It is difficult to realize the strain of ten years without a rest or change even when one works under the most ideal conditions in the laboratory and lives comfortably at home.

There have arisen, however, many co-operative schemes which make life simpler and cheaper, such as rest homes for the summer. The Soviet Government bears the expenses of delegates to congresses, etc., and gives some of the eminent doctors and scientists money to go abroad for three to six months. The Kubu (director M. Leberde) was organized by the Soviet Government to extend aid to the scientists. At present it maintains an excellent club-house in Moscow, which may be used without fee by all scientists, and at which meals are provided at actual cost.

The extreme conditions of life of the Russian scientists may be considered a matter of historical interest, and the present exceptions are parallel to those of other countries when the general economic state is taken into consideration.

REFERENCES.

[1] *Russia in 1916*, Stephen Graham, London. [2] *Das Gesundheitswesen in Soviet Russland*, 1924, p. 24.

(To be continued.)

INTERNATIONAL LIST OF CAUSES OF DEATH.

As late as 1893 no two countries in the world used exactly the same forms and methods for the statistical classification of the causes of death. For international comparison of the death rates, for the public health, and for epidemiological purposes a uniform system of nomenclature was so obviously essential that in 1893, at the session of the International Statistical Institute held at Chicago, the late Dr. Jacques Bertillon, the distinguished French demographer and, we believe, the brother of the well known inventor of the method of identification by physical measurements, presented a draft of a classification of the causes of death for international use, which had been prepared by a special committee. This draft was at once generally approved, and, indeed, adopted promptly by several countries; it was further decided to keep the classification abreast of scientific knowledge by decennial revisions at the hands of an international commission appointed by the various participating countries. These meetings for revision were subsequently held in Paris in 1900, July, 1909, and in October, 1920, with Dr. Jacques Bertillon as permanent secretary-general. He was the originator and up to his death, soon after the last meeting of the International Commission, the presiding and guiding genius of this important undertaking.

After the second decennial revision the United States Bureau of the Census and this country both brought out in 1911 "A Manual of the International List of Causes of Death," and the same course has been followed after the third revision (1920) by the United States in 1924 and by this country in 1926. The delay in the issue of the present edition of the English manual is due to various circumstances, special to the British edition, in addition to the death of Dr. Bertillon. Dr. T. H. C. Steavenson, Superintendent of Statistics, General Register Office, adapted the 1911 manual for use in England and Wales. The present edition (1926) of the Manual,[1] which is adapted for Scotland, and Northern Ireland also, is issued, on the authority of the Registrars-General for England and Wales, Scotland, and Ireland, with a view to providing, for the use of public health officers, the medical profession generally, and any others interested, an official statement of the practice in force with regard to the classification of the causes of death in the several parts of the kingdom. There is still a lack of uniformity in the international methods of death registration, and at the third revision in 1920 a resolution allowed each country a certain amount of latitude in adapting to its own special requirements the model of an abridged list approved at the conference for revision.

The Manual enables the names of diseases as certified according to the method of the country to be assigned to their correct place in the international list of causes of death. Thus the General Register Office advises medical practitioners to use in their death certificates those terms only which are recognized in the Nomenclature of the Royal College of Physicians of London, for when this is done there is, as a rule, no difficulty in referring deaths to their proper heading in the International List of Causes of Death as now adopted for use in the Registrar-General's reports. At an international conference of vital statisticians held at Geneva in August, 1925, it was recommended that all the countries using the International List of Causes of Death should publish similar manuals containing lists of terms employed in certifying the cause of death. The Health Section of the League of Nations has now taken up the matter of improving the correlation of the death statistics of the various countries using the international list, for, according to the high authority of those responsible for the present manual, comparability "under present conditions must be to some extent apparent rather than real."

The International List of Causes of *Death* does not pose as an academic or scientific classification or proper nomenclature of *diseases*, but is intended to be a practical working list whereby the compilers of statistics can correctly tabulate the causes of death. The Nomenclature of Diseases drawn up by a joint committee appointed by the Royal College of Physicians of London is much more elaborate than the International List of Causes of Death; it includes certain symptoms and morbid states which seldom or never prove fatal; it is therefore clear that there is a considerable difference between a nomenclature of diseases classified as far as may be possible on a scientific basis and a list of causes of death. The difficulties in constructing a satisfactory classification of diseases on the ever-shifting sands of medical knowledge are so great that critics of the official Nomenclature have not been wanting, and there is full justification for the view that the time for any final attempt has not arrived.

The history of the official Nomenclature of Diseases is not without interest. The famous Dr. William Farr, who has been said to "have made statistics literature," finding Cullen's system, then in general use in the public services, not up to the knowledge of the time and unsuited for statistical purposes, prepared a "Statistical Nosology" (Registrar-General's reports, 1839-40), and in 1853 wrote a report upon a classification for death statistics to be used in all countries. In 1859 the Royal College of Physicians of London set up a joint committee to bring out a Nomenclature of Diseases, which duly appeared in 1869, and, being "subject to decennial revision," came out again in 1884, 1896, 1906, and 1918, so that in the natural course of events another, the sixth edition, is due next year. Whether any preparations for this are being made we do not know. As it has in the past been brought out for, and at the expense of, the Government, it may well be that the financial conditions are unfavourable. In the meanwhile the revised "Manual of the International List of Causes of Death" gives the medical man clear directions, politely called "suggestions," respecting the way in which death certificates should be filled up.

* One young scientist of my acquaintance who receives 10 R. (£1) monthly gets food from his mother in the country, and the chief of the laboratory gives him a few roubles from his salary of 60 R. monthly. Another, working in the laboratory of Professor Pavlov, lives by raising fancy dogs at home.

† In 1923, when I had the privilege of accompanying Professor Pavlov to the theatre, he told me he had not been for five years. A Russian physician abroad in 1924 told me he had not eaten in any Russian hotel or restaurant since 1917. Another said that his favourite recreation days was working in the laboratory at night.

[1] Manual of the International List of Causes of Death, as adapted for use in England and Wales, Scotland, and Northern Ireland. London: Published by His Majesty's Stationery Office. 1926. (Pp. xlvi + 135. Price 2s.)

British Medical Journal.

SATURDAY, JANUARY 29TH, 1927.

CANCER, RESEARCH, AND COMMON SENSE.

THE British Medical Association has been fortunate in obtaining the consent of Sir Berkeley Moynihan to deliver the first of the popular lectures it has instituted and associated with the name of Sir Charles Hastings, the far-sighted provincial physician who founded it nearly a century ago. He and the friends with whom he was associated were careful to define its objects so widely that the instruction of the public comes well within its scope. The President of the Royal College of Surgeons of England, who has often before taken an active part in the work of the Association, made an opportune choice in taking "cancer and how to fight it" as his subject, and we make no doubt that, though addressed to the public, his lecture will be eagerly read by members of the profession. It is published in full in the SUPPLEMENT this week. The discussion of the cause of cancer has both a pathological and clinical side, and on the latter no one can speak from an experience more extensive and varied than the lecturer. Most of us recognize that it has a sociological side also, and we shall have the better grounds for this conviction after studying the Hastings Lecture, and the admirable speech of the Minister of Health (p. 207), which made it plain that he has a sure grasp of the problem and of the way in which it should be attacked.

Increased interest in cancer has been forced on the modern civilized world by the increase in the number of cases, as shown by statistics, and by the fact that, as the lecturer said, probably few families escape it for three consecutive generations, so that nearly everyone knows of some relative who died of it. A demand that the increase shall be stopped and the number of cases diminished is therefore only in the nature of things. The public has lost the old fatalistic attitude towards disease, and is now very well aware that the best hope of prevention lies through knowledge of the cause. It has therefore been ready to listen to suggestions, some of them very dogmatically expressed, on the cause of cancer. Medical literature is encumbered by a mass of writings consisting of positive assertions about the cause of cancer which, when examined, turn out to be no more, or very little more, than assertions and reassertions of individual belief. A theory more or less plausible is propounded: all the facts that are in agreement with it are gathered together, and those which are not are ignored or brushed aside. For some cancer is an infectious disease; this, they hold, is obvious, and point to certain analogies between it and, say, syphilis. To others it is equally obvious that cancer is not infectious, that it is not due to the introduction of some external agent. Some find its cause in overeating, generally of meat; others in a failure of tissue nutrition attributable to a perversion or gradual lowering of the process, and these can point to the fact that cancer, though it may occur at an earlier age, is in the main a disease of later middle life. The public, as has been said, is deeply interested, and these assertions and theories have been finding their way into the newspapers and popular magazines. This is, of course, very natural, and, regarded from one aspect, very desirable, since the public needs to be educated; evil in it is working its own cure, for many of the theories are mutually destructive, and the intelligent layman is now disposed to ask whether any of them are of any value. A distinct change is also, we think, to be observed in the attitude of the skilled journalist, who, though he may publish the confident assertions so profusely made, has grown far less ready to father them and to blame the medical profession for not accepting them and acting upon them.

Sir Berkeley Moynihan discussed with great common sense—if we may use the phrase without appearing impertinent—the knowledge we have, both positive and negative, and drew two conclusions as to what can be done for and by this generation. For the man and woman of to-day the essential fact is that cancer is always at first a local disease—not a general, or, as some quacks advertise, a "blood disease." Therefore the treatment of cancer to-day is by removal of the primary lesion. If we do not yet know how to prevent cancer we know how to prevent its extension in the individual. The lecturer did not tell the public baldly, as some in search of a slogan have done, that "cancer is curable." He said that it may be cured if certain conditions are fulfilled, but that they can be fulfilled only if the individual knows and acts upon ascertained facts. The fear of cancer is very general and very deep, and often has an effect directly opposite to that which common sense would dictate. Elsewhere in this issue is the report of a case (p. 187) in which a woman suffering from a non-cancerous disease endured extreme pain and discomfort rather than go to a doctor for fear that she might be told that it was cancer. This state of apprehension is so common as to be within the experience of every practitioner, and the lecturer quoted with approval Mr. Hastings Gilford's statement in his recent book to the effect that this attitude must be wrong, and that failure to force the real facts into the consciousness of the public causes "the subject to assume forms in the imagination more terrifying than they actually are." As Sir Berkeley Moynihan said, "fear should be the fear of delay." Therefore it is that the Yorkshire Branch of the British Empire Cancer Campaign, the establishment of which with a sufficient capital sum at its disposal is so largely due to his own efforts, has realized the necessity for the education of the public.

His second conclusion is that a strenuous effort must be made at once to discover by research—"ceaseless research"—the cause or causes of cancer. Here much more is being done than even a few years ago. The hand was first placed to the plough by the clinicians and histological pathologists of the last quarter of the last century, who found out, with much labour, what the cancerous process really is. The ground was turned over again by the Imperial Cancer Research Fund, which applied the experimental method; and now research is being eagerly prosecuted in many places and by clinical, epidemiological, and laboratory methods. In London there are, in addition to the fund just mentioned, the wards and laboratories of the Cancer Hospital and of the Middlesex Hospital; in Manchester there is the organization of which an account was given a fortnight ago (p. 116); and for the whole country, or rather for the whole Empire, there is the British Empire Cancer Campaign, of which the Yorkshire scheme is a branch; in Liverpool, as our readers know, a courageous plan for treating cancer, when already present, is being tested. The three methods of research—the epidemiological, the clinical,

and the laboratory, must go hand in hand. Hitherto the clinical has gone ahead, but he who would seek to put it into antagonism with the others will do the cause no service.

CONTROL OF INFLUENZA.

IN February, 1919, during the great influenza pandemic, which surpassed all its predecessors in severity, the Local Government Board drew up a memorandum on the prevention of influenza. On July 1st of that year the Local Government Board became merged in the newly created Ministry of Health, and in the following December, when a further outbreak seemed possible, the Ministry issued to sanitary authorities a revised version of the memorandum. Now, seven and a half years later, in view of the prevalence of influenza in certain countries abroad, and the "possibility" (now unfortunately fulfilled) of the epidemic spreading to this country, a third edition has been prepared, and copies were circulated on January 19th.[1] The returns of deaths due to influenza are a good index of the severity of an outbreak, but the extent of its spread cannot be gauged like that of a compulsorily notifiable infection. It appears from a circular accompanying the memorandum that "neither the incidence of, nor the mortality from, influenza in this country is at present such as to cause serious anxiety." Nevertheless, though the cases are for the most part mild, as compared with those of 1918-19, all the indications, public and private, go to show that influenza is now very prevalent in England, and the number of deaths attributed to it has in fact been rising week by week. A concise statement of present knowledge about this baffling complaint, such as the Ministry of Health has now issued, is therefore timely.

As before, the memorandum is arranged in three parts. A short introduction, historical and epidemiological, precedes some general observations on influenza and the individual action required in times of epidemic, and these are followed by an outline of the steps that should be taken by sanitary authorities to combat outbreaks and assist the victims. The introduction has been brought up to date in various respects, mainly by showing in tabular and graphic form the history of influenza in England and Wales since 1919. The second part contains a good deal of new matter, and we note that some suggestions for personal protection have been modified. Thymol is now favoured for gargles and mouth-washes; face masks are no longer advised; and as for prophylactic vaccines, "such direct evidence as the Ministry has been able to collect does not encourage an optimistic view of their value." But it is in the paragraphs on the bacteriology of influenza that the great uncertainty of our present knowledge of this disease is most clearly brought to light. Negative statements abound. Thus: "No sure means are yet available for distinguishing the 'common or influenzal cold' from true influenza, nor is it yet certain that they are distinct clinical entities." And again: "No conspicuous advance has been made recently in our knowledge of the bacteriology of influenza. Opinion is still divided between adherents of Pfeiffer's theory and those who believe that the true causal agent is some other organism—probably a filter-passer. . . . The present outlook as to the primary causation, therefore, is not particularly hopeful."

If to know how little we know is the beginning of wisdom, then some progress has been made since the last pandemic. We have learnt that our ignorance about influenza is even greater than was supposed. But negative findings in a matter of such great public importance should act as a spur to further extensive and intensive research into the natural history of the disease, and into the character and life-history of its infecting agent. Prophylaxis fights with one hand tied behind its back so long as etiology is obscure. It is true that some attempt is made in the memorandum to answer the question why bacteriological progress is so slow, but this philosophical explanation will give cold comfort to the practical sanitarian. The common-sense advice on what a patient should do when attacked is helpful. Equally sound is the advice to local authorities on the steps they can usefully take during a wave of epidemic prevalence, with its insistence that the most important thing for them to do is to organize the available nursing service and provide help for influenza-stricken households. But all this only emphasizes the need for some practical and efficient method—based on knowledge—for preventing and controlling this readily communicated infection of the upper respiratory passages. It is therefore gratifying to read that since the *Report on Influenza* was published by the Ministry of Health in 1920 other investigations have been initiated under its auspices, and "a comprehensive study is being made of the flora of the nose and throat, with particular reference to the organisms associated with the complications of influenza, and the possibility of correlating changes in their distribution with the occurrence of epidemics." The present outbreak should afford opportunities for this kind of field work on a much larger scale than was possible under the war conditions of the last pandemic.

The essential difficulty of the situation is well put in the following passage: "As yet we do not know the nature of the living virus to which influenza is due. The laboratory has not yet given us a specific form of treatment of influenza or of protection against it." Since, moreover, no drug has been proved to have any specific influence as a preventive, it seems clear that a satisfactory means of checking the spread of this infection must await further and more intensive research.

[1] Ministry of Health Memorandum on Influenza. Revised edition. Memo. 2/Med. H.M. Stationery Office. 1927. 2d net.

VENTILATION OF "ALL-ELECTRIC" HOUSES.

WHEN Leonard Hill shut up his devoted hand in the hermetically sealed glass chamber till the percentage of oxygen had fallen so low that a match could not be ignited, he found that the uneasiness produced was at once relieved by the cooling effect of air set in motion by electric fans, and so proved in a convincing manner that the discomforts felt in vitiated air are due to its warmth and humidity, which interfere with the normal heat-loss of the body and so derange its function. The use of fans has been found beneficial for crowded halls, and in warm climates for habitations, but this can scarcely be recommended as conveniently applicable to the ordinary dwelling-house in this country. We therefore have recourse to ventilation, which replaces the warm moist air inside by cool and relatively dry outdoor air. Ventilation is good not only for comfort, but also as a safeguard against the spray infection by which many communicable diseases are spread, since the entering fresh air sweeps all ill things away, including the floating germs. The circulation of air through inhabited rooms has thus a double value. One of the best means to secure it is a flue or shaft opening permanently into the open air. In the form of a chimney its use has hitherto been practically universal in Great Britain for all houses great and small. With a good fire

burning the average chimney may circulate 20,000 cubic feet of air an hour. Without a fire, so long as the chimney retains its heat, a current of air moves steadily up it. Even after it has cooled down the blowing of the wind across its free opening acts as an aspirator for the room and keeps the air in continual movement. In rooms without chimneys it is recognized that an alternative arrangement is necessary. Some building by-laws require the provision of a shaft in the ceiling, leading vertically to the open, to give the chimney effect. In the "all-electric" houses now being erected by certain local authorities, which need no fireplaces and so possess no chimneys, air-bricks set in the walls of rooms are the device proposed. The value of these appliances has been questioned. In view of the well known capricious action of most aids to natural ventilation, it is perhaps somewhat rash to dogmatize beforehand on the probable conduct of the air-bricks, but whether they act as inlets or outlets, or both, they seem, on the whole, unlikely to be such effective exhausts as the chimney or ceiling shaft, and therefore less fitted to keep the air of rooms in gentle and steady circulation. It may be conceded that the cost of special ventilating shafts for these subsidized houses would be a serious item; it may be conceded also that windows are supplied which people can open if they will; yet the impression remains that the "all-electric" house, bereft of its chimney for reasons of economy, will prove to be less adapted for automatic ventilation than the old-fashioned dwelling with its grates and coal fires, which decorate the air of our cities with smoke wreaths and produce our winter fogs. The prevalence of air-communicable infectious disease in "all-electric" houses, should they be erected in sufficient number to afford material for an inquiry, may throw an interesting light on this question in the years to come. *Experientia docebit.*

LABORATORY SERVICES IN AUSTRALIA.

WE referred lately[1] to the measures now in prospect in Australia to carry out the recommendations of the Royal Commission on Health for the more effective co-ordination of the health services of the Commonwealth and its constituent States. An estimate of the advances which have already been made, as exemplified in the provision of serums, vaccines, and other biological products, may be formed from a recent account of the Commonwealth Laboratory Service prepared by the acting Director of the Laboratory Division of the Commonwealth Department of Health. Prior to 1914 Australia was almost entirely dependent on supplies of biological products obtained from overseas. During the war these imports rapidly diminished, till an acute shortage of diphtheria antitoxin brought matters to an issue, and a scheme was devised by Dr. J. H. L. Cumpston for the establishment of laboratories, situated within the Commonwealth, for the production of these substances. After preliminary work during 1917 at the Melbourne Hospital, the Central Laboratories at Royal Park, Melbourne, were occupied in 1918. In 1921 a further movement was begun to set up clinical pathological laboratories in country stations throughout Australia. There are three such laboratories now in Queensland, one in each of the remaining four mainland States, and one in New Guinea, making eight in all. They act in co-operation with the Institute of Tropical Medicine at Townsville in Queensland. The work of the Commonwealth Laboratories at Melbourne includes the preparation of serums for the treatment of diphtheria, anthrax, cerebro-spinal fever, pneumonia, puerperal fever, scarlet fever, gonorrhœa, influenza, and tetanus. Vaccines are produced for the prophylaxis or cure of cholera, dysentery, typhoid fever, influenza, whooping-cough, plague, and other diseases. Insulin also is prepared in large quantities, and the need for a continuously available supply is kept prominently in view. Another staple product is calf lymph for vaccination against small-pox. The laboratory staff carry out epidemiological inquiries, and investigate epizoötics, such as plague in rats, which threaten the health of the community. Milk, food, water, and sewage are analysed; bacteriology is taught, and medical officers and technical assistants are trained in public health work. Among pathological researches the cancer problem has engaged attention. The eight country laboratories perform diagnostic work in bacteriology, biochemistry, and clinical pathology, investigate local outbreaks of disease, and act as local distributing stations for the biological and other products of the central laboratories at Melbourne. Some, having x-ray plant, can extend to surrounding medical practitioners the resources of radiology. Some have also made special inquiries into particular problems—such, for example, as diphtheria at Bendigo, miner's phthisis at Kalgoorlie, lead poisoning at Port Pirie, and a typhus-like disease at Toowoomba. The laboratory system of the Commonwealth is fundamental to the health of Australia. Alike in its centre and in its country branches, it reflects much credit on those who devised it and first set it in motion. In ten years it has won independence for Australia in the matter of biological products—an asset of primary importance whether in peace or war. Centred at Melbourne and ramifying into the States, it suggests to the mind the value of co-operative action, and by its mere existence may serve as a stimulus to that further co-ordination between the Commonwealth and the States for health purposes which the Royal Commission has advised.

[1] BRITISH MEDICAL JOURNAL, December 25th, 1926, p. 1234.

THE RATE OF THE CIRCULATION.

MANY efforts have been made to devise a method for determining the rate of the circulation in man. For various reasons the laboratory methods have not been applicable; that of Fick, for instance, needed a sample of blood drawn by puncture from the right ventricle. Several modifications, by which the gas content of the venous blood was obtained indirectly, were devised in order to apply the method to man, but the results were not consistent and reliable. More recently a method involving the inhalation of nitrous oxide was suggested by Krogh and Lindhard. This, however, did not yield consistent results in practice. Quite recently Henderson introduced a method depending on the inhalation of ethyl iodide, which would seem to be easy of application and to give consistent results. It has been used at the London School of Medicine for Women, and Professor Cullis and her colleagues, Olive Rendel (Riddell Research Fellow of the Obstetrical and Gynæcological Unit) and Ellen Dahl, believe that it is capable of wide clinical application.[1] A similar experience has been reported with the same method in Germany. In order to estimate the rate of the circulation the following data are necessary: (1) the volume of inspired air; (2) the concentration of ethyl iodide in inspired air; (3) the concentration of the ethyl iodide in the expired air; and (4) the concentration of the ethyl iodide in the alveolar air. The solubility of ethyl iodide is such that its absorption depends entirely on the flow of blood through the lungs. The amount absorbed in the experiment is far below the threshold of any pharmacological action. It is so thoroughly destroyed in the body that the venous blood reaching the lung may be regarded as free from ethyl iodide. The distribution between the air in the alveoli and the blood is such that the amount in the alveoli needs to be multiplied

[1] *Journ. of Physiol.*, lxii, I, p. 103.

by 2. The amount of ethyl iodide in the various samples of air can be very accurately estimated by passing the air over iodine pentoxide. The difficulty at the moment is to obtain with the apparatus designed by Henderson a real sample of the alveolar air, and Dr. Cullis found it necessary to check the sample so obtained against those obtained by the Haldane-Priestley method; that in use tended to give too low values for the CO_2. Apart from this criticism, which probably can readily be met, the method is said to be easy, readily applicable, and to give consistent results. The actual calculation of the circulation rate is derived from the fraction $\frac{a}{b}$ = circulation rate. The numerator (a) is got by multiplying the volume of inspired air per minute by the difference between the content of ethyl iodide in the inspired and the expired air. The denominator (b) represents the content of the alveolar air in ethyl iodide multiplied by 2. The result is usually expressed as the stroke index—that is, the output per beat in cubic centimetres per kilogram of body weight. For a normal man at rest Henderson got a stroke index of 1.5 to 1.8. In the recumbent posture this rises to 2 c.cm.; when standing it drops to 1 c.cm.; during vigorous exercise it may reach 3.5 c.cm. Dr. Cullis and her colleagues obtained a figure of 1.7 c.cm. for the stroke index of women at rest. The method should have considerable clinical value if further experience justifies the claims put forward.

NASAL OBSTRUCTION AND JAW DEVELOPMENT.

Few structures in the human body have been submitted to so searching a scrutiny as the jaws, a fact which is well evidenced in Dr. Sim Wallace's Cartwright Prize essay on variations in the form of the jaws, which has now been published.[1] To mention only the lower jaw, precise investigations have been carried out to elucidate the why and wherefore of variations as regards size and form, not only of the whole bone, but also, by separate researches, of its individual parts—its body, ramus, coronoid and condylar processes, angle, alveolar border, mental process, mylohyoid ridge, genial spines, and teeth. In many instances these researches have been conducted with a precision which is remarkable; for instance, it has been estimated that the breadth of the dental arch in bottle-fed infants is narrower than in breast-fed children by a fraction of a millimetre. The subject is the more interesting owing to the varied standpoint from which it has been approached. For the anthropologist the lower jaw has always had a great attraction; to the biologist it affords many fascinating problems; to the physiologist it presents numerous instances of the correlation of form and function; while to the medical practitioner its importance in connexion with such conditions as pyorrhoea and oral mal-hygiene is now well recognized. One of the most interesting sections of Dr. Wallace's essay is that relating to the growth of the alveolar processes in the vertical direction and the height of the palate. It has been customary to refer the well known facial deformities associated with the presence of adenoids to the habit of mouth-breathing and the pressure of the cheeks on the dental arches. It has been supposed that when the posterior nares are blocked by adenoids there results a cessation of the rhythmic increase and decrease of pressure in the air sinuses, which is assumed to occur during respiration, and that defective expansion of the maxillae, high palate and narrowing of the face, and other deformities observed are due to this circumstance. The author is inclined to reject this theory for more than one reason. Statistics have shown that in a thousand normal children the facial deformities are almost as frequently met with as in children who had been operated on for pronounced adenoids, proving, apparently, that the deformities and the adenoids are independent phenomena. Dr. Wallace is disposed to attribute the deformities to deficient action of the masticatory muscles in early life, resulting in imperfect growth of the jaws. Defective action of these muscles in the growing period leads to overeruption of the molar teeth and heightening of the alveolar processes anteriorly and of the palate. This, with the defective development in the size of the jaws, leads to the production of the narrow, hatchet-shaped face which has been attributed to the presence of adenoids. The hatchet face is commonly found in cold and damp climates, where the nasal passages become blocked, more or less habitually, long before adenoids cause any obstruction. The congestion of the mucous membrane and the discharge not only impede respiration, but indirectly interfere with the due exercise and development of the muscles of mastication. The practical deduction from these observations would seem to be that the proper treatment both of adenoids and the facial deformities is prophylactic, and should be directed towards the removal of all conditions which interfere with the due exercise of the masticatory muscles in infancy. We have referred to one point only in this interesting essay; other sections, dealing with such subjects as the effects of pressure and tension on the growth of the jaws, the post-natal developments of the jaws, and the mechanism of production of superior and inferior protrusion and the open bite, are hardly less interesting. The whole subject, with its numerous and somewhat complicated data, is handled with exceptional lucidity.

[1] *Variations in the Form of the Jaws.* By J. Sim Wallace, M.D., D.Sc., LL.D.S. London: Baillière, Tindall and Cox. 1927. (Double roy. 16mo, pp. xii + 265; 84 figures. 17s. 6d. net.)

ST. HELENA.

A CORRESPONDENT has sent us a copy of the *S. Helena Diocesan Magazine* for December last, which is edited and printed by the Rev. L. C. Walcott, the vicar of Jamestown. This little monthly of fourteen pages resembles a parish magazine, but it is the only thing in the way of a newspaper that is published on the island. It is well known that St. Helena is a volcanic island whose origin has impressed upon it its picturesque and rugged character. It has a population of little more than 3,500, and, judging from the magazine, the principal occupations of the islanders are growing and preparing New Zealand flax from the familiar *Phormium tenax* and playing cricket, for the programme for a season of less than three months includes twenty matches. The account given of the flax mills displays a darker side of the picture. An editorial paragraph states that the hours of labour are sixty-six a week, yet these long hours are not objected to by the workers, because it is piece-work. But the writer says that these hours have a bad effect, and he attributes the prevalence of weak hearts among the people to this cause. Certainly eleven hours is much too long for a night shift, and probably both employers and employed would benefit by a shortening of the hours of labour. The vital statistics of St. Helena, as far as they can be gathered from the record of baptisms, marriages, and burials for August and September, are satisfactory. There were 15 baptisms, 10 marriages, and 7 burials (3 of females and 4 of males, the latter including an infant 6 days old). Excluding the last named, the aggregate age of the three males was 183, and of the three females 125 years, giving a very unusual ratio, but the numbers are obviously too small to furnish any trustworthy average. Beyond these statistics there is no mention of the health of the island, from which we may conclude that no unusual sickness existed. The editor, however, has extracted from the St. James's Church Books a note of a small-pox scare in 1789 and of the measures then taken to protect the people of the island. The

Governor at that time was Colonel Robert Brooke, who wrote a letter to the vestry meeting warning them of the necessity of taking measures to prevent the spread of small-pox, which had been brought to the island by shipping. He reminds the vestry that: "It was argued I suppose that ships heretofore had come into harbour with small Pox on board and the very Clothes of the Sick washed without infection spreading, that of course no such Distemper could ever get footing amongst us." He went on to recommend unanimity and equanimity and the measures advised by the surgeons, Messrs. Kay and Dunn. These included isolation of the sick in a special hospital and postponement of inoculation of the susceptible population till it was seen if the infection spread, and these recommendations were adopted. We have no information as yet as to the subsequent history of this threatened epidemic. We hope that Mr. Walcott will publish the results of further inquiry in a subsequent number of the magazine. In 1789 the island was a possession of the Honourable East India Company, and flourished on the trade of furnishing supplies to shipping, but after the opening of the Suez Canal and the consequent decline of the sea traffic round the Cape of Good Hope it fell upon evil days, so that at present only about thirty vessels call there annually. The introduction of the phormium flax industry and of lace-making has increased the prosperity of the community. St. Helena, which boasts a St. Paul's Cathedral, is an episcopal see, of which the diocese includes the islands of Ascension and Tristan da Cunha, that lonely island about which an annotation appeared in our issue of January 1st (p. 28). Opportunities of the Bishop's visiting his flock and the newly appointed vicar of St. Mary's on Tristan are very rare, but communication with Ascension, which has a population of over 1,400, is direct and regular.

SLEEPING SICKNESS IN A FRENCH COLONY.

FRENCH Equatorial Africa extends from near the tropic of Cancer to five degrees south of the equator. It touches Lake Chad, and includes the Cameroons and the Middle Congo. As stated in a recent account of French overseas medical services, it is at present the scene of an outbreak of sleeping sickness of very great severity. This disease, transmitted to man by the tsetse fly, though uncommon in French West Africa, is widely endemic in the equatorial colony. In all districts south of Fort Archambault it is creating such havoc as to challenge the resources of the local administration. In Upper Shari, of 101,195 persons examined, 4,518 had sleeping sickness. In Ibenga-Motaba the corresponding figures were 51,679 and 2,996. For individual villages in Middle Logona the endemic index has ranged from 35.71 to 90 per cent. Economically and in general this visitation has had disastrous results. Saiak, for example, once a thriving post and possessed of a factory, is now derelict. Dr. Huot, who is familiar with the country, has remarked that in all seriously infected areas virulent outbreaks of trypanosomiasis are preceded by political disturbance. Exactions by chiefs, rivalry of races, or the inherent turbulence of the tribes produce conditions which may amount to anarchy. Cultivation lapses; regular villages are abandoned, and their whilom inhabitants wander through the bush in continual fear of their enemies. Malnutrition soon overtakes them; their resistance to the fly-borne trypanosome is lowered, and as a result their endemic infection assumes an epidemic form. The view has been held that in these stricken areas people flee from their villages to escape from an epidemic already loosed among them. Dr. Huot's observation is to the opposite effect. The flight precedes the epidemic outburst, and is its determining cause. The campaign against sleeping sickness in French Equatorial Africa was organized in 1921, when the infected territory was divided into centres, each with a mobile sanitary detachment. The prophylactic measures adopted are therapeutic, preventive, and administrative. The therapeutic line of attack has had most success. It is the elimination of trypanosomes from the peripheral blood of patients by six separate injections of atoxyl at intervals of ten days. Its rationale is obvious: a patient so treated, though bitten by a tsetse fly, is not a source of infection. The preventive measures include clearing the undergrowth which the fly frequents, wearing puttees, using mosquito curtains, and proofing river steamers with wire gauze. Among the administrative measures are the resettling of villages, the collection of infected communities in accessible places, the supervision of labour, and the control of migration. The prophylactic centres now number twelve. The medical personnel is forty-two, and will be raised to fifty. The control of sleeping sickness in this wide region, four times the size of France, makes high demands upon the devotion of the officers engaged in the work. The progress of the campaign will be watched with interest in England, which has similar problems in adjacent fields.

THE STEAM CAUTERY IN TREATMENT OF SKIN AFFECTIONS.

AN interesting demonstration was given at the meeting of the Section of Dermatology of the Royal Society of Medicine on January 20th with the steam cautery devised by Mr. H. S. Souttar, on the suggestion of Dr. J. H. Sequeira, for the treatment of large fungating carcinomata of the face difficult to deal with by direct surgery. The arrangement used consisted of a small boiler, heated by motor fuel, the steam from which passed through the flame, and emerged in a superheated condition. An applicator, which could be of any diameter, was screwed on to the end of the steam nozzle, the steam keeping this applicator at a constant temperature of 100° C. Mr. Souttar demonstrated the action of the cautery on a piece of meat, which showed definite coagulation within one minute. He said that penetration took place at the rate of about one inch in ten minutes. He had used it for a tumour of the face six inches in diameter. He showed two cases in which epithelioma had supervened upon lupus, and in which, after treatment in this way, there was no deformity. When a growth of the face was being treated a finger placed in the mouth prevented the process from being carried too far. Mr. Souttar's most remarkable result with it was in the case of a large burn, caused by x rays, on the epigastrium, in which he had to excise a block of tissue 4 inches in diameter. A clean first-intention wound was produced, and there was only a line such as would be left by an upper abdomen operation when the patient returned home. He thought the apparatus might have a wide application in dermatology. Dr. Henry Semon showed four cases which he had treated with Mr. Souttar's apparatus. One was a patient with lupus vulgaris of the face and neck of twenty years' duration; another had epithelioma of the ear of four years' duration, and after diathermy perforation of the cartilage had occurred, and the condition came again; another was a hairy mole, which developed a keloid formation, for which radium was being applied; and the fourth was a case of epithelioma at the external angle of the orbit. He had found that the apparatus quickly checked haemorrhage. Dr. Sequeira said that he could confirm all that had been said of the method by Mr. Souttar and Dr. Semon. He asked whether it would be safe to use the method when ether was the anaesthetic, bearing in mind the serious accidents which had happened with ether when diathermy was carried out. One great advantage of the method was that the operator had it completely under

control. Mr. Souttar, answering several questions, said that the apparatus was commercially available. There was no risk of exploding ether when using the apparatus, as the applicator never rose above the heat of steam; even when oxygen was being used there was no such risk, and the apparatus was being made even safer by introducing wire gauze, after the principle used in the safety lamp for miners. The rate of penetration could be taken, roughly, as inversely proportional to the square of the distance. For such a condition as spider naevus the application would be only momentary. Haemorrhage did not follow when this method was used, and there was absolute control with it. He did not see why it should not be used to cause haemostasis in deeper regions of the body, such as the bladder, and it seemed specially adapted for treating carcinoma of the cervix.

STRANGEWAYS MEMORIAL.

T. S. P. STRANGEWAYS, whose premature death we recently recorded, has left a widow and seven children, the five youngest of whom are still being educated. It is known to many that any part of his income which was not required for household expenses was habitually used by him to assist the Research Hospital. The immediate needs of the family have been met by subscriptions from friends in Cambridge, but a larger sum will be required to complete the education of his sons, the eldest of whom is in his second year at Trinity Hall. During the last thirty years many Cambridge medical men have been taught by Strangeways the essentials of pathology, and may feel that this is an opportunity of expressing their appreciation of these services, of his additions to medical knowledge, and of his scientific work. Cheques should be drawn to Lloyd's Bank, Cambridge, and crossed "a/c Strangeways Memorial Fund." They may be sent to the manager of the bank, Mr. G. F. C. Gill, who has kindly consented to take charge of the account, or to Sir Humphry Rolleston, Southfield, Cambridge, or to Professor H. R. Dean, Dr. M. Donaldson, Dr. G. P. Bidder, Dr. L. E. Shore, or Dr. Cobbett. A meeting will be held at the Royal Society of Medicine at 5 p.m. on Wednesday, February 2nd, at which all those who sympathize with this appeal are invited to be present.

A RETROSPECT WITH A PURPOSE.

PROFESSOR RICARDO JORGE, Director-General of Public Health at Lisbon and delegate from Portugal to the Office International d'Hygiène Publique, who is due to take part in the discussions of the International Sanitary Conference to be held in Paris next May, has, like a knight of old, proclaimed his credentials before entering the lists. He has reprinted in the *Archives* of the Central Institute of Hygiene at Lisbon some previous pronouncements of his to serve as a reminder of the stand which he made in the past on questions proposed for debate at the meeting in Paris. This publication will doubtless be effective for its ostensible object, and at the same time will make a wider appeal, since it reviews in a lucid and cogent manner epidemiological topics of general interest. Professor Jorge is against any tightening of the regulations for the control of sea-borne yellow fever. The disease is in full retreat in its own endemic areas; what need for rigour elsewhere? Stegomyia, its vector, is common in Portugal, yet between 1860 and 1921, though twenty-nine ships brought yellow fever to Lisbon, a quarantine officer and half a dozen dock labourers employed on board the ships concerned were the only persons infected. Of these twenty-nine ships twenty arrived before 1880, none after 1911. This well marked decline is ascribed, among oth *x* causes, to the increased ber of iron ships. The old-time wooden ships were good ding places for stegomyia: it does not survive the voyage in the bilges of iron steamers. Professor Jorge lays stress on the epidemiological distinction between the pneumonic and the bubonic types of plague. Nosologically, he says, there is but one plague; epidemiologically its two forms are different diseases. Pneumonic plague, unlike bubonic plague, is primarily and solely pulmonary. It is transmitted from person to person without intermediary. It is readily controlled by isolation of the sick and contacts. It prevails in cold climates, though not restricted to them. Further, there is no question in its prevalence of symbiosis with any other organism. In particular, it has nothing to do with concurrent influenza. It is usually preceded by bubonic cases, though not invariably. Professor Müller and his assistants died of pneumonic plague at Vienna in 1898 from a direct laboratory infection: there were no preliminary glandular seizures among them. Owing to the fact that these and other pronouncements were originally uttered in course of debate, much of the reprint is controversial in form. The arguable points will come up at Paris in May. In the meantime it may be permitted to refer to Professor Jorge's views on general policy. They are on broad lines. Regarding interference with persons or goods as applied to infected ships, his opinion is that the means should fit the end but should not overstep it. He deprecates needless restriction of trade. "Hygiene," he says, "is a social question, and must keep touch with other social interests. The circulation of wealth is the basis of all well-being, and therefore of health also."

THE EPIDEMIC OF INFLUENZA.

EXPERT epidemiologists find reason to hope that the worst has been seen of the present recrudescence of influenza, although the number of deaths attributed to it have increased. The notifications of pneumonia were declining for the country as a whole in the week ending January 15th. The deaths attributed to influenza in London during the last three weeks were 72, 137, and 197; in the whole of the great towns of England and Wales, 172, 326, and 470. The age distribution of deaths has been that which, with the immensely important exception of the great pandemic of 1918-19, has been usual in outbreaks of influenza—namely, that the brunt has been borne by the elderly. The regional distribution of deaths shows that, so far, London and its environs have suffered more than other parts of the country.

THE HALF-YEARLY INDEXES.

THE usual half-yearly indexes to the JOURNAL and to the SUPPLEMENT and EPITOME have been printed; they will, however, not be issued with all copies of the JOURNAL, but only to those readers who ask for them. Any member or subscriber who desires to have one or all of the indexes can obtain what he wants, post free, by sending a postcard notifying his desire to the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1. Those wishing to receive the indexes regularly as published should intimate this desire.

WE much regret to announce that Dr. T. Ridley Bailey died on the morning of January 25th. At the last meeting of the Council of the British Medical Association a message of sympathy was sent to him at the nursing home in which he had been operated upon. We hope to publish an obituary notice next week.

THE thirteenth annual conference of the National Association for the Prevention of Tuberculosis will be held at the British Medical Association House, Tavistock Square, London, on June 30th and July 1st.

THE HASTINGS POPULAR LECTURE.

CANCER AND HOW TO FIGHT IT.

LECTURE BY SIR BERKELEY MOYNIHAN: ADDRESS BY THE MINISTER OF HEALTH.

ALL the seats in the body of the Great Hall of the British Medical Association House, and all but a few in the back gallery also, were occupied by an audience—chiefly of lay people—on Monday evening, when Sir BERKELEY MOYNIHAN, Bt., President of the Royal College of Surgeons, delivered the Hastings Popular Lecture. The hall seats 700—a figure to bear in mind in view of the opening sentence with which Sir Berkeley startled his audience, that if the law of averages held good, one hundred of those present would die of cancer. The text of the lecture is published in this week's SUPPLEMENT. The perfect elocution of the speaker, assisted by microphone and amplifiers, made every word clearly audible at any point in the hall.

The Minister of Health (Rt. Hon. NEVILLE CHAMBERLAIN, M.P.), who was accompanied by Mrs. Chamberlain, presided, and he was supported by the President of the Association (Mr. R. G. Hogarth, C.B.E., F.R.C.S.) and Mrs. Hogarth, the President-Elect (Sir Robert Philip), the Chairman of the Representative Body (Dr. H. B. Brackenbury), the Deputy-Chairman (Dr. C. O. Hawthorne), the Treasurer (Mr. Bishop Harman) and Mrs. Harman, Mr. McAdam Eccles, F.R.C.S., Mr. E. B. Turner, F.R.C.S., and other members of the Council of the Association. Among others on the platform were the Right Hon. Lord Dawson of Penn, Sir StClair Thomson, Sir Robert Jones, Bt., Mr. G. H. Walmisley (Chairman, Public Health Committee, London County Council), and Colonel Sir James Magill (British Red Cross Society). A telegram from Sir Harold Mackintosh (Chairman of the Executive of the Yorkshire Cancer Campaign), was handed to Sir Berkeley, wishing him, in the name of his friends of the campaign, a great meeting.

The Minister of Health.

Mr. Chamberlain said: We have come here to-night to take advantage of a unique opportunity—the opportunity of hearing the views of one of our greatest surgeons upon a subject which is of the very first importance and interest to the nation. Of all the diseases known to us none is looked upon with greater repulsion and apprehension than cancer, partly because of its nature, partly because of the mystery which surrounds its origin, but most of all, perhaps, because it appears to be marching on in a sort of irresistible progress, taking a greater toll of victims from our midst year by year. In 1850 the deaths from cancer were recorded as about 300 per million living; in 1900 as 800 per million, and in 1925 as 1,336 per million, so that in the short space of two generations or less the death rate from cancer appears to have increased fivefold. These figures are the more remarkable when you contrast them with those pertaining to other diseases. Forty years ago the death rate from tuberculosis was four or five times that from cancer; to-day the cancer death rate is about one-third greater than that of tuberculosis. Making allowances for certain qualifications, these figures still justify the general public anxiety, and make it necessary that we should use all our resources in fighting this great evil. In that fight everybody must take part—the Ministry of Health, the local authorities, the research investigators, the medical profession, and the general public. As Minister of Health I am directed by Act of Parliament to take measures for the prevention and cure of diseases, and also to undertake "the collection, preparation, dissemination, and publication of information and statistics relating thereto." In the case of cancer we cannot at the Ministry of Health do anything in the way of treatment, and there is very little, so far as we can tell, that we can do in the way of prevention. What we do is to collect from every possible source information about cancer, its cause, nature, and action, and the methods of treatment. We get that information from all kinds of sources—researches undertaken by organizations and individuals, hospitals, general practitioners, publications in foreign countries—and it is dissected, compared, classified, and published, partly in the form of technical articles designed for the profession, and partly in the form of official circulars which are accompanied by memorandums setting out the general facts in language "understanded of the people," largely as material for local authorities by which they may instruct the public.

The conclusion at which I have arrived is that the best chance of reducing the mortality from cancer lies in two directions: first, the encouragement of research, and secondly, public education. I have not observed that uniformity of opinion is more general among doctors than among politicians, and I am quite aware that there are differences of opinion about the way to deal with cancer, but it is conclusively demonstrated by figures that cancer in its earlier stages is by no means an incurable disease, and that the chances of cure diminish rapidly if diagnosis and treatment are delayed. What I mean, therefore, by the education of the public is that the public should be enabled to recognize the symptoms which may be those of cancer, and having recognized them should lose no time in betaking themselves to consultation with those who can pronounce with greater certainty. We cannot in that way diminish the incidence of the disease, but we can increase the number of recoveries. I do not suppose that at any time there has been so large a number of skilled investigators at work upon this problem, and it is well to remember that all the great discoveries of the past have been merely the culminating point of a long series of investigations carried on by different people, in different places. It is a rash thing to prophesy, but I will venture to say that with the steady progress in research, with the attention which is being given to the subject in this and in all civilized countries, it is not unreasonable to hope that before another generation has passed the chief terrors of this nightmare will have been removed, and it is possible that cancer may be reduced to the category of those diseases of which man by his own efforts has made himself the master. (Applause.)

Questions and Discussion.

Sir Berkeley Moynihan then delivered his lecture, and at the close a brief period was allotted to questions. It was made plain that this was a lecture for a lay audience, and that any remarks from members of the audience should not be in the nature of expert discussion on causation, prognosis, or treatment. One gentleman in the gallery, whose remark was greeted with applause, complained that Sir Berkeley had urged them to go to the medical man on the first signs of cancer, but he had not told them how those signs could be recognized. Other questioners were eager to "draw" the lecturer on the subject of vegetarian diet. One gentleman wished to know why the mortality from cancer was three times as great among butchers, costermongers, and dock labourers as among clergymen, farm servants, and market gardeners. Others wanted Sir Berkeley to agree that there was an absence of cancer among primitive peoples, and that this was due to their simple life, or, again, that the cause of cancer was chronic constipation.

The lecturer, in reply, said that it was quite impossible at a meeting of that kind to describe the early symptoms of cancer as affecting different organs in men and women. In the Yorkshire campaign, in twenty-six towns, a place had been arranged to which people could go during one week in each and hear lectures and see demonstrations by a medical man or woman and be really instructed as to what these signs were; later it was proposed to take a motor caravan and tour the Yorkshire villages. But one thing might be said in a general way, that where there were lumps, ulcers, fissures that would not heal, the doctor should be seen without delay. There was no lump in the body which one could afford to ignore, especially if it was in the breast and in a woman over 35. As to diet, Professor Mellanby had been asked to make a new inquiry, and to see whether there was any possibility of a connexion between cancer and diet. At present there did not seem to be any such connexion. It had been stated that cancer

did not occur in tribes living away from civilization. He had always been sceptical as to the evidence in favour of that assertion, and Sir Leonard Rogers had stated that malignant tumours were about as common in Bengal as in England. One questioner had asked whether anxiety produced cancer. Anxiety, like other things, such as ill-regulated diet, absence of exercise, or vicious habits, undermined the health of the individual, and made him more likely to be the victim of cancer or of anything else that was going. "One speaker has said that he has a theory as to the cause of cancer. I have never met anybody in my life who had not! Cancer is a subject of such popular interest, and the minds of men are so constituted, that upon these topics, as upon political topics, they arrive at conclusions for which they have no evidence. We who, unfortunately, live with cancer cases are certain with absolute finality of some things, but with regard to others we realize that there is much to be discovered."

Some further discussion was then allowed, and gave an opportunity to dietetic enthusiasts, one of whom even implicated the breakfast rasher. Some of the speakers, each of whom was allowed three minutes, evidently had an animus against the surgeon's knife; on the other hand, two, who had been the subject of operations for cancer, one of them three years previously, spoke as to its benefit. The speakers, with one or two exceptions, were all lay people, but Dr. Louis Sambon said a few words, remarking that early surgical treatment was not only of the greatest importance from the remedial but also from the prophylactic point of view.

Votes of Thanks.

Sir ARTHUR SPURGEON (Chairman of the Public Health Committee, Surrey County Council) moved the vote of thanks to the lecturer, and expressed the hope that in the home counties there would be campaigns similar to that which Sir Berkeley Moynihan had led in Yorkshire. The resolution was seconded by Mr. F. BARRACLOUGH (President of the National Union of Teachers), and was accorded with long-continued applause.

Sir BERKELEY MOYNIHAN said that one of the speakers had probed the secret of his campaign. He had said that if such campaigns were successful he and other surgeons would have to "shut up shop." That was exactly what he (Sir Berkeley) wanted. A very large part of the livelihood he was able to earn he got from operating on cases of malignant disease, but he never knew a more miserable moment than when operating on a patient with regard to whom he had to say "Too late." Surgery could do great things if given a chance. He hoped the campaign would mean that the surgeon would have a better chance until the happy day came when his activities might be abolished. Within its first year nearly £150,000 had been contributed to the Yorkshire campaign, and the effect of the appeal was not finished yet. He himself knew the Yorkshireman better than most; he knew him inside and out—(laughter)—and he had succeeded in getting his hand very deeply into the Yorkshireman's pocket. He concluded with an expression of gratification that the Minister of Health, who on more than one occasion had shown great interest in the work of the profession, had been able to preside that evening.

Mr. R. G. HOGARTH moved a vote of thanks to Mr. Chamberlain. He said that the British Medical Association as far back as 1868 had declared itself in favour of the formation of a Ministry of Health, and for fifty years until that idea came to fruition pressed on successive Governments the urgency of that reform. That was all the more public-spirited of the Association because it must have been apparent that an efficient Minister of Health was bound to exercise powers which would impinge upon the unfettered activities of the profession. If some wondered why they were so quixotic it only showed the single-minded devotion of doctors to the public good. They realized how fortunate they had been since Mr. Chamberlain entered upon his office; they had to thank him for being an enthusiastic and earnest Minister; he had gone far to make up the great shortage of houses, and had carried on an unremitting campaign against the slum dwelling. He had on many occasions encouraged medical and scientific research. In the great campaign to improve the health of the people, which presented an ever-widening front as it moved forward, the office of the Minister of Health was undoubtedly the most important, and to have the power to attack in their fastnesses the ancient enemies of the public health must be one of the most desirable things to a statesman of ability and imagination such as the present Minister. The medical profession was glad to recognize in him an expert municipal administrator as well as a statesman of courage and resource. Also he had been a most courteous and understanding Minister in his relations with the doctors, who were his most indispensable, as they were his most loyal, associates in the supreme cause of public health. (Applause.)

Dr. MORTON MACKENZIE briefly seconded the vote of thanks, and expressed the feelings of the more than 30,000 general practitioners who constituted the British Medical Association in their pleasure at seeing the Minister in their own home.

This vote of thanks was also heartily accorded, and Mr. CHAMBERLAIN, in reply, mentioned that he was associated with the medical profession as a member of a hospital board long before he became Minister of Health, and he learned in those days to have the greatest admiration for the doctors, "coupled with a wholesome respect for their power of candid friendship." He had seen no reason to change that opinion since he occupied his present office, and he was proud of the support which had been given him by the profession in the endeavours he had made for the health of the community. He trusted that the present meeting, which had been very informative and successful, would be only the first in a widespread and vigorous campaign.

England and Wales.

PROPOSED ADVISORY EDUCATION COMMITTEE FOR SOUTH WALES.

AT a moment when the proposals of the Consultative Committee of the Board of Education for the reform of educational administrative areas and those of the British Medical Association for the reform of areas for health administration are, jointly or severally, exciting a good deal of discussion, it is interesting to note any practical action which is being taken for that co-operation in either of these spheres which is recognized as being the first step which can immediately be taken towards the ultimate and ideal unification of the administration of public health and education alike. It is not always easy to get self-contained authorities like county boroughs to realize that they have duties, moral if not legal, to their surrounding areas; nor to persuade a powerful county council that the non-county boroughs and urban districts within its area can help very materially in solving some of the most difficult problems of county administration. On the other hand, some examples of such co-operative arrangements made for the mutual benefit of a large number of local government areas are not far to seek. In the County Palatine of Lancaster, for instance, such arrangements have for some time been operative with regard both to tuberculosis and to mental disease and disorder. At a meeting this month of the Swansea Education Committee Dr. Arbour Stephens, the chairman, put forward a proposal for the establishment of a permanent advisory committee of the education authorities of South Wales and Monmouthshire to deal with all matters within their sphere in which co-operation was desirable. Such a scheme would, he contended, tend to weld the educational forces of South Wales into a coherent whole, as well as to relieve the ratepayers. The matters suggested as the field for such a committee were: arts and crafts, especially those of a rural nature, music, adult education, appointments and vocational selection, and especially the provision for the educational and other care of physically or mentally defective children. The Swansea Education Committee asked for a further development of the idea by Dr. Arbour Stephens, and decided to consider this carefully at its next meeting. There is no doubt

that several of the matters enumerated are of such a nature that they cannot be effectively or economically dealt with by small authorities or in sparsely populated areas, and the resources, financial and other, of all the local government authorities of a district, including county boroughs, are required to meet the needs. In quite a number of instances, as is suggested in South Wales, even the area of a county may be found far too small. Just at present, when there is, or should be, considerable development in the provision for mental defectives, for orthopaedic treatment, and for the care of children with rheumatic heart affections or chorea, proposals or experiments of the nature indicated are of much importance. Clearly something beyond advisory powers for such a joint committee may become necessary, but as an initial step the suggestions of Dr. Arbour Stephens may well be favourably regarded in the area affected.

CENTRAL MIDWIVES BOARD.

The report of the Central Midwives Board for the year ending March 31st, 1926, has been published by the Stationery Office at 6d. It shows a net increase of 2,889 midwives over the number appearing on the roll for the previous year. Of the 62,680 enrolled midwives, 44,777 have passed the Board's examination, 9,357 were admitted by reason of prior certification under Section 2 of the Midwives Act, 1902, and 612 midwives holding Scottish and Irish certificates are also included on the English roll. The trained midwives are consequently 54,746, as compared with 7,934 untrained, the percentage of the former having risen to 87.3 from 86.5 in the previous year. Of the 190 institutions and homes in England and Wales where midwives may be trained, 62 are Poor Law institutions. In addition to these institutions and homes, 64 practising midwives are approved as teachers, and 105 registered medical practitioners as lecturers. Private training accounts for the addition to the roll of 1,319 midwives practising in 1925, or 9.2 per cent. of all practising midwives. The number of candidates entering for examinations during the year was 3,922, an increase of 131 over the previous year, and of the 3,824 who completed the examinations, 3,008 were successful. In view of the lengthening of the training period it has been decided that, for the present, four annual examinations shall be held in place of the six arranged in previous years. During the year under review thirty-four midwives were dealt with by the Board under its penal powers, fourteen names being removed immediately from the roll; six women were censured, two cautioned; in two cases no action was taken by the Board; one midwife was suspended, and in nine instances sentence was postponed. A conference between members of the Board and representatives of local supervising authorities was held in March to consider various points arising out of the administration of the Midwives Acts and the interpretation of the rules of the Board. The Board ruled that midwives living in district nursing association homes were subject to the same rules as midwives in private practice, as regards investigations by the inspectors of local supervising authorities. In the opinion of the Board the professional association of a midwife with an unregistered medical practitioner is undesirable and might come within the meaning of the word "misconduct" in Rule D.1.

Scotland.

LISTER CENTENARY CELEBRATIONS AT EDINBURGH.

As already announced, the celebrations at Edinburgh of the centenary of Lord Lister's birth will be held in connexion with the Annual Meeting of the British Medical Association in July, 1927. A meeting will be held in the Macewen Hall of the University on the evening of Wednesday, July 20th, at which it is expected that Lord Balfour, the Chancellor of the University, will preside. Addresses will be delivered by Sir Watson Cheyne and Professor Tuffier of Paris, and it is hoped that Dr. Harvey Cushing of Boston may also be present. A collection of Lister relics will be shown in the Library Hall of the University; they are in part objects of permanent exhibition in this hall, bequeathed by Lord Lister to the University of Edinburgh, and in part are to be lent by the Wellcome Historical Medical Museum in London. A commemorative prize is being offered by the committee in charge of the celebrations, for competition by students, for the best essay on "The influence of Lister on surgical practice." As a permanent record of Lord Lister's connexion with Edinburgh memorial tablets are to be placed on the two houses inhabited by him at 11, Rutland Street, and 9, Charlotte Square, during his two periods of activity in Edinburgh. A memorial volume on Lister's work and Edinburgh connexions is in preparation; it will include a sketch of his life by Sir George Beatson, an outline of surgical practice prior to the advent of Lister's work by Mr. Alexander Miles, and a sketch of the work of Lister by Professor John Fraser. It will also include two of Lister's papers—his inaugural lecture on "Fermentation and putrefaction," and an address delivered by him to the British Medical Association at Edinburgh in 1875 on "The influence of antiseptics on the salubrity of hospitals." The book will include a series of short reminiscences by ten old students who had personal connexions with Lister as a teacher, and will contain some nine illustrations illustrative of Lister's Edinburgh period.

THE BRITISH FLORA.

A lecture delivered in the hall of the Royal Botanic Garden at Edinburgh by Mr. J. R. Matthews, lecturer on botany in the University, was the first of a series of public lectures to be held under the auspices of the Botanical Society of Edinburgh. Mr. Matthews's subject was "The story of the British flora," and he pointed out that there were three distinct elements in the flora of Great Britain. He showed by maps and lantern slides that over one hundred plants found in the Highlands of Scotland and in the mountains of England and Wales constituted a boreal element closely related to the present flora of Scandinavia. The southern type was confined to the southern counties of England and Ireland, although some of these extended along the western coasts to a northern part of Scotland. On the Continent the same species were found only along the Atlantic coasts of France and Spain and on the shores of the Mediterranean. The third was the Germanic type, which formed the main part of the common and widely distributed plants of Britain, and was well represented in the flora of Central Europe. After discussing the origin and history of these three types of native flora Mr. Matthews expressed the opinion that the present range was apparently the result of past climatic changes. The presence of the boreal species in the Highlands of Scotland was attributable to the great Ice Age, and the same plants in glacial times were known to have inhabited the South of England also.

RESCUE WORK IN MINES.

A lecture on mine rescue appliances was delivered at the Heriot-Watt College, Edinburgh, on January 15th by Professor Henry Briggs, who said that some years ago he had made a series of experiments to ascertain the most economical speed for men walking on the flat and carrying a load of 40 lb. In most cases it was found to be about three miles an hour, or if the going was rough, as upon an underground road, two and a half miles an hour was the most economical rate in food supply and oxygen for the average person. This, he said, was important to wearers of rescue apparatus, who carried with them the means of supporting respiration, because at the most economical rate the caustic soda cartridge by which the carbon dioxide of the breath was removed underwent a minimum amount of exhaustion. The lecturer described a number of modern self-contained forms of apparatus fed with oxygen from a highly compressed supply carried in small cylinders. The earliest of these had been the Fleuss or Proto apparatus, invented by Mr. Henry Fleuss in the seventies of last century and used in 1880 at a fire in Seaham Colliery, Durham; it had had a remarkable record of successful work, particularly in the recovery of miners in Staffordshire after explosions, and on the Western front during the trench warfare period. The apparatus was used, for

example, after the Redding Colliery disaster in 1923. Professor Briggs also referred to the apparatus which had been introduced by himself and used at the Whitehaven disaster in 1921, as well as in numerous places overseas. This had been reported by two committees to be the most suitable type for India, and had taken first place in a competition held in Nova Scotia between British and American apparatus.

Glasgow Students and Hospital Collections.

For some years Glasgow students have held a Charities Day collection, chiefly in aid of the hospitals of the city. This year the collection took place on Saturday, January 15th, with an unusually great measure of success. Over £14,300 in all was collected during the day. Special prominence had been given to the effort by an attempt made by the Local Trades and Labour Council, who, feeling sore over the fact that students had taken the place of various workers during the general strike last year, decided to retaliate by proclaiming a workers' boycott of the Charities Day. This stirred up so much adverse public opinion that the great success of the collection may in all probability be largely attributed to the attempted boycott. Some 7,500 students were engaged in the collection, including students of the various faculties in the University, veterinary students, engineering students, and others. The operations for the day commenced with early morning raids by collectors on tramway cars and other vehicles in the streets. In the forenoon the collectors were organized into a procession, which set out from the University for George Square in the centre of the city. The procession was headed by a pipe band of pantomime Highlanders, and consisted of some 150 lorries showing various tableaux. A message was issued by the Lord Provost commending the students' effort, and a collection in the streets and from door to door proceeded throughout the day. The sale of immunity badges realized £2,150. The sum collected in the present year is larger by nearly £5,000 than in 1926.

Annual Health Report for Edinburgh.

The report on the health of the city of Edinburgh for 1926 by Dr. Robertson, medical officer of health for the city, was submitted to the Public Health Committee on January 18th. The general death rate, 13.5 per 1,000 of the estimated population, was the lowest recorded since the extension of the city boundaries, and compared favourably with the figure for the preceding year, which had been 14.5. The tuberculosis death rate was 0.9, which was lower than that of either 1925 or 1924. The deaths from measles and whooping-cough were 85 fewer in 1926 than in 1925. The infantile mortality figures were also favourable, the rate having been 80 per 1,000 of the estimated births in 1926, as compared with 96 in 1925. There had been 377 fewer cases of diphtheria and 527 fewer of scarlet fever than had been notified in the previous year. The report concluded with a suggestion that a health exhibition should be promoted by the corporation in the early part of 1928, and that to widen interest in it the co-operation of the education authority as well as of other municipal bodies should be obtained in order to make a display which should be interesting to the public and of educational value. The committee approved of the principle of holding such an exhibition.

Royal College of Physicians of Edinburgh.

The annual dinner of the Royal College of Physicians of Edinburgh was held in the Hall of the College on January 14th. Professor George M. Robertson, President of the College, occupied the chair. The toast of "The Secretary of State for Scotland" was proposed by Sir Robert Philip, Vice-President of the College, and acknowledged by the Right Hon. Sir John Gilmour, D.S.O. The health of "The Guests" was proposed by Dr. Robert A. Fleming, Acting Treasurer of the College, and replies were made by the Very Rev. C. L. Warr, Dean of the Thistle, by Mr. Condie Sandeman, K.C., Dean of the Faculty, and by Sir H. Arthur Rose, D.S.O., chairman of the General Board of Control. "The Royal College of Physicians and its President" was submitted by the Right Hon. Hugh P. Macmillan, K.C., and duly acknowledged by the chairman.

Municipal Medical Officers as Town Councillors.

At a meeting of the Lower Ward Committee of Lanarkshire held at Glasgow on December 9th last the question was considered whether a doctor employed as the executive medical officer of the Joint Venereal Diseases Committee who had been elected a member of the Glasgow Town Council at the November election should hold both positions. The medical officer had communicated to a general meeting of the committee his intention of accepting nomination as a candidate for the Glasgow Town Council, and had stated that if he should be elected his services as a councillor would not interfere with the discharge of his duties as executive medical officer of the Joint Committee. The committee expressed the opinion that it would be inexpedient for him to accept election to a public body such as he proposed. A subcommittee was appointed on November 10th last to consider the whole circumstances of the case. The Lanarkshire County Council had the report before it on January 19th, when it agreed that the medical officer must give up his seat on Glasgow Town Council if he desired to continue in their employment.

Ireland.

Public Health Reforms in the Free State.

Public health administration in the Irish Free State is undergoing complete reorganization, and it is hoped that, when the clauses of the Local Government Act of 1925 which deal with this matter have been put into force, there will be a steady improvement in the health of the people. Chief among the provisions of that Act is the appointment in every county, or health unit, of a full-time medical officer, who will supervise the entire health administration of his area, including the medical and dental inspection and treatment of school children. The cost of the reorganized system to the ratepayers will be small, and the Department of Local Government feels that it will be productive expenditure in the best possible sense. In communications to the press Mr. E. P. McCarron, secretary, and Dr. E. F. Stephenson, chief medical officer of the Department of Local Government and Public Health, have made the following statements:

Our public health organization is definitely behind modern requirements, owing largely to the fact that our expert local health officers were primarily employed in treating disease. Heretofore sanitary defects were taken as a matter of course, but with the establishment of the Free State a more searching criticism, from sources both internal and external, has been applied. The rapid progress in health legislation, and especially as regards the protection of food, made in England, Denmark, and other countries, has placed us at some commercial disadvantage, and it is feared that, unless strenuous efforts are made to make good our recognized defects, Irish products in competition with those where hygienic methods are systematically adopted will be prejudically affected, or the markets may be closed on health grounds. It is felt that highly qualified and experienced men are essential to undertake these important health problems and to bring the sanitary requirements to a proper standard. Apart from the public health point of view, which is of the utmost importance, the trade aspect of the question is being daily pressed on the Department. In consequence of representations made to the authorities in the United States, Dr. Tuck, inspector of the Bureau of Animal Industry, was specially detailed to visit this country and report on the conditions under which bacon was prepared for export. Recent proceedings of the British House of Parliament show that a critical watch is being kept on the admission of Irish milk and cream, and uneasiness by leaders of the dairy industry is felt.

The main essentials in public health administration are: (1) sanitary areas of adequate extent, and (2) trained whole-time health officers to control the sanitary inspectors and to administer the laws and regulations impartially. Infection and disease have little relation to arbitrary administrative boundaries, and it is beyond dispute that the best results in the prevention of human suffering and death are achieved in large areas of local control. Experience has shown that, however competent a part-time medical practitioner may personally be, he frequently suffers from certain unavoidable disabilities in his capacity as a medical officer of health. He is individualistic rather than communal in outlook, and his public duties conflict with his interest as a private practitioner, and often bring him into

collision with his fellow practitioners. These two essentials were recognized in the Local Government Act, 1925, and the appointment of whole-time medical officers of health is now not alone a statutory obligation, but is an inevitable corollary to the widening of the administrative area which was accomplished under the provision of that Act. Few reforms have received so much public consideration prior to being embodied in legislation as that of the whole-time medical officer of health. It was recommended by the Irish Public Health Council in May, 1920. Later, in 1923, the whole subject was carefully considered by the General Council of County Councils, who, when local rates generally were at a point higher than at present, proposed the county councils as the appropriate health units, and as regards staffing made the following recommendation. We recommend:

(*a*) That the following health officers should be appointed for each health unit (with assistants, where necessary) under a scheme to be approved of by the Minister of Local Government: (1) a whole-time medical officer of health; (2) a whole-time veterinary officer of health (all veterinary inspection to be carried out by whole-time veterinary officers); (3) provision should be made for the effective medical examination of school children and of the conditions, from a health point of view, under which they receive instruction.

(*b*) That the qualifications of all candidates for surgical, medical, and veterinary appointments by local health authorities and Poor Law authorities be in accordance with regulations to be made by the Minister of Local Government, and that such regulations shall include competitive examinations, practical as far as possible.

A failure to carry out the express requirements of the Local Government Act would lead to administrative confusion, would place the country in a hopelessly backward condition when compared with health reforms undertaken elsewhere, and would leave the health of the people a plaything to infection. The danger arising from neglect of public health administration is all the more serious owing to the facilities now existing for the rapid transportation of human beings, who are the chief carriers of infection. Infection, uncontrolled, results in widespread disease, suffering, disablement, and death, and imposes a heavy burden on the rate-paying public. The detection of the earliest cases of the most common infectious diseases and the adoption of measures to prevent their transmission would save thousands of pounds annually. Diphtheria, which is being eradicated in other countries, is endemic in many districts in An Saorstat, and demands a heavy toll in mortality and rates. Polluted water taken by a common carrier in one county might lead to outbreaks of disease in any number of other counties.

Among the duties of the county medical officers of health, as set out in a recent Local Government Department Order, are:

The effective administration of the sanitary laws, and the safeguarding of the health of the people in respect of housing and other matters.

Inquiry into the origin, causes, and distribution of disease. Periodical inspection of districts.

Taking steps to deal with infectious or epidemic disease.

Direct and superintendent medical officers of health.

Inspection of food, slaughterhouses, dairies, cowsheds, and milkshops.

Supervision of the health of expectant and nursing mothers, and children under 5 years. Supervision of the welfare of blind persons. Arrangements for school medical inspection.

Correspondence.

SYSTEMIC TREATMENT OF CANCER.

SIR,—In your issue of December 11th, 1926 (p. 1135), in an article by R. G. Canti, M.D., entitled "Lead treatment of cancer: an account of a demonstration by the Liverpool Medical Research Organization," the author, in the first paragraph of his conclusions, states as follows:

"Remarkable and impressive as are certain of the cases in which lead alone has been used, it cannot be too emphatically stated that the importance of the research being carried out at Liverpool lies, not in the wonderful individual results obtained (which form only a small percentage of the cases treated), but in the fact that it is the first time in history that a generalized treatment has been found that brings about a local disappearance of a cancerous growth."

I believe that Dr. Canti must have overlooked or forgotten the very considerable number of inoperable malignant tumours of all types that have been reported in medical literature by competent observers, which have disappeared as a result of an attack of erysipelas either occurring accidentally in the course of the disease, or produced by inoculation as a method of treatment. Inasmuch as in most of the reported cases the area affected by the erysipelas was remote from the site of the malignant tumour, one must conclude that the tumour disappeared as a result of the *systemic* action of the streptococcus rather than any local action.

An objection might be raised to regarding these cases of accidental erysipelas as a method of treatment, but this would not apply to the cases of inoperable malignant tumours treated by inoculations of the living cultures of the streptococcus, in which the erysipelas was produced deliberately as a definite method of treatment, based on the results observed following accidental erysipelas. Much less would this objection apply to the results obtained by the use of the toxins of the streptococcus alone or combined with the toxins of *Bacillus prodigiosus*, which was the next step in the evolution of a method of treatment based upon the authentic and indisputable evidence that the streptococcus of erysipelas in the form of a localized attack of erysipelas has a powerful influence upon malignant tumours of all types, even far remote tumours, which influence in a considerable number of cases has been sufficient to cause the complete disappearance of such tumours and to result in a permanent cure of the patient.

In my paper on the treatment of malignant tumours by repeated inoculations of erysipelas, with a report of ten original cases (*American Journal of the Medical Sciences*, May, 1893), I collected from literature 38 cases of malignant disease in which erysipelas had occurred by accident or design. In 23 cases the erysipelas occurred accidentally, and in 15 it was the result of inoculation. This series included 17 cases of carcinoma, 17 cases of sarcoma, and 4 cases of either sarcoma or carcinoma. In the group of carcinoma 3 were permanently cured, 1 was well five years later, and in 10 of the remaining number decided improvement was noted. In the group of sarcoma 7 were alive and free from recurrence from one to seven years after the attack of erysipelas.

Eschweiler, in a monograph published some years later, collected from literature 69 cases of accidental erysipelas associated with malignant tumours; 27 of these were sarcoma, 38 were carcinoma, and in 4 cases the type of tumour was undetermined. In the group of sarcoma 7 showed temporary improvement, in 10 cases the tumour entirely disappeared (one later recurred), there were 9 apparent cures, and in 4 cases the patient remained alive and well from two to eight years. In the group of carcinoma 12 showed improvement, in 8 cases the tumour entirely disappeared (in 3 the disease later recurred), there was no apparent effect in 9 cases, and in 6 cases the patient died of the attack of erysipelas.

In January, 1893, in order to eliminate the risk attached to the use of the living germs, and to overcome the difficulties encountered in trying to produce the desired attack of erysipelas, I began using the toxic products of the streptococcus of erysipelas, or the killed cultures, at first alone, and shortly afterwards combined with the cultures of the *Bacillus prodigiosus*. It is impossible in the short space permitted in your correspondence columns to refer more than briefly to the later developments of the method and the results obtained. It is important, however, to note that in a very considerable number of cases of inoperable malignant tumours, chiefly sarcoma but including all types of malignant tumours, these tumours have been caused to disappear entirely by injections of the mixed toxins of erysipelas and *Bacillus prodigiosus*. Reports of these cases have been published from time to time in the leading medical journals of America. In 1909, in a paper read before the Royal Society of Medicine, London, the method was fully described and the results given. This paper was published in the *Proceedings of the Royal Society of Medicine*, November, 1909, and a full abstract appeared in the London *Lancet*.

The most complete report of the end-results appeared in a paper entitled: "The treatment of malignant inoperable tumours with the mixed toxins of erysipelas and *Bacillus prodigiosus*; with a brief report of 80 cases successfully treated with the toxins from 1893 to 1914" (read before the Third International Conference of Cancer Research, Brussels, August 1st to 5th, 1915). This paper was too long (175 pages) to publish in the medical journals, but it will soon appear in book form with additional cases treated since 1914 and the end-results to date. The successful results obtained in the 80 cases referred to followed the use of the method in a series of 710 cases; in other words, the proportion of successes observed was a little over 10 per cent. In the great majority of cases in which the tumour disappeared under the toxin treatment the cure has remained permanent; fifty-nine of the

patients were alive and well from three to twenty years. These were practicably all inoperable, hopeless cases; and it is important to note that nearly all of them were treated by toxins alone without the aid of *x* rays or radium. In addition, this paper contains a report of 125 cases successfully treated by other men, some of the latter being English surgeons. A brief report of these may be of interest.

An inoperable spindle-cell sarcoma of the abdominal wall treated by Major C. G. Spencer of the Royal Army Medical Corps was well six years later.

A periosteal spindle-cell sarcoma of the ramus of the lower jaw treated by Dr. Frank Kidd of London was well four years later.

A sarcoma of the femur treated by Dr. Deanesly (see BRITISH MEDICAL JOURNAL, May 28th, 1910) was well fourteen years later.

A recurrent inoperable melanotic sarcoma of the neck treated by Dr. H. H. Greenwood of Leeds was well twelve years later.

A far advanced typical Hodgkin's disease treated by Dr. C. E. Preston of Ottawa, Canada, was well eleven years later.

An inoperable recurrent hypernephroma of the kidney treated by Dr. Arthur Connel of the University of Sheffield was well eleven years later.

In a recent follow-up of ninety-three cases of inoperable sarcoma treated with the toxins alone (reported before the Johns Hopkins Medical Society in 1896) I find sixteen patients have remained alive and well from eight to thirty-three years, and twelve from ten to thirty-three years.

It is interesting to note that the dangers associated with this method of treatment—namely, by the mixed toxins, are practically *nil*; I have observed only three deaths in one thousand cases. In addition to cases of inoperable sarcoma successfully treated, a number of inoperable carcinomas have entirely disappeared, the patients remaining well for many years; and also several cases of melanoma—a type of tumour rarely cured by surgery and extremely resistant to both *x* rays and radium—have recovered and remained permanently well.

This letter is written with no idea of detracting from the value of the splendid research work that is being carried out by Professor Blair Bell and his co-workers in Liverpool; but merely to correct the statement of Dr. Canti that the lead treatment is the only systemic method of treatment that has ever caused the disappearance of a malignant tumour. Professor Blair Bell has undoubtedly accomplished a brilliant piece of work; and we are hoping that further investigations will show the possibility of eliminating the risks associated with the treatment, thus adding to the value of the method. There is no question but that we have nearly reached the limit of our ability to control cancer by local methods—that is, surgery and radiation. In spite of the great advances in the perfecting of these methods of treatment, cancer mortality is steadily increasing, and any hope of really controlling the disease must lie along the lines of systemic treatment. The problem of the control of cancer is so great that *I believe all new* research work in every direction should be given every possible encouragement. At the same time, we should not permit our enthusiasm over the new to make us forgetful of what has been accomplished by the older methods.—I am, etc.,

New York, Jan. 3rd. WILLIAM B. COLEY, M.D.

MONGOLIAN DEFECTIVES.

SIR,—I do not undervalue the importance of Dr. Cock's letter on page 120 of your issue for January 15th. But I do not agree that "an organized being *cannot* be a descendant of another whose development is in an inverse order to its own" in respect of such details as those adduced by Dr. Cock. So much, to me at least, is *not* "evident," and zoology teaches us that alternate generations may do some very queer things. Still, if Dr. Cock's view is correct, it does not follow that "man *cannot* be considered as the descendant of *any* simian type." It is quite easy, for the Darwinians have never produced man's hypothetical ape-man ancestor. All that is necessary is to *assume* that this ape-man really did develop in the same order as we do. Why not? I do, however, willingly admit that those who lay it down as an article of faith that the development of the individual man recapitulates, without serial dislocation, the order of development of the race, must be embarrassed by such facts as are brought forward by Dr. Cock; if, that is, they postulate for man ancestors who developed in the order that Dr. Cock says obtains amongst certain apes and not amongst man.

But the many kind critics of my little book who, not having read it, yet criticize it, do not seem quite clear about the views therein expressed. Ever since being an asylum medical officer—now thirty years ago—I have been interested in the homologies that do obtain between Mongolian defectives, Mongoloids who are not defective, orangs, and racial Mongols. These homologies, which have lately been shown (1) by Kurz to extend to the intricacies of the cerebral development of orangs and racial Mongols, and (2) by Gans to the cerebral morphology of Mongolian defectives and racial Mongols, as fourteen years ago I predicted would be the case, cannot, it seems to me, be easily dismissed as "superficial" in the fashion of the author cited by Sir John Lynn-Thomas in the BRITISH MEDICAL JOURNAL for January 15th (p. 94)—unless, that is, good reason is given *why* they should be so dubbed. However, though I am only secondarily interested in the "explanations" of these homologies, it does seem to me that if, as good Darwinians insist, "homologies prove descent"—the assumption underlying the culture-diffusion hypothesis of Professor Elliot Smith—then, unless these homologies be disposed of as "superficial," we are compelled away from strict monogeny and towards some polyphyletic theory of man's descent. Or, alternatively, we can abandon the major premise. Such is the very interesting position now reached—a position worth exploration. And I cannot for the life of me understand why Dr. Clarkson should imply (BRITISH MEDICAL JOURNAL, January 1st, p. 42) that there is any antagonism between an "atavistic" and a "pathological" explanation of the morphological characters of any individual. Nor can I see how anyone can roundly assert of certain morphological characters (as does a commentator in the *Lancet* for December 25th, 1926, on page 1332) that such "are not racial characteristics but pathological stigmata." Why not both? I have always thought—innocently—that while anthropology could discover and tell us much about many homologies, human medicine and pathology—which are but parts of anthropology—might be able to tell us how and why only some of the children who are, so to speak, anthropologically eligible for Mongolism should remain during life as Mongolian defectives or more *intelligent* Mongoloids. The commentator in the *Lancet* says that *every one* of the characteristics of the Mongolian defective marks him as "half-baked." This is to admit their reversionary significance, is it not? Yet, almost immediately, the same writer insists that these signs of "half-baking" are pathological, and not atavistic or racial! Why, then, are *not all* "*half-baked*" children—the phraseology is, I suppose, pathological—Mongolian defectives?

I am certain that no one who has weighed the anthropological issues shares the fears of Dr. Clarkson that, in his so doing, there may be lurking a tendency "to stifle" pathological or physiological research, which *may* be likely, as Dr. Clarkson says, to lead us one day to the truth, but which certainly is long about it. On the other hand, if I may say so with the utmost good humour, no one knows better than I the amusing, quite successful, and very persistent efforts made by pathologists and clinicians, during fourteen or fifteen years, "to stifle" discussion of the anthropological issues. That is why I was compelled—or impelled—to write my little book for a non-medical public! Yet the occurrence amongst us of Mongoloids—not merely of such Mongoloids, dully "normal" in their intelligence, as Dr. Clarkson tells us he has never seen, but so remarkable as the still living statesman who guided the fortunes of France to victory, and the seaman who presided for a time so brilliantly over our sea destinies during the great war—forbids us to narrow the question of Occidental Mongolism down to the petty one of a few imbeciles in workhouses and asylums. And so it is that Aleš Hrdlička,

in his latest work *The Old Americans*, admits the occurrence of Mongoloids, in Germany and "even in England," as a fact susceptible of ethnological explanation. But to reply to all the points raised now by Dr. Clarkson would divert attention from that which was the subject of my letter in your columns for December 4th, 1926 (p. 1080): the fallacy of an "argument" which may be generalized as declaring an atavistic explanation of homologies, between a living individual and (1) a hypothetical ancestor or ancestral group, or (2) an existing group to which he is not known to be related, to be "negatived" unless complete physical and mental resemblance can be (*a*) postulated in respect of the hypothetical ancestry, and/or (*b*) demonstrated in respect of the living individuals whom he resembles, and with whom he shares the completely resemblant though hypothetical ancestry. Such an "argument"—which is dogmatic assertion and not argument—appears to have been unfortunately used by Marfan of Paris in a recent lecture, where—again unfortunately—it is clear that there was no first-hand knowledge of the work of English physicians. This argument is reproduced, with apparent gravity, in the *Lancet* (loc. cit., vide supra), wherein W. J. Langdon-Down is said to have suggested Mongolism to be a reversion to a remote ancestral type, and where the "standing argument" against this view is said to be that if Mongols (? Mongolian defectives) are really throw-backs to Mongolian ancestors (which no one, I think, really suggests), then they (the "Mongols") ought to be physically and mentally as fit as are normal Chinese or Japanese. But why "ought"?

Brief consideration convinces most people that if this "standing argument" is left standing, no idiot "ought" to resemble his grandfather unless each of them is as imbecile as the other and as normal as are the cousins who "take after" the old gentleman. Nay; all evolutionary theory explodes—and here Dr. Cock will support me—for in a world wherein everyone completely resembles his ancestors and his collaterals there must be an end of evolution and "reversion" alike. But it would then be equally impossible for the sons of Ham to claim consinship with the sons of Shem and of Japheth, *and* common descent from Noah—that is, if Professor Marfan, Dr. Clarkson, and the *Lancet* are to be believed.

In conclusion, I would refer any of your readers who, with Dr. Clarkson, may fear that I have too freely translated Gans's work, to para. 510 in the *Epitome* of the BRITISH MEDICAL JOURNAL for 1925, vol. ii. Those who wish acquaintance with the work of Kurž should first read his brief summary in *Anatomischer Anzeiger*, 58 Band, 1924, and afterwards his longer and illustrated memoirs, most of which appeared in *Zeitschrift fur Anatomie* during 1922, 1923, and 1924. The bearing of Sera's work (as Jack Bunsby might have said) lies in the application of it. When we know that things which are equal to the same thing are equal to each other we make real progress in the synthesis of knowledge.

But, after all, the first question is whether or no the homologies in question are to be observed. It is not well to pretend they do not exist, or to declare that they are superficial, just because they are inconvenient, or inconsistent with current orthodoxies. On the other hand, no one conversant with modern trends worries very much about the real or historical truth of Darwinian or other theories as to the *origin of man*. Such theories and hypotheses are useful, in a book-keeping kind of way, as convenient summaries of what we think we know. Personally, I am never afraid of any hypothesis or inference from observed facts so long as it is logically legitimate and practically profitable, and until another emerges that has a better title on either or both of these grounds.

I regret, Sir, the unconscionable length of this letter, but if I can only induce my critics to read my little book I will have no occasion, I hope, to trespass again upon your indulgence. Can we not all agree to continue our observations and not to indulge in "standing arguments" that have no logical or pragmatic justification?—I am, etc.,

London, W.1, Jan. 20th. F. G. CROOKSHANK.

DELAY IN REGISTRATION AFTER PASSING QUALIFYING EXAMINATION.

SIR,—On December 7th last the pass list of the London M.B., B.S. was published. On December 8th the fee for registration was forwarded to the General Medical Council by a newly fledged graduate. The receipt for the fee was received within a few days.

Naturally, as opportunity arose, medical work was undertaken by the junior.

On January 16th this practitioner went to a case of apoplexy. The patient, who had been under the observation of a senior practitioner for several months, but had not been seen recently by him, died within an hour of being visited by the junior on behalf of the senior. To make sure of being a registered practitioner the junior inquired at the office of the General Medical Council as to being able to sign the death certificate. The reply obtained was that the junior would not be registered until January 26th—that is, seven weeks after the publication of the lists and after complying with what was required.

It is stated that the delay is due to the London University not sending the necessary information to the General Medical Council.

This involved application to the coroner for leave to give a certificate by the senior and led to delay in granting the certificate to the relatives. Surely, Sir, this ought not so to be.—I am, etc.,

January 17th. SENIOR.

*** The facts stated by "Senior" certainly seem to involve a distinct hardship, and as the practice of the University of London was not within our knowledge we communicated with the Registrar of the General Medical Council, who informs us that the Council cannot register *on the strength of a pass list, but must wait until the* diploma (in this case the degree) has actually been conferred. We understand that the attention of the University has been repeatedly called to the matter, but that its practice has not been modified. Some delay is no doubt inevitable, but seven weeks would appear to be an unduly long time. It seems to be a matter to which the authorities of the University should give attention.

METHOD OF TREATING ASTHMA BY RADIATION.

SIR,—Several radiologists who have tried the method for treatment of asthma by radiation described in the preliminary note published in the BRITISH MEDICAL JOURNAL of June 5th, 1926 (p. 939), have sent me particulars of certain cases so treated and of their results.

While I have no doubt as to the beneficial effect of general radiation in bad cases of long standing, there are several interesting phenomena on which further evidence is required. I should be much obliged to those radiologists who have tried the method if they would let me have details of the cases they have so treated, the results obtained, and any phenomena that they have noticed during or after the treatment; such details may be sent to me at the Radiological Institute, 32, Welbeck Street, W.1.—I am, etc.,

London, W.1, Jan. 24th. S. GILBERT SCOTT.

THE FOETAL THYROID GLAND.

SIR,—The conclusions at which Dr. Ian Murray arrives in his paper on the thyroid gland of the foetus and newly born (January 1st, p. 5), as to the effect of *post-mortem* changes on the appearances of the colloid and the vesicles, confirm the observations published by Professor Lucas Keene and myself (*Lancet*, July 19th, 1924). We suggested then that the *post-mortem* changes found in apparently fresh thyroid material might be due either to a maternal toxaemia or to extreme congestion of the foetus caused by prolonged labour: in both cases an unstable condition of the foetal thyroid would be induced, and any *post-mortem* change consequently accelerated. The appearance of vacuoles in the colloid varies greatly with different animals when the material is fixed in a fresh condition; for example, an actively secreting rat's gland usually shows

these vacuoles, whereas they are absent in the resting vesicles (see also McCarrison, *The Thyroid Gland*, 1917); in man the material obtained at operation and fixed at once rarely shows vacuoles in the colloid. As an extension of our work on the human foetus special histological examination of thyroid glands has been made, from which it would appear that the staining reaction of the colloid varies greatly with the state of activity of the gland, and that there is a correlation between the *p*H of the colloid and the secretory activity of the vesicular cells. It is hoped that these observations will shortly be completed for publication.—I am, etc.,

London, W.C.1, Jan. 18th. E. E. HEWER, D.Sc.

LAW AND TRADITION OF MEDICAL PRACTICE.

SIR,—In your recent reference to our book *An Introduction to the Law and Tradition of Medical Practice*, which makes no pretence to be more than an introduction to a complete work, you take exception to our views on two or three points of professional etiquette.

You challenge our contention that it is regarded as advertisement for a practitioner to send signed articles or letters to the lay press. It is, however, common knowledge that the practice has led to names being struck off the *Register*, though exceptions have been made in certain cases by the General Medical Council. We pointed out that these exceptions are made without reason stated and without the disclosure of any principle as a basis for them. The recent publication of certain famous articles with the apparent approval of the General Medical Council appears to us to be on all fours with other cases in which members of the profession have been penalized under the heaviest sanction which the General Medical Council can enforce. *Unless it can be shown that the exceptions are based on* a recognized principle, they must tend to discredit the authority of the governing body of the profession.

With regard to tradition generally, it is always difficult to decide the exact time when an unwritten code has grown to the point when it is so generally accepted that it may be reduced to writing and regarded as authoritative. In our book we have not ventured beyond the point where medical men have themselves written on the subject. For instance, you criticize us for saying that it is a breach of etiquette to inform the patient of the disagreement of consultants. In at least one of the older authorities this is laid down without qualification. While we are willing to admit that some modification of the statement may be desirable, the informing of a patient is obviously a matter which must be dealt with with such extreme caution as to warrant a textbook writer drawing attention to it.

It may be that after consulting medical men we took a small step beyond the other textbooks in condemning the employment of unqualified dispensers in all cases. As far as the scheduled poisons are concerned we were on safe ground, and the General Medical Council has laid it down that to employ unqualified dispensers will be treated as infamous conduct in a professional respect. As to the employment of unqualified practising chemists there can be no question that this is contrary to professional etiquette in the same way as co-operating with unqualified dentists, because under the Pharmacy Act a chemist is bound to be qualified. We contend that the employment of unqualified dispensers is contrary to the best traditions of the profession and is a transgression of the spirit of the law.

We have to thank you for your valuable notice and for the opportunity you have given us of correcting several errors in our book.—We are, etc.,

WILLIAM SANDERSON,
Lincoln's Inn, Jan. 20th. E. B. A. RAYNER.

*** By their rejoinder Messrs. Sanderson and Rayner strongly confirm our original judgement that their didactic enterprise has been undertaken with a quite inadequate equipment. They state four propositions, and each of these announces unfamiliarity with medical custom and tradition, and some of them also ignorance or misconstruction of the written word. We will discuss these propositions in detail, as they express misconceptions not infrequent in non-medical circles.

1. It is not true, as the writers allege, that "to send signed articles or letters to the lay press" is condemned by the General Medical Council. What the Council forbids to the practitioner is "advertising, whether directly or indirectly, *for the purpose of obtaining patients or promoting his own professional advantage*," and it is only on proof of one or other of the ambitions indicated in the phrases here placed in italics that an offender will be punished by the Council. Messrs. Sanderson and Rayner would have been spared this blunder if, instead of adopting the ingenuous conclusion that one signed medical article is "on all fours with" all other signed medical articles, they had read the official "Notice" of the Council.

2. It is both incorrect and absurd to affirm that "certain famous articles" in the lay press have the "apparent approval" of the General Medical Council. Such a statement can proceed only from ignorance of the Council's powers and responsibilities in its action as a judicial body. Messrs. Sanderson and Rayner will doubtless allow that in the ordinary affairs of life many illegal and improper actions escape all legal penalty because, either the law does not cover them, or the offended person will not complain, or the available evidence is not adequate. It would scarcely be correct to say that these actions enjoy the "apparent approval" of the High Court of Justice.

3. Reinforced by some unnamed medical writers, and by "at least one of the older authorities," our barrister authors continue to find attraction in the doctrine that "it is a breach of etiquette" to inform the patient that doctors who have met in consultation on his case cannot agree. We will offer them the opportunity of a practical problem: Dr. A. says the leg must be cut off; Dr. B. says it must be left on. What in these circumstances is to happen (i) to medical etiquette, (ii) to the debatable leg? The truth, of course, is that when differences of opinion concern practical action they must be revealed, while mere academic debate and discussion remain naturally within the consulting-room. Every writer we know accepts this conclusion; and inevitably, for it is imposed by the logic of events. Messrs. Sanderson and Rayner protest their right to draw attention to the subject. Admitted—provided they first take pains to save themselves from elementary blunders.

4. Meeting our denial of their affirmation that doctors "must not employ unqualified dispensers," the authors write: "As far as the scheduled poisons are concerned we were on safe ground, and the General Medical Council has laid it down that to employ unqualified dispensers will be treated as infamous conduct in a professional respect." If this proposition is true every medical practitioner—and they are to be numbered by thousands—who employs a dispenser not qualified under the Pharmacy Acts, and allows such dispenser to make up any medicine containing one or other of the substances scheduled in these Acts as "poisons," runs the risk of removal from the *Medical Register*. But the proposition is not true. The General Medical Council has not laid down what it is here alleged to have laid down. What it has laid down is that condemnation will fall on any practitioner (a rare bird) who keeps "an open shop" in which scheduled poisons are sold to the public and employs for this purpose a person not legally qualified to sell scheduled poisons. But a practitioner who does not keep "an open shop" is at liberty either to dispense his own medicines or to employ for this purpose any person deemed by him to be competent for this duty. Messrs. Sanderson and Rayner condemn this practice as "contrary to the best traditions of the profession." Their capacity to define these traditions has so far remained latent; and custom, widespread and of long standing, denies their thesis. They say also that this custom is "a transgression of the spirit of the law," and here they go a little too far. Barristers may, with some show of reason, tell us what is "the law"; but "the spirit of the law" is for philosophers, and to this character our authors will hardly pretend.

The true story of the General Medical Council's condemnation as mentioned above is as follows: Under the Pharmacy Acts no person may keep open shop for the sale or dispensing of the scheduled "poisons" unless he holds a qualification granted after examination by the Pharmaceutical Society. The Act, however, does not apply to

qualified medical practitioners, any one of whom therefore may, if he so wills, keep open shop for the above mentioned purposes. In rare instances doctors have exercised this right, and have sold scheduled poisons across the counter. Next, certain doctors claimed the right to leave in charge of the "open shop" a person qualified neither in medicine nor in pharmacy, on the view that when a "poison" was "sold" the legal "seller" was the legally qualified doctor who owned the "shop," and not the unqualified assistant who delivered the goods. By a judicial decision, however, it was decreed that legally the "seller" of a "poison" is the individual who conducts the sale across the counter and hands the substance to the purchaser. Therefore, if an assistant employed in an "open shop," and not qualified either under the Medical or the Pharmacy Acts, "sells," in the sense above defined, a scheduled "poison," he may be summoned and fined, though the doctor who employs him is not deemed guilty of any legal offence. To meet this position the General Medical Council issued a "Notice" to the effect that a doctor concerned in a transaction such as is here described, though he may escape the law, is liable to be found guilty of infamous conduct in a professional respect.

It is out of a rule framed to meet these narrow and exceptional circumstances that Messrs. Sanderson and Rayner have been able, through wearisome and irrelevant comments on medical etiquette and professional traditions and practising chemists and the spirit of the law, to arrive at this large and quite incorrect conclusion—namely, that doctors must not employ "unqualified dispensers." The statement itself displayed want of knowledge, but the reasons now given in its support combine with other considerations to compel the conclusion that its sponsors are not yet qualified to guide either the medical or the legal profession in the law and tradition of medical practice.

MIGRAINE AND ACETONURIA.

SIR,—May I be allowed to say that my personal experience corresponds with that of Dr. Allison (January 22nd, p. 165)? I have avoided sugars, jams, etc., for the greater part of my life. About sixteen years ago I took a spoonful of marmalade with my breakfast; in less than half an hour an intense headache came on, and continued till I went to bed towards midnight. Sugar in tea or coffee has the same effect, quickly followed by acidity and burning at the pit of the stomach. I am, in addition, very thin and muscular.—I am, etc.,

London, S.W.6, Jan. 21st. J. FLETCHER.

SIR,—May a belated note from a far country, following the paper and discussion on migraine at the Annual Meeting at Nottingham (BRITISH MEDICAL JOURNAL, October 30th, 1926, p. 765), be excused on account of its offering a suggestion for relief in that condition?

I too was a sufferer, one of the fifth generation of sufferers, propagated through the female line, complicated by acute gout, and always precipitated by exposure to cold or irregularity of meals, preceded by a feeling of cerebral discomfort, closely followed by general headache, a boring throb at the back of one eye, subsequent sickness, and gradual recovery, accompanied by free secretion of watery urine. Thirty-eight years ago, when about the age of 40, I read a paper by my beloved teacher and the kindliest of Scots, Sir Lauder Brunton, and from that time migraine held no terrors. The cause, in my case, was the presence in the blood of effete products of digestion, my liver having "gone on strike."

Whether this brought about one of the possible causes of migraine, of which, according to the meeting at Nottingham, we may apparently take our choice—namely, spasm and dilatation of meningeal or cerebral arteries, congenital smallness of the sella turcica, enlargement of the pituitary gland, eye-strain, retinal changes, a passing block of the foramen of Monro, or a lesion in the chiasmal region—I do not know, but I do know that Lauder Brunton could cure it, and I myself (*longo intervallo*) have never known a failure.

As to the etiology of the disease, it may be summed up in two words—"high living"—for I take it to be true that few men have seen a migrainous patient whose grandfather lived on beans and bacon, oatmeal porridge, or potatoes. And this is a point perhaps more easily demonstrated in Australia than at home.

The suggestions as regards treatment were as indefinite as those as to the cause. After the recital of many, which may be included under the title "general," we come to the particular—namely, the administration of luminal for an indefinite period; the result was uncertain; the intravenous injection of "afenil," the technique requiring the greatest care, and the result was also indefinite; and, failing these, an operation for cerebral decompression.

Lauder Brunton's prescription of 20 grains of sodium salicylate and 15 grains of potassium bromide always brought relief in half an hour, saved me many hours of pain, and perhaps even—who knows?—a cerebral decompression!—I am, etc.,

Old Beach Road, Brighton, South Australia, Christmas, 1926. J. W. YEATMAN.

ANTHRAX AT THE ZOO.

SIR,—Having been responsible, on behalf of the Ministry of Health, for investigation of the circumstances of the recent outbreak of anthrax in the elephant house at the Zoo, you will perhaps allow me to correct certain inaccuracies in the article which appeared under the above title in last week's issue of the JOURNAL.

You say that "Thanks, however, to the very prompt diagnosis of anthrax in the animals by Dr. Scott—he had diagnosed it within an hour of the necropsy—immediate and energetic steps were taken," etc. It is true that on the death of the *second* elephant Dr. Scott was able thus rapidly to arrive at a diagnosis of anthrax, subsequently confirmed by cultural and experimental methods. But as regards the *first* necropsy, such diagnosis of anthrax unfortunately was not possible, for the reason that, owing to the length of time that had unavoidably elapsed between the death of the elephant and the necropsy, microscopic examinations revealed only an enormous growth of *B. welchii*. Accordingly the cause of death was tentatively entered as "haemorrhagic septicaemia." Nevertheless, as the appearance of certain of the internal organs gave rise to a suspicion of anthrax, all precautionary measures were taken as if the presence of the disease had been definitely determined. It was not until about a week later, when a man, who had taken part in the work of the first necropsy only, was found to have developed a typical malignant pustule, that it was possible to be certain as to the cause of death in the elephant first affected.—I am, etc.,

London, N.W.3, Jan. 24th. S. MONCKTON COPEMAN.

*** The additional information Dr. Monckton Copeman provides clears up the only point that was obscure. Apparently the *post-mortem* examination of the first elephant took place too long after death to permit the identification of the anthrax bacillus; this was effected by Dr. Scott in the case of the second elephant, upon which the *post-mortem* examination was, we understand, performed before the man who had assisted in the first was known to have developed anthrax.

SMALL-POX AND VACCINATION.

SIR,—If Dr. Killick Millard's letter in your issue of January 22nd (p. 163) is to be understood as it is written, his opinion has apparently undergone considerable change since we last heard from him on this subject. As far as I could understand from his former contributions, Dr. Millard's *bête noire* was not "vaccination." It was not even "infantile vaccination." He believed that recent and efficient vaccination protects against small-pox, and he showed by his practice, as well as by a particular experiment which he quoted, that the *individual infant* is certainly protected by vaccination. He appeared to be doubtful whether the vaccinated infantile community was or was not protected, but he was quite clear in stating that it was "compulsory infantile vaccination" to which he was opposed.

Now Dr. Millard says: "Under these circumstances vaccination proved quite incapable of preventing widespread and fatal epidemics," and in illustration of this extraordinary statement he refers to the Sheffield, Warrington, and Middlesbrough classics. Is this really Dr. Millard's opinion? Is his omission of the qualifying words "compulsory infantile" intentional or unintentional?

Under present conditions in this country in regard to small-pox and its prevention, any medical statement or opinion should admit of no misunderstanding, and should be made only under the clearest sense of responsibility. It is very essential also in dealing with this subject to bear in mind that there are others who quote extracts from medical writings on vaccination, and do so for a reason very different from the reason which has induced me to criticize Dr. Killick Millard's letter.—I am, etc.,

Dartford, Jan. 22nd. A. F. CAMERON.

THE HISTORY OF DIPHTHERIA.

SIR,—I think that both Fleet Surgeon Home and Sir Humphry Rolleston have been led astray—the one by a natural zeal for the memory of his ancestor, the other by reliance upon a speculation put forward by the late Professor Adami. The disease we now know as diphtheria was sharply cut before the time of Bretonneau, and Francis Home was not the first to describe it separately. In support of my statement I would refer to several historians, of whom Bretonneau himself would be the first (see his second memoir, 1821). I am very far from wishing, however, to belittle the value of Bretonneau's work. He put our knowledge of the disease on a firm basis, and gave us a convenient name for it. But though Bretonneau's classical writings were published during the years 1821 to 1826, his views about diphtheria do not appear to have become diffused on this side of the Channel for many years. Nearly twenty-five years after the date of Bretonneau's first memoir diphtheria was not separately described in the great textbook of medicine of those days, Sir Thomas Watson's *Lectures on the Principles and Practice of Physic* (at any rate in the second edition, 1845, which is the one I happen to possess), nor are the words "diphtheritis" or "diphtheria" mentioned in it.

Though Francis Home certainly recorded a few cases of tracheal (and probably also laryngeal) diphtheria, I am sorry to have to say that the publication of his small book of sixty pages led to much confusion. It was the means by which the word "croup" was introduced into the medical literature of this and other countries. "Croup," a vulgar word applied in Scotland to the noise made by frogs, crows, cranes, and children affected with laryngeal spasm and obstruction (whatever the cause), was employed by Home to indicate a definite disease. No one who was a medical student forty to fifty years ago can forget the confusion not only he but his teachers floundered in over the disease and the word "croup." The confusion still lingers. I have asked many a third-year student attending my class at Homerton or Hampstead what he understood by the term "croupous" as applied to pneumonia, and though nearly all of them were acquainted with that use of the adjective, there was only one who could give me a correct answer.—I am, etc.,

Hemingford Abbots, Jan. 23rd. E. W. GOODALL.

INFANTILE PARALYSIS: THE BROADSTAIRS OUTBREAK.

SIR,—I am much obliged to you for inserting my report on the Broadstairs outbreak of infantile paralysis in 1926 in your issue of January 15th (p. 113).

As regards the possibility of infection having been introduced from abroad, I do not wish to emphasize this unduly, and in view of further information I have received I think it is desirable that for the sentence, "At another school the first case, an abortive one, was that of a boy who spent his holidays in Brittany," the following should be substituted: "At another school a boy who had symptoms which were suggestive of the disease had visited Switzerland during the summer holidays."—I am, etc.,

Broadstairs, Jan. 25th A. M. WATTS.

INSURANCE OF MOTOR CARS.

SIR,—You are aware that pressure is being brought to bear to secure a substantial increase in motor car insurance rates in the general market. But for the next twelve months the premiums for the Doctors' Special Policy, issued through the Medical Insurance Agency and underwritten at Lloyd's, will remain unchanged.

In addition the underwriters have, as from the beginning of this year, agreed to cover without further premium medical expenses up to 25 guineas in respect of personal injuries that may be sustained by the assured, his paid driver, or any passenger in the car. Morris-Cowley cars can be covered for the full comprehensive insurance benefits at a special premium of £11, whilst the Morris-Oxford is catered for under the special 13.9 rating.

In order to make clearer the restriction relating to the "named driver" allowance, the wording has been altered as follows:

> "If driven solely by one named driver
> Name.....
> This reduction is not allowed in the case of paid servants or chauffeurs."

The position is thus no longer ambiguous, but our opinion that the choice of this restriction is unwise remains unaltered.—I am, etc.,

L. FERRIS-SCOTT,
Secretary of the Medical Insurance Agency.

British Medical Association House,
Tavistock Square, W.C.1.

CANCER AND TRAUMA.

SIR,—May I trespass upon your space to ask if anyone has met with the development of a tumour in a wound inflicted upon a combatant during the late war? If mere traumatism can induce carcinoma or sarcoma it would be natural to expect examples from so great a wealth of material.—I am, etc.,

London, W.1, Jan. 24th. G. LENTHAL CHEATLE.

Obituary.

EDWARD STEPHEN PASMORE, M.D., M.R.C.P.Lond.,

Medical Superintendent, Croydon Mental Hospital.

ON January 12th there passed away, after a brief illness, one of the most ambitious spirits in psychiatry in the personality of Dr. E. S. Pasmore, medical superintendent of the Croydon Mental Hospital.

Edward Stephen Pasmore was born in 1866, and entered as a student at University College, London, in 1885. He graduated M.B.Lond. in 1890, and became M.D. in the following year and M.R.C.P. in 1897. He first devoted himself to neurology, and served as a clinical assistant to the National Hospital for the Paralysed and Epileptic and other neurological hospitals. In 1895 he took up psychiatry and was appointed junior medical officer and pathologist at Banstead Mental Hospital, where ultimately he became second assistant medical officer, which rank he held when he, in 1903, was appointed medical superintendent of the new asylum then in the course of erection by the borough of Croydon.

Early in his career as a mental specialist he adopted advanced ideals in regard to mental institutions and the treatment of mental disorders, many of which he was able to put into practical application in the mental hospital over which he was called upon to preside in 1903. As exemplifying this it may be recorded that Mr. Akers Douglas, then Home Secretary, on April 21st, 1904, sanctioned the Croydon Borough Asylum being known for the future as the Croydon Mental Hospital; that was a new departure, and it has since been very generally adopted by other local authorities. With this change of name the hospital received an up-to-date equipment for the practice of surgery and other special branches of medical science as adjuncts to the treatment of mental illnesses, which was largely in those days limited to general medicine and moral and personal influences.

From the beginning Dr. Pasmore kept well abreast with the growth of modern psychiatry, contributing here and

there such help as his experience and study enabled him to afford. He made some suggestive contributions to psychiatrical literature, but his best work lay chiefly in practical directions as head of the institution which will for ever be associated with his name. He was a well known figure in psychiatric circles, a fluent speaker, and always both willing and anxious to help in any movement for the better care and treatment of the mentally afflicted. For the past few years he was an honorary inspector of the hospitals of the League of Mercy, and held the Order of Mercy. He was an honorary demonstrator in the psychological department of University College Hospital, and an examiner in psychological medicine for the Royal Medico-Psychological Association, which he joined in 1898.

Dr. Pasmore married, in 1907, Miss G. E. Screech of Yelverton, and leaves a widow, two sons, and a daughter to mourn him. He was buried at Warlingham Parish Church on January 15th.

Dr. F. A. STEWART HUTCHINSON of Hove died from angina pectoris on January 6th, aged 57, at Maloja in Switzerland, where he had gone with a party to engage in winter sport. Dr. Hutchinson was the youngest son of the late General C. W. Hutchinson. He was educated at Cambridge University and the London Hospital, and graduated B.A.Camb. with honours in the Natural Sciences Tripos of 1891. He took the diplomas of the English Conjoint Board in 1895; in the following year he graduated M.A., M.B., B.Ch.Camb., and proceeded M.D. in 1905. He had served as house-surgeon to the London Hospital, resident surgical officer at the Kasr-el-Aini Hospital, Cairo, and assistant surgeon to the Sussex Eye Hospital. Dr. Hutchinson was a member of the Brighton and Sussex Medico-Chirurgical Society and of the Brighton Division of the British Medical Association. A colleague writes: "Hutch," as he was known to his many friends, was the beau-ideal of what many of us would like to be as doctors. Calm, unruffled, with a friendly smile, a wonderful gentleness and sympathy, and an unfailing desire to do always what was best for those who trusted him, it was small wonder that he was idolized by his patients. He never failed them, and in him doctor and friend were indeed synonymous. In the latter days of his war service in France he became subject to disquieting heart symptoms, and though often handicapped by these in the following years, he never allowed them to interfere with his work, or himself to be influenced by them. When off duty or on holiday he was like a schoolboy, full of enthusiasm and gaiety. In the summer he would go off to Scotland to fish or golf or walk over the hills, and for a short fortnight in January he went, year after year, to Switzerland for ski-ing and skating. Hutchinson was an accomplished skater and was one of the oldest members of the famous "Bear" club, which now has its headquarters at Morgins. Though high altitudes would have seemed hardly the best thing for him, he always declared himself to be immensely benefited by these holidays, and no one privileged to share them with him could wish for a more delightful companion. It was on the first day of his stay at Maloja this year that the end came quite suddenly from heart failure. He was out ski-ing with friends, and keenly enjoying the exercise and sunshine when he fell without a word. And so passed, in a way we think he would have wished, a very lovable soul and a very perfect gentleman, to his Maker from Whom, as was truly said by a friend, he was never very far, either in thought or act.

Dr. HAROLD HEBBLETHWAITE of Burley-in-Wharfedale died on January 3rd, aged 64 years. He was the son of the late Mr. John Hebblethwaite, a Bradford merchant, and received his early education at Bradford Grammar School. He then studied medicine at the Yorkshire College, and took the diplomas of M.R.C.S.Eng. and L.S.A. in 1887. In the following year he went to Burley and succeeded to the practice of the late Dr. Murray, whose eldest daughter he married. During the whole of the forty years at Burley Dr. Hebblethwaite had been medical officer of the village. He took great interest in the public life of the district, especially in connexion with the work of the St. John Ambulance Association and of the Sick Nursing Association. Under his supervision the local brigade won outright the Wharfedale ambulance trophy, after having won it three times in succession and five times in all. He had held a commission as major in the old Volunteers, and was afterwards associated with the local contingent of Territorials. At the outbreak of the great war he volunteered for service, and acted as medical officer of the Prisoners of War Hospital at Brockton Park, Staffordshire. In 1910 he had been appointed one of the Burley representatives on the Wharfedale Poor Law Guardians and continued in that capacity up to the time of his death. Dr. Hebblethwaite was medical officer to the Post Office and a member of the Bradford Division of the British Medical Association. He leaves two sons and one daughter.

Dr. DAVID WILLIAMS WHITFIELD, who died on January 4th, after a long illness, was born in Shropshire in 1861, and received his medical education at the Ledwick School of Medicine, Dublin, and in London. He obtained the diplomas of L.R.C.P.I. and L.M. in 1882, and the M.R.C.S.Eng. in 1883. After holding the appointment of assistant medical officer to the Whitechapel Infirmary for eighteen months, he started practice in Manchester, where he remained for seven years. He then acquired the practice of the late Dr. James Procter at Iron Bridge, Shropshire, where he lived for twenty-three years, marrying Dr. Procter's daughter in 1901. During the war he served on the Army Medical Board of the Western Command at Chester, and, after the death of his wife in 1917, commenced to practise at Abbots Bromley, Staffordshire, where he held the appointment of medical officer to the school of St. Mary and St. Anne. Ill health compelled him to retire in 1924, and, after spending twelve months in Devonshire, he went to live near Coventry, where he died. He was a member of the British Medical Association, and shortly before his death wrote the clinical memorandum which is printed in our present issue at page 187.

Dr. BRIAN RIGDEN, who died on January 15th, at his residence in Newnham-on-Severn, at the age of 70, was the son of Mr. George Rigden, who practised in Canterbury from 1837 to 1901. Dr. Brian Rigden was educated at King's School, Canterbury, and University College Hospital; he obtained the diplomas M.R.C.S.Eng. and L.S.A. in 1879. After holding the appointments of obstetrical assistant to University College Hospital, and clinical clerk to the Hospital for Women, Soho Square, he joined his father at Canterbury, and later succeeded him as surgeon to the Canterbury Dispensary in 1901; he retired in January, 1923. Dr. Rigden had been for many years a member of the British Medical Association, and was an ex-president of the East Canterbury Medical Society. He took great interest in the St. John Ambulance Association and was an honorary associate of the Grand Priory of the Order. He was well known also as an antiquary and in particular as an authority on old Canterbury. He leaves one daughter and three sons, one of whom is in the medical profession.

Dr. AUGUSTUS CECIL RENTON, who died on January 7th, at the age of 38, at his residence in Chester-le-Street, was the eldest son of the late Dr. W. M. Renton, and his family have been connected with the medical profession for many generations. He was educated at Epsom College and Edinburgh, where he graduated M.B., Ch.B. in 1912. During the war he held a commission in the R.A.M.C., saw active service in Mesopotamia, and rose to the rank of temporary major. A severe attack of dysentery while on active service considerably impaired his vitality during the following years. He held the appointment of medical officer to the Chester-le-Street Poor Law Institution, and was also public vaccinator, and compensation officer for the Harraton Colliery. Dr. Renton was a member of the British Medical Association.

The Services.

R.A.M.C. PROMOTION EXAMINATIONS.

IT is officially announced that in the examinations in March and October, 1928, of majors of the R.A.M.C. for promotion, the following periods of military history have been selected: The German offensive in 1918 and the final advance in 1918: as covered by the Official History of the War, Medical Services, General History, Vol. III (chap. xii-xvii).

DEATHS IN THE SERVICES.

COLONEL DANIEL O'CONNELL RAYE, Bengal Medical Service (ret.), died at Lacks Yews, Mattingley, on December 29th, 1926, aged 84. He was born at Kilmainham, Dublin, on August 4th, 1842. His mother was a sister of the famous Daniel O'Connell; and, when he was born, was living with her brother, who was then a political prisoner in Kilmainham jail. He was educated at Queen's College, Galway, and in the school of the Royal College of Surgeons, Ireland; he graduated M.D. in the Queen's University, Ireland, in 1865, and took the L.R.C.S.I. in the same year; he became F.R.C.S.I. in 1874. After post-graduate study in Paris and Vienna, he entered the I.M.S. as assistant surgeon on March 31st, 1866, and soon after his arrival in India served in the Daphla campaign on the North-East Frontier of India. On his return from active service he was posted to civil employ in the Central Provinces, where he was for a short time civil surgeon of Nimar, but before long was transferred to Calcutta as *professor of anatomy in the Calcutta Medical College*, and second surgeon to the College hospital. In 1892, when the late Colonel Kenneth McLeod retired, Raye succeeded him as professor of surgery and first surgeon, but two years later he was promoted to surgeon-colonel, and appointed inspector-general of civil hospitals in the Punjab; he retired after five years' tenure of that post. In 1900 the honorary Fellowship of the College of Surgeons was given to him. At the time of his death there were only three retired officers of the Bengal Service senior to Raye, and the great majority of his contemporaries have passed away. But there are still a good many younger men living who served under him successively as resident medical officers in the Calcutta Medical College Hospital, who remember him well as a first-rate surgeon, careful and safe rather than brilliant, and as always a kindly and considerate friend to his juniors in the service.

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

AT a congregation held on January 21st the following medical degrees were conferred:

M.D.—J. B. Hance, A. E. Roche, J. H. Hannan.
M.B., B.CHIR.—H. A. Ware.
M.B.—A. W. Spence.
B.CHIR.—*J. L. Morgan.

* Admitted by proxy.

UNIVERSITY OF WALES.

THE following candidates, having already been approved in two of the three subjects—medicine, surgery, obstetrics—have now been approved in the remaining subject as indicated, and have completed their qualification for the degrees of M.B., B.Ch.: *Medicine*, Thomas Jones; *Obstetrics*, Ann C. Evans, Florence M. Wallen.

One candidate satisfied the examiners in surgery, and one further candidate satisfied the examiners in obstetrics, but publication of the names is withheld pending completion of their qualifying scheme for the degrees of M.B., B.Ch.

UNIVERSITY OF DUBLIN.

AT the Later Winter Commencements held in Hilary term, on January 18th, the degree of Doctor of Medicine was conferred on M. D. Fox and Elsie A. Burns.

CONJOINT BOARD IN SCOTLAND.

THE following candidates have been approved at the examination indicated:

FINAL EXAMINATION.—*Medicine*: V. Nath, J. Williams, J. Hall, O. S. Crowthers, J. E. D. Mendis, [illegible] Ralston, J. J. Craig, R. Abrahams, J. S. [illegible] very: A. B. Paul, O. S. Crowthers, [illegible] Cooper, T. G. McIntyre, J. J. Craig, an[illegible] Paul, V. Nath, [illegible] O. S. Crowthe[illegible] T. G. McIntyre, A Lipschitz, J. S. Fernand[illegible] R. Ball. *Medical Jurisprudence*: A. J. Pin[illegible] T. Sodah, N. W. Laing, R. A. F. M. Saunder[illegible], Violet D. Hunter, R. G. McInnes, J. W. Galloway, I. MacG. Chisholm, and N. S. Fraser.

Of ninety-three candidates entered the following, having passed the final examination, were admitted L.R.C.P.E., L.R.C.S.E., L.R.F.P. & S.G.:

E. A. Y. MacKeown, A. S. Arora, H. W. Bambridge, H. T. J. Abeyesundere, S. R. Carthegasam, Emma Hughes, A. A. Razzak, J. H. Sturges, R. J. Ormsby, A. M. Kulatillake, S. Caller, R. G. Paul, E. G. Marcus, E. P. Kelly, Lucy W. MacDougall, D. F. *Jayamaha*, I. G. Sutherland, H. Taylor, B. A. Van der Gert, R. R. MacGibbon, A. Kouchouk, H. G. Hebard, R. A. Paton, C. F. Schilling, A. W. Dunn D. Ross, O. ap V. Jones, L. M. de Silva, S. P. B. Gunawardena, P. J. Bourke, and S. A. Gunawardana.

Medical News.

The Forens Institute of Otology at the Middlesex Hospital will be opened on Tuesday, February 8th, by H.R.H. Prince Arthur of Connaught, chairman of the Governing Body of the hospital.

THE annual dinner of the Hunterian Society will be held at the Hotel Victoria, Northumberland Avenue, London, on Thursday, February 10th, at 7.30. Among the guests will be the Lord Chief Justice and the Lord Mayor and Lady Mayoress of London. The price of the dinner (exclusive of wine) is 12s. 6d. Full particulars can be obtained from W. E. Tanner, Esq., M.S., 38, Queen Anne Street, W.1.

THE anniversary of Sir Francis Galton's birthday will be celebrated by the Eugenics Society on Wednesday, February 16th, when a dinner will be held at the Hotel Rembrandt, at 7.30 p.m. Dr. A. F. Tredgold will give the Galton Lecture; his subject is mental disorder in relation to eugenics.

AT the annual general meeting of the Medical Officers of Schools Association on Friday next, February 4th, Dr. James Collier will deliver an address entitled "Some personal impressions upon the symptomatology and diagnosis of *poliomyelitis*." *The meeting will be held at* 11, Chandos Street, Cavendish Square, at 5 p.m.; tea at 4.30.

A CONFERENCE on maternity and child welfare, under the auspices of the Society of Medical Officers of Health, will be held at Newcastle-upon-Tyne, from February 10th to the 12th. Dame Janet Campbell will preside over the conference, and papers will be read on infant feeding, the development of maternity and child welfare work, and the prevention of stillbirth. On Saturday (February 12th) visits will be paid to various child welfare centres, sanatoriums, and convalescent institutions. Medical practitioners who desire to attend part, or the whole, of the conference, may obtain further information from Dr. A. F. G. Spinks, 20, Victoria Square, Newcastle-upon-Tyne.

THE Post-Graduate Hostel (Imperial Hotel, Russell Square, W.C.) has called a general meeting of vice-presidents and those interested in post-graduate work for Monday, January 31st, at 6.30 p.m. At 9 o'clock the same evening Sir Thomas Horder, Bt., will preside at an address to be given by Sir Arthur Robinson, Secretary to the Ministry of Health, on "*Our duty* to colonial visitors," to which ladies and friends of medical men are invited. On February 2nd, at 9 p.m., Sir William Willcox will discuss parenteric infections. Dinner (5s.) will be served each evening at 8, and coffee and biscuits can be obtained at 10 o'clock.

THE Fellowship of Medicine announces that on February 3rd, at 5 p.m., Mr. Carson will give a lecture on complications of gall stones. A surgical demonstration will be given by Mr. Paterson at the London Temperance Hospital on January 31st at 2 p.m., and a lecture on non-paralytic squint will be given at the Royal Westminster Ophthalmic Hospital on February 3rd, at 5 p.m., by Mr. Brewerton. At the Royal Northern Hospital on February 1st, at 3.15 p.m., Drs. McKinstry and Ellison will demonstrate laboratory methods in clinical medicine. The above lectures and demonstrations are open to practitioners without fee. On January 31st St. John's Hospital will begin a four weeks' course in dermatology. The London Lock Hospital is holding a course in venereal diseases from February 7th to March 5th. On February 7th a course in children's diseases will be held at the Paddington Green Hospital and the Victoria Hospital for Children. From February 21st to 25th the Royal Northern Hospital will hold a practitioners' course in general medicine and surgery; there is no fee for this. In March there will be special courses in diseases of the chest at the Brompton Hospital, in diseases of children at the Queen's Hospital, *in gynaecology at the* Chelsea Hospital for Women, in ophthalmology at the Royal Eye Hospital, in orthopaedics at the Royal National Orthopaedic Hospital, and a practitioners' course at the London Temperance Hospital. Practical courses in anaesthetics and obstetrics can be arranged. Copies of all syllabuses of the special courses and of the general course programme are obtainable from the Secretary of the Fellowship of Medicine, 1, Wimpole Street, W.1.

AT the recent annual general meeting of the International Society of the History of Medicine it was decided that representatives of Germany, Austria, and Hungary should be admitted to membership of the society and take part in the congress to be held at Leyden and Amsterdam from July 18th to 23rd. Canada also is invited to join the Society and send representatives to the Congress.

ON his retirement after forty-two years' service as medical officer of the Driffield Poor Law Institution Dr. A. T. Brand has been presented by the officers, present and past, of the Driffield Union with an inscribed silver cigar-box.

THE department of zoology of the University of Edinburgh is to be rebuilt and £41,000 is already in hand for this purpose. The Education Board of the Rockefeller Foundation has now given an additional £38,000 for the buildings, and the offer was gratefully accepted by the University Court on January 24th. The Board has also given £10,000 for equipment and £26,000 for endowment. The total of the Rockefeller gift is, therefore, £74,000.

THE London Hospital has received from Mr. Bernhard Baron, the tobacco manufacturer, a gift of £25,000 for the endowment of the Pathological Institute bearing his name, towards the cost of which he has already given £10,000.

THE Universities Bureau of the British Empire (50, Russell Square, W.C.1) has published a classified list of students from the Dominions overseas and from foreign countries, who are now studying in the universities and university colleges of Great Britain and Ireland. In all 4,596 names are included: of these 1,754 come from Asia, 1,054 from Africa, 824 from America, 643 from Europe, and 321 from the Pacific. The price of the list is 1s. The Bureau has also published a catalogue of the professional schools, post-graduation courses, and specialist studies in the universities and university colleges of Great Britain and Ireland. Mention is made of special subjects for the study of which facilities are provided in certain universities and colleges.

DR. JOHN MOORE SWAIN, of Long Clawson, Leicestershire, attained his 100th birthday on Saturday, January 22nd. He took the L.S.A. in 1849 and the M.R.C.S. in the following year, and he was one of the first to register under the Medical Act of 1858. The Belvoir Hunt had arranged to celebrate Dr. Swain's birthday by meeting in front of his house, but owing to a heavy snowstorm the meet had to be abandoned.

THE fourth annual report issued by the Local Voluntary Hospitals Committee for the City of Manchester contains the accounts and statistics for 1925 of seventeen voluntary hospitals and kindred institutions of the city. The net deficit of the hospitals for the year under consideration was £10,541 less than that of the previous year. The income increased by £22,650, and the expenditure by £12,109. Statistical information is given about the work of the hospitals, their income and expenditure; their position in regard to investments; the numbers, cost, and nature of disability of out-patients and in-patients; and statements of accounts of the Hospital Sunday Fund, the Hospital Saturday Fund, and Alexandra Day Fund. It is noted with regret that the numbers on the waiting list continue to grow. Two diagrams are inserted to illustrate the relative shortage of ordinary income in comparison with ordinary expenditure, and the growth of the waiting lists in respect of surgical and medical cases.

THE annual report for 1925-26 of the Society for the Provision of Birth Control Clinics states that six new centres have been opened during the year; so that there are now three clinics in London, four in the provinces, and two in Scotland, affiliated to the pioneer clinic at the Walworth Women's Welfare Centre. It appears that instruction or advice was given in 3,299 new cases, while there were 4,454 return visits to the clinics. At Walworth instruction is given to doctors and nurses in contraceptive technique. The report contains several letters from grateful recipients of advice, and the society seems to conduct its activities at a very moderate cost. Several well known persons serve on the committees of the clinics, and Sir Humphry Rolleston is president of the affiliated centre at Cambridge.

THE Astor silver challenge shield for 1926 for the most effective local baby week campaign has been won by Northampton, which won the shield in 1925 also. A banner has been awarded to the Leicester health and baby week committee and certificates of merit to Kingston-upon-Hull, Wolverhampton, Cornwall county health and baby week committee, and Swinton and Pendlebury urban district council. A second shield for smaller areas was won by Halesowen infant welfare centre.

THE late Mr. William Gibson, formerly a merchant at Valparaiso, who died in November last leaving estate valued at £113,176, has bequeathed £2,050 to the Dundee Royal Infirmary. He directed his trustees to divide the residue of his estate, on the expiry of certain life-rents, among charitable institutions subject to a codicil to take effect after the death of his two sisters, directing the payment of a legacy of £25,000 to University College to be expended in equipping a laboratory for study and research in pathology and bacteriology, to be called the Joseph and William Gibson Memorial Laboratory. This legacy is to be the first charge upon the residue.

A DISSERTATION on the work of the International Conference of the Christian Mission in Africa, held last September in Belgium, has been prepared by Mr. E. W. Smith of the British and Foreign Bible Society. It may be obtained from the International Missionary Council, Edinburgh House, 2, Eaton Gate, S.W.1, price 3s. 6d. net. In a note on this conference in the JOURNAL of July 31st last we referred to the present position of medical missionary work in Africa generally, and it may be added now that, besides scattered notes on medical subjects, Mr. Smith devotes a chapter to the medical task of missionaries in Africa.

THE Société Anatomique of Paris celebrated the 123rd anniversary of its foundation by Dupuytren on December 4th, 1803, during the commemoration of the centenary of the death of Laennec, who was one of the earliest and most illustrious members of the society.

THE Ella Sachs Plotz Foundation for the Advancement of Scientific Investigation, during the three years of its existence, has made thirty-five grants to investigators in Europe, as well as in the United States. Researches which are favoured are those directed towards the solution of problems in medicine and surgery. Applications should be sent before May 15th next to the secretary of the executive committee, Dr. F. W. Peabody, Boston City Hospital, Boston, Massachusetts.

A CERTIFICATE of health before marriage has recently been made compulsory in Turkey. In the case of men the examination will be complete, while in women it will be confined to the hands, face, neck, lips, throat, chest, and back.

PROFESSOR WILHELM TRENDELENBURG, professor of physiology at Halle, has been made rector of the university.

Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to ***The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.***

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the BRITISH MEDICAL JOURNAL alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the BRITISH MEDICAL JOURNAL must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the JOURNAL, should be addressed to the Financial Secretary and Business Manager.

The ***TELEPHONE NUMBERS*** of the British Medical Association and the BRITISH MEDICAL JOURNAL are *MUSEUM 9861, 9862, 9863,* and *9864* (internal exchange, four lines).

The ***TELEGRAPHIC ADDRESSES*** are:

EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology Westcent, London.*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westcent, London.*

MEDICAL SECRETARY, *Mediocra Westcent, London.*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 4737 Dublin), and of the Scottish Office, 6, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 4361 Central).

QUERIES AND ANSWERS.

CHEWING GUM AND DENTAL CARIES.

"FASTIDIOUS" recalls that much was said twenty years or so ago about decadence in the teeth of the American people. Has it, he asks, been stayed by the habit of chewing gum, which he believes to be practically universal in the United States?

INCOME TAX.

"J. R. H." is engaged as an indoor assistant, and, to do his work efficiently, has found it necessary to buy a motor-cycle combination at a cost of £75, to supplement the drugs supplied by his principal (cost £5), and to expend £20 or so on instruments. What is his approximate liability?

*** Apart from the question of expenses, and assuming "J. R. H." to be entitled only to the minimum personal allowance, his liability would be £330, less one-sixth earned income relief (=£50)—that is, £250; deduct £135 leaving £115, which, at 2s. in the £, creates a liability of £11 10s. income tax. The expense question is governed by the rules of Schedule E, which provide an allowance for expenses (other than capital outlay) incurred wholly, exclusively, and necessarily in the performance of the duties of the employment. Broadly the test usually applied is whether the incurring of the expenses is a condition, expressed or implied, of the terms of employment. We suggest that "J. R. H." should state the circumstances fully to the inspector of taxes and claim the amount expended in running costs and drugs—the motor cycle and instruments represent capital outlay.

LETTERS, NOTES, ETC.

MINERS' SHORTER HOURS.

DR. F. G. BUSHNELL (Plymouth), in the course of a further letter on this subject, writes: The three examples Dr. Allison quotes (JOURNAL, December 25th, 1926, p. 1243) to support his opinion that the strain of seven hours' work is greater and worse for the miner) than eight or nine hours' work are insufficient in numbers to establish a case, and he does not state when these ex-miners became engaged in other vocations. I reassert that reliable statistics as to miners' industrial fatigue are wanting, but extension of hours, as far as the miners are concerned, means an increase in the number of accidents, and its advisability is not confirmed on other grounds by the Samuel Commission. The marked reduction in all accidents in 1919, as compared with previous years, bears out the general conclusions in all trades that excessive working hours result in more accidents, owing to their cumulative strains. It is too marked a reduction to be accounted for by Dr. Allison's assumptions. With regard to his statement that the miners are probably the best paid class of workers in the country and that the increase in accidents in 1923 and 1924 is not due to a "worsening of the miner's wages," figures prepared for the Samuel Commission show that from 1922 onwards the miner's average earnings in real wages have been below the 1914 level, at times by as much as 20 per cent. Owing to short time it will have been even worse for large numbers. This must have had serious effects.

HERPES AND VARICELLA.

DR. ALEX. KING (Yeovil) writes: On January 6th I was called to an isolated farm house, where the family consists of husband, wife, and one daughter of about 12. The wife had a severe attack of herpes zoster. On January 21st I saw the girl with typical varicella. There is not, to my knowledge, any other case in the district; if there were I should almost certainly know.

DR. S. A. MCCLINTOCK (Christchurch, Hants) writes that he has been suffering from a typical severe attack of herpes zoster, affecting the left side of the forehead, scalp, and temple, and the eye, which is recovering from severe conjunctivitis and still has some keratitis. He first felt ill on December 26th, 1926, and the herpes zoster appeared two days later. On January 10th his three children developed typical varicella rashes. Dr. McClintock adds that he now believes that some relation must exist between herpes zoster and varicella, though, in spite of having spent most of his professional life in many places abroad, he has never previously encountered a connexion between the two diseases. No recent case of herpes zoster or varicella in the locality has come to his notice.

DR. W. BOXER MAYNE (Storrington, Sussex) has had two patients under his care who illustrate the connexion between herpes and varicella. In one case a child developed a severe attack of chicken-pox, following an attack of shingles in the mother; and, in the other, a marked eruption of chicken-pox occurred in a wife three weeks after the appearance of extensive facial herpes in her husband. In this second case the patient lived in a particularly isolated part of the country and could not have been exposed to other infections.

RHEUMATOID ARTHRITIS.

DR. W. J. MIDELTON thinks that the case described by "M.B." (January 15th, p. 124) would benefit from continuous counter-irritation. He offers to supply details of the treatment if application is made to him at 112, Charminster Road, Bournemouth.

BROMINE AND THYROXINE.

DR. JOHN W. DUNCAN (Handsworth, Birmingham) writes: Your notes on thyroxine and on the treatment of exophthalmic goitre in recent issues of the BRITISH MEDICAL JOURNAL lead one to wonder about possible bromine compounds. Bromides have been tried in exophthalmic goitre; why not replace the iodine of thyroxine and similar compounds by bromine? Is it not possible that many bromine and bromo-iodo compounds may be made to be used therapeutically?

THE TOOTH-BRUSH.

DR. ERNEST E. MADDOX, F.R.C.S.Ed., consulting ophthalmic surgeon to the Royal Victoria and West Hants Hospital, Bournemouth, writes: After clearing the mouth of pyorrhoeic teeth we have to consider the remainder, which are generally either on the borderland of infection, or at least in dangerous associations. In spite of an unimpeachable radiogram, they are almost sure to go sooner or later, unless energetic steps are taken to prevent it, for the ultimate cause, whether gastro-intestinal or otherwise, is probably still at work. So much more valuable are natural teeth than artificial that we may do our patients good service by advising their active preservation rather than leaving them to their fate. The great thing is to increase the vitality of the gums, for they are the porters to open and close the entrance of mouth organisms to the neck ligament and periodontal membrane. For this purpose I should like to commend the use of a rubber tooth-brush which, instead of bristles, presents a little forest of thin rubber fingers. Though probably designed merely as a substitute for the usual brush, I believe its best role is that of a supplement, since it is admirably adapted for vigorous massage of the gums of a kind to bring fresh blood to their deeper parts. The bristle brush should, in my opinion, be reserved for the crowns, followed by the rubber brush for the gums, for it cannot prick, infect, or irritate the surface like the bristles, and it works the gums about in much the same way as the coarse, hard food of our ancestors. The bristle brush should not be used so often—perhaps once or, at the most, twice a day—and not longer than is necessary to do its cleansing work; but the rubber one should be used, if possible, after every meal, preferably after dipping it in some warm liquid. When first purchased it is rather hard, and should be soaked for some time in hot water. It is needless to add that the dentist should be visited sufficiently often to prevent re-accumulation of tartar and that any "pockets" should be treated *secundum artem*.

SUBACUTE APPENDICITIS.

SIR JOHN O'CONOR (Buenos Aires) desires to add the following to his communication on this latent form of appendicitis published in the BRITISH MEDICAL JOURNAL, September 11th, 1926 (p. 506): In numerous instances deep digital pressure over McBurney's point failed to elicit any pain or tenderness, but—with some f exceptions—an isolated well defined painful spot has been fou on palpating over Munro's point—namely, at the outer border the right rectus muscle in the umbilical anterior superior spi line. The way to search for the spot is (after having failed find a tender spot by examination on the right side of patie to sit on his left side, and when the muscles are off guard c the flexed left finger tips deeply backwards, hugging the palpa outer edge of the right rectus sheath. If there is a "lat appendix" it is 10 to 1 the "bell will ring."

CROPPED HAIR.

DR. F. P. JOSCELYNE (British North Borneo) writes to praise *fashion among women for shingled hair, and continues:* Th may, however, be another aspect to this great sanitary mo ment among women. In some of the villages of Java a Borneo the custom prevails amongst men of allowing the hair grow long; they have practically no moustache and often pubic hair. In other villages the hair is cut short, and h moustaches are quite common. He makes the dreadful sugg tion that the European ladies who are now following the p vailing fashion may be laying the foundations of a fut generation of moustached and bearded females.

THE BRITISH RED CROSS SOCIETY.

COLONEL SIR JAMES MAGILL, honorary organizing secretary the British Red Cross Society, has written a sketch on *The Cross: the Idea and its Development*.[1] He traces the origin of idea to agreements for the care of the wounded made, from sixteenth century onwards, by contending generals. But proposal to accord international recognition of the neutral of the wounded and sick, and of the inviolability of medi personnel and ambulances, was made only a year or two af the battle of Solferino in 1859, and was urged by three writer Dunant in Switzerland, Palasciano in Italy, and Arrault France. An international conference at Geneva in 1863 laid foundations of Red Cross societies, and in 1864 the Gene Convention was formulated. In England the Red Cross Socie which came into being in 1870, was called at first the Natio Society for Aid to the Sick and Wounded in War, a cumbr title shortened later to National Aid Society. In 1898 a conf ence of representatives of the National Aid Society, the St. Jo Ambulance Association, and the Army Nursing Service Rese was held "with the object of considering the advantages wh would accrue in time of war by bringing the voluntary societies into touch with the Army Medical Service time of peace." From this conference the Central Brit Red Cross Committee sprang, and was officially recogniz in the following year. The spheres of activity of the c stituent bodies were defined by regulations. In 1905 Red Cross Council and the National Aid Society joined hands form the British Red Cross Society. A fresh Geneva Conventi was drawn up in 1906, and at the same time the form of Red Cross was definitely ordered to be the Swiss federal colo reversed. In 1908 the British Red Cross Society obtained charter. In the following year a scheme for organization voluntary aid in England and Wales, in connexion with Territorial and Reserve Forces Act, was drawn up, and nea led to disaster, for the St. John Ambulance Association withdre In 1910 a fresh scheme was issued, laying down rules Voluntary Aid Detachments and County Associations. A la part of Sir James Magill's book is devoted to an account of work of the British Red Cross Society during the great war, a a concluding chapter deals with the future of Red Cross wo in peace time and the formation of the League of Red Cr Societies in Paris in 1919. The objects of the Red Cross mo ment now include "the improvement of health, the preventi of disease, and the mitigation of suffering throughout the worl The programme is ambitious, but as the society has now reach years of discretion, its officials are unlikely to hurt the suscep bilities of other bodies with similar objects. Sir James Ma writes as an enthusiast on the successful career of the socie Consequently his readers may find the book lacking in the sp which an historical account of some of the society's difficult might give to it.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical college and of vacant resident and other appointments at hospitals, will be found at pages 35, 36, 37, 40, and 41 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 38 and 39.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 35.

[1] *The Red Cross: the Idea and its Development.* By Colonel Sir James Magill, K.C.B., M.A., M.D. London: Cassell and Co., Ltd. 1926. (Demy 8vo, *pp. 144. 5s. net.*)

THE EPILEPSIES AND LIFE ASSURANCE.*

BY

S. A. KINNIER WILSON, M.D., F.R.C.P.,

PHYSICIAN TO OUT-PATIENTS, NATIONAL HOSPITAL, QUEEN SQUARE; NEUROLOGIST, KING'S COLLEGE HOSPITAL; CONSULTING NEUROLOGIST, METROPOLITAN ASYLUMS BOARD.

OVER twenty years ago Professor Pierre Marie[1] of Paris, my old chief and teacher, wrote a paper with the arresting title, "At what age do tabetics die?" Those who know the work of this master of neurology will agree that on occasion it has been characterized by a somewhat iconoclastic rending of preconceptions or of established and conventional views from their pedestal; and the above-mentioned communication proved no exception. Marie was at pains to show that tabetics live as long as anyone else, in a general sense—that is to say, there is no clinical evidence that the disease hastens the end. This paper was written in the pre-Wassermann and pre-salvarsan era, so that if his conclusions were warranted by the facts twenty years ago it will, I think, be agreed that they should be even more justified to-day.

From the appearance of Professor Marie's communication I date my own scepticism as to not a few of the views that still are current in respect of the subjects of chronic nervous disease and their expectation of life, and under this category come some of those with whom we are at present concerned. Speaking as a neurologist, I ask myself how often have I seen an actual death from epilepsy; as far as my memory serves me, I have not personally observed any. With the help of the present registrar at the National Hospital, Queen Square (Dr. Arnold Carmichael), I have ascertained that for the years 1902 to 1925 inclusive 1,398 male and female patients were admitted there for treatment with a diagnosis of "idiopathic" epilepsy. Those who died in hospital number fifteen—that is, the death rate was 1.07 per cent. In spite of the fact that only those cases are recommended for admission which exhibit relatively serious symptoms (milder cases being treated always as out-patients) this percentage is insignificant, and far less than the hospital death rate from some other neurological diseases, such, for example, as cerebral tumour. I have not been able to define the immediate cause of death in all the fifteen fatal cases, since this would have entailed a prolonged search; but I can say that the majority died in status epilepticus, and that there were only one or two accidental deaths (for example, from asphyxia)—that is, less than half of 1 per cent. of the epileptic admissions.

Thus the impression is already left in the mind that when epilepsy as a whole is considered it cannot be regarded among the more common neurological causes of death. But this is only one aspect of the question. It may be taken that the neurologist is less likely than other practitioners to accept a diagnosis of "epilepsy," since he is fully aware of the variety of organic conditions which give rise to fits, and has probably had many opportunities of deciding whether a given "fit" should come into the "epileptic" category or not. Before any rational ideas can be obtained of the bearing of the problem of the epileptic on the question of life assurance it is imperative we should clear the ground by preliminary discussion of what is understood by epilepsy—a term that has been in vogue for generations, and enjoys the sanction of long usage.

The Nature of Epilepsy.

The first and the most important of the considerations is that "epilepsy" is a name for a symptom only; and while various "diseases" are still sometimes denominated by reference to a symptom (hemiplegia, spastic paraplegia, locomotor ataxia), the description is completely useless from the point of view of pathology. There are a dozen pathological conditions of which hemiplegia is the expression; similarly, a number of different morbid processes lead to disorder of function exteriorizing itself in the guise of a "fit." We might as well speak of "a case of cough" as "a case of epilepsy." Doubtless the reply will be that there is, as a fact, a nervous malady characterized by recurrent fits, and since we do not know its pathology and cannot give it a pathologically descriptive title it might as fairly be called "epilepsy" as anything else. While this retaliatory comment is justifiable enough, it is precisely here that the danger lies, for routine habits of thought have fixed in many minds the idea that if on rough and perhaps hurried examination organic disease is excluded, the occurrence of an occasional fit is in itself sufficient to substantiate the diagnosis of "epilepsy"—a nervous disease of unknown causation and uncertain prognosis. It is against this mode and habit of transferring to a given case of "fits" our conceptions of the elusive affection called "epilepsy" that I strenuously protest. Over and over again we see cases in which the diagnosis of "epilepsy" has been made on the occurrence of occasional manifestations belonging to the category of "fits," yet the subsequent history of the case belies the diagnosis.

Difficulties at once arise if we essay a definition of "epilepsy," not merely in regard to cases which are shown to have an organic basis, but also in respect of the so-called "idiopathic" variety itself (which, of course, is in reality epilepsy of unknown origin). Taking the latter first, we ask, On what feature or features is the diagnosis established? The answer will doubtless be, The development of fits. We next ask, What constitutes a fit? This question has received many different and sometimes mutually contradictory answers, and no definition of a satisfactory character has yet been evolved. The term has been employed for clinical phenomena ranging from a gross convulsion of a generalized kind, with cyanosis, tongue-biting, and relaxation of sphincters, to twitching of a limb or segment of a limb, even to twitching of a finger or fingers, or of part of the face, without the slightest loss of consciousness. There need not even be manifestations of a hyperkinetic character, since some conditions in which motionlessness is a feature occur in circumstances justifying their description as fits. Further, as is well recognized, recurrent phenomena of another order altogether, so-called psychical equivalents, have been included by many writers in the same category. I have several times seen uncontrollable attacks of "bad temper" both in epileptic subjects and in members of epileptic families not themselves subject to convulsions. Do we not speak of a "fit" of temper? Once more, every practitioner is conversant with the variety known as petit mal, and has also doubtless seen states characterized merely by a momentary "blank" in consciousness, without visible exteriorization of any kinetic kind—so-called *absences épileptiques*; and assuredly he has met with instances of loss of consciousness in which he has been unable to decide whether they were cases of "faint" or "fit."

In view of this disparity and diversity it is hopeless to look for a sufficiently comprehensive and at the same time precise definition of what the term "fit" is in practice used to connote. It is clearly not synonymous with convulsion, and as clearly does not of necessity imply a serious nervous condition. Thus, when we are told that a given individual is subject to fits, or has an occasional fit, we are far indeed from being authorized to assume that such a one is "epileptic" in any sinister sense.

Believing as we must, however, that an "idiopathic" clinical state of recurrent fits, seizures, attacks—what you will—is a common nervous ailment, for which as yet no constant cause has been unfolded, it is highly desirable we should recognize the existence of benign as well as of malignant varieties. In my recent Harveian Lecture[2] on "The Epilepsies" I referred to the case of a lady who had an epileptic fit at the age of 14, when her period of reproductive activity commenced, and another at 44, when it closed. Cases have come under my observation in which no more than half a dozen fits have occurred in a patient's lifetime; often enough the interval between attacks can be measured by years. And other cases are known where there has been one fit only. The truth is that by no means all "idiopathic" epilepsy is of bad prognostic significance, and it would be easy for me to cite personal experiences in regard to the relative harmlessness of many

* A Paper read before the Assurance Medical Society, November, 1926.

such cases and to the satisfactory results of treatment. I am in the habit of stressing two points when called on to gauge the outlook in cases that apparently belong to the class we are for the moment considering: (1) Are there any physical or mental "stigmata" in the individual concerned? (2) Is the family history satisfactory? Speaking generally, if the patient is not weighed down by a bad heredity, and if no physical or psychical anomalies or abnormalities are conspicuous, the prognosis is good and the case will turn out to belong to the benign group. As a matter of observation I am inclined to believe that these considerably outnumber the others, and that the stress laid on neuropathic heredity has been overdone; I consider this variety of the "disease" is constitutional rather than hereditary. In this connexion the work of Douglas Thom[3] is of no little interest. He has studied the records of 1,536 epileptic patients, of whom 1 in 6 was married; 80 per cent. of the marriages resulted in children (553 offspring traced and their history obtained). In only ten cases (1.8 per cent.) did epilepsy develop. Again, Myerson[4] quotes the superintendent of the Massachusetts State Hospital for Epileptics to the following effect: "There are practically no families of epileptics in his institution, numbering 1,500 people, and a thorough search revealed four families of eleven people!" In face of these data we must revise our old conceptions of epilepsy of unknown origin; we are certainly not justified in perpetuating the view that it is commonly hereditary, and, like all hereditary conditions, incurable; or that if we cannot find the cause of the fits in a given case it is to be relegated to a mysterious "idiopathic" class and all hope of amelioration abandoned. Such ideas are utterly out of date.

Turning, in the next place, to cases in which "fits" are found to have an organic basis, there is patently no need to be concerned with any precise definition of the symptom. It is the physiological result of a pathological state, and the latter is the condition of which we have to evaluate the significance for good or ill. Fits are recognized to be, for example, a frequent concomitant of syphilitic disease of the brain and its coverings, of intracranial tumour, of cerebral vascular disease whatever its etiology, of intracranial infections, inflammations, and toxic haematogenous or lymphogenous processes. If a person is over the age of 40 or 45 it is my invariable practice to be on the look-out for an organic basis should his complaint be of occasional fits. The epilepsy of elderly patients has very frequently indeed a vascular origin. One or two fits at intervals, generalized in character and for the time monosymptomatic, may be found to precede the development of cerebral tumour, of general paralysis, or of vascular disease outside the cerebrum. Vascular changes in the brain are a much more common cause of Jacksonian epilepsy than is intracranial tumour.

Clinical and Experimental Evidence.

A little acquaintance with clinical data of this kind is doubly useful; we are able to adjudicate on such cases of "epilepsy" by reference to the morbid process causing the epileptic symptom without getting entangled in any maze of doubt as to what epilepsy is or is not; and at the same time we remove such cases from the vague category of "epilepsy" to the definite nosological group to which they respectively belong. Speaking for the moment from the life assurance standpoint, it is an unequivocal gain if we can assess a given case as one of cerebral vascular disease and not as one which happens, *inter alia*, to exhibit epileptic phenomena.

A second important consideration is of a somewhat different kind. The evidence of the experimentalist can be advanced to prove that epileptic convulsions can be produced in animals which show no signs of disease in any pathological sense. A healthy animal which is being bled to death may develop convulsions *sub finem*, while the respiratory centres are failing. Tetanization of the motor cortex will, under suitable conditions, result in convulsions. By the use of convulsants of the absinthe and thujone class fits can readily be caused in animals which are perfectly normal members of their respective species. According to Cobb and Macdonald,[5] the march of events during a convulsion produced by thujone is very similar to that seen during the epileptic fit. Elsberg and Stookey[6] have prove that these experimental toxic fits can be prevented by th circulation of Ringer's fluid through the brain. The con clusion is obvious—that the phenomena of epilepsy can an do occur in appropriate circumstances in animals which ar healthy and which exhibit no defect of neural structure.

It will, I think, be admitted that in man the greate part of the manifestations of a fit, Jacksonian o generalized, is the result of consecutive discharges o normal, stable nerve cells. I have indicated in the Harveia Lecture[7] (already referred to) the line of argument sup porting this contention, and have there drawn the con clusion that "healthy neural mechanisms may becom epileptogenous, without being in the remotest degre diseased."

If we follow this line of reasoning it may be fairly take as indicating an epileptic potentiality in any mechanis of any neural level in man provided the appropriate factor come into being. In human cases of apoplexy (thrombotic embolic, haemorrhagic, traumatic) how frequently do w not observe a fit or fits in the course of the illness, ye we never dream of regarding these patients as being th subjects of epilepsy. Their fits are the expression of disorder of function which a number of factors have com bined to produce; if the factors are removed the fits cea and leave no trace behind them. When a general paralyti or a uraemic patient has a convulsive attack we never du him an epileptic, although we say his attack has bee epileptic in character; knowing to some extent the causa tion in these particular instances we feel that if it ca be controlled the attacks will stop. If we can operat successfully on a case of Jacksonian epilepsy from cerebra tumour we have good reason for holding that the fits will in consequence disappear. In other words, only one conclusio can be drawn—namely, that any constellation of moto nerve cells may on occasion become unstable; that th cause of this instability is no innate or inherent defect o the nerve cells as such, for we have good reason to believ they are normal; that it is constituted rather by som agent (toxaemia, pressure, etc.) which it is our business t detect and counteract; if we can do so, the neura mechanisms will recover their normal functions. This con sideration should in its turn lead us to avoid confirming in our patients' minds the impression that a diagnosis o "epilepsy" has somehow a sinister significance; this is at present certainly the view of "the man in the street," and it must have been to some extent derived from medical opinion.

Lest these views should be thought to be of merely theoretical interest I may refer to experiences in regard to what has been called "war epilepsy." However much one is disinclined to accept in full the arguments and inferences of Pierce Clark,[7] the late Dr. R. G. Rows,[8] and others who believe that "epilepsy" is a "functional mental illness," curable by "mental methods," there can be little doubt that during the war, and since, most of us have met with cases in which the apparent cause (predisposing? exciting?) of full-blown epileptic fits has been a stimulus belonging to the mental (as opposed to the physical) series. Treatment of some at least of these cases by non-physical means has resulted in an apparently abiding cure.

One case will suffice for citation. The patient was at Dunkirk during the later part of the war, and he and his mates were liable to shell attack from land, sea, and air. On one occasion he had retired to a bomb-proof shelter, which was struck, and he was "buried alive"; when subsequently rescued he was found to be unconscious. Some time after the war was over he was in a cinema in South London with his fiancée. The place was dark and stuffy, and by some association there came into his mind a memory of the dugout at Dunkirk. At that very moment the orchestra began to play Rachmaninoff's well known prelude, which, as he, a student of music, was aware, is supposed to represent the feelings of someone who is being buried alive. Within a minute or two he lost consciousness, and developed a full epileptic fit, with tongue-biting and incontinence. He was treated by psycho-therapeutic means, and has had no further epileptic attack.

Cases of this kind are no war novelty. They were recognized long ere the world conflict caused them to reappear in some numbers. Their significance resides in the apparent causation of physical fits by psychical excitations; if the latter can be checked the physical (neural) mechanisms pursue their normal activity undisturbed.

The practical lesson to be learned from the preceding discussion is, I submit, that the epileptic seizure is a *phenomenon of normal nerve mechanisms, which can be* roused (or, conceivably, released) into abnormal activity as a consequence of the action of factors (or combinations of factors) of different grades and classes. Such an occurrence may be unique in the patient's experience, or may be repeated, may, indeed, become chronic; whether single or multiple, the fit is itself no disease. If we will thus envisage our cases of "epilepsy" we shall be compelled to consider every case solely on its merits, and not by reference to ideas which have for too long a time led to the dismissal of any and every adjudged "epileptic" from the scope of therapeutic optimism.

I may turn now to the application of these considerations to the problem of the epilepsies as it confronts the officers of life assurance societies.

Prognosis as to Life.

In the first place, it seems fairly certain that medical decisions and office practice have been influenced and moulded, in some instances, by traditional conceptions as to the nature of epilepsy. It has been regarded, in its "idiopathic" form, as a chronic and incurable "disease," and its subjects have been held to be uninsurable. Doubtless, also, practice has been determined by the view that an element of risk is inherent in all cases, and forms an insuperable objection to acceptance. Possibly, indeed, the reader may be impatient of any effort to discriminate among the epilepsies, holding that every fit—organic, hysterical, psychogenic, idiopathic—is a risky affair, and its pathogenesis immaterial. The risk, we may be sure, is thought to be one of injury or death. Let us endeavour in some degree to assess it.

According to Sir William Gowers,[9] "the danger to life in epilepsy is not great." Some of us have often seen the most severe fits passed through with apparent impunity, and conclude that in the fit itself the danger to life is minimal and negligible. The contention is rather that risk of "accident" accompanies every fit, in greater or less degree, and I have no thought of denying its existence. Deaths from choking, suffocation, burning, drowning—all are known and admitted. Yet in my experience of epilepsy of the "idiopathic" kind I have only had two cases of accidental death—one from smothering and one from drowning. The National Hospital figures given above indicate how trifling is the risk of a fatal termination by accident. Gowers concludes that "the danger of such accidental death is unquestionably small. The proportion of cases in which it occurs is not ascertainable, but, if all cases of epilepsy are considered, it is minute." With this conclusion I am in cordial agreement; the risk is continually and grossly overrated because its rare occurrence is allowed to colour our conceptions of the seriousness of the "disease."

However, we may approach this question from a somewhat different angle. What is the mean age at death in the case of epileptics? I quote from Aldren Turner's[10] study of the subject the following figures.

TABLE I.—*Epileptics: Mean Age at Death.*

Authority.	Mean Age at Death.
1. Spratling[11]	29.4 years
2. Snell[12]	33.0 ,,
3. Massachusetts Epileptic Institution[13] ...	39.0 ,,
4. Lord[14] (London County Asylums) ...	40.0 ,,
5. Muirhead[15] (Scottish Widows' Insurance Association)	48.0 ,,

So great is the disparity between these various figures that it is clear they must represent very different types of case. To apply indiscriminately such conclusions as these figures offer is obviously not permissible. They are vitiated, moreover, from still another point of view; we have no means of ascertaining the pathology of the cases forming the material, which has been classified solely by a symptom—a most precarious proceeding, as all must admit.

That incompleteness of classification and absence of pathological control are essential stumbling-blocks in the way of reaching any even approximate conclusion as to average duration of life or mean age at death is apparent from consideration of quite another group of statistics. From the Registrar-General's Statistical Review of England and Wales (1925)[16] I find in that year the cause of death certified as "epilepsy" in the case of 1,097 males and 1,026 females. The figures for the different age periods are as follows:

TABLE II.—*Deaths attributed to Epilepsy, 1925 (Registrar-General).*

Age Period (years).	Males.	Females.	Age Period (years).	Males.	Females.
0-1	22	12	45-50	70	68
1-5	39	30	50-55	64	74
5-10	46	18	55-60	70	73
10-15	55	39	60-65	65	68
15-20	87	75	65-70	54	71
20-25	96	77	70-75	43	51
25-30	82	74	75-80	29	37
30-35	83	94	over 80	29	23
35-40	83	67		1097	1026
40-45	80	75			

What can be legitimately inferred from the above table? It should be stated that according to the international agreement on which disease classification is based the group "epilepsy" does *not* include infantile convulsions, for which other statistical figures are supplied. The neurologist at once asks, What is the "epilepsy," separate from "infantile convulsions," which is given as the cause of death of 34 infants under 12 months, or of 103 children under the age of 5? To suppose all are cases of so-called idiopathic epilepsy is impossible. Again, has "idiopathic" epilepsy been responsible for 52 deaths at the advanced age of 80 and over? As long as "epilepsy" remains undifferentiated, just so long will tables of this kind prove nothing whatever. Taking them at their face value, however, and solely for the sake of comparison of age periods, we observe that just as many persons die from "epilepsy" between the ages of 70 and 75 as between 10 and 15, and that more live to over the age of 60, eventually to die as "epileptics," than succumb below the age of 20. I scarcely think figures of this kind favour the traditional views on the subject that still obtain currency.

We may look, in the second place, at the question of the frequency, among nervous diseases, of "epilepsy" as a cause of death—again with the proviso that this particular diagnosis covers as great a multitude of diagnostic sins as does influenza.

I have compiled from figures given in the 1925 Statistical Review (England and Wales)[16] the accompanying table.

TABLE III.—*Deaths attributed to Nervous Diseases (England and Wales), 1925.*

Nervous Disease.	No. of Deaths (Male and Female).
Cerebral apoplexy	27,031
Epilepsy	2,123
Paralysis (unstated — for example, hemiplegia, etc.)	2,098
Meningitis (all kinds)	1,814
General paralysis of the insane	1,539
Diseases of ear and mastoid	1,183
Cerebral tumour	1,035

Incidentally, the valuelessness of these descriptive terms from the only correct classification standpoint—namely, the pathological—is seen at once in their mixed character; "paralysis" is a clinical diagnosis, and so is "epilepsy," whereas cerebral tumour and meningitis are pathological diagnoses. Be this as it may, of nervous causes of death "epilepsy" ranks second, being exceeded only by apoplexy. This seems serious, but only on superficial consideration. How many of the cases of "epilepsy" were syphilitic?

How many due to cerebral vascular disease? How many the result of intracranial pressure, of meningeal or cortical inflammation, even of trauma? In none of these respects can any information be gleaned.

My next table comes from the United States Mortality Statistics (1925),[17] and embodies the figures for the two years 1921 and 1922, given, not in actual numbers, but in death rate per 100,000 of the population of thirty-seven States then in the registration area.

TABLE IV.—*Death Rates: Nervous Diseases (U.S.A.), 1921 and 1922.*

Nervous Disease.	Death Rate per 100,000.	
	1921.	1922.
Cerebral apoplexy	82.7	85.1
Paralysis	6.2	6.5
General paralysis of the insane	6.3	6.6
Meningitis	4.2	3.6
Epilepsy	3.1	3.3
Diseases of the ear	3.2	3.1

According to these statistics, "epilepsy" is not second, but fifth, on the list of killing nervous diseases, and stands practically on a par with diseases of the ear. Since here also no attempt is made to differentiate varieties of the symptom or to distinguish pathological bases for its appearance, the table in reality is valueless; if discrimination were exercised I am convinced that "epilepsy" would rank still lower in the list. As it is, there is, in my opinion, clear justification for a revision of their mental attitude on the part of any life assurance officers who may look askance at cases thought to be "epileptic," and feel inclined to drop them.

In regard to the actual practice of offices I have little information to offer. Aldren Turner,[10] who is one of the very few who have touched this aspect of an important question, cites in his book (1907) the experience of the Scottish Equitable Life Assurance Society. At that time the society had accepted twenty-three proposals, with a personal history of "fits," during a period of fourteen years. He says:

> "It ought, however, to be stated that none of them was a confirmed epileptic, but only persons who had had at some previous period of life one or more epileptic seizures. The records were examined seven years later, when it was found that two persons had died—one from tumour of the brain, the other from uraemia. Of the remaining 21 cases, the eldest was 65 and the youngest 35 years of age. . . . The average age of the 21 surviving cases was 47 years. . . . It is therefore obvious that the acceptance of these cases was a justifiable procedure, more especially as the added years ranged from five to twenty."

The first comment I may make on this interesting experience is, that the two applicants who died were not cases of "epilepsy" at all; one was a case of cerebral tumour, and the other of renal disease. Scanty though these figures are, it is a remarkable circumstance that the only two fatal cases of "epilepsy" were as a fact wrongly diagnosed. A second comment is that acceptance of these "epileptic" cases was justified by the event. Turner adds a further point of some note in this connexion. Persons rarely present themselves for insurance under 21 years of age, and more than 75 per cent. of so-called idiopathic epileptic cases have already developed symptoms by this age. The prospect is distinctly in favour of freedom from the affection as the years go on. Otherwise expressed, if there is a family history of epilepsy and if the individual proposing has not himself developed epileptic symptoms by the age of 21, the chances are greatly against his exhibiting them at a later period. Gowers estimated these chances at 50 to 1 against, and if the reader will refer to the figures quoted earlier from Myerson he will agree that this ratio overstates rather than understates the risk.

I do not hope to be able to do more than disturb a little the preconceptions of any who, accepting precedents and traditional practice, refuse proposals coming from "epileptics" of any kind or degree. Ideas dating from a less knowledgeable era have had so long a start that one doubts if they will be overtaken. Hughlings Jackson once said that it takes twenty-five years for new conceptions of disease to penetrate the mind of the profession, and if this is needlessly cynical, it at least embodies an element of truth.

CONCLUSION.

Summarizing the trend of argument as it makes its appeal to me, I may conclude as follows:

1. Epilepsy is not a disease but a symptom.

2. It is a symptom of abnormal function of normal neural mechanisms.

3. It is caused by a number of differing pathological processes.

4. These processes are the diseased processes which have to be diagnosed; *they* are the "disease," not the "epilepsy."

5. From the standpoint of life assurance it is the disease and not the epilepsy which is to be adjudicated on in the usual way.

6. Among the epilepsies is a group commonly called "idiopathic"—that is, as a fact, epilepsy of unknown origin.

7. This particular variety exists in different forms and degrees, of which perhaps the major part is benign, not malignant.

8. As an aid in differentiation, attention is to be given to the mental and physical "make-up" of the individual and to the family history and heredity.

9. Although heredity is not a negligible factor its influence has been much overestimated.

10. The risk of injury or of death in the fit itself is altogether minute.

11. The risk of injury or of death as an accident arising out of the fit has also been persistently overestimated, and is quite insignificant when epilepsy as a whole is considered.

12. Existing tables purporting to give mortality statistics in respect of epilepsy are meaningless and valueless, since the epilepsy they refer to is undifferentiated.

13. Such as they are, they do not substantiate the view that the life of epileptics is short.

14. If epilepsy of the so-called idiopathic variety does not reveal itself before the age of 21 the chances are greatly against its subsequent appearance in proportion as the years pass.

15. In my opinion a case has been made out for the individual consideration, strictly on its merits, of every case in which fits have occurred that may present itself to the life assurance medical officer.

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THROMBO-ANGIITIS OBLITERANS.

BY

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THE name thrombo-angiitis obliterans was suggested in 1908 by Buerger for this interesting and remarkable disease, and has been accepted almost universally in the United States. Two cases have come under my care which illustrate the tragic and mysterious nature of its clinical manifestations.

The literature on the subject is sparse, but those who have made it a special study believe that it almost exclusively occurs in male adult Jews, especially in the poorer class of Jew who has migrated from Russia to America or elsewhere. It has been found also in Central and South-Eastern Europe, and appears to have been especially prevalent during the war. The disease is almost unknown among the inhabitants of these countries, but it has been studied by Parkes Weber in London, who admirably describes the condition in the *Quarterly Journal of Medicine* (vol. 9, 1915-16). Most of the original work comes from Leo Buerger of New York. It is sometimes referred to as Buerger's disease.

For no ascertainable reason some inflammatory condition arises in the deep vessels of the extremities, usually the legs, ending in thrombosis and obliteration, as the name implies. At the onset there may be no clinical evidence of the existence of such a condition, but as time goes on—weeks, months, or years—the organization of the inflammatory products proceeds, until finally local syncope and death may supervene. When a point is reached at which the circulation is at a minimum, and a struggle is taking place to maintain the vitality of the part, the pain often becomes unendurable, and sooner or later, in the majority of cases, amputation becomes inevitable, either for the relief of pain or in anticipation of a spreading gangrene. It is to be emphasized that the disease is pre-senile, that it is non-syphilitic, and is not embolic in origin. Frequently the disease in the arteries is accompanied or followed by thrombosis of the veins. The disease does not progress continuously; surprising changes, both for better and for worse, are the impressive features of the variegated clinical picture of thrombo-angiitis obliterans. The attempts of Nature to provide a new circulation, either by collateral anastomosis or by the canalization of the thrombosed blood vessels and connective tissues, is mentioned by all the writers. From a study of the published cases it would appear that this attempt is usually followed in the end by clinical, as distinct from pathological, failure. Thus the disease has a tendency to periodic relapse, and may end fatally when some important vessel is attacked. The two cases in Dublin which came under our care were diagnosed more by a process of exclusion than by anything tangible or concrete which could be obtained from the history or by clinical examination. Syphilis was first excluded; Raynaud's disease and the other angio-neuroses, together with endarteritis obliterans, were then eliminated. The urine in both cases was sugar-free, and there was no cardiac or other discoverable lesion remote from the affected parts. Buerger admits that only in very few cases can the symptoms justify a diagnosis in the incipient stage; it is only when we compare the history with the subsequent events that we can relegate definite signs to the onset of the vascular changes. After all, it is from the healing of the vascular lesion, with the consequent disastrous occlusive thrombosis, that the diagnosis is made. In both the cases here reported, and in nearly all the others recorded, pain in the calf of the leg, of the type known as intermittent claudication, was an early sign. An angry red colour of the foot, when allowed to hang, together with puffy toes, is a constant sign when the disease is well established.

Trophic lesions may be the first sign, and there are acute cases in which gangrene very rapidly develops. The initial symptoms may be too slight to attract attention. Both legs may be intensively involved with thrombo-angiitis obliterans, yet one shows outward signs of disease, the other, to all intents and purposes, appearing normal to the patient, but the pulse is absent in the dorsalis pedis, posterior tibial, and popliteal arteries. Cases suffering only from intermittent claudication have many times been treated for rheumatism, for gout, for flat-foot, and other orthopaedic conditions. Thrombo-angiitis obliterans in such cases is neither thought of nor looked for, but if a careful examination is made, in addition to pulseless vessels, blanching and reactionary redness becomes apparent on changing the position of the foot. A history of thrombo-phlebitis should always be sought. In one case mentioned by Buerger, of a Russian Hebrew, aged 32, all the vessels of both lower extremities, from the femorals down, were pulseless. The redness and the blanching were obvious, but there were no trophic disturbances, the patient complained of no pain, and considered himself perfectly well.

In attempting to classify the disease, Buerger suggests: (1) the typical form in the lower extremities; (2) the same with associated thrombo-phlebitis; (3) the same with involvement of the upper extremities; (4) a form difficult to diagnose in more senile patients who suffer from secondary or complicating arterio-sclerosis. I think that any one of these types may be acute, or subacute and intermittent, or chronic and intermittent.

Weber, in his close study of the disease amongst adult Jewish males resident in London, makes some interesting observations. One of his patients was aged only 1 year, and another only 2½ years, when they migrated to England from the East. He states that the affection occurs almost exclusively among Jews, but that it is not absolutely limited to the poorer classes. In nearly every case there was a history of habitual cigarette smoking (the brand of cigarette had no significance), and he thinks this is a contributory factor in producing the disease. The essential cause of the disease still remains unknown. Weber emphasizes the fact that acquired or inherited syphilis is almost invariably absent. It will be seen later that the two cases which form the basis of this communication might well have served as illustrations for his remarks.

"The characteristic symptoms of the disease are: (1) redness or cyanosis of the foot when it is allowed to rest in the dependent position; (2) pallor of the foot on movement of the ankle-joint; (3) intermittent claudication when the patient walks for a few minutes; (4) absence of pulsation in the arteries of the foot, most noticeable in the dorsalis pedis artery."

Some confusion has arisen owing to the use of the term "erythromelalgia." It was originally employed by Weir Mitchell for vague conditions of an extremity associated with pain and redness or cyanosis. It is not a diagnostic term, and might be applied to frostbite as well as disorders of functional origin, or any of the many angio-neurotic conditions. The disease never occurs in a woman. "The Jewish women," says Weber, "in the East End of London are all abstainers from tobacco; their men folk are notoriously fond of it."

TREATMENT.

The question of treatment can only be discussed in a general way. Each case must be judged on its merits. The pains may reach an intolerable pitch and call for amputation within a few weeks in acute cases. There is a difference of opinion as to whether amputation should be performed high or low. I am convinced that where there is any doubt high amputation is best. It is the well established surgical procedure for gangrene which is spreading beyond the toes. Knowing the pathology of the disease, the rules which guide us in dealing with senile gangrene may be reasonably followed. Sir Anthony Bowlby[1] says that the best course is to wait and see to what extent the collateral circulation is capable of dealing with the part. When senile gangrene is not limited to the toes, but has spread to the dorsum of the foot, amputation should be carried out without delay. The operation should be performed immediately above the knee. Buerger states that in the majority of cases amputation of at least a portion of the leg will become necessary, and that the Stokes-Gritti operation is the ideal procedure. Low amputations have been occasionally successful, but the risk of failure is too great, as is illustrated in both the cases mentioned below.

Conservative Treatment.

Buerger recommends an ingenious method of encouraging the capillary circulation, a method somewhat analogous to the contrast baths recommended by Sir Robert Jones in orthopaedic conditions. Buerger's plan is to induce reactionary hyperaemia in the affected part by a preliminary elevation of the leg followed by its depression into a dependent position. It is effectual in the milder form of cases if the pain can be tolerated. The period of elevation should be the minimum amount of time necessary to produce a frank blanching of the foot; this takes from thirty seconds to three minutes. The leg is then allowed to hang for one or two minutes beyond the time necessary for the induction of a distinct blush. The third position is that of rest with the leg horizontal. The sittings should be repeated frequently during the day. Passive hyperaemia by Bier's suction method has been helpful. The apparatus must be large enough to enclose the front part of the foot; the application is made for five to fifteen minutes three times a week.[2] Ligation of the femoral vein below the entrance of the long saphenous vein has been tried without success.[3] It is difficult to see on what basis some authorities recommend the intravenous injection of sodium citrate. The anti-coagulating action of sodium citrate in the employment of blood transfusion is followed by a coagulating effect in the case of the recipient's blood, and it is now well known that whether sodium citrate is given intramuscularly, intravenously, or subcutaneously, the result is prompt and pronounced shortening of the coagulating time. It is for this reason that injections of sodium citrate are effective in cases of haemorrhage.

Arterio-venous anastomosis has been, for obvious reasons, unsuccessful, and Leriche's periarterial sympathectomy not only failed in both the cases under review, but in every other case on record in which it was tried. For the relief of thrombo-angiitis obliterans the operation should now be abandoned. Alcohol has been injected into the posterior tibial nerve at the ankle for the alleviation of pain with success. The anaesthesia of the sole of the foot and the paralysis of the intrinsic muscles which follows make practically no difference in walking.

The outstanding features in the history of the two following cases were: (1) Neither was a Hebrew; (2) neither had syphilis; (3) both had served abroad; (4) both were heavy cigarette smokers; (5) the first patient lost portions of all four limbs during a period of about ten years; (6) the second case was of the acute variety, and the patient lost the left leg above the knee within a few weeks of the first attack of pain in his calf.

CASE I.

This patient was not directly under my care, but I saw him many times during his three years' treatment in Blackrock Hospital. The case illustrates the tragic course which the disease may follow. Up to date he has had a general anaesthetic on more than thirty occasions. The patient served during the war in the navy, at first in the North Sea, and subsequently in the tropics. He remembers that he was off duty for a day or two at a time owing to cramps in his legs. In 1915 the right foot became particularly troublesome; the big toe, he states, became white and lost sensation. These attacks were transitory. In 1919 he was admitted to the Haulbowline Hospital at Cobh (Queenstown); the great toe of his right foot had become black; it and the neighbouring three toes were removed. He was nine months in this hospital, but the wounds never healed. He was discharged, and remained at home for one and a half years. When at home the great toe of the other foot (left) became black, and he was admitted to a Dublin hospital, where a Syme's amputation was performed in 1922. The stump became gangrenous, and, as in the case of the toes of the other foot, the granulating wounds took eight months to heal. About a year later he was admitted to Blackrock Hospital with spreading gangrene of the right foot (from which the toes had been removed in 1919), and a modified Lisfranc amputation was performed. The flaps became gangrenous, and after many local operations amputation was performed below the knee. Necrosis of the bone followed, which necessitated a further operation, and a femoral sympathectomy was attempted at the same time (May, 1924, one year after admission). In 1925 the left leg (from which the foot had been removed in 1922) showed signs of slowly developing gangrene, and an amputation was performed below the knee eight months later. Once again the flaps became discoloured and gangrenous, and a month later amputation was performed in the lower third of the thigh. Almost simultaneously with the development of the gangrene in the stump of the left leg trouble commenced in the left hand. Blushing and blanching, with excruciating pain in the tips of the fingers, commenced, as in the case of the toes. The tips of the little and ring fingers sloughed off. Three months later the tips of the fingers and thumb of the opposite hand went through a similar but modified process. Mercifully, the spreading process stopped when the tips of the phalanges were protruding through the finger pulps. It became necessary, however, to amputate the first finger of the right hand. His present condition is: Left leg amputated through lower third of thigh; right leg amputated below the knee; right hand, first finger amputated, nails and tips of the other fingers involved; left hand, nails and tips of fingers also affected—the middle finger is missing from an accident in childhood. There is a distinct rubor to be seen on both ulnar and radial sides of both palms. Both radial pulses are good, both femoral arteries are pulsating below Poupart's ligament.

Raynaud's disease cannot absolutely be excluded in the diagnosis of this case, but against it is the fact that the patient was and is a robust sailor who contracted the disease at the age of 25. All the preliminary phenomena were confined to the feet. The gangrenous process was deep and destructive in the lower limbs over a period exceeding ten years. Lewis and Leichert[4] mention a similar case. They suggest ligature of the femoral artery distal to the profunda as a means of forcing and accelerating the development of collateral circulation through more healthy channels.

CASE II.

An officer, aged 28, who had served in Egypt for a number of years, in the middle of August, 1926, was boarding a ship *en route* for home when he had a sudden severe pain in the calf of his left leg. His account of the sudden pain—as if someone had hit him from behind—reminded one of the typical history given when the plantaris tendon is ruptured. On arrival home I saw the patient in consultation with Drs. O'Reilly and Wilson. The condition of the leg was quite characteristic of thrombo-angiitis obliterans. When the foot was in the dependent position it was flushed, and had an appearance as if it had been immersed in very hot water. When the foot was raised to the horizontal position only a few seconds elapsed until it became blanched and marble white. The pain then became excruciating, and could not be borne for more than a minute. When allowed to hang once again the capillary flush rapidly reappeared, and the pain was markedly relieved. The patient slept with the leg hanging out over the side of the bed, supported on a low chair and cushion. The arteries round the foot were pulseless. Nothing could be obtained from the history to throw light on the local condition, and a thorough routine examination gave equally negative results. In making the diagnosis we were faced with the fact that this patient was not a Hebrew; that he was by no means of the poor, half-fed type of patient which usually contracts the disease; in fact, he was a strong, young, athletic officer, fond of polo and pig-sticking, and many other athletic activities. Embolism was excluded in the absence of cardiac defect and of any recent illness. It was concluded also that if the limb survived the first shock of sudden arterial occlusion from embolus, in three weeks all anxiety about collateral circulation would have disappeared. The reverse occurred; each few days marked a further diminution in vascular supply. The diagnosis of pre-senile, non-syphilitic endarteritis obliterans was made, a term which in cryptogenetic cases is interchangeable with thrombo-angiitis obliterans, but not so expressive. We had hoped that, as gangrene had not actually appeared in the first two or three weeks, the collateral circulation would become more and more established in a young, vigorous man, and that the limb would be saved; but, on the contrary, the case was of the acute form; trophic sores developed on the great toe and the neighbouring toe, lymphangitis followed, and the glands became enlarged in the groin. The patient became worn out with pain, morphine had little or no effect, and amputation was performed above the knee on September 18th.

During the course of examination the patient's arteries were *x*-rayed to discover if signs of calcification were present; when the femoral artery was exposed high up to perform the Leriche operation, some days prior to amputation, it felt normal in every respect. The stripping of the artery was not attended with any unusual difficulty, such as has been reported by other writers. It was observed, however, that primary contraction of the artery when the sympathetic sheath was in the process of removal did not occur.

During the three weeks at our disposal from the time of the first pain in the calf to the amputation above the knee conservative treatment, in addition to the Leriche operation, was vigorously employed. Hot-air baths, diathermy, immersion of the foot in heated wax, to mention just a few of the remedies tried, failed to influence the progress of the disease.

Dr. T. T. O'Farrell, who examined the limb after removal, found the popliteal artery blocked by an old thrombus one inch below the level of amputation. Old-standing endarteritis was obvious here and in the vessels supplying the foot. Thrombo-phlebitis, with occlusion and calcification of the deep veins, was also found. Canalization of the thrombi and of the connective tissues completed the pathological picture.

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THROMBO-ANGIITIS OBLITERANS IN ASSOCIATION WITH SYPHILIS.

(With Special Plate.)

BY

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(From the Pathological Department of the Royal Victoria Infirmary, Newcastle-on-Tyne.)

As comparatively few cases of thrombo-angiitis obliterans have been reported in this country we desire to record the following instance. As will be seen, the symptoms were characterized by pain, coldness of feet, ischaemia, intermittent claudication and erythromelalgia, evidence of trophic disturbances shown by ulceration of leg and gangrene of toe, and, at a later date, extension of the *disease to the other limb.*

The patient, who is of British nationality, is a tailor's cutter, aged 59. Previous to this illness he was always healthy, and he gave no history of syphilis. The first symptoms were noticed *nine or ten years before he came* under observation, when he suffered from paroxysmal pains in the calf of the left leg; at first they came on after standing for some hours at his work, and were relieved on resting. Superficial ulcers developed on the anterior aspect of the lower third of both legs a few years later. *For the past two years the pain had increased in severity*; it was intense after walking, and was situated in the lower third of the left leg and foot. Resting gave relief, but the pain recurred on walking a short distance, say a hundred yards. These symptoms of intermittent claudication were associated with a sense of numbness or coldness, *especially when the weather was cold and* wet, and the foot became blanched and cold to touch. This transitory anaemia rapidly passed off on resting. The family history revealed nothing noteworthy. The patient is married; his wife and two children are alive and well. The latter show no evidence of *congenital syphilis.*

On admission to the Royal Victoria Infirmary, Newcastle-on-Tyne, on May 18th, 1925, an oval ulcer, measuring 1 in. by 3/4 in., posterior to the internal malleolus of the left foot was present; the skin edges were smooth, and its base was granulating, but covered with *purulent exudate. The ulcer was superficial, and did* not extend deeper than the subcutaneous tissue. The skin in the vicinity was pigmented, and showed numerous depigmented scars of previous ulceration. A similar appearance of healed scars was present in the right leg; the left great toe showed a condition of moist gangrene, limited to the toe.

The lower third of the left leg and foot were colder to touch than the rest of the leg, and on allowing the leg to hang down an erythematous blush developed rapidly over the inner border and dorsum of the foot, extending up to the ankle, thus giving the foot the appearance of typical *erythromelalgia. The foot was* most comfortable when elevated and kept cool. No alteration in sensation was detected, and no loss of motor power. *No pulsation* could be felt in either anterior or posterior tibial arteries, and only faint pulsation over the popliteal artery. Later on no pulsation could be felt in this vessel. *The blood gave a strong* positive Wassermann reaction, and the urine contained no sugar. A radiograph taken on May 23rd, 1925, revealed nothing of note in either leg. No evidence of tuberculosis was found in the lungs or elsewhere in the body.

The patient was transferred to the surgical side of the hospital, and on June 25rd Mr. Pybus amputated the leg about a hand's breadth above the knee-joint. There was little bleeding from the stump, and recovery was uninterrupted. The lumen of the femoral artery appeared to be practically occluded.

When seen again nearly six months later (December 14th, 1925) pulsation was *present in the left femoral artery*, and the right foot had rather an erythematous blush over the dorsum and inner aspect, extending to the ankle; pulsation, however, was still present in the anterior and posterior tibial arteries. The patient complained of coldness of the foot, especially on standing, but not of pain. These symptoms appeared to point to an extension of the condition to the right leg. The arms had never been affected. Blood examination on this day revealed nothing noteworthy.

Red cells	4,535,000 per c.mm.
Haemoglobin	90 per cent.
Colour index	1
White cells	5,800 per c.mm.
Blood platelets	363,000 (that is, 100 to 1,250 red cells)

No increase in the fragility of the red cells was present.

Differential count (250 cells counted):

Polymorphonuclears	54.8 per cent.
Lymphocytes	37.2 ,,
Large mononuclears and transitionals...	6.8 ,,
Eosinophils	0.8 ,,
Basophils	0.4 ,,

No abnormality was found in the white or red cells in stained films. No nucleated red cells were seen.

Naked-eye Appearance of Amputated Limb.

Much difficulty was experienced in the dissection of the main vessels owing to the great degree of chronic inflammatory thickening in their vicinity, which caused the venae comites and nerves to be matted together. They appeared like fibrous cords in places. The popliteal artery was occluded by a greyish *ante-mortem* thrombus. The vein was markedly thickened but not thrombosed. Both anterior and posterior tibial arteries were completely thrombosed. The thrombus, especially towards the middle of these vessels, appeared to be organized. One of the venae comites of the anterior tibial artery contained some *ante-mortem* clot, but those of the posterior tibial did not. All the veins were thickened, and the surrounding structures were bound together by fibrous tissue, possibly from an associated periarteritis. The clot in the anterior tibial artery extended down to the commencement of the dorsalis pedis artery, the lumen of which was patent.

Histological Appearances of the Blood Vessels.

The affected peripheral vessels—the popliteal and anterior and posterior tibial arteries—showed completely organized thrombi in their lumina, some of which were partially recanalized. Marked histological changes occurred in all the coats.

The Popliteal Artery.—The vasa vasorum showed endarteritis obliterans (Fig. 1), and around them was distinct infiltration of cells of lymphocytic type, including definite plasma cells. The tissues in the immediate vicinity showed fibrous overgrowth. In the media a degree of fibrosis with interruption of the continuity *of the muscle and elastic fibres, dilatation of vasa vasorum*, and some lymphocytic infiltration was present. The internal elastic lamina was reduplicated in places, and interrupted by small thin-walled vessels passing into the clot. The intima was merged into clot by the process of organization. The thrombus, which occupied the whole lumen, was densely fibrous and completely organized. Between the fibres were deposited yellowish granules of altered blood pigment, and some of the newly formed capillaries had developed into quite large channels.

The Anterior Tibial Artery.—Sections were examined from the upper, middle, and lower ends of this vessel, and from one of its branches. The changes were more advanced in the upper end (Fig. 2), and were similar to those described in the popliteal artery. The wall of the vessel, however, showed much more fibrous thickening, and the vasa vasorum were more dilated. The periarteritis was more prominent. In the middle and lower ends, in addition to the appearances previously described, the adventitia showed a greater degree of cellular infiltration, and throughout the media were foci of epithelioid cells with pale vesicular nuclei and abundant protoplasm, and numerous multinucleated giant cells, with nuclei arranged around their peripheral parts (Fig. 3). These were external to the internal elastic laminae (Fig. 4). A marked degree of lymphocytic infiltration, especially around the vasa vasorum and at the margins of the foci, was present. The thrombus presented the same features as are described above, but just above the ankle-joint in a few places some small calcareous deposits were seen. There was also one large dilated vessel in the *clot; its wall, however, was composed only of endothelial cells.*

The branch of the anterior tibial artery showed a similar appearance to that described above, but no giant cells were seen. The thrombus appeared to have receded from the wall and permitted canalization to take place; some red blood corpuscles were present in its lumen.

No thrombus was present in the lumen of the anterior tibial artery at its junction with the dorsalis pedis artery. The adventitia only showed a slight degree of periarteritis; the vasa vasorum in media were distended, and only a slight degree of fibrosis was present; lymphocytic infiltration was not marked; the intima showed distinct fibrous thickening.

Sections taken from two separate parts of the posterior tibial artery, one higher up in the course of the vessel than the other, showed the lumen to be more or less closed by an organized *thrombus, in the centre of which was present a new channel.* The changes in the vessel wall were pronounced. The adventitia showed marked periarteritis with endarteritis obliterans of the vasa vasorum, lymphocytic accumulations, and occasional focal areas of epithelioid cells and scanty giant cells. The tissues in the vicinity were greatly fibrosed. While lymphocytic infiltration was present in the media, no giant cells were seen. The vasa vasorum were greatly dilated, and the muscle and elastic fibres much atrophied and replaced by fibrous tissue. The internal elastic lamina shows reduplication in places. The intima merged into thrombus, but appeared thickened by fibrous overgrowth. The thrombus had been completely organized by a cellular granulation tissue, and there was a large central opening present, which may possibly be due to recanalization, as in one of the sections it appeared to extend to the intima. This canalization extended almost the whole length of the vessel (Fig. 5). One of the branches showed marked intimal proliferation almost obliterating the lumen, and another branch was occluded by an organized thrombus similar to that previously described.

Sections from all the arteries, particularly where giant cell foci were present, were stained for tubercle bacilli, but, notwithstanding an exhaustive search, none could be detected. Other sections were stained by Levaditi's method for the detection of *Spirochaeta pallida*, but none were discovered.

Histological Appearances of the Veins.

The veins all showed some fibrous thickening of their walls, especially internal to the internal elastic lamina (Fig. 6). Lymphocytic infiltration and endarteritis obliterans of the vasa vasorum were not marked. The popliteal vein and venae comites of the posterior tibial artery were not thrombosed, but one of the venae comites of the anterior tibial artery contained a thrombus composed of fibrin, leucocytes, and red blood corpuscles, which showed early organization at one point.

Histological Appearances of the Nerves.

Both the anterior and posterior tibial nerves were the seat of perineural fibrous thickening, and the fibrosis extended between the various nerve bundles and between individual nerve fibres which appeared atrophied. In places fat could be demonstrated in the nerve fibres.

While the symptoms and appearances described in this case are identical with thrombo-angiitis obliterans occurring in the young subject, syphilis apparently plays no part as an ætiological factor in that disease, and no spirochaetes have been demonstrated (Buerger).[1] In Perla's[2] series of 41 cases 36 gave a negative Wassermann reaction. The term "thrombo-angiitis obliterans" was first employed in 1908 by Buerger, who gave a detailed description of the disease from an examination of 38 cases, but it has been described under various names—such as pre-senile gangrene, non-syphilitic obliterative endarteritis of the Jews, obliterative endarteritis of the young, and endophlebitis and endarteritis, etc., by many of the earlier writers. Russian, Polish, and Rumanian Jews, it is said, are most generally affected. Perla found 41 cases, all Jews, out of 10,000 cases in the records of the Montefiore Hospital, New York, but states that no conclusion can be drawn from this, as 95 per cent. of all the patients there are Jews. Other authors have reported cases among Turks, Chinese, Koreans, and Japanese. The average age of onset is about 30 years, and all the recorded cases have been males; 10 of Perla's cases were tailors. Buerger found the left leg the first to be affected, but Perla the right leg in the largest number of his cases. All the limbs, however, may be affected. Perla described a case occurring in the aorta and coronary arteries as well as in the peripheral vessels of both legs. The disease in all cases originates in the smaller vessels, such as the dorsalis pedis artery, and ascends to the vessels above. The capillaries of the extremity remain free. Professor C. F. M. Saint of Capetown University informs us that he has seen a considerable number of these cases in South Africa in recent years; in certain cases the disease involved both upper and lower extremities.

The histological appearances of the present case show a condition of thrombo-angiitis obliterans with an associated phlebo-sclerosis or phlebo-thrombo-sclerosis, which would appear, in view of the positive Wassermann reaction and the exclusion of other causes, to be of syphilitic nature. Tuberculosis is reasonably excluded from the absence of tuberculous lesions elsewhere. There was no evidence of a generalized miliary tuberculosis or of a tuberculous lesion in the immediate neighbourhood from which direct infiltration could arise. As has already been stated, no tubercle bacilli were detected in the lesions. Such extensive giant cell formation as was present in our case is uncommon in the smaller arteries in syphilis. Buerger described giant cell formation as occurring in the intima, internal to the elastic lamina, and also in the thrombus, and regarded these cells as probably phagocytes assisting in the process of organization. No giant cells were present in any of Perla's cases. It is possible that some of Buerger's cases were of syphilitic origin, as no Wassermann tests were performed, the disease having been excluded on the ground that no spirochaetes were found.

The condition is distinguished from gangrene due to injury, with resulting thrombosis, and thermal gangrene following prolonged exposure to extreme cold, by the fact that these develop in forty-eight hours. The absence of sugar in the urine excludes diabetic gangrene. In arterio-sclerotic endarteritis obliterans the vasomotor phenomena, blanching and hyperaemia, are infrequent, and gangrene supervenes early and progresses more rapidly. Again, physical manifestations of impaired circulation are few prior to the onset of gangrene. Raynaud's disease is distinguished by its sudden onset with local syncope or regional ischaemia, involving the fingers, more rarely the toes and other parts; by short duration of sensory and vascular manifestations; their intermittent character and absence of arterial occlusion between the attacks.

The changes in the vessel walls in the present case would account for the thrombus formation with all the other related symptoms, gangrene, etc., and the sclerosis of the nerves for the atrophic disturbances. The feature of such cases is the slow progressive thrombus formation, with periods of remission of symptoms and the comparatively late onset of gangrene.

We have difficulty in accepting Buerger's view of a primary thrombosis with secondary change in the vessel wall. It seems more probable that the toxic agent which has caused the condition set up the changes in the vessel wall primarily and that the thrombosis occurred secondarily. No doubt when existing thrombosis has altered the current of blood in an artery abnormal eddies may precipitate thrombosis in other parts of the vessel where there may be no obvious disease in its walls.

The thrombosis in the present case would appear to have originated in the popliteal artery and to have spread progressively downwards to the anterior and posterior tibial arteries, rather than to have ascended from below.

Perla agrees that luetic endarteritis, leading to occlusion of the peripheral arteries of the extremities, while rare, can only be distinguished from thrombo-angiitis obliterans by the presence of other evidences of syphilis.

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LIPIODOL IN PULMONARY DIAGNOSIS: ITS USES AND LIMITATIONS.

(With Special Plate.)

BY

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LIPIODOL, a compound of iodine and oil (poppy seed) introduced as a diagnostic aid by J. Forestier, is non-irritant to the tissues of the body and opaque to the *x* rays[*]; when injected into the bronchial tree it will flow to the utmost limit of the ramifications and fill the alveoli, rendering both opaque and clear cut. It might be thought, therefore, that by its use bronchiectatic and emphysematous dilatation would be seen, lung cavities demarcated, the position of lung abscesses determined, the site of a broncho-pleural fistula demonstrated, and the existence of a foreign body in the bronchus or a tumour shown; that we should be able to distinguish between an abscess, an old empyema cavity with a fistulous opening into the lung, and bronchiectasis—a problem which not infrequently confronts us; we might also expect to diagnose with greater ease conditions which are notoriously difficult in the early stages—such, for example, as new growths—and be able to assess the significance of the constant clicking basal râles that from time to time puzzle us. How far this expectation has been realized we shall endeavour to show by the cases described below. We have injected lipiodol in over fifty cases at the City of London Hospital for Diseases of the Heart and Lungs, Victoria Park, and it will be seen that while in some instances information of great value was obtained, in others no help was given; or the information obtained was sometimes of a negative character, by which is meant that the examination with lipiodol having excluded bronchiectasis we are driven to search for other conditions which give rise to a similar clinical syndrome.

Methods of Injection.

Several routes for injecting the lipiodol have been used by different workers: (1) through the crico-thyroid membrane; (2) through the trachea below the isthmus of the thyroid gland; (3) the bronchoscopic route; and (4) the transglottic, by means of a laryngeal syringe; a rubber tube extension is sometimes employed, or a weighted catheter which can be passed into the right or left bronchus at will. We have used the first method almost exclusively.

[*] See BRITISH MEDICAL JOURNAL, 1923, vol. ii, p. 214.



FIG. 1.—Popliteal artery, showing occlusion of lumen by an organized thrombus. [illegible] of vasa vasorum with some l[illegible] with of tissues in vicinity. A [illegible] sa vasorum and extension of thin-walled vessels into thrombus is present in media. The thrombus is densely fibrous and completely organized, and between the fibres are deposited yellowish granules of altered blood pigment. (× 15.)

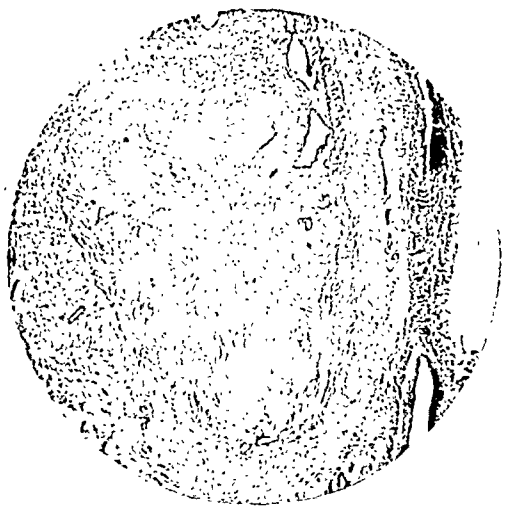


FIG. 2.—Anterior tibial artery, upper end, showing similar condition to that described in the popliteal artery. (× 6.)

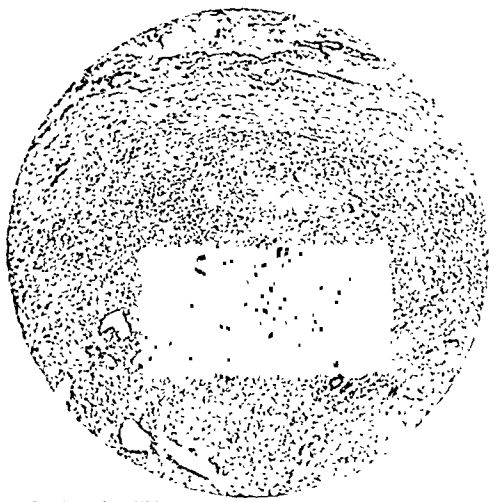


FIG. 3.—Anterior tibial artery, middle and lower ends, showing a condition similar to that in the popliteal artery. In addition marked lymphocytic infiltration of media and foci of epithelioid and giant cells are present. The vessel wall is situated above and the organized thrombus below. (× 45.)



FIG. 4.—Wall of anterior tibial artery, showing the giant cells situated external to internal elastic lamina, which is folded in places. The vessel wall is situated above and the thrombus below. (× 60.)

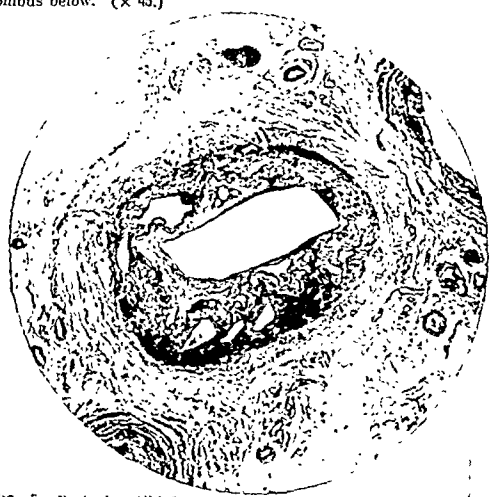


FIG. 5.—Posterior tibial artery, stained methyl violet. The same features as in other sections are present, but the thrombus shows a large central channel which extends to the intima at one area. The internal elastic lamina is folded. (× 20.)

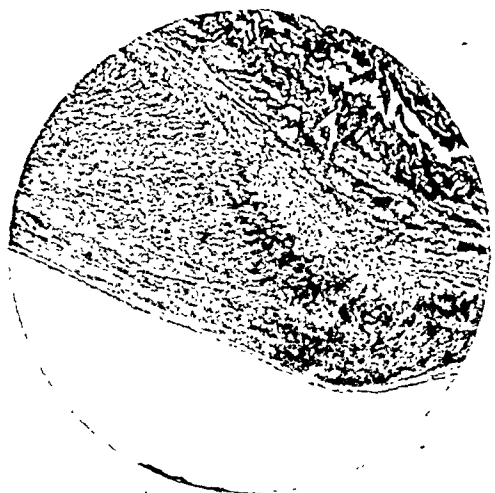


FIG. 6.—Popliteal vein, showing marked fibrosis of wall, especially of intima. (× 60.)



FIG. 1.—Normal.



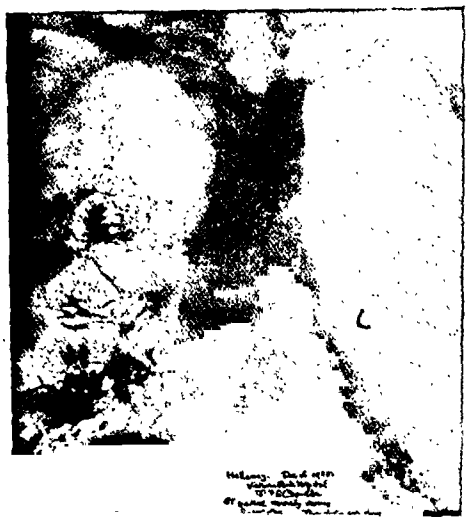
FIG. 2.—Normal.



FIG. 3.—Bronchiectasis of upper lobes. Case I.



FIG. 4.—Glove-finger type of bronchiectasis. Case II.



5.—Chronic bronchitis and emphysema. Case III.



FIG. 6.—Chronic lung abscess. Case IV.

Technique.

A. *Apparatus.*—(1) A 20 c.cm. glass syringe. (2) A special needle made by Allen and Hanburys (bluntly bevelled, 3/4 in. in length, No. 15 Birmingham wire gauge), or a small trocar and cannula which has been made for us by the same firm,† with a bore of one millimetre only, which is quite sufficient to permit the passage of the oil; or the curved trocar and cannula used by Dr. Armand Delille, like a minute tracheotomy tube, which can be fastened in position by tapes round the neck. (3) Syringe and needles for novocain and cocaine.

B. *Lipiodol.*—Temperature raised to 100° F. by immersing the metallic container in hot water. This decreases the viscosity, and allows the oil to flow easily.

C. *Patient.*—(1) Cocaine idiosyncrasy should be tested beforehand by giving an eighth of a grain of cocaine either subcutaneously or by mouth. (2) No food for three hours before the injection. (3) Morphine for adults (one-sixth of a grain hypodermically); tinct. camph. co. in the case of children is perhaps advisable if cough is troublesome. (4) The patient is propped up by pillows over which the head is extended in order to expose the crico-thyroid region. The operator stands on the right side of the patient. (5) The site is prepared with spirit or ether, and not with iodine, as this is opaque to the *x* rays.

D. *Anaesthesia.*—(1) A few minims of 2 per cent. novocain are injected intradermally over the crico-thyroid space (larger quantities may obscure the landmarks). (2) Into the trachea 0.5 c.cm. of a 5 per cent. solution of cocaine is injected, a stouter needle being used to avoid the possibility of the needle breaking should the patient cough. The thyroid cartilage is steadied by the left hand, and the needle inserted through the crico-thyroid membrane. To make sure that the needle is in the larynx air should be drawn into the syringe. The cocaine is then injected slowly, but should the patient cough it must be injected quickly, and the needle rapidly withdrawn.

E. *Injection of Lipiodol.*—Having filled the syringe the needle is introduced through the crico-thyroid membrane. The piston is then withdrawn, and air should enter freely. This test is essential, and should be repeated during the injection. The position of the patient may now be altered according to the part of the lung to be injected. If this is the right lower lobe the above position is satisfactory, as the lipiodol tends to gravitate into the right bronchus; if the left side, the patient should be placed gently inclined to the left; if the apex, the patient should be breathe deeply through the mouth and to suppress swallowing movements and cough. We have injected between 15 and 20 c.cm. of lipiodol as a rule. The procedure should take about five to ten minutes. After the injection any lipiodol on the skin should be wiped off with ether, a collodion dressing applied, and the patient should be radiographed as quickly as possible, both in the horizontal and vertical positions. The manipulation of the patient should be gentle, as otherwise coughing may be induced and part of the lipiodol may be dislodged before an *x*-ray picture has been obtained.

Effect on the Patient.

Using, as we have done, a very small amount of cocaine solution there is very little, if any, discomfort. Sometimes there is a feeling of constriction; this is relieved by a sip of water. The injection of the oil appears to cause no discomfort, but the patient may complain occasionally of the taste and smell of the lipiodol. In sensitive subjects the symptoms of iodism may occur. This happened in one of the Victoria Park cases, when a characteristic rash appeared. In another case an attack of asthma seemed to be precipitated. Apart from these we have seen no harmful effects, although over fifty injections have been made.

The Normal.

A knowledge of the normal picture is obviously the first essential. Figs. 1 and 2 we consider normal.

The following are illustrative cases.

CASE I.—*Early Bronchiectasis.* (Fig. 3.)

A girl, aged 12, who had been treated for two or three years as a case of tuberculosis owing to cough, expectoration, and haemoptysis, and abnormal signs over the right upper lobes; tubercle bacilli, however, were never found in the sputum or the faeces. Lipiodol injection showed the condition to be bronchiectasis.

CASE II.—*Gross Bronchiectasis.* (Fig. 4.)

A woman, aged 26, when between the ages of 6 and 8 had pneumonia on three occasions. At the age of 9 she was treated in hospital for bronchiectasis. On the present occasion she was admitted complaining of increased cough and sputum since an attack of "congestion of the lungs," eighteen months previously. Her fingers and toes were clubbed. She was expectorating 12 to 20 ounces of offensive sputum in the day. A radiogram showed a large dense shadow at the right hilus, and an opacity above the inner part of the right diaphragm. The bases were fairly clear. Two lipiodol injections were given; Fig. 4 shows the picture after the second. Large masses of lipiodol are seen at both bases, and the gloved finger type of bilateral bronchiectasis revealed.

† Latterly one of us (F. G. C.) has used this trocar and cannula exclusively.

CASE III.—*Bronchitis and Emphysema.* (Fig. 5.)

A man, aged 29, was severely gassed in 1917, and had since complained of recurrent attacks of bronchitis. The chest was barrel-shaped, and there were signs indicative of bronchitis and emphysema. No tubercle bacilli were found in the sputum. A radiogram showed increased striations at the right base. An injection of 18 c.cm. of lipiodol was given through the crico-thyroid membrane. Fig. 5 shows abrupt terminations of the outline of several bronchi and a peculiar flocculent distribution of lipiodol in the alveoli.

CASE IV.—*Chronic Lung Abscess.* (Fig. 6.)

A boy, aged 12, was sent by Dr. Trower to Charing Cross Hospital. He had had pneumonia at the age of 6, and since then had always had a cough. Three months before admission he had "influenza," and since this illness the cough had become more troublesome and the sputum had increased and had become offensive. The fingers were clubbed. Anteriorly the right side of the chest was impaired to percussion, and the breath sounds were harsh but distant. Posteriorly similar signs were obtained over a more limited area below the angle of the right scapula. The daily sputum amounted to 10 ounces, and had an exceedingly offensive odour. No tubercle bacilli were found, although repeated examinations were made. A radiogram showed an opacity in the mid-zone and base of the right lung. Towards the outer part of the centre of this shadow there was a circular area of lesser density. Lipiodol was injected. This went almost entirely into the left lung, and showed a normal bronchial and alveolar outline. Bronchoscopy was therefore performed by Mr. Davis, and an attempt made to fill the right bronchial tree with lipiodol. Again it failed, but Fig. 6 shows the substance outlining the bronchi up to the diseased area, but going no further. The injection thus excluded bronchiectasis, but failed to differentiate between pulmonary abscess and empyema with a broncho-pleural fistula. The case, however, seemed to be one urgently demanding operation. This was done by Mr. Clogg, and a large pulmonary abscess cavity was found, which was successfully drained.

CASE V.—*Empyema Cavity with Broncho-pleural Fistula.*

We were anxious to know if lipiodol would demonstrate a broncho-pleural fistula. A case of old chronic empyema of three years' standing was therefore taken, in which 20 ounces of offensive pus had been coughed up one week before admission to hospital. The lipiodol did not appear, in this case, to enter the old empyema cavity.

CASE VI.—*Contracted Left Lung. ? Pressure on Main Bronchus.*

A man, aged 49, had had repeated attacks of malaria and bronchitis; he had lost 2 st. in weight. He was admitted with bronchitis and bronchopneumonia, and the heart was displaced to the left. After the acute attack subsided he was left with dullness all over the left side, with bronchial breathing, and absence of adventitious sounds. The heart was in the left axilla. The *x*-ray picture showed a dense opacity all over the left side, with the right lung invading the left side of the thorax and the heart drawn to the left axilla; it gave no clue to the cause of the condition. The Wassermann test was strongly positive. The diagnosis of pressure on the left main bronchus by aneurysm or gumma suggested itself, and lipiodol was injected in the hope that further light would be thrown on the case. A very interesting picture was obtained. Through the opacity could be seen the denser shadow of the lipiodol; the main bronchus appeared to be immensely enlarged, as though flattened out; the bronchi springing from this were enlarged and blunt-ended; they appeared to be uniformly enlarged, but with no bronchiectatic dilatations, and ended abruptly without any of the usual alveolar arrangement of the lipiodol.

CASE VII.—*Diabetes and (?) Neoplasm of Lung.*

A man, aged 54, was admitted with diabetes, cough, occasional haemoptysis, and pain over the right side of the chest, which had been present for two months. There was slight clubbing of the fingers and dullness on percussion at the right base and absent breath sounds, but no adventitious sounds. There were no tubercle bacilli in the sputum. The radiogram showed a vague shadow, suggesting a possible growth. Lipiodol, however, freely entered this dull "silent" area and had a normal distribution, thus giving no help in the diagnosis.

CASE VIII.—*Bronchiectasis.*

A man, aged 53, in 1921 suddenly coughed up half a pint of stinking pus and collapsed. From this he recovered. In January, 1926, he again coughed he had a large haemoptysis. He was brought to hospital; the chest was up pus and fainted. He was obtained, and an operation for explored; a little pus was performed. No empyema was discovered. A little empyema was injected, and a bilateral bronchiectasis was later lipiodol revealed.

The Positive Findings.

In bronchiectasis we get positive evidence of dilatation of the bronchi. The picture appears to be pathognomonic and unequivocal (Figs. 2 and 3). It is the only positive method of proving the diagnosis. It is well known that, as a rule, the ordinary radiogram gives little help in diagnosing bronchiectasis. Either very little can be seen,

or the shadows thrown are similar to those obtained in many different pathological conditions, or the lesion may come behind the heart shadow. The first two points are demonstrated in Case I. Here the physical signs were like those of chronic tuberculosis, and the radiogram could be interpreted in various ways. Lipiodol injections proved the condition to be bronchiectasis. Frequently constant clicking râles are heard at one or both bases. If these are due to bronchiectasis we believe that proof positive can be obtained by the use of lipiodol.

Lipiodol will flow into a tuberculous cavity and outline it or fill it; but as a rule such cavities are obvious on the ordinary radiogram. It would be of value, however, in differentiating a large superficial tuberculous cavity from a localized pneumothorax. We have avoided injecting tuberculous cases as far as possible owing to unfavourable reactions having been reported.

Limitations.

Is there any other picture obtained after lipiodol injection which can be considered unequivocally pathognomonic? The answer is doubtful. Fig. 5 shows the picture obtained in a case of apparent chronic bronchitis and emphysema, and it is in accordance with the appearance described by the French writers on the subject. Frequently the information obtained is of a negative character. In cases of lung abscess and old empyema cavity it has been our experience that the lipiodol stops short at the periphery of the diseased area. This is shown in Fig. 6 (Case IV). We have seen the same thing in other cases.

Apparently, therefore, it would not help us to distinguish between a superficial non-tuberculous lung cavity and a localized pneumothorax, or between a pulmonary abscess and an old empyema cavity. What is obtained, however, is the knowledge that bronchiectasis does not exist, and this may be of value both in diagnosis and treatment. In Case IV lipiodol was also injected through the drainage tube into the abscess cavity; it outlined the lower part of the cavity, and this was all. None appeared to go through the bronchi.

We have injected lipiodol in cases of new growth of the lung, old empyema cavity, tuberculosis, and other conditions mentioned above, but apart from the filling of a tuberculous cavity no special help was given, nor did we obtain what may be called a pathognomonic picture. By this we do not mean to suggest that the method has failed. With an enlarged experience, both in the number of cases and in interpretation, more knowledge may be obtained. It would seem that a distortion or misplacement of a bronchus ought to be made manifest. All that we say is that, except in the cases mentioned, we have not hitherto obtained any strikingly helpful radiograms. Case VI, however, certainly gave a distinctive picture, but though tending to confirm a tentative diagnosis based on inferential reasoning, it did not give positive evidence of the actual underlying cause of the condition.

Summary.

1. Lipiodol injection will apparently enable us to diagnose and localize bronchiectatic dilatations with certainty: moreover, in many cases it is the only method of proving the diagnosis.

2. It enables us to distinguish bronchiectasis from lung abscess, from empyema with a broncho-pleural fistula, and from tuberculosis.

3. With regard to the diagnosis of lung abscess and empyema with a pleural fistula, the help is of a negative character. The lipiodol does not appear to enter the pulmonary abscess, but stops short of it; nor does it easily flow through the bronchial fistula into an empyema cavity.

4. Tuberculous cavities fill readily, but it has been suggested that injections are undesirable in cases of pulmonary tuberculosis.

5. In our opinion the method described is simple and harmless, giving invaluable help in certain cases, but possessing limitations.

We are indebted to Drs. Leggett, J. V. Sparkes, and Russell Reynolds for the skiagrams, especially to Dr. Sparkes, by whom most of the radiological work was done.

Fig. 5.—Chronic bronchitis and emphysema. Case III.

"VOLVULUS NEONATORUM."

BY

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THE following case appears worthy of record, as it is, so far as I know, the first of its kind to be recognized from clinical observation and to be successfully treated by operation. The case was one of the disease which I described in 1923 as "volvulus neonatorum."[1] In this condition the normal rotation of the midgut fails to occur during development. In consequence of this the mesentery fails to acquire its secondary attachment to the posterior abdominal wall, and the entire small intestine and right half of the colon depend as a mass from a narrow pedicle at the origin of the superior mesenteric artery. The condition obviously predisposes to a volvulus of this enormous extent of bowel. The accident usually occurs within a few days of birth—probably as a result of the first peristaltic efforts of the intestine in response to feeding. The volvulus is peculiar in that the third part of the duodenum is acutely obstructed by being tightly twisted round the pedicle while the less fixed colon does not suffer. Since the involved bowel has a free exit below through the colon, it does not become distended, but collapsed. The blood supply is but slightly impaired, causing only a moderate cyanosis of the intestinal coils.

Of the diagnosis I wrote as follows:

"In these cases I think a correct diagnosis is . . . possible . . . The child is apparently normal when born and remains so for some days. Meconium is passed, and if the onset of the volvulus has allowed time, food residue appears in the motions in due course on the third or fourth day. With the onset of volvulus there may be shock, though this was observed in one case only. Vomiting begins early . . . The vomit is soon deeply stained with bile, for the obstruction lies below the duodenal papilla. . . . The upper half of the abdomen becomes distended by the stomach and duodenum, while the lower part becomes recessed from collapse of the intestines. . . . Melaena may or may not be evident."

It was pointed out that the above syndrome defined the condition clearly from all other possible causes of alimentary obstruction of the first few weeks of life. It was suggested "that reduction of the volvulus would be the most hopeful line of treatment. The intestinal mass would have to be delivered and untwisted."

A female infant, aged 8 days, was admitted to the Royal Edinburgh Hospital for Sick Children on May 20th, 1926, having been referred to us by Dr. Sharp of Musselburgh on account of intestinal obstruction. The birth was natural. Abundant meconium passed. Natural light yellow food residue appeared in the motions on the third day, and a normal motion was passed on the morning of the fourth day. The baby took the breast well until the fourth day, when she had a sudden fit of crying, holding the breath, drawing up the legs—apparent abdominal pain. There was no pallor. From this time she refused to suck. She vomited with increasing frequency, at first clear fluid, then yellowish, and latterly dark green flaky material. There had been complete constipation. There was little further pain until the morning of admission, when it seemed to recur and persist. On the morning of admission a small quantity of blood-stained mucus was passed per anum.

Examination.—A well developed infant; the eyes sunken, the mouth dry, the face drawn, and the skin generally lax and folded from rapid dehydration. A severe degree of toxaemia was obviously present. The upper part of the abdomen was prominent from gastric and duodenal dilatation, the lower part was flat. Small quantities of dark green flaky material were regurgitated at intervals of a few minutes. The rectum contained traces of blood-stained mucus.

Provisional Diagnosis.—From the clearly defined sequence of events of the history, and the facts observed on examination, a confident diagnosis of "volvulus neonatorum" secondary to an error of intestinal rotation and fixation was made. It will be noted that this was based on evidence of acute obstruction to the duodenum below the bile papilla and of post-natal origin.

A large continuous subcutaneous infusion of glucose-saline solution was administered, operation being postponed for four hours in order to re-establish the fluid and carbohydrate equilibrium.

Operation.—Ether anaesthesia. Right paramedian incision. The stomach and duodenum were enormously distended with fluid and gas, the pylorus being widely dilated. The distension ended abruptly where the third part of the duodenum crossed in *front* of the superior mesenteric vessels and was sharply twisted round them in a clockwise direction. In this case the caecum had crossed the mid-line from left to right and was loosely adherent over the right kidney (incomplete or "mal-rotation"). The lowest coil of the ileum with its free mesentery was loosely

wound around the pedicle of the volvulus and was free from constriction. The entire jejunum and ileum were implicated in the volvulus. They presented an extraordinary appearance, being *deeply cyanosed, quite collapsed and empty, and massed into* a compact bunch, which depended freely from the narrow pedicle of the superior mesenteric axis. The mass of congested, collapsed bowel could be most accurately likened to a conglomeration of bluish earthworms. The mass was rotated in an anti-clockwise direction through about 360 degrees. A few light, recent adhesions were present about the constricted portion of the duodenum; these were readily separated and permitted the organ to come into its natural position behind the mesenteric root. So soon as the constriction of the duodenum was relieved by untwisting the volvulus, the gaseous and fluid contents of the dilated stomach and upper duodenum passed rapidly down the jejunum and had entered the ileum before the bowels could be returned to the abdomen. Since the infant was seriously ill from four days of acute duodenal obstruction, it was thought unwise to prolong the operation by fixing the replaced intestines. It was hoped that this would occur naturally in the course of post-natal development. The abdomen was closed. The operation had been a very easy and rapid one.

Progress.—No further vomiting occurred, and the infant took the bottle well within three hours of operation. An uninterrupted convalescence ensued and she was discharged from hospital on the fourteenth day. She has been seen at regular intervals since. She has progressed quite normally; there has been no vomiting, no evidence of abdominal pain, and a steady gain in weight. At the last report (November 23rd, 1926) the child appears a particularly robust little girl of 6 months, weighing 12 lb. 12 oz.

I regard this case with peculiar satisfaction, as it represents to me the outcome of former embryological and pathological researches in practical diagnosis and operative cure.

REFERENCE.

[1] N. M. Dott: Anomalies of Intestinal Rotation: their Embryology and Surgical Aspects: with report of five cases. *Brit. Journ. Surg.*, 1923, xi, 251-285.

HAEMATURIA FOLLOWING INSULIN INJECTIONS.

BY

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IN 1923 and 1924 I noted several cases of diabetes mellitus in which the use of insulin injected in the usual manner was associated with a transient haematuria. I could not trace any records of similar cases, and on inquiry of other physicians who had a large experience of insulin administration I did not get any corroborative information. While noting the facts I decided to await further confirmation, as apparently the occurrences were simply coincident and of no serious moment. Since then, over many hundreds of similar injections in private and hospital practice, and in many cases with large daily doses, I have never met with a similar experience. I have also been watching the literature of the subject for any reference to the occurrence of haematuria in similar circumstances, but without avail till in the *Epitome* of the BRITISH MEDICAL JOURNAL of October 23rd, 1926 (para. 364), I found J. Güdemann reported as having described a case of haematuria following insulin treatment. As the history of the case was there given it need not be repeated here. Güdemann referred to two other cases, and stated that all his own cases of haemorrhage after insulin treatment occurred in a period of four and a half years; he thinks it probable that haemorrhages after insulin treatment occur more frequently than has been believed hitherto.

As such occurrences have not apparently been noted in this country I wish to refer to three cases, in all of which a very transient haematuria was observed.

CASE I.

A boy, aged 13, was admitted to my ward on October 23rd, 1923, in a state of coma, and on that day he had 20 units of insulin on two occasions. He made a rapid recovery from coma, and next day felt very well, though he had very decided haematuria. Microscopic examination of the urine showed, in addition to blood corpuscles, a few hyaline casts. The haematuria cleared up completely within twenty-four hours, and did not recur, though he had regular daily doses of insulin during the remainder of his residence. He is still under regular supervision at intervals, and though regular doses of insulin have been given, no similar occurrence has been observed. He is well developed and sturdy.

CASE II.

A man, aged 32, with advanced diabetes, had three attacks of haematuria during one month. He started insulin treatment in my ward on September 20th, 1923, and was at one time having 50 units daily. He developed severe haematuria on October 30th, and had recurrences on November 5th and November 27th. On each occasion the attack persisted for a few days, was not associated with any discomfort or signs of kidney disease, and cleared up completely.

CASE III.

A man, aged 59, had marked diabetes, requiring a daily dose of 40 units over a prolonged period. In May, 1924, in a nursing home, he had an attack of haematuria lasting twenty-four hours. Here also there were no associated symptoms of renal disease, and no feelings of discomfort.

I am tempted to add a fourth case of haemorrhage in similar circumstances, though it was not haematuria.

The patient was a man, aged 73, who had suffered from diabetes for some time, but had not had insulin. When I saw him with his doctor on June 8th, 1924, he was on the verge of coma and became comatose before he reached the nursing home. With insulin in considerable doses he recovered consciousness completely, but four days thereafter he had a cerebral haemorrhage, with resultant hemiplegia, and died.

These cases all occurred within a period of about eight months, and, it is of interest to note, rather earlier than those referred to by Güdemann. I have no explanation to offer as to the cause of such haemorrhage, as the conditions of administration of the drug were at all times as nearly as possible the same, and, of course, in the cases in the ward others were having the same insulin without any haemorrhage. It would be interesting to know if other examples are on record of similar occurrences during insulin administration.

STUDY OF AN ANAEROBIC STREPTOCOCCUS.

BY

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ANAEROBIC streptococci have been described before, and according to Douglas's observations they were sufficiently common in war wounds to render anaerobic culture of pus so obtained a matter of practical importance.[1] But the occurrence of these organisms in civil practice in England is sufficiently rare to justify record.

The streptococcus now described was isolated from an abscess in the lumbar region. The films showed chains of eight to ten cocci; no other organism was seen, and an examination for tubercle bacilli by the Ellermann and Erlandsen concentration method was negative.

Cultural Features.

A serum nutrient agar slope was inoculated, but no growth followed. As it was assumed that the inoculation was at fault a second slope was used, with a like result. The pus was then put on a "plain" agar plate and incubated anaerobically. A profuse growth was obtained in eighteen hours. The colonies were round, discrete, and about 0.5 μ in diameter. On inoculating a slope from this plate and incubating it aerobically no growth was obtained. The anaerobic subcultures grew well. An aerobic culture made from the fifth anaerobic culture showed a feeble growth in twenty-four hours which did not improve with further incubation. This was the only aerobic culture obtained, as attempts to repeat aerobic cultivation from later anaerobic subcultures have all failed. The addition of serum to the agar plates does not seem to influence the growth. In plain agar stabs and in gelatin at 22° C. the organism grows as a granular line along the length of the stab. The gelatin is not liquefied.

It should be explained that unless otherwise stated all further descriptions of growth and fermentative reactions refer to anaerobic cultivation.

The organism rapidly lost its chain formation in artificial cultivation, and so was tested in tomato extract media.[2] A tube of tomato broth was inoculated from a nutrient beef broth culture that showed clumps only in films made from it. Next morning a thick turbidity was present in the tomato broth, and a film showed nothing but chains of 12 to 16 cocci. The same result was obtained with a tomato slope, except that the chains were a little shorter. The thickness of the growth in the broth and on the slopes has since proved that tomato extract is much the best medium for cultivating the organism. The individual cocci do not show any great tendency to produce involution forms. The organism is, of course, Gram-positive.

Fermentative Reactions.

No gas was produced with any sugar, but the acid production, when obtained, was sharp, appeared within twenty-four hours, and did not change with further incubation up to five days. Acid was

produced in glucose, maltose, saccharose, lævulose, raffinose, salicin, inulin, dextrin, galactose, isodulcite, and arabinose. No change occurred in lactose, mannite, dulcite, adonite, sorbite, or inosite. Litmus milk was unchanged after seven days' incubation.

Ehrlich's rosindol reaction was negative when tested on a six-day nutrient beef broth culture. It was not possible to examine the reaction in peptone water as the organism does not grow in this medium.

The streptococcus does not haemolyse blood, nor does it appear to have any reaction upon neutral red. It is not soluble in bile.

Vitality.

The vitality of the organism is not great. It lives in tomato broth for about ten days and for seven days in beef broth. It is killed by exposure to a temperature of 60° C. for fifteen minutes.

It is well known that certain strains of the enterococcus exhibit a preference for anaerobiosis when first isolated, but the present organism differs from the former in several important particulars. Its sugar reactions bear no resemblance to Dible's typical strain[3] nor to any of the three variants. A further and more important distinction is that the enterococcus has great vitality and is thermo-resistant.

These facts, coupled with the ability to form chains, justify us in regarding the organism as a true streptococcus.

Its further classification presents some difficulty, as it does not conform exactly to any of the standard varieties. It approximates most closely to *Streptococcus equinus*, but it ferments raffinose.

Its preference for anaerobic conditions of growth seems to be fairly inherent and is not lost by artificial cultivation, if I may judge by the fact that, although a feeble growth was obtained from a culture made from the fifth generation of anaerobic cultures, the power was not retained or passed on in further generations of subcultures.

References.

[1] Douglas, Fleming, and Colebrook: *Studies in War Wounds*, Medical Research Council Reports, 1920.

[2] Jenkins: Tomato Extract, *Journ Path. and Bact.*, 1923, vol. xxvi, p. 116.

[3] Dible: The Enterococcus, ibid., 1921, vol. xxiv, p. 3.

EXCISION OF LARGE ANGIOMA OF THE LIVER IN A DIABETIC.

BY

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IT is becoming recognized that operations upon diabetics can be performed without undue risk, provided the glycosuria is in abeyance at the time of operation. I think that the following case may be of interest owing to the age of the patient, who had been suffering from diabetes for several years, the extensive nature of the operation, the absence of undue shock, and the uninterrupted recovery.

On June 17th, 1925, the patient, a maiden lady aged 76, was admitted under my care at a nursing home. She had been suffering from diabetes for several years, and the urine on a restricted, but not strict, diet contained at least 5 per cent. sugar.

She had a large hard globular myomatous uterus of about the size of a pregnancy in the sixth month, and what appeared to be a pedunculated myoma in the left hypochondrium. As she was suffering from considerable discomfort and pain in the lower limbs I had suggested that it might be advisable to remove the tumours. She was thin and looked frail, but was not emaciated. The specific gravity of the urine was 1040, and it contained 5 per cent. sugar. She was put upon a strict diet.

On June 19th the urine (sp. gr. 1020) contained a trace of sugar. On June 20th the administration hypodermically of 10 units of insulin once daily was begun. On June 23rd three doses of 10 units each were given. On June 24th the urine was quite free from sugar; insulin twice daily was begun. From this date to June 30th the urine continued to be free from sugar and the patient's condition was satisfactory.

Operation.

On June 30th, under chloroform anaesthesia as light as was possible, the abdomen was opened; the upper tumour was found to be a large dark purple lobulated mass attached to the lower edge of the left lobe of the liver by a peduncle of liver substance which was about 3½ inches broad and 1½ inches in thickness. The transverse colon was lying between the tumour and the big uterine myoma.

I removed the liver tumour by cutting through the pedicle and suturing the anterior to the posterior edge. The haemorrhage was very insignificant, only one artery in the middle of the pedicle had to be secured, and the excision was rapidly performed. I then removed the uterine myomatous mass by amputating through the cervix in the usual manner. The liver tumour, which was a cavernous angioma, weighed 1 lb. The myomatous uterus, which was partially calcified, weighed 3 lb. The whole operation took less than an hour. There was very little haemorrhage and no perceptible shock.

The patient had a fairly comfortable night, but vomited several times; she was given sips of water and weak tea. Next day she felt comfortable except for a tendency to vomiting; the urine contained 5 per cent. sugar, and was loaded with acetone; rectal saline and sodium bicarbonate were given. On July 2nd she was given feeds of water, coffee and toast, milk, diabetic bread, cauliflower, and 15 units of insulin was administered during the day. She felt much better; the sugar was much less, but the acetone was still abundant; there was no aceto-acetic acid. Next day milk was added to the diet, and on and after July 4th 15 units of insulin was given three times daily and more liberal diet. The acetone was much less. On July 7th she was allowed a fairly liberal diet, including custard, and mutton or sweetbread. Neither sugar nor acetone was present in the urine. Insulin was reduced to 12 units three times daily on July 9th, and this quantity was given twice daily. She left the nursing home eighteen days after operation. She felt well and comfortable, and the urine was free from acetone, but sometimes contained a little sugar.

The patient is now, eighteen months after the operation, in fairly good health, but as she is not careful about the diet the urine constantly contains sugar.

The tumour of the liver was a cavernous angioma of the kind described as due to dilatation of existing blood channels and atrophy of liver cells. These tumours may be multiple, but are more often single. The edge of the liver near the falciform ligament is not an uncommon situation, and they are sometimes pedunculated, as in this case. A microscopical section showed large intercommunicating cavernous spaces lined with endothelium and separated by fibrous tissue; no trace of liver tissue could be seen except in the pedicle.

Death has been known to occur from rupture of an angioma of the liver, and a few cases have been removed by operation. But the condition seems to be uncommon, though possibly less so than might be expected from the small number of cases recorded.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

AN OCCUPATIONAL SWELLING.

A PROFESSIONAL violinist was brought to consult me about a swelling below the angle of the jaw on the left side. It had been noticed for the last three or four years, and had increased slowly in size, but gave rise to no pain or discomfort.



The appearance of the swelling, which is shown in the accompanying photograph, suggested an enlargement of the tonsillar lymph gland. However, the enlargement was entirely due to a thickening in the subcutaneous tissues, adherent to the overlying skin, but freely movable over the deeper structures. It was firm, had no definite edge, did not fluctuate, and was not translucent. The overlying skin was normal, and there was no enlargement of the lymphatic or salivary glands on either side. The tonsils were small and healthy.

This is apparently a fibro-fatty pad developed in response to repeated pressure, analogous to that which is seen on the shoulders of deal porters. It is situated exactly on the area of skin which rests upon the edge of the violin when this is steadied between the angle of the jaw and the left clavicle. I have not seen a description of this condition.

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THE TEMPERATURE IN PULMONARY TUBERCULOSIS.

As there is some doubt whether the terminal temperature in pulmonary tubercle is tuberculous or septic, may I be allowed to quote three cases which appear to support the former view?

Case 1.—The most typical case of a swinging temperature I have seen was in the terminal stages of tuberculosis in a patient in the Royal Victoria Infirmary. The sputum was swarming with tubercle bacilli, whilst septic organisms were few.

Case 2.—An adult patient at the Stannington Sanatorium had a persisting subnormal temperature up to her death. Here the septic organisms were numerous, whilst the tubercle bacilli were few.

Case 3.—On September 18th, 1926, a man, aged 31, was admitted to the Harton Hospital, South Shields, with marked signs over the left upper lobe in front. The expansion was limited, the percussion note impaired, and marked pleural and pulmonary crepitations were present. He is losing weight, has a distressing cough, with abundant sputum, yet the temperature from September 18th to November 7th, night and morning, has been along the line of 97°. Only on nine occasions in seven weeks has it risen above 97°, and only once has it reached 98°. The respiration rate has averaged 24 night and morning, whilst the pulse rate has varied between 76 and 96. Dr. A. J. Slade reported on the sputum as follows: "Whilst the tubercle bacilli are one per ten fields, such fields contain cocci of pneumococci and staphylococci types which are too numerous to count."

The temperature of pulmonary tuberculosis would therefore seem to depend upon the numbers and activity of the tubercle bacillus, whilst the terminal temperature is probably due to excess of tuberculin or other products of the tubercle bacilli.

T. M. ALLISON, M.D.,
Visiting Physician to the Wingrove Hospital, Newcastle-upon-Tyne.

TRAUMATIC ULCERATION OF THE AORTA.

THE following case seems of sufficient interest to be placed on record.

A native woman, aged 28, was admitted to Omdurman Civil Hospital on June 3rd, 1926, complaining of pain in the region of the right lower chest, in which region she had been struck by her husband three days previously. She stated that the pain commenced shortly after receiving the blow; she "thought that she had swallowed a small bone" five days before admission to hospital. The only signs presented were some tenderness to pressure over the tip of the sixth rib, which was fractured, and slight dullness over the right base around the site of the blow. On June 5th the patient had a sudden haemoptysis and died. The Syrian medical officer informed the police, and the husband was placed under arrest.

Post-mortem Examination.—The base of the right lung was found to be congested, with marked discoloration at the site of the fracture. A meat bone, one square inch in size, was discovered impacted in the oesophagus at the level of the bifurcation of the trachea. The oesophagus in the immediate vicinity was grey-black in colour, and ulceration extended through its coats into the arch of the aorta. Death was due to haemorrhage following ulceration into the lumen of the vessel.

The case is of interest in that the woman, other than "thinking" that she had swallowed a bone seven days before her death, produced no symptoms indicative of the presence of a foreign body in the oesophagus. In view of the *post-mortem* findings the husband was, needless to say, released.

Khartoum. JOHN SIMONS.

MELAENA NEONATORUM.

THE following cases occurred in my practice here, and are of interest on account of the rarity of the condition.

A primipara, aged 30, at the beginning of February last gave birth to a particularly fine male child; it had been expected in November. On the day after its birth it vomited bright red streaks of blood, and the stools were noticed to be black and tarry. The child seemed extremely ill, and its condition looked so urgent that I administered 0.25 c.cm. of pituitrin, which seemed to act like a charm; the bleeding at once ceased and the child became well.

The second case occurred last October. A primipara, aged 37, gave birth to a healthy male child; on the fourth day thereafter signs of intracranial pressure appeared and the stools became black. The following *mixture* was given: gelatin 30 grains, sodium chloride 2 grains, water to 3 oz., 1 drachm every hour, together with 1 minim of adrenaline solution 1 in 1,000 every hour until three doses were taken, and then every two hours for another two doses. On the sixth day 10 c.cm. of blood were taken from the father's arm and injected intramuscularly; this was repeated on four successive days, when the child became well. This child was also expected six weeks earlier.

Stornoway. J. G. GRANT.

Reports of Societies.

THROMBO-ANGIITIS OBLITERANS.

AT a meeting of the Section of Surgery of the Royal Academy of Medicine in Ireland on November 26th, 1926, Mr. R. C. B. MAUNSELL in the chair, Sir W. I. DE COURCY WHEELER read a paper on thrombo-angiitis obliterans, which is printed at page 225.

Dr. T. T. O'FARRELL showed a series of lantern slides illustrating the various points mentioned by Sir William Wheeler, and added that the trouble in this case had started in the great toe, and had spread upwards. The tissues were oedematous, and there was some exudation of blood. The upper part of the popliteal artery was normal, but the lower part was thrombosed. Most of the arteries of the limbs, with the exception of the peroneal, had fibrosis of the muscular coat, and several of the veins showed commencing calcification. Attempts at canalization of the clot were found here and there in the tibial vessels.

Mr. R. C. B. MAUNSELL said that he was interested in the suggestion made by Sir William Wheeler that possibly *very heavy cigarette smoking had something to do with* the disease; he personally thought that smoking was now too common a thing to be attacked and put down as the possible cause of any disease. Both the patients described had been Irishmen, but they had both been abroad; this suggested to him that the infection might be bacterial. He referred to a communication of a similar sort made to the Academy some years previously by Mr. Lane Joynt, but in this case the veins had been thrombosed all over the body.

Mr. C. J. MACAULEY asked if, in the first case described, the possibility of Raynaud's disease and peripheral gangrene had been considered, and, in the second case, whether the condition appeared simultaneously in the arteries, or if it had come first in one and then in another. He thought that the disease might have originated from an embolus, and asked how it differed from a thrombus, what was the average number of cases in which it occurred in both limbs, and what was the average time to be expected to elapse before recovery took place.

Mr. W. PEARSON referred to a case which he had treated about three years ago, and which was somewhat similar to those described by Sir William Wheeler. The patient was a farm labourer, aged 38, who previously had been perfectly healthy, who had never been abroad, and never smoked cigarettes, but always a pipe. The gangrene was dry, but spreading rapidly, and affected the left limb. Mr. Pearson performed a supercondyloid amputation, and the man had remained quite well ever since. The Wassermann reaction in this case had been negative, and there had been no sign of any arterial disease in any other part of the body.

Mr. H. S. MEADE referred to two cases of arterial gangrene which he had treated. One patient was a sailor, and a heavy weight fell on his toe, which was very painful, and later became black, when he was admitted to hospital. There was a definite red line of demarcation on the ankle-joint. Leriche's operation was employed, and post-operative relief from pain was immediate. The second patient was an old woman, aged 80, who had gangrene, and great pain. Leriche's operation was performed, and immediate relief followed; the date of the operation was nearly two years ago, and there had been no recurrence. Both these operations had been performed under *local anaesthesia*.

Sir WILLIAM WHEELER, in reply, said that in making the diagnosis embolism was discussed, but was not seriously entertained. In the first place, obstruction from an embolus might produce the symptoms described in a young man, but if the limb survived the first few days the collateral circulation would be rapidly established and all anxiety would have disappeared within the first fortnight. As a matter of fact, the circulation in the second case became more precarious daily for three weeks, until gangrene finally appeared. In the second place there was no discoverable lesion from which an embolus would come. The pathological examinations later proved the correctness

of this point of view, and established the fact that a true thrombo-angiitis obliterans existed. Raynaud's disease was difficult to exclude as a possible explanation of the first case. Nevertheless, Raynaud's disease commencing in the toes, in a strong man of 25 years of age, was exceptional, and the patient was the exact reverse of the type of individual in which the Raynaud syndrome was to be found. No pathological examinations were made, and he did not definitely exclude the possibility of Raynaud's disease. In the second case the diagnosis of thrombo-angiitis obliterans was certain. It was made before operation, and the pathological examinations were conclusive. He had had a fairly large experience of the Leriche operation. It produced many of the effects claimed, but the physiological reasoning on which the operation was based was open to criticism, and was not satisfactory.

Carcinoma of the Pelvic Colon Treated by X Rays.

Mr. H. S. MEADE showed a specimen of carcinoma of the pelvic colon, involving the bladder, from a woman aged 69, sent to him for cystoscopic examination in March, 1926. The clinical details were as follows.

The patient had been operated on twelve years previously for uterine prolapse. Last June she was in a motor accident and suffered from shock. Immediately after the accident she noticed that she was obliged to sit sideways when she wished to pass water. This passed off, but she still remained very nervous. At the time of examination she complained of frequency of micturition, with scalding pain. This trouble dated back a year and a half, and had been growing steadily worse, so that she had to pass water every hour both day and night. She had had medical treatment, but was not cystoscoped before she consulted Dr. Meenan. Albuminuria was present and a few leucocytes, but no sugar. An attempt to cystoscope her was unsatisfactory, owing to her nervous state and the small capacity of her bladder, which held half an ounce. Any attempt to dilate her caused extreme pain, but there was no sign of inflammation. The patient was kept in bed and gradual dilatation tried as she refused an anaesthetic at first.

Ten days after admission she was cystoscoped. The bladder dilated up to eight ounces easily, and examination showed no sign of inflammation except the congestion of the trigone so common in the female bladder. Chromocystoscopy with indigo carmine showed the dye coming from the right kidney in five minutes and from the left in four minutes. Before catheterizing the ureters a rectal and bimanual examination was made and a mass on the left side of the pelvis in the region of the left broad ligament was found. This mass extended above the brim of the pelvis and appeared to be well fixed. A sigmoidoscope was passed and a carcinoma of the pelvic colon was found.

Owing to the age of the patient, the fixity of the growth, and her terror of operation it was decided to treat her with deep x rays, and eight days later she received a full treatment, estimated by Holdfelder's field selector and calculated by Solomon's iontoquantimeter, and administered in two portions on successive days. The factors were: wave-length, A.U. 09; field, 12 by 10 cm.; focal skin distance, 30 cm.; filter 0.5 mm. with 2 mm. aluminium.

Irradiating from the front, one field was over the left Poupart ligament and the other over the right on the first day. On the second day one field was through the centre of the sacrum from the back, with two smaller ones on either side of it. The factors for the smaller fields were: 6 by 8 cm. at a focal skin distance of 23 cm. The exposure for the larger field was sixty minutes, and for the smaller one thirty-five minutes. The treatment was borne well, without radiation sickness or nausea. The dilatation of the bladder had relieved the frequency, which, however, returned in a milder form one week after the x rays, but passed off in a few days. The patient said that she was much better, and there was a definite shrinkage in size of the tumour. The irritability of the bladder returned three weeks later, but was relieved by bladder sedatives. Five days after this the deep x ray was repeated, reversing the fields with the same factors. No other disability followed the x-ray treatment, excepting the usual transient anaemia, which readily responded to haematinics, and a feeling of tiredness which lasted a few days. Ten days later the patient thought that she was passing gas from the bladder, so she had another cystoscopical examination; on the left upper lateral side of the bladder a small area of inflammation (1 cm.) was found, in the centre of which there was a pinhole fistula. There was no sign of any gas, or any evidence of faeces in the urine or the bladder. The patient, a fortnight later, was in great distress, passing large quantities of gas, especially on micturating, which was accompanied by a whistling sound that could be heard at some distance, and over which she had no control. It was decided that the best thing to do was to perform a colostomy to prevent the entrance of faeces into the bladder.

The patient was operated on under gas and oxygen anaesthesia, and on opening the abdomen it was found that the growth was lying on the left side of the bladder. The uterus was retroverted and atrophic. The left tube and ovary were fixed to the growth, and were oedematous, as was also the colon, the latter being reduced one-third in size. It was also more mobile, so it was decided to remove it. To do this it was necessary to remove over one-third of the bladder with it. The bladder was closed with three layers of sutures, and a muscle-splitting colostomy was performed. A catheter was inserted in the caecum for the introduction of saline, the abdomen was closed, the pelvis was drained, and a Poussin catheter was inserted in the bladder. *With the exception of a slight attack of phlebitis* in the third week, the patient made an uninterrupted recovery.

On opening the intestine a comparatively large, very soft and mucoid, tumour was found projecting from the bowel wall. Sections taken through the wall of the intestine, including part of the apparently normal mucous membrane, showed the following microscopical characters. The mucous membrane where present was comparatively normal, but at one place there was intense inflammation at its junction with the tumour. The new growth was composed of greatly distended and irregular glandular acini *filled with mucoid material*. The acini were found invading the muscle fibres, but mitotic figures were scanty. Throughout the muscle there was much chronic inflammation, and the surface showed distinct peritonitis of a subacute type. The specimen was a "colloid carcinoma," and in this case was associated with a considerable amount of inflammation. Sections taken through an adherent piece of bladder showed much inflammation, but no carcinomatous element could be found in this piece of material.

The patient reported later that she was, and had been for three months, in a splendidly healthy condition, appetite and digestion excellent, and sleep better than for years. All organs were acting normally, and the appliance gave very little trouble. She had put on over a stone in weight, and had completely lost her nervousness.

Mr. Meade said that the specimen was shown in the first place on account of the difficulty of diagnosis. Even when the growth was found the patient gave no definite symptoms of carcinoma. She had been constipated, passed some mucus and blood, and had some pain over the left side of the abdomen, but was rather indefinite about these signs. The second reason was the reduction in the size of the growth by the deep x rays, rendering operable a clinically inoperable case. Mr. Meade added that such growths might involve the bladder and a fistula be present; this should not deter from attempting their removal.

Clinical Cases.

Mr. MAUNSELL showed a girl, aged 17, who had a large tumour, practically filling the upper abdomen, depressed in the middle, and filled out on each side. It was dull, and appeared movable. By an x-ray examination a diagnosis of dermoid tumour was made. Mr. Maunsell opened the abdomen in the middle line, and found the stomach pushed up, and below the stomach huge veins crossing the tumour, and below the tumour was the colon. The tumour burst, and fluid came out. Mr. Maunsell then opened it freely, and found inside it a foetus, apparently attached over the right kidney, one limb being adherent over the aorta. It was growing between the two lairs of the transverse mesocolon. The uterus and ovaries were normal, and the girl made an uninterrupted recovery. He also showed a case of diffuse haemangioma of the liver in a man, aged 26, who had come to Mercer's Hospital in the middle of the night, last summer. Two days previously he had developed progressive weakness and abdominal pain. He became absolutely blanched; the distended abdomen was opened, and there pure blood was found. A bleeding point was looked for unsuccessfully, but the blood seemed to be coming down from the liver. Next day the patient was transfused; he did well, and after a slow convalescence he was allowed up, but never had a perfectly normal temperature. One day while up he again felt faint, and was put back to bed, and from then had a higher temperature. An x-ray examination showed that the diaphragm was higher on the right side than on the left, as in a case of subdiaphragmatic abscess. A needle was inserted, and bloody fluid withdrawn. A rib was resected, and only blood escaped. A tube was then inserted, and the patient apparently bled internally, and died.

Mr. C. J. MACAULEY referred to a case somewhat similar to the one described by Mr. Maunsell which had been brought before the Academy some years previously by Mr. Blayney, but in this case the haemangioma had not infiltrated so much through the liver as in Mr. Maunsell's case.

MOBILITY AND PROLAPSE OF THE ASCENDING COLON.

AT the last meeting of the Royal Medico-Chirurgical Society of Glasgow, the President, Dr. JOHN COWAN, in the chair, Mr. R. B. CARSLAW read a paper on the importance of undue mobility and prolapse of the ascending colon as a factor in the causation of various abdominal conditions, based on the results of 242 cases treated by colopexy.

Mr. Carslaw first showed lantern slides illustrating the various stages in the development of the intestinal canal and its mesenteries, the commoner bands and membranes found at different sites, and the chief anatomical features of importance; he also exhibited *x*-ray photographs of the appearances seen in normal persons, the commoner variations from normal, and the characteristic appearances in persons when the ascending colon is abnormally mobile. The anatomical results of this undue mobility were then summarized. The speaker referred to the two "types" of individual with faulty body formation who suffered commonly from the condition of prolapse—namely, the "virginal" and the "maternal." The clinical symptoms were discomfort after food, with more or less flatulence, passing into actual pain, which was characteristically variable and inconstant. Later, there was loss of appetite, increasing flatulence, and frequent bilious attacks, with headache, nausea, and malaise. Constipation might not be present at first, but was invariably present in the later stages. Finally, toxic phenomena appeared, such as progressive wasting, pigmentation of the skin, chronic mastitis, and, most important of all, mental changes. These symptoms occurred in groups, justifying the classification of the patients into clinical types, as, for example, "gastric," "*duodenal*," and "right iliac fossa." Mr. Carslaw considered that there was no such disease as chronic appendicitis, and emphasized the distinction between recurrent attacks of true inflammatory appendicitis and the condition of choked appendix, with appendicular colic, not accompanied by inflammation. Some authors had described "renal" and "biliary" types associated with attacks of renal and biliary colic, but in the speaker's series these symptoms were additional to the other symptoms, and the patients were not classified in a separate category. Mucous colitis and chronic duodenal ileus were mentioned as occasional late results. The relation of gastric and duodenal ulcer to prolapse of the ascending colon was briefly considered. Treatment was discussed under three headings: preventive, curative by suitable diet, laxatives and exercises, and operative. In Mr. Carslaw's opinion the correct operative procedure was to correct the undue mobility and prolapse of the caecum and ascending colon by Waugh's colopexy. In certain cases fixation of the caecum was sufficient, but in others not only must the whole ascending colon be fixed, but it was necessary to suspend the right half of the transverse colon as well. The restriction in the undue mobility seemed to him to be, perhaps, even more important than the correction of the prolapse. Division of any developmental membranes should also be performed, and if there was kinking of the gall bladder, with stagnation of its contents, it might be necessary to suspend or even to drain it, after division of its ventral membrane. The appendix, if present, was removed, except in those cases of severe mucous colitis, when an appendicostomy should be performed in addition to the colopexy. If there was marked hepatosis the correction of this might be helped by shortening the round ligament; the right kidney and the uterus should be left alone. After demonstrating a number of *x*-ray films showing the results of operation, Mr. Carslaw reviewed the clinical results of 242 consecutive colopexies performed between March, 1920, and July, 1926. In the great majority of cases the symptoms disappeared within a few months of the operation. The appetite, which had usually been very fickle, rapidly improved, and patients often reported their great satisfaction at being able to eat anything and everything. The relief from the distressing and often embarrassing flatulence was also greatly appreciated. The former bilious attacks, especially in the duodenal type of case, persisted for some months, but were much less frequent and severe. Although the characteristic pain, either after food or in the right iliac fossa, soon disappeared, in some cases a considerable degree of discomfort was felt in the right side of the abdomen; this worried the patient for about a year. The recovery from constipation, no matter how obstinate it might have been, was one of the most satisfactory results. A degree of constipation persisted, but as a rule the condition was absolutely cured. Another satisfactory result, noted in many cases, was the disappearance of menstrual irregularities; this occurred too frequently to be mere coincidence. There was usually a rapid improvement in general nutrition, with steady increase in weight, and the mental outlook was brighter. Of the 212 patients who were satisfied with their present condition, 44 were in his opinion not cured, although very much improved, as they still had some discomfort, occasional flatulence, some degree of constipation, or had failed to put on weight. The remaining 168 were absolutely cured, and that the cure was permanent could be seen from the number of years which had elapsed since the operation. Mr. Carslaw concluded by giving details of a number of the cases and of those classified as failures.

Mr. A. MCLENNAN said that he, in 1925, had performed colopexy, according to the method of Waugh, in 20 cases, but the reason for opening the abdomen had been that the appendix was suspicious. He believed that the appendix ought to be removed on suspicion, and he disagreed with Mr. Carslaw's contention that no such thing as a chronic appendix existed. The benefits which followed from colopexy were sometimes extremely striking. It was always difficult to explain the benefit which the fixation of the colon could achieve when the mechanics of the colon were considered. A remark about the dragging of the ascending colon upon the liver seemed rather absurd, because one of the clinical signs of ascites was that the intestine floated upwards. The weight of the ascending colon was a negligible quantity, and he failed to see how it could be an influential factor in the causation of duodenal ulcer, gall stones, or any other out-of-the-way disease. It had been thought that the kidney pushed the ascending colon down, but Mr. McLennan did not think that the ascending colon ever pulled the kidney down. He had been in the habit, since at least 1905, of fixing all caecums that he thought were excessively mobile. He had followed up several of the cases so dealt with, and he thought the procedure had resulted in considerable benefit. Another advantage was the obliteration of the intercolic membrane. Mr. Carslaw wanted them to believe that the drop in the ascending colon was the initial process in enteroptosis; it was an absence of muscular energy which followed the prolapse. He did not think Mr. Carslaw was correct in saying that children had highly placed ascending colons. A great deal had been made of the cause of most of the ills of humanity being the upright position, but Mr. McLennan thought the majority of the ills were due to the want of the upright position.

Mr. W. A. SEWELL thought that the practice of colopexy by Mr. Carslaw and others had been in a sense an experiment. It had been an attempt to find out whether Waugh's teaching was true, and whether by means of colopexy a cure might be found for the many and various symptoms associated with ptosis of the abdominal organs. Colopexy, like gastro-jejunostomy, colectomy, and even laparotomy, had had to run the gauntlet of criticism; it was often denounced most bitterly by those who had little knowledge of the operation beyond two or three cases. If critics would inform operators of their failures, much useful information would be obtained. In an inquiry of this kind a definite conclusion could only be reached by analysing a large number of cases over a considerable period of time. Since 1920 in the Victoria Infirmary Mr. Sewell had operated on, or been associated with Mr. Macrae in, 127 cases where colopexy had been performed. Of the 127 patients he had been able to trace only 69, and of

these 32 were perfectly well, 16 much improved, and 21 were failures, 4 of whom had died at a later date from acute meningitis, tuberculosis, excision of gastric ulcer, and cause unknown. He had deliberately treated two cases by colopexy where the pylorus was under suspicion, but a gastro-jejunostomy was required later and resulted in marked improvement. Some had criticized the operation because the patient had been diagnosed as a case of appendicitis; since the appendix was removed when the colopexy was performed, they argued that it was really the appendix which was at fault. Some of these patients were found on admission or at a later date to have an appendix normal in size and appearance; but in addition there was a large, loose caecum which could easily be pulled out of the wound. The true diagnosis in these cases was, in his opinion, a volvulus of this loose caecum. Those who followed their cases to the operation table must have seen the large, loose, mobile bowel and the apparently normal appendix. The removal of the appendix was an integral part of the operation of colopexy as described by Waugh, unless it had been removed previously. Lichty reported in 1923 on a series of 400 cases of "chronic appendicitis"; 225 were cured, therefore in 175 there had been a mistake in the diagnosis. Colopexy was not an alternative to gastro-jejunostomy for cases of pyloric ulcer, but it was an attempt to prevent the formation of ulcers, to remove the pull of the loaded ascending colon in that and other regions, and to cure the symptoms accompanying local and general visceroptosis. Mr. Sewell thought that colopexy undoubtedly lessened and often removed the pain associated with "floating kidney," and certainly restricted its movements. The results of the operation were by no means perfect, but they were encouraging, and the operation of fixation of the unduly mobile caecum and ascending colon was worthy of further investigation.

Mr. DONALD DUFF said that common dyspepsia, constipation, gastric ulcers, mesenteric ileus, and even dysmenorrhoea had been put forward as results of a mobile colon. Mobility of the caecum and ascending colon were normal conditions, and a fixed colon would be the abnormal condition. They had heard much about the presence of bands about the lower ileum and caecum as being of developmental origin, and Lane's ileal kink had been shown on the screen as one of these. Mr. Duff had had pieces of these bands removed at operation, and *B. coli* had been grown from practically all of them, proving that the bands were inflammatory in origin and secondary to constipation. A mobile caecum had been frequently discovered at abdominal operations, but every case he had seen of such a condition had also a last kink well developed. If developmental error was the cause of mobile colon, as claimed by Mr. Carslaw, it was curious that women should have been selected by Nature for the exhibition of this deficiency in the proportion of over 3 to 1, as stated in Mr. Carslaw's statistics. These figures, in fact, proved that the enlargement and mobility of the caecum were secondary to the constipation which was prevalent in the female sex, and due not to developmental error but to bad habits. Mr. Duff had been able in many instances to cure these cases of obstinate constipation by division of the bands alone without colopexy. Colopexy could not be adequately performed without division of Lane's bands, but it was the division of the bands and not the colopexy which produced any good result.

Mr. ROBERT TENNENT said he had been much impressed by the results of colopexy and by the benefits that had accrued therefrom. His own cases had nearly all been of the right iliac fossa type. Hardly a week passed in hospital without an urgent case being admitted labelled "appendicitis," the main symptom being pain in the right iliac fossa. In some cases these patients had been dismissed without operation, and later had been readmitted. On operating, it was invariably found that there was a very mobile caecum, and in these cases simple removal of the appendix would probably be nearly valueless. Appendectomy for so-called "chronic appendicitis" was useless if a mobile caecum were present. Mr. Tennent said he had traced about 60 cases where caecopexy had been performed, and he was very pleased with the results. He had rarely performed an exploratory operation with the idea of colopexy, but he had tried colopexy in cases where he had opened the abdomen for some other condition. In these cases he was convinced that the operation had been well worth while. He had also been struck by the fact that in the few cases of colopexy in males the results had been very unsatisfactory. In each of these cases the patient had probably suffered from what Mr. McLennan called defective innervation of the colon, for great dilatation was present. In such cases no beneficial results whatever had occurred. He thought that the point regarding the frequency of incidence of a loose colon in the male and female was explainable. A certain number of the women had had repeated pregnancies, which probably had an effect in loosening the colon. With regard to the transverse colon, Waugh's main point was that the ascending colon was the first part of the bowel which had to propel against the force of gravity. The transverse colon was in a better mechanical position for dealing with the contents than a mobile ascending part, which had a lot to do with chronic duodenal ileus. Mr. Tennent stated that he had seen several of Mr. Carslaw's cases at the second operation who, at the first operation, had had very marked duodenal dilatation; the correcting of the ascending colon had produced very beneficial results.

Dr. JOHN RITCHIE gave details regarding some thirty of his patients upon whom Mr. Carslaw had operated, and said that it was impossible to be apathetic or indifferent when the state of these patients before operation was contrasted with their present condition. Brief notes had been taken of nearly every case from time to time, going back in some instances to 1907. The patients fell readily into the groups referred to by Mr. Carslaw. Thus, some had pain at a varying period after meals, with flatulence, eructations, gurglings, and splashings. Some had pain a considerable time after meals, with attacks of vomiting. One had such severe pain that a pin-hole perforation of a duodenal ulcer was suspected. One had mucous colitis in addition to other symptoms. In some cases the pain was referred to regions other than the abdomen, as, for example, the heart, the back, the pelvis, and the leg. Many suffered from depression, sleeplessness, and obstinate constipation, and some had had previous operations. His notes in many cases extended over a considerable period of years, showing the patients to be never long off the sick list. He considered the results in practically all his cases to be most satisfactory, relative or absolute health being restored by the operation.

Dr. WALLACE ANDERSON said that all the patients in his series, operated upon in each instance by Mr. Carslaw, were drawn from the east end of the city, where the conditions, domestic, environmental, and social, must be distinctly less favourable to complete and speedy convalescence from any abdominal operation than elsewhere. He considered that seven of his eleven cases were complete "cures," inasmuch as the patients were now free from symptoms, and quite able to carry on their previous duties. Of the remaining four, two patients admitted improvement, being able to work, but not being so well as they ought, and hoped, to be. One of the seven "cures" was a patient who, prior to operation, had a course of medical treatment lasting six weeks, in one of the infirmaries, for "duodenal ulcer," with no real benefit. The others had had variable amounts of medical treatment at home, without apparent improvement. The remaining two cases of his series had both had operations prior to that of colopexy. One of them had had gastro-jejunostomy performed some years before, with no remission of symptoms. The result of his colopexy was not yet certain, as he was still in hospital, recovering from a secondary operation, undertaken for the purpose of replacing the original gastro-jejunostomy. Dr. Anderson had therefore classified him in the meantime as a "failure," although he hoped ultimately to be able to remove him from that category. The last case he considered a complete failure. The patient was a typical "abdominal woman," who, prior to coming under his care, had had two abdominal operations, presumably gynaecological in nature, with no benefit. As she was no better after colopexy, Dr. Anderson had her admitted at a later date to the Eastern District Hospital, where she improved for a time on treatment for "migraine." She was subsequently sent to the Western

Infirmary, in which institution she underwent a further abdominal operation. Her present condition was unknown to him. It had been argued that, as the appendix was removed as a routine in the operation of colopexy, it was therefore impossible to be certain that any subsequent improvement was due solely to the fixation of the ascending colon. Against this argument Dr. Anderson was able to state that in all his cases the appendix was to all appearance normal, and that in no fewer than twenty-nine of Mr. Carslaw's cases appendicectomy had been performed prior to the colopexy operation. Though not a panacea, the operation of colopexy had a definite place in abdominal surgery, and deserved the careful consideration of surgeons and general practitioners.

Dr. W. M. KNOX stated that during the previous five years he had had a series of eighteen patients operated on for this condition. Ten of these cases were of long standing, and there were symptoms of chronic gastro-intestinal intoxication, such as mucous colitis, anaemia, anorexia, constipation, and nervous symptoms. All these patients had undergone prolonged medical treatment, such as dieting, rest for varying periods, and intestinal antiseptics, with only temporary relief. All welcomed operative treatment as a possible escape from their prolonged suffering, and with only two exceptions the results had been satisfactory. In three other cases the appendix had been previously removed without any amelioration of the condition, but after colopexy recovery was complete. The remaining five cases were of the gastric type of comparatively short duration and were completely cured. Dr. Knox concluded that even in long-standing conditions operation proved beneficial; that unsatisfactory results followed the removal of the appendix without colopexy; and that an early operation was necessary in order to obtain the best result.

Dr. DOUGLAS RUSSELL asked why there were 10 per cent. of these cases associated with duodenal ulcer if a mobile caecum was such a very important factor in the causation of duodenal ulcer. There seemed to be a discrepancy somewhere. Many of the cases were said to be associated with defective innervation, but his opinion was that it was the mentality of the patient that was at fault. Dr. Russell exhibited an æ-ray film of a patient with a mobile caecum treated by colopexy four years previously. The film showed the caecum lying in the deepest part of the pelvis and the stomach atonic and greatly ptosed. Yet the patient was undoubtedly cured by operation although the colopexy had been a complete failure. The difficulty was to estimate, in the "mental" type of patient, whether they were likely to benefit by operation. Such patients could be diagnosed almost at sight, by their flabby aspect and stance, due to a wide sigmoidal curve of their vertebral column.

Mr. JAMES TAYLOR said it had been suggested that the various bands occurring in connexion with the bowel were congenital in nature and were not acquired as the result of the traction downward of the loaded intestine. It was perfectly true that there were congenital bands, because the bowel must be supported in some way even in the child. But the bands that Lane had so aptly described as the "crystallization of lines of force" developed within the congenital folds. The one at the terminal ileum was most often seen, not because it was actually the commonest, but because it occurred in the region of the abdomen that was most frequently explored by the surgeon. It would be seen that this band was a dense white fibrous fascia occurring between the layers of the mesentery, and the under surface of this mesentery had to be cut through to allow this band to be divided. It was a structure which had formed in a congenital fold. The benefit that resulted from colopexy might be due to the straightening out of the terminal ileum. Viewing this part of the bowel as forming a very acute arch with the caecum and last inch of the ileum on one side and the next portion of the ileum on the other, Lane obtained his result by dividing the band supporting the summit of the arch, while Waugh, by fixing the caecum and ascending colon at a higher level than they were before, brought the outer limb of the arch into line with the inner limb. As Lane also straightened out the kinked pelvic colon, colopexy was really a modification of part of Lane's operation.

THE DICK TEST.

AT a joint meeting of the Manchester Medical Society and the Pathological Society of Manchester on January 12th, Dr. A. A. MUMFORD in the chair, Dr. D. SAGE SUTHERLAND opened a discussion on the clinical value of the Dick test and the preparation and use of scarlet fever toxin and antitoxin.

Dr. Sutherland stated that in 30 cases of definite scarlet fever during the first three days of the rash distinguishable blanching was obtained with dilutions of immune serum up to 1 in 5,000 in from twelve to twenty-four hours. In two doubtful cases of scarlet fever, where no blanching was obtained, the subsequent clinical symptoms confirmed the diagnosis as being other than scarlet fever, and in three cases where the rash was definitely due to another cause no blanching was observed. Among the members of the nursing staff at Monsall Hospital 15.3 per cent. were found by the Dick test to be susceptible to scarlet fever, and were immunized before being detailed for duty in scarlet fever wards: 23 per cent. were found susceptible to diphtheria, and were protected by immunization. During the last six months no cases of scarlet fever or diphtheria had occurred among nurses thus protected. Of 354 diphtheria patients who were Dick-tested on admission to hospital, 55.9 per cent. were found susceptible to scarlet fever. The proportion of susceptibles was found highest—83.3 per cent.—at the age period of 1 to 2 years. Of 589 scarlet fever patients who were Schick-tested on admission for susceptibility to diphtheria, 56.5 per cent. were found susceptible. The proportion of susceptibles was highest at 5 years of age, reaching 75 per cent. The standard of immunity of diphtheria patients to scarlet fever was lower than that of patients suffering from scarlet fever to diphtheria up to the age of 5 years. After 7 years the reverse applied, and in both diseases the standard of immunity was much lower than among an average healthy community. A table of Dick tests with a standard dilution of 1 in 1,000, classified according to day of disease, on 566 definite cases of scarlet fever on admission to hospital, showed, in a survey of 463 patients during the first five days of illness, that 83.6 per cent. were Dick-positive. Of those giving negative reactions during this period, 36 had intensely marked rashes, which may have masked the reaction. On the second day of rash 86 per cent. were found to be positive reactors, and, by including possible masked reactions where the rash was intensely marked, this percentage of positive reactors could be raised to 95.5. It was suggested that the remaining 4.5 per cent. of negative reactors might be accounted for by rapid development of immunity during the incubation and invasive period of the disease. These figures closely approximate to those of Zingher of New York. Dick tests on 150 early cases of scarlet fever, at successive short intervals, demonstrated the establishment of immunity in 90 per cent. of cases at from nine to fifteen days, the remaining 10 per cent. becoming negative in from two to three weeks. In a scrutiny of nearly 800 cases of scarlet fever during the last five months, in about 20 cases where the diagnosis of scarlet fever was undoubted, and where susceptibility, as indicated by the Dick test, had persisted beyond four weeks, a reinfection or relapse had in nearly every case occurred, at periods varying from four to six weeks, followed in a few days by a Dick-negative reaction. It was noticed that these cases were marked in the primary attack by a very slight degree, or absence, of pyrexia, the other symptoms, including subsequent desquamation, being characteristic. It was recommended that such cases be actively immunized to establish immunity by the twenty-first day. Three hundred skin doses of toxin were sufficient to change a positive to a negative reaction, and this dose was unattended by any constitutional disturbance. A Dick test on all cases at the onset of illness and on the twenty-first day was recommended. The use of the test was summarized as follows. A very strongly positive reaction early in the disease and again late in convalescence was against the diagnosis of scarlet fever. A definite negative reaction during the first two days of rash should warn the practitioner that he was not dealing with a case of scarlet fever. The Dick test should be applied to the diagnosis of sore throat and pyrexia

associated with definite cases of scarlet fever in the same family. The test was useful in determining the establishment of active immunization and in estimating the potency of antitoxic serum. In the diagnosis of scarlet fever the test should be interpreted in relation to the susceptibility of healthy individuals at the age period of the patient. The test was specially useful on the occurrence of scarlet fever in a diphtheria ward. The Dick test made on admission would indicate without delay the susceptible patients, and protection could be immediately rendered by a prophylactic dose of immune serum. During the last year, on two occasions, in a diphtheria ward of fifty beds, an outbreak of scarlet fever had been followed by no secondary cases when such a course was adopted. It was recommended that in surgical wards where exposure to scarlet fever was suspected, patients who had not previously suffered from scarlet fever should be Dick-tested before operation and prophylactic serum administered where the reaction was positive. The value of immunization in case of extensive burns was indicated, even in the absence of exposure to the infection of scarlet fever.

Dr. R. A. O'BRIEN called attention to the importance of the protection of nursing staffs in fever hospitals and the 10 per cent. incidence of scarlet fever in some hospitals. At Monsall both diphtheria and scarlet fever were in process of disappearing since Schick and Dick testing and immunization had been introduced. Among the nurses, apparently 40 out of 45 with a previous history of scarlet fever gave a negative response to the Dick test, and 18 out of 19 nurses with a previous history of diphtheria gave a negative response to the Schick test. The Dick test during the first three days of the attack of scarlet fever was positive in the Monsall series in 217 out of 251. It was noted, however, that 28 of the negative reactors had very vivid rashes. Presumably in such cases the capillaries were dilated to their fullest extent by the circulating toxin, and no local introduction of the Dick test amount of toxin could increase this dilatation. In other words, these patients presented a "universal Dick-positive response." If these 28 cases were deducted, the test was positive in 217 of 223 patients, or 97 per cent. The figures for the test applied up to the fifth day of the disease were 388 positive and 27 negative ("vivid rashes" being eliminated), or 93 per cent., whereas from the sixth day onwards the percentage dropped to about 60. All such collections of figures showed that measurable immunity developed rapidly in the average patient at or about the fifth day; this agreed with clinical experience. The Schultz-Charlton test was positive in 35 successive cases admitted and tested during the first three days of the rash. The test was obviously of considerable use in practice, and it was now in routine use in several hospitals in the examination of all "doubtful" cases of scarlet fever. Blanching in this series had been obtained with serum diluted to 1 in 4,000. Evidently a reasonably good serum for clinical use would in this dilution produce blanching in the great majority of patients tested during the first two days of the rash. The clinician had thus in his hands a method of rough measurement of the clinical value of any serum he proposed to use for treatment. The comparison of the Washington Dick toxin with that in use in many places in this country suggested that in corresponding dilutions the two toxins were of nearly equal potency. The comparison would be resumed later when a further sample of the American toxin was available. Apparently, among some 600 to 800 patients convalescent from scarlet fever at Monsall, about 20 gave a positive response to the Dick test at or after the third week of convalescence. The Monsall plan of giving a small injection of toxin to such patients found to be Dick-positive on the twenty-first day, and the resultant negative Dick reaction a week later was of great interest to the immunologist, and probably of equal interest to the administrator. It might prove to be a better treatment than giving passive immunity to such patients with antitoxin. "Second attacks" of scarlet fever during the stay in hospital caused a considerable amount of trouble to all concerned. Dr. O'Brien showed figures illustrating the results got by the Parish-Okell rabbit test, which promised to be of considerable use in the titration of antitoxin and, possibly, in the identification of pathological haemolytic streptococci.

HELMINTHS AND DISEASE.

AT a meeting of the Section of Comparative Medicine of the Royal Society of Medicine, held on January 26th, the President of the Section, Sir D'ARCY POWER, in the chair, Dr. T. W. M. CAMERON contributed a paper on the helminth parasites of animals and human disease.

Dr. Cameron said that parasitology, better perhaps than any other branch of medicine, served to draw attention to the close interrelationship existing between curative, preventive, and comparative medicine. Apart from the case of *Hymenolepis nana*, all cases in which man acted as an intermediate host to animal parasites must be considered as accidental, as the parasite was side-tracked and unable to continue its life cycle. Some forms did, however, often thus occur accidentally in man, and these included some of the most dangerous of human parasites. The most serious of these was the hydatid cyst, a parasite only too common in Britain. Dr. Cameron had recently drawn attention to the modern conception of the life-history of this form,[1] and he only desired to consider its epidemiology on this occasion. The adult form lived in carnivorous animals, especially the dog; but there was evidence to suggest that the fox was a common carrier in Britain at least. Practically any animal might harbour the cystic stage, but the sheep was most commonly affected, and so the disease was commonest in pastoral countries, such as Iceland, Australia, South America, and North Africa. There infection reached very high figures, and in some as many as 100 per cent. of the animals were infected. In sheep and cattle, however, unlike human beings, infection was generally in the lungs, not the liver. The disease in man was usually studied in adults between the ages of 20 and 40, but it was in childhood that the great majority of the infections took place. Owing to its slow growth, the cyst was not diagnosed until adult life, except when for mechanical reasons, such as infection of the eye or brain, diagnosis was early. It had generally been considered that the commonest means of infection of man was through the drinking water; but the recent work of Ross in Australia suggested that this was not so and that personal contact with dogs was more important. In Iceland, infection was attributable to the peculiar habit of herding ewes in limited areas near the house, where the fleeces became soiled with the droppings of the dogs, and so the eggs were transferred to the hands of the women and children; the men meanwhile had taken the rest of the flocks to the hills.

Two species of *Taenia* occurred in man, the commoner being *Taenia saginata*, in spite of the prevailing belief that *T. solium* was more frequently found. This last species did occur, although it was very rare, especially in Britain. The larval stage of both of these forms could live in man; and this was particularly the case with *C. cellulosae*, which often chose such unusual habitats as the eye and brain. A similar cysticercus was occasionally seen in sheep in Britain, but this was the larval stage of a dog worm which could not be transmitted to man. *Dibothriocephalus latus*, although common in Europe, was probably now absent from Britain. Its second larval stage occurred in fish, and in Switzerland cats probably acted as reservoir hosts. The larval stage of a related form was often found in man in the Far East under the name of *Sparganum mansoni*. There was some doubt about the unity of this species, the adults of which were found in dogs and cats. Another important species was *Trichinella spiralis*. How long the disease called trichinosis had been recognized was unknown, but it was probably the chief cause of the Mosaic injunction against the use of pork—an injunction which had been drawn from even older Semitic civilizations. It was first recognized in London, in 1828, and about fifty years later was responsible for international complications between Germany and the United States, and was the direct cause of the present efficient American system of meat inspection. The importance of the parasite was slight where pork was overcooked before use; and epidemics were practically confined to persons who ate raw or smoked sausages. Dr. Cameron here drew attention to the frequent diagnosis

[1] BRITISH MEDICAL JOURNAL, November 20th, 1926, p. 940.

of "typhoid" or "ptomaine" poisoning in acute cases and of "rheumatism" in chronic cases of the disease. Symptoms in the pig were generally absent, and the flesh to the naked eye was unchanged. Rodents were often infected, but in them the symptoms were often very severe, and this suggested that these animals might be accidental hosts. The distribution of the disease in Britain was unknown, although it did occur. It must be remembered that symptoms were directly proportional to the numbers of worms swallowed, and slight infections probably showed no symptoms at all, were unlikely to come to the attention of the physician, and were still less likely to be diagnosed. One of the commonest of the remaining parasites of dogs liable to be transmitted to children was *Dipylidium caninum*, a tapeworm, the intermediate stage of which occurred in fleas. The diagnosis of this parasite in children often subjected the physician's tact to a considerable strain and caused him unnecessary anxiety owing to confusion with *Echinococcus*. Children were also occasionally infected with the several species of ascarid worms of dogs and cats. In certain cases parasites found in animals were morphologically indistinguishable from those in man, but cross-infection experiments proved negative. In these cases it was possible that biological strains existed. This was the case in *Ascaris*, *Necator*, and possibly *Trichocephalus* of the pig and man, and *Hymenolepis nana* in mice and man. Until these strains had been more thoroughly investigated it was better to consider the animals as potential carriers to man. A list of parasites of man and animals showed that with few exceptions all the human forms were found in animals. The exceptions were the pinworm, related forms of which occurred in monkeys, *Filaria bancrofti*, the Egyptian *Schistosomes*, and the human *Taenias*. In all of these cases, however, closely related species occurred in domestic animals.

In conclusion, Dr. Cameron drew attention to the probable evolution of human parasites. Many of these were apparently of herbivorous origin in early evolutionary days, but a few were apparently from carnivorous animals. He referred to Darling's notion that the geographical distribution of the human hookworms suggested that two strains of anthropoids had originally existed—one from holarctic regions and one from Ethiopian regions. The first was *Ancylostoma duodenale*, which occurred in the Caucasian and Mongolian peoples; and the second was *Necator americanus* (which, in spite of its name, came from Africa), and it was found in negroid people. The first was of carnivorous origin, the second of herbivorous origin. He considered that the parasitological evidence suggested that man had in the course of his evolution had occasion to change his diet. The parasites which, in modern times, man might acquire from animals were only very seldom acquired from herbivorous animals. The usual hosts of these forms were dogs, cats, and pigs. He thought that the strong resemblance between the parasites of man and the pig were due to diet and the facilities that the animal had for acquiring parasites passed in faeces.

Sir D'ARCY POWER noted that he had seen two human cases of trichinosis, both of which had originally been diagnosed as acute rheumatism. He suggested that fish would be a probable source of infection of our pre-human ancestors, as this was a large part of their diet.

Dr. NICOLL pointed out the comparatively small number of parasites which monkeys had in common with man, and remarked on the surprising lack of knowledge about the parasites of man; this was a matter that should be much more studied.

Professor R. T. LEIPER drew attention to the fact that a number of parasites of man in Central Africa were common to man and monkeys. He thought that man's parasites had probably been influenced by three factors: change of food, association with domestic animals, and simian forms. It was peculiar that none of the parasites of the horse ever occurred in man, considering the close relations which used to exist between man and this animal.

LIGHT TREATMENT IN SURGICAL TUBERCULOSIS.

AT a meeting of the Section of Electro-Therapeutics of the Royal Society of Medicine on January 21st, Sir HENRY GAUVAIN gave an address on light treatment in surgical tuberculosis, based chiefly on his experience at Alton and Hayling Island.

Sir Henry Gauvain said that the sun was not to be regarded as a specific treatment or a cure for all forms of surgical tuberculosis, but rather as an aid to, and an accelerator of, cure in suitable cases. Residence under conditions generally regarded as ideal for the practice of sun treatment neither protected individuals from infection nor necessarily aided in treatment, and the disease, even in these circumstances, might proceed to a fatal termination. Tuberculosis was endemic in Switzerland, and the sun treatment of patients in the high Alps by no means necessarily resulted in cure or even amelioration. No adequate explanation of the *modus operandi* of light in the amelioration of tuberculous disease had as yet been advanced. Certain specific effects followed light treatment, but these did not offer a sufficient explanation of the benefits which might follow insolation or of the failure of light treatment in many cases. He advocated a wider consideration of the action of sunlight. Given adequate light of the right therapeutic character and intensity the only unchanging phenomenon in sun treatment was the reception of stimuli which were constantly changing. The importance of these changing stimuli was emphasized, and in this way an explanation of the value of insolation in districts not notably sunny was afforded. Sun treatment for its general effects in surgical tuberculosis was more suitably administered in the constantly changing conditions found in temperate climates than in the comparatively more stable conditions found in many tropical regions, where the intensity of the light might be much greater. The benefits of insolation, after a certain intensity of light was obtainable, were derived, not from the action of light alone, but from the shock of varying stimuli eliciting favourable responses. As an example of one of these favourable responses was instanced the effect of cold air on the nude body in increasing basal metabolism. The varying responses of individuals to insolation were discussed. They were noted clinically, and the optimum dosage of sunlight could not be determined accurately by physical measurements of light intensity or the observation of isolated physiological effects. The best guide was afforded by clinical observation and experience. Pigmentation of the skin, inasmuch as it was protective and allowed more prolonged exposure to light and cold air, was an advantage. The patient's individual power of response should be carefully studied, as on that depended much of the success of insolation. Practical methods of improving heliotherapeutic treatment in England were suggested and the value of combining with it suitable artificial light treatment was discussed. Artificial light treatment for surgical tuberculosis owed much of its lack of success to the non-recognition of fundamental essentials. Constant intensity of light with regular exposures under the unvarying conditions found in a light department could not be expected to produce optimum benefits. A certain minimum of light, varying with the individual, might be considered as essential for the conduct of light treatment, but after that greater importance was attached to varying intensities and times of exposures, in this way simulating more nearly light therapy under natural conditions. Local light treatment of superficial lesions should be governed by entirely different rules of application. As an example, in lupus vulgaris light was of value by its direct bactericidal action, its thermal effect, and the favourable inflammatory response which suitable exposure elicited. The value of general light treatment in any particular district depended only in part on the intensity and nature of the sunlight available. For some individuals very intense light was the reverse of beneficial, particularly in the case of cachectic patients with little power of response. What was of much greater value was the application of varying light and other stimuli, graded and varied according to individual needs. Patients able to

respond well would do well under intense stimulation, whereas with weaker cachectic and elderly patients great caution should be exercised and only slight stimulation was at first appropriate.

MORTALITY FROM MAMMARY AND UTERINE CANCER.

AT a meeting of the Section of Epidemiology and State Medicine (Royal Society of Medicine), held on January 28th, with Dr. S. MONCKTON COPEMAN in the chair, a paper was read by Dr. MAJOR GREENWOOD and Dr. JANET LANE-CLAYPON on "The possibility of effecting a reduction in the present mortality rate from cancer of the breast and of the uterus."

The paper, which was read by Dr. Greenwood, presented a great amount of admirably arranged statistical matter, obtained from various sources, national and local, concerning on the one hand the deaths from cancer at these sites, and on the other the number of hospital applicants and operations. The authors combated one statement, not *infrequently made, that a considerable proportion of* inoperable cases of cancer must be accepted as permanent. This was based on the assumption that many patients were unaware of their condition until the condition was too far advanced for effective surgical treatment. It was shown on the basis of a number of cases that on the average a period which could be measured by months elapsed between the recognition of an abnormality by the patient and her submission to medical examination. In cancer of the breast this mean alleged duration—alleged, that is, by the patient—was eight to twelve months. A lump in the breast was nearly always discovered by the patient herself; occasionally, when there was complaint of pain, the lump was discovered only by the examining surgeon. It was remarkable for how long a time some patients would endure their symptoms before calling in medical aid, but the point was established that there was avoidable delay both in cancer of the breast and of the uterus. The authors showed a table giving the death rates from cancer at these sites for different ages, and remarked upon the steady tendency for the mortality to increase with advancing age. It was a disturbing fact that this increase in England and Wales contrasted with what was found in other countries. In Holland the rate of mortality from cancer of the breast underwent three phases; it rose rapidly from 35 to 55, then there was a slight slackening until 70, after which there was again a rapid rise. An elaborate investigation carried out in Holland furnished no satisfactory proof that surgical intervention was in fact more frequent or more timely than in England and Wales. The deaths in this country from breast cancer in relation to age periods showed that about 47 per cent. occurred after the age of 60, and 24 per cent. after the age of 70. It was possible to compare these proportions with figures relating to the ages at which treatment was sought by applicants at hospitals in six large county boroughs. Only 17.6 per cent. of the applicants were over 60, and less than 3 per cent. were over 70. In London it appeared that not more than 50 per cent., perhaps not more than 30 per cent., of women dying from cancer of the breast had been operated upon, and similar statistics from certain large towns were only slightly better. Evidently a great number of women died without seeking or obtaining radical treatment; a good proportion of these, of course, would be older women. Some interesting figures were obtained in Leeds illustrating the advantage of early operation. In cases in which early operation had been done for cancer of the breast (eighty-seven cases), 56.9 per cent. were surviving after ten years. Of all cases operated on at whatever stage (357), 25.9 per cent. were surviving after ten years; but in untreated patients the number surviving after six years was negligible. The authors then went on to discuss various necessary qualifications and assumptions, but broadly their opinion was that, without any fresh accession of scientific knowledge, and merely as a result of education and administration whereby cases might be brought forward earlier and facilities for operation made more available, the deaths from cancer of the breast might be reduced to half the present number. No revolutionary improvement in the art of surgery need be postulated, but annually many thousands of lives might be saved. It was a question of the respective parts played by administrative action, whereby more hospital provision might be made for operable cases, education of the public, and education of the practitioner. Surgeons as a whole had been unduly despondent as to the possibilities of their art under these conditions.

Sir JAMES BERRY described the paper as the best contribution to the subject of cancer of the breast that he had heard for many years. It showed the striking way in which the mortality incidence of cancer varied directly with age, and it bore out what he had said at the annual dinner of the society, that, without decrying laboratory and pathological research, there was another kind of research—namely, clinical research on case records available in hospital reports, Government publications, and other sources of information, which might be studied with advantage.

Sir LENTHAL CHEATLE said that the mortality of breast carcinoma could be reduced if cases were obtained early *enough. Operations took place too late.* He considered that diffuse nodularity of the breast, except in very thin breasts, was not of great importance, for with increasing age every breast might be described as nodular, but localized nodularity was highly important, and a sign often neglected.

Mr. SAMPSON HANDLEY said that in some respects the authors had been unduly pessimistic. They appeared to think that the saving of life by operation was not likely over the age of 70. He did not agree with that. Old people nowadays often stood severe operations very well indeed. He agreed that breast cancer could be detected much earlier if women were more observant, but, of course, there were cases where no lump at all formed, and yet the disease disseminated into the gland. On the previous day he saw a patient who had discovered a lump in her breast, which proved to be carcinoma, as a consequence of the warning given in Sir Berkeley Moynihan's Hastings Lecture three nights before; the lecture had probably saved her life. His experience was that pregnancy kept breast cancer in check, but that it "romped" as soon as the child was born and lactation began. The facts which the public required to know about cancer were few and simple: that early cancer was curable, that the important thing was to seek early advice, and that early cancer was almost always painless.

Dr. STANLEY WYARD (Cancer Hospital) thought that it begged the question to speak of getting cases in the early stage. In the majority of cases, by the time the disease was diagnosable it was no longer local. He was sceptical about the desire of the mass of the public for education, or its capacity for accepting it.

Dr. WILLIAM CRAMER asked whether it was proposed to operate on every suspicious case; this might mean operating on five patients for one who was found to have early carcinoma or even a condition potentially malignant.

Dr. F. J. MCCANN suggested that the only way to get patients earlier for observation was to propose a medical overhaul once a year. Every woman over 35 should pay an annual visit to a doctor for examination in view of possible breast or uterine cancer. All irregular bleeding in women demanded a careful local examination. All excessive bleeding at the menopause should give rise to a suspicion of cancer, and all bleeding after the menopause should be assumed to be due to cancer until the contrary was proved. He regarded the thickening of the cervix seen in multiparous women over 40 years of age as a pre-cancerous condition.

Dr. T. H. C. STEVENSON referred to the great rarity on death certificates of a differentiation between cancer of the uterus and of the cervix. This differentiation during the last sixteen years had been made in so few cases that it was not worth mentioning. The uterus was the one important site of the body as to which the official returns showed an actual decline in mortality from cancer at the present time. Was this due to improved diagnosis?

Dr. JANET LANE-CLAYPON, in replying, said that data as to the growth of cancer of the breast during pregnancy were very slight. More cases properly reported under this

head were wanted. She had particulars of several cases in which she really did not know whether the primary site was the breast or the uterus. They had been operated on for the one and had died of the other. She thought cancer of the breast secondary to that of the uterus must be very rare, whereas there were more cases of primary breast cancer and secondary uterine. She was sorry that Dr. Wyard was so very pessimistic. She hoped as time went on they would be able to disprove some of his pessimism. She admitted, with Dr. Cramer, that early diagnosis was somewhat difficult, but the greater difficulty was to get hold of the patients sufficiently early.

CARCINOMA OF THE STOMACH.

AT a meeting of the Forfarshire Medical Association at University College, Dundee, on December 19th, 1926, the President, Dr. R. C. BUIST, in the chair, Dr. CHARLES KERR opened a discussion on carcinoma of the stomach.

Dr. Kerr, dealing with the medical aspect, said that the past thirty years had shown little advance in the diagnosis apart from the chemical and radiological examinations. In cases of acute type pain was usually the prominent feature; the subacute onset was associated with apparently causeless indigestion. In the chronic type there was a history of prolonged dyspepsia suggesting gastric ulcer, while palpable tumour and pain were usually late in appearing. Anorexia, increasing weakness, and fatigue were early symptoms, and in a patient of cancer age should cause hesitation in giving as a diagnosis simple gastric ulcer. In cancer of the stomach the first duty was early diagnosis, and a careful history was the first essential. In indigestion, if treatment was not followed by rapid improvement, it was no longer safe to assume that a simple ulcer was present; blood examinations, test-meals, and x-ray examination must be added.

Mr. JOHN ANDERSON, from the surgical standpoint, referred to the common occurrence of cancer of the stomach. In Dundee, in 1924, there were 83 deaths from cancer of the stomach and oesophagus (40 males, 43 females), 30 per cent. of all the deaths were due to cancer, and there was an incidence rate of 1 in 2,000 of the population. He was satisfied that there was definitely an acute type of cancer of the stomach, distinguished usually by haemorrhage followed by anorexia. In the chronic type indigestion was associated with offensive gastric flatus. Several recent patients had voluntarily stated that the gas tasted like petrol. Anaemia was an early symptom, and blood could generally be found in the faeces if carefully looked for. Symptoms in cancer of the pyloric half of the stomach were of two types. If the tumour was at the pylorus they were those of obstruction; if in the pre-pyloric region those of gastric ulcer. Dyspepsia in a man over 40 indicated a radiological examination, and an exploratory operation if there was suspicion of organic defect. Mr. Anderson then discussed the operative treatment with illustrative cases, and added that no case should be pronounced inoperable without an exploratory operation.

Dr. GEORGE MILLN discussed the diagnosis from the point of view of radiology, and emphasized the need for repeated examinations, and for co-operation between the radiologist and the clinician.

Professor PATRICK said that in some cases pyrexia and leucocytosis were factors in the diagnosis. Dr. CARRUTHERS referred to the presence of lactic acid and enlargement of the supraclavicular glands as diagnostic points. Dr. FOGGIE discussed the diagnosis from anaemia. Enlargement of the supraclavicular glands he regarded as indicating an advanced stage. Mr. R. C. ALEXANDER stressed the need for exploratory operations, even in some cases in the absence of x-ray confirmation. The CHAIRMAN suggested as a summary that it was wrong to wait for pain, tumour, or emaciation, but in the case of a patient over 40 with indigestion cancer must not be excluded unless some other condition was definitely present.

AT a meeting of the Buxton Research Society held at the Devonshire Hospital, Buxton, on January 19th, with the President, Dr. C. W. BUCKLEY, in the chair, Professor W. TOPLEY of Manchester University gave an outline of the conclusions arrived at from a survey of the bacteriology of rheumatic disease. He laid stress on the fact that infection with streptococcus must be regarded as a necessary and important factor in the etiology of all types of rheumatism. He summarized the present problems, both from the point of view of the pathologist and the clinician; and suggested lines of investigation where co-operation between them might well lead to important discovery. A discussion followed, in which most of the members present took part, on the action and scope of vaccines in the treatment of rheumatic disease.

Reviews.

CANCER: A FRENCH VIEW.

NOTWITHSTANDING the great advances in our knowledge of cancer which have been made in recent years, it has still to be confessed that we are ignorant of the cause of the disease. That is to say, if we take the two extremes of a series of phenomena, for instance, the application of x rays on the one hand and the appearance of cancer on the other, we are still unable to fill up the interval with a complete series of comprehensible steps connecting the one phenomenon with the other. In these circumstances it is desirable, in investigating the subject, that as far as possible all observed facts bearing on the question should be borne constantly in mind; and in this connexion a volume such as that of MENETRIER on cancer[1] cannot fail to be of service. Observations and researches have been so numerous that in default of an ability to take a bird's-eye view of the whole subject there is some danger of adopting a narrow and one-sided opinion.

Menetrier gives an excellent and very full summary, written for the most part on historical lines, clearly indicating the directions taken by research. There are eight sections, dealing respectively with the cancerous process, the chemistry, the biology and the experimental production of cancer, the stages of the cancerous process and its effects on the organism, its clinical course, its etiology, and pathogeny.

It is nearly twenty years since the first edition of the work was published, and it is interesting to note how far ideas have been modified during the intervening period. Menetrier claims that the views on the pathogeny of cancer which were expressed in the former edition have been corroborated by subsequent researches. He then held, and still holds, that cancer is a pathological process which is secondary to the action of multiple and non-specific irritative processes. Cancer has, he says, been produced experimentally by various agents which are, for the most part, non-specific—namely, by physical agents such as x rays, by chemical agents such as tar, and by parasitic irritants, as in the case of spiroptera. He does not exclude parasites as a cause of cancer, but he regards their action as non-specific and analogous to chemical and physical irritants. As to the *modus operandi* of these various irritants, Menetrier considers that, acting as they mostly do over prolonged periods, they cause the development, by a kind of pathological cellular selection, of a new race of cells endowed with the autonomous and agressive properties characteristic of the cancerous process. The prolonged irritation is held to bring about changes in the tissues which constitute an alteration in the environment of the cells and, by a process of adaptation in the more resistant cells, leads to the production of a race of cells possessing cancerous properties.

In view of recent observations a special interest attaches to his opinion regarding the Rous sarcoma. This is now generally regarded as a genuine neoplasm, but Menetrier appears to accept this view in a somewhat modified form. He quotes an observation of Peyron to the effect that although the tumour may be definitely regarded as a neoplasm, its metastases, and especially those situated in the viscera, appear to be due to infection by the virus in the circulation, rather than to the transport of cells from the primary growth. The tumour, therefore, according to

[1] *Nouveau Traité de Médecine et de Thérapeutique.* XIII. *Cancer: Généralités* Par P. Menetrier. Deuxième édition. Paris: J. B. Baillière et Fils. 1926. (Roy. 8vo, pp 432; illustrated. 48 fr.)

Monetrier, exhibits the characters of a special infective disease rather than the typical cancerous process. It has a close analogy with neoplasms as regards its histology, but in its mode of dissemination it exhibits the mechanism of general infections rather than that of autonomous proliferations.

CLINICAL ASPECTS OF VENEREAL DISEASES.

Modern Clinical Syphilology,[2] by Dr. JOHN H. STOKES, professor of dermatology and syphilology, Philadelphia, is the result of work begun five years ago under the stimulus afforded by the Conference on Venereal Disease Control of the United States Public Health Service held at Washington in 1920. In his preface the author describes the book as a "monographic adventure in co-operative syphilology." It is monographic in that the writing is from the pen of one observer; it is co-operative in so far that it is the result, not only of personal observations of the author, but of those of fellow workers at the Mayo Clinic. The material of the book is, however, to a very large extent original, and there is, indeed, a cohesion about it that would have been lost had the author merely acted as an editor. Another feature of the book is that it is written particularly from the clinical point of view. Case histories are given in support of statements in the text. The result has been an increase in vividness and a gain in interest. The various paragraphs are given appropriate headings, and to each is appended a summary of conclusions. In this way the value of the book as a work of reference is enhanced. Indeed, it would be possible for the student to absorb the essence of Dr. Stokes's writing by referring only to the excellent tables, digests, and summaries scattered throughout the book. Naturally when originality is the keynote of a work there are statements which are open to criticism, and in order to keep within the limits of a single volume Dr. Stokes has been compelled to compress, so that he appears to be a trifle dogmatic in some of his statements, but on the whole the method of presentation chosen is the best that could have been adopted. The much-debated point whether the use of salvarsan preparations predisposes to the development of neuro-syphilis is discussed. The question was raised in 1911 by Finger, who reported 9 per cent. of neuro-recurrences in his first 500 cases treated by salvarsan, as contrasting with 0.25 per cent. in 2,000 cases treated with mercury and iodide. Stokes, however, from a survey of cases treated by himself and others, is of the opinion that there has been a decline in the incidence of neuro-syphilis since the introduction of salvarsan. In chapters on the hereditary disease the difficult question of marriage is discussed, as are the requirements of different authorities before permission is granted, the prevention of infection, the advisability of letting the partner know the condition of affairs, and the legal status of marriage in relation to syphilis. The book is complete and satisfactory, and should be of great value to all practitioners who are called upon to treat or to give advice on this important subject.

Colonel HARRISON'S book *The Diagnosis and Treatment of Venereal Diseases in General Practice*[3] has established itself as a standard work. The fact that it has gone through three editions since its publication in 1918, and that a revised second impression of the third edition has now been issued, is a testimony to its popularity. The new impression is intended to bring the work up to date pending the publication of a fourth edition. Although the treatment of gonorrhœa has progressed little, if at all, during the last few years, advances continue to be made in our knowledge of the treatment of syphilis. New serum tests, such as those of Sachs-Georgi, Dreyer and Ward, and fresh remedies like bismuth and sodium thiosulphate, have been introduced, and the malarial treatment of general paresis has been added to our therapeutic resources. These subjects, with others, are discussed in an appendix, and in spite of our failure to advance in the treatment of gonorrhœa some fresh paragraphs on this disease have been added. In discussing the future treatment of this intractable complaint, Colonel Harrison, like the majority of modern workers on the subject, considers that our best hopes lie in attempts to eradicate the gonococcus by remedies acting through the blood stream. Some of the various drugs that have been used as intravenous injections are described in the appendix, but it would appear from the author's remarks that the employment of these injections has met with but indifferent success in his own practice.

INTESTINAL TUBERCULOSIS.

DR. LAWRASON BROWN and Mr. H. L. SAMPSON, in *Intestinal Tuberculosis*,[4] propound the thesis that many digestive disturbances occurring in the course of pulmonary tuberculosis are due to ulceration of the intestine. By the usual methods employed it is extremely difficult to arrive at a diagnosis of this condition in its early stages; but by careful *x*-ray examination a diagnosis can, they say, be made in nearly every case. The importance of detecting ulceration in its early stages lies in its rapid response to treatment by heliotherapy.

The evidence on which this thesis is based occupies a large part of the book, and is not easy to summarize. Only by a study of the numerous tables and photographs provided can an intelligent appreciation of the conclusions be attained. The chief interest of their work lies in the almost extravagant claims made for roentgenological examination. Briefly, they find that when ulceration of the intestine is present, there is general hypermotility with complete, or nearly complete, emptying of the colon in twenty-four hours. The cæcum, and often the ascending colon, apparently suffer from spasm, which prevents their proper filling; barium is therefore passed on, to collect in the distal portions of the bowel. Even after a barium enema the same emptiness of the cæcum is found. In some cases the cæcal spasm causes an ileal stasis, often with dilatation of the small intestine. As evidence of the value of this method they state that sixty-two patients in whom intestinal ulceration was diagnosed by roentgenological examination were all found either on operation or at autopsy to be suffering from tuberculous colitis. On the other hand, of forty-six patients in whom ulceration could not be detected, only two were shown at operation or necropsy to be so suffering.

The claim that intestinal ulceration, at any rate in the early stages, is benefited by heliotherapy, or ultra-violet ray treatment, depends partly on pathological and partly on clinical studies. Dr. Gardner, pathologist to the Trudeau Foundation, who was responsible for the pathological work, found that in 40.6 per cent. of patients dying with intestinal tuberculosis there was evidence of healing and of epithelial regeneration. This was noticeable especially in those that had received ultra-violet ray treatment. Clinically, it was observed that in patients who were suffering from intestinal ulceration treatment by ultra-violet rays brought about rapid improvement; within three months the condition in 91 per cent. of these cases was ameliorated. In a large proportion complete relief of symptoms was obtained. How far this improvement was due to healing of the ulcers it is impossible to say. The disappearance of symptoms, while very satisfactory in itself, is no proof of a simultaneous resolution of the lesions on which they depend. A systematic use of the roentgen rays in following the progress of these patients would have helped to elucidate this question. Unfortunately this was not done.

Besides putting forward a very interesting thesis, the authors have collected a large amount of valuable information on intestinal tuberculosis. It is a pity that their

[2] *Modern Clinical Syphilology.* By John H. Stokes, M.D., with the co-operation of Paul A. O'Leary, M.D., *William H. Goeckermann*, M.D., Loren W. Shaffer, M.D., and Cleveland J. White, M.D. Philadelphia and London: W. B. Saunders Company. 1926. (Med. 8vo, pp. x + 1144; 865 figures. 55s. net.)

[3] *The Diagnosis and Treatment of Venereal Diseases in General Practice.* By L. W. Harrison, D.S.O., M.B., Ch.B., F.R.C.P.E., etc. With a chapter on the Medico-Legal Aspects, etc., by F. G. Crookshank, M.D., F.R.C.P., etc. Third edition, revised. Oxford Medical Publications. London: Milford, Oxford University Press. 1926. (Demy 8vo, pp. xx + 558; 83 figures, 18 plates. 25s. net.)

[4] *Intestinal Tuberculosis: its Importance, Diagnosis and Treatment.* By Lawrason Brown, M.D., and Homer L. Sampson, Roentgenographer of the Trudeau Sanatorium. The Trudeau Foundation Series. London: Baillière, Tindall and Cox. 1926. (Roy. 8vo, pp. xx + 304; 112 figures. 18s. net.)

style is not more clear; many sentences are ambiguous or frankly unintelligible. Apart from this defect, they are to be congratulated on the production of a book that is alike a credit to their industry and a benefit to the medical profession.

COLLECTED PAPERS OF THE MAYO CLINIC.

THE seventeenth volume of the *Collected Papers of the Mayo Clinic and the Mayo Foundation*[5] contains references to no fewer than 167 papers, some being considerably abstracted and a large number given by title only. There are 161 contributors; many of the papers are the result of combined or team work, and some of the contributors have several papers to their names; thus Dr. William J. Mayo has seven, his brother Dr. Charles H. Mayo five, Dr. J. S. Lundy seven, Dr. V. C. Hunt six, and the late R. D. Carman, the distinguished radiologist, three. As in previous issues, the papers are arranged under the heads of the alimentary tract, urogenital organs, ductless glands, blood and circulatory organs, skin and syphilis, head, trunk and extremities, chest (a new one), brain, spinal cord, and nerves, technique, and miscellaneous. Not unexpectedly, the alimentary canal tops the list with 42 articles, though followed rather closely by the urogenital organs with 37; other double figures are the blood and circulatory organs (19), the head, trunk, and extremities (17), and skin and syphilis (12). Under miscellaneous there are twenty-two articles, and among them the reader is naturally attracted by the title "The twilight zone of medicine," in which Dr. William Mayo remarks that we perhaps stand to-day facing the twilight zone of a new ultra-microscopic world of science, and goes on to illustrate the application of physico-chemistry to disease, as shown by the way in which knowledge of the blood changes in diabetes, alkalosis, and jaundice bears on their successful treatment. Dr. F. C. Mann, director of the division of experimental surgery and pathology of the Mayo Foundation for Medical Education and Research, Graduate School, University of Minnesota, has a hand in nine papers, six of them dealing with the liver and two with peptic ulcers. In a well illustrated paper on cardiospasm, Dr. P. P. Vinson mentions that since 1908 500 cases of this condition (294 males and 206 females) have been observed at the Mayo Clinic. By forcible dilatation 75 per cent. of the patients were cured. Dr. W. A. Plummer writes on the early recognition of thyroid adenoma with hyperthyroidism and of exophthalmic goitre, and lays stress on the diagnostic value of increased appetite, loss of weight, and increased tolerance for cold. This article is appropriately followed by Dr. J. Pemberton's essay on the present-day surgical treatment of thyroid diseases. Investigation of the blood in high blood pressure led Drs. S. F. Adams and G. E. Brown to state that in 60 per cent. of the cases of benign and malignant hypertension with arterio-sclerosis but with adequate renal function the haemoglobin is more than 100 per cent.

This volume is a veritable storehouse of recent research, and therefore an invaluable, if rather expensive, source of reference.

NOTES ON BOOKS.

INTO his small book *The Air We Breathe*[6] Dr. JAMES KERR, formerly school medical officer for London, has managed to compress an enormous amount of information. The condensation is such that we are not sure that the people for whom the book is written will grasp fully its contents, notwithstanding the glossarial notes which the editor of the Modern Health Books, Professor Fraser Harris, scatters through the pages of his contributors. Dr. Kerr summarizes early notions about the air; shows how a hypothesis like the phlogiston theory may form the basis of a huge superstructure of error; describes the process of respiration; and concludes that the process is unaffected by any chemical changes or alterations likely to be met with in ordinary life. He devotes several chapters to ventilation, heating, and the removal of bodily heat, and has something to say on colds and chills. Dr. Kerr is sometimes dogmatic in his statements, as when he says, "tuberculosis is omnipresent in civilization. It attacks every one in the community." He is of opinion also that a six-hour working day, with proper administrative distribution, should suffice to enable any democracy to gain their necessary subsistence. The new hygiene, he thinks, entails a new outlook on the human body, which should no longer be regarded as "vile." The health game needs pushing in primary schools, but instruction in the principles and practice of health is still, he asserts, largely make-believe in the teachers' training colleges.

Dr. BEGGS, the medical officer of health for Middleton, Manchester, has written a little book on *The Hygiene of Infancy*.[7] There is an introduction by Professor Bostock Hill. It is in the form of a catechism—a form that undoubtedly has its value to many minds, and particularly to those who are not habituated to reading and analysing what is read. There are chapters on all matters relating to birth and infancy, from the attendance of the expectant mother at the ante-natal clinic to the evils of flea-bites. The questions are devised with good judgement, and for the most part the answers are short, sharp, and sufficient. There are some deficiencies which might well be remedied. Among the warnings to the expectant mothers there are some on "racial poisons," but there is none that attention is required if there be a vaginal discharge; and there is no reference to the necessity for carefully cleansing the infant's eyes after birth, or for special precautions in the first bath, or for setting a watch on the eyes for the first few days of life. The chapter on the law in relation to children is very good, and might well be brought to the attention of some members of local authorities with advantage.

Dr. J. DENNY SINCLAIR has translated Dr. MARC JACQUEROD'S book on *The Natural Processes of Healing in Pulmonary Tuberculosis*,[8] the French edition of which was reviewed in our issue of January 10th, 1925. For reasons apparently connected with the difficulty of translation, some parts of the original book have been omitted, notably the chapter on classification. What remains is very short, and the volume is occupied largely by reproductions of *x*-ray photographs with their attendant case histories.

Mme PHILIPPE BELLOCQ has written an interesting study on the vascular supply of the skin.[9] She has employed a radiographic method, injecting the arteries with a mixture of red lead or vermilion with oil of turpentine. After the injection has been completed the area of skin which is the immediate object of study is removed, stretched, and radiographed. Stereoscopic radiography is often found useful in order to follow the course of the arterioles from the deeper to the more superficial layers of the skin. In the illustrations given the chief characteristics of the cutaneous circulation in different areas of the surface and at different ages are easily seen. There appear to be three types of arterial supply in the skin: (1) Areas supplied by a single artery with little or no anastomosis with other vessels. This is frequent in the infant, where the development of the vessels is incomplete, and in the aged owing to senile atrophy, but occurs also in the adult in areas such as the back of the hand and foot, where circulation is not very active. (2) Areas where there is a fine arterial anastomosis, typically found on the face, the back, the palm, and sole of the adult. (3) Areas where there is a double anastomosis, both a dermic and hypodermic network of vessels. This arrangement is found in the scalp and the limbs. The book is well worth the attention of those who are concerned in the surgery of the skin, especially plastic surgery.

The forty-sixth volume of the *Transactions of the Edinburgh Obstetrical Society*[10] contains the papers read at the discussions during the session 1925-26, which were for the most part reported in our columns. The address of the retiring president, Professor B. P. Watson, dealt with the treatment of puerperal sepsis, and at subsequent meetings various communications relating to obstetrics and gynaecology were delivered. The volume contains an index, a list of office-bearers, a statement of accounts for the year ending October 31st, 1925, and a list of Fellows of the society.

[5] *Collected Papers of the Mayo Clinic and the Mayo Foundation.* Vol. XVII, 1925. Philadelphia and London: W. B. Saunders Company. 1926. (Med. 8vo, pp. xvii + 1078; 252 figures. 60s. net.)

[6] *The Air We Breathe.* By James Kerr, M.A., M.D., D.P.H. The Modern Health Books. London: Faber and Gwyer, Ltd. 1926. (Fcap. 8vo, pp. 191. 3s. 6d. net.)

[7] *The Hygiene of Infancy: a Questionnaire for the Use of Health Visitors, and School Nurses, Teachers, Social Workers, and Mothers.* By S. T. Beggs, M.D., D.P.H. London: J. Bale, Sons, and Danielsson, Ltd. 1926. (Cr. 8vo, pp. 62. 1s. net.)

[8] *The Natural Processes of Healing in Pulmonary Tuberculosis.* By Marc Jacquerod, M.D. Translated by J. Denny Sinclair, M.B., Ch.B. London: Baillière, Tindall and Cox. 1926. (Roy. 8vo, pp. 108; 35 plates, 60 figures. 6s. net.)

[9] *Étude Anatomique des Artères de la peau chez l'homme.* Par Mme Philippe Bellocq. Paris: Masson et Cie. 1925. (Roy. 8vo, pp. 63; 29 figures. 12 fr.)

[10] *Transactions of the Edinburgh Obstetrical Society.* Session 1925-26. Vol. XLVI. Edinburgh: Oliver and Boyd. 1926. (Med. 8vo, pp. xii + 185; illustrated.)

A MEDICAL REVIEW OF SOVIET RUSSIA.*

V.—THE MEDICAL PROFESSION, SOVIET SCIENCE, AND SOVIET SANITATION.

BY

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PART II.

SOVIET GOVERNMENT AND SCIENCE.

NOT being a student of politics, I have sought to omit reference to political questions, but as everything in Russia it under the strictest political control, it is not possible to do this entirely. Previously[1] I stated that the Soviets had done what they could, with their limited means, to foster the growth of science in Russia when this did not conflict with their political principles. This was my opinion from personal observations in Russia in 1922-23, and this remains my opinion in 1927, after two more years in the country. The political revolution has fallen, however, with crushing weight on many of the foremost doctors, and there are some who think that the Soviet régime *per se* has had a deleterious effect on science, in addition to the former economical chaos. A Russian scientist of international reputation (exiled in 1922) wrote me:

"My feeling is that the Soviet authorities have done what they could with their unlimited means of destruction to kill science and inhibit its growth because free and independent thinking is in direct conflict with the Soviet political principles."

An equally pessimistic view was expressed by a younger scientist of Leningrad in 1926, who, while admitting the Soviet efforts to benefit science, said that the psychological conditions were not conducive to scientific work—that the scientists themselves had been thrown into too prominent a social light, and that they were too dependent upon politics, the will of students, etc., and too uncertain as to the future. A world-famous physiologist complained in 1924 that the breadth of view necessary to scientific production was seriously threatened by the insistent emphasis upon allegiance to Marxian dogma in the present state of politics.

The life of the scientist has been harassed in general in the same way as that of other *intelligentzia* except for those whose eminence has brought them special privileges. I refrain from detailed discussion of this, just as I would from a discussion of the internal politics of any other foreign country. Many scientists seem to enjoy a special immunity, however, from political interference, and to have more freedom of speech and other privileges than any other class, including even the high politicians.

Numbers of the older physicians are unable to adjust themselves to the present political and social changes and would like to go abroad (chiefly to America).† State patronage is not new to the Russian physician, but many have been exiled or imprisoned by one régime or another. One doctor told me that he objected to living in Soviet Russia because he did not like the present uncultured students and people with whom he had to associate, although he was getting sufficient money to carry on his scientific work. Another reason for discontent is the inability to travel, not only on account of the lack of money, but because it is a tedious undertaking to obtain permission to leave Russia, and even more difficult for a Russian to get a visa for entering other countries. It is also economically next to impossible, as since April, 1926, a Russian must pay 220 to 440 R. (£22 to £44, depending upon his category) to the Soviet Government for permission to travel outside of Russia.

Among the younger physicians, however, there is much less dissatisfaction. This is to be expected from the change in the social status of the students. It is chiefly youths from those classes which have reason to be interested in the Soviet Government (workmen, peasants, and Communists) who have the opportunity to receive a medical education—or, in other words, the class from which opposition might come, the "bourgeoisie," were largely excluded from the universities two years ago.* The present system of education seems to ensure, for the immediate future at least, that all university graduates shall be in agreement with the existing form of government. The future professors and doctors must come from the classes who now have the opportunity for education—the so-called "Red" professors. Although some of the old professors fear expulsion from their chairs when a sufficient number of supporters of the new régime have been prepared to take their places, it does not seem likely from the past policy of the Soviet Government that they will expel an efficient professor for other reason than counter-revolutionary political activity. Even during the disorder of the revolution only a few were expelled.

A serious grievance is the difficulty of giving the children a technical or university education. In the Moscow universities in 1925 I was told there were 100 vacancies for the "bourgeoisie," and in Leningrad in the technical schools 80. Other sources of education are precluded by the absence of any but Government-owned universities.†

The circumstances following on the war and revolution have caused not a few to feel, as an author of a scientific treatise wrote, that "this is more the record of a broken and shattered life than of a profitable completion of physiological work." There are others, however, outside the Communist party, who look forward with more optimism to the future, and say that they have no political grievances, and that the Government is doing all it can to help them in their work. Typical of this group, an eminent non-partisan pathologist told me:

"The conditions in Soviet Russia are much better than they were in Tsarist Russia for scientific work. As Soviet finances increase more money is being given. The Narkompros (Minister of Education) is active in making scientific work more intensive and practical, as the Communists say that socialism can exist only with science. I think that scientists will be able to work entirely independently of politics, and will not be hampered in any way by political considerations. I know of many monarchistic professors who are now receiving large amounts of money to carry on their scientific work. As we have never had democracy in Russia, I cannot say what effect it would have upon science, but I think science will prosper more under the Soviet régime than under the Tsarist Government. My chief difficulty is learning to deal with the new type of student."

The director of one of the famous research institutes in Russia, also not a Communist, told me that the Soviet policy towards science in his institute had been constructive rather than destructive, and especially so during the past two years. Science is accorded a large place in the proletariat press, and scientific books are given an increasingly wide circulation in order to bring science to the door of the peasant and workman. More genuine respect is accorded scientists by the Government than to the members of any other profession I know of. The Soviet regard for science was shown by the celebration of the two hundredth anniversary of the Academy of Sciences in Leningrad (September 5th to 10th, 1925). The event was given full, first-page accounts in the Government newspapers. The delegates from all over the world were guests of the Government, and received more cordial and hospitable treatment than even political visitors to Russia. Among other privileges they were given free use of the railroads and hotels all over Soviet Russia.

Some excellent laboratories and new lines of research have been started by the Soviet Government. There are probably more scientific workers now than formerly, though

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* Previous papers on medical and scientific work in Soviet Russia by Dr. Horsley Gantt were published in the BRITISH MEDICAL JOURNAL in 1924: I, A Review of Medical Education in Soviet Russia, vol. i, p. 1055; II, Hospitals and Health Conditions, vol. ii, p. 336; III, Scientific Work, vol. ii, p. 533. The first part of section IV, on "Change in type and incidence of disease," was published on August 14th, 1926, p. 303; Part II of this section was commenced on October 23rd (p. 747) and concluded on October 30th (p. 802). Part I of Section V was published on January 29th, 1927 (p. 198).

† I found this dissatisfaction also among many German physicians in 1923.

* See Lunacharsky, *The New University*, Moscow, 1924. Although many "bourgeois" students were expelled in 1924, most of these are being gradually readmitted; during the past year official opinion has become more liberal, and more emphasis is being placed on merit.

† A majority of the university students receive free tuition and a stipend that is sufficient to live on. Students are divided into categories (Communists, workmen and peasants, or their sons, bourgeoisie, etc.), and the amount they receive depends on this categorical classification; 10 to 20 per cent. of the medical students (40 per cent. of other students) are Communists. Those from the former "bourgeois" class instead of receiving a stipend must pay for tuition, unless they interest themselves in party politics. The percentage of workmen and peasants has risen from about 10 per cent. before the war to 93 per cent. in 1922.

they may not be so well prepared, and scientific work is being done in many new places. Among the best which the Soviet régime has initiated are the physiological laboratories for testing the effects of mineral waters and food at the various sanatoriums and health resorts, the Roentgenological Institute in Leningrad, and the Biochemical Institute of Bach in Moscow. They are models of their sort, and would be a credit to any country.* The most necessary equipment was bought (from Germany) in 1924, the first for ten years. Funds are being gradually increased, although in many places they are hardly back to the pre-war level. For example, the University of Moscow received 20,000 roubles in 1923, 200,000 in 1924, and 6,000,000 roubles will be given soon to carry out the first extensive repairs since the revolution.

The Soviet Government has not assumed a uniform attitude towards all laboratories, but has concentrated its efforts on the best. Some have received little or nothing for the past ten years; for instance, the Pathological Department of the First University of Moscow (the largest one there) has had almost nothing for eight years, and now receives only 160 roubles a month. However, these examples are rare, and will soon be things of the past. This laboratory has now been voted a large amount for the next five years. On the whole, work is progressing in spite of material difficulties. In one new institute in Moscow, for example, which I visited in November, 1926, I found the laboratory installed in a former stable; and the operating cloths covering the dog, and the caps and gowns which the doctors wore, were made of costly linen from one of the Tsar's palaces, having embossed on it the now forbidden and obsolete double eagle of imperial days. This conscription of stable and palace for the sake of the laboratory is typical, it seems to me, of the present scientific spirit in Russia.

In spite of the Soviet good intentions and efforts blunders have been made, which might be expected from a Government composed largely of workmen and peasants led by men who have inherited prejudices fostered by an oppressive Tsarism. For example, one might question some of the attempts to blend the political with the scientific, such as the following proposition of the State Scientific Council (Gosudarstvenyi Ootchenii Soviet) to the universities: that they shall submit applications for intended research eighteen months in advance to the committee, which will then decide whether the work is of value to the proletariat, and distribute problems among the laboratories to prevent parallel work. However, this ruling has never been put into effect.

The scientists themselves are left entirely to work out their scientific problems as they desire, as they did formerly. So far as I have been able to ascertain from two years' laboratory work in Soviet Russia, distribution of Soviet funds to laboratories and appointments to scientific positions are made according to merit rather than to politics. I have seen during the past year that some of the scientific laboratories whose heads are directly opposed to Soviet politics have received the greatest amount of money and equipment.

Politics does not often interfere with a doctor's having the position to which his abilities entitle him, except for administrative places, which are frequently given to party members. The heads of public health departments are usually Communists, and generally, judging from my experience, efficient organizers. In most of the scientific institutes there is a political commissar with certain administrative powers.

Present Conditions of Research Work.

From 1918 through 1922, as a result of the general state of the country, research work was done under appalling conditions and science kept alive at the cost of enormous energy and heroic sacrifices of the individual workers. During 1924 and 1925 the living conditions of the scientists, though still precarious, greatly improved, and the Soviet Government rendered considerable financial aid to science. Some laboratories have returned to normal, many new ones have been formed, and there are a few new institutes which surpass anything of their kind heretofore produced in Russia.

The spirit of research is prevalent, and is being fostered. Science will suffer during the next decade or so chiefly from the emigration of former scientists, the lack of preparation in the pupils of the war and revolution periods, the lack of adaptation between the professor and the present type of student, and from other inevitable adjustments to the new social conditions. The bringing of science under central control and Soviet patronage, though it may give a slight political colouring, is putting it on a much more stable financial basis than it was in old Russia.* The present position of science is, in my opinion, one of the most hopeful signs in Soviet Russia.

It is encouraging to hear the following ideals of the Soviet Government. It shows not only their interest in science, but their opinion of its relation to Soviet politics. As the future of science in Russia depends largely upon the Soviet attitude, I quote rather fully from the greeting sent to the Academy of Sciences on the day of its jubilee, September 5th, 1925—an event which was eagerly celebrated by the Soviet Government. It is signed by L. Kameneff and the president of the Central Executive Committee, Soviet Russia, M. Kalinine, and runs as follows:

"The October revolution has removed the social relations which had impressed their character upon scientific work and hindered its development. The social order founded on private ownership, exploitation, and national oppression provokes military collisions and retards the subdual of the forces of Nature by man. . . . The radical reorganization of social relations . . . cannot be solved without a development of science in all its branches. The Socialist Society is creating for scientific thought conditions of true liberty . . . Lenin's estimation of the services of science is the basis of the policy of the Soviet State.

"During the first hard years which followed the revolution, the Soviet power, forced to defend its existence . . . could not lend assistance . . . to the scientific work. Nor could it ensure to the scientific worker such conditions of life as are necessary for the productiveness of his work. . . . Science is international. . . . Only by the joint efforts of the scientists of all nations, and only by a constant and unremitting international intercourse between all scientists, can the development of science be promoted. The Government of the Union is ready to support all endeavours bending toward an active and wide international co-operation of all scientific workers."†

One can judge of the sincerity of these statements by the increased efforts recently made, and also by comparison with the official treatment of religion and the Church. This organization, which is considered a menace by the Soviet Government, has been as openly denounced as science has been advocated.

Scientific Work for Foreigners.

I shall add a few words from my personal experience concerning the opportunities for foreigners to do scientific work in Russia. During 1925-26 I have found the conditions quite favourable for research work; they have steadily improved. Clinically Russia has always been behind, and there is little inducement to do hospital work, except perhaps in a few special subjects. The greatest facilities are for physiological and to a less extent pathological work. Many admirable schemes have arisen in public health work and social hygiene under Dr. Semashko, which are well worth studying. The therapeutical effects of climate, mineral waters, baths, etc., are being carefully worked out in many parts of Russia.‡

The professors and instructors are cordial and hospitable to foreigners, and are eager to explain their work, and to be helpful. This Russian trait lessens the time necessary to become acquainted with the work of the laboratories. The Russians themselves very modestly attribute it to their habit of garrulousness. The extreme difficulty of the

* The new Brain Institute, opened in 1926 under Dr. Fursikov, for which 200,000 roubles have been given in Moscow, appears promising.

* For example, formerly the laboratory of Professor Pavlov at the Institute of Experimental Medicine supported itself partly by selling the gastric juice of the experimental dogs; now, in spite of the economic crisis in Russia, it receives the full amount that it needs.

† The fact that Lenin endorsed science has had a great influence, especially as Leninism has assumed somewhat the character of a State religion in Russia. In nearly every Government building (which includes most important buildings) is a room called "Lenin's Corner" (*ougolok Lenina*) containing all the writings of Lenin and his picture surrounded by his aphorisms. One of these says "Without science there is no communism" (Bez naouki nyet kommunisma"). I have seen this several times in laboratories and public buildings. The rooms are decorated in red and black, and there is an atmosphere of reverence which is strongly suggestive of the former chapels. It was due to Lenin's influence that Professor Pavlov was retained in Russia after the revolution.

‡ Details of some of the research work will be given in another article.

Russian language is obviated to some extent by the fact that nearly all educated Russians speak fluently either French, German, or English.

Although there are some irregularities in the curriculum compared with other countries, the informality and spirit of helpfulness make work pleasant. German methods and ideals as well as instruments have been most conspicuous, but the English language is being more and more studied in preference to German and French, and English and American literature has rapidly gained favour since the war, and now vies with German for first place.

After the stage of reciprocal suspicion is past, the Soviet officials seem kindly disposed towards a foreigner doing scientific work. He is admitted everywhere, and allowed to see almost everything. During the whole of 1925-26 I was never hampered nor had any special restrictions placed upon me. I found the officials usually willing to help. Foreigners working in the laboratories are not only treated with official respect, but they are exempted from certain taxes and given especial privileges.

There is one unfortunate obstacle in the way of foreigners entering Russia for research work, and that is the length of time necessary to obtain a visa. This seems to be greater for English and Americans than for other nationalities.* This is explained by the fact that political relations between the Government of Soviet Russia and those of other nations have been permeated on both sides by suspicion and ill feeling, sometimes almost equal to a state of war. As the president of the Society for Cultural Relations (Mme Kamenova, the sister of Trotsky) expressed it to me, the Soviet Government must judge each case on its merits, and assure itself that those who are admitted are at least not unfriendly and will not give false or exaggerated reports of Russian conditions. I hear, however, from Dr. Semashko's office (through Dr. Scheftel) that no one desiring to do scientific medical work in Soviet Russia has ever been refused a visa.

REFERENCE.

[1] See BRITISH MEDICAL JOURNAL, September 20th, 1924, p. 533.

ATMOSPHERIC CONDITIONS IN COAL MINES.

ALIKE in its hygienic aspect as relating to the comfort and well-being of workers, and on its economic side as bearing on the question of efficiency, Report No. 39,[1] by Dr. Vernon and Mr. Bedford, to the Industrial Fatigue Research Board, is an important contribution to the study of industrial environment. The research it describes was directed to the investigation of the influence of atmospheric conditions on the working capacity and accident rate of coal-miners. Since the usual method of testing working capacity by a simple measurement of output cannot be applied to men hewing coal under widely varying conditions of ease or difficulty, it was decided to adopt two tests, a rest-pause test and a tub-filling test, as best calculated to discount these disturbing factors. The rest pauses referred to are the short voluntary rests from work which men engaged in heavy industries take every few minutes. Their duration and frequency afford a measure of the fatigue experienced. Involuntary rests, due mainly to waiting for tubs, were also taken into account. The tub-filling test is self-explanatory, but it may be observed that the tubs or trams have a mean capacity of 10 cwt., and that they are filled by both hewers and trammers, of whom the latter do haulage also.

The cooling power of the air was measured with kata-thermometers at 5½ ft. to 6 ft. above floor level. The dry and wet bulb temperatures were taken with Edney sling hygrometers, whirled at about 280 revolutions per minute. The number of men watched for an average period of 96 minutes each, at mean wet kata cooling powers ranging from 18.6 to 6.4, was 138. Their voluntary and involuntary rests were separately noted and their tub-filling times recorded. The resulting data are the actual working time per hour in minutes, the tub-filling time in minutes, and, dividing the former figure by the latter, the working capacity or rate of production, as exhibited in the following tables.

TABLE I.—*Working Capacity Based on Voluntary and Involuntary Rests.*

Mean wet kata cooling power.	Working time per hour in minutes.	Tub-filling time in minutes.	Rate of production.
18.6	52.7	8.0	52.7 ÷ 8.0 = 6.59 = 100
14.6	53.3	8.6	53.3 ÷ 8.6 = 6.20 = 94
12.9	51.0	8.5	51.0 ÷ 8.5 = 6.00 = 91
10.8	50.0	9.2	50.0 ÷ 9.2 = 5.43 = 82
9.0	48.9	9.1	48.9 ÷ 9.1 = 5.37 = 81
6.4	37.6	9.6	37.6 ÷ 9.6 = 3.92 = 59

TABLE II.—*Working Capacity Based on Voluntary Rests Only.*

Mean wet kata cooling power.	Rests in minutes per hour.	Tub-filling time in minutes.	Rate of production.
18.6	4.6	8.0	55.4 ÷ 8.0 = 6.93 = 100
14.6	5.1	8.6	54.9 ÷ 8.6 = 6.38 = 92
12.9	5.7	8.5	54.3 ÷ 8.5 = 6.39 = 92
10.8	5.5	9.2	54.5 ÷ 9.2 = 5.92 = 85
9.0	7.8	9.1	52.2 ÷ 9.1 = 5.74 = 83
6.4	10.6	9.6	49.4 ÷ 9.6 = 5.15 = 74

Table I, which includes both voluntary and involuntary rests, shows that at 18.6, with the highest cooling effect, the men worked 52.7 minutes to the hour, while at 6.4, the lowest, they worked only 37.6 minutes. Similarly, under the coolest conditions tub-filling took 8 minutes, under the warmest 9.6. The rate of production under the warmest conditions was 41 per cent. less than under the coolest. Table II, which deals with voluntary rests only, works out in the same sense as Table I, though the effect of adverse atmospheric conditions is not quite so marked.

The separate influence of air movement, which is a factor in cooling power as read from the kata-thermometer, was tested by selecting two groups of men, working at the same wet kata reading, but at mean air velocities of 15 and 51 feet a minute respectively. The low-velocity group showed rest pauses of 9.6 minutes an hour and a tub-filling time of 9 minutes. For the high-velocity group the corresponding figures were 7.8 and 8.6. The wet kata reading therefore in such cases does not tell the whole tale. It underestimates the importance of air velocity. It is, however, far more accurate than any other available index, such as the "effective temperature" recently determined in the laboratory of the American Society of Heating and Ventilating Engineers, Pittsburg, which includes a dry bulb temperature factor. For subjects of experiment at Pittsburg, doing light work and sweating little unless at high temperatures, the "effective temperature" index was significant; but the colliers of the report, doing heavy work and almost invariably streaming with perspiration, reacted to wet bulb temperatures only.

It was found that better facilities for air movement were afforded on the long-wall system of mining, in which the whole of the coal is hewn at once over a broad face, than on the pillar-and-stall system, in which headings are driven into the coal and supporting pillars left for subsequent removal. An important item is the distance of the brattice, or partition fixed between the intake and return airways, from the working face. The nearer the brattice to the face the greater the air velocity at the face and the lower the wet bulb temperature. Too great proximity, however, producing a continuous draught on the bare backs of the colliers, may cause rheumatism.

The results obtained were examined also in their relation to accident rates in coal mines and the general health of miners. The view is expressed that on the data available adverse atmospheric conditions increase the accident rate and impair general health, but that further research is required to confirm these findings, which, are, in the meantime, more or less provisional.

* In my case it was necessary to wait four months for the visa after having the recommendations of Professor Pavlov and both American and English medical authorities. For every other country of Europe, excepting three to which I did not apply, I received the visa the same hour that I asked for it.

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THE EPILEPSIES AND LIFE ASSURANCE.

DR. S. A. KINNIER WILSON'S address on the epilepsies and life insurance, delivered before the Assurance Medical Society, and printed elsewhere in this issue (p. 221), reminds us of the great changes that have come over our conception of epilepsy. After centuries of masquerade as a disease epilepsy now stands among the symptoms. Those whose student days lie twenty to twenty-five years away will recall how well defined a disease it was considered then, in the schools at all events, and how glibly its dramatic and blessedly remembrable manifestations came tripping from the tongue. But time and observation have undermined and dethroned, and even dismembered it. So now we have "the epilepsies"—a bundle of symptoms of great variety, but linked by their common affinities with the stigmata of the now extinct disease. Sometimes the symptom has an assignable cause—say, cerebral tumour, or syphilis, or uraemia—and thereby ceases to be epilepsy. But even when no cause can be assigned the symptom is no longer by that default accounted a disease. It remains but a symptom, for which a cause must be sought or guessed or inferred. This unassorted residue still figures, it is true, as "idiopathic epilepsy," which now is a way of saying that we have detected the disguise but have not as yet identified the wearer of it.

This conception of epilepsy has certainly rid the term of some of its more sinister connotations, for under it the graver organic affections which are liable to express themselves in epileptic guise are relegated to their proper pathological category, and we are left with those instances which for the most part are the expression of something subtle enough to leave no trace on structure. What exactly that "something" may be is a question that still lacks an answer, and is likely to get it (when the time comes) piecemeal and case by case. Dr. Wilson's conclusion is that "healthy neural mechanisms may become epileptogenous without being in the remotest degree diseased," and most practitioners will be able to find support for this view among their clinical recollections. Certainly we find many causes—as, for example, digestive upsets or the poisons of microbic invasion—which are capable of precipitating convulsions in babies whose nervous systems are apparently undamaged; and it does not strain the imagination to conceive that comparable explosions may be excited in healthy adults by rare conjunctions of favouring events—psychical, biochemical, microbic, or what you will.

Along such lines it is possible to explain away reassuringly the occasional epilepsy, the isolated fit or "faint," or the half-dozen similar seizures scattered at haphazard throughout a lifetime of otherwise average health. These are the "benign" idiopathic epilepsies in respect of which Dr. Wilson pleaded for leniency from his audience of insurance examiners. It is probable that he was preaching to the converted, but his peroration shows that, so far from being aware of this, he was already resigned to failure in his preaching. "I do not hope," he says, "to be able to do more than disturb a little the preconceptions of any who, accepting precedents and traditional practice, refuse proposals coming from "epileptics" of any kind or degree. Ideas dating from a less knowledgeable era have had so long a start that one doubts if they will be overtaken. Hughlings Jackson once said that it takes twenty-five years for new conceptions of disease to penetrate the mind of the profession, and if this is needlessly cynical, it at least embodies an element of truth." To probe the general justification for this gentle and even compassionate remonstrance would be an inquiry not without interest, for there is a good deal to be said on the other side, if we may judge by the high rate of infantile mortality among new conceptions in medicine. But for the present we may confine ourselves to its bearing upon the audience to whom it was spoken.

It is a curious circumstance that when those who have no special acquaintance with the medical aspects of life assurance address themselves to the subject, they are soon to be found grumbling good-humouredly because this branch of medical practice is so much behind the times. This has been observed on several occasions and in several contexts. When doubts first began to be cast upon the importance of albuminuria the medical advisers of life assurance companies evinced no haste to alter their practice of regarding it with grave suspicion. When, upon the introduction of salvarsan, the cry went up that syphilis could now be cured in a few days, again the insurance world remained unmoved. When it was announced that renal glycosuria was not more pathological than red hair or a Roman nose, insurance examiners once more showed no undue elation, and in all these cases were reprehended for their obsolescence. Now it is the turn of epilepsy. What is it that lurks behind this phenomenon?

The key to the enigma appears to lie in nothing more profound than a variation in point of view. The clinician, interviewing a patient in his consulting room for the purpose of restoring his health, will naturally minimize ominous possibilities, in so far as he can do so without prejudice to his patient; he will make what play he can with pronouncements that carry a message of good cheer for the sufferer, however much in his heart of hearts he qualifies his own acceptance of them. He will, in short, give his patient the benefit of every doubt. And how many doubts there are! But the examiner who is acting for an insurance company owes his allegiance elsewhere, and the benefit of his doubts goes to the company he is serving. He awaits, that is to say, a completer conviction concerning new conceptions than would suffice to make him enlist them in his service for purposes of healing. And so it is, we suspect, that, having earned the reprobation of Dr. Wilson by the advice he has given in the City, the insurance medical examiner will do his best to rehabilitate himself by putting a contrary complexion upon a similar case when he meets it in his consulting room. No doubt the usage accorded to invalid lives will be found to vary somewhat from office to office, but on the whole we fancy it will be found to keep step pretty well with the sedate paces of established knowledge, if not with the Charlestons and high jinks of day-to-day discovery.

THE NURSING PROFESSION.

Sairey Gamp is dead: her line is ended: she has left no descendants. There were good nurses before her day, and in her day; for the instinct of motherliness is an attribute of the feminine heart, and it finds expression in bringing ease to the uneasy. But there is a sharp line of cleavage between the nurse of the not far distant past and the nurse of to-day. It is no mere change of fashion, but a fundamental change in attitude. The old nurse was a nurse from inclination or accident; she may have had a "gift" for the work, a gift polished by use, but that was all. The modern nurse has something more. She is trained and disciplined; selected, shaped, and refined by knowledge and outlook. A good modern nurse is wholly feminine, full of vitality, ordered in service, faithful and unweary in well-doing, a fine responsive devoted instrument, willingly placed in the hands of Medicine for the service of the sick. This is all common knowledge, but it may be well to remind ourselves of it sometimes.

But when we come to review the position of trained nurses to-day the question arises, Does society give the individual nurse a fair deal? Society pays willing tribute to the service of the nurse. She has never before stood higher in public esteem and affection, and if status is everything, then, according to Mr. Ramsay MacDonald, who opened a recent conference on "The nursing profession" (reported at page 253), nurses should be among the happiest of mortals. But prestige is not enough, nor a banner emblazoned with the image of Florence Nightingale or of Francis of Assisi. These are proud possessions, and a great stimulus to devotion; but food and other material things, and the amenities of life, are as necessary to her well-being. It is almost true to say nurses have had too much of status and too little of stuff in recent days. The earlier of the new nurses were so devoted, so much absorbed in their mission, and so often blessed with some private resources, that they gave no thought for the morrow, or for their innumerable successors who must needs live by their work. Happily in the last score of years much of this neglect has been remedied. The indispensable work of the trained nurse has been recognized by the State. There is a General Nursing Council representative of all interests, with a register growing in volume, and the nurses have their own organizations which take a motherly interest in their collective and individual affairs.

The General Nursing Council is comparable to the General Medical Council. Both supervise education, place accredited candidates on a register, and keep the names of the registered there so long as they are worthy. There is a College of Nursing, which is comparable to the British Medical Association, for both are voluntary societies supported and controlled by the individual members of these societies. It is estimated that there are something like 100,000 trained nurses in the country; of these, 61,000 have taken advantage of the voluntary registration provided by the State. The College of Nursing, founded in 1916, has now a membership of 25,000 fully trained registered nurses, and a Student Nurse Association with 1,400 on its roll. The subscription to the college is small, so an endowment is needed of £100,000, and of this sum over three-fifths is in hand. The college has a fine headquarters by Cavendish Square, with a club adjoining (with separate membership), both buildings the gifts of Lady Cowdray. There are local branches with appropriate organization all over the country. The management is in the hands of the council of the college, which is directly nominated and elected by the postal vote of the members. Its work and aims follow very closely those of the British Medical Association. The honour and interest of the nurse are the care of the college. To this end it concerns itself with her education, and provides facilities for post-graduate study. It is convinced that the status and advancement of nurses depend upon the quality of their education. Good education means good nurses, good status, and good pay; indifferent education, the reverse. The college is ever on the alert in the scrutiny of the terms of service offered by employers of nurses, particularly by public bodies, co-operations, and hospitals. It has drawn up standards of pay which are such that self-respecting employers generally might well take note of them. It now controls the leading nursing journal, the *Nursing Times*, and through this official organ is able to exclude many undesirable advertisements—a most effective mode of bringing wisdom to the ignorant. Further, the college maintains a good library, a loan fund to assist members desiring to take up special training, a sickness insurance scheme, two convalescent homes, and a legal aid department. A quarterly bulletin is issued free, but subscription to the *Nursing Times* is extra. The college has taken a foremost part in devising the scheme for nurses' pensions which is now under consideration by many hospitals; no fewer than eighty-six London hospitals have approved it and propose to adopt it. Under that scheme the nurse provides contributions of 5 per cent. and the employer of 10 per cent. of the pay, the pension becomes payable at the age of 55 years, and if more than five annual contributions have been made these are returnable before the age of retirement if the service be left for any reason, such as marriage. The policies are transferable with the nurse from one employment to another, so that there is no check on mobility.

Such an organization as this affords some proof that the nurses are not friendless, and since the management of the college is in their own hands they are not helpless. This, however, is scarcely the conclusion that emerges from the recently published report of the Labour party on "The nursing profession," which was submitted to last week's conference. The report is largely filled with data that can be and probably were extracted from well known documents. Of new information there is little. Indeed, in the opening paragraph we read: "On such incomplete data only the most tentative conclusions can be drawn, and no attempt has been made to paint an exact picture for the country as a whole." This is unfortunate, and it would appear to be due in some measure to the fault of those who drew up the document, for we understand that the College of Nursing (and its public health section), which is most likely to know about these things, was not represented at the meetings at which the report of the Labour party was drawn up. This report directs attention to inequalities of conditions of employment, but nowhere seems to appreciate that the root of the evil is inequality of training—a fact insisted upon by the college. The cure for all the ills of the nurses is, according to the Labour party, the formation of a trade union. Is this really so? It seems to be assumed as an axiom in the report. But we find in it no evidence of how the nurses would benefit by a change from their own college to a trade union, presumably affiliated with other bodies of unlike trades. It is said that one section of nurses are trade unionists: "Nurses in mental hospitals are strongly

organized, belonging largely to the National Asylum Workers' Union, an organization with 11,000 members, all of whom, however, are not nurses." Inquiries as to the actual number of nurses in this union failed, however, to secure the desired information. But there is a Professional Union of Trained Nurses with a membership of 460; that its membership is so small is perhaps explained by a naive confession in the report: "Unfortunately, owing to the tradition of the profession, the average nurse thinks of a trade union as a body of manual workers continually taking part in strikes." We scarcely think that the events of the past year will have done much to correct this impression. So far we have only noticed the chief professional organizations of the nurses. But there are other bodies. There is the Royal British Nursing Association, which is mainly social and provident in character. There is also a new British College of Nurses, lately formed with a large endowment given by an anonymous donor; but so far we have not heard of any action by this body.

The nurses would appear to have enough organizations. If these pursue their avowed aims—better education, better terms of service, and satisfactory pensions—the material conditions of the nurse, and therewith her status, will be advanced, so long as the individual nurses continue to display that devotion to the sick which is their hall-mark. We agree with the College of Nursing that education comes first. It certainly killed Sairey Gamp and gave birth to the new nurse.

SIR CLIFFORD ALLBUTT.

AMONG the problems of the day in which Sir Clifford Allbutt, as a general physician, took a lively interest was the nature, treatment, and control of tuberculosis. He began medicine at a time when a reasoned belief in the infectious nature of consumption rested mainly on the impressive but rather crude experiments of Villemin; he was still in middle life when Koch established the specificity of the bacillus. He observed the attempts to apply the specificity in therapeutics, and he watched the efforts to control it by public health methods and by sanatoriums. It was characteristic of the freshness of mind he retained in old age that his name is perhaps best known, in this connexion, for the practical interest he showed in one of the latest schemes. From its origin in the war-clouded year 1916, the tuberculosis colony at Papworth received his active support, and he presided over it through its early period of difficulty and its later growth in size and popularity. At first the needs of tuberculous ex-soldiers dominated the scheme, and the growing realization of the possibility of re-establishing in the tuberculous some degree of economic efficiency was a source of keen satisfaction to him, contrasting as it did with the hopelessness which inevitably attached to the disease in previous years. When the Sims Woodhead Memorial Institute of Research was opened at Papworth in 1924, something of the intense interest Sir Clifford Allbutt felt found utterance in his eloquent tribute to one who had shared with him the burden which attended the institution of the scheme. We publish elsewhere in this issue (p. 259) a letter signed by a number of distinguished friends of Sir Clifford Allbutt interested in the Papworth colony, announcing that it has been decided to erect to his memory two new cottages in the colony; he was president of the colony, and the form of the memorial would, we feel sure, have pleased him, since it will still further increase the benefits afforded by an undertaking which, during his later years, was very close to his heart.

THE PRESIDENT ON HOSPITALS.

IN the SUPPLEMENT this week we print in full the address on voluntary hospitals and their future which the President of the British Medical Association, Mr. R. G. Hogarth, delivered last Sunday at Nottingham. It was given to laymen, and to judge by the wide quotations therefrom that have appeared in the newspapers on the days following its delivery, the address most certainly caught the ear and the mind of his audience. It will be no less arresting to the medical reader. As a lecture it is an example of felicitous phrasing, abounding in touches of wit and humour and human sympathy, yet full of a wisdom that is born of wide knowledge of hospital affairs. The Nottingham Hospital Sunday Fund authorities did a shrewd thing when they invited Mr. Hogarth to address their supporters, and Mr. Hogarth rose to the occasion in a most happy manner. His words read well, and they must have been better still in the hearing, for our President, as all who attended the Annual Meeting of 1926 know, can speak as felicitously and plainly as he can write. The theme of the address is one that is near to the heart of very many of our countrymen, both professional and lay. After long years of noble service given by the voluntary hospitals throughout the country, it looked for a time in the past few years as though their day was done. Doughty champions of the voluntary hospitals seemed for the moment to lose heart, and some who had been giants in their day showed by their words that they were ready to throw up a work that had become too heavy for them, and turn the trusteeship of the heritage of these hospitals and of their future guidance over to the mercies of statutory bodies. For the moment they forgot that wisdom would not die with them, and that they were likely to have successors capable of emulating or surpassing the finest achievement of their earlier and more robust days. Happily the fears of the faint-hearted are being dispelled by events. The rebound from pessimism has been as emphatic as it well could be. The voluntary hospitals are re-established upon a broader basis than ever before—a basis that is the more secure since it is carried no longer solely upon the shoulders of sympathizers among the middle and comfortable classes, but now also on the broader backs of the more numerous and regular contributors who form for the most part the clientele of the hospitals. That these regular contributors are forthcoming, and in such volume, is sure evidence of the public appreciation of the work done and yet to be done by these hospitals. The new attitude is full of promise for the future. Certainly it brings its own particular problems—problems that affect our profession very nearly. But these have been foreseen by the members of the British Medical Association, and the mode of meeting them has been worked out in detail in the Hospital Policy of the Association. There is evidence that this policy is attracting increasing attention both by medical staffs and hospital boards, and by laymen generally, just because it indicates with some degree of accuracy the lines upon which development is taking place and satisfactory methods for attaining a fair and just balance as between all the parties concerned. We congratulate Mr. Hogarth on his address, and on the wide publicity it has received. We also hope that there will be many members of our Association who will follow his example and address themselves to similar audiences. Throughout the country there are numberless members of "Brotherhoods," meeting on Sunday afternoons, who are generally happy to hear a doctor speak to them on Hospital Sunday. Nothing but good can come of public enlightenment in this matter of the hospitals, and we feel sure that when the public does appreciate the facts of the case fears that the voluntary hospitals may be benumbed by the heavy hand of officialdom (a danger which Mr. Hogarth rightly refers to) will be dispelled; and the

place of the voluntary hospitals as hospitals for all—for the poor, for the workers, for the middle-class professional workers, and even for those in "comfortable circumstances"—will be assured in any new scheme of health organization that may come through the recasting or rejuvenation of our hoary-headed Poor Law system.

THE PHYSIQUE OF WOMEN IN INDUSTRY.

THE results of an inquiry, undertaken at the request of the Medical Research Council, into the physical condition of a large number of industrial women workers were detailed by Professor E. P. Cathcart, F.R.S., of Glasgow, in the Friday evening lecture at the Royal Institution on January 28th. Dr. Cathcart said that he and his colleagues had attempted to determine by physical measurement the size, weight, and strength of women in industry, what load or weight a woman could carry without physiological disturbance, and in practice what loads were actually carried by women in the factories. For the purpose of the inquiry just over 3,000 women employed in factories were selected, and, as a check on these, over 400 others who had worked in factories but had been out of employment for a long period. Another control group consisted of 500 healthy young women in training at the college for teachers in Glasgow. The strength of the great muscles of the back and legs was tested by a pulling-up movement; the grip was also determined, and the capacity for a crushing forward movement. The first of these tests, the lifting movement, was similar to a repeated movement carried out by many of the women in their ordinary employment; the grip also was an exercise they were constantly called upon to make, but the crushing test was somewhat singular in that it brought into play a large number of muscles which were not used in factory routine. The women examined were taken from all types of industrial occupation. The heaviest work noted was carried out in chemical works at Glasgow and brickworks in the Midlands, and scarcely less severe was the work of women in the bolt and nut trade, the trade in hollow ware, and certain industries of the Potteries. A great deal of the occupation of women, however, amounted to little more than machine-minding, which was not arduous in the demand it made upon the muscles, though, of course, it required skill, and, in the case of high-speed machinery, alertness of mind and marked quickness of fingers. Dr. Cathcart regarded the girls employed in the chemical works at Glasgow, all of them over 16 years of age, as the most perfect specimens of young womanhood in industry from the point of view of physique and grace of carriage. The astonishing thing was that these young women had been born and bred in the slum districts of Glasgow, and that the great majority of their mothers and grandmothers had done the same kind of work before them. As illustrating the strenuous nature of the work undertaken by these women, Dr. Cathcart said that he had watched one of them in the chemical works move from 20 to 25 tons of raw material in a day, lifting her shovel to a height of 2½ feet. In brickworks, again, the physique and carriage of the girls were excellent. Girls carrying bricks were allowed to select their own load, which, as a rule, was over 100 lb. at a time, and was carried a distance of from 70 to 80 yards. Women conveying bricks in barrows took normally loads of from 4 to 4½ cwt. Thus, on the whole, it seemed that the factories in which hard work was done were those in which the women engaged possessed the best physique and carriage. The figures given showed that about half the women engaged in industry were between the ages of 17 and 22. Towards the latter age large numbers of them left the factory on marriage, exchanging one servitude for another, perhaps a worse! The 3,000 women examined represented, of course, but a small proportion of the total number engaged in industry, and it had been suggested that the fact that the great majority of them were young women was due to the reluctance of older women to come forward for measurement. Dr. Cathcart admitted that that might be a factor, but he did not believe that it played any large part. The average weight of the women examined was found to be 109 lb., the average height 62 inches, and the average pull of the body upwards 183 lb., the grip 58 lb., and the crushing power 50 lb. The ages of the group of 400 women no longer employed in the factories ranged between 19 and 55; in average weight there was practically no difference between them and the employed women, though in other respects there was a certain inferiority. If weight were taken as a criterion of nourishment, then employed and unemployed were equally well nourished; but what most markedly differentiated the unemployed from the employed was the figure obtained when the "total strength" was divided by the weight. That raised the question whether these women who were no longer in the factory had become undernourished and out of practice for their work. Dr. Cathcart thought the fact was simply that many, not all, of these women were disengaged because when they applied for work they were found not to be of the type of physique the employer of labour wanted. There was no question of their getting out of practice, for they did hard housework, which was of a more strenuous nature than that entailed in the majority of industrial processes. The control group, consisting of girls in training as teachers, drawn from all parts of Scotland, and ranging in age from 18 to 22, were in height, weight, and strength markedly above both the other groups. It had to be asked why girls living relatively sheltered lives were so much stronger and physically so much more capable of effort than their industrial sisters. The girls in the Glasgow training college did not come from affluent families, but at college they lived on a large open estate, where the conditions were very good. On entrance they underwent a medical examination, so that they were really picked women, and during their training their physique was carefully looked after; they had physical training, and, of course, played the ordinary outdoor games. To what extent, then, did strength depend on muscular equipment? Dr. Cathcart was of opinion that it was really not a question of physical training so far as these college women were concerned. They were being mentally trained at the same time, and the consequent mental alertness they acquired played a very large part in their power of co-ordinating their muscles. This, possibly, was one of the factors which accounted for the very marked difference between them and the industrial groups. He suggested that a possible test of fitness for industry might be found in the number of pounds representing the total strength divided by the body weight. If the quotient was below 2.5 he would be inclined to say that the person was unfit for hard, active work in a factory. Altogether the inquiry, although of relatively small compass, has supplied information relating to women factory workers which has hitherto been sadly lacking.

ELIAS ASHMOLE.

MR. R. T. GUNTHER, the historian of Oxford science, continues his labour of love in editing *The Diary and Will of Elias Ashmole*,[1] the son of a Lichfield saddler, whose crowning achievement was not, as he probably would have said, his *History of the Order and Institution of the Garter*, but the founding of the first public museum of natural history in Britain. His diary was printed twice in 1717 and again in 1774; it now appears with his will, dated September 6th, 1686, some six years before his death at the age of 76, with some additional papers, interesting notes,

[1] *The Diary and Will of Elias Ashmole.* Edited and extended from the original manuscripts by R. T. Gunther. Old Ashmolean Reprints II, Oxford. 1927. (Fcap. 8vo, pp. 183; frontispiece and 2 plates. 7s. 6d.)

and a preface by the editor, which we could wish was longer. The Diary, entitled "The Life of Elias Ashmole, Esqr.; in the way of Diary; written by Himself," contains many medical details—for example, "I had the small-pox (yet but few) as also the swine-pox and the measles."; the entry "I took my usual sweat" often occurs, and is the last in the Diary. He was attended for a time by the famous Thomas Wharton the anatomist, but in 1673 notes that after the onset of left hemiplegia, and three days before his death, Wharton sent for him at midnight, "and because some differences had formerly fallen out between us, desired to be reconciled to me, which he was." In 1651, or twenty-two years earlier than this last meeting, he writes that after "a surfeit occasioned by drinking water after venison . . . Mr. Saunders the astrologian sent me a piece of bryony root to hold in my hand, and within a quarter of an hour my stomach was freed of that great oppression, which nothing which I took from Dr. Wharton could do before." For nearly two centuries the original Ashmolean Museum in Broad Street, a picture of which is finely reproduced in this volume, was one of the treasuries of Oxford, for it contained the collections of the Tradescants, where natural science and the history of science could be quietly studied; but the editor laments that in the scientific onrush of the last century these historic collections were dispersed, and during the first quarter of the present century the building, the finest and most venerable museum building in Britain, remained derelict. It is opportune, therefore, that now, when the old Ashmolean building has been reopened for the collection of scientific instruments, which the editor has so long and so successfully laboured to perfect, he should mark the occasion by presenting us with this interesting and intimate record of its founder.

PHYSIOLOGY OF THE CLIMATE AT HIGH ALTITUDES.

A FEW years ago Professor A. Loewy was appointed director of the new Swiss Research Institute at Davos for the study of physiology and of tuberculosis at high altitudes. He has just published a review[1] of the recent researches concerning the physiology of the climate at such altitudes. He records therein the results of the researches of his colleagues and himself during the short period they have been at Davos, in addition to results of researches from other parts of the world, such as are given in the reports of the Everest expeditions and of the expedition to Cerro de Pasco in the Andes undertaken by Professor J. Barcroft and his colleagues; reference is made also to the work of Professor J. S. Haldane and his co-workers. The review deals not only with the effects of low oxygen pressure in the air, but also with the effects of increased radiation from the sun at high altitudes, to electrical changes in the air, and to changes in atmospheric cooling power, attention being directed to the work of Professor Dorno at Davos and Dr. Leonard Hill in England. The physiological and pathological changes observed centre round those produced in the heart, the blood, the respiratory system, the liver, and in the skin. It is difficult to draw definite conclusions from many of the researches, because different subjects present quite different reactions. At present no published explanation of the processes underlying the effects of high altitude, nor of those concerned in acclimatization, can be accepted without considerable reserve. The important researches of Dr. Argyll Campbell, which are now appearing in the *Journal of Physiology*, are clearing up many controversial points. These researches show that oxygen want is the one essential cause of the symptoms of altitude sickness, and that acclimatization depends on the faculty of the body to keep up the supply of oxygen to the tissues, mainly by alterations in respiration and in the blood. He finds no evidence in favour of Dr. Haldane's theory of oxygen being secreted inwards by the pulmonary alveoli. Dr. Loewy is in favour of the theory that certain protein bodies are the substances responsible for the changes observed, and he points out that injections of protein substances produce chemical, physiological, and pathological effects resembling closely those observed at high altitudes. The review contains much of interest and importance to clinicians and pathologists as well as to physiologists and hygienists, who are more directly concerned.

[1] *Ergebnisse der Hygiene, Bakteriologie, Immunitätsforschung, und experimentellen Therapie*, Vol. VIII, p. 311. A separate print of the article is published with the title *Der Heutige Stand der Physiologie des Höhenklimas* by the firm of J. Springer, Berlin, price R.M. 3.60.

PARASITOLOGY.

PARASITOLOGY is one of the subjects which are fast leaving the care of their foster-mother, tropical medicine, and, a sturdy adolescent, is taking its proper place in the general medical world. This important advance was recognized in the rearrangement of the medical curriculum some few years ago, and one of the signs of the times is the completion of the fourth volume of the *Journal of Helminthology*, edited by Professor R. T. Leiper and published at the London School of Hygiene and Tropical Medicine, 23, Endsleigh Gardens, W.C.1, in quarterly parts (annual subscription 25s. net a volume, post free). Like the three previous volumes, the articles are in the main morphological—for morphology must be the basis of all the zoological sciences, just as it is in medicine. But there are many articles of more than passing medical significance, including a full examination of the serological methods for the diagnosis of hydatid disease, by Miss I. Hiles. In addition to a detailed survey of the literature of the complement fixation test, Miss Hiles describes a method by which "stock" antigen can be prepared from dried scolices and kept for some time in the laboratory for use on occasion. Hydatid disease is not very uncommon in Britain, and, as there is sometimes a difficulty in maintaining a supply of fresh animal material, it is a very desirable advance in technique to have an antigen always on hand for immediate diagnosis. Another article of considerable interest is by Professor Khalil of Egypt, who shows that the well clothed and well shod Egyptian policeman steadily, throughout a period of years, loses those parasites with which, when he joined the force, he was infested. This article affords good evidence of the value of clothing and discipline as measures of personal hygiene in parasite-infested countries. Other articles of direct medical interest are on *Physaloptera*—an ascaris-like worm common in man in East Africa—and on the adults of the genus *Echinococcus*, the larval forms of which are the hydatid cysts; while less directly medical, but having an importance of their own, are observations on related parasites in animals and plants, on their morphology, nomenclature, life histories, and distribution. Parasites are described from all parts of the globe and from most of the various groups of the animal kingdom—bald statements which may serve to indicate the catholic nature of the work which is appearing in the *Journal of Helminthology*.

HOSPITAL ALMONERS.

THE Joint University Council for Social Studies has issued a most valuable report on "Training for hospital social work." The chairman of this council is Mr. Frank Tillyard, professor of commercial law and dean of the Faculty of Commerce in the University of Birmingham, and a preface is written by Mr. A. M. Carr Saunders, Charles Booth professor of social science in the University of Liverpool. Until late in the nineteenth century no effort was made to check the abuses of the out-patient departments of hospitals, crowded as they were by an unselected

mass of patients. Nothing was done for them by way of after-care save what little the chaplain or matron could effect. King's College Hospital in 1876 appointed an inquiry officer with intent to keep out unsuitable patients and to refer them to their home doctors. St. Bartholomew's followed suit in 1883, and the London Hospital a year later. The first move in the right direction came from the late Sir Charles Loch, the secretary of the Charity Organization Society, which, though it is often condemned for hardness of heart, does most valuable work. The untouched field for constructive work seemed to him to be more important than the abuse and misuse of out-patient treatment. He wished to see the needy helped to carry out the treatment ordered, to prevent the abuse of a charity by those who could pay, and to be able to arrange for transfer to the Poor Law authorities where that was the most effective method of dealing with the patient. These three main heads still form the basis of the almoner's work, though its ramifications have become vastly more extensive. The first real hospital almoner was appointed by the Royal Free Hospital, where a secretary trained by the Charity Organization Society began work in 1895; for some time part of the almoner's salary was paid by the society. Most hospital almoners are women, and their talent for gentle but searching inquiry is often quite remarkable. Their first duty is to discover the patient's home conditions so that the hospital medical officer may know what he is dealing with, and then to see that the directions for treatment are carried out. They have to organize after-care for in-patients; to know all about State rights and State duties in every matter of health that can affect a patient; to discover what contribution should be made to the funds of the hospital and to get it; to check abuse by patients who can pay; to turn aside insured persons not requiring special hospital treatment and those who would be better served by statutory provision; and to administer Samaritan funds. Such an officer needs careful training, however much inborn aptitude there may be. There is now such a scheme, promoted in London and some provincial centres. Two years' training is necessary—four months' whole-time work in the office of an efficient charity organization society, nine months' college study in economics at a university college, and eleven months' practical work under the direction of an almoner at a hospital recognized as a training centre for almoners. The successful candidate cannot be accepted for independent work until the age of 22. One passage in the report, though not new in substance, seems worthy of quotation here, if only because it is written by laymen and endorsed by trained economists: "The service rendered by the medical staff to the patients who flock to hospitals is not, and cannot be expected to be, adequate to their needs. The individual patient at the hospital appears for the moment as an isolated social unit with some bodily ailment which needs correction, but the very thing which brings him there is upsetting the balance of his social environment and making fresh difficulties in an already difficult life. The doctor cannot attempt to deal with these added causes of friction. . . . We believe the time will come when no modern well equipped hospital for the treatment of any form of disability will be without its social service department, staffed by fully qualified almoners."

INFLUENZA.

In the week ending January 29th deaths from influenza in the great towns of England and Wales increased from 470 to 725, and in London from 197 to 252. The rate of increase in London is slackening considerably, and it is probable that the maximum of the epidemic there will soon be reached, if it has not already been reached. But elsewhere there has been no similar diminution of the rate of increase, so that we can hardly expect that the number of deaths recorded last week will not be exceeded.

CERTIFICATION OF THE FACT OF DEATH.

It was mentioned last week in Current Notes (SUPPLEMENT, p. 34) that the Registrar-General had issued instructions to registrars defining the procedure they should follow on receipt of a death certificate of a person who had not been seen by a doctor within fourteen days of death. We are indebted to the Registrar-General for the following additional information with regard to the regulation on this matter issued by him under date December 31st, 1926. It imposes the following requirement upon registrars of births and deaths.

"Where the contents of the medical certificate show that the deceased was not seen after death by the certifying practitioner, and was not seen alive by him within fourteen days of the date of death, the death should be reported to the coroner by the registrar."

To this new regulation the following instruction is appended:

"In the case of all medical certificates given on the new official form bearing serial numbers with the prefix 'Y' the certificate will clearly show whether the deceased was seen after death or not. In the case of a certificate given on the forms previously issued with the prefix 'X,' or any older form, the omission of the words 'as I am informed' from the blank in the relevant portion of the form is to be taken as meaning that the practitioner saw the deceased after death and is thus prepared to certify from his own knowledge that death took place. But if the registrar has any reason to suspect or believe that the omission was not deliberate, but was due to inadvertence, he should make inquiry of the practitioner in any case where the deceased was not seen alive within fourteen days of death."

We are also informed that the Secretary of State has recently called the attention of coroners to this regulation in a circular letter which contains the following observations:

"The regulation is based upon the view that responsibility ought not to be accepted by the registrar for registering the fact and cause of a death on the evidence of a certificate given in the circumstances indicated in the regulation unless he has previously given the coroner an opportunity, at any rate, of investigation or inquiry.

"When a certificate of death is referred to the coroner under the new regulation, two points may arise:

(*a*) what proof is there of the *fact* of death—that is, what proof is there that a *body* is lying within the coroner's jurisdiction?

(*b*) is the *cause* of death sufficiently established, or is investigation by the coroner required?"

The Registrar-General is of opinion that the first point can be cleared up in various ways, according to circumstances. In some cases the coroner may consider it desirable or necessary to ask the doctor why he has not seen the body, and to request him to see it in order that the doctor may amend his certificate in that respect. We are advised, however, that there is no statutory obligation on the doctor to comply. If it is impracticable for the original certifier to see the body, the coroner in parts of the country where the schedule made by the local authority enables payment for such a service may, in the Registrar-General's view, upon sufficient occasion, ask another practitioner to see the body and report to the coroner as to the fact of death, and, if necessary, also as to the cause of death. In many cases it may be found upon view by the coroner's officer, in the course of his inquiries, that the fact of death is painfully obvious.

As regards the second point, the necessity for investigation, it is for the coroner to decide whether the circumstances are such as to require investigation by him having regard to the duties imposed upon him by law. The mere reference of a certificate to the coroner by the registrar does not of itself set up an obligation to investigate. Such reference is only one of many means by which a coroner may have his attention drawn to a death and to the possibility that action by him may be necessary. It is open to a coroner to decide at once to inform the registrar that in his opinion no inquest is necessary, or to institute such inquiries and obtain such information as he may think requisite before deciding whether to inform the registrar as above or whether to hold an inquest.

THE NURSING PROFESSION.

CONFERENCE SUMMONED BY THE LABOUR PARTY.

A CONFERENCE of nursing and kindred organizations, summoned by the Labour party, was held at Caxton Hall, Westminster, *on January 28th to consider the general* question of better conditions for nurses. Delegates were present from about sixty organizations, including the General Nursing Council, the College of Nursing, the British Red Cross Society, the Professional Union of Trained Nurses, Queen Victoria's Jubilee Institute, and the Royal British Nurses' Association, also the nursing staffs of the principal London and some of the provincial hospitals. The British Medical Association was represented by Sir Jenner Verrall, Mr. H. S. Souttar, Dr. G. F. Buchan, and the Deputy Medical Secretary, Dr. G. C. *Anderson. The Society of Medical Officers of Health* and the Medical Women's Federation were also represented. The other organizations were philanthropic bodies concerned with social services and unions of hospital and other workers.

A draft report on the nursing profession was placed before the conference. It had been prepared by the Standing Joint Committee of Industrial Women's Organizations —embracing some twenty-seven different bodies—and the Labour Party's Advisory Committee on Public Health. In this document it was stated that the nursing profession was relatively worse off with regard to remuneration, hours, and general conditions of labour, despite the technical training which *nurses had undergone, than any* similar group of workers. Instances were quoted where nurses were required to work a 66-hour week on day duty and an 84-hour week on night duty, and the 12-hour night duty was described as being still an all too frequent occurrence. The report suggested that the training school organization should be separated from the organization of the hospital, and that a probationer should be looked upon as a student, not as a source of cheap labour for the hospital authorities. The greater part of such work as cleaning the wards should be given over to maids and orderlies, so that the probationer's time might be devoted to the study and practice of her profession. It was also recommended that the training school as an educational institution should receive grants from the educational authorities. A 48-hour standard week, with an 8-hour day, inclusive of lecture hours, was advocated, and it was stipulated that no *untrained nurse should have full* responsibility for a ward either day or night, that proper nurses' homes should be provided, that not less than one full day a week and one week-end a month should be allowed off duty, that the annual holiday should be not less than three weeks, and that the minimum salary during training should be £40 a year. The need of a trade union for nurses was also urged in the report, which described it as unfortunate that, owing to the tradition of the profession, the average nurse should regard a trade union as a body of manual workers continually taking part in strikes. The nurse did not realize that every profession had found organization necessary. Doctors and lawyers had formed their own professional associations, and civil servants and teachers had their trade unions. An organization of working nurses could speak effectively for the members of their calling, and with such a body in being it would be practicable to secure a national joint council representing on the one hand all the nursing services, and on the other the State, municipal, and other employers. Such a body would be able to work out a satisfactory superannuation scheme, to lay down maximum working hours and minimum standards of remuneration, and to deal with working conditions generally.

The Labour Party and Public Health.

The conference was opened by the Right Hon. J. RAMSAY MACDONALD, M.P., the leader of the Labour party. He expressed the view that the nursing profession was on the eve of revolutionary change. He begged the ladies before him not to be frightened by the word "revolutionary," which meant nothing bloody at all, but merely the ferment of ideas—the pot, so to speak, coming to the boil. He could remember perfectly well, when he was a happy patient in a large London hospital, discussing with the kindly lady who looked after his well-being this question of the nursing profession. She was most charming in her simplicity and directness. She thought of the nursing profession as something like a companionship of acolytes attending in the courts of a great temple. No doubt her idealism still remained, and he hoped it always would, but he doubted whether many nurses would express their ideas of their function in quite that form to-day. Changing conditions, economic and other, had to be faced. He dwelt upon the great necessity of improving the nurse's status, avowing himself a tremendous believer in status. "I would work for sixpence an hour if I felt that my status was good rather than for half a crown an hour, at the same job, if I felt that I was regarded merely as a hewer of wood and a drawer of water." They were apt to lose sight of the fact, said Mr. MacDonald, that while pay must, of course, be sufficient to meet the requirements of life, it was not possible by payment in pounds, shillings, and pence to draw forth the best effort of men and women. The true coinage was dignity, respect, and an admission to a common fellowship. The Labour party, he added, was not concerned only with factories and workshops; it took cognizance of all forms of social service, was just as much interested in the medical and nursing professions as in coal mining, and the public service of health was one of the essential things included in its conspectus. He said also that the Labour party did not forget to pay its homage to the past; it looked behind as well as before, had gratitude as well as hope, and was sensible of the roots as well as of the uprising growth.

Dr. SOMERVILLE HASTINGS, who opened the discussion, said that it might be asked why the Labour party, uninvited by any large or representative body of nurses, had thought fit to interest itself in the nursing profession. The experience of history showed, however, that if they waited until those in need of advice or help asked for it they might have to wait for a very long time. There were many indications that all was not well with the nursing profession. The report of the Select Committee on the General Nursing Council, published in 1925, stated that complaints were made by several witnesses of the difficulty of recruitment of nurses generally, not only in regard to the number but also the quality of the applicants. It was impossible for any party that concerned itself with matters of public health to fail to appreciate the importance to the country of an adequate supply of properly trained and efficient nurses. The two points to which they had specially addressed themselves were the need for efficient preliminary education and the dangers of exploitation of the nurses during and after training. A high standard of preliminary education was recommended because nursing must always be a highly skilled profession. The Select Committee just mentioned drew attention to the fact that many probationers had no education beyond the elementary stages, and cited this as a possible cause of the high percentage of failures to pass the State examination. That things were not much better in the United States was shown by the statement of the dean of the Yale School of Nursing, that out of a total enrolment of 15,898 nursing students, only 115 were college graduates, while 66 had had a partial college education. Those who had prepared the present report had also been impressed by the necessity for sufficient time being allowed for rest and study during training. The period of training for the nurse was often accompanied by considerable mental as well as physical strain.

Mr. G. P. BLIZARD, secretary of the Labour Party's Advisory Committee on Public Health, said that the present conference on nursing rounded off and completed the Labour party's survey of the health services of the community. That survey had started with the preventive and curative medical services, this had been followed by an inquiry two years ago into the hospital situation, and this again by the present survey of nursing. Having completed this survey of the health services of the community,

it was intended to proceed to consider the "consumer's" side of the question, and to deal during the next year or two with the health of the people from the cradle—or before the cradle, because it would embrace pre-natal services—to the grave. The Labour party had been much flattered on starting its first survey to find that the Government had set up a Consultative Council at the Ministry of Health, presided over by Lord Dawson of Penn, which followed very closely a large number of the recommendations of their (the Labour party's) original report. It was promised that special committees of inquiry should be formed to consider the nursing and midwifery services of the country, but on writing to the Ministry of Health a fortnight ago to ask if those promises had been implemented, he was informed that neither of these committees had been brought into being. Mr. Blizard estimated the number of nurses at 50,000, and mentioned that only 3,000 or 4,000 had any provision with regard to pensions.

Nurses and Trade Unionism.

The most lively, if not the most fruitful, discussion related to the question of a trade union for nurses. Mr. E. B. TURNER, F.R.C.S. (Central Council for Nursing in London), speaking as one whose professional experience of nurses went back to the days when Sairey Gamp was scarcely cold in her grave, said that as an individualist there were some things in the report with which he could not agree. He would regret to see nurses organized in a trade union if this involved doing everything that trade unions did at the present time. He would rather see them in some organization on the lines of the British Medical Association, which was not, and by its Articles could not be, a trade union, and yet exercised the very greatest influence and power. In that way nurses could make full use of collective bargaining. Mr. Turner's statement that the British Medical Association was not a trade union was received with loud ironical laughter by the trade union section of the conference.

Miss COX-DAVIES (College of Nursing) said that the recommendation in the report that the nurses should organize as the medical and legal professions had done had been already followed. True, the College of Nursing had not organized itself on trade union lines, because it did not think those lines best suited to the nursing profession. There was a nurses' trade union, the Professional Union of Trained Nurses, which, she believed, had a membership of about 400. But the College of Nursing had already secured great advantages for the profession. Mrs. BEDFORD FENWICK (British College of Nurses) said that what the profession needed was self-government and self-determination. She criticized the General Nursing Council as a very futile body, largely constituted of those who were not in sympathy with the rank and file of the profession.

Mrs. SIDNEY WEBB, who gave an interesting sketch of the powerful corporation of midwives (women) which flourished in the sixteenth and seventeenth centuries, made some of her audience restive by her criticism of one sentence in the Labour report—namely, "The only way in which nurses can deal effectively with their conditions and exercise any sort of equality in bargaining power is for the profession to be organized on trade union lines." She suggested that the word "vocational" be substituted for "trade union"; it was quite as definite a term, and she thought that nurses might well have regard to the example of the British Medical Association and the National Union of Teachers and study their reasons for dispensing with the term "trade union." Mr. Turner's challenge was taken up by Mr. GEORGE GIBSON (National Asylum Workers' Union), who commented upon the "careful distinction between the functions of the British Medical Association and the unconstitutional activities of the plebeian trade unions." When medical men, said Mr. Gibson, reached a point at which they could prevent one another from applying for a post when the salary was unsatisfactory, they had not much to learn from trade unionists. There did not seem to him to be much distinction between the withdrawal of labour because the salary was insufficient and the non-commencement of labour for a similar reason. It was not necessary for a trade union to have a strike clause; any body of persons organized on a purely vocational basis was a trade union. Mr. Gibson also made the suggestion that when the next valuation of approved societies took place some of the surplus, which would still remain in spite of the "raids," should be allocated to the provision of a panel nursing service. The nursing profession, he said, had suffered from too much patronage, even though the people who had patronized it had done so with the best intentions.

Sir JENNER VERRALL (British Medical Association) said that no one, certainly no medical man, would deny that the conditions in the nursing service were capable of improvement, but he thought that nurses should consider carefully the character of the organization they set up for bringing about improvement. After all, the success of the nursing profession would depend a good deal on how far they could persuade the medical profession, which was one of their big "consumers," that nursing efficiency was promoted, and not merely the advantages of the nurse. It was a question whether a trade union organization would assist them in that respect. Mrs. PAUL (Professional Union of Trained Nurses) said that Sir Jenner Verrall seemed to infer that the type of nurse would depend upon the character of her professional organization; it depended much more on the school where she got her training.

The discussion closed with an appeal from Dr. Marion PHILLIPS, chief woman organizer of the Labour party, and Mr. S. P. VIANT, M.P., that the various nursing organizations should follow the plan already adopted in other ranks of industry, and consent to a process of elimination, so that there might be one strong and representative body.

Conditions in the Nursing Profession.

No resolutions were taken in the course of the conference, but it was stated that all the suggestions would be carefully considered by the conveners. Lord COZENS-HARDY (National Association of Insurance Committees) confessed to disappointment at the report because it did not direct attention to the broad question of the adequacy of the nursing service, but concerned itself with the terms and conditions of employment. He also objected to a recommendation that district nursing would be better run by local authorities. Dr. A. SALTER, M.P., said that district nursing as at present organized, devoted as the nurses were, was inadequate to meet the situation in the poorer districts. Degrading methods had to be resorted to to obtain the necessary funds, such as grotesque street processions and gambles. District nursing ought to be transferred from voluntary organization to the support and control of the public authorities, and thereby a public recognition of collective responsibility for the sick would be secured. He commented upon the lack of massage services in or near the homes of the people. Mr. F. HUGHES (National Union of Clerks) said that the inadequacy of the present nursing service was largely due to bad conditions, and the position would be much worse if a number of women did not feel a definite vocation for nursing, for which they were prepared to make sacrifices; and Dr. A. H. BYGOTT declared that the inadequacy of the nursing service was so completely taken for granted by the compilers that they left it out of the report.

In the course of further discussion Miss COWLIN (General Nursing Council) asked how many so-called training schools for nurses had a separate appropriation in the hospital budget. Miss M. E. SPARSHOTT (matron, Manchester Royal Infirmary) considered that 21 was the minimum age for nurses in a general hospital. At 18 a girl might be employed in the smaller or special hospitals, but for a general hospital, where accident cases of a bad kind were continually coming in, she was immature under 21. Miss Sparshott rather deprecated the 48-hour week, which made it appear as if the nurse's duty could be, so to speak, shut off. A 56-hour week worked out better. Patients objected to a too frequent change of nurse. As to salaries, it must be borne in mind that during the probationary period the girl was receiving professional training; fathers must learn to help their daughters in their professional education as well as their sons. She demurred to the suggestion that there was no effective organization in the nursing profession. After all, it was

an organized body of nurses who got State registration through. Dr. VERE PEARSON said that now that registration had secured a certain minimum standard, it should be possible to bring about more grading above that standard, so that all nurses were not forced into one mould.

Miss A. SAYLE (*Women Sanitary Inspectors and Health Visitors' Association*) spoke on public health and preventive services, and mentioned that among 1,074 health visitors a recent inquiry discovered that there were twenty-two different kinds of certificates and qualifications, and that these were held in eighty-eight different combinations. She also mentioned that 300 local authorities gave ninety-one minimum salaries, varying from £120 to £244, the average, including London, being £172, and excluding London £166. Dr. STELLA CHURCHILL looked forward to the day when the health visitor would be a fully trained nurse and midwife, so that the family instead of the individual might be considered the unit, and working-class homes would be spared the embarrassment of having several different people call to look after the health of members of the same family.

In closing the proceedings, Dr. SOMERVILLE HASTINGS expressed the hope that after this faithful dealing the profession of nursing would be better able to work out its own salvation.

OBSTRUCTION OF ULTRA-VIOLET RADIATION BY AIR IMPURITIES.

HE report of the Advisory Committee of the Meteorogical Office on Atmospheric Pollution for the year ending larch, 1926, includes an attempt to correlate the obstruction of ultra-violet radiation as measured by the acetone lue method with the quantity of suspended impurity in he air. For this purpose the intensities of ultra-violet adiation from the sun as measured at Kingsway (London) nd Greenwich have been compared with the suspended mpurity as measured at Westminster.

To eliminate the effect of cloud as far as possible a selecion was first made of all days during which the sky was ot more than one-quarter covered with cloud. During hese days the average amount of suspended impurity as neasured by the Owen automatic recorder, between sunise and sunset, was plotted with the ultra-violet radiation eceived. As there is no means of getting wholly rid of the ffect of cloud, the close relation brought out, while quite vident, cannot be expected to follow any definite law. The records taken by the acetone blue method in various moky towns and clean places show that the former do not eceive a third of the ultra-violet radiation which reaches he latter.

Dr. Leonard Hill informs us that these records have now been made for over two years by the Department of Applied Physiology of the National Institute for Medical Research, with the help of voluntary observers in various smoky and clean places. The acetone blue solution, the use of which was first suggested by Mr. A. Webster, absorbs ultra-violet rays of shorter wave-length than about 3,300 Angström units, and are thus, Dr. Hill states, very suitable for measuring the biologically active ultra-violet rays of the sun and sky shine. The cutting out of these rays is, in his opinion, one of the worst results of smoke pollution, leading as it does to ill health, both by want of direct action of the rays on the skin, and by indirect action through impoverishment of green food, and so of milk and butter. The antirachitic vitamin is produced by ultra-violet radiation.

Dr. Owen's ingenious automatic filter and jet and dust-counters have advanced the study of smoke pollution very greatly. Relations between dust content of the atmosphere and wind, and between dustiness and visibility, have been established. The product of the number of dust particles per cubic centimetre, the relative humidity, and the visibility in miles have been found to be constant. At Paris it had been found that six miles from the fortifications there is a loss of 21 per cent. of light when the wind blows from the city. Dr. Owen has shown that smoke drifts for miles, and reaches places far from the smoky cities.

One of the most interesting of his observations is on the relation between hygroscopic salts in the air and haze. Owing to deliquescence fog may result at humidities much below the saturation point. Sea fogs are thus produced by the salt sprayed into the air. The salt does not travel far from the sea under any conditions, for owing to the rise of relative humidity at night and the consequent deliquescence of the salt the particles fall down through increase in weight. The breathing of traces of sea salt is probably an important part of the beneficial action of sea air. The salt particles may excite exudations of lymph in the pulmonary alveoli and thus have a cleansing action. Traces of iodine may be secured by breathing sea air as well as by swallowing salt water when bathing. Rain and snow are great cleansers, and in winter afford relief to the pollution of the atmosphere that goes on in cities.

Dr. Hill adds that during a recent visit to the Institute of Professor Storm van Leeuwen at Leyden he found the city air being cleaned by means of refrigeration; after warming it suitably it is passed through dust-free sleeping chambers. Many cases of asthma and chronic bronchitis are greatly relieved by occupying these chambers by night and are thus enabled to pursue their business occupations by day. Evidence has been obtained at Leyden that these patients are sensitive to certain constituents of the dust in the air, such as moulds, and that irritation of the respiratory membrane starts therefrom. He is inclined to believe that even cases of pulmonary tuberculosis may start from such sensitivity and be relieved in the first stage by a dust-free atmosphere. The Alps, Dr. Hill points out, afford both dust-free air and abundance of light. The purification of the air, he concludes, is far the most important problem of hygiene of to-day. Through this, and by education of people in the matter of a properly balanced diet and adequate ventilation and exercise, we may hope to reduce catarrhal infections.

Nova et Vetera.

A MEMORABLE OBSTETRIC TRAGEDY.

THE recent sale of objects from Claremont House, Esher, may make it opportune to recall the tragedy which occurred there in 1817—the death, immediately after her confinement, of the Princess Charlotte of Wales, only child of the Prince Regent and wife of Prince Leopold of Saxe-Coburg, afterwards King of the Belgians. The affair aroused a torrent of criticism at the time and has provoked comment on several occasions since. What seems to be an authoritative account of the incident was published in the *London Medical Repository* of December, 1817. The same narrative, with some changes, was published separately, as an "authentic statement," with additional observations by A. T. Thomson. As the birth of an heir to the throne of England might have been the result, it is not surprising that much curiosity was awakened when it became known that the Princess Charlotte was pregnant. Contrary to the wishes of the Court that she should be confined at Kensington Palace, the Princess decided to stay at Claremont, whither she had recently gone to reside with her husband. She had selected as her attendant Sir Richard Croft, at that time the fashionable accoucheur in London, a baronet by right of succession, not created as the reward of professional merit. It does not appear that Croft had obtained any medical degree or diploma—there was no *Medical Register in those days—but there is little doubt* that he was adequately trained according to the standards of his day, and that his recognized skill, combined with his somewhat uncommon social position, had placed him in the forefront of his branch of practice. With Croft, at the Princess's own wish, was associated Dr. Matthew Baillie, one of the leading physicians in London and, incidentally, Croft's brother-in-law. Croft resided at Claremont for three weeks before the onset of labour.

The Princess had been bled frequently as an essential part of the ante-natal routine of that time, but was in excellent spirits when labour commenced at 7 p.m. on Monday, November 3rd. From the first the pains were very weak and ineffective: the membranes ruptured early,

and this, as usual, did not help matters. At the end of twenty-six hours, progress still being very slow, Croft began to feel anxious, and sent for Dr. John Sims, another specialist in midwifery of high standing. Sims arrived at Claremont at 2 a.m. on November 5th, but did not see the patient at once, as both he and Baillie thought that his appearance might unduly alarm her. After a consultation with Croft he advised against any interference with the natural process of labour.

At *noon* the attendants first began to suspect that the baby might be dead, but still they decided against using forceps. The Princess was finally delivered of a stillborn male child at 9 p.m. It was almost immediately recognized that there was an hour-glass contraction of the uterus, and at 9.30 p.m., after a small haemorrhage had occurred, manual separation and extraction of the placenta was performed without difficulty and with practically no further loss. At this stage all of the attendants were satisfied with the patient's condition, so that at 11 p.m. Baillie went to bed, Sims lay down still fully dressed, while Croft remained on watch in the Princess's bedroom. Shortly after midnight the patient began to get very restless and vomited, though the pulse remained firm and under a hundred. At half-past twelve her respirations became embarrassed, and in spite of the three doctors' urgent efforts with every kind of cordial, she died at 2.30 a.m., five and a half hours after delivery.

The death was announced in an Extraordinary Issue of the *London Gazette* the same day, and, if contemporary records are to be trusted, caused consternation throughout the length and breadth of the realm. Even thus early it can be conjectured that slanderous tongues were busy against the medical attendants, for a *post-mortem* examination was ordered by the King. This took place on November 7th, the body being opened by Sir Everard Home, assisted by Sir David Dundas, Mr. Brande, and the apothecary of Prince Leopold's household. The report which was published in the *Repository* claims to be "a pretty accurate statement of the appearances these gentlemen observed." It was as follows:

"The membranes of the brain presented their natural aspect. The vessels of the pia mater were less distended with blood than was to be expected after so severe a labour. The ventricles of the brain contained very little fluid. The plexus choroides was of a pale colour, and the substance of the brain had its natural texture. The pericardium contained two ounces of red-coloured fluid. The heart itself and the lungs were in a natural state. The stomach contained nearly three pints of liquid. The colon was distended with air. The kidneys and other abdominal viscera were in a natural state. The uterus contained a *considerable* quantity of blood, and extended as high up in the abdomen as the navel; and the hour-glass contraction was still very apparent."

Baillie afterwards stated that the amount of coagulated blood found in the uterus was about one pint.

The examiners reported to the Sovereign that no blame could attach to the doctors in charge of the case and that everything possible had been done in the way of treatment.

The editors of the *Repository* expressed considerable uncertainty as to the exact cause of death, and we presume that contemporary professional opinion was correspondingly vague. It has been held by some, in the light of later knowledge, that pulmonary embolism must have occurred, a condition not recognized at that time or till many years later, but there is no direct evidence of this, whereas there is no doubt that a concealed post-partum haemorrhage took place, and this, occurring in an already exhausted patient, may be accepted as quite sufficient to account for the death.

In spite of the public vindication of Sir Richard Croft's care and skill—and let us remember in this connexion that we of the present day have no right to be severe in our judgement of the treatment adopted one hundred and nine years ago—a campaign of vilification was continued against him, and must have adversely affected his practice. This, added to the natural concern of a man of sensitive disposition at being the victim of such unfortunate circumstances, so preyed upon his mind that he shot himself at Miss Cotton's Nursing Home in Wimpole Street on February 13th, 1818, while awaiting the delivery of the wife of the Head of a College, whom he had been summoned to attend.

THE LISTER CENTENARY IN LONDON.

A COMMITTEE consisting of representatives of the Royal Society, the Royal Colleges of Physicians and Surgeons, the Royal Society of Medicine, the British Medical Association, the universities and other institutions interested, has been formed to organize a celebration in London of the centenary of the birth of Lord Lister, which falls on April 5th next. Representatives of learned societies, universities, and medical bodies in Great Britain, and delegates from the Dominions and principal foreign countries, will be present. The delegates will be received by H.M. the King at Buckingham Palace on Monday, April 4th. The programme so far arranged is as follows:

April 5th.

Reception and short addresses by some of the delegates in the Great Hall of the British Medical Association.
Conversazione at the Royal College of Surgeons of England.
Dinner given by the Merchant Taylors Company, of which Lord Lister was a member.

April 6th.

Memorial Service in Westminster Abbey: Address by the Bishop of Birmingham.
Discourses in the Robert Barnes Hall of the Royal Society of Medicine on Lister as Physiologist, Pathologist, and Surgeon, by Sir Charles Sherrington, Professor W. Bulloch, and Sir Berkeley Moynihan.
Conversazione at the rooms of the Royal Society.

The Executive Committee is constituted as follows:

Sir JOHN ROSE BRADFORD (President, Royal College of Physicians), *Chairman*.
Sir JAMES BERRY (President, Royal Society of Medicine).
Sir JOHN BLAND-SUTTON, Bt. (lately President, Royal College of Surgeons).
Professor WILLIAM BULLOCH, London Hospital.
Sir WATSON CHEYNE, Bt.
Dr. H. H. DALE (a Secretary of the Royal Society).
Mr. R. G. HOGARTH (President, British Medical Association).
Sir BERKELEY MOYNIHAN, Bt. (President, Royal College of Surgeons).
Sir HUMPHRY ROLLESTON, Bt. (lately President, Royal College of Physicians).
Sir ERNEST RUTHERFORD (President of the Royal Society).
Sir CHARLES SHERRINGTON (lately President of the Royal Society).
Sir HAROLD STILES (lately President, Royal College of Surgeons, Edinburgh).
Sir STCLAIR THOMSON (lately President, Royal Society of Medicine).
Mr. W. TROTTER, University College Hospital.
Mr. LOGAN TURNER (President, Royal College of Surgeons, Edinburgh).
Professor A. YOUNG (representing the University of Glasgow).

England and Wales.

THE LATE DR. STRANGEWAYS.

A MEMORIAL service for the late T. S. P. Strangeways, M.A.(Hon.), M.R.C.S., Huddersfield Lecturer in special pathology and director of the Cambridge Research Hospital, who died on December 23rd last, was held in the Chapel of St. John's College, of which he was a member, on the afternoon of Tuesday, January 25th. The anthem, Tennyson's "Crossing the Bar," and Faber's hymn, "Hark! Hark, my Soul!" were sung by the College choir, and the Master of St. John's (Sir Robert Scott) was present and read the lesson. An obituary notice of Dr. Strangeways was published on January 8th (p. 82), and a meeting has been held this week in London at the Royal Society of Medicine to inaugurate a Strangeways Memorial Fund, the main purpose of which, as stated in our last issue at page 206, is to complete the education of his sons.

BERRINGTON HOSPITAL, SHROPSHIRE.

The former workhouse of the Atcham Board of Guardians, which has been remodelled and equipped as a hospital, was opened by Lady Berwick on January 27th. The building was originally erected in 1792, and during the war was converted into a military hospital unit with about 500 beds. The cost of the new fittings has been met by the payment made by the War Office in respect of dilapidations. The wards have been enlarged, and there is at present accom-

modation for 140 beds, with provision for an increase up to 300 if required. A new electric light plant has been installed, and apparatus for radiant heat treatment. A spacious and well equipped operating theatre has been constructed, and nurses' quarters and an administrative block have been secured by the conversion of some old rooms. Beds are available for private as well as for Poor Law patients, and the suggestion has been made that in the future a maternity home may be established in the building.

DR. JAMIESON HURRY AND READING.

Dr. Jamieson Hurry has added another to his numerous gifts to Reading by providing a valuable collection of specimens illustrating economic botany, which have now been arranged in a special room at the Reading museum. Many of the plants were cultivated by Dr. Hurry in his garden, and he also obtained examples of foreign species. The collection was housed in his private residence until he removed to Bournemouth last year, after having spent forty years in Reading. A descriptive catalogue of the exhibits has been prepared, and this new museum of economic botany will provide facilities for giving instruction in the ways in which plants minister to human welfare. In opening the museum on January 25th, Dr. Hurry described how the collection had grown during the last twenty years, his purpose being to arrange for illustrations of the growing plants and the commercial products derived from them to be exhibited side by side for study. He hoped that in the future it might be possible to establish a small educational garden and conservatory to complete the scheme. Dr. Hurry's previous gifts to Reading include ten historical pictures dealing principally with Reading Abbey.

CORONERS' INQUESTS IN THE CITY OF LONDON AND SOUTHWARK.

During 1926 the total number of coroners' inquests in Dr. Waldo's districts of the City of London, Southwark, and Holloway Prison amounted to 519, necropsies being performed in all but 16. The inquiries included 25 cases of suicide, 158 of accidental death, and 94 of death due to natural causes; of the suicides 15 were men and 10 women. The cost of the inquests in the City was £463 and in Southwark £435. The number of fatalities caused by vehicular traffic was greater than in any previous year. In order to prevent traffic accidents Dr. Waldo secured the adoption by the Southwark Borough Council and police force in 1921 of fixed road crossings, and the idea has since been partly put into practice in Westminster. The number of deaths due to, or accelerated by, the administration of anaesthetics also rose, and Dr. Waldo repeats his recommendation that further research should be undertaken. The Coroners (Amendment) Act, 1926, which received the Royal assent at the end of the last session of Parliament, entitles medical practitioners attached to hospitals and other institutions to receive the increased statutory fee for making necropsies, and giving evidence in coroners' courts, on and after May 1st. Dr. Waldo for many years has strenuously advocated this reform.

Scotland.

INFLUENZA IN SCOTLAND.

THE Scottish Board of Health has addressed to the medical officers of health of the sixteen principal towns of Scotland and to county medical officers of health a communication asking for returns in regard to influenza. Information is desired respecting the clinical character of the disease, if present, and the general measures taken to cope with it, particularly those of international interest. Information is asked from school medical officers as to the number of children absent from school on account of influenza, from hospitals as to the number of cases admitted, and from clinics, health visitors, and general practitioners as to the number of cases being treated, as well as from factories as to the number of absentees from work on this account. The type of case encountered so far in Scotland has been generally mild, and both the catarrhal and non-catarrhal varieties have occurred.

GIFFORD LECTURES IN GLASGOW.

Dr. J. S. Haldane, LL.D., F.R.S., has begun the delivery, in the University of Glasgow, of a course of ten Gifford Lectures on "The sciences and philosophy." He began by comparing the general principles forced upon us in the isolated subjects of the physical sciences and biology. In physics and chemistry reality as it appeared in inorganic phenomena was studied. The biological sciences, on the other hand, dealt with distinctive phenomena presented by living organisms, such as conscious activity. Regarding life from a strictly physical standpoint, it had to be admitted that living structure was only an appearance like that of a flowing stream, and we were obliged to assume that the flow was one of molecules, atoms, and electrons into various combinations with one another and producing a constant flow and transformation of energy. We lived at present in an age of popular credulity as great as that of the Middle Ages, but of all the forms of popular credulity, the lecturer said that he knew none more gross than the widely spread popular belief that in the physical and chemical structure of the living organism lay the explanation of its specific behaviour. With the advance of knowledge, however, it had become increasingly apparent that those who held a purely physico-chemical conception of visible nature must have recourse to a theory of constant supernatural intervention to help out the defects of their physico-chemical theory of life. Any theory implying so-called supernatural intervention was repugnant to science, since it implied the giving up of the attempt to discover consistency and order in nature. The lecturer also proposed to maintain in later lectures that any such theory was inconsistent with religion. Descartes, the lecturer said, had in the seventeenth century attempted to reach forward towards a complete mechanistic or physico-chemical conception of the phenomena of life, and had endeavoured to show that the living body itself was produced from its material elements by mechanical processes. The weakest feature in the Cartesian physiology had been embryology. Even if this had been based upon any definite observations it could have given no account of the original formation of such an organ as the heart. It had been generally supposed that on the publication in 1859 of Darwin's *Origin of Species* a mechanistic explanation of the origin of structure had been discovered. In the lecturer's view, however, the fact of evolution took them no nearer to the answer to the question, however strongly they might be convinced that evolution was a natural process. Darwin had made a final end of the science or theology which treated creation as an act by which a vast amount of structural machinery was at one stroke brought into being and then left to act. He did not, however, put in its place any mechanical theory of how an organism maintained and transmitted its specific structure from generation to generation. The real assumption behind the mechanistic physiology of the last century was that the whole visible world of nature could be interpreted as a physico-chemical system in the sense of Newton's interpretation of the inorganic world. The essential question for the biologist was whether this assumption would fit the data of his observations. Various facts had been brought to light by the writings and experiments of Claude Bernard, for example, in connexion with the physiology of respiration, which might be regarded as nothing but a mechanical process—but there was no real prospect of a complete systematic treatment of biology on these lines as a part of physics and chemistry. The structure of animals was reproduced from generation to generation, and of this reproduction the mechanistic theory could give no account. The widest stretch of imagination could not conceive of structural machinery which went on reproducing itself indefinitely, and the more complicated the structure and chemistry discovered in an organism the more hopeless did the mechanistic explanation become. It was often said that scientific physiology was progressively revealing the mechanism of life, but what in reality it was revealing was the detail of co-ordinated activity. Descartes's formulation

of a mechanistic theory of life had led immediately to the pronouncement of a vitalistic theory by Stahl, who maintained that bodily processes were guided, both consciously and unconsciously, by the soul, the presence of this guidance distinguishing living from non-living bodies. Vitalism had almost disappeared during the development of the mechanistic movement in the middle of the last century. The real strength of vitalism now, as in the seventeenth century, was that it recognized the co-ordination which could be traced in the activities of all living organisms. Actual experience showed that there was no end to the further light which experimental investigation might throw on physiological phenomena. Vitalism was thus an unsatisfactory hypothesis from the standpoint of scientific advance. Accordingly, the mechanistic conception of life was still reckoned orthodox by many physiologists and biologists.

PROPOSED DAIRY INSTITUTE AT ABERDEEN.

At a luncheon given recently by the governing body of the Rowett Research Institute at Aberdeen, Sir John Gilmour, Secretary of State for Scotland, recalled the generosity of the late Dr. J. Q. Rowett, who had shown great interest in scientific research on agricultural problems. One of the great needs of the present time was a dairy research institute in Scotland. More than 50 per cent. of the milk and milk products used were imported, and in certain months of the year the home farmer had great difficulty in disposing of his surplus milk. Sir John Gilmour expressed the hope that the new research institute which it was proposed to establish in the south-west of Scotland under the auspices of the University of Glasgow and the West of Scotland Agricultural College would receive whole-hearted support, and that it would become a great national scientific institution, capable of dealing with both agricultural and medical problems regarding the consumption of milk and milk products. In a presidential address delivered last week to the Scottish Metropolitan Division of the National Veterinary Medical Association of Great Britain and Ireland, Professor R. G. Linton recommended the establishment of a central laboratory wherein bacteriology and chemical testing of graded milks could be carried out instead of by the local authorities. He advocated also State financial aid under easy terms of repayment to farmers wishing to create herds free from tuberculosis, but who were prevented from doing so owing to the lack of sufficient capital to meet the initial expense of reconstructing their herds.

ORTHOPAEDICS.

The question of co-operative action for the prevention and treatment of crippling was under consideration at a meeting held lately in the City Chambers, Glasgow. Dr. A. S. M. Macgregor, medical officer of health for Glasgow, occupied the chair, and among those present were Professor Leonard Findlay of the University of Glasgow; Mr. A. MacLennan, university lecturer on surgery and orthopaedics at the Royal Hospital for Sick Children; Dr. G. H. Stevenson of the orthopaedic clinic; Dr. E. T. Roberts, medical officer to the Glasgow education authority; and representative medical officers of health and medical practitioners from the West of Scotland. Mr. MacLennan explained that at present no scheme existed for co-ordinating the orthopaedic clinic of the Royal Hospital for Sick Children with medical practitioners, local authorities, and local education authorities, and that lack of continuity thence resulted alike in observation and treatment, so that many cases which left the clinic with good prospects either lost the ground which they had gained or ceased to progress. Those present at the meeting were unanimous in the view that co-operation was required. A subcommittee was appointed to obtain all necessary information and to draft the lines of a scheme.

RECENT GIFTS TO EDINBURGH ROYAL INFIRMARY.

At a meeting of managers of the Edinburgh Royal Infirmary on January 24th it was intimated that the late Mr. John Cowan, W.S., had left to the Infirmary £40,000 on the expiry of a life rent, for the purpose of endowing a ward in memory of his father, the late Lord Cowan. The important intimation was also made that a half share of the residue of this estate had been left for the purpose of equipping or assisting to equip a ward or hospital for paying patients. The amount of this bequest is not yet ascertained, nor is it known whether it will be sufficient to carry out what is by many regarded as a most eminently desirable addition to the Royal Infirmary of Edinburgh, which at present cannot make any provision for a patient who desires to pay for his maintenance and treatment. The late Mr. Edward Clark, of the firm of Messrs. R. and R. Clark, printers, recently bequeathed to the Royal Infirmary a sum of £10,000, and a sum of £1,000 to the Royal Hospital for Sick Children, Edinburgh.

Ireland.

TYRONE DIVISION.

THE inaugural meeting of the Tyrone Division of the British Medical Association was held in Omagh on January 26th. Notwithstanding that there was a storm with heavy rain the attendance of members was very large, and many of them came from the remotest part of the county and at much personal inconvenience. Dr. Edward Thompson, D.L., was elected with acclamation chairman of the Division. This was only a fitting tribute to Dr. Thomson, who has been for over fifty years a strenuous fighter for the rights of medical practitioners. He is one of the best known and most popular medical men throughout Ireland, and in the pre-boundary days was a regular attendant at medical meetings in Dublin, where his presence was always sought for and welcomed. It will be a source of much pleasure to medical men in every part of Ireland to learn that Dr. Thompson has recently resumed his practice quite restored to his former health. Dr. William Lyle (Newtownstewart) was elected vice-chairman. Dr. Lyle has also been a well known figure in medical politics, and whenever strong action had to be taken he was always a vigorous and trustworthy leader. Dr. Bradley (Fintona) was elected secretary and treasurer, and Dr. Lynch (Omagh) assistant secretary. A representative executive committee was also elected. The Irish Medical Secretary, in response to a special invitation, was present and received a very warm reception. It was much regretted that Dr. H. P. Malcolm, Honorary Secretary of the Ulster Branch, found himself at the last moment unable to attend the meeting. The members of the Division, with the Irish Medical Secretary, on the conclusion of the business of the meeting, lunched together at the Royal Arms Hotel.

PREVENTION OF SMALL-POX.

A circular letter has been addressed by the Department of Local Government and Public Health to all local health authorities in the Irish Free State pointing out that the epidemic of small-pox prevalent in England now threatens to assume a more serious character and to develop into the older type, involving grave illness and mortality. Memories still remain of the terrible visitations of 1871 and 1878; the complications which then occurred were truly protean in character—for example, multiple abscesses; gangrene; sloughing of the eyelids; inflammatory conditions of the eyes, ears, and nose, often resulting in loss of sight and partial or complete deafness; swelling of the tongue and throat, leading to difficult swallowing, embarrassed breathing and ultimate death; inflammation of the various internal organs; acute mania; paralysis; blood poisoning; joint and bone disease. The infection of small-pox might be conveyed by patients through the medium of other persons or by articles of clothing, to which it clings. It was of vital importance that the essential precautions should be adopted to render the population generally immune from the scourge. An outbreak would prove a very serious menace to the prosperity of the food and export trade, on which the financial success of the country so largely depended. It would likewise affect the tourist traffic adversely in the coming season. Vaccination or revaccination constituted the only safeguard against attack

for persons exposed to the infection of small-pox. The Minister, therefore, requested the local authority to take all necessary steps without delay to compel the defaulters to comply with the law, and to bring to the notice of all those desiring revaccination that facilities for this purpose are at their disposal gratuitously. The immunity of the country had been largely due to the vigilant care of the sanitary authorities, more especially at the ports, and to the earnest co-operation of the medical profession. It would be most unfortunate if the country's favourable position in this matter were imperilled because of apathy or wrong-headedness.

Correspondence.

CLIFFORD ALLBUTT MEMORIAL AT PAPWORTH.

SIR,—A small committee of the friends and admirers of the late Professor Sir Clifford Allbutt has decided to erect to his memory at Papworth two cottages, with which his name will be permanently associated, for men disabled by tuberculosis. The men will be chosen from among those who could not, under ordinary conditions, support themselves and their families.

Sir Clifford as President of Papworth Colony from the beginning was always deeply interested in the work there, and it is felt that there could be for him no more fitting memorial.

A certain amount of money has already been promised, and we shall be very grateful if those who would like their names added to this memorial to a great man will kindly send donations, however small, to Mrs. Marcus Dimsdale, Papworth Hall, Cambridge.

It is hoped that the cottages will be opened some time during the summer by H.R.H. the Prince of Wales, and that as many subscribers as possible will endeavour to be present.—We are, etc.,

FREDERICK MILNER.	ROBERT JONES.
HUMPHRY ROLLESTON.	P. HORTON-SMITH HARTLEY.
ARCHIBALD E. GARROD.	HUGH K. ANDERSON.
J. K. FOWLER.	H. J. GAUVAIN.

January 29th.

THE MENTAL DEFICIENCY BILL OF 1926.

SIR,—I shall be obliged if you will allow me space to reply to Sir Bryan Donkin's letter on this subject which appears in your issue of January 22nd (p. 162).

With regard to the definition of mental deficiency, I am sure that no one realizes more than does Sir Bryan the difficulty of drafting a satisfactory definition of mental defect; for he was a distinguished member of the very important Royal Commission which was responsible for the definitions of the Act of 1913, and, in spite of all the ability and knowledge brought to bear upon the subject, he admits, what is indeed common knowledge, that these definitions have occasioned considerable difficulty in administration and that their revision is necessary.

The purpose of a definition is, of course, to define the class to whom it is intended to apply and to exclude those to whom it is not intended to apply. The problem which first confronts us is, therefore, Who are the mentally defective? Speaking literally, both lunacy and dementia may be termed states of mental defect, but for many years this latter term has been used in a much more specific sense, and mental defect is now restricted to a state of incomplete mental development of such degree that the individual is incapable of managing himself or his affairs, or is in need of some degree of care, supervision, and control. It is now generally recognized that mind attains a degree of development which is adequate for the maintenance of independent existence by about the age of 18 years. It follows that interference with development before this age will produce varying degrees of mental inadequacy or defect, but that after this age it will not do so. Such interference may be of two kinds: (1) there may be an inherent defect of developmental potentiality or "urge"; and, dependent upon the degree of this, mental development will come to an end at various stages of incompleteness; (2) development may be brought to a standstill by the operation of some external agency—for example, injury or disease of the brain.

The difficulty which has been experienced in the administration of the Act is due to the failure of the existing definitions to make these points clear. Although the words "from birth or from an early age" were intended to differentiate the incompletely developed mind from the mind which, subsequent to adequate development, is *in process* of disorder or decay, they have often been interpreted so narrowly as to exclude persons undoubtedly defective, but in whom the defect did not manifest itself within the first few years of life. In actual practice, also, they have often been interpreted as meaning that the defect must be due to inherent causes, and hence many magistrates have refused to recognize an arrest of development brought about by injury or disease (especially if occurring after the first decade) as coming within the terms of the definition.

The problem is to devise a form of words which will include every case of defective development of mind, however produced, which is of such a degree as to necessitate care, supervision, and control—and which will exclude any other forms of mental abnormality. After careful consideration I am of the opinion that the definition contained in the bill now withdrawn does this. It says that mental defectiveness "means a condition of arrested or incomplete development of mind," and that this may be either "innate or induced after birth by disease, injury, or other cause." Sir Bryan Donkin considers this definition too vague and too comprehensive, but he suggests a form of words which is far more so, and which not only fails to include any reference to the operation of external causes, but which would include all cases arising up to the attainment of complete adolescence. If the vague term "complete adolescence" has any definite limit at all, I believe this is generally considered to be somewhere *between the twenty-first and the twenty-fifth years.*

Sir Bryan Donkin strongly objects to the words "or other cause," apparently on the grounds that the "cases of those with arrested development are indicated apart from those affected by 'other causes'." This is a complete misconception. The bill says clearly "arrested development . . . induced by disease, injury, or other cause," and does not deal with any cases other than those of incomplete or arrested mental development. Personally, I think the words "other cause" not perhaps necessary, since it seems to me likely that in practice all cases would be comprehended by the words "injury or disease." But Sir Bryan himself states that "sound scientific research is revealing more and more clearly the dependence of mental disorders generally on discoverable physical causes, and thus the practical knowledge of such causes must increase"; this would seem to afford some justification for the use of the words "or other cause."

In spite of the fact that the definition suggested by Sir Bryan Donkin would certainly include adults, he is nevertheless very anxious that this should not be done, and he appears to be greatly concerned because he thinks the definition in the bill does so. I have already explained why, in my opinion, this definition does not apply to any mental change arising after maturity, so that it seems necessary to attempt to discover the reason for Sir Bryan's definite statement to the contrary. He bases it upon the following words in Clause 5 (*b*):

> "If the place in which he is being so detained under the order of the court is not a prison or such a place of detention as aforesaid he shall be removed therefrom to a prison, or, if he is child or young person, to a place of detention."

Now this is really rather extraordinary of Sir Bryan, for the words relied upon have obviously no reference whatever to the age when the defect arose, but refer to the age of the person at the time he is being dealt with, which is a totally different thing. Since mental deficiency does not necessarily entail death at the age of maturity, there will clearly be many adults requiring to be dealt with; but by the definition of the bill this can only be done if the defect was produced before adult age was reached.

Sir Bryan Donkin expresses the hope that the term "moral imbecile" might be replaced by a more suitable

one, or perchance be abolished. Although I think that every moral imbecile is certifiable as feeble-minded, nevertheless in actual practice there are difficulties in doing this, so that the retention of this class serves a useful purpose. I entirely agree with Sir Bryan that the name might be altered with advantage, but if he will again study the bill he will see that this was one of its proposals.

I regret to have written at such length, but since there is no doubt, as Sir Bryan states, that such opposition to the bill as has been expressed is mainly inspired by imperfect knowledge of facts, it seemed necessary to attempt to explain the real position. I cannot see any single proposal in the bill which would not make alike for the increased protection of mental defectives and the community; and its withdrawal has caused great regret to all those whose work gives them a practical knowledge of the operation and imperfections of the original Act.—I am, etc.,

London, W.1, Jan. 29th. A. F. TREDGOLD.

MIGRAINE.

SIR,—Having been abroad for the last three months I have only just read the interesting discussion on migraine at the joint meeting of the Sections of Neurology and Psychology and of Ophthalmology of the Annual Meeting (JOURNAL, October 30th, 1926, p. 765).

What strikes me as strange is that the two chief characteristics of the headache—its periodicity and its one-sidedness—did not receive that amount of attention which might have been expected. Sufferers from migraine know very well in what respect that headache differs from the various bilateral headaches—for instance, "browache."

From a prolonged study of hemicrania, I should say that it possessed the following characteristics: it is periodic in that it has a more or less regular rhythm; it is one-sided; it sets in early in life (certainly as early as the tenth year); it becomes less severe after middle life, the intervals of immunity becoming longer; and it usually disappears after the fiftieth year of life. Further, it is almost always associated with nausea and vomiting, the latter often giving immediate relief. The headache is preceded by general chilliness, by fits of yawning, and by polyuria, and is accompanied by flushing and throbbing of the side of the head affected. The pain itself may be excruciating, and of a kind which patients describe as that of a wedge being forced into the head at the back of the eye.

I venture to say that some of these features find no explanation in the speeches of those who took part in the discussion opened by Professor Bramwell. I can, for instance, find no serious attempt to throw light on the periodicity, the chief characteristic of typical or "idiopathic" hemicrania. For the rhythmic nature of the headache is very striking. Dr. Harry Campbell called attention to this many years ago, and in 1902, in the *Edinburgh Medical Journal*, I published a paper dealing exclusively with the periodicity of hemicrania. Most sufferers know exactly when the headache is due—on the same day of the week, once a month, once every six weeks, or once every three months, as the case may be. I submit that until we have explained the periodicity of hemicrania we have not got at its real nature.

For the sake of having something definite to go upon, I venture to suggest the following explanation. Let it be granted that a toxaemia is the underlying condition (of which personally I have not the slightest doubt), and that the liver is the great organ of detoxication. The liver is constantly destroying poisons more or less perfectly in different persons; in some it detoxicates so perfectly that the poison never accumulates, and they therefore never have headache. In certain less fortunate persons the liver traps the poison less perfectly, so that some is always escaping over into the circulation. When the toxin accumulates beyond a certain concentration in the blood the syndrome of hemicrania is established. The exact period of this toxic saturation may be one of seven days, or fourteen or thirty or forty-two, giving the weekly, fortnightly, monthly, or six-weekly headache, as the case may be. In other words, the rhythm of the headache is dependent upon a pre-existing rhythm in the detoxicating capabilities of the liver.

The next thing that needs explanation is the one-sidedness of the headache.

Professor Bramwell does, indeed, ask, "Why should it be so often unilateral?" but no answer is forthcoming. Explanations based on disturbances of mesial organs such as the pituitary seem to me unlikely to be helpful. This periodic headache is typically unilateral, and we have to explain why this is so.

I confess I have no explanations which may withstand the united criticisms of the anatomist, the physiologist, and the pathologist, but I believe (in the sense of "believing where we cannot prove") that there is a factor of referred pain in hemicrania. At the risk of unmasking the combined batteries alluded to, I shall state my view: assuming that the headache is right-sided, the afferent fibres in the branches of the right gastric vagus convey their violent irritation to the Bulb, where occurs the transference to those branches of the ophthalmic and superior maxillary nerves that innervate the orbit and side of the head. I regard the gastro-intestinal catarrh and toxaemia as the source of this irritation of the afferent vagal fibres. Just as in headache of ocular origin, the pain is referred from the eye to the forehead, and in headache of dental origin from the teeth, so in hemicrania there is pain referred from the gastro-intestinal mucosa to certain cephalic nerves.

A point of minor interest has, it seems, not been recorded—namely, a remarkable exaltation of the sense of smell. Many victims of hemicrania are aware of an unpleasantly acute sense of smell; there is a wholly abnormal exaltation of this sense. Odours ordinarily only slightly disagreeable become intolerable before the attack; the smell of cooking, frying, hot grease, etc., amounts to an olfactory purgatory and accentuates the nausea.

I am glad to see that the most recently considered causal factor—the psychic—was not forgotten in the discussion, but I infer that it did not impress the meeting with the same importance with which Dr. Crookshank has invested it.[1] I should be the last person to minimize the power of mind over matter; but I confess I have a great difficulty in understanding how an unpleasant mental state can bring about a physical condition consisting of the following syndrome: a periodic headache with a rhythm of its own and with its pain accurately localized, preceded by very definite sensory, gastric, cardio-vascular, and urinary disturbances, and consisting essentially in a unilateral dilatation of cephalic vessels. Emotional blushing is always bilateral. It is difficult to see how the supposed psychic cause accounts for either the rhythm or for the one-sidedness.

Finally, no reference seems to have been made to the social position of sufferers from migraine. So far as I can gather, they belong to the more highly educated members of society. Just as the coal-heaver does not seem to suffer from acute gout, so neither, it would seem, does he from hemicrania. We have but to remember that Haller, du Bois Raymond, George Eliot, and Sir James Simpson, to name no others, were all victims of typical one-sided headache in order to have to admit that hemicrania shares with gout the distinction of being an affliction of the aristocracy of intellect.—I am, etc.,

Dane Hill, Sussex, Jan. 18th. D. FRASER-HARRIS.

MIGRAINE AND ACETONURIA.

SIR,—May I point out to Dr. Allison (BRITISH MEDICAL JOURNAL, January 22nd, p. 165) that because glucose has a beneficial effect in cases of migraine where there is hypoglycaemia it does not follow that the sugar deficiency is the cause of the symptoms? The analytical data of such cases and the results of animal experiments point to the hypoglycaemia, acetonuria, and nervous symptoms all having a common origin in an hereditary or acquired hepatic deficiency, and it is owing to the fact that the administration of glucose enables the defective liver cells to carry

[1] *Migraine*, F. G. Crookshank, M.D., Psyche Miniatures, Kegan Paul, 1926.

out their functions more efficiently that such treatment is beneficial. Levulose and other sugars have not the same effect, and when given in large doses increase the hepatic disturbance, thus possibly accounting for Dr. Allison's experience when he took saccharose in the form of "sugar, treacle, and jams to excess." During the war, when glucose was difficult to obtain, I made many experiments to find an efficient substitute, as patients who had been doing well on regular doses of dextrose found they relapsed when cane sugar was tried instead. The most satisfactory proved to be thoroughly dextrinized starch, particularly in the form of oatmeal which had been gently boiled for six to seven hours.

Although an abnormally low blood sugar is generally met with in patients suffering from migraine, such a finding is not invariable, and dextrose is not a specific for all cases; when, however, examination of the blood and excreta reveals hypoglycaemia along with evidence of hepatic inefficiency, its effect in suitable doses is striking.—I am, etc.,

London, W.1, Jan. 22nd. P. J. CAMMIDGE.

THE DANGEROUS JUNKER.

SIR,—Another death due to the use of, it is to be presumed, a valveless Junker's inhaler is recorded. Let me appeal to the staffs and boards of all hospitals to have every valveless Junker's inhaler destroyed at once, or sooner or later they will regret it.

I have heard of many similar deaths from a mistake in assembling this apparatus when valveless. With a proper valve it is impossible for this error to take place. Properly used, and tested before using, Junker's apparatus is quite safe, but it is not fool-proof. I destroyed all the valveless Junkers at the hospital I was connected with many years ago, and since then there has been no risk of error.

The risk is eliminated by pumping through several times, pointing the tube to the floor, but when in a hurry this precaution is unfortunately too often omitted.

With hundreds of young qualified men giving anaesthetics every year a percentage will trust to the apparatus having been properly fitted up without testing it.

I have been watching this matter for years, and if this letter results in hospitals forbidding the use of a valveless Junker's inhaler I shall feel that I have assisted in saving many lives in the future. I sincerely hope this letter will produce a united effort to do away with this quite unnecessary risk. It will not appeal to the experienced anaesthetist, but let him think of the more numerous less experienced men giving anaesthetics.—I am, etc.,

Bournemouth, Jan. 26th. W. J. FOSTER, F.R.C.S.

*** The death referred to by Mr. Foster is, we assume, that of an apprentice artificer in the Royal Artillery, aged 16, which occurred in the Royal Herbert Hospital, Woolwich, and was the subject of an inquest by the coroner for South-East London. Captain E. H. W. Elkington, R.A.M.C., anaesthetist, said that the operation was for enlarged tonsils, and that for the first tonsil anaesthesia was produced by chloroform and ether given by the open method; for the second a Junker's apparatus was used, through a nostril. Owing to an error in the assembling of the apparatus by a corporal entrusted with that duty, instead of chloroform vapour liquid chloroform was injected. The patient showed signs of collapse, and although he revived he died twenty hours later from acute oedema of the lungs. A verdict of accidental death was recorded. The coroner drew attention to the need for extreme care in assembling the apparatus.

SMALL-POX AND VACCINATION.

SIR,—Dr. Killick Millard's letter in your issue of January 22nd (p. 163) contains a brief quotation from Dr. Barry's report on the Sheffield outbreak of small-pox in 1887-88 which, I think, would lead any reader not familiar with the whole of that document to infer that Dr. Barry had considered that vaccination as a measure of prevention against small-pox had been a failure. Dr. Millard is a personal friend of mine, and will, I am sure, acquit me of any intention to impute to him any deliberate misrepresentation or attempt to mislead his readers; but I feel it my duty to point out that Dr. Barry's report is one of the strongest arguments in favour of vaccination which has ever been published.

The actual figures quoted by Dr. Millard are substantially correct. At that date the population of Sheffield was estimated to be 316,288. The number of vaccinated persons was 270,055, or 97.9 per cent. of the whole; the number unvaccinated was 5,823, or 2.1 per cent.

This figure for "vaccinated persons" includes people at all ages who had been vaccinated in infancy. It follows, of course, that the great majority of these, although officially "vaccinated," were actually unprotected by vaccination. Even so, the actual figures for incidence and mortality in vaccinated and unvaccinated persons are as follows:

Vaccinated persons attacked, 4,191, or 1.5 per cent.
Unvaccinated persons attacked, 553, or 9.5 per cent.
Deaths in vaccinated persons, 203, or 0.07 per cent.
Deaths in unvaccinated persons, 275, or 4.73 per cent.

The case mortality in vaccinated persons was 4.8 per cent. and in unvaccinated persons 49.7 per cent.

The last two figures do not appear in Dr. Barry's report, but have been extracted from his figures in this office. Dr. Barry, however, gives the following figures (p. xvi):

"Of children under 10 years of age, the attack rate was—
of the vaccinated 5,
of the unvaccinated 101.
The death rate of the vaccinated was 0.09.
The death rate of the unvaccinated was 44.00."

Dr. Barry adds:

"Let me state this difference in other terms: for 100,000 vaccinated children the rate of small-pox mortality actually observed in Sheffield gives 9 deaths. For 100,000 unvaccinated children, the rate of small-pox mortality actually observed gives 4,400 deaths."

The following figures may also be quoted from p. xvii:

"Per thousand of the number of persons over 10 in each class—

The attack rate in persons twice vaccinated was ...	3
The attack rate in persons once vaccinated was ...	19
The attack rate in persons not vaccinated was ...	94
The death rate among persons twice vaccinated was	0.08
The death rate among persons once vaccinated was	1.00
The death rate among persons not vaccinated was ...	51.00"

Dr. Barry also says:

"The twice vaccinated persons over 10 years of age as compared with the unvaccinated persons of the same age living in the town, had a 31-fold immunity against attack by small-pox and had a 640-fold security against death by small-pox."

If space permitted, such quotations could be multiplied *ad libitum*; but these are, I think, sufficient to prove what were the actual facts of the outbreak in Sheffield, and what were the views of Dr. Barry, who studied the epidemic, endorsed by Dr. Buchanan, who drafted and signed the introduction to the report from which the above quotations have been excerpted.

Sheffield is again in the throes of an epidemic of small-pox, in a form which is certainly reverting from the very mild type with which we have recently been familiar to a form quite indistinguishable from "old-fashioned small-pox," with a grave and, I fear, disfiguring eruption, and in many cases with severe constitutional disturbance. The city has for many years maintained special houses for the isolation of contacts, and, of course, adequate provision has been made for the isolation and treatment of cases. I think I may claim that Sheffield has fully carried out those "modern methods of fighting the disease" which Dr. Millard states have taken the place of infant vaccination and have proved so successful. In Sheffield these measures have now failed, and we are faced with an outbreak of which no one can predict the limits.

Visiting these cases daily for purposes of diagnosis, and noting the absolute precision with which the disease singles out the unvaccinated members of the community, it is, to me, disheartening to find so eminent and so highly esteemed a colleague as Dr. Killick Millard publishing statements which will certainly be misinterpreted and misused by persons who are imbued with that curious passion called "antivaccination," a passion which I know is not shared by Dr. Millard. I use the word "passion" deliberately, with a perfectly clear recollection of Dugald Stuart's definition of "appetites, passions, and desires" in his wise but now out-of-date book on *Moral Philosophy*.

The psychology of the antivaccinist has not been

sufficiently studied. His attitude is not based on reasoning, and he, or she, cannot be convinced or converted by reason or by any amount of facts or statistics. The attitude of the antivaccinist is definitely a "passion." It is a revolt against what appears to him to be an imposition of authority, and the medical profession has failed, where in past days the Church has succeeded, in imposing a faith that it believes to be for the good of the community, largely because it has attempted to appeal to reason and not to superstition, an older and more powerful element in the mental equipment of the average man.

I have only to add that, as regards policy, Dr. Millard and I are quite in accord. He agrees that in emergencies such as that with which I am at present faced, vaccination and revaccination are essential weapons against the disease. I agree that our present system of nominal compulsion with unlimited "exemption" is chaotic and idiotic. I should like to see it abandoned, and power given by Parliament to the Minister of Health to declare any area in which small-pox exists to be "an infected area," and to make regulations dealing with such areas which should include compulsory vaccination and revaccination of the whole population in such specified areas.—I am, etc.,

FRED. E. WYNNE,
Medical Officer of Health, Sheffield, and Professor of Public Health, Sheffield University.

January 25th.

SIR,—Dr. A. F. Cameron suggests that my opinions about vaccination have apparently undergone considerable change. I can assure him that there has been no change. My faith in vaccination remains just as strong as ever—my faith in much of the current teaching about vaccination remains still rather weak.

Dr. Cameron inquires (though I rather doubt if he is really seeking enlightenment) as to my exact meaning when I say: "Under these circumstances vaccination proved quite incapable of preventing widespread and fatal epidemics." Do I mean by "vaccination," he asks, "compulsory infant vaccination"? Certainly I do. My whole letter was dealing expressly with the question of compulsory vaccination, and infant vaccination is the only form that has ever been compulsory in this country. I had hoped that the context made my meaning quite clear.

There is, however, one small correction in my letter which I should like to make. I said that in Leicester there had been no death from small-pox for twenty-one years. Actually the last death occurred in 1904, so that it should have been twenty-two years. I had forgotten that we had entered upon another year.—I am, etc.,

Health Offices, Leicester, Jan. 29th C. KILLICK MILLARD.

GOOD AND BAD DIETS.

SIR,—I can confirm all Dr. Clarke's contentions (November 13th, 1926, p. 906) regarding the practicability of giving infants meat, fruit, and other foods much earlier than is the custom. The wide physiological capabilities of the young human digestive system are not sufficiently appreciated.

May I draw attention to two important truths regarding the food of the nursling and weaned child?

1. The human palate and digestive system are extraordinarily adaptable. If the process be begun early enough they can be educated to like and to digest with varying degrees of efficiency foods chosen from an almost infinite range. This wide adaptability would appear to apply to all omnivorous mammals—rat, pig, anthropoid, man. Consider how readily the large anthropoid takes to refined, civilized human diet. Hence the supreme importance of educating the human palate and digestive system from an early age to like and to digest efficiently such foods as experience has shown are most conducive to health. Here I may point out a disadvantage attaching to sweet foods—namely, that they tend to spoil the child's appetite for healthy unsweetened foods. This matter of educating the child's palate is of the utmost importance. On no account must we pamper the child's appetite: our aim must be to create a healthy appetite for healthy food.

2. We are all too apt to belittle the masticatory capabilities of the nursling after the seventh month and of the weaned child. Even when the infant is cutting its first teeth it should be allowed certain hard foods to bite at. I know of children who soon after the twelfth month have been capable of demolishing with avidity hard dry crusts which many a British adult would shy at for fear of damaging his teeth.

Much the most important reform needed in our diet pertains to the softness of the vegetable portion of it. I say deliberately that it would be difficult to exaggerate the importance of lessening the quantity of pappy, pultaceous, and spongy farinaceous foods we give our children, and of supplying them with an adequate share of vegetable food which compels efficient mastication, thus allowing the jaws, nasal passages, and salivary glands to develop as nature intended them, and the teeth to take up their proper positions in the gums without jamming. It is nothing less than a national duty to bring this elementary truth home to the rising generation of medical men. One of the dangers of the superscientific age in which we live is that it is apt to prevent us from seeing the wood for the trees.—I am, etc.,

London, W.1, Jan. 28th. HARRY CAMPBELL.

SPINAL ANAESTHESIA FOR OPERATIONS ON HERNIA.

SIR,—I have read with great interest Mr. Geoffrey Keynes's admirable address on "The modern treatment of hernia," published in the BRITISH MEDICAL JOURNAL of January 29th (p. 173). While entirely agreeing with him that a general anaesthetic should be avoided wherever possible, I would submit that spinal analgesia offers certain very definite advantages over the local anaesthesia that he employs. I have for some time past conducted all hernia operations under spinal analgesia, and have been much impressed by the convenience and facility of this method. Even umbilical herniae can be readily dealt with in this manner, the lumbar puncture being performed between the third and fourth lumbar vertebrae in the usual way.

In support of my contention, I would adduce the following principal advantages of spinal over local anaesthesia:

1. Greater simplicity—in that a single injection suffices to anaesthetize the whole field of operation. A great saving of time is thus effected, especially where "living sutures" of fascia lata are employed, for the cutting of these necessitates a second series of injections in the case of a local anaesthetic.

2. More complete relaxation—and thus an abolition of the respiratory movements of the abdomen, and an entire avoidance of "blowing out" of the intestines as may happen with a local anaesthetic.

3. Anaesthesia is probably of greater duration by spinal administration. In support of this I would cite a case of mine in which living sutures were used to repair a very large scrotal hernia with adherent sac; the operation lasted two and a quarter hours, and the anaesthesia was still perfect at the end of that time.

I may add that it is my custom to give a pre-operative injection of hyoscine and morphine; after this, the patient frequently sleeps throughout the operation.—I am, etc.,

London, Jan. 30th. H. A. H. HARRIS, F.R.C.S.Ed.

THE HISTORY OF DIPHTHERIA.

SIR,—In his address upon changes in types of diseases, reported in the JOURNAL of January 15th (p. 87), Sir Humphry Rolleston mentions that diphtheria appears to have been first described by Bretonneau of Tours in 1821. I have a little book entitled *Cases and Practical Remarks in Surgery*, by Benjamin Gooch of Norfolk, 1758. Gooch was the inventor of the splinting which bears his name. He describes "a species of tumor called by the Common People 'The Mumps,'" which was epidemic in Norfolk in 1740, after the hard winter of 1739, and which Gooch says he had never seen or heard of before and which was rife all the summer ("cold, dry, and unfruitful"), lasting until the autumn of 1741; he then says that, after the disappearance of this disease, the malignant sore throat first appeared. He states that this had been "accurately described by three very learned physicians." The outbreak occurred in the country about ten miles from Norwich and lasted more than ten years, but "raged and was most mortal" in 1745-46.

From his observations there appeared to be an analogy between this disease and that among horned cattle, which, he says, had been present for over forty years. He adds that Bonetus, taking notice of such a disease in the throat, says that it was preceded by a plague among cattle, "the pathognomonic of which also appeared in the throat."

It is perhaps of interest that the outbreak mentioned by Gooch occurred more than twenty years before the date of Francis Home's essay mentioned by Fleet Surgeon Home in your issue of January 22nd.—I am, etc.,

Wallasey, Jan. 26th. SEYMOUR W. DAVIES.

LAW AND TRADITION OF MEDICAL PRACTICE.

SIR,—While reluctant to continue a controversy in the atmosphere of narrow professionalism to which your last comments have reduced it, we feel bound to ask you to publish a brief and final reply.

We have been astonished at your comments, because there is nothing in our book which is not sanctioned by the best and the latest authorities. If your comments are correct, all the textbooks in the leading medical and law libraries are more unreliable than we supposed. This is surprising in view of the commendation of existing works contained in your review.

We cannot, of course, ask for sufficient space to answer your criticism in detail, but are prepared privately to produce our authority for any statement made in our book. At present we content ourselves with pointing out that it is no answer to say of an objectionable practice—for example, employment of unqualified dispensers—that thousands of medical men do this. It is nevertheless true to say that the practice is contrary to the best traditions of the profession and the "spirit of the law." Nor need one be a philosopher, or even a lawyer, to understand that spirit, which was correctly appreciated in a resolution regarding a similar point passed by the General Council on December 2nd, 1901, as being a motive to avoid any practice "fraught with danger to the public."—We are, etc.,

WILLIAM SANDERSON,
Lincoln's Inn, Jan. 29th. E. B. A. RAYNER.

*** We print Messrs. Sanderson and Rayner's letter, although it contains no attempt to justify the inaccuracies for which we have shown the writers to be responsible. The "best and the latest authorities" for what the General Medical Council has said or has not said are the official "Notices" issued by the Council, and not unnamed writers, whether ancient or modern. To take the single point selected by Messrs. Sanderson and Rayner, they have affirmed that the General Medical Council has condemned the employment as dispensers of persons technically "unqualified." In rebuttal we have alleged that the Council has recorded no such decision, and Messrs. Sanderson and Rayner allow the case to go by default. To say that such a practice is "objectionable," with the implication that it is "fraught with danger to the public," is another and a different proposition. Plainly this is a matter of opinion, and on such a point Messrs. Sanderson and Rayner's view may or may not be of some importance. The attempted substitution of a new proposition for one that has been successfully challenged is a familiar device of the distressed debater, and when practised by lawyers may perhaps be regarded in non-legal circles as an exercise in "narrow professionalism." The fact remains that the original statement by Messrs. Sanderson and Rayner was incorrect, and that they have not found sufficient grace to admit their error. And what is true in this particular instance is true also of the other inaccuracies to which we have drawn attention.

CANCER AND TRAUMA.

SIR,—In reply to Sir Lenthal Cheatle (January 29th, p. 216), may I state that for some months I have been collecting cases of cancer arising in wounds received during the late war, and so far have obtained three undoubted cases? Probably many more could be found, and I should be glad to obtain particulars of them. They are of interest as throwing light upon the length of the period of cancer induction in man.

The subject of cancer arising in scars other than those due to burns is discussed in the *Cancer Review*, 1926, 1, pp. 108 and 183 (abstract 169 of a paper by Bang, and abstract 327 of one by Iwamoto); and 1927, 2, p. 55 (abstracts 102 and 103 of papers by Tow and Itoh and by Dubreuilh and Maginel respectively). Since the latent period seems to be from twelve to forty years, it is still perhaps somewhat early to expect many cases of malignant disease arising from wounds received in the last war.—I am, etc.,

London, S.W.3, Jan. 31st. H. J. B. FRY.

Obituary.

T. R. BRADSHAW, M.D., F.R.C.P.,

Consulting Physician to the Royal Infirmary, Liverpool.

THE medical profession in Liverpool mourns, in the death of Dr. T. R. Bradshaw, on January 25th, the passing of a distinguished physician and a well loved colleague.

He was educated at Trinity College, Dublin, where he graduated M.A. in 1878 and M.D. in 1882. He became M.R.C.P. in 1890 and was elected Fellow in 1904. He was originally attracted to Liverpool by the presence there of his relative, the late Dr. Waters, physician to the Royal Infirmary. After serving as house-physician to the Infirmary he was elected a member of the honorary staff; he most worthily sustained its best traditions by the lofty standard of work and of life which he ever held before himself. From these standards he never swerved; medical science is richer as the result of his work, and colleagues, friends, and patients through contact with him sensed at once a gentleman and a gentle man. He was a most conscientious and painstaking worker, and always manifested the utmost regard for his patients—hospital no less than private. Many of his papers were of marked interest; he never grudged labour in their production, and all were expressed in polished English; by his original, laborious, and long continued work on myelopathic albumosuria in particular he clarified a previously obscure position and made a definite addition to medical science. All his medical work was sound and reliable, and in at least one instance (that of albumosuria) it was pioneer. But distinguished as that work was, it was not because of it—or not mainly because of it—that he was admired and is now mourned. It has truly been said of him that he never said an unkind word about anyone; he was a splendid colleague and loyal to a degree. Medicine is the richer by his work, and the man himself is enshrined in the hearts of those who knew him.

He was President of the Liverpool Medical Institution in 1910 and 1911, and became university lecturer in clinical medicine. He had also been physician to the Stanley Hospital, Liverpool, and consulting physician to the Liverpool Samaritan Hospital for Women. For many years he took an active interest in the work of the British Medical Association; he was a member of the Council of the Lancashire and Cheshire Branch for three periods between 1892 and 1921, a member of the Parliamentary Bills Committee from 1898 to 1902, and a member of the Central Council from 1906 to 1909. He was a member of the Executive Committee of the Liverpool Central Division from 1904 to 1909, and of the Liverpool Division in 1912 and 1917-18. He was a member of the Representative Body in 1919-20; in 1912 he was vice-president of the Section of Medicine at the Annual Meeting in Liverpool. During the war he did strenuous work at the First Western General Hospital, with the rank of major. When he retired he went to reside at Mold, in Flintshire. The funeral took place on January 28th at the old country church at Nerquis, near Mold.

T. RIDLEY BAILEY, M.D., C.M.ED.,

Medical Officer of Health, Bilston.

BY the death of Dr. Ridley Bailey, briefly announced in our last issue, the profession in the Midlands has lost one of its most valued members, who for many years took an enthusiastic part in the local and central work of the British Medical Association. He died on January 25th at the Queen Victoria Nursing Institute, Wolverhampton, where he had lately undergone a severe operation.

Thomas Ridley Bailey, the son of Richard Bailey of Durham, was born on October 17th, 1859. He studied medicine at the University of Edinburgh, graduated M.B., C.M. in 1882, and proceeded M.D., with honours, in 1887. Soon after graduation he made his home at Bilston, Staffordshire, where he began general practice in partnership with the late Dr. Larkin, and in 1885, when only 25, was appointed part-time medical officer of health for the urban district, a post he held until the time of his death. He was also medical officer and public vaccinator under the Wolverhampton Union, medical officer to the Bilston Isolation Hospital, school medical officer, and certifying factory surgeon. His active work for the British Medical Association commenced in 1888 when he became a member of the Staffordshire Branch Council, and from that time onwards he was prominently associated with the work of the Branch, holding office as its President in 1896 and vice-president in the two following years. He was vice-chairman of the South Staffordshire Division in 1907 and 1924, and chairman in 1908 and 1922, and had acted as deputy representative of the Division in the Representative Body since 1921. For many years also he was a familiar figure at the headquarters of the Association in London as a member of the Insurance Acts, Medico-Political, Public Health, and Welsh Committees, and of various subcommittees. He served as chairman of the Public Health Committee in 1920-21, and again in 1924-26, and since his election to the Central Council in 1920 had attended regularly at all Council meetings. The esteem in which Dr. Ridley Bailey was held by his local colleagues is further shown by his appointment as chairman of the Staffordshire Local Medical and Panel Committee, and his long period of office as representative of the medical profession upon the Insurance Committee for the county.

He was for many years a fellow of the Society of Medical Officers of Health, a past-president of its Midland Branch, and in recent times one of the representatives of the British Medical Association on its council. He was also a member of the council both of the Poor Law Medical Officers Association and the Association of Public Vaccinators.

Dr. F. MILNES BLUMER of Stafford, a close friend of forty years' standing, sends the following personal appreciation:

Of a happy, bright, and cheerful disposition, Ridley Bailey attracted to himself a large circle of friends, not only in his adopted county of Staffordshire, but also among the many men from all parts of the country with whom he became associated on the various public bodies on which he served. His strong personality was manifest wherever he foregathered with his friends, and his almost buoyant spirits and general optimism, combined with a dry sense of humour, made him a general favourite. He was a shrewd judge of character, and had only contempt for those who entered public life merely from ulterior and personal motives. Such a man was bound to have strong likes and dislikes, and, while he was careful to suppress the latter, the former were shown in the many strong and lasting friendships he made. As a public speaker few medical men could equal him. He had a great command of language, which he phrased with an elegance pleasing to listen to, and he spoke with an earnestness both impressive and convincing. At social functions his oratory was always an outstanding feature. Quite early in his professional life Ridley Bailey was attracted by medical politics, and for forty years he has devoted his spare time to the service of his professional brethren. That such was appreciated is manifested not only by the number and variety of public bodies upon which he served, but also by the fact that he rose to the highest positions in them all. Clear thinking and far vision were natural gifts with him, and when he had come to a decision which he thought was right he would support it with clear argument and determination, which won for him much support. His grip on public business was really astonishing, seeing that throughout all these years he was engaged in busy general practice and in public health work as M.O.H. for Bilston. He was an exceptionally good chairman, firm and scrupulously fair—a pattern in conduct for many to copy. Ridley Bailey worked up to the day on which he entered t nursing home, and in his last illness he approached t inevitable end with that peacefulness and courage whi come to the man of a strong faith such as he had, a with the knowledge that his life's work had been spe —and well spent—in the service of others.

The funeral service was held at St. Leonard's, Bilston, January 28th. There was a large gathering of councille and officials from Bilston, and the medical profession w represented by Sir John Robertson (M.O.H., Birmingham Dr. Waddell (Chairman, South Staffordshire Division Mr. A. W. Nuthall, representing the Council of the Briti Medical Association; Dr. Craig (Chairman of the Wolv hampton Panel Committee); Dr. Jolly (M.O.H., Wolv hampton); Dr. Dean (M.O.H., Willenhall); Dr. Tibbet (Staffordshire Panel Committee); Mr. Cholmeley (Wolv hampton), and many others. The interment took place Cheltenham.

J. C. UHTHOFF, M.D., F.R.C.S.,

Consulting Physician, Sussex Eye Hospital, Brighton.

DR. JOHN CALDWELL UHTHOFF, formerly a well know practitioner in Brighton, died on January 19th at Bourn mouth. He received his medical education at Guy Hospital Medical School, took the diploma of M.R.C.S.En in 1877, and graduated M.B., B.S.Lond. in 1878, with t University scholarship and gold medal in forensic medicin the gold medal in materia medica and chemistry, a first-class honours in medicine and obstetric medicin He proceeded to the M.D. in 1879, and obtained t F.R.C.S.Eng. in 1881. Dr. Uhthoff was for a time Member of the Royal College of Physicians, but as went into partnership in 1894 he resigned the diploma accordance with the rule then existing. The diploma w restored to him at his request in 1896, but he aga surrendered it in 1908. He had a large practice Brighton, was at one time physician to the Royal Suss County Hospital and the Sussex Eye Hospital, a ultimately became consulting physician to the latt institution. While continuing to practise as a gener physician he gave particular attention to ophthalmology, specialty in which he attained great distinction.

He took great interest in the work of the British Medic Association, was a member of the South-Eastern Bran Council, 1888-93, chairman of the Brighton Division 1920, and a member of the Sussex Branch Council in 192 When the British Medical Association held its Annu Meeting at Brighton in 1886 he was one of the secretari of the Section of Pathology and Bacteriology, and in 191 when the Association again held its Annual Meeting Brighton, he was a vice-president of the Section Pharmacology, Therapeutics, and Dietetics. He retir from practice in Brighton some years ago, and went reside in Bournemouth, but did not lose his interest medical affairs; at the time of his death he was repr sentative of the Bournemouth Division on the Dorset a West Hants Branch Council.

He was buried at Hove on January 24th, when many colleagues, including Drs. Jowers, Whittington, Fletch Chadborn, Bowring, Hunt (representing the Brighton a Sussex Medico-Chirurgical Society), L. A. Parry (rep senting the Sussex Branch of the British Medical As ciation), and A. G. S. Mahomed (representing t Bournemouth Division of the British Medical Associatio attended as a last tribute of respect.

Dr. L. A. PARRY, Honorary Secretary of the Suss Branch of the British Medical Association, has been go enough to send us the following tribute: The death Dr. Uhthoff came as a great shock to his old friends Brighton, where he will be greatly mourned. We of t profession well remember his kind and courteous ways us all. I personally owe him many debts of gratitude thoughtful actions. As Chairman of the Brighton Divisi of the Association he was always helpful to us in our wo and I could consult him on any matter and be sure obtaining good advice. He had an enormous practice. I patients held him in the very highest regard. During t

ar he acted as medical officer to one of the hospitals stablished in Brighton, giving his best services to those nder his care. He was in the best sense of the words real English gentleman. In Brighton we shall always emember him as one who enhanced the reputation of our rofession in the town and was always willing and wishful o give us any advice and assistance that lay in his power.

NIELS THORKILD ROVSING,

Late Professor of Clinical Surgery, Copenhagen.

HE death of Professor Rovsing has robbed the Danish edical profession of a striking and forceful personality. is always difficult to say how much anyone's success in fe depends on character and personality and how much a intellect. But in Rovsing's case there can be no doubt hat, both in force of character and weight of intellect, he as a head and shoulders above his fellows. He was born 1862, and at the age of 23 had already passed his final xaminations in medicine. Early in his career he began o think bacteriologically in his surgical work, and in the rst paper he published, in conjunction with Dr. Heyn, he hattered the reputation of iodoform as an antiseptic pplication. "Shattered" is a word peculiarly apt in any ccount of Rovsing's writings, for fighting was as the breath f his nostrils, and he was at his best when attacking time-onoured teaching of the errors of which he had no doubt. ltogether he published about 200 papers, remarkable for heir lucidity and convincing logic. Time may prove some f Rovsing's teachings to be mistaken, but his method of resenting them will always be a model. Fairly early in is career he acquired an interest in the weekly medical ournal *Hospitalstidende*, which he later owned and ltimately gave to the Danish Medical Society. In 1899 e was appointed professor of operative surgery, but, uriously enough, this appointment did not bring with it ospital beds, though it did entail teaching. To repair this ffect he started a private surgical nursing home in the ne year, and its enlargement a few years later, with the ovision of an *x*-ray laboratory, was a testimony to the ficiency with which this aspect of his work was conducted. 1904, at the early age of 42, Rovsing was put in charge the Frederiks Hospital as senior surgeon, and in 1905 s agitation for better surgical accommodation in Copen-gen was the beginning of the present Rigshospital, which as opened five years later.

Rovsing's work as a pioneer in surgery concerned chiefly e lower abdomen. Early in his career his attention was rected to the subject of cystitis; patients suffering from were at this time treated for the most part in medical rds, with infusions and decoctions. Rovsing set himself e task of studying the causes of decomposition of urine d its prevention. His work on tuberculosis of the inary tract also gained him an international reputation. iseases of the gall bladder, and gall stones in particular, nstituted another field in which he greatly distinguished mself. He was an active organizer, and he was one of e founders of the Danish Surgical Society. The recipient many honours in his own country, he was also an morary member of the Edinburgh Medico-Chirurgical ciety and of the Association of Surgeons of Great Britain d Ireland. In 1926 severe heart disease with serious gus of cardiac insufficiency forced him to retire from his st at the University; after some improvement during the mmer he developed signs of malignant disease of the ynx. It was characteristic of him that, a few days after severe operation for this condition, he began to work gain. He did not, however, tolerate a course of *x*-ray eatment well, and he died on January 14th, a flagging art failing to respond to the calls made on it. One of his lleagues, Holger Strandgaard, who was in daily contact ith him for seven years, writes in *Ugeskrift for Laeger*, e journal of the Danish Medical Association, as follows: In his relations with assistants, nurses, and the rest of s staff he approached the ideal. He included us all in s work, made us participate in it, and was never afraid let us feel that he appreciated the help that was given m. And so he made the great machinery work without iction."

Medico-Legal.

OPERATION WITHOUT CONSENT.

AN action was heard last week at the Liverpool Assizes (Civil Court) before Mr. Justice Wright, in which a hospital patient claimed damages against a surgeon for alleged negligence by performing an operation without her consent.

The plaintiff was Mrs. Hilda Maddocks, aged 28, and the defendant, Mr. John St. George Wilson, honorary surgeon to the Samaritan Hospital for Women, Liverpool. Mr. Wilson was represented by Mr. J. E. Singleton, K.C., and Viscount Erleigh (instructed by Messrs. Hempsons).

The plaintiff's case was that she went to the Samaritan Hospital for an internal complaint, and while being examined by Mr. Wilson under an anaesthetic a serious operation was performed upon her. She declared that she had not been previously asked, nor had she given, her consent to an operation. Since then she had had to undergo two further operations, and the wound caused by the first operation had not yet healed. There was no suggestion that the operation had not been skilfully performed. It was submitted on behalf of the defendant that although he had not the patient's express consent to operate he had her implied consent.

The plaintiff gave evidence bearing out the opening statement by her counsel, Mr. Rice Jones. In cross-examination she admitted that had she been told beforehand that an immediate operation was necessary she would have consented, but she would first have liked to get the consent of her husband. She agreed that the initial operation had probably saved her life.

Mr. St. George Wilson, giving evidence on his own behalf, said that it was not his duty to obtain the patient's permission for an operation; that devolved upon the hospital staff. The woman proved to be suffering from cystitis, and her condition was acute. There was risk of death sooner or later through ascending infection, and every day the infection persisted the greater was the danger. She was in severe pain. Had he not operated at once he would have had to do so a day or two later, when there would have been serious danger of further septic poisoning. The purpose of the operation was to save, if possible, other organs from becoming infected.

Dr. S. S. Barton, who assisted Mr. Wilson at the operation, said that the woman's condition needed an immediate operation; and Mr. H. C. W. Nuttall, surgeon to the Royal Southern Hospital, to whom Mr. Wilson sent the patient after she had been five weeks in the Samaritan Hospital, described her critical state when he operated upon her.

Mr. F. A. Jeans, surgeon to the Liverpool Royal Infirmary, who was called by the defence as an expert witness, said in reply to questions by the judge, that giving an opinion purely on the history of the case, he felt he would have done exactly the same as Mr. Wilson, who acted in the interests of the patient. In this case he had no doubt the right course had been taken. The operation would give immediate relief to the tension which was causing the septic poison to be absorbed.

Mr. Justice Wright, in the course of his summing-up, remarked that if a doctor performed an operation without the patient's consent, believing that by so doing he was saving the person's life, he had to take the risk of satisfying a jury that he had done what was right in the circumstances.

The special jury, after a retirement of three-quarters of an hour, returned a verdict in favour of the defendant, Mr. Wilson, adding a rider to the effect that doctors should not operate without the consent of the patient. To this the judge added the corollary —"if it can be avoided."

The Services.

DEATHS IN THE SERVICES.

LIEUT.-COLONEL ROBERT FRAZER STANDAGE, C.I.E., Bombay Medical Service (ret.), died suddenly in London on January 15th. He was born in 1868, and received his medical education at St. Bartholomew's Hospital Medical College, where he gained the Bentley surgical prize in 1890. He took the M.R.C.S. and L.R.C.P.Lond. in 1889, the M.R.C.P.Lond. in 1907, and the F.R.C.S.Eng. in 1920. After filling the posts of house-surgeon and house-physician at the Metropolitan Hospital, he entered the I.M.S. as lieutenant in 1895, became lieutenant-colonel after twenty years' service, and retired in January, 1926. His first five years were spent on military, plague, and famine duty, and for the last he received the thanks of the Bombay Government in 1897. He served in the Uganda mutiny in 1897-99, was mentioned in dispatches, and received the medal with a clasp. In December, 1900, he was appointed Residency surgeon at Bangalore, and in November, 1902, Residency surgeon of Mysore, where he remained till the end of his service, except during the great war. He was on military duty from July, 1917, to March, 1919, serving in British, Portuguese, and German East Africa, in Nyasaland, and Northern Rhodesia; he was mentioned in dispatches in January, 1919, and received the medal. In January, 1922, he was gazetted C.I.E., and last year received also the Order of St. John of Jerusalem. In his early years he was a good cricketer and a keen shikari. On retirement from the I.M.S. he joined a friend in practice at Venice. He married in 1902, and is survived by his widow and one son.

Universities and Colleges.

UNIVERSITY OF OXFORD.

THE following degree days have been announced for the remainder of the academic year: Saturday, February 19th; Saturday, April 9th; Thursday, May 5th; Saturday, June 11th; Friday, July 1st; Saturday, July 23rd; Saturday, August 6th.

At a congregation held on January 27th the following medical degrees were conferred:

B.M.—C. S. Broadbent, J. G. A. Davel, L. O. F. Fysh, A. H. Gale, Rosaleen L. Graves, C. L. Harding, R. A. Haythornthwaite, R. C. Hodges, C. W. Hope-Gill, R. Illingworth, T. M. Ling, G. E. Macdonald, R. G. MacGregor, W. F. H. Ray, W. D. B. Read, D. A. Robertson, E. M. Wright.

UNIVERSITY OF CAMBRIDGE.

SIR HUMPHRY ROLLESTON, Bt., M.D., Regius Professor of Physic, has been appointed by the Senate to represent the University at the celebration in London next April of the centenary of *Lord Lister's birth*.

At a congregation held on January 29th the degrees of M.B. and B.Chir. were conferred on R. T. Mummery.

UNIVERSITY OF LONDON.

AT a meeting of the Senate, held on January 26th, Mr. H. L. Eason, C.B., C.M.G., M.D., M.S., was appointed a member of the General Medical Council, and Sir William J. Collins, K.C.V.O., M.S., F.R.C.S., was elected a member of the Sanitary Institute and Sanitary Inspectors' Examination Joint Board. Sir Holburt J. Waring was elected the representative at the celebration of the centenary of the birth of *Lord Lister* to take place in London on April 5th. Mr. M. E. Delafield, M.B., B.Ch., was appointed the representative of University College at the Royal Sanitary Institute Congress to be held in July next at Hastings.

UNIVERSITY OF MANCHESTER.

THE Council of the University has appointed Dr. William Fletcher Shaw, who has been professor of obstetrics and gynaecology in the University since May, 1925, as professor of clinical obstetrics and gynaecology in succession to the late Professor W. E. Fothergill. The Council has also appointed Dr. Daniel Dougal, at present Lecturer in Obstetrics and Gynaecology in the University, to the chair of obstetrics and gynaecology vacated by Professor Fletcher Shaw.

UNIVERSITY OF GLASGOW.

THE following candidates have been approved for the degrees indicated:

CH.M.—James R. Learmonth.
PH.D.—John Donald, M.B., C.M.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

AN ordinary comitia of the Royal College of Physicians of London was held on Thursday, January 27th, the President, Sir John Rose Bradford, being in the chair.

Membership.

The following candidates were admitted to the membership:

[illegible] m Arthur Bourne, L.R.C.P., [illegible] ohn Alexander Charles, [illegible] Thomas Reginald Davies, M.B.Lond., L.R.C.P., Charles Sydney Douglas Don, M.B.Aberd., John Hartley Gibbons, L.R.C.P., William Gunn, M.B.Aberd., George Stiven Halley, M.D.St. Andrews, [illegible] M.B.Oxf., Alexander Mills Kennedy, [illegible] Edward Kiebor, M.B.Lond., L.R.C.P. [illegible] Kohiyar, M.B.Bombay, M.D.Lond., [illegible] Kohmstam, [illegible]

Licences.

Licences were granted to the following 126 candidates who had passed the necessary examinations and conformed to the by-laws and regulations:

W. M. Abdel-Malek, G. M. Addison, J. C. B. Allen, J. S. Alman, H. Archer, F. F. Augsburger, M. T. Aung, G. C. Babington, D. H. Belfrage, R. N. Bery, R. V. Bowles, [illegible] Bruce, S. M. Burrows, C. P. Campio [illegible] Clark, H. H. Cohen, E. Colin Ru [illegible] *Geraldine H. Cowie, R. D. Curran, [illegible] Dear, J. H. A. Donnelland, A. O. [illegible] *Enid C. Evans, E. S. Evans, F. M [illegible] G. M. FitzGibbon, A. Mc[illegible] Ford, D. Gamsu, H. G. [illegible] us, S. W. Hardwick, Wilfred V [illegible] L.J. Henry, E. M. V. Hensma [illegible] on, *Isabelle R. Humphreys-C [illegible] C. Jepson, T. M. Jones, V. Kathirgamatamby, M. S. Katre, F. Kellett A. B. Kettle, P. N. Lahiri, D. T. Lewis, I. N. Lewis, D. W. Lindech [illegible] wy, *Joyce McConnell, W. S. Macla[illegible] n, D. J. Macvish, M. Malk, E. [illegible] W. Melville, R. L. Midgley, I. A. Mill[illegible] *Mairaret Mitchell, J. K. Monro, W. C. Munro, J. C. Neely, R. Nicklin, *Joan Nixon, W. C. W. Nixon, *Mary O'Leary, *Greta E. Olsson, *Catherine J. Ormerod, R. Pearce, N. F. Pearson, R. S. Pilcher, T. J. Pittard, L. G. J. Pitt-Payne, *Aileen M. S. Pollock, J. C. C. Poole, C. L. Potts, I. M. Preston, W. P. Purvis, J. S. Rake, *Marion Ravell, L. A. Richardson, N. Rizkalla, *Enid H. Rockstro, E. E. F. Rose, N. Rosen, G. E. Rowan, A. H. Russell, C. G. A. Sadler, C. H. St. Johnston, T. F. McN. Scott, D. H. Smith, H. M. Soar, R. Stanton, *Kathleen M. Stuart-Harris, C. N. Suter, C. B. V. Tait, H. Teitelbaum, H. D. Tonking, J. R. H. Towers, C. G. Townsend, A. G. Tribe, A. S. Wallis, *Edith V. E. Whidborne, N. J. Williams, G. P. Williams, W. D. Williams, R. W. Windle, C. E. Woodrow, F. H. Woolley.

* Under the Medical Act, 1876.

Diplomas in Special Subjects.

Diplomas in the subjects indicated were granted jointly with the Royal College of Surgeons to the following:

D.P.H.—M. I. [illegible] Davies, [illegible] Forsyth, [illegible] Kynaston, [illegible] G. O. Milt [illegible] D. Owen, A. C. T. Perkins, Q. M. Said, J. B. Samson, T. G. N. Stokes, C. I. Streich, Elsie Warren.

DIPLOMA IN PSYCHOLOGICAL MEDICINE.—M. Abd al-Hakeem, D. [illegible] E. A. Bennet, J. [illegible] Heron, F. L. Mc [illegible]

DIPLOMA IN OPHTH[illegible] Aynsley, Doris M. [illegible] J. C. Gillespie, [illegible] G. D. E. Jones, [illegible] Richardson, A. [illegible] *Stenhouse*, D. A. Williams.

DIPLOMA IN LARYNGOLOGY AND OTOLOGY.—R. T. Desai, L. W. Johnston, O. F. A. Krause, C. S. Macdougall, J. E. G. McGibbon, N. M. Rao, T. Williams.

Appointments and Resignations.

Dr. W. C. Bosanquet, Dr. J. H. Sequeira, Dr. F. Craven Moore and Dr. J. A. Nixon were elected councillors on the nomination of the Council.

Sir Francis Champneys was reappointed a representative of the College on the Central Midwives Board.

The resignation of Sir Humphry Rolleston of the post of representative of the College on the General Medical Council was received. Dr. E. Farquhar Buzzard was elected as his successor. A vote of thanks was accorded to Sir Humphry Rolleston for his services.

Dr. Stanley Barnes was appointed a representative of the College on the Court of Governors of the University of Birmingham in place of Dr. A. F. Voelcker, whose term of office had expired.

Dr. J. H. Abram was reappointed a representative of the College on the Court of Governors of the University of Liverpool.

The resignation of Sir William Hale-White of the post of representative of the College on the Central Council for District Nursing in London was received, and Dr. A. S. Woodwark was elected in his place.

The acceptance by Mr. F. H. Maugham, K.C., of the post of Senior Standing Counsel to the College was reported.

Dr. S. Monckton Copeman was appointed to represent the College at the Congress of the Sanitary Institute to be held at Hastings in July, 1927. The President was elected a delegate to the celebration of the Lister centenary in April, 1927.

Lecturers.

The President announced that he had appointed Dr. J. F. Gaskell to deliver the Bradshaw Lecture for 1927, and that the Council had appointed Dr. F. A. E. Crew, of the Animal Breeding Research Department of Edinburgh University, to be Milroy Lecturer in 1928.

Communications.

Communications were received from the Ministry of Health asking the College to nominate a representative to serve on an advisory committee of clinical experts to consider the details of the proposed alterations to be suggested by the British Government [illegible] ion of the international list of causes [illegible] of the League of Nations at Geneva. [illegible] ointed.

Revised By-laws.

The revised by-laws were considered for the first time.

The President then dissolved the comitia.

SOCIETY OF APOTHECARIES OF LONDON.

THE following candidates have passed in the subjects indicated:

SURGERY.—G. W. Ayres, B. Best, N. S. J. Roberts (Section II), B. Rosenzvit, M. T. Y. Selim, W. D. Williams.

MEDICINE.—L. G. Apps, L. O. Jaggassar, L. W. Rose, S. E. Tremellen, S. Wray.

FORENSIC MEDICINE.—L. G. Apps, W. A. A. Collington, S. E. Tremellen, E. H. Waller.

MIDWIFERY.—G. W. Ayres, P. V. Bamford, R. Bobo, S. K. Rigg, K. Roberts.

The diploma of the Society has been granted to Messrs. R. Bobo, L. O. Jaggassar, K. Roberts, S. E. Tremellen, and W. D. Williams.

Medical News.

A GENERAL meeting of the subscribers to the Hamilton Drummond Memorial Fund will be held in the library of the Royal Infirmary, Newcastle-on-Tyne, on Monday next, February 7th, at 7.30 p.m., in order to approve a scheme for the memorial, and to appoint trustees for the fund and an executive committee.

THE *Hunterian Oration* to be given by Sir Berkeley Moynihan on Monday, February 14th, at 4 p.m., may perhaps be looked upon as inaugurating the course of lectures at the Royal College of Surgeons of England for this year. On Wednesday, February 16th, Mr. Ernest M. Cowell will give a lecture on the surgery of hernia, and on Friday, February 18th, Mr. A. H. Southam of Manchester will lecture on retained testis in childhood. Other lectures will follow on Mondays, Wednesdays, and Fridays until Wednesday, March 2nd, when Sir Arthur Keith will begin a series of six demonstrations of recent researches carried out in the museum. The final lecture of the course will be given on Monday, March 21st.

AT a meeting of the Royal Sanitary Institute, to be held at 90, Buckingham Palace Road, S.W., on Tuesday, February 15th, a discussion on immunization against diphtheria will be opened by Dr. William Robertson, medical officer of health, Edinburgh. The chair will be taken at 5.30 p.m. by Sir Arthur Newsholme.

HIS ROYAL HIGHNESS THE PRINCE OF WALES, patron of the Mental After-Care Association, has consented to preside at a meeting of the association at the Mansion House, on Thursday, March 31st, at 3 p.m.

THE next quarterly meeting of the Royal Medico-Psychological Association will be held on Wednesday, February 16th, at Cheshire County Mental Hospital, Parkside, Macclesfield. Members will spend the morning in visiting the wards of the admission hospital, the private patients' villa, and in witnessing a demonstration of the psycho-galvanometer. In the afternoon Mr. T. H. Pear, M.A., professor of psychology in the University of Manchester, will read a paper on visual imagery, with special reference to hallucinations.

AT a meeting of the Institution of Heating and Ventilating Engineers to be held at the Holborn Restaurant (Caledonian Room), on Wednesday, February 9th, at 2.30 p.m., Mr. J. L. Musgrave will give his presidential address, and Miss Margaret Fishenden, D.Sc., will read a paper on the effect of weather conditions upon the heat requirements of a house.

THE annual meeting and dinner of the Cambridge Graduates' Medical Club will be held at the Langham Hotel on Tuesday, March 1st, at 7.15 p.m., with the President, Sir Humphry Rolleston, Bt., K.C.B., in the chair. The honorary secretaries are Mr. Reginald M. Vick and Dr. F. G. Chandler. The price of the dinner (exclusive of wines) is 10s. 6d.

THE anniversary dinner of the Medical Society of London will be held at the Grand Hotel, Trafalgar Square, on Monday, March 7th, at 7.30 p.m.

DR. WANKLYN will lecture for the Fellowship of Medicine on the exanthemata, with special reference to small-pox, on February 10th, at 5 p.m., at the Medical Society, 11, Chandos Street, W.1, and Mr. Trethowan will give a demonstration at the Royal National Orthopaedic Hospital on the same day at 3 o'clock. A lecture on the causes and treatment of vomiting in children will be delivered by Dr. Beatty at the Royal Northern Hospital on February 15th at 3.15. These lectures and demonstrations are open to medical practitioners without fee. Beginning on February 7th the Paddington Green Hospital and the Victoria Hospital will hold jointly a two weeks' course in diseases of children; on the same date, at the London Lock Hospital, a four weeks' course in venereal diseases will open. The Royal Northern Hospital is arranging a special course, free to medical practitioners, for one week from February 21st. The Fellowship arranges practical courses in anaesthetics and courses in obstetrics; arrangements are made for clinical assistantships. Copies of all syllabuses of special courses, the general course programme, and the *Post-Graduate Medical Journal*, are obtainable from the Secretary of the Fellowship of Medicine, 1, Wimpole Street, W.1.

THE next meeting of the Post-Graduate Hostel will take place at the Imperial Hotel, Russell Square, W.C.1., on February 7th, at 9 p.m., when Mr. Clifford Morson will discuss prostatic disease. On February 10th Dr. R. M. Brontë will give an address on the medical witness in relation to crime. All medical practitioners are welcome to the meetings. Dinner (5s.) at 8 p.m.

THE Central London Ophthalmic Hospital has arranged for a clinical demonstration to be held by members of the staff on the first Tuesday of each month at 5 p.m. Practitioners and students of medicine will be admitted without fee. Those proposing to attend are asked to notify the Secretary at the Hospital, Judd Street, W.C.1.

A SHORT course of lectures on functional nerve disorder, for medical practitioners and students, will be given at the Tavistock Clinic for Functional Nerve Cases, 51, Tavistock Square, W.C.1, between February 14th and 25th. The lecturers are Drs. W. Langdon Brown, James Young, J. R. Rees, S. Roodhouse Gloyne, and H. Crichton Miller. The fee for the course to practitioners is £2 2s., and to medical students 10s. 6d.

THE new Post Certificate School of the General Lying-in Hospital, York Road, London, will be opened by the Right Hon. Neville Chamberlain, M.P., Minister of Health, on Tuesday, February 8th, at 3.15 p.m. The presentation of the building will be made to Sir Francis Champneys, Bt., M.D. (president of the hospital), by Mr. H. W. Lydall, the donor's solicitor. The chair is to be taken by Dr. John S. Fairbairn, and the ceremony will be followed by a reception.

THE Grocers' Company announces in our advertisement columns scholarships with the object of encouraging original research in sanitary science. The scholarships are tenable for one year, but renewable, and are of the value of £300 a year each, with an allowance to meet the cost of apparatus and other expenses in connexion with the work. The next election takes place in May, 1927. Forms of application and further particulars may be obtained from the Clerk of the Grocers' Company, Grocers' Hall, London, E.C.2.

WE are informed that a questionary has been issued to a number of medical practitioners in England, Scotland, and Wales by the National Association of British and Irish Millers in order to ascertain the views of the medical profession on white bread. An accompanying letter explains that the association is desirous of obtaining representative and authoritative medical opinion on the value of the type of bread which has been evolved by the public requirements of many years, and for the making of which nearly all its mills are specially equipped. Each doctor is asked whether he concurs in the statement that "the curse of our age is that we are provided with white bread"; whether he considers that, having regard to the average variety of diet now enjoyed by people in this country, white bread is a good and nutritious food; whether he considers that white bread, as part of an ordinary mixed diet, is likely to lower the standard of health; and whether he personally eats white bread. We are informed that the identity of those furnishing replies will be treated as confidential, and that the names were selected to cover every county, but otherwise were picked at random from the *Medical Directory*.

AT a meeting of some twenty medical men from various British spas, held in London on January 21st under the chairmanship of Dr. Kerr Pringle of Harrogate, it was resolved to establish a spa practitioners' association. Membership is open to registered medical men and women practising at a British spa. The annual subscription is 10s. 6d. The secretary is Dr. J. B. Burt, 11, Broad Walk, Buxton, from whom all particulars can be obtained.

THE Central Association for Mental Welfare is arranging, with the approval of the Board of Education, a ten weeks' course of instruction from May 2nd to July 9th, 1927, for teachers of mentally defective and of dull and backward children. Lectures will be given in London on normal and abnormal psychology, methods of teaching, the medical aspects of mental deficiency, and social and legal work for defectives. Previous courses of this kind were held in 1925 and 1926. Further information may be obtained from the Central Association for Mental Welfare, 24, Buckingham Palace Road, S.W.1.

A REPORT on the school of midwifery and gynaecology in the University of Hong-Kong was issued by Professor R. E. Tottenham in *The Caduceus* for November, 1926. The work of the maternity department in the Government Civil Hospital during the year ending April 20th, 1926, is described, and reference is made to the apparent rarity of contracted pelvis in Chinese women. A clinical report of the gynaecological departments of the Government Civil and the Tsan Yeuk Hospitals is also given, and an interim report on gynaecological specimens in the school of pathology of the University.

THE gold medal of the Carnegie Hero Fund has been awarded to the surgeon and radiologist Dr. Honoré Vercauteren of Ghent, who has had several fingers amputated for radiodermatitis.

PROFESSOR H. F. O. HABERLAND of the Augusta Hospital, Cologne, who is compiling an extensive monograph on blood transfusion, asks for reprints of recent articles or records of unpublished cases, especially failures.

A BILL for making antityphoid inoculation compulsory has been laid before the French Senate.

DR. DAVID DUFF of Gray's Inn has been called to the Bar.

LIEUT.-GENERAL SIR JOHN GOODWIN, K.C.B., who was Director-General of the Army Medical Service from 1918 to 1923, has been appointed Governor of Queensland. Sir John Goodwin rendered distinguished service during the war. He holds the Mons star and the Allied and Victory medals, and received the C.M.G. in 1915 and the C.B. in 1918. He went with Mr. Balfour's mission to the United States in 1917 and was very successful in explaining to the American medical profession the position in which we were at that time; he received the American distinguished service medal and decorations from France, Belgium, and Italy. Earlier in his career he served with several expeditionary forces on the Indian frontier. Since his retirement he has been acting as Organizing Adviser of the British Empire Cancer Campaign.

A BEQUEST of 25,000 dols. (£5,000) for the establishment of a free dental clinic at Musselburgh has been made by Mr. Julius Brown, who died at Santa Monica, near Los Angeles, California, on December 9th last. Mr. Brown was a native of Musselburgh.

Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to ***The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.***

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the BRITISH MEDICAL JOURNAL alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the BRITISH MEDICAL JOURNAL must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the JOURNAL, should be addressed to the Financial Secretary and Business Manager.

The ***TELEPHONE NUMBERS*** of the British Medical Association and the BRITISH MEDICAL JOURNAL are *MUSEUM 9861, 9862, 9863,* and *9864* (internal exchange, four lines).

The ***TELEGRAPHIC ADDRESSES*** are:
EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology Westcent, London.*
FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westcent, London.*
MEDICAL SECRETARY, *Mediocra Westcent, London.*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 4737 Dublin), and of the Scottish Office, 6, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 4361 Central).

QUERIES AND ANSWERS.

DR. H. G. BURFORD (London, W.1), who has heard that varix has been treated successfully in Vienna by a solution of grape sugar, wishes to know whether the method has been tried in this country, and with what results.

POST-INFLUENZAL COUGH.

IN our issue of January 15th (p. 124) "W. H. F." asked for suggestions for the treatment of persistent cough following acute influenza which had resisted all sedatives. The following suggestion has been received in reply from "M. R. S.": Benzyl benzoate, 2 to 8 minims, as an emulsion or in capsules, acts almost "like a charm," especially for those paroxysms which occur in the early hours of the morning. As the patient gains strength the tendency to these "attacks" is lessened and finally disappears.

IODINE TREATMENT OF RHEUMATOID ARTHRITIS.

DR. A. E. COLLIE (Newport, I.W.) writes in answer to "M.B." (January 15th, p. 124): The following two cases at present under my care may be of interest. Mr. A., aged 73, has had rheumatoid arthritis for several years and has been unable, owing to pain and stiffness of his joints, either to dress or feed himself without assistance. Miss B., aged 44, has been crippled by rheumatoid arthritis for the past ten or twelve years. There is much deformity of the hands and toes, and she suffers considerable pain in the limbs. For the past three months both patients have been taking 20 minims of syrup of iodide of iron in water night and morning, together with 1 drachm of Crookes's collosol iodine three times a day after food. After the first dose or two of the collosol iodine, Mr. A. complained of sickness. I therefore combined the drug with 20 minims of liquid extract of liquorice and half an ounce of chloroform water, and this combination eliminated the nausea and vomiting. After two months of this treatment Mr. A. was able to dress himself alone and lace his own boots. He can now walk over half a mile, which he has not been able to do for the past three years. In the case of Miss B. the results are not so striking, but the treatment has certainly improved her condition and the pain is not so severe.

INCOME TAX.

"E. R. B." is working as an assistant and uses a two-seater car averaging 100 miles a week. He has been allowed a sum of £5 per annum only for expenses as compared with his employer's allowance of £350 for two cars. What should he claim?

*** It has to be remembered that the rules for allowances to employees fall under Schedule E and are more restrictive than those under Schedule D—for example, there is no allowance for depreciation as such, though presumably the cost of renewals can be claimed for when necessarily incurred. We advise "E. R. B." to claim the amount of his actual running expenses for the year (revising his claim when the year expires if necessary), but excluding any expenses incurred in the private use of the car, and to intimate in doing so that he intends to lodge a supplementary claim for replacement of the car for the year in which that expenditure is incurred.

LETTERS, NOTES, ETC.

ACQUIRED MELANISM IN MOTHS TRANSMITTED BY INHERITANCE.

MELANISM is a subject which attracts increasing interest in biology as well as medicine, and in the issue of *Nature* (January 22nd, p. 127) Dr. J. W. Heslop Harrison has published an interesting account of acquired melanism occurring in certain moths in districts which have become industrialized. On Tyneside twenty-five years ago the moth Mottled Beauty corresponded with its name; now every specimen captured has become black. The same has been observed to occur in other species, such as the Pale Brindled Beauty and the Engrailed. On the Continent similar instances of the development of melanism, affecting the Poplar Lutestring, and the Great Oak Beauty, have been noted in districts which have become the seat of industry. The Peppered Moth has gone black both in England and in America (at Pittsburg), as also the Small Engrailed. As large amounts of manganese have been found in the foliage of trees upon which the larvae feed in Middlesbrough Park, larvae were fed on foliage contaminated by manganese, also by lead, and breeding yielded melanized individuals. The larvae of these in turn were fed on uncontaminated food, but the acquired melanism was transmitted to its descendants. Thus acquired melanism was proved to be transmissible by inheritance.

WOMEN ON HOSPITAL STAFFS.

WE continue to receive letters commenting on a statement made in our issue of November 6th that we believed that the election of Miss Lily Baker, B.A., M.B., to the staff of the Bristol Royal Infirmary created an important precedent, implying that a woman had not previously been appointed to full membership of the honorary medical staff of a general hospital with a teaching school. In a later issue we qualified this statement by excepting the Royal Free Hospital; and we are reminded by Miss May Thorne that at this hospital the Committee of Management appointed a woman on its staff as honorary gynaecologist in 1902. Since then, of course, a number of appointments of women have been made at the Royal Free Hospital. Miss Marion B. Andrews points out that at the Ulster Hospital for Children and Women at Belfast, a teaching hospital in connexion with the Queen's University, she was appointed assistant surgeon in 1904, full surgeon in 1906, and consulting surgeon in 1917.

APROPOS of a previous reference to appointments at children's hospitals Dr. C. BUTTAR writes that, as a mere man, he objects to the assumption that a children's hospital, even if used for teaching, can be described as a general hospital. It is true, he says, that the word "special" is used of hospitals in two senses, either of special diseases or of a special class of patient; but a general hospital, surely, is a place where any persons (including men) can be attended for any disease.

AN ALTERNATIVE TO CIRCUMCISION.

DR. I. M. JEFFERISS (Lakenheath) writes: The description of the simple procedure required in the treatment of cases of phimosis by the late Dr. D. W. Whitfield (January 29th, p. 187) should be hung up in every hospital out-patient department. To circumcise a normal boy is a barbarous and unnecessary operation. Circumcision is only required when retraction of the prepuce is impossible owing to scar tissue or other results of balanitis. A protective covering to the glans penis is not an abnormal condition, and apart from the performance of the operation as a religious rite there is no need to cut off a portion of the human body for the sake of cleanliness. Every prepuce unaffected by pathological conditions can be retracted by the aid of a blunt probe and a little patience. Recurrent herpes of the glans has been treated by me by fixing a permanently retracted prepuce over the glans with lint and strapping until the organ regained its natural protective covering. There is no need to stretch the prepuce and no more need to remove it than there is to remove the average visible and properly developed tonsil.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 42, 43, 46, and 47 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 44 and 45.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 47.

An Address on DISSEMINATED SCLEROSIS:

With Special Reference to its Infective Origin.*

BY

DOUGLAS McALPINE, M.D., M.R.C.P.,

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THE study of nervous diseases is always considered to be an interesting but depressing occupation, because so little can be done for the patient. This, unfortunately, applies to the majority of organic nervous diseases. Before the discovery of the important part which the *Spirochaeta pallida* plays in the production of disease of the central nervous system, the outlook, as far as therapeutic measures went, was certainly much poorer than it is to-day. Of late years much knowledge has accumulated regarding the physiology and pathology of the nervous system, but less attention has been paid to the etiology of a number of obscure diseases. Certain links in the chain connecting pernicious anaemia and subacute combined degeneration of the cord have, it is true, been filled in, especially the recognition of achlorhydria as a constant feature of this syndrome and the importance of a megalocytosis as being often the only abnormality in the blood picture during the remissions of the disease. The next gap has yet to be crossed, and it will only be achieved by the aid of bacteriology.

The symptomatology of disseminated sclerosis and its pathological basis have been described in scores of papers in this and other countries during the past twenty years, but knowledge of the underlying cause is still wanting. This can, I think, be attributed to the lack of co-operation between the neurologist and the bacteriologist. The position as regards disseminated sclerosis is much the same as that which existed in respect to syphilis prior to the discovery of the Wassermann reaction and the *Spirochaeta pallida*.

DISSEMINATED SCLEROSIS AS AN INFECTIVE DISEASE OF THE CENTRAL NERVOUS SYSTEM.

Under this heading we may consider briefly the reasons why disseminated sclerosis is considered to have an infective origin.

1. *Clinical.*

From the clinical aspect it is well known that so-called "*influenzal*" attacks may usher in the disease or accompany relapses during the course of the disease. These attacks consist of headache, general malaise, and usually slight pyrexia. It seems probable that such attacks are not "*influenzal*," but result from the circulation within the blood of the organism or toxin of disseminated sclerosis. Again, fever is not uncommon during the course of the disease, especially in early cases and during relapses. This question has recently been studied by Epstein[1] in 34 cases. In 22 of these fever was present at some time during their stay in hospital, but the temperature rarely exceeded 100° F. Further clinical evidence is afforded by the characteristic relapses and remissions which occur during the course of the disease in the majority of cases. Any theory which attributes the condition to developmental errors falls to the ground in the presence of the curious variations in the clinical picture. In this respect disseminated sclerosis resembles meningo-vascular syphilis, pulmonary tuberculosis, and other chronic infections. The variations in the intensity of the infective process can be best explained by supposing that a virus, or its toxin, periodically invades the central nervous system, so producing a train of symptoms which will depend on the particular part of the neuro-axis attacked.

2. *Serological Evidence.*

A study of the cerebro-spinal fluid in disseminated sclerosis shows that, frequently, certain changes occur in the fluid which could only result from an active infective process in the central nervous system. The usual findings in the cerebro-spinal fluid are as follows: The Wassermann reaction is always negative; there is little or no increase in the percentage of albumin or in the number of cells. The various tests with colloidal substances, such as gold and benzoin, show a positive curve in about half the cases. The colloidal gold reaction, owing to want of standardization by the majority of workers, has not attained the important place in the diagnosis of this disease it should have. In France the colloidal gold has been supplanted largely by the colloidal benzoin reaction, which is certainly easier and would seem to give more stabilized results.

3. *Pathological Evidence.*

The pathological evidence as to the infective nature of disseminated sclerosis cannot be set out in the time at my disposal. I will merely quote the opinion of J. W. Dawson,[3] whose work, published in 1916, forms an exhaustive treatise on this part of the subject.

> "The process underlying disseminated sclerosis is a subacute disseminated encephalo-myelitis, which terminates in disseminated areas of actual and complete sclerosis." And again he writes: "It is concluded, therefore, that there is much to favour the view that disseminated sclerosis is due to a specific morbid agent which calls forth a clearly defined clinical and anatomical picture." And later he adds: "The causal agent is, therefore, probably of the nature of a soluble toxin and it is conveyed to the nervous tissues probably by the blood channel."

4. *Experimental Evidence.*

The experimental evidence, as is usual in such a disease as we are dealing with, is both positive and negative. Positive evidence in the hands of careful observers must outweigh the negative findings of others. Bulloch[2] (now Gye) in 1913 injected into a rabbit some of the cerebro-spinal fluid from an acute case of disseminated sclerosis in a young man of 19. The injection was made in the region of the sciatic nerve. On the thirteenth day the animal showed paralysis of the hind limbs. Three days later all four limbs were paralysed and there was incontinence of urine. The animal was then killed. Intense congestion and oedema of the grey matter in the cord was found, whilst in different situations the myelin sheaths were broken up. In another experiment, using the cerebro-spinal fluid from the same patient, he was able to produce transitory paresis in the hind limbs of a rabbit, after filtering the fluid. Bulloch concluded from these experiments that he was dealing with a filterable virus. Kuhn and Steiner,[4] in 1917, in a large series of experiments conducted on rabbits and guinea-pigs, were able to produce paresis in the limbs in two-thirds of the animals. It is interesting to note that those animals which were inoculated only with cerebro-spinal fluid were unaffected. The positive results were obtained when blood from the patients was used. Several other workers in Germany and France have obtained similar results. More recently Adams, Blacklock, and Macluskie[5] have worked on this subject in Glasgow. They inoculated cerebro-spinal fluid from several cases of disseminated sclerosis into sixteen rabbits. Five of the animals showed nervous symptoms, either in the form of paralysis of the legs or of typical cerebellar symptoms. On using citrated blood for inoculation, nervous symptoms appeared in five out of eleven animals. In several instances they were able to produce symptoms in rabbits after inoculation with an emulsion of the central nervous system of another rabbit which had been successfully inoculated with cerebro-spinal fluid from a patient. As I have said, other workers have carried out similar experiments with negative results, but on the whole there seems to be sufficient experimental proof of the infective nature of the disease.

THE NATURE OF THE INFECTION.

Farquhar Buzzard[6] in 1911 suggested for the first time that the disease might be due to a spirochaete. Kuhn and Steiner, during the experiments already mentioned, demonstrated spirochaetes in the heart's blood and in the vessels

* Given before the Oxford Division of the British Medical Association.

of the liver of the animals. Siemerling[7] observed in the brain of a man, who had died from disseminated sclerosis, living spirochaetes under dark-ground illumination. One or two others have reported similar positive results at autopsy, but none of these spirochaetes could be stained by the usual silver methods. Adams and his fellow workers found spirochaetes in various internal organs of their inoculated animals. Other evidence, positive and negative, I have not time to discuss. The spirochaetal theory of disseminated sclerosis at present rests on insufficient evidence and must be considered to be not proven. Three difficulties lie in the way: (1) the fact that spirochaetes of various sorts normally are present in most animals used for experimental purposes; (2) it has not been found possible to obtain a growth of the spirochaetes so far found by various observers; (3) if the disease be spirochaetal in origin, then the difficulties are increased by the probability that we are dealing with a class of organism that has a life cycle, and its other forms may be overlooked since we are unable to recognize them.

THE MODE OF INFECTION.

1. *Endogenous Theory.*

Before passing on to the more solid ground of the clinical aspect of the disease let us consider the possible methods of infection in disseminated sclerosis. Is the disease due to some endogenous cause—that is to say, is the virus present in the mouth or gastro-intestinal tract of normal individuals, and under certain conditions and in certain persons becomes pathogenic? We have numerous analogies—the pneumococcus, streptococcus, *Bacillus coli*, etc. Spirochaetes of various kinds—if a spirochaete be the cause of the disease—can be isolated from the mouths of most of us, and are present in the intestine in quite a large proportion of normal persons. It is possible that under certain conditions they may become pathogenic.

2. *Exogenous Theory.*

Another aspect of the disease, for knowledge of which I am indebted to Dr. D. K. Adams of Glasgow, must be considered. He has noted the relative high proportion of agricultural workers and woodworkers among the sufferers from disseminated sclerosis. He has also found that not infrequently the father of the patient follows one of these two occupations. The fact that the disease appears frequently in healthy young adults has suggested to Adams[8] that the cause of the disease is an accidental infection. In Germany this exogenous theory of disseminated sclerosis has been studied by several observers. In a personal communication Professor Kuhn says that Steiner first advanced the theory of an external infective agent. Steiner[9 10] points out in a recent paper that the disease is unknown in China and Japan; it is very rare in South America, and rare in Italy. It is most common in Switzerland, and this statement is borne out by some figures in a recent paper by Bing and Reese,[11] who found that disseminated sclerosis in Switzerland occurs twice as frequently as does tabes dorsalis. The disease is also common in Germany, France, and Great Britain. Steiner believes that the explanation of the difference in the regional distribution of the disease may be found in the mode of life or occupation, or in the distribution of carriers of infection, possibly insects. With regard to the occupational incidence of the disease, Steiner attaches considerable importance to the work of Dreyfus[12] on this point. Dreyfus, in 1920, collected records of 1,151 cases of disseminated sclerosis which had been reported or personally observed in recent years in Germany; 672 of these were males and 479 females. He found an absolute preponderance of the disease in agricultural workers and in woodworkers. For instance, according to census figures, in Germany there were 25 carpenters per 1,000 male population. Dreyfus found the incidence of disseminated sclerosis in carpenters to be 32 per 1,000—that is, an excess of 7.8 per 1.000 over the census figures. The woodworkers of all kinds with the disease showed an excess of 18 per 1.000 over the census figures. Dreyfus adds that the number of cases investigated is relatively small, and consequently the probable error is relatively large. Steiner studied the question of occupation in 500 army pensioners, and found that woodworkers showed a preponderance, which was also apparent in the father's occupation. Steiner mentions a striking case of two cousins who frequently spent their holidays together in the same villa, to which a garden was attached. Both the cousins contracted the disease, as did the gardener.

I have so far investigated the various points mentioned above in only 110 cases of disseminated sclerosis. This number is, of course, much too small to permit any conclusions to be drawn at the present moment, but enough positive evidence has been obtained to suggest that an accidental infection may be the cause of the disease in some cases, and that further investigation in this direction is desirable.

It seems probable that there is a latent period, which may cover several years, between the actual infection and the appearance of signs denoting involvement of the central nervous system. Therefore, in studying the history of a case, it is necessary to inquire into the circumstances of the patient's life over a long period, stretching back, in some instances, to childhood.

From the point of view of an infective agent it seems difficult to bring into line the tendency of agricultural workers and woodworkers to the disease. There is little evidence that only those working with diseased woods are attacked; on the contrary, it would seem that the highest incidence occurs in those who work with prepared wood.

Some of those who are engaged in general practice may have an opportunity of investigating this aspect of the disease, and I would suggest that a careful inquiry into the various circumstances of the patient's life prior to the onset should be made. Particular attention should be paid to the places of residence (town, country, or farm), occupation, hobbies (especially with regard to woodwork), and the father's occupation. It is possible that in this way fresh light may be shed on the problem of the causation of this common and crippling disease.

CEREBRAL FORMS.

The varying clinical pictures of disseminated sclerosis are well known. In the majority of cases its symptomatology depends on changes in the brain stem and spinal cord. These two parts of the neuro-axis may be attacked simultaneously, but quite frequently either one or the other may bear the first brunt of the disease. I shall not dwell on the common spinal cord types, but will say a word about the various symptoms which may be produced by invasion of the brain itself. I wish to make it clear, however, that the infective process, even at an early stage, is usually much more widespread than would appear from the clinical picture, and that even when this points solely to involvement of the cord, in the majority of cases the disease has already invaded the brain and in particular the margins of the ventricular cavities. Keeping this idea of the true dissemination of the disease before us, let us consider the effect of the disease on the cerebral tissues from a clinical standpoint. At an early stage three symptoms may appear, either together or independently. The first is headache, the second giddiness, and the third either diplopia or blindness. The headache is usually generalized and may be severe. It is frequently aggravated by anything which temporarily increases the intracranial tension, such as coughing, sneezing, and stooping. It is intermittent, lasting for one or several days at a time, and sometimes accompanies a clinical relapse; not infrequently it is attended by vomiting. The type of headache recalls that observed in conditions in which there is a rise in the tension of the cerebro-spinal fluid. It may either be toxic in origin or, as I am inclined to believe, is dependent on a temporary hydrocephalus. Whatever the explanation may be, this symptom is a common witness of the invasion of the cerebrum.

Hemiplegic Type.

There are a few types of cerebral disseminated sclerosis which must be mentioned. First the hemiplegic. This is somewhat rare, but probably not so rare as has been imagined. We must all have met with puzzling cases

of sudden hemiplegia in healthy young or comparatively young persons. Such attacks may be indistinguishable from an apoplectiform seizure; usually there is no loss of consciousness. We examine the heart and find nothing abnormal. The urine and blood pressure are normal. We plump then for syphilis and are rebuffed by a negative Wassermann reaction. By this time our thoughts have turned to the possibility of haemorrhage into a cerebral tumour, and while we are ruminating over this, the power begins to return, and within a couple of weeks or so the hemiplegia has passed off. Such cases are often labelled "cerebral thrombosis of unknown cause." The true explanation is usually disseminated sclerosis, which has begun by attacking the region of the internal capsule. I will relate two such cases.

CASE I.

A man, aged 38, had lived on a farm since childhood. His father was a farmer. At the onset of the disease he was working as an estate carpenter. He enjoyed good health until March 20th, 1924, when he experienced a stiff feeling in the right hand which grew rapidly worse within the next few hours. The following morning he was paralysed in his right arm and leg; he was admitted to the Middlesex Hospital, where he was found to be suffering from an organic right-sided hemiplegia. The condition quickly improved and by the end of two weeks he was allowed up. A few days later, however, he had an attack in which his right arm and leg became drawn up, numb, and powerless. At the same time he had a severe headache, lost his speech, and became blind in the left eye. Diplopia was noticed about the same time. The Wassermann reaction was negative, both in the blood and in the cerebro-spinal fluid, which was normal. Unfortunately the colloidal gold reaction was not tested. I saw him for the first time within a week of this attack. The physical signs consisted of nystagmus, pallor of the temporal half of the left disc, and moderately severe right-sided hemiplegia. He again quickly improved. Within the next few months he had further slight "strokes," two affecting the right side and one the left. He was admitted under my care into the Hospital for Epilepsy and Paralysis, Maida Vale, in May, 1925. He showed a marked degree of euphoria and a tendency to involuntary laughter. Nystagmus was not present. There was about 50 per cent. loss of power in the limbs on the right side and the right plantar response was extensor in type. The power on the left side was within 10 per cent. of normal. The left plantar response was flexor in type. No sensory loss, tremor, or ataxia was apparent. The tonsils, which were septic, were removed. He was treated by typhoid vaccine and with arsenic by the mouth. He improved greatly. Subsequently he had several courses of bismuth given by intramuscular injection. During the recent strike he drove a motor bus every day for two weeks and neglected treatment. Within the last month he has had a further hemiplegic seizure.

CASE II.

A woman, aged 25, became ill first at the age of 17, six weeks after running accidentally into a signpost. She began to have severe headaches, accompanied by vomiting and followed by diplopia. About a fortnight later she noticed loss of power in the right arm, and experienced great pain in this limb. A few days afterwards she became unconscious, and remained semi-comatose for several days. She was seen by Dr. Campbell Thomson, who suspected a cerebral tumour, and ordered her removal to Maida Vale Hospital. There she was found to have moderately severe right-sided organic hemiplegia with hemianaesthesia and paresis of the left external rectus. The speech was hesitating, but there was no aphasia. The discs were normal. She improved rapidly after the first few days in hospital, and was discharged five weeks later, with no headaches and almost normal power in the right arm and leg. For some months after she was subject to headaches, especially on excitement, but these then disappeared. The paresis of the limbs entirely passed off. Since then she has remained well except for occasional attacks of pain, which she describes as a throbbing, wrenching sensation in the right arm; this pain usually lasts a few minutes. At the beginning of April, 1925, the finger-tips of the right hand suddenly became dead, and she was unable to hold a pen properly. A few days later an agonizing pain, similar to that described above, was felt in the right arm, and the hand and forearm showed involuntary movements. Within the next week or so she had three attacks of convulsions in the night, which from her mother's description appear to have been epileptiform. She was admitted to Maida Vale Hospital in June, 1925, for observation, but at that time all symptoms had disappeared. The pupils and cranial nerves were normal. There was no nystagmus, and the discs appeared normal. There was no change in her mental outlook. There was no loss of power or sensation in the right arm; no ataxia or tremor was observed. The deep reflexes in the arms were brisk and equal. The abdominal reflexes could not be obtained on the right side, and were sluggish on the left. There was no paresis or alteration in the reflexes in the lower limbs. The Wassermann reaction of the blood was negative. The cerebro-spinal fluid was normal, including the colloidal gold and the colloidal benzoin curves. She has been treated with liquor arsenicalis, stovarsol, mercury, and iodides, and has remained in fairly good health. In this case the disease seems more or less localized clinically to the region of the left internal capsule and left thalamus.

Such cases as these are often difficult to diagnose in the early stages, and may closely resemble a cerebral tumour, especially that type in which the tumour, usually a glioma, first makes known its presence by the occurrence of a haemorrhage into its substance.

Before leaving this hemiplegic type I must mention that an epileptiform seizure may be the first symptom of the disease, and sometimes is associated with hemiplegia, as in Case II. Unless, of course, other signs, such as hemiplegia, accompany the fit, such attacks are indistinguishable from ordinary epilepsy. They may at times be Jacksonian in type.

Ocular Symptoms.

Diplopia is so well recognized as a frequent early symptom of disseminated sclerosis that it need not detain us. The other important ocular symptom which may bring the patient under care is sudden blindness, usually unilateral. Headache is frequently present for the day or two preceding the failure of vision; pain is usually felt behind the eyeball. The sight fails rapidly, so that within forty-eight hours little vision remains. The central vision is chiefly affected. The pupil is dilated, and reacts somewhat sluggishly to light. On ophthalmoscopic examination the disc frequently appears normal. Should the "patch" be close up to the optic nerve head, then a moderate degree of swelling of the disc with blurring of its edges may be observed. In the great majority of these cases no septic focus, such as suppuration in the nasal sinuses, can be discovered, and it is now generally held that disseminated sclerosis is the explanation of this blindness, by virtue of a "patch" somewhere along the optic nerve. The blindness clears up more or less completely within a few weeks, but other signs of disseminated sclerosis make their appearance sooner or later. Pallor of the temporal half of one or both discs is extremely common in cases of disseminated sclerosis even when there is no history of a retrobulbar neuritis.

Why should the optic nerve be picked out in this disease? There are three possible answers to this question. (1) That the infective agent is present in the posterior ethmoidal or sphenoidal cells and gains access to the optic nerve by penetrating the very thin barrier which separates these structures. (2) The subarachnoid space is continued out along the optic nerve to within a short distance of the eyeball. Certain other cranial nerves, the fifth, seventh, and eighth, also possess this prolongation of the subarachnoid space, but in the case of the optic nerve it is wider than in the others. If the virus of disseminated sclerosis be present in the cerebro-spinal fluid, then in view of these facts it is the optic nerve, bathed by the spinal fluid throughout its course, which would be most vulnerable. (3) Lastly, the possibility of a selective action of the virus on this particular nerve has to be considered. Personally, I think that one of the first two explanations lies nearest the truth.

Alterations in the Mentality of Patients Suffering from Disseminated Sclerosis.

That mental changes may occur in some cases during the course of the disease has long been recognized. These changes have been divided into those denoting interference with the highest cortical processes resulting in varying degrees of dementia, and those characterized by alterations in mood, such as increased cheerfulness or euphoria. Under the second heading are usually grouped those cases which show pathological laughter or crying. Dementia is rare in disseminated sclerosis, and is directly dependent on the invasion of the subcortical white matter by the disease. The following case is instructive from this point of view, as well as by the rapid course of the disease.

CASE III.

A woman, aged 46 (a trained nurse), one day during December, 1924, fell suddenly and was unable to get up. It is uncertain whether she lost consciousness or not. She was admitted to the National Hospital, Queen Square, where the diagnosis was "right-sided hemiplegia ? disseminated sclerosis." The cerebro-spinal fluid gave a negative Wassermann reaction, 10 cells per cubic millimetre, 0.04 per cent. albumin, and a well marked Lange gold curve. She improved slightly and was discharged three

months later. In May, 1925, she had a relapse, during which the paresis on the right side became more evident. Shortly afterwards marked tremor of the right arm made its appearance. During 1925 a great change was noticed in her mentality. She came under my care in Maida Vale Hospital in December, 1925, when the most striking point was the intense mental deterioration which had evidently taken place. She seemed to have great difficulty in understanding what was said to her, and answered questions in a slow, disjointed fashion. She had very hazy notions as to the duration of her illness, and as to how long she had been in hospital or the name of the hospital. She seemed quite unable to fix her attention on anything for more than a few seconds. She was markedly emotional, and would laugh or cry at the slightest provocation. It was impossible to ascertain whether her outlook on life was cheerful or the reverse. Her mental condition could be summed up as moderately severe dementia. There was no nystagmus, and the discs appeared normal. The speech was markedly dysarthric. There were signs of a right-sided hemiplegia, and a tremor of great range and amplitude affected the right upper limb. It was present at rest, and therefore did not conform with the usual intention tremor of disseminated sclerosis. In view of the age of the patient, the absence of papilloedema, and the negative Wassermann reaction in the cerebro-spinal fluid with other positive findings in the fluid, a diagnosis of disseminated sclerosis was made, chiefly involving the cortex. The case was too advanced for treatment to be of any avail. She gradually became worse, and died on January 19th, 1926, fourteen months after the onset of the disease. At autopsy the brain was found to be riddled with patches of disseminated sclerosis, especially the subcortical white matter and the periventricular margins.

Much more common are the alterations in mood. A recent and very instructive paper by Cottrell and Kinnier Wilson[13] deals with this subject. In 100 unselected cases they investigated the psychological outlook on life before and after the onset of the disease. They classify their results under three headings: (1) change in mood, (2) change in bodily feeling, (3) change in emotional expression and control. A change in mood they found to be present in every case they investigated. In 63 per cent. of the cases this change was in the direction of cheerfulness or happiness, to which they apply the term "euphoria." A change in bodily feeling, which they distinguish from a change in mental outlook and to which they give the name "eutonia," was present in 84 per cent. of the cases; in the remaining cases the change was either one of physical ill-being or a combination of this with a sense of well-being. Changes in emotional expression and control were also pronounced features in their series of cases. In 90 per cent. of the cases smiling and laughing were obvious features and appeared without adequate stimuli. In only two cases were they able to demonstrate actual intellectual deterioration. Cottrell and Wilson believe that these changes occur even in the early stages of the disease and are of importance in diagnosis. In their own words,

> "No single symptom of the neurological series (nystagmus, tremor, scanning speech, paraesthesiae, spasticity, amaurosis, etc.) occurs with anything like the same frequency in an unselected century of cases of the disease, and that the cardinal symptoms are not neurological in its limited sense but belong to the emotional, affective and visceral spheres."

These observations are of great interest, and will repay close study. If a young adult whilst telling you of a weakness in an arm or a leg seems extraordinarily cheerful about the whole affair, then suspect disseminated sclerosis, and do not put off the diagnosis if none of the classical signs of the disease are present.

Cerebellar Type (so-called).

It is well recognized that the first sign of the disease may be ataxia. The usual history of such a case is as follows. A previously healthy young adult "catches a cold"; some days later he sees double, is troubled with headache, and may vomit. Later, on attempting to get out of bed, he feels giddy and unsteady on his legs; the giddiness may be marked even when the patient is in bed. On examination nystagmus and ataxia of the upper and lower limbs, usually more marked on one side, are evident. There may be no signs of interference with the pyramidal tracts. Such is the picture of so-called "acute cerebellar ataxia." These symptoms clear up wholly or partially, but eventually relapses occur. The following case conforms to this type.

CASE IV.

A girl, aged 14, was admitted into Maida Vale Hospital in M 1926, under the care of Dr. Anthony Feiling, to whom I indebted for the notes.

Previously a healthy girl, she "caught a cold" on December 3 1925, and was confined to bed for three weeks. During t time she vomited and complained of severe occipital headac She saw double on more than one occasion. On getting out bed at the end of the three weeks it was noticed that she co not walk properly owing to unsteadiness. There was no weakn in her arms and she could sew and knit. After a week or she was able to get about, but was very unsteady in her ga Examination in hospital showed no alteration in mentality; t pupils were equal and reacted normally; the discs were norm and vision was full in each eye. There was a horizon nystagmus on looking to the left. Marked inco-ordination both the upper and lower limbs was present, especially on t left side. There was no loss of power or any evidence of involv ment of the pyramidal tracts except absence of the abdomir reflexes. The Wassermann reaction of the blood was negativ The cerebro-spinal fluid was not examined. There was no histo of otitis media, and examination of her ears was entirely negativ Within the course of the next few weeks she improved so that, discharge, her gait was nearly normal. The fundi remain normal. This girl was sent in with a diagnosis of "? cerebell tumour," but the disappearance of the headaches with improv ment clinically leaves little doubt that it was a case of disseminat sclerosis.

Vertigo is also a common symptom during the cours of disseminated sclerosis, and may be accompanied by hea ache, the patient labelling such attacks "bilious turns."

TREATMENT.

The treatment of a disease such as disseminated sclerosi because of our lack of knowledge of its cause, must necessity be unsatisfactory. Even if the exogenous theor prove to be correct, the problem, so far as treatment concerned, becomes endogenous. The infective agent afte entering the body must find a home. The real problem i to detect its hiding place, from which it or its toxin emerge at intervals to raid the nervous system. Suitabl lairs might exist in the mouth, intestines, or liver. Earl diagnosis of the disease should naturally be aimed at; i would be considerably facilitated if we had at our disposa a complement fixation test comparable with the Wasser mann reaction in syphilis. Until we gain some knowledg as to the causative organism a suitable antigen will only b found as a result of guesswork. The first step in treat ment, having explained the nature of the disease to th patient or a near relative, is to investigate the case fro a general point of view, especially with regard to septi foci. We are told in the treatment of infective arthritis for instance, to search for and treat septic foci; this we do and sometimes we are rewarded by immediate improvement We may attribute the arthritis to this hidden focus—fo instance, an apical abscess—but there is no proof that I an aware of that infective arthritis is actually caused by th organism, probably a streptococcus, isolated from that tooth. And yet removal of the sepsis, probably by once again turning the balance in favour of the patient's resistance, permits of clinical improvement. And so, think, we should regard disseminated sclerosis—namely, a a subacute or chronic infective disease. The mouth should be put in order, and if any doubt exists as to the state of the teeth, then an *x*-ray picture must be taken. I recently had under my care a nurse suffering from this disease, expressed clinically in recurrent attacks of retrobulbar neuritis which had eventually resulted in rather a high grade of optic atrophy. The teeth appeared excellent, but an *x*-ray picture showed apical abscesses in three. These teeth were removed, and the vision in the left eye, previously 6/36, improved to 6/12 within two weeks after the extractions. The right eye remained as before. True, this might be a natural remission of the disease, but as her vision had been very poor for some months it was at least a very happy coincidence. Septic teeth should not be removed wholesale, as on two occasions I have seen a definite exacerbation in the clinical picture result within forty-eight hours. In cases associated with or commencing by blindness, the condition of the nasal sinuses should be investigated.

Careful attention should be paid to the bowels, as constipation is a common symptom, even in the early stages of the disease. In some cases it becomes marked just prior to a relapse.

Medicinal Treatment.

Arsenic has long been recognized as the most useful drug, and the upholders of the spirochaetal theory lay emphasis on this fact. Where possible, early cases should receive precisely the same treatment as that used in neurosyphilis; the dose of intravenous novarsenobillon should, however, never exceed 0.6 gram. Failing intravenous injection, intramuscular preparations of arsenic or bismuth should be given. When such methods are for any reasons impracticable, Fowler's solution should be administered by the mouth, and may be used as a variant to the intravenous and intramuscular methods.

Pyrexial Treatment.

Protein therapy has been tried during the past few years in the treatment of this disease, and some encouraging results have been reported. A mild degree of protein shock may be produced by an injection of milk. It is preferable, however, to obtain a definite rise of temperature, and it has been found that the intravenous injection of typhoid vaccine produced this result. It is usual to commence with a small dose—for instance, 25 million—and gradually increase the amount so that by the end of six or eight injections the patient is receiving 200 millions. Within a few hours of the injection a rigor occurs, and the temperature rapidly rises to 102° or more. During this period there is, of course, general malaise and usually a temporary exacerbation of the symptoms, especially diplopia and spasticity. The injections should be given every fifth day or so, and it is best to give a small dose of novarsenobillon on the day following the injection. This form of treatment should be repeated from time to time. Malaria has also been tried; reports from Vienna are not encouraging in this respect, but Dreyfus and Hanau,[14] in a recent paper, express the opinion that it is more satisfactory than typhoid vaccine treatment. Dr. F. Golla informs me that relapsing fever has replaced malaria at the Maudsley Hospital in the treatment of general paralysis of the insane, and that the results are just as satisfactory as with malaria, and the risk of a fatal termination is considerably less. Relapsing fever might therefore prove more suitable than either malaria or typhoid vaccine as a pyrexial agent in disseminated sclerosis.

It is not easy to say whether any of these various forms of pyrexial treatment are of any real value; the natural mutability of the disease and the comparatively short time that this form of treatment has been on trial have both to be remembered. In a well established case which is more or less stationary I feel sure that no such treatment is of the least use. On the other hand, in a moderately severe case of relatively short duration, in which the disease is obviously active, pyrexial treatment does sometimes appear to bring about a remission. In early cases the chances of arresting the disease, even though temporarily, are greater, and remissions occurring within a short time of the treatment are not uncommon. It may be argued that such remissions are independent of the treatment, and would have taken place in any case. That may be so, but at least such remissions, whatever their cause, *do not* contra-indicate this line of treatment.

In conclusion, it is evident that little advance has been made in the treatment of disseminated sclerosis, and no real progress in this direction can be looked for until we know more of its etiology. The exogenous theory of this disease, though it may seem at first glance to be wild and speculative, is one that may repay further study.

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THE PATHOGENESIS OF RESPIRATORY ANOMALIES AFTER EPIDEMIC ENCEPHALITIS.

BY

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AMONG the many mental and physical after-effects of epidemic encephalitis the respiratory disorders are now recognized as occupying a very definite place. Knowledge of this aspect of the disease has gradually accrued by the publication of numerous isolated case reports.

GROUPING OF CASES.

In an earlier paper[1] we pointed out that encephalitic respiratory disorders may occur both in the acute stage and also as "sequelae." The symptoms on analysis may be resolved into three main groups: (1) disorders of the respiratory rate, (2) disorders of the respiratory rhythm, and (3) respiratory "tics." Combinations of these groups often occur, and any of these manifestations may be constant, though more usually they are intermittent.

Respiratory Rate.

The disorders of the respiratory rate comprise acceleration (tachypnoea) and depression (bradypnoea). There is usually no alteration in the pulse rate, no cyanosis, and no thoracic distress in these varieties. In some instances the disorder supervenes only when the patient is supine, in others only when the patient stands upright. In other cases, again, the acceleration in respiration rate only comes on during sleep. The onset is frequently determined by emotional disturbances, such as those occasioned by fright, shyness, or excitement; the attack can often be checked temporarily by a strong effort of will on the patient's part. Again, the attack can frequently be cut short by speaking sharply to the patient or by ordering him to hold his breath, breathe through his nose, or perform some complicated act which will necessitate the patient's close attention. Consciousness is usually retained throughout an attack, but on rare occasions may be lost.

In some instances the lungs become over-oxygenated during the tachypnoeic spells; carbonic acid is washed out of the circulation and the acid-base balance is altered in the direction of a temporary alkalosis. Such a metabolic change results in tetany, of which some half-dozen cases following post-encephalitic tachypnoea are on record.

Bradypnoea is a much rarer manifestation, but may be met with during both the acute and chronic stages. The respiratory rate may fall as low as 6 per minute, and, in order to maintain full oxygenation of the blood, each breath is usually of greater amplitude than normal.

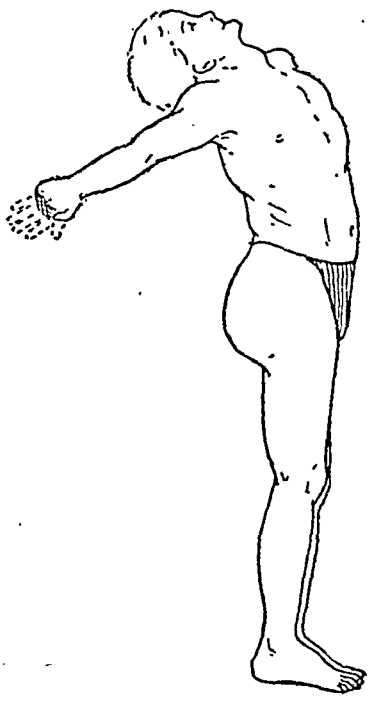
Respiratory Rhythm.

Disorders of the respiratory rhythm comprise those in which there is an irregular spacing in the normal cycle of inspiration : expiration. Such an arrhythmia may be regular or irregular in its metre; it may be paroxysmal or continuous in appearance. The arrhythmia may be apparent during the waking state only, or, conversely, only when sleeping. In other instances it may occur whether the patient is awake or asleep.

Sighing.—This is perhaps the commonest example of a respiratory dysrhythmia, and is often so slight in degree as to escape casual observation. It is especially common in association with Parkinsonism. From time to time the patient takes a deep inspiration followed by a prolonged expiration. A short period of compensatory apnoea usually follows. These sighs occur without any apparent reason at intervals throughout the day or night, often without the patient's knowledge.

Apnoeic Pauses.—Occasionally a patient can be observed to hold his breath in the middle of normal respiration without any preparatory acceleration of rate or depth and without any previous sighing. More commonly the apnoeic pause is ushered in by a series of deep gasping respirat

which may be either slow or rapid in rate. The breath is then held as though voluntarily, in the phase of full inspiration, until the face and neck become suffused and deeply cyanosed. In cases of prolonged inspiratory apnoea consciousness may be temporarily obfuscated and convulsive attacks are not uncommon. In the less severe degrees of this condition the patient performs many grotesque gestures, clenching and unclenching his fists, clawing the air, or twitching. At the end of the apnoeic spells the breath is audibly expelled, and then there follows a shorter period of expiratory apnoea before the resumption of normal breathing.



The drawing reproduced herewith shows a patient suffering from a post-encephalitic respiratory disorder in an actual attack. The patient, a young man aged 25, had been attacked with acute epidemic encephalitis in December, 1924. The respiratory disorder started originally as a persistent dry cough; later the patient developed attacks of breath-holding, occurring many times daily. In the attacks the patient stands up and takes several deep noisy breaths in rapid succession; next he stiffens himself and slowly bends the trunk backwards, at the same time extending the head fully. The arms are raised from the sides to a right angle in an exaggerated "yawning attitude." The forearms are alternately flexed and extended, the hands being maintained in the "accoucheur's attitude" characteristic of tetany. During this time the breath is held in full inspiration; the abdominal muscles are tightly contracted and the veins of the face and neck become extremely engorged. Each spasm is maintained for twenty to thirty seconds; in some instances there is a transient loss of consciousness and the patient falls. The attacks are terminated by a long expiration followed by a short spell of noisy tachypnoea. No physical signs suggesting any degree of Parkinsonism could be discovered. Drawing (from photograph) by Miss D. Pillers, Bristol.

"Cogwheel" Respiration.—A common type of anomaly seen after encephalitis consists in respirations which are jerky and broken in character. The jerkiness is usually more obvious during the expiratory phase. When viewed on a fluoroscopic screen it will be observed that the diaphragm is rising and falling in a series of cogwheel-like movements, and it is probable that this defective diaphragmatic movement is responsible for the peculiar respiration. In cases of the myoclonic variety of encephalitis the diaphragm and other respiratory muscles may participate in the myoclonus, producing a correspondingly jerky character to the respiratory rhythm.

Bigeminal and Trigeminal Respiration.—Analogous to the well known pulsus bigeminus or trigeminus, the respiration rate may take on a regularly alternating character. Thus the breaths may be alternately deep and shallow, or one deep respiration may be followed by two of shallower degree.

Respiratory "Tics."

The varieties of respiratory mannerisms met with in children after epidemic encephalitis are manifold; many of them are usually regarded as instances of "habit spasm." These diverse types may be aggregated and considered under the title of "respiratory tics." They are commonest in children, and may in fact be the only outstanding symptom remaining after encephalitis. More commonly they are associated with psychical and sleep abnormalities, in the absence of gross organic change. Amongst such "tics" one includes the spells of spasmodic cough occurring without any adequate laryngeal, tracheal, or pulmonary abnormality. Another example is found in the "blowing" habits of some post-encephalitics. The patient, usually a child, will suddenly leave off what he was doing, and, inflating the cheeks, give vent to a series of rapid blowing expirations. The child cannot give any adequate reason for his peculiar behaviour. Sniffing constitutes another objectionable post-encephalitic "tic." Expiration of air through the nose—spoken of as *soufflement* by the French—is another similar habit.

Wide gaping of the mouth, occurring from time to time without adequate reason, is commonly observed after encephalitis, especially in association with Parkinsonism. Sometimes the mouth is opened so far as to bring about an actual subluxation of the jaw joints. The patients, on inquiry, state that they have no sensation of fatigue, but that the lower jaw seems to drop of its own accord. They are unable to check the yawning for longer than a few minutes.

GENERAL CONSIDERATIONS.

Many attempts have been made to explain these phenomena; whilst certain observers have been content to dismiss these disorders as hysterical manifestations, the majority of physicians regard them as resulting from definite organic lesions in the central nervous system.

Supporters of the former conception stress the diversity of the clinical manifestations, their inconstancy, and the theatrical and bizarre nature of the accompanying gestures. They emphasize the emotional instability of many of the patients, and their susceptibility to environmental factors. The precipitation of the attack under psychical stress, its aggravation by excitement, and lastly its frequently abrupt arrest by strong suggestion, are also quoted. The similarity of the respiratory "tics" to the well recognized habit spasms of childhood is another argument. They point out, too, that similar respiratory anomalies—tachypnoea, periodic apnoea, Cheyne-Stokes breathing, sniffing, coughing, and other tics—have all been described long ago by Janet and others as well recognized manifestations of hysteria. Recently there have appeared publications endeavouring to trace a psychical origin to the nervous and respiratory sequelae of encephalitis.

It must be conceded, however, that none of these arguments are conclusive. Many of the late manifestations of encephalitis—such, for example, as tremor—are similarly influenced by the emotional state of the patient. Thus, apprehension, fear, pleasure, are all factors which aggravate the tremor, though few would affirm that this was a symptom of psychical origin; most patients exhibiting the Parkinsonian syndrome are able to control the tremor for a short time by exercising a strong effort of will, just as many of the patients with tachypnoea can alter temporarily their respiratory rate, and make themselves breathe slower or deeper, shallower or faster. Far from being an indication of hysteria, therefore, this variability of symptoms depending upon different states of emotion and control is known to occur in many organic disorders. In all genuinely hysterical cases of disordered respiration other characteristic features of hysteria can readily be demonstrated. The course of the disease, moreover, is very different in the two conditions: in hysteria the respiratory anomaly is usually transient and rapidly yields to treatment by suggestion; in the post-encephalitic states, however, the outlook is grave—a few improve, some remain stationary for months, but the majority tend to become progressively worse, the physical and mental states simultaneously deteriorating. Many eventually drift into asylums, being affected with delusions and hallucinations, often highly systematized. It does not seem necessary, therefore, to seek for a psychical origin to the respiratory disorders of encephalitis any more than in any other organic psychosis; diffuse histo-pathological changes are readily demonstrable, and although the anatomical basis of such manifestations is still a matter of hypothesis, the physiology clearly entails a dissolution of the highest functions of the mind—judgement and inhibition.

Normal Physiology of the Respiratory Mechanism.

Normal automatic or unconscious breathing is effected through a so-called "respiratory centre," which is in reality made up of a number of anatomically separate areas situated in the pons and medulla. This centre is stimulated partly by afferent proprioceptive impulses from the alveoli of the lungs and the thoracic musculature, but mainly by the concentration of carbonic acid in the blood stream. The efferent impulses are conveyed along the lower neurones to the chest muscles and diaphragm.

Though the respiratory centre normally acts independently as a reflex phenomenon, it can be influenced by cortico-bulbar activity. Thus voluntary impulses, conveyed along the pyramidal tract, are capable of inhibiting or accelerating the respiratory centre so that an individual is able, temporarily at least, to hasten or retard his respiration rate, to take shallow or deep respirations, to assume an irregular rhythm, or to inhibit all respiration. Moreover, the respiratory centre is under the influence of other cortico-spinal impulses, which are correlated with the various respiratory irregularities occurring under emotional stress. Thus fright is associated with a temporary inhibition of respiration; pleasurable excitement with an acceleration. The gasping respirations which accompany crying and sobbing also illustrate the influence of the emotions upon the activities of the respiratory centre. There is a good deal of evidence—both experimental and anatomical—to suggest that these phenomena are conveyed along very definite psychomotor pathways. Spencer has demonstrated that these tracts originate in the prefrontal cortex and pass in close proximity to the optic thalamus to end in the lower pons. It is along these routes that the characteristic facial movements and respiratory changes are affected with emotional stimuli. It appears also that the pyramidal tract exercises partial inhibition over these psychomotor (or facio-respiratory) pathways; hence marked emotional instability and even spasmodic laughter and weeping after bilateral ablation of the pyramidal tracts are observed, as in pseudo-bulbar palsy. This normal inhibitory effect of the pyramids, though taking place partly in consciousness, is mainly a subconscious influence, and probably depends anatomically upon the presence of transcortical projection fibres between the precentral and prefrontal cortices.

The Disorders of Respiration.

The pyramidal tract cannot be implicated in the clinical manifestations of disordered respiration because of the absence of the characteristic changes in reflexes and the conservation of voluntary control. The respiratory centre itself does not appear to be the site of disease; there is little or no similarity in the diverse respiratory disorders to the dyspnoea of bulbar disease. It is improbable, too, that a medullary lesion would affect the centres subserving respiration and spare the other important nuclei closely aggregated in this region. Moreover, pathological evidence has failed to support this theory. Changes in the proprioceptive impulses or alterations in the chemistry of the circulating blood have never been demonstrated; the afferent stream of impulses to the medulla therefore seems to be intact. The efferent neuro-muscular mechanisms have been held responsible by some; it is improbable, however, that any such changes are present in all the types of disorder, although doubtless they are a factor in some. Thus rigidity, myoclonus, or tremor of the diaphragm can be demonstrated in patients showing a cogwheel type of respiration. It is obvious, however, that the pathogenesis of respiratory disorders as a whole is to be sought outside the efferent pathways.

Psychical and Sleep Disorders.

Stress has been laid upon the frequent occurrence of psychical and sleep disorders in association with respiratory upset; the association with the emotional instability of the patient lends weight to the view that the psychomotor pathways, with their transcortical projections, are the probable site of origin. An interruption in these latter fibres would abolish the unconscious control normally exercised by the pyramids over the emotional factors of respiration; we would expect, then, to encounter an unstable type of respiration, influenced by every variety of emotional play. The conscious and voluntary control, which we believe to be the function of the long cortico-bulbar fibres of the pyramids, persists; consequently the patient is able, by exerting a determined effort of will, to check or even arrest the abnormality of breathing. Many of these respiratory upsets are of a striking and alarming nature even to the onlookers. It is not surprising that the patient himself is profoundly impressed by the phenomena, and the emotion of fear thus engendered tends to maintain the abnormal respiration. The disease tends, therefore, to perpetuate itself, owing to the complete emotional instability and the lack of equanimity and self-confidence.

Reference has been made to the occurrence of respiratory disorder during sleep; many authors have pointed out that towards nightfall the patients become restless and excited, and frequently noisy and unruly—in striking contrast to their diurnal somnolence and placidity. Simultaneously there is an aggravation in the respiratory disorders. These facts can be reconciled with a tiring-out of the processes of inhibition which have been active throughout the day-time, so permitting conduct and respiratory anomalies to manifest themselves unchecked.

The researches of Pavlov have done much to throw light upon the physiology of the highest cortical processes; they have revealed that many of the seemingly complex activities of the cortex are in reality the resultant of definite conditioned reflexes and their antagonistic inhibitory influences. The study of behaviour in animals after ablation of small areas of cortex demonstrates that there is a temporary upheaval of the normal conditioned reflexes, and that the inhibitory processes are affected to a much greater extent than the excitatory. More extensive damage to the brain produces a permanent weakness of the inhibitory processes. A similar state of affairs appears to exist in many cases of post-encephalitic respiratory disorder, where there is an obvious impairment of inhibition on the part of the patient, although the conditioned reflexes can still be checked temporarily by unexpected extraneous stimuli (external inhibition).

It appears, therefore, more in accord with the modern conceptions of neurology to regard these "psychical" changes following encephalitis (conduct and sleep disorders, respiratory abnormalities) as essentially physical in origin. I submit that the respiratory disorders are essentially organic in their pathogeny, and suggest that they arise from disorder of the psychomotor pathways controlling the respiratory centres, together with a defective inhibition by cortical control.

REFERENCE.
[1] Turner and Critchley: *Brain*, 1925, 28, 72.

EXPERIMENTS ON THE RADIATION OF TUMOURS.

WITH SPECIAL REFERENCE TO THEIR BLOOD SUPPLY.

BY

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(From the Research Laboratory, Radium Institute, London.)

THE clinical treatment of tumours by radiation brings out two outstanding facts: first, that there are wide differences in the sensibility of tumours of different kinds; and secondly, that tumours of the same kind in different patients also vary in sensibility, though the variations are less wide than when tumours of different kinds are compared. At present there is no way of estimating these differences before treatment. The first kind of variation has been considered to reside in the tumour cells, but when different kinds of tumour cells are irradiated *in vitro* the lethal dose is found to vary very little. The second kind of variation must reside in the patient, and has been assumed to be due to a resistance towards tumour growth, which varies from patient to patient. Thus, it is evident that we have no certain explanations for the two most important clinical facts, and in order to elucidate them the following experiments have been carried out.

When a tumour is radiated *in vivo*, then removed at once,

and placed in another animal, the factor of resistance will be avoided apart from its operation during the few minutes in which the radiation is being applied. If, on the other hand, the tumour after radiation be left in the animal for varying lengths of time before removal and inoculation into another animal, then the factor of the host will operate more or less according to the length of time that it is permitted to remain in the host after radiation. By comparing these two sets of experiments the influence of the host will be demonstrated.

Experimental Details.

In order to avoid as far as possible normal variations in tumour growth, a tumour (mouse sarcoma No. 180) was chosen which grows in nearly 100 per cent. This was kindly supplied to me by Dr. Woglom from the Cancer Research Institute, Columbia University. Dr. Woglom stated that "in the ten years or so that we have been cultivating it I cannot remember one single regression." During this investigation 84 control inoculations have been made, with 75 takes; there were no regressions. Of the 9 negatives, 5 occurred in a single batch in which a much degenerated tumour was used. The experimental procedure was as follows:

Mice were inoculated in the flank with small pieces of tumour, approximately 1 mm. cube. When these had grown to approximately 4 by 4 mm. superficial area they were radiated with a radium application of 20 mg. of radium element, area 15 by 15 mm., screen 0.35 mm. silver. The exposures were for ten, fifteen, and twenty minutes. Either at once, or after varying lengths of time (from three to seven days), the mice were killed, and the tumour exposed by removing the skin. A thin slice, 1 mm. thick, of the tumour was taken from the surface, divided generally into six pieces, and inoculated into mice.

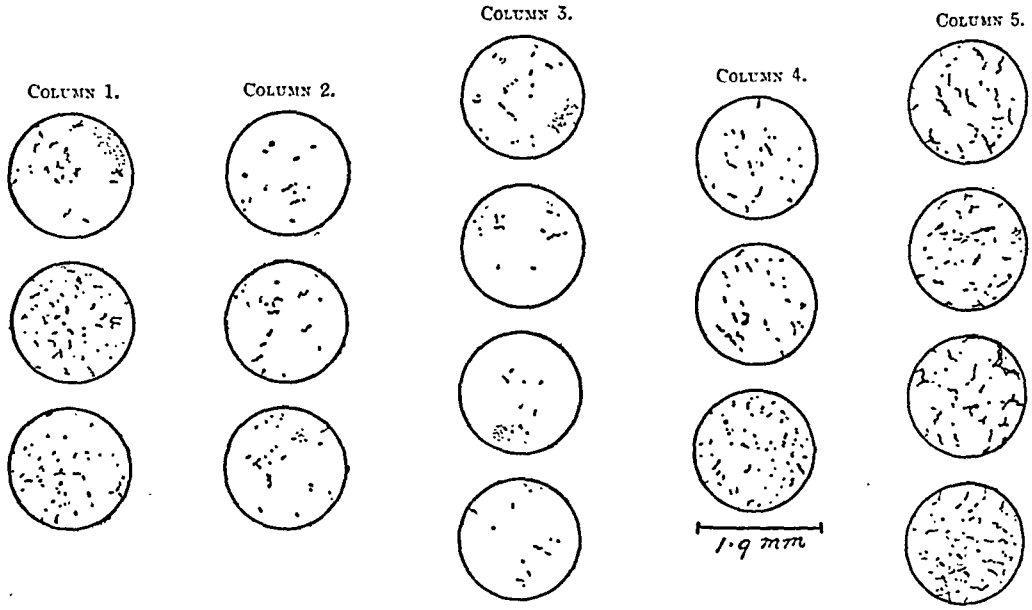
Results of Radiation.

When Tumour Removed.	10 min. Radiation.	15 min. Radiation.	20 min. Radiation.
At once	6/6	11/18	4/12
After 3 days	3/6	2/6	5/10
After 4 days	5/6	1/6	0/6
After 5 days	2/4	0/6	0/6
After 6 days	4/6	0/6	0/4
After 7 days	6/6	0/3	2/10

The denominators of the fractions give the number of inoculations, the numerators the number which grew into tumours.

The results show that the chance of the inoculation growing is much greater when the radiated material is removed at once than when removal is delayed for a period of four to six days. Just as the number of takes is reduced in this manner so also, as would be expected, is there a difference in the time of appearance of the tumours and their liability to regress. Tumours which grow from the inoculation of pieces taken four to six days after radiation take much longer to appear (about twenty-one days) than tumours growing from pieces taken immediately after radiation (about seven days), and whereas cases of regression and disappearance of tumours occurred amongst the former, none were observed in the latter. These findings go to show that the figures given in the table are not the results of chance, but of the arranged experimental differences.

At first sight these results suggest that there is in the mouse an inhibitory factor towards the growth of sarcoma 180, which accounts for the differences obtained, according as to whether the radiated tumour cells are removed at once or after varying lengths of time. On the other hand, the results can equally well be explained by assuming that the radiation produces effects in the tumour which do not manifest themselves for several days. One such effect has been observed. It is well known that radiation has produced effects on blood vessels. An early effect is swelling of the endothelial cells, which obstructs the blood flow through the arterioles and capillaries. This obstruction to blood flow is to be seen in the living mouse in the neighbourhood of the radiated tumour. On about the fourth day after the tumour has been radiated the normal pink colour of the skin and underlying tumour disappears, and is replaced by a bloodless yellow colour. I have had occasion recently to radiate chickens. Their skin is very thin and transparent, so that the pink colour of the underlying tissues can be easily seen. Twenty-four hours after a large dose, and two days after a moderate dose of radiation, using square radium applicators, a square white area is seen where the application was made, which is very marked after three to four days, and persists for a few weeks. These observations suggest that the normal blood supply to the radiated tumour may be interfered with at this time. In order to test this the following experiments were made.



Experimental Details.

Tumours were exposed for twenty minutes to the applicator *in vivo*. After varying lengths of time the tumours were removed so as to preserve as far as possible the amount of blood which they contained during life. The animals were etherized. The skin for about 1 *cm.* around the tumour was burnt through with a cautery, then ligatures were passed under the tumour, and the deep connexions tied off. The whole was then removed and fixed in formol Müller. Sections 5μ thick were made, stained with aniline fuchsine, decolorized with 0.5 per cent. ammonia solution, and counterstained with iron haematoxylin. In this way the red corpuscles show up intensely red against a grey background. Control

specimens which had not been radiated were similarly prepared. Using a square graticule in the eyepiece of the microscope, drawings were made, on squared paper, of the red cells seen. In this way a picture of the amount of blood in the capillaries was obtained. No differences between experiment and control were found in the twelve-hour and twenty-four-hour specimens. The results obtained with intervals of two, three, and four days are illustrated in the accompanying figure, which shows the drawings obtained as described. In choosing a piece of tumour to draw, an area of the section was always selected where blood vessels were most numerous and the tumour neither degenerated nor necrotic.

It will be seen that after two days (column 1), and especially after three and four days (columns 2 and 3), the capillaries in the radiated specimens contain very little blood as compared with the control specimens (columns 4 and 5). The areas of fine scattered dots represent haemorrhages, and it is seen that these are more numerous in the experimental animals. The differences which have been observed may therefore be well accounted for by the fact that tumour cells allowed to remain in the body after radiation suffer from an interference with their blood supply, as well as from the direct effects on them of the radiation.

Theoretical Considerations.

Starting from this fact, there arises the question whether the difference in radio-sensibility between normal tissues and tumours is related to effects on blood vessels. It is known that tumours, and especially malignant tumours, have an inefficient vascular supply. Any interference with this will thus operate against them more than against normal tissues. Further, in many malignant tumours the supply of blood is so poor that necrosis is of common occurrence, apart from radiation. Such tumours are especially sensitive to radiation, after which widespread necrosis may occur. Rapidly growing tumours, which presumably make a large call on the blood supply, and tend to outgrow it, are likewise said to be especially sensitive to radiation. Non-malignant tumours seem to fall into line as their vascular supply is less differentiated than normal tissues, but more than malignant tumours, whilst the sensibility is likewise intermediate. How far this hypothesis will account for the facts of radiation remains to be seen; it is now put forward as a working hypothesis which may prove useful in therapeutics.

Conclusions.

1. Tumours left for four to five days in the animal after radiation, and then removed and grafted into other animals, succumb more easily than when removed immediately after exposure.

2. This effect is associated with an interference with the blood supply, which occurs four to five days after the exposure.

3. These results suggest the hypothesis that the varying sensibility to radiation of tumours, and the difference in sensibility between normal tissues and tumours, are associated with the variations in blood supply, on which the radiation has a special action apart from its direct action on cells.

ASTHMA WITH MAXILLARY SINUSITIS AND A HEALTHY SUPERNUMERARY PARANASAL SINUS.

BY

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THE patient whose case is recorded below is a medical student, aged 20, whose studies were interfered with by recurrent attacks of asthma. He came to see me on August 7th, 1926, and gave the following history.

He said that he had had bronchitis in October of the previous year, and that after three days in bed asthma developed, the attacks continuing during the succeeding three weeks. He then studied in London for the primary Fellowship examination, and while there was free from attacks, but on returning home, where he remained until the end of January, 1926, he suffered from slight attacks of asthma occasionally, with shortness of breath on exertion. On resuming work at a university in the North of England he had severe attacks for three nights, so he returned home. He had shortness of breath each morning, and asthmatic attacks at intervals of five or six weeks, each attack lasting for a week or two. For three weeks before coming to me he had never once been free from asthma. He had used adrenaline frequently, and had had four injections of peptone during the week in which I saw him.

I found his nose normal, except for a few threads of mucus extending from the septum to the lateral walls; some mucus was present on the floor of the nasal orifice. The tonsils and adenoids had been removed in childhood, but a portion of the left tonsil was still present. The larynx and vocal cords were red, and the trachea, which was easily exposed, was injected. On transillumination both maxillary sinuses were dark. By puncture and washing a mass of mucoid material was expelled from the right sinus; the left sinus showed only a few strings of mucus. Three days later the patient returned, and said that he felt better than for many weeks. Puncture was again performed, and on this occasion a mass of mucoid material was expelled from both sinuses. On the next day puncture of the right sinus revealed the same condition, but the left sinus washing was clear.

On August 14th a Caldwell-Luc operation was performed on both sides, the anaesthetic employed being morphine and scopolamine, with local injections of 1/2 per cent. solution of novocain, and the application of cocaine paste in the nose. On the right side a small normal sinus was exposed, and a counter-opening was made posteriorly below the inferior turbinate; the wound was then sutured. The left sinus was found to be similar to the right, but perforating a thin partition brought to light a sinus lined with polypoid mucous membrane, on the floor of which a strand of pus was lying. The sinus was scraped with a curette round which was wound gauze soaked in 10 per cent. zinc chloride solution, and the partition, which had completely divided the antero-median from the posterior lateral sinus, was removed. The sutures on the right side were then taken out and a similar partition was discovered, which, on removal, opened up a sinus presenting the same pathological appearance as the left.

By September 16th the patient had been free from asthma for about a month; on recurrence then, I washed out the sinuses and retained secretion was found. I removed the anterior ends of the inferior turbinates, and enlarged the intranasal opening to enable the patient to use lavage himself. On October 21st the patient, who was regularly washing out the sinus, reported freedom from the asthma and an increase in weight; he was only troubled now by a slight cough at night, due to the bronchitis which so often follows sinusitis. Two days later he stated that, after washing the sinus twice a day for a month he had abstained for thirty-six hours from lavage, when a violent attack of asthma supervened, necessitating the use of morphine. This was an indication that the patient was sensitive to his own protein.

The anatomical condition in this patient explains why on two occasions the washings from the left side were negative, and how, although proof puncture had shown the presence of disease on the right side, yet a healthy sinus was found, but, when the partition was removed, a polypoid mucous membrane was exposed to view. I have previously reported the occurrence of similar anatomical anomalies of a less degree in two patients in China. The origin of supernumerary paranasal sinuses is discussed by Schaeffer. It would appear that the medial healthy sinuses originate from the naso-palatine canal, while the diseased sinuses are the true maxillary sinuses. In my case the condition was deceptive as the partition was complete. From the clinical aspect the history of asthma for only ten months pointed to a focus of infection somewhere, yet if transillumination had been omitted from the routine examination the focus would not have been discovered, for the patient had no idea that he had any lesion in his nose; there was no localized oedema or hypertrophy, and no discharge was seen near the middle turbinate. The condition is interesting, as the patient seems to have been sensitized to his own protein, and was always relieved by an adrenaline injection.

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A CASE OF SELF-MUTILATION.

BY

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THE following report is of considerable medico-legal interest, and though cases of self-mutilation occasionally occur, chiefly in asylums, the accompanying illustrations are probably unique in the annals of forensic medicine.

The deceased was a healthy man until two years before his death, when he contracted rheumatism, which prevented him from working. Since then he had been unemployed, and his landlady noticed that he was becoming strange in his manner.

About 10.30 one morning he left the house, saying he would return at midday for his dinner; he appeared to be depressed, and was under the delusion that he had killed his sister. He was not seen for two days, when he was found lying in a field on the outskirts of Edinburgh; his clothes, with the exception of his trousers, socks, and boots, had been removed, and he was seen to have numerous wounds on the head, throat, and body. He was taken in an ambulance to hospital, where he arrived in a very collapsed condition, almost pulseless. He was conscious, and understood directions, but was too weak to talk. The wound in his throat was septic and crawling with maggots, but not bleeding. He died eight hours later.



Ventral aspect.



Left hand. Head and neck. Right hand.

Post-mortem Examination.

Lividity was well marked. The internal organs and brain were normal in appearance. All the organs were plentifully supplied with blood, and death had not taken place from haemorrhage. The body showed over four hundred and forty different cuts, chiefly superficial, though in a number of instances, such as on the back of the left arm, on the fingers and throat, the underlying muscles were divided.

The main wound was in the throat; it started just below the lobe of the left ear, and passing immediately above the thyroid cartilage it ended at a point on the lower jaw midway between the angle and the symphysis menti. The incision had severed the sterno-hyoid and omo-hyoid muscles on each side, but the main vessels and air passages were uninjured The wound was septic and crawling with maggots. Immediately above the main wound, at its commencement on the left side and parallel to it, was a smaller wound, 2 in. in length, which penetrated the muscular tissue. A similar wound was situated just below the main wound. In addition to these wounds the following cuts were found:

Forehead 5—extending across the greater part of the forehead.
Chin and neck 27—two extending round the right side of the neck as far as the mid-line behind.
Chest 72.
Left axilla and side of chest 27.
Abdomen 168.
Left arm: Palmar surface—palm 24, fingers 15, wrist 4, forearm 6. Dorsal surface—hand 2, fingers 13, wrist 2, forearm 6.
Right arm: Palmar surface—palm 26, wrist 12. Dorsal surface—hand 2, wrist 10, fingers 21.
Scrotum: Six faint scratches on the most dependent part.

The wounds had been inflicted with a somewhat blunt penknife having a blade 1¾ in. long, which was found in the field near the deceased.

Comment.

The case presents many points of medico-legal interest. The number and character of the wounds are typical of *self-infliction and mental derangement*. Similar cases have been recorded, one of the most striking being that noted by Maschka (*Prag. med. Woch.*, 1888), and referred to in Dixon Mann's *Forensic Medicine*. In this case a man, who was an inmate of an asylum, inflicted 285 punctured wounds on himself, 200 being on the left side of the chest, 50 on the left forearm, and 28 on the right forearm.

In the case here recorded, in addition to the injuries on the trunk and arms, the forehead, chin, and cheeks had been extensively slashed. Of special interest are the cuts on the palmar aspect of both hands. This is a most unusual place for self-inflicted injuries. Incised wounds on the palms and fingers are regarded as characteristic of injuries resulting from an attempt to ward off an assailant armed with a knife or razor, by seizing the blade with the hands. Had this case shown only such wounds on the hands and the wounds on the throat, a strong suspicion of homicide would have arisen

The cause of death is also interesting. No vital structure was injured, and the loss of blood had been slight, as was shown by the well marked *post-mortem* lividity and the condition of the internal organs. Judging from the condition of the wound in the throat and the time of his disappearance, the man had apparently been lying out in the field, after the wounds had been inflicted, for two days and nights, clad only in a pair of trousers. This, together with the general healthy state of the organs and absence of disease, justified the inference that death had resulted from exposure and shock.

I am indebted to Professor Littlejohn and Professor Lorrain Smith for permission to publish this case.

MASTOIDITIS LIMITED TO THE DEEP SUBANTRAL CELLS.

BY

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THE case here reported illustrates the potential difficulties and vagaries of mastoid surgery and the importance of Mouret's[1] teaching as to the necessity of exploring not only the superficial but the deep subantral cells for the possible *extension of disease in every case of acute mastoiditis.*

A professional man, aged 42, was referred to me on June 29th, 1926, suffering from severe pain in the left ear and left temporal region. It had been present for five days; a discharge from the left ear which had been in evidence for three days had ceased. I encountered some difficulty in viewing the left tympanic membrane owing to exostoses. It was hyperaemic, but the anatomical landmarks were still apparent and the hearing was but slightly impaired. The pulse and temperature were normal, but as there was marked tenderness over the mastoid and temporal regions I at once performed a linear paracentesis of the posterior segment of the membrane and confined the patient to bed. There was no discharge from the ear then or later.

During the succeeding days the patient complained of intermittent radiating pains in the left mastoid and temporal regions, especially at night; these were sufficiently severe to necessitate the administration of sedatives to induce sleep, but they tended to become less, as also did the mastoid and temporal tenderness. A four-hourly temperature and pulse record failed to reveal the smallest abnormality.

On July 9th I noticed very slight paresis of the left side of the face, only evident during emotional activity. As this became much more marked on the following day, I decided to explore the mastoid bone. This proved to be a matter of extreme difficulty owing to its density, the superficial and anterior position of the *sigmoid sinus (which lay only a few millimetres below the cortex* and immediately behind the posterior meatal wall), and to the downward and lateral inclination of the middle cerebral fossa. The mastoid antrum, which lay at more than one inch from the surface, could only be reached by the use of a 2 mm. chisel in the very small triangle of dense bone which was circumscribed by the middle fossa, the sigmoid sinus, and the posterior wall of the bony meatus. It was small and contained a somewhat slightly turbid fluid. By applying pressure to the antral floor with a small sharp spoon I succeeded in opening into a small cellular area which lay in close proximity to the descending limb of the facial canal and which was found to contain purulent fluid. Cultural examination of both the antral and cellular contents yielded a pure culture of the *Streptococcus mucosus*. A careful examination failed to reveal any extension of the disease to the *temporo-zygomatic cells*. A small rubber drainage tube was inserted and retained for four or five days. The facial paralysis disappeared very quickly and the bone cavity was rapidly obliterated.

The deep subantral cells, which may often be prolonged into the interior of the pyramidal portion of the bone, in the space subtended by the labyrinth, the jugular bulb, the cerebellar fossa, and the facial canal, communicate with the inner half of the floor of the mastoid antrum. There may or may not be a connexion between them and the *more commonly affected superficial subantral cells, which,* as in this case, may be entirely absent. When both sets of cells are simultaneously affected the more apparent symptoms resulting from lesions of the external cells may mask those pertaining to a lesion of the deep, which latter, more especially in the absence of a direct communication with the superficial cells, may continue to advance. These deep lesions, which evolve slowly, may elude the attention of the less observant clinician and end by causing extensive havoc in the depths of the bone, implicating, on the one hand, the aqueduct of Fallopius or the cerebellar fossa (meninges or terminal part of the lateral sinus), or, on the other, the deeper planes of the neck.

REFERENCE.

[1] Mouret, J.: *Strasbourg Médical*, eighty-fourth year, No. 1.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

HENOCH'S PURPURA IN AN ADULT.

THE following case appears of sufficient interest to be placed on record, since all the symptoms seemed to point to an "acute abdomen" until the purpura appeared.

A man, aged 44, came to my surgery in July, 1926, complaining of pain in the stomach, which was worse after meals; there was no vomiting and no pain on palpation. I gave him a rhubarb and soda mixture; one week later the pain had gone and he stated he was now quite well again.

On November 26th, in the afternoon, while the patient was walking he was suddenly seized with an acute abdominal pain "doubling him up"; this became gradually worse and he passed what he stated to be a good motion. The pain remained severe, and at 9 p.m. he looked collapsed, but the pulse was 74 and the temperature 97.4°. On examination his stomach was hard, and moving little if at all on respiration. By palpation it was difficult to make anything out as the muscles were rigid, but pain was found in the right iliac fossa. On percussion there was a resonant note all over; the liver dullness was lessened and the tongue was furred.

The patient had a bad night, and on the next morning the pulse was 76 and the temperature 97.2°. The pain, severe all over the abdomen, which was still rigid; it was worst in the left iliac fossa. The urine was smoky; it contained blood and slight albumin. On the next morning the *pain continued* severe, the pulse 82, and the temperature 100.1°. The abdomen was still hard and painful to palpation all over; he had been given small doses of calomel and salts but had vomited them, the vomit being bile-stained. After two enemas with no good result, he passed in the evening a motion which contained obvious blood, some bright red and some dark. In the early morning of November 29th he had severe pain over the left base, resembling pleurisy, but at 11 a.m. he was much better, the pulse and temperature were normal and there was less rigidity of the abdomen. At 11 p.m. he was reported to be unconscious after a bout of *wild excitement* in which he tried to get out of bed. I found the patient asleep, bathed in perspiration, and covered with a typical purpural rash. Since then he never looked back; the pain entirely disappeared, and the urine and faeces contained no blood.

I think this is clearly a case of Henoch's purpura in an adult, but until the rash appeared I at first suspected, from the previous history, a perforation; when the temperature rose on November 26th acute appendicitis seemed possible. I notice that in the 1925 edition of Taylor's *Medicine* it is stated that this purpura may be confused with intestinal obstruction, but this was put out of court in my case by the motion on the 26th; had not the pulse remained quiet I would certainly have sent him into a nursing home for surgical treatment. The pain and rigidity were obviously due to haemorrhage into the bowel wall.

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DIVERTICULITIS OF THE CAECUM.

THE following case appears to be worthy of record owing to its unusual features.

A woman, aged 54, had vomited and then was attacked with severe pain in the right lower abdomen at about 9.30 a.m. on October 31st, 1926. She had felt slight abdominal discomfort on the previous day, but put it down to "indigestion."

On examination there was rigidity and tenderness in the right iliac fossa and a small lump was felt in the appendix region. The pulse was 120 and temperature 99°. With these signs and symptoms the case was considered to be a small appendicular abscess *with dense adhesions.*

Operation.—The abdomen was opened in the afternoon by Mr. L. E. Barrington Ward, F.R.C.S., by a right paramedial incision, and the rectus muscle was retracted inwards The appendix was apparently normal, but there was a large quantity of free fluid in the abdomen. On palpating the caecum, which was covered with plastic lymph, showing that definite peritonitis was present, a mass was felt which appeared to be incorporated in its wall. An alternative diagnosis was made of diverticulitis or new growth. The caecum and part of the ileum was excised and the terminal portion of the small intestine was anastomosed to the ascending colon. The patient stood the operation well and made a good recovery.

The pathological report was that the peritoneum covering the caecum was acutely inflamed and great engorgement was present. Opening into the caecum about one inch from the appendicular orifice was a diverticulum about half an inch long. The mucosa of the diverticulum was inflamed and contained a faecalith. Cross-section of the caecum showed the mucous membrane of the diverticulum partly ulcerated and extending through the muscular coat of the caecum as far as the subperitoneal.

This case is of interest on account of the uncommon situation for diverticulitis to attack the large bowel, and illustrates how difficult an apparent appendix operation may turn out to be in general practice.

London, N.10. HAROLD PEREIRA, M.R.C.S., L.R.C.P.

OBESITY OF PITUITARY TYPE PROBABLY A SEQUEL OF ENCEPHALITIS LETHARGICA.

THE following case was shown at a clinical meeting for the diseases of children held by the Ulster Medical Society on January 13th.

The patient, a girl aged 10 years, was the youngest of three children; there was nothing abnormal in the physique of the parents or other children.

The history was that she was a normal healthy intelligent child, apart from periodical attacks of vomiting, until she reached the age of 7 years, when she had an attack of "appendicitis," the pain being treated "for a week with poultices." Shortly after this she developed tremors, "shakiness," squint, and began to increase in weight. She became mentally changed, developed phobias, was stupid and dull, and fell asleep easily. Her grandmother says "all she knows now she knew when she was 7 years old."

At 10 years she is 49 inches in height, the symphysis pubis being midway, and she weighs 82 lb. The fat deposit is evenly distributed over the body, being of the pre-puberty dyspituitarism type (Fearnside). She is stupid and dull. The Wassermann reaction of the blood is negative. The cerebro-spinal fluid was under slight pressure; it contained no cells; there was no increase in globulin, chlorides 0.74 per cent., sugar 0.07 per cent. There is a slight degree of optic neuritis (right) and paresis of the sixth right cranial nerve. An *x*-ray plate of the skull shows a questionable slight irregularity of the posterior clinoid processes.

It is suggested that this child's present condition is a rather uncommon sequel of an attack of encephalitis lethargica three years ago.

F. M. B. ALLEN, M.D., M.R.C.P.Lond.,
Assistant Physician to the Belfast Hospital for Sick Children.

AN OCCUPATIONAL BURSA OF THE HAND.

MANY types of occupational bursae have been described from time to time. This described here is unfamiliar to me, at any rate. It occurred in a railway carriage cleaner, who had followed his occupation for seven years, the last three of which had been on piece-work; it was during these last three years that he had noticed his affliction. On the dorso-medial aspect of the right thumb, opposite the metacarpo-phalangeal joint, appeared a painless swelling, semi-fluctuant, and measuring about 1¼ in. vertically by 3/4 in. laterally. He was right-handed, and his method of reaching the high carriage windows was to use his left hand to steady his brush whilst his right hand supplied the motive power. Consequently, the region of most constant pressure was the angle between the right thumb and forefinger which gripped the brush. The bursa had formed over the most prominent bony point in this region—namely, the base of the proximal phalanx of the thumb. It began as a slight thickening of the skin, and not by "blister" formation, as is met with in the hayfields.

The patient states that five of his mates have identical swellings, though varying in size; amongst the cleaners they are called "pig's feet." It is always interesting to observe the protection provided by nature for a part required to perform some special function; this, I think, is some justification for mentioning the case.

Bradford. B. W. RYCROFT.

British Medical Association.

CLINICAL AND SCIENTIFIC PROCEEDINGS.

GLOUCESTERSHIRE BRANCH.

A MEETING of the Gloucestershire Branch was held at the General Hospital, Cheltenham, on January 13th. Dr. J. RUPERT COLLINS presided, and Dr. J. S. KELLETT SMITH gave an address on the redundant colon, with radiographic illustrations.

Dr. Kellett Smith said that many people were born with a large intestine too long for comfortable disposition in the abdominal cavity, and necessitating its arrangement in exaggerated or adventitious loops, which might properly be termed redundant. He showed a table illustrating the variation in length of the large intestine, the difference between minima and maxima being roughly 100 per cent. It was important to note that the full variation was in evidence at birth, and was not the result of diet or habit. Bryant was quoted as concluding, from 160 *post-mortem* examinations, that in 15 per cent. of people the intestine was so far above the average length as to necessitate redundant loops which might cause trouble. It was emphasized that a loop was in no sense a stricture; in many cases it caused no trouble, and when trouble did ensue it was the logical sequence of the tendency in a loop to obstruct if it became overfilled, twisted, or kinked. The symptoms were constipation with absorption results, occasional diarrhoea, very occasionally vomiting, and gas, with abdominal distress, due to partial obstruction or interference with the colon blood supply. A characteristic symptom was the sensation of gas passing an obstruction, with consequent relief; belching of wind was common. Abdominal pain, from mild grumblings to violent colic, might be present, and complete obstruction from acute volvulus might occur. Intermittent tumours had been described. The symptoms were in themselves of a general character, and not diagnostic alone. The diagnosis was made by *x*-ray examination after a barium enema. Dr. Kellett Smith had had 14 cases in the past twelve months, and he briefly outlined the details. The condition of the colon in each case was shown in a series of very excellent films, which brought out clearly the various types of redundant colon, including the adventitious loops found chiefly on the left side. The symptoms in the cases described included those detailed above, with also in one case the passage of pure blood in considerable quantity from the bowel.

The PRESIDENT, while admitting that there were very few departments in medicine in which more help was obtained from the radiologist than in opaque meal cases, advised caution in assuming that the demonstration of a redundant colon immediately interpreted all the symptoms. In his opinion the treatment of the patient should overshadow local treatment in these cases. Dr. MEYRICK JONES mentioned some of the pitfalls in barium work, and congratulated Dr. Kellett Smith on the uniform technical excellence of his skiagrams. Dr. SOUTAR emphasized the fact that auto-intoxication was a very real clinical condition, and one which in neurasthenias and psychasthenia had constantly to be investigated. In his view it was advisable to explain to a patient so far as possible the origin of his symptoms, as his co-operation was thus more readily secured, and this was an invaluable factor in treatment. Dr. FORSTER mentioned a woman patient who said her bowels moved regularly, but questioning elicited the fact that the regularity was "every third Sunday morning." Dr. CURTIS WEBB put in a strong plea for the restriction of purgatives in such cases, and the substitution of the enema. He had found, when the abdominal wall was lax, as it usually was, that it was useful to begin building up the feeble abdominal muscles with the faradic current before attempting much in the way of exercises. In his experience pain in redundant colon, due to congestion at a loop, was frequently relieved by diathermy. Other members discussed the paper, and in reply to various questions Dr. KELLETT SMITH gave an outline of the treatment which had been found useful in his cases by the medical men who had charge of them. The Americans believed in "oil above and oil below." Normacol had proved valuable. He agreed with washing out rather than the use of purgatives, and recommended potassium permanganate injections.

Dr. J. B. DAVEY showed pathological specimens. (1) Cauliflower type carcinoma of pyloric end of stomach, with secondaries in head of pancreas and liver; it weighed 14 lb. 2 oz. (2) Large fibro-adenoma of breast in a girl aged 14, following on a blow six weeks before admission. Clinically sarcoma was suspected. (3) Clot containing microscopic fragments of carcinoma of colon, passed per rectum by a man with three weeks' history of passing blood and mucus. He had been regarded as a case of mucous colitis. Subsequently a large fungating growth of the sigmoid was detected by sigmoidoscope.

The PRESIDENT showed a boy, aged 6, weight 1 st. 12 lb., suffering from infantilism and chronic diarrhoea. The stools contained 60 per cent. fat. The diagnosis was discussed. Dr. ALLMAN POWELL demonstrated a case of

senile pruritus in which injections of adrenaline had acted like a charm. A man was shown, who was under the care of Mr. Pike, with proptosis. He had hard glands in the neck, and one of them, removed the previous evening, was shown by Dr. Davey to be invaded by carcinoma.

Reports of Societies.

ACUTE POLIOMYELITIS.

DISCUSSION BY THE MEDICAL OFFICERS OF SCHOOLS ASSOCIATION.

AT a meeting of the Medical Officers of Schools Association on February 4th Dr. JAMES COLLIER read the opening paper in a discussion on acute poliomyelitis.

The pathological aspect of this disease, said Dr. Collier, was admirably treated by Dr. F. E. Batten in his Lumleian Lectures in 1916, and since that date little had been added except by way of confirmation, though a few cases of the then undescribed encephalitis lethargica, which had crept into Dr. Batten's description as poliomyelitis, had had to be separated. The epidemiological and public health aspect of the malady bristled with difficulty, potential danger, and paradox. When the speaker first entered on medical study, forty years ago, there was no suggestion that poliomyelitis was an infectious disease; twenty-two years ago the view was put forward that it was infectious by contact only, but now some, including himself, were beginning to think that poliomyelitis was not infectious in the sense of case-to-case infection, and that the future was likely to prove that only carriers could spread the disease. Poliomyelitis, however, was a condition with many unexpected phases, and no one could prophesy what it might do. Would it disappear silently, and then reappear in the form of a violent epidemic? He thought it unlikely that it would play any terrible havoc in this country unless it first of all entirely disappeared. For there was always poliomyelitis amongst us—in London there were cases in every month of every year—and therefore the community was, so to speak, a "salted" one. But who, from his knowledge of poliomyelitis, could have predicted that in one comparatively small area in the world tens of thousands of cases would occur in the space of a few years, culminating in 5,000 deaths in New York and adjacent States in the autumn of 1916; or that in one small isolated village in the West of England, with a total population of 119 souls, forty-five persons should be seized with poliomyelitis in the course of a few days, every house having its two or three for four victims, as happened in the Devon and Cornwall outbreak of 1910? Every form of the disease was seen in that village within a week, and yet in the same year, in Edinburgh, there were, he thought, sixty-two cases, all of the usual spinal type, and no two cases occurred in one family or in one street. He remembered that the two reporters who brought before the Epidemiological Section of the Royal Society of Medicine an account of the outbreak respectively in the west country and in Edinburgh had a very different reception from the audience present on that occasion. The audience patted the Devon and Cornwall man on the back, commending him especially for his powers of observation, and was quite rude to the Edinburgh reporter, whose contribution was thought to be from an epidemiological point of view not nearly as valuable, and it was suggested that he had missed cases or types of cases; yet both these reports were of the highest value as examples, the one of poliomyelitis running riot in a susceptible community, the other of poliomyelitis epidemic in a highly "salted" community, with multitudinous carriers.

Dr. Collier then passed in review some of the clinical features of poliomyelitis. Lumbar puncture was the most useful measure in making a correct diagnosis from the earliest appearance of symptoms until some days after the pyrexia had disappeared. It was also a means of permanently removing some of the most distressing symptoms. The grouping of the forms of the disease on an anatomical basis, as suggested by Wickman, had been criticized as neither clinical nor scientific, but it was a useful aid to memory and thought. No one had yet made a better classification, and Dr. Collier proceeded to describe the characteristics of each of the forms there set out: the abortive, the neuritic, the spinal, the meningitic, the brain-stem, the cerebral, and the cerebellar. The carrier, he said, was not a hypothetical individual. He had been caught after infecting others, and his virus obtained. Sometimes, though rarely, the carrier himself succumbed to the disease. It was a chain of carriers who perpetuated the disease and passed it on from season to season. Some of the forms just mentioned—the spinal, for instance—were so well known as to make description superfluous, but there were several peculiar varieties of the spinal form which deserved special mention, and the lecturer gave particulars of some illustrative cases. The neuritic type of poliomyelitis was nothing more than the same variety in which there was great pain and tenderness in the paralysed region, sometimes to such an extent as to increase the apparent paralysis to completeness. This was the most interesting variety of the disease from the pathological point of view. It was sometimes troublesome in diagnosis. He had many times been called to see cases of acute rheumatism as cases of poliomyelitis, but it was well to remember that while pain generally increased the reflexes, both superficial and deep, poliomyelitis generally abolished them. The brain-stem form he left undescribed, because he had not seen one himself, and he was rather unconvinced by any description.

There were a number of curious relapsing cases in which the patient seemed to become apyrexial and convalescent, and after a few days all the original symptoms returned. These were examples of a second blaze of infection which had remained alive in the tissues. Such relapses might be anticipated by watching the temperature chart. If instead of the customary peak there was a flat-topped temperature curve for the first few days, and little jumps of temperature in the apyrexial interval, a relapse might be expected. Whatever the textbooks might say about dreadful results in relapses, he had never seen any harm occur. There was no increase of paralysis from the relapse. Indeed, in a case which he saw of an eighth-day relapse, with high fever and great restlessness and headache, it was obvious that the paralysed legs were improving continually. Very rarely one saw a case of poliomyelitis in which the types were mixed, though he had seen a certain number. There were also cases which showed no pyrexia or headache, but only paralysis; such cases, he thought, were always of the purely spinal type. He had not seen more than half a dozen apyrexial cases. A great many rashes had been described in poliomyelitis, but two were worthy of mention. One was herpes zoster, and the other a striking rash of most peculiar appearance and distribution, consisting of large bluish papules distributed over the paralysed region only. He had seen this rash half a dozen times. Possibly it was of the same pathogeny as herpes zoster, but herpes zoster had always a very curious distribution in patches, which was not the case with this eruption.

Dr. Collier closed with a word of consolation to school medical officers. This disease, he said, did not like schools, institutions, or large communities. In one of the bad epidemics in America forty-five schools in the infected locality, containing 3,600 children of susceptible age, were kept under observation, and only one case occurred. At the Hospital for Sick Children no case had been recorded of the spread of the infection to another child. How was this to be explained on the theory of case-to-case infection? Take what happened at Broadstairs in 1926. All the cases occurred in a few days, and then there were no more cases. He commended to the general notice two fascinating pieces of work—one by Topley and Greenwood, communicated in 1926 to the Epidemiological Section of the Royal Society of Medicine, on the subject of infection in a community of mice, and the other by Surgeon Commander Dudley, in a report issued by the Medical Research Council, on the spread of droplet infection in semi-isolated communities.[1]

The discussion chiefly took the form of questions addressed to the lecturer, the first of which was whether a carrier could be detected without resort to lumbar puncture. Dr. L. R. LEMPRIERE, the President, asked

[1] A summary of this work was published in the BRITISH MEDICAL JOURNAL for January 1st, 1927 (p. 34), under the title of "The spread of infection in schools and ships."

whether in an epidemic of influenza a mild case of poliomyelitis might be overlooked. Dr. WILLIAM DUNN (Uppingham) asked why lesions should sometimes produce a transient paralysis which got better, and sometimes the absolute death of the neurons and a lasting paralysis. Dr. Dunn also objected strongly to the interference of the Ministry of Health, and the extremes to which the requirement to make returns was sometimes pursued. He asked how many officers at the Ministry of Health had ever seen a case of acute poliomyelitis. The PRESIDENT said that in conversation with Sir George Newman it was made clear that the Ministry would do no more than tender advice. No question of authority could come in at all; the headmaster and the council of the school remained absolutely in control. Dr. DUNN, however, was doubtful as to the position of a school which was disbanded against the advice of the Ministry of Health.

Dr. ELWIN NASH asked how it was that epidemics which decimated certain districts of America differed from those experienced in this country. Dr. J. GRAHAM FORBES asked whether the meningitic type of the malady was followed by a definite paralysis; also whether the virus that Flexner described in 1908, and which was subsequently confirmed by Levaditi at the Pasteur Institute, was really the virus in poliomyelitis. Dr. W. ATTLEE referred to the difficulty of one or two abortive cases occurring in a big school. Ought the medical officer to take steps to find the carriers, and what should those steps be? Dr. J. A. H. BRINCKER said that when going into the history of many of the relapsing cases it had always struck him that there was a possibility that these had been abortive cases, and that on account of the fact that little or no attention had been paid to them they got the opportunity for reinfection, which was usually more severe.

Dr. COLLIER, in his reply, said that at present there were no practicable means of detecting a carrier, apart from lumbar puncture. Cases of poliomyelitis, especially abortive cases in the early stage, were often diagnosed as influenza. When there were no definite nervous signs he did not know any means of distinguishing, nor would he say that lumbar puncture would of necessity distinguish. The mild case of poliomyelitis affecting the back and giving rise eventually to spinal curvature was often overlooked. The only way to detect it in the acute stage was by a careful examination of the trunk reflexes, and in the upper thoracic region that was most difficult. As to the pathology of the disease, there had been much controversy. It was held for a long time that there was nothing but an inflammation, but it was now shown that while the infection produced an inflammation it also produced a paralysing poison. In monkey poliomyelitis derived from man the inflammatory lesion was seen not very often, the degenerative lesion of the cells was seen frequently, so that it was quite certain there was a lesion besides the inflammatory one. He had been asked with regard to the difference between epidemics. The comparatively mild epidemics in this country, especially in towns, differed from those which occurred in Sweden and other places for the reason that in a country where poliomyelitis was always endemic there were many carriers all the time, and therefore a much "salted" population. The herd was relatively immune. The worst epidemics had always been in sparsely populated country communities. As to whether the meningitic type of the disease left paralysis in its train, this was not usually the case. The meningitic type suggested an inflammation more within the skull and involving the meninges particularly, but there was no reason why in the meningitic type there should not be a lesion also at a distance which would produce paralysis. With regard to the cerebro-spinal fluid and its cells, nothing could be gathered from the nature of the cells with any certainty; there were surprising variations in different cases. Flexner's work on the virus had been completely verified, especially by work in Paris and Vienna, and in Japan, and he thought it might be taken that the pathology and bacteriology of the disease were settled. One speaker had suggested that relapses followed abortive cases. That was not his experience. He had never found an abortive case showing relapse. All the relapses he had seen had been after cases of considerable severity, and the abortive case and the relapsed case seemed a little contradictory.

DISCUSSION BY THE MEDICAL SOCIETY OF LONDON.

AT a meeting of the Medical Society of London held on February 7th, with the President, Sir HUMPHRY ROLLESTON, in the chair, a discussion was held on poliomyelitis.

Dr. F. M. R. WALSHE, in opening, enumerated the many difficulties associated with anterior poliomyelitis, which was, he said, a disease of great responsibilities for the medical attendant. The disorder was essentially an acute specific fever which might or might not proceed to invasion of the central nervous system. In epidemics many so-called abortive cases occurred, amounting to upwards of 50 per cent., in which recovery took place without paralysis. The disease as it ordinarily appeared could be divided into three phases. There was first the stage of general infection, varying from a few hours to three or four days. The reaction might be slight or very brisk; usually the temperature rose to 101° or 103°, the child showed general malaise, and certain local symptoms, which were generally gastro-intestinal, tonsillar, or coryzal in nature, were present. The second stage represented invasion of the subarachnoid or meningeal region, and varied in its time of appearance and in its intensity. It was characterized by fever, headache, pains in the back, rigidity of the spine, and sometimes tremor of the limbs. There might even be opisthotonos. The cerebro-spinal fluid was now usually under pressure with increase in the cells, polymorphonuclears in the early stages giving place to lymphocytes later, with increased globulin but normal glucose and chlorides. Recovery might occur even at this stage, or more usually the third phase with paralytic phenomena developed. Paralysis appeared suddenly, as a rule was maximal at its onset, and might rarely be ascending or appear to move from limb to limb. A generalized slight weakness might occur, and the nature of the malady was then frequently overlooked. Pain was often present and might be very intense and widespread. It was his (Dr. Walshe's) experience that tender muscles in the early stages frequently indicated the earliest recovery. Diagnosis in the pre-paralytic stage consisted in recognizing the signs of subarachnoid involvement. Treatment in the pre- and post-paralytic stage was distinct. In the former, where the time was often limited, only one drug appeared to have any value, and that was hexamine, which ought to be used in massive doses with alkalis. The serum of convalescent patients contained immune bodies; it should be used intrathecally and also subcutaneously and intravenously, the cerebro-spinal fluid being drawn off freely and serum given in doses of 10 to 15 c.cm. by the gravity method. Since the serum of human convalescents alone was available, this method was unreliable. The patient should be isolated and all excretions and secretions treated as infective for three weeks after fever had disappeared. The value of antiseptic gargles was problematic. The treatment of paralysed muscles involved certain general principles. In the acute stage rest and prevention of deformities alone should be attempted, massage and electricity being definitely harmful. The muscles should be placed in a position of physiological rest. Various methods of doing this were advocated, but the age, condition of the child, and the amount of pain present had all to be considered. In the pain-free convalescent period more active measures could be employed. Massage was useful in a restricted field, but electricity was of doubtful value and might be harmful. Re-education of the muscles was most important, and each patient had to have a scheme which was revised from time to time. The danger of stretching paralysed muscles was probably overestimated. Dealing next with the etiology of the disease, Dr. Walshe described its seasonal and age incidence. He stated that the incubation period averaged three to four days, and infection occurred by human borne contagion through the naso-pharynx, both sufferers and healthy carriers being responsible. The virus usually disappeared in three weeks, and there was no evidence of the existence of chronic active carriers. Natural resistance certainly occurred, and it was possible that many children suffered from an abortive form of the disease and became immune. Dr. Walshe quoted some general work on epidemiology, showing its application to poliomyelitis, particularly as to "bed to bed"

infection, as occurred in other infective fevers. He discussed the recent epidemic in this country, and pointed out that both the policies adopted—that of keeping children at school and that of sending them home—had certain objections, but local conditions must be a guide.

Professor J. McINTOSH gave a short account of the more recent work on the etiology and pathology of acute anterior poliomyelitis. He stated that the consensus of opinion [illegible] nce alone was that poliomyelitis was a entity. In the *post-mortem* exam- case some parenchymatous degeneration of the internal organs was found associated with a general enlargement of the lymph glands, including those of the intestinal canal, and congestion with minute haemorrhages in the grey matter of the spinal cord. Summarizing the histological lesions, Professor McIntosh described the typical perivascular infiltration in the grey matter of the cord, the cells being principally lymphocytes, with a small number of larger cells with a clear nucleus, while plasma cells were rare. Degeneration of the ganglion cells of the cord was a marked feature, with neuronophagia and complete disappearance of the cell. Haemorrhages were also a marked feature. All these changes indicated an infective origin for the disease, but bacteriological investigation of the malady proved entirely negative. At the same time, however, the disease was successfully transmitted to monkeys for the first time by Landsteiner and Popper in 1909, and this had been confirmed repeatedly. Professor McIntosh then described his own successful experiments with Dr. Turnbull, stating that the experimental disease produced in monkeys was in every respect comparable with poliomyelitis in children, with an average incubation period of nine to ten days, followed by high temperature, weakness and trembling in the limbs, and paralysis usually appeared within twenty-four to forty-eight hours in the lower limbs, and tended to spread upwards. This experimental work revealed that the virus of the disease belonged to the filter-passing group of organisms, and was very resistant to certain external influences and agents, such as drying; it had been kept in an ice-chest for weeks, while 50 per cent. glycerin, and even 5 per cent. carbolic acid, failed to destroy it. On the other hand, the virus was rapidly destroyed by 1 in 1,000 potassium permanganate, or 1 in 100 hydrogen peroxide. Experiments showed that however the *material was inoculated* in monkeys, the same disease was always reproduced, and intracerebral inoculations generally proved most successful. The virus appeared to have a special predilection for the grey matter of the cord, and of the tissues outside the nervous system practically only the lymphatic system contained virus. Experimentally the naso-pharynx had been shown to be the chief site of penetration of the virus, although some observers had favoured a gastro-intestinal route. The secretions from the naso-pharynx and urine or faeces appeared to be infective in many cases, even in carriers and abortive cases, which was an important point in epidemiology. Clinical evidence had been brought forward to show that abortive cases and carriers could spread the disease, probably by the virus present in the tonsils or pharyngeal mucus. No satisfactory evidence had yet been brought forward to show that biting insects played any part in the spread of the disease. The *mucus* of the naso-pharynx might contain the virus for as long as seven weeks after an attack of poliomyelitis. Animals which had recovered from paralysis or from abortive attacks were immune to a second inoculation, which was in keeping with clinical observations, and the blood serum of convalescents would destroy the virus *in vitro*. This convalescent serum had been used for therapeutic purposes with apparent good results, and attempts at vaccination in monkeys with killed or attenuated virus had also met with considerable success. Professor McIntosh then described some of the applications of the pathological work to prophylaxis against poliomyelits by gargles and sprays for the naso-pharynx, combined with complete isolation of cases and contacts. He concluded by mentioning certain diseases of the nervous system which were not clearly distinguished from poliomyelitis, instancing Werdnig-Hoffmann progressive spinal muscular atrophy, Landry's paralysis, and toxic polyneuritis.

Sir THOMAS HORDER first referred to some points in a paper by Dr. Mervyn Gordon which had been prepared for the meeting, showing lantern slides to illustrate certain aspects of the histological lesions in the cord. One case of clinically diagnosed Landry's paralysis showed typical lesions of anterior poliomyelitis. The two essential features of the disease in its histological picture appeared to be neuronolysis and neuronophagia. Coming next to his own paper, the speaker dealt first with some difficulties in diagnosis under two aspects. There was first the diagnosis of poliomyelitis from diseases without specific infection of the nervous system, but in which nervous symptoms were present—as, for example, meningism in pneumonia or influenza, and secondly, the diagnosis from cases with definite infection of the nervous system, such as encephalitis, acute infective polyneuritis, and cerebro-spinal fever. A "catarrhal" group of diseases, influenza, *Micrococcus catarrhalis* infection, whooping-cough, and measles were all examples of acute pyrexia in which nervous symptoms might be present, and he thought it important to beware of such terms as "cerebral influenza" or "neuritis complicating influenza." He had seen cases of poliomyelitis occurring in a boarding school side by side with influenza in the epidemic of 1918, and recently he had seen acute encephalitis occur in the fourth week of whooping-cough. He differed from Dr. Walshe as to the way in which the virus acted, preferring to think of the nervous system infected as a whole, with attenuation of the virulence as deeper structures got involved in some cases. Dealing with some early symptoms, he had found retention of urine in some cases in young adults. Pain, especially focal at the onset, was valuable in diagnosis, and tenderness of muscles also helped. It was important to realize that poliomyelitis was not a purely "motor" disorder.

Dr. JAMES COLLIER dealt with several points which had been raised. He thought that it was an error to describe a leucocytosis in the blood, and in the cerebro-spinal fluid the nature of the cells was very variable, polymorphonuclear cells or lymphocytes predominating at all stages of the disease. He stated that the virus present in the throats of sufferers had been used experimentally to infect monkeys, but there was no proof that it would infect humans. The carrier was very important, and might be completely healthy. In his experience he had never seen a patient infect other children in hospital, and he thought that possibly the disease was transmitted only by carriers. He disagreed as to poliomyelitis not being a very infective disease, quoting certain epidemics to illustrate this. Many epidemics were probably preceded by a "carrier epidemic."

Dr. A. F. HURST discussed the treatment of the disease by hexamine, adding that 100 or even 200 grains of hexamine could be given three times a day if the urine was kept alkaline by adequate doses of potassium citrate.

Dr. M. O. RAVEN (Broadstairs) raised the question of abortive cases and the difficulties of diagnosing a "carrier epidemic." Cases had occurred in Broadstairs dotted all over the town where carriers could not be blamed, and he believed that flies and dust might still have something to do with the spread of the disease. He mentioned some experimental work in which macerated flies had been used to infect animals.

Mr. R. C. ELMSLIE said that in a large proportion of the cases seen by a surgeon the early stages of the disease had been undiagnosed. The resulting paralysis had to be distinguished from certain local conditions—as, for example, arthritis of the hip-joint, in which muscular tenderness and resistance to movement might be found without any history of febrile disturbance. He thought that institutional treatment would be of great benefit, because by the study of cases segregated in a special institution a lot might be learnt about the disease, and because better results could be obtained if children could stay in the same institution for even, say, five years if necessary for the complete cure of the resulting disabilities. Unfortunately, authorities did not appear willing to take patients until three months after the acute stage for fear of infecting attendants or other children.

THE TREATMENT OF LEPROSY.

AT the Royal Society of Medicine on February 2nd the Sections of Tropical Diseases and Parasitology, Dermatology, and Therapeutics and Pharmacology united for a discussion on the treatment of leprosy. Dr. R. T. LEIPER, president of the first of these Sections, was in the chair.

Dr. J. M. H. MACLEOD detailed his experience of recent methods of treatment at St. Giles's Homes for British Lepers, the only leper colony in this country, where there was accommodation for twelve cases. He said that fortunately leprosy had long ceased to be indigenous in these islands, but a few cases still existed, the exact number being impossible to estimate in the absence of compulsory notification. The majority were British subjects who had come home from abroad suffering from the disease. Only very rarely had infection started in this country by close and prolonged contact with lepers from abroad; he had under his care three such patients, and knew of one other. Consequently it was inadvisable even here to belittle the danger of the spread of the disease, and not to take effective measures against it. Unlike protozoal diseases, such as syphilis and trypanosomiasis, where drugs like arsenic, mercury, and antimony were specifics, in bacillary diseases, so far as he was aware, no drug had yet been proved to have a specific action. Perhaps leprosy might be an exception, but in his experience it could only be said that, as in tuberculosis so in leprosy, segregation and treatment on general hygienic principles were of more importance in enabling the patient to resist the invasion of the bacillus and in hastening the arrest of the disease than any known form of so-called specific medication. He suggested as points for discussion the question whether any drugs now employed, including the chaulmoogra or hydnocarpus oils, had a specific action on the disease, what was the value of vaccines in the treatment, and what were the best conditions of climate, altitude, and mode of life for promoting arrest.

Dr. J. H. SEQUEIRA entered a plea for the careful consideration of "protein shock" as the real cause of the beneficial results in a number of so-called cures. He described how in 1911 investigations were made in his clinic as to the cause of "salvarsan fever"—the rigors and rise of temperature which followed, in the early days, the injection of a dose of salvarsan dissolved in 100 c.cm. of presumably sterile solution. To determine whether the reaction was due to the salvarsan or to the medium, a number of patients were injected with the "sterile" solution only. One subject so submitted was an advanced case of maculo-anaesthetic leprosy. Following the injection he had rigors and high temperature, and the same results followed a second and a third injection, but after the second injection the very extensive eruption began to fade, and after the third injection it disappeared entirely. This man had attended his department at regular intervals for the past sixteen years, and there had been no recurrence. The anaesthetic areas were less, an atrophy of the muscles persisted, a perforating ulcer had been healed, the disease had been absolutely stationary for years, but he did not claim the case as a cure.

Dr. GEORGE PERNET, in dealing with a fair number of lepers, had found that the best thing to give, especially in the nodular type, was chaulmoogra oil. It was not a specific by any means, but the fact should be borne in mind that when, as happened some years ago, the crop of *Taraktogenos kurzii*, from which chaulmoogra oil was derived, was a failure, and other oils were substituted in the commercial market, many disappointments in treatment resulted. He had treated lepers also with mercury perchloride, though with no very great satisfaction; but whenever any new method was employed, whether it was the effect of suggestion or not, the cases seemed to improve a little. When Koch's original tuberculin came out, Radcliffe Crocker, with whom the speaker was working, applied it in leprosy, but the result was the breaking out of a very great number of small nodules all over the patient's skin. He suggested that thyroid might be tried, not in the hope of finding a specific, but because it would assist the general metabolism.

Dr. G. C. Low said that there was no specific cure for leprosy at present. Probably in tropical medicine the nearest approach to a complete specific was the action of antimony in kala-azar. Chaulmoogra oils and their derivatives were not specific, but acted probably by improving the nutrition of the body. He thought that there was hope for the future in "protein shock," which, however, was no new thing; he could remember in 1893 the suggestion being made that a leper should be given thin beef extract to induce protein shock. Some of those present might have followed the correspondence in the BRITISH MEDICAL JOURNAL on Dr. Graham Little's case (December 4th, 1926, p. 1034; 11th, p. 1141; and 18th, p. 1195), the good result in which, in the speaker's opinion, must be set down to protein shock. It was a matter that should be investigated further.

Mr. T. A. HENRY, D.Sc. (Director, Wellcome Research Laboratories), gave an account of the chemistry of the chaulmoogra and hydnocarpus oils. The organic chemist, he said, had not until recently given much attention to the fixed oils, mainly because they were simple in their structure and did not lend themselves to the protean changes in which he specialized. Several of these oils had an interest for the leprologist, because they did exert some effect in leprosy, but the chaulmoogra and hydnocarpus oils were the most effective of the series. It had been assumed, and apparently with good reason, that the action of these oils in leprosy was due to certain peculiar acids, which had not been found in any plant outside the natural order *Flacourtiaceae*. Most of these oils contained both chaulmoogric and hydnocarpic acids, and it seemed possible that the activity was due to the hydnocarpic acid alone. Unfortunately, this acid had not yet been found by itself in any of these oils, and its separation from associated chaulmoogric acid in the large quantities required for clinical trials was not easy. The speaker thought, however, that some work by Sir Leonard Rogers pointed to the explanation that to be useful the acids must be liquid or nearly liquid at the body temperature, and if that was so it would probably be found that a mixture of the two acids was essential. It was quite likely that the now common practice of injecting chaulmoogra and hydnocarpus oil esters mixed with olive oil was advantageous, because it lowered the melting point of the fatty acids, which were no doubt liberated from the mixture in the body. The speaker was not very hopeful with regard to the possibility, by a synthesis of a series of acids of this type, of arriving at something more effective than the natural acids, and it was perhaps in other directions that an improved and speedier treatment of leprosy might be found. There was some hope in a series of mercury derivatives, which had the advantage that they could be used in combination with treatment by hydnocarpus oil.

At this point in the discussion three communications from workers abroad were presented by Sir LEONARD ROGERS.

Dr. ERNEST MUIR (School of Tropical Medicine, Calcutta) wrote that there was no specific for leprosy. There was a line of treatment, however, which would cause the permanent disappearance of all active signs of the disease in early cases, though if a marked reduction in the general health of the patient occurred later there was always the possibility of a relapse. This line of treatment consisted of the following: (1) treatment of any accompanying disease; (2) rectification of diet; (3) gradually increasing exercises; (4) use of special drugs, the injection of hydnocarpus oil and its preparations being the most important; (5) external applications; (6) surgical intervention when necessary. Vaccines were useful, especially in certain cases and in the third stage of the disease, given intravenously, but the action was more of the nature of anaphylactic shock than specific. The real test of the efficiency of any special treatment for leprosy was its effect in the first and second stages, and it was in these that hydnocarpus oil was so useful.

Dr. H. W. WADE (chief pathologist, Leper Colony, Philippine Health Service) forwarded a description of the general plan of the antileprosy campaign in the Philippines. Cases in which there was hope of success in treatment were kept in regional treatment stations of the hospital or asylum type under close supervision. Those unfavourable for effective treatment were transferred to another colony where they could lead more

normal lives. In 1927 there was to be inaugurated a system of searching out and dispensary treatment of clinically positive but bacteriologically negative cases. Mixed chaulmoogra ethyl esters were the principal preparations used in treatment, for the most part with iodine added, to reduce irritation. Weekly intramuscular injection was the almost universal rule. These modern treatment methods appeared to be particularly effective in early cases. The results obtained in the Philippine Islands during the last few years showed that a not inconsiderable proportion of advanced cases (probably 15 or 20 per cent.) could be "apparently cured" if treated intensively under proper conditions—a noteworthy advance, though not particularly encouraging to anyone treating a small group of unselected cases.

The third communication read by Sir Leonard Rogers was from Dr. ISABEL KERR (Dichipalli Leper Institution, India), who said that most cases of early leprosy treated by oils of the chaulmoogra series did well. In the second stage treatment had to be protracted, as small doses of the drug only could be given for fear of aggravating the disease, but in the third stage the drug could be pushed.

Dr. R. G. COCHRANE (medical secretary, Mission to Lepers) said that he had seen some 10,000 cases of leprosy in India and the Far East. He considered that during the early or invasion stage the treatment of cases by "protein shock" was decidedly harmful. In the second stage, where there were raised rashes and numerous nodules, "protein shock" had a definite value in treatment. After seeing various methods of treatment in India he had come to the conclusion that the most effective remedy and the cheapest—and, after all, in dealing with the very large number of cases cheapness was a consideration—was hydnocarpus oil combining 4 per cent. creosote. This seemed to do the maximum amount of good in leprosy in all stages.

Dr. E. A. O. TRAVERS spoke from his experience of personal charge of a leper asylum in the Malay Peninsula, where the average number of patients was about 400. The main treatment he had carried out had been to give the powdered nut of the hydnocarpus tree. It was possible that in the extraction of the oil some valuable constituent was left behind. To give the whole nut was a very popular method of treatment among the Chinese, and in an old Chinese *Pharmacopœia* he had found the chaulmoogra nut recommended as a treatment for leprosy. The medicament was palatable and inexpensive, and could easily be taken by women and children as well as by men, which was not the case with the injections, though if a case did not improve sufficiently quickly he had practised injection as well.

Dr. JAMES HASSON (late chief surgeon, Edith Cavell's Hospital, Alexandria) disagreed with the statement made by Dr. Muir and by other speakers that the results following vaccines were due to "protein shock." He regarded the treatment as absolutely specific in its action.

Dr. FREDERICK HALL (late district medical officer, Fiji) declared that there was no specific cure for leprosy. Many of the treatments given in the past had been harmful. All treatments that produced sensitization or reaction were harmful. Chaulmoogra oil and similar treatments all did good so long as they were given only to stimulate the patient's powers of resistance. Exercise and massage acted in the same way. In the occasionally dramatic results seen in a well organized hospital there had probably been treatment of intercurrent disease, the nourishment of body and mind, the prevention by cleanliness of fresh infection, and the promotion of an atmosphere of recovery.

Dr. MACLEOD, in replying, said that there seemed to be general unanimity amongst the speakers that there was at present no specific cure for leprosy, and that chaulmoogra and hydnocarpus oils, though they could not be called specifics, were of some value in promoting the arrest of the disease. He rather joined issue with some speakers in what had been said about protein shock. He had seen marked improvement after the injection of milk albumin and the reaction produced by it, also after an injection of Koch tuberculin, though in other cases he had seen rather the reverse, perhaps because they were taken at the wrong stage.

Sir LEONARD ROGERS, who also replied, referred to his work in using sodium salts of fractions of the chaulmoogric and hydnocarpic acids, and said that the only drawback had been the irritating action of the customary injections. This difficulty had now been overcome, and the injections, whether made intramuscularly or by an infiltration method as practised by Dr. Muir, could be absolutely painless. Instead of the 3 per cent. solution hitherto employed, a 1 per cent. solution was used, and was just as active, but without the irritating quality. This modified preparation was now being tested in Calcutta and in the Philippines and in other places where he had sent it. On the general question Sir Leonard Rogers referred to the great improvement in the outlook on leprosy during the last decade, and the fact that the advances made were due to English-speaking investigators, among whom he desired to pay a special tribute to the Americans.

FILTRATION OF HERPES VIRUS THROUGH COLLODION MEMBRANES.

AT a meeting of the Section of Pathology of the Royal Society of Medicine on January 18th Dr. S. P. BEDSON described an experimental investigation of the filtration of herpes virus through collodion membranes.

Dr. Bedson said that it had been stated by Levaditi and Nicolau (1923) that the virus of herpes febrilis, as well as other so-called filterable viruses, passed through collodion membranes which, under similar conditions of filtration, held back all the haemolysin in a rabbit antiserum and, entirely or in greater part, complement and diphtheria and tetanus toxin. These membranes allowed peptone and amino-acids to pass through freely. The filtrates were tested chemically for the presence of protein, which was found to be present in a concentration of 1 in 1,000, how constantly was not stated. These authors had employed sacs made from a collodion having a composition of 6 per cent. nitrocellulose in equal parts of 95 per cent. alcohol and ether. The collodion sacs were sterilized at 110° C. for ten minutes, and filtration was carried out with a positive pressure of 10 to 12 cm. of mercury. It would appear that the experiments were intended to demonstrate that these viruses, including the virus of herpes, were of smaller dimensions than protein molecules, but since the collodion filters employed by these workers allowed some protein to pass, it was obvious that no conclusions could be drawn as to the relative size of virus particles and protein molecules unless the quantity of both was determined before and after filtration. This they had not done. Working with herpes virus, Dr. Bedson had attempted to approach the question quantitatively. Filtration was carried out with a Seitz filter in which the Seitz filter disc was replaced by one of collodion. Collodion membranes were made of varying degrees of permeability by increasing the percentage of alcohol in the solvent of the nitrocellulose and by soaking the membranes in varying concentrations of alcohol from 0 to 90 per cent. Filtration was performed at a pressure of from 200 to 300 mm. of mercury. The herpes viruses used for filtration were guinea-pig passage viruses, and the amount of virus present before and after filtration was estimated by making a series of dilutions and inoculating each dilution on the scarified epilated hairy skin of the guinea-pig. The amount of protein present before and after filtration was determined by means of a precipitating serum for guinea-pig serum. The membranes found to allow the greatest quantity of protein to pass were those made from a collodion containing 4 per cent. nitrocellulose in 75 per cent. alcohol and 25 per cent. ether soaked in water only, and those least permeable from a collodion containing 4 per cent. nitrocellulose in 50 per cent. alcohol and 50 per cent. ether and soaked in alcohol for twenty-four hours. None of these membranes allowed the herpes virus to pass through in sufficient quantity to infect guinea-pigs when the filtrate was inoculated into the plantar skin or rubbed into the scarified and epilated hairy skin. Even those membranes which allowed 1 part in 400 of the protein present in the unfiltered virus to pass through the filter reduced the virus content of the filtrate below the least quantity required to infect a guinea-pig.

TREATMENT OF TRAUMATIC FACIAL PARALYSIS.

AT a meeting of the Section of Otology of the Royal Society of Medicine on February 5th a paper by Dr. E. FARQUHAR BUZZARD on the treatment of traumatic facial palsy was read.

It was stated that owing to the anatomical conditions no operative procedure at the site of the lesion was possible as a rule; treatment, therefore, could not follow the same lines as that for other peripheral nerves, though the general principles were similar. Where the lesion only caused a partial paralysis signs of recovery might be expected to appear in about three weeks, but in severe cases, where the paralysis was complete, recovery did not begin until the end of about four months. If at the end of that period there were no signs of recovery the outlook was serious. It was important to take measures to maintain the facial muscles in good condition and to provide the patient with an apparatus to prevent the paralysed muscles from becoming stretched and subsequently passing into a condition of post-paralytic contracture. Active co-operation on the part of the patient was important.

Cases illustrating the surgical treatment of facial paralysis by means of nerve anastomosis were shown by Mr. E. WATSON-WILLIAMS, Mr. LIONEL COLLEDGE, and Mr. C. GILL-CAREY.

Sir WILLIAM MILLIGAN commented on the rarity of facial paralysis in this country, owing to the care taken in operating and in after-treatment, compared with what he had observed in aural clinics on the Continent. He emphasized the importance of massage and electrical treatment of the facial muscles. A long period might elapse before the ear was healed and in a condition to allow an operation for nerve anatomosis to be performed. In a case of tuberculosis of the ear in a child this period had been seven years, during which unremitting care had maintained the nutrition of the facial muscles.

Mr. LIONEL COLLEDGE, in answer to a question by Mr. G. J. JENKINS, said that if no signs of recovery had appeared at the end of six months it was unlikely that the paralysis would improve; in the absence of any such signs at the end of twelve months, complete restoration was most improbable. Although cases of recovery after much longer periods had been reported, they were so rare that he thought a nerve anastomosis was justifiable if complete paralysis persisted more than a year. The two cases he had presented, however, showed that complete recovery of power and of the electrical reactions might occur in all the facial muscles after an interval of two years and four years respectively following anastomosis either to the hypoglossal or the descendens noni.

Dr. C. P. SYMONDS thought the long delay in recovery in some cases might be explained by functional disuse, and supported Dr. Buzzard in drawing attention to the importance of active participation in the treatment by the patient.

Diagnosis and Localization of Cerebral Abscess.

Dr. C. P. SYMONDS, in a paper on some points in the diagnosis and localization of abscess of the brain, said that severe headache, vomiting, drowsiness, and slowing of the pulse marked the occurrence of mechanical obstruction to the outflow from the ventricles with internal hydrocephalus, and were terminal symptoms. In the early stages there were fever, rapid pulse, general malaise, and anorexia, with intermittent headache. The localizing signs might be considered under three headings: (1) cerebellar, (2) left temporal, (3) right temporal. (1) Suboccipital headache was important, but it might be bifrontal or general. The finger-nose-finger test was the simplest method of examination. Falling away of the affected limb when support was withdrawn from beneath the outstretched hands was also useful. The other sign was nystagmus. The patient should be asked to look towards the side of the lesion, the spontaneous deviation occurring in the opposite direction. The quick component might be absent, so that the eyes slowly swung back towards the middle line. (2) In abscess of the left temporal lobe in a right-handed person the sign of outstanding value was aphasia. It might be necessary to show a patient a large number of objects to elicit this symptom. Thus only one or two out of a dozen objects might not be correctly named, but these failures were sufficient. (3) The other signs of temporal lobe abscess were common to both sides. The first was weakness of the opposite side of the face, mostly of the lower half, which might be present when the patient talked or smiled, but was less apparent when he showed his teeth at command. The second group indicated pressure on the pyramidal tract —absent or diminished abdominal reflexes, increased knee-jerks, with extensor or doubtful plantar response. The third sign was a defect in the visual field caused by involvement of the optic radiation, which at first swept downwards and forwards and extended well forward into the temporal lobe before it turned back beneath and around the lateral ventricle to reach the occipital cortex. An otitic abscess lying in the lower part of the temporal lobe was likely to affect the inferior bundle of the radiation, producing homonymous defect in the superior quadrants of the opposite fields. The cerebro-spinal fluid was clear, and contained a slight excess of cells, varying from 18 to 95 per cubic millimetre, mainly lymphocytes. A preponderance of polymorphs with diminution of chlorides and absence of sugar reduction was usually associated with meningitis, and indicated that the abscess was leaking into the ventricular system or the subarachnoid space. The paper concluded with an account of certain cases illustrating the diagnosis of superficial abscess in which the signs and symptoms were cortical in character, and also of localized non-suppurative encephalitis in which spontaneous cure might result.

In the discussion which followed Mr. SYDNEY SCOTT and Mr. G. J. JENKINS drew attention to the importance of avoiding lumbar puncture if possible, and only withdrawing small amounts of cerebro-spinal fluid should this proceeding be necessary in suspected abscess of the brain. The withdrawal of 5 c.cm. of cerebro-spinal fluid had been sufficient to cause sudden death.

RECURRENT PREGNANCY TOXAEMIA.

AT a meeting of the Edinburgh Obstetrical Society on January 12th, the President, Professor R. W. JOHNSTONE, in the chair, Dr. JAMES YOUNG read a paper entitled "Recurrent pregnancy toxaemia and its relation to placental damage."

Dr. Young said that in 1914 he had submitted evidence that the eclamptic phenomenon was caused by the absorption of the toxic elements rapidly elaborated in a mass of dying placenta. Since then it had been shown in other connexions that extremely toxic materials, such as histamine and tyramine, might be produced from disintegrating tissue. He had at that time described the placental lesion, and, as Strachan had shown recently, his general views had since been confirmed by Clemenz, McNalley and Dieckmann, Adair, Soli, and others. If the placental lesion extended over a considerable area of the organ it might cause immediate ending of pregnancy by abortion, premature labour, or accidental haemorrhage without toxaemia, but less marked damage might be consistent with continued life of the foetus, and, therefore, with the time necessary for the development of the toxic elements responsible for the eclamptic attack. Such a view was in harmony with the well known facts that no essential part of the eclamptic process was direct damage to the foetus, the life of which might be unharmed even in the most fulminating case, and that, on the other hand, a severe eclampsia might suddenly subside after the intrauterine death of the foetus and the consequent complete detachment of the placenta. Dr. Young brought forward new evidence derived from a study of 220 successive cases of toxaemia and accidental haemorrhage in parous women in the Edinburgh Royal Maternity Hospital. In eclamptic cases a recurrence of eclampsia or non-convulsive toxaemia was found in over 30 per cent. This was clearly an underestimate, because it did not allow for those cases in which the toxaemia occurring in the last pregnancy, for which the patient was admitted to hospital, was the first of a recurring sequence. In addition, in eclamptic cases there was a 40 per cent. tendency to the occurrence in

successive pregnancies of abortion, premature labour, accidental haemorrhage, or stillbirth. The morbid process resident in the patient and damaging the successive pregnancies might be "primary" or "acquired." In many of the damaged pregnancies of the sequence there was no toxaemia. It had long been known that this absence of toxaemia occurred in many cases of accidental haemorrhage. Toxaemia was present in only about 40 to 50 per cent., and even in patients who died as the result of the haemorrhage there might be no evidence of toxic changes in the liver and kidney. The toxaemia was an accident, and was apt to be intense in "concealed haemorrhage" in cases where the damaged placenta was retained within the uterus. Dr. Young showed that the same abortion—premature birth—toxaemia sequence occurred in this condition in 18 out of 55 cases, or 32 per cent. Dr. Young believed that the data indicated that the causes of eclampsia and the related toxaemia of pregnancy were to be found amongst the causes of abortion and premature birth, which operated by means of placental damage. Toxaemia was an accident occurring only in those cases in which, after the placenta was damaged, the abortion or premature birth did not follow soon enough or quickly enough. Dr. Young stated further that the recognition of the high incidence of recurrence in true eclamptic toxaemia, and, in eclamptic cases, of the considerable tendency to recurring abortion and premature labour, made necessary a revision of the views held regarding so-called "nephritic" toxaemia. It had been generally believed that there were two groups of late pregnancy toxaemia—the eclamptic or non-recurrent, and the "nephritic" or recurrent—but the distinction was now untenable. This statement did not, of course, apply to those comparatively few cases of kidney disease clearly acquired before pregnancy from such causes as scarlet fever, which were sharply marked off from the specific toxaemia in which the nephritis was secondary. Dr. Young believed there was now much evidence for the view that the late pregnancy toxaemias, whether eclamptic or "nephritic," had a similar origin in the diseased placenta, and that kidney damage in such cases was secondary and was often aggravated by successive toxic pregnancies. This was supported by his own investigations and by those of others, which indicated that chronic nephritis might succeed even one eclamptic attack.

Occipito-posterior Presentation.

Dr. DOUGLAS MILLER read a communication on the occipito-posterior position of the vertex. His paper was based on an analysis of 750 occipito-posterior cases, the majority of which had been delivered in the Edinburgh Royal Maternity Hospital. In all cases, except for the abnormal position, labour was uncomplicated by contracted pelvis or other major abnormalities and diagnosis of the posterior position was made or confirmed during labour. The cases were classified into the following four groups:

Group I.—Spontaneous rotation of the occiput to the front had occurred in 474—rather more than 60 per cent. This figure probably underestimated the frequency of anterior rotation, as the review necessarily omitted cases admitted late in labour, in which forward rotation of a primarily posterior position might have already occurred. Where anterior rotation took place the average duration of labour was greater than in primary anterior positions by two and three-quarter hours in primigravidae and by one and three-quarter hours in multiparae. In 51 cases forceps delivery was ultimately necessary because of foetal distress or rigidity of the pelvic floor.

Group II.—In 88 cases the child was born spontaneously face to pubes, and in 9 cases the infant was the second of twins. In the majority of the remainder the children were small or the vaginal orifice abnormally lax.

Group III.—In 48 cases (6.4 per cent.) the head was seriously delayed at the inlet of the pelvis. In approximately two-thirds of these manual rotation of the head was performed. This manœuvre was as a rule followed by forceps extraction, although in many cases no further assistance was required. Rotation of the head was effected by means of forceps in 5 cases. Internal version was performed in 12 cases, and gave much less satisfactory results. It was added, however, that in the majority of cases this operation was not one of election, but had been employed as a last resort after labour had become seriously prolonged. Craniotomy was performed in 2 cases in which foetal death had already occurred.

Group IV.—In 140 cases arrest of the head with the occiput posterior occurred at a low level in the pelvis. Manual rotation, followed by spontaneous or forceps delivery, was the treatment adopted in rather more than half of these cases. In about 25 per cent. rotation was effected by forceps. Extraction of the child face to pubes was employed in a small number of cases of severe impaction, while in 8 cases in which delivery of a living child was considered impossible, craniotomy was performed.

These different methods of dealing with persistent occipito-posterior cases were shortly discussed, and it was shown that a comparison of the tabulated results was definitely unfavourable to forceps rotation. In emphasizing the importance of diagnosis, Dr. Miller pointed out that in the majority of cases it was possible to foresee at an early stage in labour whether forward rotation was likely to occur or not, by careful abdominal and vaginal examination or by the occurrence of such signs as were shown in the following table.

	No. of Cases in which Noted.	Termination: Mal-rotation or Non-rotation.	Spontaneous Forward Rotation.
Early rupture of membranes...	197	145 (74%)	52 (26%)
Delayed engagement of head...	139	107 (77%)	32 (23%)
Foetal heart heard both in flank and in opposite anterior lower quadrant	103	78 (76%)	25 (24%)
Normal engagement and rupture of membranes at or near full dilatation of os	332	33 (10%)	299 (90%)

Dr. Miller remarked that dystocia was greatest and morbidity highest in the persistent posterior case in which assistance had been unduly delayed until serious impaction had occurred, and the suggestion was made that in the restricted group of cases in which clear indications of faulty flexion were present, rotation of the head and body of the child might with advantage be performed at or near the commencement of the second stage of labour. This proposal of early intervention did not in point of fact run counter to the policy of conservatism so generally applicable in the management of labour; for against a manœuvre which was comparatively simple and safe when done early there had to be placed the high probability of formidable and difficult intervention after the mother had become exhausted by hours of suffering and fatigue, and the foetal life was at a low ebb.

DYSENTERY IN ABERDEEN.

AT a meeting of the Aberdeen Medico-Chirurgical Society on January 13th, with Dr. THOMAS FRASER, the vice-president, in the chair, a paper entitled "A note on some cases of dysentery in Aberdeen" was read by Dr. ROBERT RICHARDS.

Dr. Richards classified bacillary dysentery under the three main headings: (1) endemic, occurring in tropical and subtropical countries; (2) epidemic, usually occurring in minor form in local outbreaks in this country; and (3) sporadic, occurring in strictly isolated cases where the two previous types were rare or unknown. He referred to the large amount of work which had been done in infantile diarrhoea and the curious differences with regard to the causative organisms. American investigators had found that many cases were due to the *B. dysenteriae* of Flexner, the figures of the Boston floating hospital being 75 per cent. and in Baltimore 80 per cent. The latest figures for Britain were those of Nabarro, who recorded that in 13 cases out of 150 from the Great Ormond Street Hospital for Sick Children the dysentery bacillus was found. Dr. Richards's first case was a boy, aged 7, sent to the Royal Hospital for Sick Children with a diagnosis of intussusception. Before admission to hospital he had been ill for two days with vomiting, purging, and a temperature of 101.2° F., and he passed large quantities of blood and mucus. On admission he had a pinched, anxious expression; the abdomen was retracted and tender, but no tumour was felt. Rectal examination caused severe tenesmus with the

expulsion of some blood and mucus. A tentative diagnosis of ileo-colitis, or dysentery, was made, but in view of the doctor's statement that he had felt a tumour the abdomen was opened. No tumour was found, but the colon was thickened and swollen, and the appendix was also swollen and congested; there was great enlargement of the mesenteric glands. The case was then treated, as one of acute dysentery, with magnesium sulphate and the condition rapidly cleared up. The finding of *B. dysenteriae* Flexner confirmed the diagnosis. In this country the diagnosis of intussusception in such cases was not unlikely, but on rectal examination a distinct difference was apparent. In dysentery the tenesmus set up was very great and the examining finger was forcibly ejected, being followed by the passage of blood and mucus, whereas the rectum in a case of intussusception was large and roomy, unless a tumour was felt, and, in addition, no tenesmus was set up. The next three cases described were children aged 8, 4, and 5, all of whom showed typical dysentery symptoms, and in two cases *B. dysenteriae* Flexner had been isolated. The stool examination in case No. 3 was twice reported as negative for dysentery organisms, but this might have been due to delay in transmitting the specimen. The child, aged 4, had practically the same symptoms, but the causative organisms belonged to the food poisoning group, the *B. aertrycke*. An interesting feature in this case was the fact that three years later he was seen with a painful left knee, evidently a referred pain from the hip-joint; where all movements were restricted and a certain degree of fixed flexion was present. The temperature was 100° F. and the pulse correspondingly rapid. An *x*-ray examination was negative. On the same afternoon the patient became sick and developed diarrhoea accompanied by tenesmus and the passage of blood and mucus in the stool. A diagnosis of dysentery with toxic arthritis was made, and the finding of the Sonne bacillus confirmed this. Further confirmation was afforded by the clearing up with saline treatment of both conditions. In Dr. Richards's belief there was no previous record of such metastatic joint symptoms from Sonne dysentery, although arthritis was a common complication of both Shiga and Flexner dysentery in Macedonia. A further series of three cases of Sonne dysentery was described. Dr. Richards thought that true dysentery was not so rare among the general population as was usually stated. An outline was given of the treatment with magnesium sulphate which had been found to be almost specific in dysentery cases.

SPLENECTOMY AND BANTI'S DISEASE.

AT a meeting of the Section of Pathology of the Royal Academy of Medicine in Ireland, on December 17th, 1926, Professor WIGHAM in the chair, Dr. A. HALPENNY reported a case of Banti's disease treated successfully by splenectomy.

Dr. Halpenny said that a man, aged 30, was admitted to hospital with jaundice and weakness. The skin and sclerae were deeply jaundiced, the hepatic dullness in the middle line extended almost to the umbilicus, and the lower pole of the spleen was palpable two fingerbreadths below the ribs. The patient's weight was 8 st. 9 lb. The cardio-vascular, respiratory, and nervous systems were normal. The urine gave a positive benzaldehyde test for excess of urobilinogen. A blood count showed red cells 3,260,000 per c.mm., haemoglobin 70 per cent., and white cells 8,900 per c.mm., with 61 per cent. neutrophile polymorphonuclear leucocytes, 5 per cent. eosinophiles, and 34 per cent. lymphocytes. Splenectomy was performed, and the liver was found enlarged and cirrhotic; there was some fluid in the peritoneum. The patient had a moderate temperature for four days, after which he made an uneventful recovery. One month later the blood count was: red cells 3,880,000 per c.mm., haemoglobin 75 per cent., and white cells 11,500, of which 65 per cent. were neutrophile polymorphonuclear leucocytes, 5 per cent. eosinophiles, 29 per cent. lymphocytes, and 1 per cent. mast cells. The jaundice gradually decreased after the operation, and had almost disappeared when the patient was discharged a month and a half later, feeling very much stronger. The spleen weighed 985 grams. The cut surface showed small white areas which proved to be composed of fibrous tissue, the capsule was thickened, and sections showed general thickening of the reticulum with hyperplasia of the Malpighian bodies. There was an abnormal density of the whole splenic tissue and engorgement of the sinuses with blood. The walls of the sinuses contained a large amount of blood pigment.

Professor T. G. MOORHEAD described a case of Banti's disease, which had greatly benefited by removal of the spleen. The special interest of the case was that it occurred in a child, aged 6½ years, whose father had suffered from a similar condition. The father had his spleen removed some years previously and was now in perfect health. As a rule Banti's disease first showed itself in adult life, and it was only very rarely that a familial tendency had been recorded. Before the operation the child was very anaemic, the haemoglobin 50 per cent., the red blood cells somewhat reduced, and nucleated red blood cells were present. Two months after the spleen had been removed the haemoglobin reached 85 per cent., the red blood cells were increased, and nucleated red cells had disappeared. Prior to the operation the differential white blood count was practically normal, but after it the differential count showed 60 per cent. of lymphocytes.

Dr. J. LAIT demonstrated the spleen, which was enlarged and very congested, the Malpighian bodies standing out very prominently. The whole of the cut surface was thickly studded with small irregularly shaped masses, yellowish brown in colour, and from four to five times as large as the Malpighian bodies, which were hypertrophied. The small brownish masses were composed of fairly dense fibrous tissue; among the fibres were unstained translucent fibres not unlike degenerated muscle fibres in appearance, and numerous multinucleated giant cells. The masses contained pigment which gave the iron reaction, and calcification was demonstrated by von Hona's method. Dr. Lait had found similar appearances in splenomegalies associated with syphilis and myelogenous leukaemia. He had come to the diagnosis of Banti's disease mainly by a process of exclusion.

Cerebral Haemorrhage and New Growth.

Dr. A. R. PARSONS gave an account of two recent deaths due to cerebral disease. A man, aged 52 years, was found unconscious in the street; he was bathed in perspiration, and there was extreme rigidity of the lower extremities. The pupils were small, but equal in size, and the blood pressure was 240 systolic, 110 diastolic. He lived for just thirty hours after admission. Dr. Parsons considered the case to be one of decerebrate rigidity. The second patient was a man, aged 57, who was in a semi-unconscious condition when admitted to hospital. He had suffered from persistent headaches and vomiting, and there was paresis of both arms and legs. His blood pressure was 155 systolic and 95 diastolic, the pulse rate 70, and the temperature 98°. He never regained consciousness, and died in a fortnight. There was no optic neuritis.

Dr. J. T. WIGHAM described the specimens and said that in the first case haemorrhage had occurred into the mid-brain and that the blood had passed from there into both ventricles. He agreed that the condition was identical with that described by Sir James Purves-Stewart as found in cases of decerebrate rigidity. In the second case there was thrombosis of the longitudinal sinus, and the brain was adherent to the dura in the right temporal region. The right ventricle was obliterated and the left dilated. A large tumour was present in the right temporal region and was found microscopically to be a malignant glioma.

Fibrosarcoma of the Thigh.

Dr. R. A. STONEY described the case of a woman, aged 46, who had noticed a lump in her thigh sixteen years previously. It had grown very slowly until two years ago, when it rapidly increased in size. When examined the tumour was the size of half a coco-nut, was freely movable except in one part, and was situated in the superficial fascia. Dr. Stoney had removed the tumour with the overlying skin and fatty tissue, and at the operation he had found that the tumour readily peeled off the deeper structures and was apparently encapsuled.

Dr. WIGHAM demonstrated the specimen, and said that microscopic sections showed it to be a fibrosarcoma. He had no doubt as to its malignancy.

Dr. R. J. ROWLETTE referred to tumours which existed in a benign form for several years and then acquired malignant characteristics. He mentioned a case of a fibroid tumour of the uterus, which had been diagnosed thirty-five years previously; it then suddenly became malignant and caused death by intestinal obstruction. He also reported a case in which uterine polypi had occurred in successive years. These had been removed by operation, and then a sarcomatous polypus had occurred which caused the death of the patient.

Tracheal Diphtheria.

Dr. W. G. HARVEY read notes on a case which was admitted to the Adelaide Hospital as one of pneumonia. The patient was a girl, aged 18, who was six months pregnant. On admission she had difficulty in breathing and was cyanosed; the temperature was 101°, the pulse 120, and the respirations 30. The breathlessness was more suggestive of obstruction, and on examination no dullness or pneumonic breathing was found. The fauces were practically normal. Dr. Furlong examined the larynx and reported that no membrane was present, there being only some congestion. Later the patient coughed up a thick piece of membrane of the typical wash-leather appearance. This was examined by direct smear and by culture for diphtheria bacilli, with negative results. The patient was given antidiphtherial serum, but later miscarried, and about an hour afterwards died, apparently owing to respiratory obstruction and toxaemia.

Dr. J. LAIT, who had made a *post-mortem* examination, said that the fauces and larynx were comparatively free from any lesion. But the trachea, extending down to the bifurcation, the bronchi, and their smaller branches, were covered by a typical diphtherial membrane, which had completely occluded the lumina of the tubes of the smaller bronchial branches. A swab taken from the membrane at the necropsy had yielded streptococci only, but diphtheria bacilli were easily demonstrated in microscopical sections. The lungs showed a bronchial pneumonia, with areas of collapse and emphysema. An interesting point was that the membrane in the trachea was quite loose, in contrast with that of pharyngeal diphtheria. He had no doubt but that the condition was tracheal diphtheria.

Staphylococcal Septicaemia.

Dr. A. R. PARSONS read notes on a case of staphylococcal septicaemia. A man was admitted to hospital as a possible case of pneumonia. He had dyspnoea and a pain in his side; his pulse rate was 110 and his temperature 102°. The urine contained some albumin, but chlorides were almost completely absent. There were no physical signs of pneumonia. The patient had had a boil on his neck for a week before admission. Two days after admission to hospital he died.

Dr. J. LAIT said that at the necropsy there were no signs of pneumonia. A splenic puncture was made and the fluid was incubated with sterile broth. A swab from the cut surface of the spleen was also obtained and spread on a blood-agar plate. In both instances a pure culture of *Staphylococcus aureus* was obtained. No large abscesses were found in any of the organs. After numerous sections a small abscess about the size of a pin-head was found in the right lung, and another in the lower pole of the left kidney. By Gram's stain numerous characteristic clusters of staphylococci were demonstrated in microscopical sections of the lungs, and to a less extent in the kidneys and spleen.

SURGERY OF THE SPLEEN.

AT a meeting of the Liverpool Medical Institution on January 13th Professor D. P. D. WILKIE read a paper on the place of surgery in the treatment of diseases associated with enlargement of the spleen.

Professor Wilkie said that until recently the interest of surgeons in the spleen had centred mainly in the operative treatment of traumatic rupture of the organ and the rare cases of torsion of a wandering spleen. Increasing knowledge of the functions of the spleen, and thus of the part which it possibly played in diseases in which it was manifestly enlarged, had encouraged surgeons to attempt its removal in cases of splenomegaly. The effect of splenectomy on the course of diseases associated with splenomegaly was studied in many series of cases with great care and intensive observation. Sufficient data had now accumulated to permit the review of the subject with a measure of confidence, while recognizing that finality was still distant. This was essentially a borderland subject, and co-operation between the physician and the surgeon must be constant and intimate to ensure the maximum benefit to patients, and to further progress in medical science. Surgical intervention was practically never necessary in cases of septic infarct of the spleen; the special interest of these cases lay in the likelihood of the condition being mistaken for a perforation demanding immediate operation. In cases of splenic tuberculosis the question of splenectomy should be thoroughly discussed, and it was found that in certain cases removal of the organ had led to a favourable termination of a long febrile illness. With regard to syphilis of the spleen, Mayo had first drawn attention to the fact that the spleen might be the fastness in which the spirochaete might lodge and defy all specific drug treatment. He had shown that removal of the organ would permit of rapid cure by medicinal means. Malaria, cysts, and primary tumours of the spleen were then dealt with, and the splenomegalies were discussed. In splenic anaemia or Banti's disease the operation upon this condition presented two main difficulties. In some cases there were extensive and dense perisplenic adhesions which might hamper removal, and in freeing the spleen considerable haemorrhage and shock might result. The second difficulty lay with the splenic vein, which was friable from endophlebitis and might tear when ligatured. Special care would obviate this complication. When an operation was performed in the late stage of the disease in the presence of hepatic cirrhosis and ascites, the combination of omentopexy with splenectomy as advised by Tansini appeared rational and had been employed with success in a number of cases. Egyptian splenomegaly and Gaucher's disease were then described. In blood diseases with splenomegaly pride of place was given to haemolytic jaundice, because of all the blood dyscrasias associated with enlargement of the spleen it was foremost in the list of successful splenectomies. The relief following operation in this condition was so dramatic as to be almost unbelievable until actually witnessed. Splenectomy was the only treatment for haemolytic jaundice, in which it presented no special difficulties; by extirpating the organ responsible for breaking up and destroying the fragile red cells, it was followed immediately by disappearance of all the signs and symptoms of the disease. Professor Wilkie then discussed purpura haemorrhagica, pernicious anaemia, leukaemia, von Jaksch's disease, polycythaemia, and cirrhosis of the liver. In conclusion it was stated that splenectomy had now an established place in the treatment of certain diseases characterized by splenomegaly—namely, in acquired haemolytic jaundice, in chronic purpura, in splenic anaemia, and in Gaucher's disease. It might be used with benefit in a few selected cases in certain diseases, such as splenomedullary leukaemia, pernicious anaemia, von Jaksch's disease, and tuberculous and syphilitic splenomegaly. The operation was not indicated in a third group of diseases in which enlargement of the spleen was found—namely, malaria, polycythaemia vera, and acute leukaemias.

Dr. S. W. PATTERSON, dealing with the medical aspects of the subject, said that with x rays the spleen could be shown directly and also indirectly by the deformity of the greater curvature of the stomach or splenic flexure of the colon when these organs were distended with opaque material. He agreed that in cases of acholuric jaundice splenectomy was the treatment of choice, and illustrated the familial type of this disease by describing a family of twenty-nine members. Seventeen members of this family were affected; eight of them had had the spleen removed, with immediate relief of the jaundice and lessening of the anaemia, but the fragility of the red blood corpuscles was apparently unaltered; in one case it was present eighteen

years after splenectomy. In pernicious anaemia the results were not good. In the condition of purpura depending on a dyscrasia of the blood platelets splenectomy gave satisfactory results. Dr. Patterson emphasized the good results of x-ray treatment of spleen and long bones in leukaemia, and concluded with the remark that although the spleen was far from being a superfluous organ, the normal spleen could be excised without seriously injuring the health; a spleen acting abnormally was a dangerous organ and ought to be removed.

EXPERIMENTAL CANCER RESEARCH.

AT a meeting of the Cardiff Medical Society on January 18th, Dr. ALFRED HOWELL in the chair, a paper on "The story of experimental cancer research" was read by Professor E. H. KETTLE.

Professor Kettle said that the systematic experimental investigation of cancer began with the publication of Jensen's papers in 1902-3, in which was announced the successful propagation of a mammary carcinoma of the mouse through many generations. Jensen's tumour was exhaustively studied in this country and on the Continent, and very soon other spontaneous tumours in mice and rats were recognized and made available for further study. Much information about the general biology of malignant tumours and the special features of individual examples was gradually accumulated; but it had become recognized that the study of propagated tumours was only of limited value. In any series of inoculations tumours failed to grow in a certain proportion of the animals. Further, some tumours, after a period of progressive growth, retrogressed and finally became completely absorbed, when the mice in which this had occurred became refractory to further inoculations with the same brand of tumour. These observations fitted in well with the current trend of pathological thought, and the investigation of natural and acquired immunity to the inoculated tumour was entered upon with high hopes. Unfortunately, though mice could be rendered immune to inoculation with tumour tissue, no means had been discovered to control the progress of spontaneous tumours. About this time, when it seemed that experimental cancer research had reached a dead end, it received a welcome stimulus from the work of certain Japanese investigators, who demonstrated the possibility of producing cancer of the skin in animals by exposing them to irritants, especially tar. This line of research had been fruitful in results, and had still great possibilities. It had been shown, for example, that as a general rule cancer of the skin could only be produced by the repeated action of the irritant and developed only after a considerable period of time—a period corresponding to some twenty or thirty years in the life of man. At the same time, it was not necessary to apply the irritant throughout the whole of this period; a couple of months' application of tar might be followed four months or more afterwards by the development of cancer. Of even greater significance in their bearing on human pathology were certain observations which tended to prove that a local cancer was associated with a definite constitutional change. After referring to the study of the cancer cell in *in vitro* cultures, Professor Kettle briefly dealt with the recent work of Gye and Barnard. He pointed out that all the work of the past showed that, with one exception, malignant growth could only be propagated by the inoculation of the actual living cell. This exception was the sarcoma of fowls described and studied by Peyton Rous, which could be propagated by a cell-free extract. Gye had demonstrated that this cell-free extract contained two substances, neither of which was capable of producing a tumour when used alone, though in combination they could do so. Gye claimed that one of these factors was a non-specific living virus, and on the optical side he was supported by Barnard's work. All this research was still very recent, but it had received already a considerable degree of confirmation, and was obviously of the first importance. Indeed, its bearing on the general problem of infection might eventually outshadow its application to the more limited pathology of tumours.

Reviews.

PROSTATIC ENLARGEMENT.

MR. KENNETH WALKER has made a welcome contribution to surgical literature in his book entitled *The Enlarged Prostate*.[1] The work deals with simple enlargement of the gland, though in the discussion of the differential diagnosis other affections of the prostate are brought in.

The opening chapter deals with the anatomy, physiology, and development of the gland, and with the nervous mechanism of micturition and ejaculation. The author reminds his readers that we are ignorant of the pathology of prostatic enlargement, and that age is the only certain factor in its etiology. The gross naked-eye changes in the urethra, bladder, ureters, and kidneys are described in detail, while the symptoms, diagnosis, and differential diagnosis are fully discussed. The chapter on cystoscopy is good, but we would have preferred that a cystoscope of British manufacture should be taken as an illustration, for, in our opinion, they are quite as good as those of foreign make. The same remark applies to his rather scathing view of gum-elastic catheters of British make.

A really excellent diagram illustrates the common complications of prostatic enlargement in the genito-urinary tract, and this is followed by a description, in full detail, of the treatment of each complication. A mental appreciation of this diagram would be most helpful to any student or practitioner. The methods of carrying out the different laboratory renal function tests are given; the author does not trust to any single test, but requires to know the results of different tests for each case. While appreciating the value of these tests, he emphasizes the importance of correlating the information they give with that obtained from the clinical examination of the patient, for on the results of the latter should depend the final decision whether to operate or not. A chapter is devoted to the important subject of anaesthesia, including local, sacral, spinal, and general. We agree with the conclusion that bronchitis is as common with spinal as with general anaesthesia.

The question of prostatectomy by the perineal route is fully gone into; Mr. Kenneth Walker rates the difficulties and complications of this operation high, and in considering the choice of operations discusses the pros and cons. He holds that the perineal operation is one for experts only, and that prostatectomy by the suprapubic route is much safer in ordinary hands. The operations of cystostomy and suprapubic prostatectomy are described in full detail in a way most helpful both to the student and to the young surgeon. The different methods of controlling bleeding from the prostatic cavity are related, and he expresses a preference for Pilcher's haemostatic bag. Treatment after operation is detailed, and particularly his methods of combating shock, pain, secondary haemorrhage, etc. The different methods of attaining bladder drainage and of avoiding pelvic cellulitis are discussed, and the frequency of post-operative epididymitis is commented on. He goes into the causes of post-operative obstruction to micturition, and makes recommendations on how to avoid this complication and how to treat it if it arises. The chapter on prostatism without enlargement is probably the most interesting in the book—perhaps because the successful treatment of this condition is so difficult. In this type of case he advocates a perurethral operation, which, he considers, gives the best results. He recommends diathermy for removal of the obstruction, and a full description, with helpful illustrations, is given of his method of performing this operation; a table of results in thirty consecutive cases is given; two of these patients died from acute renal sepsis which was present prior to the diathermy; he thinks these deaths might have been avoided had a preliminary cystostomy been done.

The book is an excellent review of the subject from every aspect; it is written in a systematic way, and is, therefore, easily read and easily grasped. For those who wish to go deeper into particular portions, an excellent table of refer-

[1] *The Enlarged Prostate.* By Kenneth M. Walker, F.R.C.S., M.A., M.B., B.C. Oxford Medical Publications. London: Milford, Oxford University Press. 1926. (Demy 8vo, pp. xi + 193; 59 figures, 1 plate. 12s. 6d. net.)

ences is provided at the end of each chapter. The book is of a handy size, the text is good, while the illustrations are ample, helpful, well chosen, and well produced. It is a work that can be safely recommended, both to the young surgeon and to general practitioners whose responsibility it may be to advise a patient with an enlarged prostate.

PARSONS'S "DISEASES OF THE EYE."

IT cannot be said to redound to the credit of English ophthalmology that it is without a standard textbook, and that it has to rely in this respect upon an American translation—or, more correctly, adaptation—of an Austrian work. We refer to the textbook of Fuchs and Duane. It is the only one of the important subdivisions of medicine and surgery that is in so sorry a case. To compensate for this, however, it is possessed of several manuals and handbooks of more than average value. Of these undoubtedly the best esteemed and most complete is *Diseases of the Eye*,[2] by Sir JOHN H. PARSONS, the fifth edition of which is now before us. Succeeding editions of this manual have been noticed in these columns from time to time, and each successive edition has been commended for its many excellencies. The book is already so well known to the majority of our readers that a review of its general plan is unnecessary; the new edition differs from its predecessors only in being more complete and up to date, and in containing adequate accounts of those advances in diagnosis and treatment which have been introduced in recent years, and the large number of minutiæ of detail that the slit-lamp has revealed are described. The already profuse supply of illustrations has been increased, and many of the old ones have been redrawn and improved.

The distinctive virtue of this manual is that it is founded on a rich personal experience and informed by a sane judgement, which have put the author in a position to express definite and authoritative opinions. So many books of this kind—erudite though they may be—are mere compilations of the experience of others. Theory after theory is advanced and left in the air, or a bewildering array of methods of treatment are offered as possible alternatives, the reader being left to make his choice. But the reader more often than not is a student or practitioner who is seeking advice and guidance in his difficulties; with no means of knowing how to sift the profusion of alternatives offered him, and with no experience to guide him in his choice, he is little better off. Time and again throughout the pages of this work we read that "this and that have been suggested . . . but I think," "this, that, and this other have been advocated . . . but I prefer." And the opinion is always a well considered one, and the preference based upon an experience which is unrivalled.

If there is one thing which may seem to detract somewhat from its value, though only in a limited sense, it is that for the student of general medicine, with his many interests, it may appear at first sight to be somewhat too large. It is impossible to cater for all classes simultaneously, and as a manual for the student of ophthalmology and as a reference book for the practising ophthalmologist or medical man it certainly is not too large. They will find it a masterpiece of much in little, and of compression, without an unnecessary word, of a mine of information and a wealth of detail into the minimum of space; at the same time it is easy to read, and preserves throughout perfect clarity of exposition. With all its additions the fifth edition is only seventeen pages larger than its predecessor. If it is to preserve its distinctive character as a manual the same principle should be adhered to in successive editions. To enlarge it would be to fall between two stools. Even as it is, a manual in size, its completeness almost raises it to the dignity of a textbook. At the same time the student of general medicine will find so much of interest to him in neurology and medicine, and so much that is essential to him in the medical aspects of ophthalmology, that he will admit it a sound investment, and the hours spent over it well spent indeed.

[2] *Diseases of the Eye.* By Sir John Herbert Parsons, C.B.E., D.Sc., F.R.C.S., F.R.S. Fifth edition. London: J. and A. Churchill. 1926. (Extra post 8vo, pp. viii + 676; 343 figures, 19 plates. 18s. *net.*)

INDUSTRIAL HYGIENE.

THE Germans and Austrians appear to be paying for the war in small part by inflicting on the libraries of foreign countries the purchase of voluminous and expensive scientific publications. In the matter of scientific journals the German publishers seem to think that they can charge according to the bulk of their volumes and the length of the articles—a most pernicious arrangement. It is becoming a question whether it is worth while to continue to purchase periodical publications the issues of which have been so greatly expanded, often by mere padding. The libraries naturally do not want to break the continuity of sets of famous old journals, and German publishers appear to be playing upon this fact. *Körper und Arbeit*[3] is a voluminous publication dealing with the physiology of work compiled by several authors, such as René du Bois-Reymond, Arnold Durig, and Robert Herbst. The first part consists largely of anatomical and physiological details which are to be found in the textbook of anatomy and physiology, and might well have been omitted.

The chapters on the energy output and metabolism, and on rationalization of work by Dr. Atzler, those on the theory and practice of fatigue by Professor Durig, on the food of the worker by Dr. Lehmann, on clothing and on sport and work by Dr. Herbst, are to the point. Those interested in the physiology and efficiency of muscular work will find a great deal of information laboriously gathered together, and may use this weighty and rather dull volume with advantage for reference. The British Industrial Fatigue Research Board deals with the problems here discussed, and one member of the Board, Professor A. V. Hill, has contributed more than anyone in recent years to the physiology of muscular work; his researches are adequately summarized, but those on ventilation of workshops by Leonard Hill, Vernon, and others, a subject of the greatest importance to industry, are but briefly referred to.

COMPARATIVE PHYSIOLOGY.

IN contributing a volume on *Comparative Physiology*[4] to the Textbooks of Animal Biology, Professor L. T. HOGBEN has provided both stimulus and means wherewith the zoologist may enrich his knowledge by a vivid glimpse of the experimental methods and results most intimately related to his interests; at the same time it will enable the physiologist to pursue the fascinating inquiries of the last decade in which his methods are applied to problems and material not primarily concerned with an analysis of mechanisms known or suspected in man.

Two hundred and nineteen pages suffice to present an immense variety of phenomena, many of which show unexpected relations between the functions by which lower organisms develop and maintain life and those familiar in the study of mammalia. The diversity of nature is no longer accepted with the resignation of Winterstein, in his comprehensive treatise (1912), as due to "Artverschiedenheiten," but is gradually being woven into a pattern, the significance of which can, at occasional points, be detected. The subjects chosen for discussion, as indicative of such a change, are described in sufficient detail to induce interest and appreciation in readers with little previous specialized knowledge.

A high standard of accuracy is reached, and where a particular subject is described at all, few of its recent developments are omitted. The absence of reference to Kato's work on isolated nerves may perhaps be quoted as an exception. The title of the book would suggest that the comparative method had received considerable attention, but it has not yet been applied to any great extent to the data of general physiology. It may be hoped, however, that the re-orientation of material which is now in progress, and is here described by Dr. Hogben, may make the comparative, as contrasted with the experimental, method a more prominent feature of a future edition.

[3] *Körper und Arbeit.* Herausgegeben von Prof. Dr. Edgar Atzler. Leipzig: G. Thieme. 1927. (6½ × 9½, pp. xii + 770; 102 figures. M.42.50.)

[4] *Comparative Physiology.* By Lancelot T. Hogben, M.A.Cantab., D.Sc.Lond. Textbooks of Animal Biology. London: Sidgwick and Jackson, Ltd. 1926. (Demy 8vo, pp. xiv + 219; 44 figures. 7s. 6d. net.)

ANNALS OF MEDICAL HISTORY.

THE last or winter number of the eighth volume of *Annals of Medical History*[5] has on its cover a portrait of John Caius, who is referred to in Sir Humphry Rolleston's article on some worthies of the Cambridge Medical School. The frontispiece represents Francesco Redi (1626-1697), philosopher, physician, and poet, to whose memory Dr. Rufus Cole devotes an interesting biography. Dr. W. S. Miller gives the results of some years' inquiry into the life and doings of Abraham Chovet (1704-1790) of Philadelphia, a successful teacher of anatomy, who was described by S. Weir Mitchell's father as "a very bad man"; he left behind him a large number of anatomical models. Dr. E. B. Krumbhaar gives a description of the thirty-five medical medals and tokens he is presenting to the College of Physicians of Philadelphia, and comments on the comparative scarcity of English papers on medical numismatics. "The Worship of Asklepios, with special reference to Tholos and the Theater," is the title of a finely illustrated article by Dr. Ira S. Wile. Dr. Casey A. Wood writes on the medicine of ancient and mediaeval Ceylon under the heading "Ayurvedic Medicine." Dr. Herbert Fox of Philadelphia, in a particularly interesting article, shows that three of Thomas Hodgkin's original cases of the disease that goes by his name were (as proved by microscopical examination of specimens in the Guy's Hospital Museum, which the authorities allowed him to make) histologically identical with that now recognized. He, however, follows other American writers in giving the credit for establishing the histological characters of Hodgkin's disease to Miss Dorothy Reed (1902), and does not mention Sir F. W. Andrewes's description in the same year. Further, as four years before Hodgkin's paper appeared Craigie recognized that there was a disease midway between tuberculosis and cancer, Dr. Fox suggests that it might with some propriety be called after him. Dr. Roy L. Moodie provides two more studies on palaeopathology dealing with tumours of the head among pre-Columbian Peruvians, and with Pleistocene examples of traumatic osteomyelitis.

NOTES ON BOOKS.

The Personal Equation,[6] by LOUIS BERMAN, is much on the same lines as his previous book *The Glands Regulating Personality*, for both are addressed to the lay reader. It is written in rather superior journalese; a sentence such as "Every person begins as a minute droplet of that peculiar, mysterious, wonderful jelly known as a protoplasm" is hardly meant for professional consumption. The argument throughout is the influence of the endocrine glands on personality, and, as in the previous volume, well known men are taken to afford illustrations of the predominance of certain ductless glands. Thus two portraits at different ages of President Woodrow Wilson are introduced to show the facial characteristics of the pituitary-centred type, while President Harding figures as presenting the salient characteristics of an adrenal-centred individual, and Raphael as a thymus-centred person. The nine chapters include several with catchy titles, such as "Are we gland-controlled marionettes?" The author argues that the influence of the endocrine glands is more important than that of heredity.

In *Types of Mind and Body*[7] Dr. E. MILLER covers some of the ground, though in rather a different way, as Dr. Louis Berman does. In fact, he does not admit that writings such as Berman's have yet established a science of character based on endocrinology. The style of his otherwise well written book shows a preference for long words and a method of expression more popular than that ordinarily found in a medical monograph; the substance, however, is hardly adapted, and presumably is not intended, for the lay reader, who might be surprised to light on a sentence such as "the centre of gravity of our norm of human behaviour lies nearer to the cyclothymic reaction than it does to the schizothymic reaction," even though the cyclothymes and the schizothymes have been defined on an earlier page. This "Psyche Miniature," which is intended to show how physical conformation can be correlated with mental reaction, contains four chapters, dealing with morphology, the physiological background, the psychological aspect, and cross-currents. In the second of these the influence of the endocrine glands on the economy of the organism and on temperament and character is discussed, and the author appears to accept Eppinger and Hess's conception of vagotonia and sympatheticotonia. Later, when dealing with the psychological aspects, Michael Angelo and Leonardo da Vinci are mentioned as examples of characters with definite schizothymic marks and asthenic physiques, and Paul Verlaine's portrait is given to show his pyknic face and stout physique, almost Mongoloid in quality; Charles Baudelaire, of whom a caricature and a rather striking picture are also introduced, had a dominantly asthenic physique. The previous description of the various types is supplemented in the chapter on "Cross-currents" by consideration of the variations in the types of mind and body, and in this connexion the mental characters of John Bunyan, Lord Byron, and Milton are analysed.

The volume on *General Medicine* of the "Practical Medicine Series (1926)"[8] is, like its predecessors (see JOURNAL, July 12th, 1924, p. 59; February 7th, 1925, p. 270), divided into four parts, and is under the same editorship as in previous years. Recent work on infectious diseases and endocrinology is reviewed by Dr. George H. Weaver, assisted by Dr. T. Crooks. Diseases of the chest, excluding the heart but including tuberculosis, are discussed by Dr. Lawrason Brown, who pays special attention to treatment by sanocrysin and artificial pneumothorax. Dr. Robert R. Preble deals with the blood and the blood-making organs and diseases of the blood vessels and the heart, paying special attention to subacute endocarditis, blood pressure, and nephritis. Dr. Ralph C. Brown reviews the recent literature of diseases of the digestive system and metabolism, as well as the diseases of the liver and gall bladder.

In *Aids to Memory for First Aid Students and Nurses*[9] Dr. VERNON NEWTON has collected a number of mnemonics for the benefit of students of first aid and home nursing. Although the book makes no claim to be a textbook, or even a book of reference, it contains a considerable amount of information in compressed form.

In *The Gang Age*,[10] a small book by Dr. P. H. FURFEY, is given a brief psychological study of a young boy between the age of 8 or 10 years and puberty. It is a period of life when the influence of home, and especially of parents, becomes weaker, while school and the wider world offer new interests and activities both to the mind and the body. The interest of the book is social and educational, and although its outlines are broadly drawn it will be read with profit by parents and teachers. A valuable feature is a short bibliography at the end of each chapter, which will be welcomed by those who desire to pursue the subject further. The book is a useful and interesting contribution to the psychology of later childhood.

[5] *Annals of Medical History*, vol. viii, No. 4, December, 1926. Edited by Francis R. Packard, M.D. New York: Paul B. Hoeber, Inc. London: Baillière, Tindall and Cox. 1926. (8¾ × 12½, pp. 331-455; illustrated. Subscription in Great Britain £2 2s. per volume of four numbers.)

[6] *The Personal Equation*. By Louis Berman, M.D. London: George Allen and Unwin, Ltd. 1925. (Extra post 8vo, pp. xvi + 302; 9 figures. 8s. 6d.)

[7] *Types of Mind and Body*. By E. Miller, M.A.Cantab., M.B. Psyche Miniatures, Medical Series No. 4. London: Kegan Paul, Trench, Trubner and Co., Ltd. 1926. (Pott 8vo, pp. 132; 6 illustrations. 2s. 6d. net.)

[8] *The Practical Medicine Series*. Edited by Dr. Charles L. Mix. Chicago: The Year Book Publishers. 1926. (Cr. 8vo, pp. 737; 24 figures, 27 plates. 3 dollars a volume.)

[9] *Aids to Memory for First Aid Students and Nurses*. By Vernon Newton, M.R.C.S.Eng. London: J. Bale, Sons, and Danielsson, Ltd. 1926. (Demy 16mo, pp 53. 9d. net.)

[10] *The Gang Age*. By Paul H. Furfey, Ph.D. New York: The Macmillan Company; London: Macmillan and Co., Ltd. 1926. (Cr. 8vo, pp. xii + 189. 8s 6d. net.)

PREPARATIONS AND APPLIANCES.

Neutralon and Belladonna Neutralon.

NEUTRALON is a synthetic aluminium silicate with the formula $Al_2Si_2O_{15}$. Weak solutions of hydrochloric acid slowly split it up, forming aluminium chloride and insoluble silicic acid. Neutralon therefore appears to be a valuable new remedy for treatment of hyperacidity of th[illegible] drug neutralizes excessive hydrochloric acid carbon dioxide, and the insoluble precipitat[illegible] a protective coating for the mucosa of the [illegible]ts as a gastric sedative. Fairly extensive clinical tests have been made with the drug in Germany and the reports are satisfactory. "Belladonna neutralon" has the same formula as neutralon, but contains in addition 0.6 per cent. of extract of belladonna. This compound has the same action as neutralon, but in addition the belladonna, by paralysing the vagal nerve endings, exerts an action which may be valuable where there is excessive vagal irritability. Since belladonna is toxic in excess, belladonna neutralon must be given with a certain degree of caution, and should not be repeated too frequently. These preparations are supplied by Messrs. Schering, 3, Lloyd's Avenue, London, E.C.3.

British Medical Journal.

SATURDAY, FEBRUARY 12TH, 1927.

JANET'S TEACHINGS.

THE French school of psychiatry, during the century or more for which it has existed, has always been remarkable for the independence of its judgements and the originality of its ideas. Professor Pierre Janet, who is to-day the most influential of its representatives, is amply endowed with both of these qualities, and has proved himself an inspiring teacher. In his clinical work he follows the inductive method, not hesitating to follow where the facts lead, while when he comes to put his ideas into lectures or essays he leans to the deductive, setting out a proposition or theory, and substantiating it by reports of cases, related with all the skill of an accomplished story-teller. His writings are many, and for the most part scattered. It is therefore convenient to have various courses of lectures he has given in Boston and elsewhere brought together in an English translation,[1] so excellently made that it may be read with pleasure, and almost as a pastime.

It is perhaps true, as Janet affirms, that many medical practitioners are inclined to entertain a very poor opinion of psychotherapy, and to regard it as almost useless. They maintain that some patients will get well spontaneously, and that others will inevitably drift into chronicity; they believe that medical skill makes but little difference in such cases. Thus many medical men succumb to the "monstrous prejudice," against which Magnan indignantly used to protest, "that we can do nothing for our cases." Did this view correspond to facts, the doctor, when confronted with the anxious, depressed, deluded, or obsessed patient, would have little to do but assume an attitude of resignation and inactivity. Fortunately, however, such an opinion is untenable; the "war-shocked" soldier was cured by removal from the situation which provoked his neurosis and by the application of psychotherapeutic measures; similarly, it is often possible to dispel the symptoms of the more complex neuroses or psychoses of civil life by the removal of situations which have a traumatic significance and by the use of methods designed to straighten out internal disharmonies. To deny, indeed, the value of psychotherapy would be to deny the value of environment, education, and moral guidance in the development of personality, since psychotherapy consists in a large measure in the elaboration and application of methods which are utilized in daily life to influence the minds of normal persons. The ways and means of psychological healing are many and varied, and each is described and submitted to a critical discussion. Consideration is first given to miraculous and philosophical healing. Christian Science is included in the latter category, and akin to this is Dubois's system of "medical moralization," the aim of which was to encourage the patient to ignore his neurotic symptoms, and to induce him to cultivate the higher moral qualities. Janet devotes much attention to treatment by hypnotism and suggestion—methods in which a cure is attempted by making use of the patient's automatism. Treatment by rest, isolation, and "mental liquidation" is next discussed. Under the last term Janet includes those methods in which recovery depends upon unburdening the mind of traumatic memories. The discussion of this subject is largely concerned with a criticism of psycho-analytic theories. Janet expresses the view that, despite much exaggeration and distortion, psycho-analysis has unquestionably done a great deal to promote interest in psychiatric researches and has initiated a notable movement in ideas. He does not, however, accept Freud's sexual theory of the neuroses. Briefly, he takes the view that the sexual inadequacy which the neurotic exhibits is a symptom, and not a cause, of his neurosis. He quotes with approval Lyman Wells's generalization to the effect that in our civilization the sexual life has become a difficult matter, so that it is, as it were, a "touch-stone of our powers of mental adaptation." Thus disorders of the sexual functions are amongst the commonest and most inevitable manifestations in the subjects of a neurosis.

The methods which aim not only at using and saving what a patient already possesses, but also at enabling him to acquire further tendencies or to recuperate those which he has lost, call for careful study. They are far less precise than those to which reference has been made above, and the psychological notions upon which they depend are far less definite. Janet deals with them under the headings of education, excitation, and guidance, and gives particular attention to psycho-physiological methods of treatment.

In his discussion of treatment by isolation Janet reveals perhaps most fully his great clinical insight and his understanding of the neurotic character. Here he discusses the social reaction of his cases, showing how their capricious and exacting behaviour is liable so to deplete the energies of their associates as to produce a kind of collective neurosis. They demand everything and give nothing. The effect of such individuals upon others has a bearing upon the problem of heredity. A child of psychopathic parents grows up in a family atmosphere which will tend to exert an unfavourable influence upon its mental development; it will be submitted to a species of persistent and insidious psychic trauma which converts an otherwise healthy child into a neurotic. It would seem highly probable, as Janet brings evidence to show, that many mental invalids, whose morbid reactions are attributed to heredity, are in reality the product of an unhealthy domestic atmosphere.

Many of the patients described by Janet are not recognized as the subjects of mental disorder. Not only would they themselves indignantly repudiate the suggestion that they were mentally ailing, but, in many instances, those with whom they were associated would be surprised to learn that a person whom they had regarded as merely difficult, trying, and irksome to live with was in reality suffering from a recognizable form of mental illness. It is due to the pioneer work of such clinicians as Janet that these hitherto neglected and often unrecognized forms of mental illness, the description of which was left to the novelist, are now increasingly engaging the attention of the medical profession. The psychopathic personality and the psychoneurotic are not only themselves ineffective and unhappy, but they so tend to exhaust the energies of others as to create in them also ineffectiveness and unhappiness. Such persons may do

[1] *Psychological Healing: A Historical and Clinical Study.* By Pierre Janet. Translated from the French by Eden and Cedar Paul. In two volumes. London: George Allen and Unwin, Ltd.; New York: The Macmillan Company. 1925. (Demy 8vo; the two volumes, pp. 1265, 42s. net.)

as much harm to their associates as cases of physical infection, though the effects of the latter are more obvious. The family practitioner can probably do most to diminish the incidence of these so-called "minor psychoses" in the community. Many of them are largely the outcome of an unhealthy domestic situation, and the family doctor who realizes that psychopathic parents may unwittingly be responsible for the creation of neuroses in their children may do a great deal to prevent their occurrence by tactfully giving the educational recommendations which may seem to be called for in the particular case. Unfortunately the situation is rendered difficult by the psychic blindness which most individuals exhibit in regard to their own defects of character. The time may come when the physician will be called upon to give advice in cases of domestic inharmony (usually due to mental abnormality in one or more members of the family group) as readily and promptly as in those of physical illness. Before this most desirable state of affairs can come about, however, several conditions must be fulfilled. In the first place, there must be wider diffusion of a knowledge of the principles of mental hygiene, and the significance of mental twists in children must be fully appreciated by those responsible for their care; in the second, the study of personality disorders must take a larger place in the medical curriculum; and in the third, the psychopathologist must endeavour to communicate his knowledge in language as simple as possible. As regards the last condition, however, it can certainly be said that Professor Janet has not erred in presenting his subject in a manner which the busy practitioner will find it difficult to understand.

POST-GRADUATE POSSIBILITIES.

THE fact that, in spite of many disappointments, delays, and failures, it is still easy to get influential support for a proposal to improve the conditions of post-graduate medical education in London is proof of the vitality of the idea. Everyone who approaches the problem for the first time, even if he does not take the trouble to make himself acquainted with the history of what has been done since the Special Clinical Meeting of the British Medical Association in 1919, at once perceives that there are two sides to the question—the educational and the social. The full title of the chief body now active in London is the Fellowship of Medicine and Post-Graduate Medical Association. It was produced by the amalgamation of two bodies—the one founded by the late Sir William Osler and Dr. Hurst, for education; the other by Sir StClair Thomson and the late Sir John MacAlister, for social purposes. The latter purpose seems rather to have passed out of sight, but the need for an organization of the kind has not diminished. The Post-Graduate Hostel was established in London in order to meet both demands. It was opened at the end of last July, as reported in our columns at the time, and we have since regularly given particulars with regard to the meetings it has held. Its aim was to bring together socially post-graduate visitors to London, whether resident in this country or overseas. It sought to do this by social meetings and by discussions, to be held on two nights a week. The desirability of having in London such an institution met with very general approval, but, unfortunately, its financial basis was not sound; it has consequently been found necessary to wind up its affairs. Their experience has convinced its promoters that any experiment of the kind ought to have behind it either a sufficient capital sum to provide a really satisfactory hostel, or a moderate but certain annual income if a smaller experiment were to be tried.

The decision to close the Hostel was reached at a meeting on January 31st, and the resolution to bring the experiment to an end was accompanied by a cordial vote of thanks to Mr. A. P. Bertwistle, M.B., F.R.C.S.Ed., the director of the Hostel, for the trouble he had taken in connexion with its initiation and the success with which he had arranged an interesting series of discussions. Most of those present at the meeting at which this resolution was adopted afterwards dined together and heard an address from Sir Arthur Robinson, First Secretary of the Ministry of Health, on "Our duty to Colonial visitors." He expressed a confident anticipation that the time would come when London would provide a post-graduate school worthy of it, and added that an essential part of that school must be a hostel to help in attending to the social side. The Ministry of Health, he said, was impressed with the importance and urgency of the problem generally, but especially in regard to the insurance medical service. He did not omit to mention the report of the Post-Graduate Medical Committee appointed six years ago by Dr. Addison, then Minister of Health, but it may be opportune for us to recall that this departmental committee, of which the Earl of Athlone was chairman, recommended that a post-graduate medical school, with a hospital centrally situated, should be formed in London, and that it should be a school of the University of London, receiving substantial financial assistance from the Treasury through the University Grants Committee. It also recommended the establishment by the University of London of an Institute of State Medicine, in which instruction would be given in public health, forensic medicine, industrial medicine, and in medical ethics and economics. This final recommendation was almost immediately realized through the gift of the Rockefeller Foundation of two million dollars for building and equipment, on condition that the British Government undertook to provide for maintenance and running expenses. Sir Alfred Mond, who had become Minister of Health in the interval, promised that Parliament would find the necessary subvention, estimated at £25,000 a year. A royal charter was granted, and it was arranged that the new institution should take over the London School of Tropical Medicine. A second donation of £4,000 a year was subsequently promised by the Rockefeller Trustees to maintain a director and administrative staff, and Dr. Andrew Balfour was appointed director in October, 1923. Plans were got out under his supervision, and the foundation stone of the new building now rising in Keppel Street, near Gower Street, was laid by the Minister of Health, Mr. Neville Chamberlain, last July. The other recommendation of the Athlone Committee—that for the establishment of a general post-graduate school in London—has hung fire, but hope rose again when, in August, 1925, Mr. Chamberlain appointed a committee "to draw up a practical scheme of post-graduate medical education centred in London," and himself became its chairman. This committee, Sir Arthur Robinson told his audience, has been engaged in a most thorough and careful study of the problem in all its aspects, and he expressed the expectation that the labours of the committee "will not fail of fruition in the discovery of a solution of this most difficult and important problem." While he refrained from any

forecast of the recommendations of this committee, he went so far as to say that the Ministry of Health recognized that any scheme, to be successful, must include a hospital, educational facilities, and an organization, and a place where men from this country and from overseas could meet as friends, exchange ideas, and be put in the way of knowing exactly where they could obtain what they wanted, whether specific experience in one subject or more general knowledge. We hope that the report of this committee may not be too long delayed, and venture to express the opinion that if anything really worthy of this country is to be done it must be with the concurrence of the University of London, which would probably ensure that "substantial financial assistance from the Treasury through the University Grants Committee" of which the Athlone Committee spoke.

The thanks of the meeting were conveyed to Sir Arthur Robinson by Sir Thomas Horder, Bt., honorary treasurer of the Hostel, who was in the chair. The address, he said, had been really helpful and cheering on a somewhat depressing occasion.

MEDICAL GOVERNORS.

THE appointment of Lieut.-General Sir John Goodwin, K.C.B., to be Governor of Queensland was mentioned in our issue last week (p. 268). His record as an administrator during his term of office as Director-General, Army Medical Service (1918-1923), and his services with Mr. Balfour's mission to the United States in 1917, when he represented the medical profession of this country to the medical profession in the United States, assure his success in the new and important office for which he has been selected. It is not often that Colonial Governors have been chosen from among the ranks of those who have been trained as members of the medical profession, and it must be still more seldom, if ever, that a medical man who has served in a professional capacity till he has reached to the highest post open to him in his service has been chosen to be Governor of one of the great self-governing Colonies—if it is still permissible to describe one of the States of the Commonwealth of Australia as a colony. It is a curious coincidence, if it be altogether a coincidence, that Queensland has already had a member of the medical profession as Governor; this was Sir William MacGregor, G.C.M.G. After a long career in the Colonial Service he became Governor of Queensland in succession to Lord Chelmsford in 1909. After holding the office of colonial medical officer in Fiji, to which he was appointed in 1875, three years after his graduation at Aberdeen, he was Governer in succession of British New Guinea, Lagos in West Africa, and Newfoundland. His career was varied and adventurous, and he was a most valuable public servant. He retired in 1914, in which year he was appointed a Privy Councillor, and died in 1919. Other members of our profession have similarly given up active practice and drifted, as it were, into the diplomatic service. Of these Sir Rutherford Alcock was a distinguished example. After a term of service as house-surgeon to the Westminster Hospital, he was appointed in 1832 surgeon to the British-Portuguese forces in Portugal, and in 1836 he was transferred to the Carlist forces in Spain, becoming Deputy Inspector-General of Hospitals to that force at the age of 28. He soon, however, returned to London, and lectured on surgery at the now dead and forgotten Sydenham College. But it was in China that Alcock made his reputation. Abandoning medicine, he was appointed in 1842 consul at the newly opened treaty port of Fuchow. At Amoy with Sir Harry Parkes he did good service in "bringing home to the minds of the Chinese officials that treaties were solemn engagements and not so many promises that were to be whittled away at the will of the mandarins."[1] Some such persuasion seems to be too sorely needed in the present crisis. Alcock took a great part in the establishment of the international settlement at Shanghai, which has since developed into such a great place of business and trade, and is at present so much in the public mind. Afterwards he was sent to Japan, and took part in 1861 in the defence of the legation against the Japanese swordsmen when Laurence Oliphant was severely wounded, as described by himself in his *Episodes in a Life of Adventure, or Moss from a Rolling Stone*, published in 1887. After serving as Minister Plenipotentiary at Peking with great distinction, Alcock returned to London, where he held various honorific offices, and died full of years and honours at the age of 88. The career of another alumnus of Westminster Hospital comes down nearer to our own day, and is probably remembered by many readers. This was Sir George Scott Robertson, K.C.S.I., M.P., who entered the Indian Medical Service soon after his qualification in 1876, and served in the North-West Provinces as a civil surgeon, afterwards entering the Foreign Department of the Indian Government as agency surgeon at Gilgit. From this time his services were more diplomatic and military than medical, and the heroic defence of the agency by its garrison under his command thrilled the whole British Empire. On his return to England he sat in the House of Commons for Bradford for some years, and died in 1916. Thus he was not only one of the few medical diplomats, but also one of the few medical members of Parliament of his time. There are other members of the profession who have served their country as administrators or diplomats whom space prevents our mentioning, except Sir Auckland Geddes, who represented this country as Ambassador at Washington from 1920 to 1924. In the United States of America a parallel is furnished by General Leonard Wood, Governor of the Philippine Islands, who, at the age of 24, commenced medical practice in a Boston slum. He subsequently entered the medical service of the United States Army during the war against the Apaches, but soon became a combatant officer, receiving the highest award for gallantry in action. Subsequently he was physician to the White House, under the Presidencies of Cleveland and McKinley. He rose to the rank of brigadier-general in Cuba in the course of the war with Spain, and was Governor of Santiago; in 1910 he was appointed chief of the staff of the United States Army. He held a high command during the late war, and was wounded at the commencement of 1918 in France by the bursting of a gun. After the war he returned to administrative work and became Governor of the Philippines, where, as in Cuba, he has been largely responsible for the establishment of civil peace and good sanitary conditions.

SIR PATRICK MANSON.

MR. NEVILLE CHAMBERLAIN will unveil a memorial tablet to the late Sir Patrick Manson in the Manson ward of the Royal Albert Docks Hospital on Tuesday, March 15th, at 3.30 p.m. It is very appropriate that this tablet should be erected at this particular hospital, for it was there that Manson carried out so many of his epoch-making researches, and there that he laid the foundations of the teaching of tropical medicine; he gradually gathered about him an enthusiastic staff, and the numbers who attended the periodical classes steadily increased. It is very appropriate also that the ceremony should be performed by Mr. Neville Chamberlain, for it was his father, Mr. Joseph Chamberlain, who, by his convincing pleading, obtained from the public contributions to a fund which made it possible to

[1] *Dictionary of National Biography*, 1st Supplement, p. 29

finance the scheme in its early stage. Those whose memories go back long enough will vividly recall the speech Mr. Joseph Chamberlain made in London in 1899, pointing out first the responsibility laid on this country to undertake research into the diseases which rendered many tropical colonies almost uninhabitable for the white man, and the obligation upon it to educate the young medical men it was sending out in what was already known with regard to the prevention and treatment of these diseases. The speech was a model of lucidity, comprehensiveness, and eloquence. The response was immediate, but Mr. Chamberlain was not content to make this one effort; he was persistent in using his great influence to ensure the success of the scheme, and both he and Manson lived long enough to be sure that it was to be a permanent success. In 1920 the school was removed to the large building in Endsleigh Gardens, where it was under the same roof as a hospital for tropical diseases. The school welcomes, as Mr. Chamberlain said in 1899, officers appointed to the medical services of the colonies and protectorates, to receive, before leaving England, systematic instruction, with special facilities for clinical studies, and also doctors already in the service who, when on leave in England, are afforded opportunities of bringing their professional knowledge up to date. The plan of the school formulated by Manson was so thoroughly thought out as to ensure success, and at the time of his death in 1922 no fewer than 2,544 persons had passed through the courses, and the majority of them had taken the school's certificate of proficiency. In 1904 the importance of education in tropical medicine was recognized by the University of Cambridge by the creation of a diploma in the subject. The School of Tropical Medicine in London, and the sister institution in Liverpool founded at about the same time, have, in fact, become models for similar institutions in other countries—in France, Germany, Belgium, Italy, and in the United States of America. We may add that a volume on the life and work of Sir Patrick Manson, by his son-in-law, Dr. Manson-Bahr, and Professor Alcock, lately of the London School of Tropical Medicine, is now nearly ready for issue.

THE ANTIRACHITIC VITAMIN.

VARIOUS investigators have shown in recent years that irradiation of sterol-containing materials with ultra-violet light produces antirachitic potency, and it has generally been considered that the sterol itself (cholesterol or phytosterol) was the vitamin precursor. A paper has recently been read before the Biochemical Society in which the results of experiments carried out by Professor Heilbron, Dr. Kamm, and Dr. Morton (University of Liverpool) are described. These investigators have shown that by very careful fractional crystallization of so-called pure cholesterol a least soluble fraction can be collected, in which nearly all the vitamin precursor is concentrated. It is thus proved that the antirachitic properties developed in cholesterol on irradiation are not due to the sterol itself, but to the presence in it of a minute quantity of some other substance. This conclusion has been arrived at by experimentally following the concentration of the vitamin precursor by delicate spectrographic methods. Whereas cholesterol itself shows only general absorption in the ultra-violet region, the precursor has three well defined absorption bands which disappear on irradiation with concomitant vitamin production. The spectrographic results have been verified by direct animal feeding tests. The most concentrated fraction so far obtained has a potency over four times as great as the original material. Efforts are now being made, on the one hand, to obtain this substance in more concentrated form, while, on the other, cholesterol derivatives are themselves being examined spectrographically with a view to fixing possibly the precursor as one of these compounds.

THE FERENS INSTITUTE OF OTO-LARYNGOLOGY.

AN informal ceremony took place at the Middlesex Hospital on February 8th, when Mr. T. R. Ferens, lately member of Parliament for Hull, handed over to Prince Arthur of Connaught, chairman of the governing body, as representing the medical school of the hospital, a suite of laboratories which are to be known as the Ferens Institute of Oto-Laryngology. Mr. Ferens has founded this institute at a cost of £20,000. At present it is housed on the top floor of the recently provided annexe of the Middlesex Hospital in Cleveland Street, but as soon as the structural alterations at the main hospital are completed it will be housed in a new building. The accommodation consists of a large general laboratory, three smaller research laboratories, a museum and library, a dark room for photography, a lecture room, and a common room. The institute has been elaborately equipped with microscopes and all apparatus necessary for research in the physiology and anatomy and the diseases of the ear, nose, and throat, and is intended to be used for research and teaching under the direction of Mr. Somerville Hastings and Mr. F. J. Cleminson (the latter a relative of Mr. Ferens), respectively surgeon and assistant surgeon of the ear and throat department of the Middlesex Hospital. Mr. Ferens, in handing over the institute, said that he had been informed of the great need of research, particularly in connexion with the ear. He was arrested by the remark of one specialist that very little was really known about this organ. He expressed his great pleasure in making the benefaction. Prince Arthur of Connaught, in accepting the gift, said that the provision of such an institute was unexampled in the British Empire and perhaps in the world. Its purpose would be to offer the most complete and up-to-date facilities for research and teaching, and studentships would be provided for approved post-graduates who might desire to pursue investigations on the lines indicated, for from one to three years. Its total capacity would be for eight to ten students. There would be no charges for use of the laboratories and the apparatus and other essentials of research work, but, of course, students would have to provide for their own maintenance. It was also hoped to give opportunity in certain cases of exceptional merit for research work to be continued, in spite of the lack of financial resources, by a post-graduate student otherwise judged to be specially qualified for it, and with this object in view an appeal would be made for the founding of three such post-graduate studentships, of £300 each—one for Great Britain, one for the Dominions, and one for America. Money to endow these studentships had still to be provided, so that a good opportunity was offered for supporting Mr. Ferens in his far-seeing and public-spirited benefaction, which would help to make London the centre of study in diseases of the ear, nose, and throat for students from all parts of the world. Mr. Hastings pointed out that the institute was closely associated with the treatment of patients, that the out-patient department for such cases was on the floor below, and in the adjacent wards were twenty-six beds given over to the treatment of these conditions. Mr. Cleminson said that the name first proposed was the Institute of Otology, but as it was intended for the study of diseases of the nose and throat as well as of the ear, a more comprehensive title had now been chosen. He believed that the institute would form one valuable contribution towards making London the post-graduate centre in medicine. After the function was over Prince Arthur recalled the visitors to announce that Mr. Bernhard Baron, who was present, had expressed his willingness to establish the post-graduate studentship for Great Britain. Subsequently, in the hospital theatre, Dr. Logan Turner, President of the Royal College of Surgeons of Edinburgh, and Dr. A. de Kleijn of Utrecht, lectured on "The most recent physiology of the labyrinth."

MEDICAL EDUCATION IN THE SUDAN.

THE steady progress of medical and other education in the Sudan is illustrated in the annual report of the Gordon Memorial College for 1925. With the advent of more peaceful conditions the British troops were withdrawn from their occupation of some of the college buildings, and expansion of the work has now become possible. The primary section of the school has been closed, and room has thus been made for new laboratories for physics, chemistry, and biology. More space is also available for the important entomological section and the museums. The report contains an account of the work during the year at the Wellcome Tropical Research Laboratories, and mention is made of a proposal to build new medical research laboratories adjacent to the Civil Hospital. This would permit closer co-operation between the medical officers in the hospital and laboratories, would facilitate the examination of fresh pathological material, and provide a suitable teaching centre for pathology for the students of the Kitchener School of Medicine. If this proposal materializes, the director of the Sudan Medical Service has agreed to allot beds in the Civil Hospital to facilitate research. Another suggestion made is that a railway car should be equipped as a travelling laboratory, so as to serve Port Sudan and other towns of increasing size and commercial importance. A provincial laboratory has been established at Atbara, and the Gezira laboratory at Wad Medani research farm has been provided with chemical and entomological sections. The pathological museum has continued to expand, and valuable material has been collected for teaching purposes in the Kitchener School of Medicine, where various members of the staff have acted as lecturers during the year. In addition to the routine and educational work, various researches have been in progress, including those of Major N. T. Whitehead in connexion with the prevalent types of pneumococcus responsible for epidemic pneumonia, and investigations by Dr. D. Riding on bilharziasis and trypanosomiasis.

DRUGS AND THE CHEMIST.

THE year 1884 was given by Mr. Norman Evers, F.I.C., in a lecture last week at the Royal Society of Arts, as marking the turning point in the modern history of drugs. By that year practically all the important alkaloids had been discovered, and the era of production of synthetic drugs was beginning. Synthetic drugs from then onwards, in ever-increasing numbers, began to pour into this country, chiefly from Germany, until the great war temporarily put a stop to them. Mr. Evers showed a list of fifty important synthetic products which were introduced into this country between 1885 and 1914. The production of synthetic drugs, he said, had its origin in the search for an antiseptic which would be an improvement on carbolic acid, and in particular one which could be used internally as well as externally. The ideal antiseptic had yet to be discovered, but the search for it had led to many interesting and unexpected discoveries. A good deal of weeding out of synthetic drugs occurred during the war, and the lecturer thought that the medical profession was now definitely more sceptical than formerly, and that there was less likelihood of a drug of untried properties having any vogue. Mr. Evers said that even to-day the structure of some of the best known alkaloids, such as morphine, strychnine, and emetine, was still undecided. Many alkaloids had been synthesized, the most recent triumph being the synthesis of cocaine by Willstatter, but no alkaloid had yet been prepared synthetically on a commercial scale at a price at which it could compete with the natural product. The separation of glucosides, with the determination of their composition, and the isolation of hormones presented still greater difficulties. Adrenaline and thyroxine were the only hormones which had passed with anything like completeness through the three stages, which were first the crude extract, then the pure active principle prepared from the animal, and finally the synthetic product. Insulin and the pituitary, parathyroid, and ovarian hormones were still in the first of these stages. While the advent of new drugs had created new problems, the advances in chemical and physical science had enabled those connected with the older drugs to be tackled. Only a few years ago the preparations of ergot on the market were uncertain in their activity; there was no recognized and accurate method of physiological standardization, and no method of chemical standardization at all. The official method of preparation of the liquid extract, given in the *British Pharmacopoeia*, was one which was certain from its nature to produce an almost inactive product. But work had since been done on the chemical side of the isolation of the alkaloids, while on the physiological side a method had been evolved whereby the alkaloidal activity might be accurately tested, and now physiologically standardized liquid extract of ergot could be safely relied on to give the results expected of it. The analytical control of the supply of drugs had also been developed in recent years. Before 1880 there was very little standardization, and until twenty years ago the analytical control of the drug supply was practically confined to alkaloidal determinations and a few tests prescribed in the *British Pharmacopoeia*. To-day practically every drug that the pharmacist or medical man received, if it came from a firm of repute, had been checked by analytical methods, not only in respect to the finished product, but, perhaps two or three times, in respect to the raw materials. The progress of chemotherapy would necessitate the synthesis of compounds of increasing complexity. Modern therapeutics called for increased co-operation between pharmacologists, physiologists, and chemists, universities and research institutions, and chemical manufactories. Medical men and the public must be protected against the introduction of new drugs with exaggerated statements as to their efficacy, and the lecturer pictured what would have happened had the Medical Research Council not stepped in to ensure that insulin was properly manufactured and carefully standardized.

MEASUREMENT OF ULTRA-VIOLET RAYS.

WORKING in the research laboratory at Messrs. Cadbury's factory at Bournville, J. Ewart Moss and Arthur W. Knapp have revived the old method of measuring ultra-violet rays used by Freer in the Philippine Islands, and by others before Freer, in which a standard solution of oxalic acid and uranium acetate is exposed to the source for thirty minutes, and subsequently titrated with N/10 potassium permanganate. The standard solution, when of a thickness of 2.2 mm., absorbs all those radiations of wave-length shorter than 3,200 down to 2,300 A.U. It is comparatively unaffected by the "near" ultra-violet—that is, by wave-lengths longer than 3,200 A.U. The maximal biological action of the sun is in the rays between 3,200 and 3,000 A.U., and of artificial sources between 3,000 and 2,900 A.U. The standard solution is therefore a suitable one, and can be used for testing the falling-off of mercury vapour lamps, the transparency of glasses such as vitaglass compared with ordinary window glass, and for like purposes. This method is not so convenient to use as the acetone blue method introduced by Webster, L. Hill, and A. Eidinow, because titration is required. With the acetone blue method the standard solution is exposed in a standard silica tube, and the degree of fading measured directly against a set of standard tubes of decreasing depth of blueness. The degrees of this scale of measurement are biologically determined against erythema production in the white skin. The acetone blue solution has almost the same region of absorption of the ultra-violet

spectrum as the uranium solution, and therefore can be justly used for measurement of lamps, glass screens, and ultra-violet intensity of sunlight.

THE STRANGEWAYS MEMORIAL FUND.

WE announced recently (January 29th, p. 206) that a memorial fund was being inaugurated as an expression of the respect and gratitude which many must feel for the work of the late Dr. T. S. P. Strangeways of Cambridge. Absorbed in his unselfish scientific investigation, Dr. Strangeways was not able before his premature death to make adequate provision for his widow and seven children, five of whom are still being educated. A meeting to consider the best means of organizing an appeal was held at the house of the Royal Society of Medicine on February 2nd, when Dr. H. R. Dean, professor of pathology, Cambridge, presided. It was announced that the committee of the memorial fund had set itself to raise, before next autumn, sufficient money to ensure that the five sons of Dr. Strangeways should be enabled to continue their education on the economical lines which their father had planned. To achieve this result it will be necessary to call for widespread support, and as there are many old pupils and colleagues of Dr. Strangeways in London and other large centres it was agreed at the meeting, on the motion of Dr. W. S. A. Griffith, seconded by Dr. Paul Fildes, that copies of the appeal should be forwarded to the various medical schools so that they might be distributed to Cambridge men and others likely to be interested. Sir Walter Morley Fletcher, secretary of the Medical Research Council, in commending the appeal, spoke of the value of the research work undertaken by Dr. Strangeways, especially in connexion with rheumatoid arthritis; although he received a grant from the Council, Strangeways had spent large sums out of his own pocket in the furtherance of his beloved research. His work not only laid the foundation upon which others could build, but it enabled him to make a classification of the disease into various clinical types. This work on rheumatoid arthritis led him to an intensive study of tissue culture, and thence to the problem of cancer. One sign of the extreme value to medicine of the work which Strangeways had done, and was doing up to the time of his death, was the approval set upon it by the Medical Research Council as a contribution to scientific medicine. But that was only one part of the work done by Strangeways. Probably thousands of former students owed very much to his superb natural gifts as a teacher—gifts which were shown in their highest degree at the demonstration table rather than at the lecture. Many instances were remembered of his unselfish and thoughtful help for young people. Recognition of work of such a character as that undertaken by Strangeways was necessarily slow, and it would always be a matter of regret that he died before his work was fully appreciated, but the memorial fund would at least give the opportunity for posthumous appreciation. We may repeat that cheques should be drawn to Lloyds Bank, Cambridge, and crossed "a/c Strangeways Memorial Fund." They may be sent to the manager of the bank, Mr. G. F. C. Gill, or to Sir Humphry Rolleston (Southfield, Cambridge), or to Professor H. R. Dean, Dr. M. Donaldson, Dr. G. P. Bidder, Dr. L. E. Shore, or Dr. L. Cobbett.

INFLUENZA.

THE deaths from influenza in the great towns of England and Wales increased last week from 725 to 818, but in London the number decreased from 252 to 215. The recrudescence in London seems, therefore, to have passed its maximum. For the great towns other than London the totals for the last three weeks were 273, 473, and 603; the rate of increase appears to be slackening, but it is not improbable that some further increase will occur. However, it seems unlikely that the maximum will exceed 1,000 for the whole of the great towns (including London). Widespread as the illness has been, the toll taken in lives has been much below that of the recrudescence in 1922. In the week ending January 28th of that year 1,450 deaths were registered in the great towns. The Scottish Board of Health states that reports received down to February 5th show that in most parts of Scotland there was no undue prevalence of influenza for the time of the year, and that there was nothing in the nature of an epidemic. There is, however, a good deal of influenza of a mild catarrhal type, and in some places—Aberdeen, Greenock, Falkirk, and the Lower Ward of Lanarkshire—there is rather more than there was a week ago. At Aberdeen about 3 per cent. of persons visited by health visitors had influenza, and about 60 per cent. of health insurance sickness benefit claims had reference to influenza cases. In other places—Dundee (where, however, there was an increase in the number of deaths from influenza and from respiratory diseases), Motherwell and Wishaw, Dunfermline, Fifeshire, and the Upper and Middle Wards of Lanarkshire—there were fewer cases than in the previous week. In Motherwell and Wishaw the type is said to be becoming milder, and the interesting distinction previously reported by the medical officer of health, that the symptoms of the Wishaw cases were mainly gastric and those of the Motherwell cases catarrhal, is becoming less marked.

POST-GRADUATE TOUR TO AMERICA.

A POST-GRADUATE tour in Canada and the United States of America is being arranged by the Section of Surgery of the Royal Society of Medicine. It is proposed that, starting on July 23rd, the complete tour shall occupy about six weeks. The towns to be visited are: Boston, New Haven, New York, Philadelphia, Baltimore, Washington, Cleveland, Detroit, Ann Arbor, Grand Rapids, Chicago, Rochester (Mayo Clinic), Great Lakes, Niagara, Toronto, Ottawa, and Montreal. Facilities will be available for shortening the tour for those who so desire, and arrangements will be made for those interested in other subjects than surgery. The cost of the whole tour is estimated at about £140, and travelling facilities on the same terms will be offered to the wives of those taking part in it. Fellows of the society other than members of the Surgical Section can participate in it on being nominated by the Tour Committee, and the Section is willing to permit members of the medical profession who are not Fellows of the society to accompany them, if nominated by two members of the Section and approved by the Tour Committee. Those who wish to join this tour are asked to communicate as soon as possible with Mr. C. Max Page, 134, Harley Street, London, W.1.

THE Milroy Lectures, the first of the courses of the Royal College of Physicians this session, will be given by Dr. W. F. Dearden, medical officer of health to the Manchester Port Authority, on March 1st, 3rd, and 8th; his subject is health hazards in the cotton industry. The next course, the Goulstonian Lectures, on cardiac dyspnoea, will be given by Professor F. R. Fraser, M.D., of St. Bartholomew's Hospital, on March 10th, 15th, and 17th. The Lumleian Lectures, which will be delivered on March 22nd, 24th, and 29th by Sir Charlton Briscoe, Bt., M.D., physician to King's College Hospital, will deal with the muscular mechanism of respiration and its disorders. In May (3rd and 5th) Dr. C. Gordon Douglas, C.M.G., F.R.S., of Oxford, will give the Oliver-Sharpey Lectures, on the co-ordination of the respiration and circulation with variations in bodily activity. Lastly, the Croonian Lectures will be given in June by Sir F. Gowland Hopkins, M.B., D.Sc., F.R.S., professor of biochemistry in the University of Cambridge; his subject is the task of biochemistry.

LISTER CENTENARY CELEBRATION IN EDINBURGH.

BRITISH MEDICAL ASSOCIATION ANNUAL MEETING, JULY, 1927.

A PUBLIC meeting in celebration of Lord Lister's centenary is to be held in the McEwan Hall, Edinburgh, on Wednesday, July 20th, at 8 p.m. The Right Hon. the Earl of Balfour, K.G., O.M., has consented to take the chair, and short addresses will be delivered by Sir William Watson Cheyne, Bt., Professor Tuffier of Paris, Professor Harvey Cushing of Harvard University, and Dr. James Stewart of Halifax, Nova Scotia.

Throughout the week of the Annual Meeting of the British Medical Association a museum of Lister relics will be on view in the Upper Library of the Old University. In this connexion most generous assistance has been given by the director of the Wellcome Historical Medical Museum, London, and his staff, and the unique interest of the exhibits will largely be due to their co-operation.

Lister Memorial Volume.

A Lister Memorial Volume has been prepared, and with the consent of the Council of the British Medical Association it will constitute the Book of the Meeting in so far as a copy will be presented to each member of the Association who registers. The volume, edited by Dr. Logan Turner, contains a variety of contributions; a sketch of Lord Lister's life is given by his former house-surgeon, Sir George Beatson of Glasgow. A series of short personal reminiscences has been written by Sir William Watson Cheyne, Dr. Rutherford Morison, Dr. Grasett, Dr. Baldwin, Dr. T. R. Ronaldson, the late Professor Francis Caird, Dr. Stewart (Halifax), Dr. Douglas (Cupar), and Mr. Hamilton Russell of Melbourne. Two of Lister's scientific addresses, and a series of letters of general interest, are incorporated in the book. A number of striking comments which he made at various times in relation to the germ theory and the antiseptic system, and, in fact, upon things in general, have been grouped in a chapter under the heading "Obiter dicta." A section of particular interest is that dealing with the lives of Lister's fellow residents in the Edinburgh Royal Infirmary during the summer of 1854, a group which included Beddoe, Christison, and Kirk—men who won distinction in widely differing fields. This chapter has been contributed by Dr. Logan Turner. A chapter entitled "Surgery prior to Lister's time" is written by Mr. Alexander Miles, while an article on the influence of Lister's work on surgery is contributed by Professor Fraser; Professor Sharpey-Schafer deals with Lister's work as a physiologist.

The volume, which will contain from 180 to 200 pages quarto, is illustrated, and, except in so far as reproduction of certain letters and published articles is concerned, the matter is original.

Lister's Edinburgh Residences.

The residences which Lister occupied while in Edinburgh have hitherto been undistinguished by any memorial inscription. The committee considered the present a suitable opportunity to remedy what may have seemed to many an omission. With the generous consent of the proprietors concerned, short indicatory inscriptions are being placed upon the wall of 11, Rutland Street, and 9, Charlotte Square.

Prize Essay.

A donation of £25 was received by the committee, the donor desiring that this sum should be awarded as a prize for the best essay submitted on the subject "The influence of Lister on surgery." To the original prize the committee has added a gold medal, and this award is open to students and graduates of not more than one year's standing of any medical school in the British Empire. The terms upon which the essays are to be submitted have already been published, and notices have been sent to the various teaching centres. It is intended that the award of the prize and medal shall be made by Lord Balfour at the Lister centenary meeting on July 20th.

AN OUTBREAK OF ANTHRAX AT THE ZOOLOGICAL GARDENS.

Report by H. HAROLD SCOTT, M.D., F.R.C.P., *Pathologist to the Zoological Society of London.*

THREE weeks ago we were able to give a short preliminary account of the outbreak of anthrax among elephants at the London Zoological Gardens. We are now in a position to print the following extract from the report made by the pathologist, Dr. H. H. Scott, to the Prosectorial Committee. We are indebted to that committee and Dr. Chalmers Mitchell, secretary of the society, for placing the text at our disposal. It fully confirms the main facts stated in our note published on January 22nd (p. 154). It would appear that the disease was not suspected by anyone until the death of the second elephant, and that the precautions adopted with regard to the men who had been in contact with the elephant that died first were taken because of the diagnosis of anthrax in the second elephant. The Zoological Society and its officers are, we think, to be congratulated, not only on the prompt and effective handling of the outbreak, but on the frankness with which they have presented full and authoritative details to the medical profession. After stating that a detailed account of the *post-mortem* findings can be seen, by anyone interested, in the full autopsy records in the custody of the society, Dr. Scott continues as follows:

The blood was dark and unduly viscid, but the muscles did not show any unusual discoloration. The spleen, though congested and very dark, was not enlarged. The other organs, except for a somewhat darker coloration of the contained blood than was normal, revealed no appearance worth noting.

From the first case, "Indiarani," smears were taken from the heart blood, the peripheral blood, the liver, spleen, kidneys, and lungs, and cultures were put up also from each of these, and as the liver on section showed a foaminess which was expected to be due to Welch's *Bacillus acrogenes capsulatus*, the cultures were set up in duplicate and incubated aerobically and anaerobically. Portions of the liver, spleen, and lungs were also taken for histological examination. All the smears showed large, rather square-ended bacilli, and the fact that the anaerobic cultures grew well, while the aerobic showed no growth, led me to infer at the time that the *B. acrogenes capsulatus* was the cause of the condition. I have heard since, both from Professor Wooldridge and others, that the gas gangrene bacilli very rapidly kill out the *B. anthracis*, with the result that the latter do not grow in the presence of the former. Thus is accounted for the fact that Welch's bacillus, an anaerobe of the gas gangrene group, developed to the exclusion of the other.

On December 29th the second elephant, "Sundermalah," died, and the autopsy was undertaken as soon after as possible; in fact, the body was quite warm. The *post-mortem* examination was started just after 9 a.m. With the exception that there was absence of the foamy state of the liver, the conditions found were on all fours with what had been noticed in the former case, but, in addition, on the internal aspect of the right elbow there was a sore covered by a scab; on removal of this scab I made smears from the tissues beneath, and also smears from the blood and the various organs and tissues, as in the case of "Indiarani." Cultures were also put up. These were made between 9 and 11.30 a.m., and taken over at once to the laboratory, where the smears were stained and examined and the cultures placed to incubate, aerobically and anaerobically.

The smears showed numerous bacilli, so suspicious to my mind of anthrax that I communicated the fact to the superintendent, and then telephoned to Professor Leiper, to whom some worms and faeces had been sent, telling him of my suspicions, in order that the material might be burnt or otherwise disposed of before anyone in his laboratory ran the risk of infection.

Professor Wooldridge, being at the Gardens the same afternoon, came over with Dr. Vevers and examined my smears. He did not regard them as sufficiently characteristic of anthrax, being, as he said, too large and not quite typical in shape. Though expressing his doubts, he suggested that he should take some smears down to Sir John McFadyean to confirm or refute my suspicions. He accordingly went with me to see the body, and remarked that there was not the usual discoloration of the muscles associated with anthrax—a point we too had noticed;

but for safety I made some fresh smears of the blood for him to take to Sir John McFadyean. Later I received word of confirmation from Dr. Vevers, who said he had heard of the fact from Professor Wooldridge. The following morning the cultures showed unmistakably the nature of the infection, and confirmed still further my suspicions of the smears. To be brief, the tissues, which have now been cut and stained, show the condition very clearly.

To finish with the question of the elephants first. In neither case did the intestine show any inflammation at all, and the probability of their having been infected by mouth was slight; sections of the liver, moreover, show clearly that the portal veins contain practically no bacilli, whereas the branches of the hepatic artery are crowded with them. This, I think, can only be explained by the fact that the systemic vessels carried the infection from the skin or the lungs, and not that the infection gained entrance through the alimentary tract.

In spite of the absence of signs of intestinal infection, Dr. Vevers suggested that the oilcake supplied to the elephants should be examined bacterially. It was quite possible that, if infected, the oilcake might be trodden upon and crushed, and any surface wound become infected by the animals lying on it. In neither case was there any sore found on the feet, which were carefully examined. Several cultures were put up from the oilcake and from the box in which the cake was kept, but with negative results.

On January 1st cultures were made from fissures in the skin of the remaining five elephants, on the slender chance of finding a local infection in any of them, but all proved negative, and all are well at present. The next suggestion, for which also I am indebted to Dr. Vevers, was that the "pig-oil" with which the elephants are rubbed from time to time (and they had in fact been rubbed on December 18th) might be contaminated. Cultures were therefore put up from the few drops remaining in the tin which had been used, and also cultures from a fresh tin opened for this purpose. The second proved to be quite sterile, and from the first no harmful organisms were grown, merely such as might gain entrance from exposure to the air. There were no anthrax colonies. Another culture, put up later, merely confirmed these findings.

So much for the elephant side of the question. By December 31st all we could state definitely was that the second elephant, "Sundermalah," had died from anthrax: the case against the first being the same was possible, but not proven.

Turning now to the human aspect. On December 30th, in view of the results of the examination of the smears from "Sundermalah," and of the cultures, all those who had been in contact with either of the cases were examined for cuts, sores, etc. P., B., and L. were found to have small cuts or fissures on their hands, and W. a spot (? acne) on the face. Smears and cultures were put up from these. From P. there grew colonies of *Staphylococcus albus* and *Staph. aureus*; from B. and L. colonies of *Staph. albus* only; from W. colonies of *Staph. albus, aureus,* and *citreus*.

On January 3rd, 1927, B. returned with a sore on the wrist (having started, it appears, in a hair follicle). This was a papule becoming vesicular with a haemorrhagic periphery, the whole rather smaller than a threepenny piece. A culture was taken from this and also a smear made. The latter showed anthrax bacilli on staining. He was sent to hospital, and the culture, which had grown abundantly by the following day, was sent, on the instructions of Colonel Monckton Copeman, F.R.S.,[1] to Dr. Arthur Eastwood, the bacteriologist of the Ministry of Health, who later wrote to me confirming the fact of its being the suspected *B. anthracis*.

B. had not come into contact in any way with the second elephant, only with the first—"Indiarani"—thus affording proof that the first case had been one of anthrax and replacing our suspicion by certainty. He had first noticed the spot on December 30th or 31st, thus giving the incubation period of six to seven days.

On January 5th Mr. W. Lawrence, my assistant, who had a great deal to do with the second autopsy (December 29th), called attention to a small red spot on his arm which he had noticed the previous evening (January 4th). There was a second similar spot about three inches above this; both were hair-follicle lesions. Serum from these was examined by smear, which revealed the *B. anthracis*, and cultures put up showed abundant growth the following morning. He also was sent to hospital, and, a subculture having been taken, the original was sent to Dr. Eastwood, who again confirmed our work. The incubation period from the date of the second autopsy was again six days.

On the same day (January 5th) G., the boy who came to cart away the remains of the bodies, presented himself with a sore on his arm which had appeared on the previous day. When seen by me it was very small, hardly larger than a hempseed, and had a slight ring of oedema (whether this was part of the actual lesion itself one cannot say; he said that he had been "squeezing the place that morning"). Smears from it showed bacilli in considerable numbers, giving the characteristic picture by McFadyean's method of staining, and the boy was sent to hospital; the culture confirmed the smear the next morning.

On January 6th Mr. F., who works for Mr. G., came up complaining of a "boil" on his right forearm which he had had for the previous "two or three days." There was a definite lymphangitis extending from this up the arm, and the site of the inflammation was painful (the "spots" in the other three were, so the patients said, quite painless). Smears taken from the serous discharge at the edge of the cellulitis showed only staphylococci and streptococci, but for safety a culture was put up and he was given an injection of anti-anthrax serum. The following morning there was a growth of staphylococci and streptococci, and *B. anthracis*, and this patient also was sent to hospital.

There have been no further cases, to my knowledge, either among the human contacts or among the animals.

CONCLUSIONS.

The investigation is of particular interest as showing:

1. That infection may so readily occur via a hair follicle, when all care has been taken to seal cuts, fissures, or more open wounds. (In this connexion I may mention that the second assistant, C., gave himself a fairly deep cut on the occasion of the second autopsy, but this was treated at once, and he has shown no signs of any infection.)

2. That the incubation period is six days, as evidenced by two of the cases definitely, while G.'s arose six days after contact with the second elephant. In F.'s case nothing can be inferred, he was working at Mr. G.'s, and might have become infected at any time after the death of the first elephant.

3. That the initial sore is quite painless, and in the earlier days might easily be overlooked.

There still remains the mystery as to the source whence the elephants themselves became infected.

[1] After the diagnosis of anthrax had been confirmed the case was reported to the Ministry of Health, who delegated Colonel Monckton Copeman to take charge from the point of view of public health. [Secretary, Zoological Society of London.]

Nova et Vetera.

DR. JOHN LEYDEN, ORIENTALIST.

ONE of the accusations brought against the old East India Company was that it sometimes put square pegs into round holes and not infrequently showed favouritism. One instance that has sometimes been quoted is that of the Orientalist, John Leyden, and even his biographer, Thomas Brown, seems to admit the truth of the accusation.[1] It is true that Leyden had never seriously studied medicine, but he had attended some classes during the three years previous to his appointment to India, with a vague notion of taking up medicine if both the Church and literature failed him.

John Leyden, who was born in 1775, entered Edinburgh University at the age of 15, and after completing his arts course joined the divinity classes in 1793, went to St. Andrews in 1797, and was ordained licentiate of the Church of Scotland in 1798. He met with no great success as a preacher, but was more successful in literature; he collaborated with Scott in the production of *Border Minstrelsy*, and did much other miscellaneous literary work, including the compilation of a history of the exploration of Africa, published in 1799. Reading accounts of the travels of Mungo Park (an ex-surgeon of the East India Company), he was fired by the desire to imitate him, and applied to the Sierra Leone Company. His friends, however, persuaded him that he would find greater scope for his linguistic talents in the East, and made interest with

[1] We take the particulars on which this note is founded from Thomas Brown's *Memoir* prefixed to Leyden's poems (Nimmo, London and Edinburgh, 1875) and from official records.

Henry Dundas, President of the Board of Control (created Lord Melville in 1802), for an appointment in the Company's service. The only appointment for the year remaining unallotted was one as assistant surgeon in Madras, and the nomination to this was promised to Leyden if he could succeed in qualifying within six months. After six months' hard study he got the diploma of L.R.C.S.Edin., and obtained also the degree of M.D. from the University of St. Andrews. Leyden had already shown his capabilities as a linguist, and nowadays if he went to India would probably have been provided for in the Educational Service; but a century ago the only way in which the Company could employ a candidate was by giving him either an appointment in its covenanted civil service or a commission in the army, and the latter included the medical department.

Leyden's commission was dated by the Court as of season 1801, but he only received orders to start for India in January, 1803. He was to have sailed in the *Hindostan*, but was taken ill in London and missed his passage, fortunately for himself, for the ship was wrecked a few days after starting, with considerable loss of life. Leyden finally left England in April, 1803, and reached Madras in August, 1803. He was posted to the Presidency General Hospital, to which all assistant surgeons were sent on arrival, and the period there spent was one rather of pupilage for the study of tropical disease and of the vernacular than of practice. In 1804 he was appointed surgeon and naturalist to the commission deputed to survey Mysore and Travancore. Falling seriously ill with fever and liver disease while so employed, Sir John Malcolm, the Resident of Mysore, kept him for some time in his house, till he was strong enough to be sent down to Madras, whence he went for a sea voyage to Achin and Penang for the recovery of his health. After some months at Penang he was sent, early in 1806, to Calcutta, where he spent more than a year engaged solely in language study. In 1807 he was appointed professor of Hindustani in the College of Fort William, where the newly arrived civilians were then instructed in Indian languages, law, etc. In 1808 he was appointed judge of the 24 Parganas, the metropolitan district surrounding Calcutta. This post, however, appears to have been of an executive rather than a judicial nature, for he wrote of himself as employed at this time chiefly in hunting down robbers. In the following year he was appointed one of the Commissioners of the Court of Requests in Calcutta, and in 1810 became Assay Master of the Calcutta Mint, where he had as his assistant one destined to surpass even his own fame as an Orientalist, H. H. Wilson, who subsequently succeeded him as Assay Master.

It seemed as though Leyden's genius for languages was now to have full scope. But when an expedition was sent to reduce the Dutch settlements in Java, Lord Minto, the Governor-General, took Leyden with him as interpreter. They sailed from Calcutta on March 9th, 1811, and landed in Java on August 4th. Batavia surrendered on August 7th. Leyden, while examining manuscripts in a damp unventilated room, contracted fever, of which he died on August 27th, a few days before completing his 36th year.

While at Penang in 1805 Leyden compiled a "Dissertation of the languages and literature of the Indo-Chinese nations," which was published in *Asiatic Researches*, vol. x (1810). He also translated *Malay Annals*, published in 1821, ten years after his death; and for the British and Foreign Bible Society made translations of the Gospels into Pushtu, Baluchi, Macassar, Maldivian, and Bugis. His most important work, however, was the translation from Turki of the *Memoirs of Babar*, the first of the great Mogul emperors; this work he did not live to finish, and it was completed by William Erskine. Doubtless, if he had been spared for further usefulness, he would have accomplished far more philological work. As it is, he left but little behind him in comparison with his great powers and high reputation. He is now almost forgotten. His fame, such as it is, rests chiefly upon his earlier poetical work, written before he left Scotland, his chief poems being the series called *Scenes of Infancy*.

THE FOUNDLING HOSPITAL SITE.

WE are informed by Dr. W. M. Fairlie (9, Mecklenburgh Square, W.C.1) that the following letter has been addressed to the Ministry of Health by a number of medical practitioners resident in the area affected by the proposal to transfer Covent Garden market to the site of the Foundling Hospital. In addition to the gardens of the hospital the estate contains several squares, which afford very welcome air spaces in that part of London. As we pointed out some months ago, evidence that the problems of Covent Garden have yet been sufficiently analysed by the appropriate persons is wanting. No doubt the trade has outgrown the present market, but the places from which the produce sold there come have not been considered adequately in relation to the best possible site. It is probably true that much of it is brought from the counties west of London, but this should be definitely ascertained. Nor is the public fully informed as to the railway depots in London to which produce from abroad is consigned. In any case it must reach Covent Garden by wagon or lorry. This makes it all the more important that in fixing the new site consideration should be given to the demand for lessening the congestion of traffic generally in London.

9, Mecklenburgh Square,
London, W.C.1,
5th February, 1927.

To THE RIGHT HONOURABLE NEVILLE CHAMBERLAIN, M.P., *Minister of Health.*

Dear Sir,

We, the undersigned medical men and women residing on the Foundling Hospital Estate, view with grave concern the growing tendency to build over the open spaces in the centre of London. Endsleigh Gardens and Mornington Crescent have already been sold for building purposes, and a bill is to be introduced in Parliament in the ensuing session with the object of obtaining power to erect a market on the grounds of the Foundling Hospital and the adjoining squares.

This site is largely surrounded by thickly populated areas, and in its immediate vicinity are no less than seven important hospitals. Any diminution of the open spaces in this neighbourhood is bound to have an adverse effect on the health of the community.

Open spaces, by acting as natural ventilators of the surrounding streets, diminish the incidence of infectious disease. In London they have undoubtedly exercised a considerable influence in producing a low death rate and a general high standard of health. In this connexion it is worthy of note that the children of the Foundling Hospital have been, over many years, extraordinarily free from tuberculosis, no definite case having occurred during the past decade.

We would respectfully urge your consideration of the matter, and venture to suggest that the permanent preservation of the squares of the Foundling Hospital Estate would be a measure in the best interests of public health, and one which we earnestly hope may receive the sympathetic consideration of the Government.

We remain, Sir,
Your obedient servants,

C. T. BISHOP, M.B.
J. CHRISTIE-ANDERSON, M.B., Ch.B., L.D.S.
D. CONSTANTIN, M.R.C.S., L.R.C.P.
M. DIA, M.B., B.S.
WM. M. FAIRLIE, M.D.
JAMES HAROLD, L.R.C.P. and S.I.
A. O'DWYER KENNEDY, M.R.C.S.
D. A. D. KENNEDY, *M.C.*, M.B., Ch.B.
JAMES KERR, M.D.
EDWARD KNIGHT, M.R.C.S.
W. B. KNOBEL, M.R.C.P.
WM. MACLEOD, M.B.
E. MILLER, M.R.C.S.
C. J. O'BRIEN, M.B.
J. J. O'DONNELL, L.R.C.P.I.
OLIVE RENDEL, M.D., M.R.C.P.
MAUDE M. RICHARDS, M.B., B.S.
J. V. REES ROBERTS, M.D., D.Sc.
ELEANOR C. THISTLETHWAITE, M.B., Ch.B.
A. F. WHYTE, M.B., Ch.B.
G. C. NELSON YOUNGER, M.R.C.S.

Scotland.

MATERNITY AFFAIRS IN SCOTLAND.

AT the annual Committee of the Convention of Royal Burghs in Edinburgh on January 26th, it was reported that a deputation which waited on the Scottish Board of Health had been informed that the Royal Commission had contemplated the maternity services being administered by the local authorities along with other medical services, and that the Government was still considering the matter. Sir Henry Keith said that many of the women treated in homes under the control of local authorities had given a mandate to the authority to recover from the approved society the expenses of treatment up to the amount of

maternity benefit. In some instances these mandates were honoured by the societies, in others payment was refused. At the annual meeting of the Scottish Midwives Association on January 22nd it was stated that if the recommendation of the Royal Commission on National Health Insurance, for the wide extension of maternity benefit, including the payment of the certified midwife and maternity nurse from insurance funds, had become a statutory enactment, a vastly improved economic status for midwives would have resulted. In consequence, however, of the passing of the Government's Economy Bill, midwives had been deeply affected by the economic distress of the past year. Representations to the Scottish Board of Health had secured a grant in aid of short residential post-graduate courses for practising county midwives, and lectures and clinics for city midwives were increasing in numbers.

WELFARE OF THE BLIND.

The Scottish Advisory Committee on the Welfare of the Blind, set up in 1918 to advise the Scottish Board of Health on matters relating to the care and supervision of the blind in Scotland, has now issued its third report. It appears that there are in Scotland 6,639 blind persons on the central register, an increase of 585 since the issue of the last report in 1924; the increase, it is said, is to be explained by the greater interest now taken in matters connected with the blind. Of the total number of registered blind persons, 359 were under 16 years of age and 2,835 between 50 and 70. The committee estimates that 2,000 persons are now in receipt of the pension to which blind persons become eligible at 50. The number of blind children under 5 years of age has diminished from 15 in 1924 to 11 in 1926. The sum of £83,902 has been paid by the State in the past seven years towards the maintenance of services provided by voluntary agencies for the welfare of the blind in Scotland. The report describes in considerable detail the technical training of the blind, for whom bootmaking has been found specially suitable. The committee is of opinion that there should be no age limit beyond which training may not be commenced. The committee is not satisfied that the 288 blind persons certified or certifiable as mentally defective represent the true position; it believes that mentally defective blind children could be better dealt with and educated in schools for the blind among pupils of a higher grade of intelligence than they can be in institutions for mental defectives. With regard to marriages between blind persons, the committee believes that these are generally undesirable and should be discouraged as much as possible.

ABERDEEN ROYAL INFIRMARY.

The annual report of Aberdeen Royal Infirmary for 1926 shows a total of 4,664 admissions to hospital (1,016 medical and 3,648 surgical) during the year; 21,916 out-patients had received advice and treatment, and the total number of patients treated in the year showed an increase of 2,458 over those for 1925. The ordinary income was £31,856, and the ordinary expenditure £32,276. The ordinary expenditure had risen by £1,328, the increase being due to the larger number of beds occupied and also to the increased price of coal, which of itself had caused an expenditure of £855. The extraordinary income showed undestined legacies of £10,904 and bequests of £10,500 for permanent endowment. After allowing £2,751 for special expenditure on extensions, alterations, and improvements, an addition of £7,752 had been made during the year to the credit of the extraordinary income and expenditure account.

LEITH WAR MEMORIAL.

A new wing was opened at Leith Hospital on January 29th by Sir John Gilmour, Bt., Secretary of State for Scotland, as the Leith memorial to those who fell in the war. Ex-Provost John A. Lindsay, chairman of the War Memorial Committee and of the Leith Hospital board of managers, who presided over a large gathering, said that when the subject of a memorial to the men who fell in the war was first considered many suggestions had been made, but the proposal to provide accommodation for sick children in Leith Hospital by means of a special wing speedily obtained general approval. In a comparatively short time £30,000 had been subscribed. Shortly after this a gift of £20,000 towards the project had been received from Mr. John W. Hope, a London merchant who had started business in Leith, so that the required total of £50,000 had been very quickly reached. Sir John Gilmour, in declaring the memorial open, said that it was peculiarly interesting to find that in Leith they had decided to do something to help to solve what was one of the great national problems. He thought that a very suitable tribute to the dead was offered in the form of service to the living and to future generations. It was within the capabilities of every individual to contribute to the solution of the hospital problem. Mr. Thomas Cowan, in proposing a vote of thanks to Sir John Gilmour, said that the new children's wing meant a material increase in the hospital's annual cost of maintenance; before the war it had averaged £6,000 to £8,000, the present cost was £17,000, and to maintain the efficiency of the enlarged hospital a future annual expenditure of £20,000 would be required. He believed that the spirit of giving would be greatly encouraged if the Government were to free all legacies for hospitals from death duties, as the Hospitals Commission had recommended. Were this done it would help to stem the demand made by many people that the Government should maintain all such hospitals and institutions. Sir John Gilmour, when returning thanks, promised to pass on the suggestion to the proper quarter. He believed, however, that, above all, hospitals must not lose the private interest which had been the life of the community and of hospitals in the past. The new wing is a two-story building containing thirty-six cots and, with the necessary extension of the nurses' home, has cost about £40,000. This leaves a considerable sum available as an endowment fund for the maintenance of the wing.

CHAIR OF BOTANY AT ST. ANDREWS.

At the half-yearly meeting of the General Council of the University at St. Andrews, when Principal Sir James Irvine presided, a draft ordinance framed by the University Court for the establishment of a university chair of botany was considered. In 1889 a sum of £6,000 was given to University College, Dundee, for the establishment of a chair of botany in that college. This chair was held by Professor Patrick Geddes till his retirement in 1920. A further sum of £1,000 has since been received, and the Carnegie Trust had given £10,000 towards the endowment of a lectureship in botany in the United College, St. Andrews. It was suggested that the three endowments should be combined to form the basis of a practicable sum for a full university chair of botany. The professor would take part in the teaching of botany both at Dundee and St. Andrews. This recommendation was unanimously adopted and the draft ordinance approved. At the same meeting it was pointed out by the chairman that for the winter session 1926-27 there were forty-eight more students attending St. Andrews University than there had been at the corresponding time last year. This was in accordance with an upward movement in numbers at the other Scottish universities.

SMALL-POX IN FIFESHIRE.

A case of suspected small-pox was reported at Burntisland on January 29th. The case was that of a seaman on board the Dutch tug *Humber*, which had arrived from Devonport with the obsolete battleship *King George V* in tow. This tug and another, having left their charge at Rosyth to be broken up, proceeded to Burntisland to coal, and there the case of small-pox was discovered and taken to the fever hospital. The remainder of the crew were vaccinated, and their clothing and the ship were disinfected, while all possible local contacts were traced and examined. The local authority has recommended general vaccination in Burntisland and offered to carry it out free of charge.

EDINBURGH ROYAL PUBLIC DISPENSARY.

The work of the Royal Public Dispensary, Edinburgh, has been conducted from the same building since the year 1776. It was the first dispensary established in the city, and owed its origin to the enlightened conception and energy of Dr. Andrew Duncan. He was led to establish it by his conception of the needs of the poor, and by his recognition of the opportunity it would afford for practical training in medicine and pharmacy. As the city extended, other dispensaries upon similar lines were instituted, and have formed a very important part of the Edinburgh Medical School. During the past year some 1,500 cases visited the dispensary for the first time, while the Municipal Child Welfare Clinic associated with the dispensary continued to do valuable work, and has been attended by 245 new and 1,488 old cases. The total income for the year was £1,080, and as the expenditure had been £1,005, the accounts closed with a credit balance of £77.

England and Wales.

THE LONDON COUNTY COUNCIL PUBLIC HEALTH DEPARTMENT.

THE London County Council has decided to rearrange the medical work of its public health department. During the last three years the work has been organized in four divisions: (1) general public health (including diagnosis of small-pox, plague, and cholera); (2) inspection and treatment of school children (including infectious diseases of school children); (3) tuberculosis, venereal diseases, work under the Midwives Acts, and infant life protection; (4) mental deficiency and medical examinations. Each of these divisions is in charge of a senior medical officer. This arrangement has been found to result in undue pressure on heads of divisions, and to be ill adapted for the absorption of new work which from time to time devolves upon the Council. The necessity for some modification of the existing organization which will make for greater efficiency in the performance of the work connected with the control of infectious diseases has impressed itself upon the Public Health Committee. At present the bacteriological laboratory is attached to the second of the divisions mentioned above, but the scope of its work has steadily widened of recent years and can no longer be regarded as mainly confined to the control of infectious diseases in schools. The whole of the work, both clinical and administrative, relating to infectious diseases will be co-ordinated and placed in a new division under the direction of a senior medical officer. The medical work of the department will then be reorganized in five divisions, and will form a framework into which future accretions of work can, it is hoped, readily be fitted. At present there are five positions of senior medical officer on the fixed staff, three carrying salaries of £1,000 rising to £1,300, one of £900, rising to £1,100, and one of £800, rising to £1,000, in each case by an annual increment of £50. Under the new scheme the work of the five divisions will be so arranged as to give equal value to each of the salaries of these five officers; they will all be on the basis of £1,000, rising to £1,300. The Council is also proposing to extend the school medical service during the next triennium by additional dental and minor ailments centres, extension of provision for in-patient treatment of children operated upon for enlarged tonsils and adenoids and for children suffering from ear disease, further provision for bathing children and cleansing the verminous, increased medical services in connexion with open-air schools, health classes, mental defectives and delinquent children, and medical services in connexion with rheumatic children. Amendments have been tabled by Dr. Stella Churchill and by Mrs. Dalton, calling respectively for still further provision for medical services in connexion with rheumatic children and for dental and minor ailments work.

POST-CERTIFICATE SCHOOL FOR MIDWIVES.

The Minister of Health on Tuesday afternoon opened the new building of the Post-Certificate School of the General Lying-in Hospital, York Road, near Waterloo Station. The building, the gift of an anonymous donor, is situated at some distance from the hospital at Southampton Street, Camberwell. Dr. John S. Fairbairn presided over the opening ceremony, which took place in the conference hall of the new building, the other portion of which comprises an ante-natal clinic and certain accommodation for the superintendent, which, incidentally, enables the school to take extra pupils. Mr. H. W. Lydall, the solicitor on behalf of the donor, presented the new building to Sir Francis Champneys, president of the Lying-in Hospital, who, in accepting the gift, expressed the great gratitude felt towards the donor by all connected with the institution. He thought that when the history of midwifery in England came to be written, that presentation would form the beginning of a very important chapter. The idea of carrying the instruction of midwives into the time when they were actually practising was most excellent, and there was no reason why it should not be copied in other parts of the kingdom. Sir Francis, before calling upon the Minister of Health, reminded those present that there was someone else to whom gratitude was due—namely, Dr. Fairbairn, a man of enterprise and public spirit of whom they were all justly proud. In declaring the new building open Mr. Neville Chamberlain said it so happened that that was also the opening day of another institution (Parliament) with which he was connected, one which perhaps made more noise, though in some respects it was not unlike the school of which the new building formed part. In the other institution of which he was a member there were many little infant measures which, having been conceived, came to birth. Some were stillborn; some led a precarious existence after difficult labours, whilst others, more fortunate, grew up into strong, healthy Acts of Parliament. He personally had acted as accoucheur on a good many occasions. The interest of the building he was opening lay in its connexion with the Post-Certificate School. He believed the opportunity afforded to practising midwives to bring their practice up to date and acquire a knowledge of modern methods of midwifery was of real value and importance to the country. Even doctors might derive benefit if from time to time they could come from more remote parts of the country and see what their brethren in the great centres were doing. It was astonishing how recent were some of the ideas as to what midwifery practice should be. In 1916 three months' training was regarded as sufficient for midwifery practice in this country. Even the twelve months' training laid down in 1926 was a good deal behind the standard of some Continental countries, in which two years' training was necessary for midwives. It was a significant fact that those county nursing associations which had sent midwives to the school to be trained were so delighted with the results that they had been anxious to repeat the experiment. Mr. Chamberlain added that, whilst it was a great feat to have halved the infant mortality rate in a quarter of a century, it should not be forgotten that the maternal mortality rate showed at present very little sign of change. The most hopeful way of reducing the maternal mortality rate was by improving the midwifery service, and, thanks to the anonymous donor, it was possible to add still further to the services which the school was rendering to the community. As Minister of Health, and with a proper sense of responsibility, he thought it not only a great work but a great example, and one which he hoped would be duly noted, not merely by the county nursing associations, but by other institutions having facilities for training midwives.

ROYAL EAR HOSPITAL, LONDON.

The new buildings of the Royal Ear Hospital, London, were opened by the Minister of Health on February 9th. The hospital, which originally occupied premises in Dean Street, was amalgamated with University College Hospital in 1920. Through the generosity of Mr. Geoffrey Dureen, who has provided the whole of the necessary £75,000 as a memorial to his father, Mr. Henry J. Dureen, the new buildings have been erected in Huntley Street, close to University College Hospital, with which it is connected by a subway. The buildings are thoroughly equipped for the study and treatment of diseases of the ear. The operating theatre is on the third floor, and a silence room has been

made in the basement; its walls, floor, and ceiling have been so constructed as to be impervious to external sounds. Mr. Chamberlain was received on his arrival by the vice-chairman of University College Hospital, Lord Oranmore and Browne, and by the chairman of the Royal Ear Hospital, Mr. Geoffrey Duveen. In the course of a short address Mr. Chamberlain said that in 1925 more than 6,000 children attending elementary schools were either wholly or partially deaf within the meaning of the Education Act. In addition there were 17,000 children whose hearing was defective, and some 30,000 suffering from diseases of the middle ear; these figures did not include children who had not begun to attend school or had left, nor the diseases of the nose and throat, which contributed to produce deafness, and adults were omitted altogether. The new hospital was provided with every appliance necessary for correct and early diagnosis, which was the first step, but investigations would also be carried out with a view to prevention, so that the hospital, like other hospitals, would try to find ways of making its curative functions superfluous. This ideal might never be reached, but it was by research that it would be most possible to add to the happiness and efficiency of the people by preventing deafness. The voluntary hospital system had been passing through what had been perhaps the most critical period of its existence, and it was extraordinarily gratifying to find that latent and unsuspected sources of help had been revealed. It was significant that within two days there had been opened in London two voluntary institutions—the Ferens Institute of Oto-Laryngology at the Middlesex Hospital (see page 296) and this Royal Ear Hospital. Voluntary effort had shown that it could rise to the height of its responsibilities and provide all those extensions which had been the glory of the voluntary system in this country. The vice-chairman of University College Hospital proposed a vote of thanks to Mr. G. Duveen, which was received with acclamation. On the motion of Dr. A. M. H. Gray, Dean of the Medical School of University College Hospital, a cordial vote of thanks was adopted to Mr. Chamberlain, who afterwards made an inspection of the new buildings.

MANCHESTER ROYAL INFIRMARY.

Plans for the erection of the new nurses' home in connexion with the Manchester Royal Infirmary are well advanced; the site in York Place has been partly cleared, and it is hoped that sufficient money will be received to justify the commencement of building operations within the next few months. In the annual report of the Infirmary for the year ending December 31st, 1926, it is stated that £12,750 was collected during the twelve months, making the total so far received £58,401, of which £7,188 was raised by the nursing staff. The existing facilities for nurses are to be increased shortly by the addition of an extra floor over the present dining hall, thus doubling the seating accommodation. Since there are at present about 1,500 patients on the waiting list, the erection of more wards is urgently necessary, but the additional nursing staff of 379 required cannot be housed until the new home is available. There has been a further increase in the number of cases treated at the Royal Infirmary and its central branch, the number during 1926 being 27,677, as compared with 26,347 in 1925, and 24,255 in 1924. The daily average of new casualty cases is now 75.82, whereas in 1920 it was only 50. The combined income of the Infirmary and the Barnes Convalescent Home at Cheadle has risen from £89,532 in 1925 to £93,163 in 1926, but the total ordinary expenditure in the two years has increased from £118,828 to £121,365 in the last twelve months. The total number of patients treated in both institutions rose from 57,499 in 1925 to 59,232 in 1926, and 9,567 operations were performed.

BRADFORD HOSPITAL FUND.

In spite of the severe trade depression the "record" sum of £12,293 was contributed during 1926 by the mills and workshops of Bradford to the local Hospital and Convalescent Fund. At the annual meeting of the Fund the chairman, Mr. Herbert Gill, described how these contributions had grown from small beginnings. The employees were now contributing more than double the amount they gave in 1918. During the last three years, notwithstanding the prevalence of bad trade and unemployment, the Fund had endowed the various hospitals of the city with over £20,000 annually. During the twenty-two years of the Fund's existence Bradford workers had given £142,360, and since the Fund started £362,979 had been raised by systematic subscriptions. With the return of a reasonable amount of employment, the chairman believed that the present subscription total could be doubled. Since the establishment of "Scholars' Day" twenty-one years ago the school children of the city had contributed over £3,000 to the Fund, and a competition organized in connexion with the Bradford Cricket League had yielded over £2,500. The various entertainments organized by the Fund in 1926 had produced about £5,000, and since the institution of the Peel Park gala in 1864 it had been instrumental in contributing £65,300. The Lord Mayor stated that there were 120,000 subscribers to the Fund among the workpeople of the city. A sum of £10,451 was presented to the Royal Infirmary, which contains 265 beds, of which some 220 are occupied daily. There was still an adverse balance of £6,328, but the confident hope was expressed that the necessary money would be received in a very short time.

COMPLIMENTARY DINNER TO DR. LILY BAKER.

On Friday, February 4th, a complimentary dinner to Dr. Lily Baker, B.A., M.B., B.Ch.Dubl., F.R.C.S.I., was held at Fortt's Restaurant, Clifton, Bristol, to celebrate her appointment to the honorary staff of the Bristol Royal Infirmary in charge of the ante-natal department. Miss Frances G. Robinson presided, and about one hundred guests were present. The guests at the high table included Lady Barrett, C.B.E., M.D., M.S., Professor Winifred Cullis, O.B.E., D.Sc., Miss Letitia Fairfield, C.B.E., M.D., D.P.H. (barrister-at-law), Sir Ewen J. Maclean, M.D., M.Ch., F.R.C.P., F.R.S.E., Professor D. C. Rayner, O.B.E., F.R.C.S., Professor J. A. Nixon, C.M.G., M.D., F.R.C.P., Dr. R. S. Statham, O.B.E., M.B., Ch.M., and Mr. C. F. Walters, F.R.C.S. The remaining guests were seated at three long tables, and the gathering presented a gay and brilliant scene. Lady Barrett, M.D., M.S., who proposed the toast of the guest of the evening, congratulated Dr. Baker on her success, which had been won through the value of her work. The ante-natal work in a hospital staffed by men, put into the hands of a woman, was a great compliment. She looked forward to the time when Dr. Baker would be occupying a still higher position than that on which they were congratulating her. Professor Winifred Cullis said that Dr. Baker's appointment was an open proof of the capacity of women and the generosity of men. She was helping to break down the feeling that there were things which men could do and which women could not. Dr. Letitia Fairfield referred in a witty speech to Dr. Baker's work in the W.R.A.F. during the great war, when she displayed remarkable skill and discrimination. "Her specialty then was the management of colonels, who were hard to please," said Dr. Fairfield. "For one thing," she added, "in the R.A.F. colonels were not long past their twenty-first birthday, and they regarded women appointed to the force as one of the minor horrors of war." In reply, Dr. Baker expressed her appreciation of the honour conferred upon her, and said she was proud to belong to such an old, honoured, and famous institution as the Bristol Royal Infirmary. Her appointment was another honour to the women graduates of the ancient University of Dublin. Sir Ewen J. Maclean proposed "The Bristol Royal Infirmary." He congratulated the infirmary on the action that function was celebrating, and spoke of the past, present, and future position of the institution. Dr. J. A. Nixon, in his reply, said that Dr. Baker had carried on the work of the gynaecological and obstetric departments at the infirmary during the war, and for the last three years had been responsible for the work of the ante-natal clinic. She had thereby made herself indispensable—hence her appointment to her present position. Sir Ewen Maclean proposed the health of the chairman, Miss Robinson, who responded briefly.

Correspondence.

CHANGES IN THE CLINICAL ASPECTS OF DISEASE.

SIR,—In the very interesting presidential address of Sir Humphry Rolleston to the Medical Society of London, reported in your issue of January 15th, the apparent great increase in the incidence of appendicitis since it began to be treated surgically is discussed. Now, whilst I am not prepared to maintain by statistics that appendicitis was as common before the introduction of its present name in 1886 (it was only a year or two later when it began to be treated generally by the surgeons), I have always thought that the present generation of surgeons have on insufficient grounds concluded that the disease began to increase in incidence soon after the introduction of the name "appendicitis." Those of us who can remember the time when there was no such name well know that they were accustomed to call what they now know to have been appendicitis by other names, according to the clinical symptoms and the subsequent course of the disease. Inflammation accompanied by pain, etc., in the right iliac fossa was diagnosed as typhlitis and perityphlitis, and anyone who wishes to know the state of medical knowledge on this subject will find these conditions described in any of the textbooks published between 1870 and 1886. In *Quain's Dictionary of Medicine* (1882) under "Perityphlitis" (Aetiology) occurs the following passage:

> "The most frequent cause of this *not uncommon* affection is an extension of inflammation from the caecum or the vermiform appendix, more especially if the typhlitis . . . has proceeded to ulceration." (The italics are mine.)

Probably some cases of typhoid, intestinal obstruction, adenitis, abscesses, indigestions, and peritonitis were what we now know as appendicitis, and although the termination of many of those cases may have shown peritonitis, one must not look under this heading alone for all the fatal cases of appendicitis.

It is perhaps difficult for the present generation of surgeons to picture the course of cases of appendicitis when they were not operated on and when it was not recognized that the appendix was so prone to inflammation.

The course and termination of non-surgically treated cases of appendicitis would—and did—vary very much. By far the greater number of cases of typhlitis after a short illness got better. In some abscesses were formed; these were diagnosed as perityphlitis. Usually such abscesses, if localized, opened into the bowel, and after a more or less prolonged illness the patient got gradually better. Some opened into the peritoneum, and the patient either died of peritonitis or the abscess opened secondarily into the bowel. Some, after a prolonged illness, opened through the abdominal wall or were incised or aspirated by the surgeon.

Typhoid in those days was fairly common and was often treated in the ordinary medical wards and in the patients' own homes; it was before the days of the Widal reaction. Perityphlitis was recognized as one of the sequelae of typhoid. It may be that some of the cases were really appendicitis. Abscesses in the abdomen, phlegmons, etc., occurred sometimes and may not all have been due to glandular and other abscesses, but appendicular in origin.

A very large number of the milder cases I have no doubt were diagnosed as one of the varieties of indigestion, dyspepsia, flatulence, etc., just as such cases are at the present day. Looking back on my student days and when a resident in Edinburgh Royal Infirmary in 1886, and comparing my experience now with then, I am doubtful whether I saw fewer cases then of what I know now were appendicitis than I do at the present day.

I remember well the teaching of my chief, the late Professor John Wyllie, for cases of inflammation in the right iliac fossa. He advised opium and belladonna in frequent doses. The patients had pain, often vomiting, usually constipation, sometimes intestinal obstruction. In two or three days there was an evacuation in a large number of cases and the patient gradually got better, sometimes with evidence of pus in the stools, which we used to look out for; in some peritonitis ensued and they died. His teaching was that the opium kept the abdomen quiet and relieved the pain; the belladonna, I have no doubt, acted later as an evacuant.

I write about those days from memory and to emphasize the fact that appendicitis was well recognized at that time under a different name. Why the appendix was late in being recognized as forming so commonly the primary seat of the disease when the cases came to the *post-mortem* room is partly explained by the facts that the appendix is a very small organ, that it would often be destroyed by the disease and would often be in the middle of a purulent abscess, and in the progress of the disease other complications may have arisen, such as septicaemia, pyaemia, abscesses in other parts of the body, septic pleurisies, pneumonias, etc. To find the deaths from what would now be registered as appendicitis it would be necessary to look for some of them under the above headings as well as under peritonitis, ileus, intestinal obstruction, phlegmons, gastritis, and persistent vomiting—these showing the further progress of a disease beginning as appendicitis.

As an historical study it would be interesting to investigate the bearing that the introduction of a new name for an old disease, or of new methods of diagnosis or treatment, has had on the apparent incidence of such disease.—I am, etc.,

Leith, Jan. 16th. WILLIAM ELDER, M.D., F.R.C.P.E.

SPENGLER'S BACTERIOLOGICAL THEORY OF CANCER.

SIR,—Dr. J. Barcroft Anderson's interesting communication on Dr. Carl Spengler's researches on cancer, published in your issue of January 8th (p. 79), opens up many points of great importance to research workers on cancer.

Spengler's investigations show that he has succeeded in obtaining cultures of a bacillus from human carcinomata, and that this organism, unlike other known micro-organisms, causes extremely active proliferation of certain human cells, especially the blood platelets of an elderly person—for example, a person of optimum cancer age.

If these results are confirmed they promise to be of great scientific and practical value in the solution of the cancer problem. Therefore it seems urgently necessary that Spengler's researches should be repeated and investigated by other research workers.

If Gye's most promising virus theory and also Spengler's bacteriological theory of cancer are correct, then further researches will show the relation between the two theories.

As Spengler's carcinoma bacillus is pleomorphic, and as it can exist in a minute granule form, microphotographs of which I have seen, it is possible that Gye's virus may be a filter-passing form of a carcinoma (or sarcoma) bacillus such as Spengler's, and that this filter-passing form may be of such low virulence that it needs some substance—for example, Gye's "specific factor"—in order to enable it to produce a tumour when inoculated into a suitable animal. In this connexion it is interesting to remember that the tubercle bacillus can exist in a very minute granule form of low virulence; Spengler[1] and, subsequently, Much[2] have made statements to this effect.

With regard to Spengler's observation that when a loopful of blood from an elderly person was mixed and incubated with a pure culture of his carcinoma bacillus active proliferation of the blood platelets was produced, and that some of the blood platelets became nucleated, it will be remembered that Bedson[3] of the Lister Institute has also observed nucleated blood platelets in mammalian blood.

In order to assist those investigators who may wish to repeat Spengler's researches, I have been in communication with Dr. Spengler, who has kindly given me full details of the method used by him for these researches. He especially points out that extremely great care must be taken to prevent the contamination of the cultures by organisms other than the carcinoma bacillus. In addition to the strictest aseptic precautions employed in obtaining the

[1] O. Spengler: *Wien. med. Woch.*, 1902, No. 14; *Zeit. f. Hygiene u. Inf. Krankheit.*, 1905, Bd. 49.
[2] Much: *Beitr. z. Klin. d. Tuberk.*, 1907, Bd. 8, Heft 1.
[3] Bedson: *Journ. Path. and Bact.*, 1921, vol. xxiv, p. 469.

carcinomatous material for inoculating the tubes of culture media, before inoculating the tubes he *surface* sterilizes the tumour particles by his well known method,[4] which, at the Koch Institute, he elaborated for the cultivation of tubercle bacilli. Briefly, this method is as follows:

1. The tumour particles are first washed for one to two minutes in 1 : 1,000 corrosive sublimate in water.
2. The particles are then *thoroughly* washed in a series of *sterile* clock glasses containing sterile broth.
3. The tumour particles are carefully transferred with a sterile inoculating needle (loop) to tubes of sterilized culture media. The formulae of Spengler's liquid media are given in your issue of January 8th (p. 79); the formulae of the solid media are the same except for the addition of 20 grams of agar to each. In making streak cultures on the solid media the tumour particles must first be broken down to expose the interior of the particles. This is done by rubbing them with the sterile needle against the inside wall of the culture tube. The particles are then streaked over the surface of the culture medium. Similarly the particles must be broken down in inoculating tubes of liquid culture media. The inoculated tubes should be capped with sterile, perforated india-rubber caps, and incubated at 37° C. Usually many sub-cultures must be made from each primary culture in order to obtain pure cultures of the micro-organism in the form of a bacillus, and the greatest care must be taken to prevent contamination. Spengler advises that his culture media, both with and without the addition of 1/2 per cent. glucose, should be used in investigating each tumour.

It may be mentioned that a series of researches is contemplated in order to investigate the immunity of various types of normal people and cancer cases against Spengler's carcinoma bacillus. These investigations will be carried out by means of a modification of the precipitinometer method devised by me for the measurement of tuberculosis immunity, and described in a paper[5] read before the Section of Bacteriology and Immunity at the Seventeenth International Congress of Medicine, 1913. For these researches an antigen prepared from Spengler's carcinoma bacillus will be used instead of the tuberculo-antigens employed for investigating tuberculosis immunity.—I am, etc.,

WALTER H. FEARIS,
Late Bacteriologist to the City of Cardiff and County of Glamorgan Public Health Laboratory.

Brightlingsea, Jan. 25th.

MIGRAINE AND ACETONURIA.

SIR,—The letters that have been published and many private letters received from medical men asking for the name of the capillary tubes for reliable bedside test for acetone mentioned in my memorandum (BRITISH MEDICAL JOURNAL, December 18th, 1926, p. 1176) encourages me to submit some further observations on this interesting problem of the metabolic storm associated with ketone bodies in the urine and hypoglycaemia.

In my letter published on January 31st, 1925 (p. 240) under the heading "Acidosis and acetonaemia in relation to sea-sickness," this test was described as follows:

> A simple test for acetone can easily be performed at the bedside by using a small endolytic (capillary) tube containing sodium nitro-prusside and ammonium chloride (put up by Fletcher and Fletcher, of Holloway, N.). One large drop of urine is placed on a sheet of notepaper and saturated with a common washing soda crystal the size of a pea. This saturated urine is allowed to run up the tube by capillary attraction, the reagent having been shaken to the lower end; if acetone is present in the urine in quantity a petunia colour develops in about thirty seconds, and even when only small amounts are present a rosy or amethyst flush is noticeable in a minute or two. When acetone is absent the powder dissolves with nothing more than a pale straw coloration, which does not develop further. The same firm also supplies capillary tubes for bedside test for diacetic acid, sugar, and albumin.

The paradox of glucose relieving a condition brought on by excessive intake of sugar, as pointed out by Dr. Allison, puzzled me when I first observed it in the routine examination of flying officers for the airship section of the navy, during the first two years of the war. Acidosis was regarded as of considerable importance; it was always suspected and the urine tested for acetone if the applicant was unable to hold his breath comfortably for more than thirty seconds. This simple test proved to be almost infallible. Should the officer or rating have had previous experience in flying, a history of air-sickness was present in all cases of positive acidosis. By "air-sickness" a condition identical with sea-sickness is inferred, due to the motion of the airship, seaplane, or kite balloon, and not in any way due to high altitudes; this point made clear the fact that air-sickness was always worse in kite balloons, working at a lower altitude, than in any other form of aircraft. During two years with the R.N.A.S. the close relation between air-sickness and acidosis appeared to me to be an established fact.

The resumption of civil practice, with its opportunities for keeping cases of cyclic vomiting in children (usually associated with endocrinic unbalance and calcium deficiency) under continuous observation, made clear the explanation of this apparent paradox. Excessive sugar, especially chocolates, produced an acid stool and positive test for acetone, but without at first any symptoms. The latter could be prevented and the acetone cleared up by administration of glucose and a purge or rectal wash-out. If, however, these non-toxic acetone bodies remained untreated, the intake of fats, or excitement alone, appeared to precipitate a metabolic crisis, with attendant ketosis and hypoglycaemia—evidenced by a distressing attack of vomiting, car or train sickness. It is certain that when this crisis occurs the hydrogen ion in + + + proportion, whipped up by an ungrateful and unkind metabolism, takes command and makes matters very unpleasant for the patient.

These are some of the pieces in this metabolic jig-saw puzzle as I see them. A complete picture requires the erudition, great biochemical experience and intimate knowledge of the H-ion of an authority like Mr. J. E. R. McDonagh, whose wonderful work on the nature of disease appears to be little read and less understood by the majority of the members of our profession.

In conclusion, I cannot allow one sentence of Dr. Cammidge's kind and helpful letter of January 1st to pass unchallenged when he says: "The heredity factor cannot of course be treated." Already in West Sussex promising pre-natal work has commenced by the administration of sodium calcium lactate, alkalis, and endocrine therapy to expectant mothers who give a history of acidosis or faulty calcium retention as evidenced by bad teeth, or who have already borne children who have presented these symptoms. The babies of this pre-natal work are subsequently put on similar prophylactic treatment soon after birth.—I am, etc.,

MARMADUKE FAWKES, O.B.E., M.B., B.S.Lond.

Midhurst, Sussex, Jan. 26th.

SMALL-POX AND VACCINATION.

Sir,—Dr. Killick Millard is very well known as the energetic and able medical officer of health for Leicester, a very progressive and well equipped town. What he says will be quoted far and wide. I have read the correspondence in the last three numbers of the BRITISH MEDICAL JOURNAL. I gather that Dr. Millard means that we might safely drop the compulsory vaccination of infants, but that we should try to induce adults to submit themselves and their older children to vaccination, and to repeat the process every few years. It seems clear that Dr. Millard thinks that vaccination has great value at the proper time and place. Does he mean that the State should cease to interfere in the matter and that vaccination should be left to the patient and the doctor in every case?—I am, etc.,

GEORGE JONES, M.B., D.P.H.,
Lecturer on Public Health, London Hospital Medical College.

February 5th.

SIR,—In reply to Professor F. E. Wynne's letter in your issue of February 5th:

1. He suggests that Dr. Barry's report on the Sheffield small-pox epidemic of 1887-88 is "one of the strongest arguments in favour of vaccination ever published." I think it all depends upon how one looks at it. I readily grant that the attack rate and case mortality as found by Dr. Barry showed a marked difference in favour of those persons who had been vaccinated. This merely confirms—what has, of course, been conclusively proved over and over again—that vaccination confers temporary protection upon the individual. It affords no real proof whatever that vaccination protects the community. (If anyone

[4] C. Spengler: *Zentralbl. f. Bakt. u. Parasit.*, 1901, Bd. xxx; *Zeit. f. exper. Path. u. Ther.*, 1909, Bd vi.
[5] Fearis: *Proceedings*, Seventeenth International Congr. Med., London, 1913, Section iv, Part ii, pp. 149-159.

doubts this let him imagine that Dr. Barry had been investigating the effect of small-pox inoculation—if such had continued in vogue—instead of vaccination. He would have obtained figures equally or even more striking, showing the advantage of the inoculated over the uninoculated; yet this would have been no proof that inoculation was protecting the community. Indeed, it might well have been the case that inoculation was doing much more harm than good!) On the other hand, I submit that the fact that such a widespread and fatal epidemic (total, 6,023 cases with 563 deaths—see page 196 of report) could occur in a city like Sheffield, in which infant vaccination had been so thoroughly enforced that, according to Dr. Barry, no less than 97.9 per cent. of the population had been vaccinated, is surely proof of the unreliability of such vaccination to protect the community.

2. Professor Wynne makes a very interesting statement that the present outbreak of small-pox in Sheffield is "certainly reverting from the very mild type with which we have recently been familiar to a form quite indistinguishable from 'old-fashioned' small-pox." Are we to understand from this that Professor Wynne really believes that the strain is definitely changing? He does not tell us how many cases have proved fatal so far. Merely that some of the cases have a grave and disfiguring eruption is hardly sufficient to prove a change in strain. Some cases have always been more severe than others, and even in chicken-pox there may be a "grave and disfiguring" eruption.

3. Professor Wynne states that modern measures of fighting small-pox have been fully carried out in Sheffield and have now failed. Surely it is a little early for him to abandon hope. His letter is dated January 26th, yet I note from the Registrar-General's returns for the last three weeks for which the figures have been published, that the new cases of small-pox in Sheffield have been as follows: Week ending January 15th, 157 cases; January 22nd, 66 cases; January 29th, 54 cases.

4. Professor Wynne next refers to those who have a "passion" for antivaccination. I hold no brief for the antivaccinists. I regret their inability to believe what I believe as much as they regret, I imagine, my inability to believe what they believe. Professor Wynne says that they cannot be convinced or converted "by reason or by any amount of facts or statistics." He may be right as regards the statistics, but then, unfortunately, the statistics are not all on one side. As regards reason, I am still optimistic enough to hope that truth, which is stronger than either reason or statistics, will ultimately prevail. As regards "passion," however, antivaccinists are not the only people affected with this malady. What about those people who openly express the wish that the present non-fatal small-pox would "cause a few more deaths"? Apparently they think it is better to burn now than to be guilty of heresy and burn hereafter, as the Holy Inquisition used to teach!

5. Lastly, Professor Wynne says that as regards policy he and I are "quite in accord." I am sorry that I cannot entirely endorse this suggestion, much as I should like to be in agreement with such an old and valued friend. I quite admit that in certain circumstances (which I hope may never occur)—*for example, if a really* fatal strain of variola major were to invade Leicester and really threatened to get out of control—I should not hesitate to urge vaccination and revaccination of the entire community, but I should hesitate seriously before I attempted to inflict vaccinia wholesale upon 200,000 people just because a few hundred had contracted such a comparatively trifling and non-fatal affection as variola minor. Regarding vaccination as at the best a necessary evil, to be used as little as possible rather than as much as possible, I would much prefer to confine it to protecting those living in actually invaded houses, where, naturally, its utility is greatest.

As regards Sheffield, however, Professor Wynne is, of course, far better able to judge than I am, and if he thinks that the situation in Sheffield is such as to call for universal vaccination and revaccination it is for him, not for me, to decide.—I am, etc.,

Health Offices, Leicester, Feb. 6th. C. KILLICK MILLARD.

AN OCCUPATIONAL SWELLING.

SIR,—The condition described by Mr. Ogilvie (February 5th, p. 232) as seen in a violinist is well known. It is represented in the Museum of the Royal College of Surgeons by a plaster cast (Gen. Path. No. 2.2), which was placed there in 1912, to illustrate hypertrophy due to repeated pressure. In this, and analogous cases, there is probably some increased thickening of the epidermis. The cast was made from a man 24 years of age who had been in the habit of playing six hours daily since he was 8 years old.—I am, etc.,

CECIL F. BEADLES,
Pathological Curator, Royal College of Surgeons of England.

London, W.C.2, Feb. 7th.

WIRELESS CALLS FOR MEDICAL HELP AT SEA.

SIR,—The question of medical help at sea by wireless is occasionally mentioned in the press, but in actual practice it has not at the present time the value it ought to and might have. The following messages and notes of a case I recently had to deal with may be of interest. I was serving on a West African intermediate steamer, and the case was on a large cargo boat about 280 miles away in the tropics.

Message No. 1. (Filed 12.20 p.m.)

Doctor S.S.——.

Commenced on the 21st instant with strong perspiration, when patient was given 5 grains quinine; three days later perspiration slighter. Yesterday temperature in the morning was 97.5°, with pulse 68; in the evening temperature 98°, pulse 70. This morning, temperature normal; pulse 73; patient weak; please prescribe.—Captain S.S. ——.

Reply to Message No. 1. (Filed 1.30 p.m.)

S.S. ——.

Age, rating; how long out; ailment within fourteen days previously; extra heat exposure on the 19th or 20th; any venereal; bowels; any wine difficulty, sickness, or indigestion; tongue, teeth; please reply.—Surgeon S.S. ——.

Message No. 2. (Filed 2.20 p.m.)

Doctor S.S. ——.

Captain's age, 58 years; 26 days out; no ailment previous to the 21st; only subject to constipation and stomach trouble, also excessive weakness; tongue fairly clear, teeth good; temperature now normal, pulse 74; condition probably due to heat. —Captain.

Reply to Message No. 2. (Filed 3.30 p.m.)

S.S. ——.

Medicine No. 6 in Medical Guide with addition of tincture nux vomica 50 minims, also tincture of digitalis 50 minims, if in medicine chest, or tincture of calumba 50 minims; take two tablespoonfuls four times a day for two or three days, then drop to three times a day after meals. Moderate dose of Epsom salts well diluted, repeated each morning if necessary, stimulate very moderate whisky and plenty of soda; food light and moderate, no made-up dishes or entrees; rest lying down as much as possible.—Surgeon S.S. ——.

Was a diagnosis possible from message No. 1? Did it give much of a clue to any line of treatment? The case might have been one of a cadet not acclimatized to tropical heat and moisture; an old sailor with bad teeth or none, who had flatulent dyspepsia; the master or a senior officer who, after a spell of extra anxiety, had been exposed to extra high temperature with almost complete saturation. The latter proved to be the case, and the diagnosis was heat collapse.

If medical relief by wireless is to be of any real value it will have to be carefully considered and codified, remembering that those for whom it can be of most value and who most need it are those least able to help themselves owing to conditions beyond their control, who are most independent and self-reliant, and most necessary members of our race—the sailors in cargo and tramp steamers, without whose labours those at home could not live.

I am told by experienced wireless operators that there is no difficulty in arranging a simple code (which ought to be international). The flag under which a ship sails is not a trustworthy guide as to the nationality and language of those on board. In order that a diagnosis may be made certain essential information should be sent with the first message in regard to age, rating, temperature, pulse, bowels, etc., followed by the particular symptoms of the case. The medical officer receiving the message must

only prescribe medicines on the Board of Trade list; this list should be simplified and made more practical. The medical officer who receives a message must forget his own equipment, and think of what can be done where there is no orderly and no hospital, where, as in the tropics, cold drinking water is over 80°, and where no ice or cold baths are available for sunstroke

Another argument in favour of codification is that the want of it leads to waste of time. In the case related the interval between the sending of the first message to the receipt of the last was over three hours, and atmospherics were propitious; but atmospherics are common in the tropics, and codification would have made two messages unnecessary and the advice could have been sent earlier.—I am, etc.,

Brighouse, Feb. 2nd. F. F. BOND, M.D.

COLEY'S TREATMENT.

SIR,—I read with great interest in your issue of January 29th (p. 211) the courteous letter from Dr. Coley. I was under the impression that the treatment associated with his name has always been carried out in this country by injection into the tumour itself. This was the reason for omitting it from my recent report in which I was dealing with systemic treatment.—I am, etc.,

London, N.W.3, Feb. 7th. R. G. CANTI.

A MEMORABLE OBSTETRIC TRAGEDY.

SIR,—In "Nova et Vetera," under the heading "A memorable obstetric tragedy" (February 5th, p. 255), it is stated that Sir Richard Croft had no medical degree or diploma. This is not correct. He was M.D. Marischal College, Aberdeen, 1792, and according to the Marischal College records was a Member of the Corporation of Surgeons. He was son-in-law to Dr. Denman the obstetrician.—I am, etc.,

Sheffield, Feb. 5th. R. W. INNES SMITH.

SUFFOCATIVE CATARRH.

SIR,—I recently attended a child of 4 years (now convalescent) for bronchopneumonia following severe whooping-cough. An infant (12 months) and a child (5 years) lived and slept in the same room. Both presented symptoms of the disease two days after its onset in the first case. The infant died in forty-eight hours from most virulent bronchopneumonia or capillary bronchitis; prominent features were early and marked dyspnoea, indrawal of the alae nasi, cyanosis of the lips and finger-nails, and coarse adventitious respiratory sounds accompanying both respiratory phases. The child 5 years old lived for one week and showed a similar clinical picture with no signs of consolidation or bronchial breathing. The course in both cases was practically apyrexial, and the body seemed incapable of any protective reaction, general or specific. Both fatal cases terminated in convulsions. I consider that diminution in the respiratory lung area, with deficient blood aeration and excess of CO_2 leading to convulsions, was the direct cause of death. "Suffocative catarrh" admirably describes both cases. Should not bronchopneumonia, a highly contagious disease, be therefore a notifiable disease? In congested industrial districts such as mine proper means of isolation and general hygiene would, I am certain, greatly reduce the mortality of this appalling disease.

A haemolytic type of streptococcus is very constantly present in bronchopneumonia, and may be associated with the pneumococcus and Friedlander's bacillus. It is probably the main source of the disease. Antistreptococcus serum is antimicrobic: has it any practical application in treatment? Active immunity can be produced in animals by streptococcal injections: could this fact be utilized in the treatment of contacts? There is much labour, much money expended in researches for the cure of cancer and tuberculosis, and nothing towards solving the pathology and treatment of bronchopneumonia. A staff of properly remunerated bacteriologists should reside in the areas of general practice and carry out first-hand intensive studies of the microscopy and bacteriology of bronchopneumonia. They should study the reactions, whether focal or general, in animals injected with cultures from the different micro-organisms present in each case, and note the virulence of the reaction or reactions. That which produces the severest reaction, general or local, may be the root cause.—I am, etc.

M. F. MCELLIGOTT, M.B.N.U.I.

Lodge, near Wrexham, Dec. 22nd, 1926.

THROMBO-ANGIITIS OBLITERANS.

SIR,—Since the paper on thrombo-angiitis obliterans (recording two Irish cases) published in your last issue (p. 225) was written, my attention has been called to an article by Telford and Stopford (*Medical Annual*, 1926, and BRITISH MEDICAL JOURNAL, 1924, ii, 1035) recording four British cases, and also to a reference in the *Journal of the American Medical Association*, January 1st, 1927 (p. 61) which reads as follows:

"*Thrombo-Angiitis Obliterans in Non-Jew.*—Beer's patient was an Irish-American, aged 42. Not only the lower extremities but also the upper extremities were affected. The case had previously been diagnosed as Raynaud's disease because the patient was not a Jew. No light is thrown on the etiology of the disease by this case."

—I am, etc.,

Dublin. W. I. DE C. WHEELER.

THE NURSING PROFESSION.

SIR,—My attention has been called to the leading article entitled "The nursing profession," in your issue of February 5th (p. 248), in the course of which you state that the College of Nursing now "controls the leading nursing journal, the *Nursing Times*, and through this official organ is able to exclude many undesirable advertisements—a most effective mode of bringing wisdom to the ignorant."

This statement is not only so inaccurate, but makes by implication so serious a charge against the *Nursing Mirror*, that I am compelled to ask you to give equal publicity to the following letter.

By common consent the *Nursing Mirror* is "the leading nursing journal," and has held that position since it was founded in 1888. I have before me, as I write, a certificate signed by Messrs. T. Turketine and Co., chartered accountants, that its weekly net sales for the three months ended December 31st, 1926, averaged 43,092 copies. It would be interesting to see a similar net sales certificate for the *Nursing Times*.

I do not know by what interpretation the writer of the article can justify his use of the word "leading." I am content to leave that matter to the judgement of your readers, and of the nursing profession, who have given the most practical proof in their power of the estimation in which they hold the *Nursing Mirror*. But I will add this: that the most powerful single factor which led to the establishment of the College of Nursing itself was the influence continually exerted in its favour by the *Nursing Mirror*. And I will add further that the identification of the College with another weekly paper has not affected either the status or the circulation of the *Nursing Mirror* in the slightest degree.

The writer of the article adds that the College, through its organ, "is able to exclude many undesirable advertisements." No reader of this assertion could fail to draw the conclusion that undesirable advertisements are *not* excluded by other nursing journals—of which, of course, the *Nursing Mirror* is the chief. You will permit me to say that the strictest supervision is exercised over the advertisements printed in the *Nursing Mirror*, and to express, on behalf of the proprietors of that paper, my astonishment that such an imputation should have been made in the columns of the BRITISH MEDICAL JOURNAL.—I am, etc.,

GEOFFREY C. FABER,
Chairman of Faber and Gwyer, Ltd., Proprietors of the *Nursing Mirror*.

London, W.C.1, Feb. 8th.

*** The question which is the leading of two or more journals is a matter of opinion; but Mr. Faber is at fault in supposing that our reference to censorship of advertisements was meant to convey a reflection upon the conduct of any other nursing periodical.

Obituary.

JOHN HEDLEY, M.D.,

Past President, North of England Branch, British Medical Association.

THE death of Dr. John Hedley of Middlesbrough removes a veteran medical practitioner of outstanding character who was greatly respected by his colleagues and held for many years a prominent place in the public life of his district. He died suddenly on February 4th while on a visit to London.

John Hedley was born on January 5th, 1843, the youngest son of William Hedley of Ovingham, Northumberland. His father died when he was 12, and at 15 he was apprenticed to Dr. Aitchison of Wallsend, taking at the same time his medical course at Newcastle, where he became house-surgeon after obtaining the M.R.C.S. and L.S.A. diplomas in 1864. He began practice at Middlesbrough in 1866 when the town was in its infancy, and saw it grow to its present size. During the Franco-Prussian war of 1870-71 he served with the Red Cross, and from the outskirts of Strasbourg saw the white flag of surrender. He returned to Middlesbrough in 1887, and took the M.D. of Durham University, relearning his Latin for the purpose at the age of 44. He was appointed surgeon to the North Riding Infirmary, and built up a very large practice in Middlesbrough and around it; acquiring a leading position professionally and in the social life of the district. He acted in various semi-official capacities as medical referee, chiefly on the owners' side, in cases connected with compensation under the various Employers' Liability Acts, and his decisions were hardly ever contested by the workmen's side, for he was universally trusted by the workers as well as the employers. He was certifying factory surgeon for the district, and only relinquished that post in his eighty-second year, after fracturing his pelvis in October, 1924. He retired from practice in July, 1914, but resumed it in the following November, working practically throughout the war, in the absence of his successor on active service.

Dr. Hedley married in 1873, and with his wife started in 1887 a nursing service for the workmen employed by her family; they took the chief part in developing this later into the Middlesbrough and District Nursing Association, which now acts for the whole town. He had an unusual power of absorbing fresh ideas and applying them to practice, and retained this until the end of his long life; on the night before his sudden death he was discussing new medical knowledge with the greatest interest and intelligence. He had, moreover, a most remarkable clinical and therapeutic instinct, and in his younger days was medically very much ahead of his time in such matters as fresh-air treatment and surgical cleanliness. In the late eighties he assisted in the Home Office investigation of the Middlesbrough pneumonia epidemics, and wrote an article about this in Sir Thomas Oliver's book on *Industrial Diseases*. Another characteristic was his gift for making a friend of a casual acquaintance, and the vivid interest he took in everyone and everything he encountered.

In local public affairs Dr. Hedley played a distinguished part. He was elected to the Middlesbrough Town Council in 1886, and became mayor in 1902 and later alderman, holding the latter office until 1925. He was a J.P. for the borough and county, and a member of the Tees Conservancy Commission for many years. He was appointed by the Lord Chancellor chairman of the committee for recommending magistrates for the county borough of Middlesbrough; and he was a member of the Insurance Committee and the Education Committee. To celebrate their golden wedding in 1923 he founded and endowed a scholarship at Middlesbrough High School, and on that occasion Dr. and Mrs. Hedley were presented by the local medical profession with a beautiful piece of gold plate. His wife predeceased him by almost two years, and he is survived by eight children; two sons and two sons-in-law are medical men. Dr. Hedley had been a member of the British Medical Association for a large part of his active professional life and continued in membership after his retirement, and he had held office as President of the North of England Branch.

ROBERT WILLIAM FELKIN, M.D., F.R.S.ED.,

Late Lecturer on Tropical Diseases and Climatology, Edinburgh.

WE regret to record the death, on December 28th, 1926, of Dr. Robert William Felkin, at Havelock North, New Zealand, after an adventurous life as explorer, missionary, lecturer, and physician.

He was born in 1853 at Beeston, Notts, and received his early education at Wolverhampton Grammar School. While a child he met David Livingstone, and his imagination was fired by the tales he heard about Africa. As he grew older the call of that continent became more insistent, and a meeting in London, in 1877, with Mackay of Uganda decided his career. Abandoning a commercial position, he entered as a medical student at Edinburgh, but before he had proceeded far he was sent by the Church Missionary Society to Uganda, which he reached by way of Egypt, travelling up the Nile from Cairo. At Khartoum he first met Gordon, and further on Emin Pasha, whose knowledge of natives and local conditions was later to prove so helpful to the band of missionaries. The journey from the Nile to the Great Lakes was fraught with danger and hardship, but eventually Felkin and his companions reached Uganda. In February, 1879, he was presented to King M'tesa, whose personal physician he then became. Soon afterwards an anti-missionary movement commenced, and Felkin and his party went in great danger of their lives. His pluck and ready wit did not desert him, and he issued a warning to the king that should any harm come to the missionaries a great disaster would befall the tribes. As a sign that this should be so he foretold that the sun should be darkened; the eclipse duly occurred at the expected time, and Felkin was established as a great "medicine man." Much of his time in Uganda was spent in the study of local diseases, and he also made anthropological measurements of the pygmies. He left Uganda with the envoys of King M'tesa to Queen Victoria, and returned with them safely to the Nile, thus destroying an old superstition that no white man could journey to the Great Lakes and back without losing his life. His next expedition was to Zanzibar, where he lived for three years and worked with the explorers Schweinfurth, Buschta, Junker, and Sir Harry Johnston. His interest in the welfare of the natives made him a strong opponent of the slave trade, and he became a very active member of the Anti-Slavery Society.

He then returned to Great Britain, and in 1884 obtained the diplomas L.R.C.P., L.R.C.S.Ed., after which he pursued his medical studies at Heidelberg and Marburg, receiving the M.D. degree of the latter university in 1885. His observations in Uganda had given him much knowledge of the then little known tropical diseases, and in 1886, at Minto House, Edinburgh, he delivered his first lecture in that subject. For the next ten years he held the post of lecturer in tropical diseases to the Edinburgh Medical School, and carried on private practice in the city. During this time he took up the study of psychotherapy, translating Hilger's work and writing a book on hypnotism. His health had been weakened by the hardships he had endured in Africa and by malaria; he was therefore compelled to leave Edinburgh in 1896, and to take a long rest, after which he began specialist work in nervous diseases and gynaecology in London, at the same time being consulting physician to various companies with tropical interests. His publications include the *Geographical Distribution of Tropical Disease* and an article on the climate of the Egyptian Soudan. He was joint author of *Uganda and the Egyptian Soudan*, published in 1882. Dr. Felkin was in Germany when the late war broke out, but was able to return after six weeks, when he served for a time with the National Guard. In 1916 his health again gave rise to anxiety, and, with his wife and daughter, he sought the more congenial climate of New Zealand, which he had previously visited in 1912. There for ten years he carried on medical practice in spite of periodical attacks of ill health. His strong personality and clinical acumen quickly established him as a consulting physician, especially in border-line cases and in mental abnormalities of children. His kind and generous nature attracted patients from both islands, and also from Australia. He was a prominent Freemason, and an active supporter of the British Medical Association. He is survived by a wife and daughter in New Zealand, and by two sons.

The Services.

MEDICAL ARRANGEMENTS FOR THE SHANGHAI DEFENCE FORCE.

THE following are the medical arrangements which have been made for the troops composing the Shanghai Defence Force:

Colonel H. Ensor, C.B., C.M.G., D.S.O., Deputy Director of Medical Services of the Western Command, has been appointed A.D.M.S., with Major D. G. Cheyne, *M.C.*, R.A.M.C., from the Royal Army Medical College, as D.A.D.H. Lieut.-Colonel S. Boylan Smith, D.S.O., O.B.E., R.A.M.C., Senior Medical Officer at Hong-Kong, will act as temporary D.A.D.M.S.

Colonel Ensor will have under his administration a general hospital of 600 beds, a field ambulance, and a field hygiene section, all of which have left England. Brevet Colonel E. Ryan, C.M.G., D.S.O., R.A.M.C., is in command of the general hospital, Lieut.-Colonel S. L. Pallant, D.S.O., R.A.M.C., of the field ambulance, and Captain G. O. F Alley, *M.C.*, D.P.H., R.A.M.C., of the hygiene section. An advance party of seventeen members of Queen Alexandra's Imperial Military Nursing Service have left England for duty with the general hospital. An advanced depot of medical stores will shortly be dispatched from England.

The troops from India will be accompanied by a field ambulance, a general hospital, and half a sanitary section.

A hospital ship is to be fitted up at Hong-Kong with a staff from England under Lieut.-Colonel D. Ahern, D.S O., R.A.M.C., including fourteen members of Queen Alexandra's Imperial Military Nursing Service.

Each artillery brigade and infantry battalion is accompanied by a medical officer.

The following medical officers of the Royal Navy have been sent to China:

Royal Marine Battalion: Surgeon Commander C. E. Greeson and Surgeon Lieutenant H. H. Fisher.

H.M. Hospital Ship "Maine": Surgeon Captain W. W. Keir, Surgeon Commanders F. J. Gowans, H. R. B. Hull, F. J. D. Twigg, H. B. Padwick.

H.M.S. "RENOWN."

THE following medical officers of the Royal Navy are serving in H.M.S. *Renown* during the voyage of their Royal Highnesses the Duke and Duchess of York:

Surgeon Commander G. R. McCowen, O.B.E.; Surgeon Commander H. E. Y. White, M.V.O., O.B.E. (appointed on staff of Duke of York, January 1st, 1927); Surgeon Lieutenant J. M. Sloane.

TERRITORIAL ARMY MEDICAL OFFICERS' ASSOCIATION.

LIEUT.-COLONEL L. A. HARWOOD, R.A.M.C.(T.A.), honorary secretary of the Territorial Army Medical Officers' Association, writes: Will you allow me to remind medical officers of the Territorial Army, both active and retired, that the annual dinner of this association will be held on Thursday, February 24th, at 7.30 for 8 p.m., in the Café Royal, 68, Regent Street, W.1. The council, for the future prosperity of the association, is very anxious to make this dinner a great success. I would take this opportunity of drawing the attention of medical officers to the advantages of joining this association. It has been formed to provide an organization for the consideration of all matters that in any way are of interest and benefit to the Territorial medical officer. Dinner tickets (12s. 6d., without wine) can be obtained from me at 37, Russell Square, London, W.C.1.

TERRITORIAL DECORATION.

THE Territorial Decoration has been conferred upon the following officers of the R.A.M.C., T.A., under the terms of the Warrant of October 13th, 1920: Major John L. Hamilton, M.C., Major Arnold Morris, Captain Greville B. Tait.

DEATHS IN THE SERVICES.

LIEUT.-COLONEL JAMES CORT MARSDEN, Madras Medical Service (ret.), died on October 28th, 1926, aged 71. He was born at Bangalore, and was the son of Edmund Marsden of Ootacamund; he was educated at the Madras Medical College and at University College, London. He took the M.R.C.S. and L.S.A. in 1879, and entered the I.M.S. as surgeon on October 31st, 1879, *became lieutenant-colonel* after twenty years' service, and retired in 1910. Most of his service was spent in civil employment in the Madras Presidency.

Surgeon Captain Seton Guthrie Hamilton, 1st Life Guards (ret.), died in Edinburgh on January 1st, aged 72. He was born in that city on March 3rd, 1854, was educated at St. George's Hospital, and took the M.R.C.S. and L.R.C.P.Ed. in 1879. After filling the post of house-physician at Westminster Hospital, he entered the army as surgeon in 1881, and was posted to the 1st Life Guards. He retired with a gratuity in 1894. He served in the Egyptian campaign of 1882, and received the medal and the Khedive's bronze star.

Surgeon Frederic Morell Mackenzie, Bengal Medical Service (ret.), died in London, after a long illness, on January 30th, aged 83. He was the son of Mr. Frederic Mackenzie of Tiverton; he received his education at the London Hospital, and took the M.R.C.S. in 1866, and the L.S.A. in 1868. He entered the I.M.S. as assistant surgeon in 1868, became surgeon in 1873, and retired on account of ill health in 1877. He was afterwards for many years in practice in London.

Universities and Colleges.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

LICENCES have been granted to the following forty-six candidates who have passed the necessary examinations and conformed to the by-laws and regulations:

Gertrude Alphonso, R. Andrews, N. Attygalle, R. Bandyopadhyay, H. B. Bramer, Augusta J. Blumenthal, H. J. Burrows, R. W. Butler, Mildred Carpenter, A. Carr, B. Chaudhuri, Pamela M. G. Chute, F. H. N. Cruchley, A. S. El-Katib, V. Freeman, J. H. Gubbin, V. Hall, E. O. Harris, J. W. O. Holmes, S. G. Irlam, Freda C. Kay, A. E. Kingston, J. S. Lewis, E. M. Lourie, R. W. L. May, H. E. Mayfield, J. L. Newman, F. G. Parker, Muriel V. Paton, G. Pether, R. K. Pillay, E. N. Price, L. J. Rae, B. H. Rattray, E. Rees, W. Rosenberg, R. Rutherford, M. Schwartz, Helen D. Scott, S. Segal, M. Shaw, E. S. Vergette, D. P. Watting, L. A. Wiles, Marian E. Williams, R. M. Williams.

ROYAL COLLEGE OF PHYSICIANS OF EDINBURGH

A QUARTERLY meeting of the Royal College of Physicians of Edinburgh was held on February 1st, when Dr. G. M. Robertson, president, was in the chair.

Dr. James Richan Drever and Dr. Alan Leonard Smith Tod, *M.C.*, were introduced and took their seats as Fellows of the College, and Dr. William Bell was elected a Fellow.

The following were elected Members: R. F. Aitken, Thiagarajah, A. M. Affleck, J. K. Slater, and P. N. Kapur.

Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

Postponement of Poor Law Bill to Autumn Session.

PARLIAMENT was opened by the King in State on February 1. The Government proposes that the session should be a short one, and that a new session, to extend over 1928, shall be held this autumn. To that session the Cabinet has decided to postpone several important measures which had been proposed as part of this year's programme, but which are put back owing to doubts about their being generally accepted or because the preoccupation of the Government with industrial troubles in the autumn prevented full consideration of technical or administrative questions which the projected bills would involve. Among the bills thus postponed are the Factories Bill and the Poor Law Reform Bill. Bills proposed by the King's Speech for the consideration of Parliament before August include one to amend the King's title, one defining and amending the law relating to industrial disputes, one altering the law relating to leasehold premises, and one dealing with the law of unemployment insurance. Proposals are to be put forward for reorganizing certain of the Government departments in Scotland. It is understood that boards will thereby be changed to departments but the change is purely administrative.

Until the week before the session commenced the general expectation had been that the Poor Law Bill would have a prominent place in the King's Speech and in the work of the session, but the Government appears to have been influenced by the criticisms or indifference with which many public authorities have received Mr. Chamberlain's proposals. The association of Poor Law reform with the suggestion of *institution* a block vote for public health services seems to have prejudiced the case for the bill. There has been strong opposition to the Factories Bill by industrialists, who contend that the present time is unsuitable for the introduction of stricter factory standards involving reconstruction and expenditure. Objection has also been taken to the proposal to treat many workshops as factories.

Speaking in the House of Commons, on February 8th, during the debate on the Address, Mr. Baldwin briefly defended the restriction of the Government programme. He said that it was intended to close the session at the end of July and give the House a substantial rest through the late summer and early autumn, and to begin a new session in the early part or middle of November. He *felt that the House had* been suffering from work which had been too long and too continuous. From the point of view of efficacy of their work a less strenuous session in the early part of this year was a matter of very great importance. The question of Poor Law reform was so large and comprehensive that it would be impossible to take it this session unless a long autumn session was contemplated. He hoped *it might be* possible, when the new session started in November, to get ahead with this important piece of work. The same thing was true of the Factories Bill

Medical News.

A LISTER centenary celebration will take place at King's College Hospital Medical School, London, on Monday, April 4th, at 8.15 p.m., when Sir Watson Cheyne, Bt., and others will speak of their experiences as house-surgeons and dressers under Lord Lister. All old King's College Hospital students are invited to attend.

THE Confédération Internationale des Etudiants has founded a scientific cinematograph commission consisting of representatives from student organizations in all countries for the purpose of obtaining information on this subject and for preparing an international catalogue of scientific films. The National Union of Students of England and Wales has organized an exhibition of scientific films at its third annual congress to be held at Bristol this year from March 24th to April 1st. There will be a special exhibition of medical films. Particulars can be obtained from the Congress Secretary, National Union of Students, 3, Endsleigh Street, W.C.1.

DR. W. W. KEEN of Philadelphia celebrated his 90th birthday on January 19th, when he received numerous congratulatory messages from his fellow countrymen and from friends abroad. The celebrations were centred in the First Baptist Church, where an address was presented by the President of the Brown University, Dr. Keen's alma mater, and Dr. Keen himself responded by summarizing the advance which has taken place in surgery and medicine during his long and active career.

IN the article on certification of the fact of death published last week (p. 252) certain views were attributed to the Registrar-General which were really those of the Home Secretary. The error occurs in the last two paragraphs, where proof of the fact of death is under consideration. It was to the Home Secretary that should have been attributed the opinion, first, that the coroner may ask the doctor why he has not seen the body, and, secondly, that for such a service the coroner (if the schedule made by the local authority enables payment to be made for such services) may, on sufficient occasion, ask another practitioner to see the body and report.

THE treasurer of the Royal Medical Benevolent Fund gratefully acknowledges the sum of £30 from Dr. (Phil.) Otto Rank of Vienna, through Dr. Marie Moralt.

AT the meeting of the Post-Graduate Hostel at the Imperial Hotel, Russell Square, W.C., on February 17th, at 9 p.m., Mr. G. S. Stebbing will discuss fractures of the upper third of the femur. On the following evening Mr. Ernest Clarke will speak on ophthalmic emergencies. Dinner (5s.) will be served at 8 p.m. All medical practitioners are welcome.

THE Fellowship of Medicine announces that Dr. Wilfred Harris will lecture on trigeminal neuralgia, at 5 p.m., on February 17th, at the Medical Society, 11, Chandos Street, W.1. On February 14th, at 2 p.m., Mr. H. Kisch will give a demonstration at the Central London Throat, Nose and Ear Hospital. On February 18th, at 5 p.m., Mr. Viner will give a demonstration on ocular palsies, at the Royal Westminster Hospital. The lecture and these demonstrations are open to members of the medical profession without fee. The following courses are in progress this month: at the Lock Hospital, in venereal diseases; at the Paddington Green and Victoria Hospital, in children's diseases; at St. John's Hospital, in dermatology; and at the National Hospital, Queen Square, in neurology. The special courses in March will include diseases of the chest at the Brompton Hospital, diseases of children at the Queen's Hospital, ophthalmology at the Royal Eye Hospital, gynaecology at the Chelsea Hospital, orthopaedics at the Royal National Orthopaedic Hospital, and a practitioners' course at the London Temperance Hospital, late afternoons. Syllabuses of these special courses and the general course-programme are obtainable from the Secretary of the Fellowship, 1, Wimpole Street, W.1.

THE Royal Society of Medicine announces in our advertisement pages that work to be submitted for the second award of the Nichols prize must reach the Secretary of the Society, 1, Wimpole Street, London, W.1, by October 1st. Under the terms of the will of the late Dr. Robert Thomas Nichols the prize of £250 is offered every three years for the most valuable contribution towards "The discovery of the causes and the prevention of death in childbirth from septicaemia"; it is open to any British subject.

PROFESSOR KARL HERZFELD of Munich has been nominated professor of physics at Johns Hopkins University, and Professor Leonor Michaelis of Berlin director of the new pathological institute in the same university.

ON the occasion of a recent visit to Buenos Aires Professors Sergent of Paris and Pittaluga of Madrid were elected members of the Argentine Medical Association.

THE Home Secretary has appointed Dr. Gerald Roche Lynch, O.B.E., lecturer in chemical pathology at St. Mary's Hospital and on forensic medicine at the Westminster Hospital, to be senior official analyst to the Home Office in succession to the late Mr. John Webster. Dr. Lynch has been junior official analyst to the Home Office since 1920.

THE annual dinner of the Cambridge Graduates' Medical Club will be held at the Langham Hotel on Tuesday, March 1st, at 7.30 p.m., with Sir Humphry Rolleston, president, in the chair. All Cambridge medical men who are graduates of the University are eligible for membership. Application forms can be obtained from the honorary secretaries, Mr. R. M. Vick of 113, Harley Street, W., and Dr. F. G. Chandler of 1, Park Square West, Portland Place, N.W.1.

THE Dean of the Birmingham Dental Hospital asks us to state that the Council and Senate of the University of Birmingham on February 2nd granted permission to Licentiates in Dental Surgery to wear a black stuff gown with coloured cord (dark red) on facings and across the top of shoulder with forearm of sleeve gathered up with the same cord and black button. This gown may be obtained from Messrs. Ede and Ravenscroft, 93 and 94, Chancery Lane, London, W.C.2, the official gown makers to the University.

A CONVALESCENT home for the sick children of Birkenhead and Wirral is to be provided by the conversion of a house presented to the Birkenhead and Wirral Children's Hospital by Mr. F. Kroyer Kielberg, who has also offered to contribute financially towards the cost of the reconstruction and of the maintenance of the home for the next ten years. The value of the house is estimated at over £12,000, and the cost of equipping between £3,000 and £4,000; the yearly upkeep is expected to be about £2,500.

THE January issue of the *Cripples' Journal* contains a full report of the joint conference on the care of crippled and invalid children, which was held by the Invalid Children's Aid Association and the Central Committee for the Care of Cripples, at the London House of the British Medical Association last November.

THE French Government, which recently gave notice that it would re-establish its requirement of a visa for foreigners entering France, announces that the requirement will not apply to ordinary British travellers.

THE second volume of the *Transactions of the Sixth Biennial Congress of the Far Eastern Association of Tropical Medicine*, held at Tokyo in 1925, has now been received. It contains 110 papers, principally relating to bacteriology, parasitology, and public health.

THE Carnegie Foundation has presented Professor Witmaak with the sum of 3,000 dollars for his researches on oto-sclerosis.

DR. BERNHARD SPATZ, editor of the *Münchener medizinische Wochenschrift* since 1886, celebrated his seventieth birthday recently.

THE number of medical practitioners in Germany is 44,715 for a population of 63 million—that is, a proportion of one practitioner for every 1,400 inhabitants. The specialists are classified as follows: Dermatologists and urologists, 2,428, or 5.4 per cent.; physicians, 1,688, or 3.7 per cent.; neurologists and psychiatrists, 1,661, or 3.7 per cent.; surgeons, 1,536, or 3.4 per cent.; obstetricians, 1,479, or 3.3 per cent.; oto-rhino-laryngologists, 1,338, or 3 per cent.; ophthalmologists, 1,185, or 2.6 per cent.; pediatrists, 975, or 2.2 per cent.; gynaecologists, 570, or 1.3 per cent.; phthisiologists, 409, or 0.85 per cent.; orthopaedists, 312, or 0.7 per cent.; gastropathologists, 239, or 0.5 per cent.

A SPRING tour in Morocco has been organized by the *Bruxelles-Médical* for doctors and their families at reduced prices, leaving Bordeaux on April 10th; visits will be paid to Casablanca, Marrakech, Rabat, Meknès, Fez, Oudjda, and Oran. Three cruises in the Eastern Mediterranean will also be organized, leaving Marseilles on March 11th, 29th, and April 21st. Further information may be obtained from the Section des Voyages de Bruxelles-Médical, 29, Boulevard Adolphe Max, Brussels.

DR. ETIENNE BURNET, assistant director of the Institut Pasteur at Tunis, and Dr. Chaumier of Tours, well known for his vaccine lymph, have been elected national correspondents of the Académie de Médecine.

UNDER the direction of Professor Jeanselme a post-graduate course in dermatology will be held at the Hôpital St.-Louis, Paris, from April 25th to May 21st, and a course in venereology from May 23rd to June 17th. A course in the therapeutics of dermatology and venereology will be held from June 20th to July 12th, and instruction in laboratory technique will be arranged in connexion with these courses. Further information may be obtained from Dr. Burnier, at the Hôpital St.-Louis.

Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to ***The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.***

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the BRITISH MEDICAL JOURNAL alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the BRITISH MEDICAL JOURNAL must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the JOURNAL, should be addressed to the Financial Secretary and Business Manager.

The ***TELEPHONE NUMBERS*** of the British Medical Association and the BRITISH MEDICAL JOURNAL are *MUSEUM 9861, 9862, 9863,* and *9864* (internal exchange, four lines).

The ***TELEGRAPHIC ADDRESSES*** are:

EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology Westcent, London.*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westcent, London.*

MEDICAL SECRETARY, *Mediscera Westcent, London.*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 4737 Dublin), and of the Scottish Office, 6, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 4361 Central).

QUERIES AND ANSWERS.

RECURRENT TONSILLITIS.

"SCRUTATOR" asks for suggestions for treatment of a girl, aged 17 years, who annually suffers from a violent attack of pustular tonsillitis. The tonsils were removed in childhood, and a second operation carried out two years ago. At this time, also septic teeth were cleared from the mouth. Can recurrence be prevented?

EPIPHORA.

"G. A." (Norfolk) wishes to hear of a remedy for the treatment of epiphora occurring without obvious cause. *In his case there is* no trouble, no obstruction to outflow, or obvious gland trouble, or error appears normal except the incr excitation, such as change of temperature, or exposure.

INCOME TAX.

"WEST AFRICAN MEDICAL STAFF" inquires what tax would be payable on pension and emoluments amounting to £1,270.

*** *At the present rate of tax, and assuming that he is entitled* to earned income relief, the amount of tax would be £162 2s. If he is married that sum would be reduced by £18, and, of course, other allowances might be due—children, life assurance, etc. Earned income is defined in Section 14, Income Tax Act, 1918, to include "any pension superannuation, or other allowance, deferred pay or compensation for loss of office given in respect of the past services of the individual . . . in any office or employment of profit." *Prima facie* this would seem to cover our correspondent's case.

"X. Y.," a whole-time county medical officer of health, who would not have a car but for professional purposes, replaced a second-hand car by a new one of similar make—cost of replacement (as distinct from improvement), say £100. What allowance can he claim?

*** The statute gives an allowance in such circumstances only in respect of expenses incurred wholly exclusively and necessarily in the performance of the duties of the office. The inquirer does not state what allowance, *if any*, he receives from the county for the use of a car; if he receives such an allowance it will be a little difficult to satisfy the local income tax authorities that it is insufficient to cover all car expenses. If he does not, he might press a claim to a proportion of the renewal cost calculated according to the ratio of "county" to "personal" use over the life of the displaced car.

LETTERS, NOTES, ETC.

THE HISTORY OF DIPHTHERIA.

FLEET SURGEON W. E. HOME writes: Dr. E. W. Goodall's interesting letter in the JOURNAL of January 29th (p. 216) explains to me at last the great puzzle of "croup," which harassed one so much, as he says, forty or more years ago, and I blush to think it may have been inflicted on us by Francis Home. I suppose there was some good in his book on croup (1765), for it was translated into French, and published in Paris forty years later in 1810 (*Dict. Nat. Biography*), though I cannot say if it sold. The further one examines the nearer one gets to Dr. J. D. Rolleston's view that diphtheria was not truly differentiated in the eighteenth century. Osler says Aretaeus described it; that was many centuries earlier.

VACCINATION AND SMALL-POX.

"D.P.H." writes to express the view that the public will never get vaccinated so long as vaccination is performed by the vaccination officer. Every medical man is competent to vaccinate—an operation any student can perform. "D.P.H." suggests that every practitioner should vaccinate in his own practice and receive a fee of, say, 3s. 6d., which is only half the usual fee. In this way, he thinks, nearly 100 per cent. of the population would be vaccinated.

HERPES ZOSTER AND VARICELLA.

DR. J. M. LOFTUS (Brockley) reports the case of a woman, aged 22, who spent the Christmas holidays in the country. While there a doctor was called to attend her mother, aged 56, for herpes. The younger woman began to suffer from chicken-pox on January 14th, the typical vesicles appearing on the following day.

THE VOLUNTARY HOSPITAL AND ITS FUTURE.

"BRIGHTON" writes: I have read with interest Mr. Hogarth's article (SUPPLEMENT, February 5th, p. 37) on the future of the voluntary hospital. In his suggestion for opening the doors of hospitals to the middle classes he appears to have overlooked the item of fees to the surgeon or physician in charge. He mentions the paying wards of the Brighton Hospital; they are there, but the doctors are not allowed to accept any fees, because the man who founded and endowed the wards expressly forbade this in his will. Also the Sussex Provident Scheme, which supplies everything to all and sundry, does so at the expense of men who get no fees.

INTESTINAL DISINFECTION.

DR. L. WHEELER (London, W.) writes with reference to disinfectants given by the mouth to suggest that the subject is of such vital importance as to warrant a special research inquiry into the *in vitro* and *in vivo* action of some of the known antiseptics and bactericides. The results of such a research undertaken by the Ministry of Health or the British Medical Association would be welcomed as valuable illumination on the practicability, or impossibility, of affecting the faecal flora by disinfectants given by the mouth. It should be possible with rats, rabbits, etc., to obtain direct information as to the changes occurring in the intestinal flora with definite doses of different antiseptics introduced into various lengths of gut and contrasted with controls to which the trial preparation has been given by the mouth.

"THE MICROTOMIST'S VADEMECUM."

PROFESSOR J. BRONTË GATENBY (Zoological Department, Trinity College, Dublin) writes: It is proposed to bring out shortly a new edition of Lee's *Microtomist's Vademecum*. The eighth edition was published in 1921, and there is now a call for a new edition, which will include recent advances. The ninth edition which I am editing in conjunction with Dr. E. V. Cowdry of the Rockefeller Institute, N.Y., will, in addition to general technique contain articles by the following specialists: Dr. Da Fano "Neurological technique"; Dr. Helen Pixell-Goodrich, "Protozoa"; Dr. W. R. G. Atkins, "Histological applications of measurements of acidity and alkalinity, and of oxidation and reduction"; Dr. Robert Chambers, "Microurgy" (that is, micro dissection, etc.); Dr. Payling Wright and Dr. Rogers Brambell "Cultivation of tissues *in vitro*"; Dr. W. Cramer, "Fats"; Mr. Thornton Carter, "Bone and teeth," and various *sections* by Dr. Reginald Ludford and myself on cytological technique. The purpose of this letter is to invite research workers and others to forward to me, as soon as possible, any new information they may have. I may mention that *it is not proposed* to include bacteriological technique in the forthcoming edition.

A MANCHESTER DISCLAIMER.

THE *Manchester Guardian* appears to be in the habit of publishing under its list of deaths advertisements from families desiring to express thanks for sympathy shown to them in a bereavement. One of these, dated February 8th, contains an expression of the family's thanks to Dr. Grant Davie for his unremitting care of the patient. Dr. Grant Davie asks us to state that he had no knowledge of or connexion with the announcement. We have seen such tributes in American and some other foreign and overseas newspapers, but we agree with Dr. Davie that the practice is to be condemned.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges and of vacant resident and other appointments at hospitals, will be found at pages 43, 44, 45, 48, and 49 of our advertisement columns, and advertisements as to partnerships, assistantships and locumtenencies at pages 46 and 47.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page *51*.

The Hunterian Oration

ON

HUNTER'S IDEAL AND LISTER'S PRACTICE.

DELIVERED BEFORE THE ROYAL COLLEGE OF SURGEONS OF ENGLAND ON FEBRUARY 14TH, 1927,

BY

SIR BERKELEY MOYNIHAN, BT.,
PRESIDENT.

ON this day, the 199th anniversary of his birth, we commemorate the services of John Hunter to the science and the art of surgery. In this year we celebrate the centenary of the birth of Lister. Hunter and Lister. From all who have ever served the cause of surgery these two stand apart by reason of the immeasurable gifts which they have conferred upon their fellow-men. May we to-day recall something of Hunter's work and of his ideals in respect of the conquest of disease, which the genius of Lister made possible!

Man's life is warfare. The individual, the whole race, is beset by foes—unresting, relentless. Against them our defence, if we are ever to subdue them, must be carefully planned, and diligently strengthened. But defence, however stubborn, is not enough. Attacks designed after scientific study of the enemy strongholds and methods, and launched with impassioned zeal, must never for one instant falter. Not all our attacks meet with success. We are cheered when we gain some notable victory, yet when we suffer defeat, as wave after wave of our advance is checked and repulsed, we do not lose heart. Failure inspires us to fresh and still more eager endeavour.

In this year, the centenary of Lister, we rejoice to acclaim the greatest victory ever won by man against his enemies. We who are in active work to-day are perhaps unable to measure the full extent of that victory; for during the long fight, lasting almost exactly sixty years, our standards have been so changed that we cannot truthfully compare our work with that of our intellectual ancestors. Operations from time immemorial so mortal as to be prohibitive are now freely performed without anxiety. Operations formerly unimaginable are now matters of everyday occurrence. The mere tale of such work done does not adequately illustrate the change. On my last day as surgeon on the full staff of my hospital I performed six abdominal operations. Not one of these was practised by any member of our staff during the year in which I became house-surgeon, nor had such a diagnosis as was made in three of these cases, and verified at the time of operation, ever then been attempted in the history of medicine. Above all, a statement of facts and a comparison of methods does not in adequate degree convey to our minds the difference of outlook, of the intellectual and spiritual approach of a man to his daily task, as between the surgeon in the days before Lister and since. It is barely possible for us to imagine how men felt about their daily work when an eminent surgeon could speak of his hospital as a "house of death"; when hospitals "were little short of pest-houses," as Lister said;[1] and when the oppressive mortality compelled the closure of wards or of a whole hospital for months, until the curse was lifted from them.

The change, of incalculable benefit to humanity, is due to one man—Lister.[2] Before Lister's time the surgeon dreaded the almost inevitable consequences of his operation. Lister made surgery so free from risk that we now may say that, with due care in the detailed application of the lessons learnt from him, it is no longer the fatality of the operation itself which is feared. In these days, when a patient dies it is not because the operation leads to septic complications which he cannot withstand. We fear for him chiefly, if not only, when the extent of the operation is formidable, or when the most sensitive regions of the body, sometimes remote and almost inaccessible, are attacked by methods which half a century ago were beyond the wildest dreams of the most adventurous mind. Our main concern in these days is with the condition of the patient before and after operation. We seek to make him as safe for surgery as surgery has been made safe for him. Lister, in short, has made all the methods applied by the surgeon almost devoid of risk in themselves. The risks run are dependent upon accessory factors—upon the state of the patient, the nature and extent of the disease, the intrinsic susceptibility of organs, or the anatomical conditions responsible for the difficulties which must be surmounted.

Do we fully realize the implication of all these statements? We are at the end of an epoch, indisputably the greatest in our history—*the epoch in which manipulations* by the surgeon have been robbed of the prohibitive dangers which formerly repelled. Now when failure comes it is the individual who fails, not the methods of which Lister laid the eternal and unshakable foundations. Lister by his genius recruited an army of surgeons which has gained astounding victories. The human body from crown to toe has for all time become our indisputable kingdom, within which we may come and go at pleasure, undismayed by the pestilences which menaced us before Lister forever subjugated our enemies. Lister is indeed Captain of the men of Life.

We who inherit the glorious legacy of Lister must not be content merely to enjoy and exploit our incomparable heritage. No great teacher measures his success in contemplation of his own efforts. His greatness lies rather in *the work which he inspires others to do—in the tradition* not of past accomplishment but of future devotion. Traditions are fostered and increased not by routine observance of ancient ceremony, nor by mute obedience to outworn creed, but by active faith forever seeking new truths and exploring new paths, in conformity with the old spirit and with unchanging devotion to the great ideal of which the tradition is the shrine. There is immortality of the tomb, and immortality of the resurrection. The soul of a great teacher is born again in his pupils. What, then, are we to do with Lister's gift to mankind? We use it already to the immense advantage of the individual sufferer; a therapeutic weapon of unapproached perfection, we are making it, and we must continue, in increasing degree, to make it far more than that. After the great war the statesmen of Europe, moved by the highest ideals, sought, not perhaps wholly in vain, to convert the allied victory into lasting peace. The statesman's ideal is a warless world. War is to end war. Ideals are not so much for capture as for pursuit, and though the statesman may never attain his ideal, yet the happiness and progress of mankind surely depend upon the grim and perhaps endless struggle to reach it. So, too, for us surgery must be regarded as the most powerful weapon of research upon man and animals ever given to our hands; and the end of research is not the cure only, but, far better, the prevention, of disease.

HUNTER'S IDEAL.

The Oration I have now the honour to deliver was founded 114 years ago as "a lasting mark of respect to the late John Hunter."[3] Let us turn to Hunter, the greatest surgeon of all the ages before Lister, and see how he regarded the art he practised. In the opening lecture of each surgical course Hunter said to his students:[4]

> "The last part of surgery, namely operations, is a reflection on the healing art; it is a tacit acknowledgement of the insufficiency of surgery. It is like an armed savage who attempts to get that by force which a civilized man would get by stratagem."

In his *Treatise on the Venereal Disease*,[5] a work more frequently quoted for its glaring errors than for its profound truths, he indicates one of the ways which lead to this ideal, the prevention rather than the cure of disease. He writes:

> "As disease in general should not only be cured, but when it is possible prevented, it will not be improper to show, as far as we know, how that may be done: for in this disease we can with more certainty *prevent infection*, its origin being known." He

then adds, "... corrosive sublimate in water, about a grain or two to eight ounces, has been known to prevent the catching of the disease."

Hunter anticipated that a time would come when surgery, gaining much from the general advance of knowledge, might be rendered both knifeless and bloodless. I do not speak with irony when I say that Lister's work has brought us appreciably nearer to Hunter's ideal. It is true that its first effect has been to increase a hundredfold the operations practised, and to cause an advance into territories never before subdued. The advance was timorous, halting, and at first so unsafe that the men who led the thought of the day, whose stubbornness was iniquity, whose changeless idolatry was the worship of the images of their fathers, did not hesitate to demand that he who practised such a deadly operation as ovariotomy should be indicted for manslaughter. Lister so taught us that to-day, with little risk and with incomparable advantage to our patients, we, strong in the faith that our fathers rejected, not only attack disease with remedial operations, we also seek out and expose, we inspect and study it in its deepest recesses, and in its earliest structural manifestations, sometimes discovering its cause, or at least its impressive antecedent, and often tracing the lines of its gradual extension. We are at last coming to appreciate the reaction of living organs upon each other. As I have claimed on earlier occasions, we have created and are slowly building up knowledge from which our predecessors were completely debarred—not new science, but new vision of an old science: the pathology of the living. This branch of surgical learning will continue to grow, and therein surely lies our hope that surgery may one day help to end surgery, by enabling us to discover how those earliest processes of disease may be inhibited. Some claim this as the era of preventive medicine. Is there not preventive surgery also? Hunter was possessed of an ideal. Lister gave the power to realize it. We too wage war to end war. "*Pereant arma bellica.*"

At the end of a long, arduous, and triumphant surgical campaign we, if we are prudent and foresighted, shall survey our equipment and our arsenals and consider the strategy of our next advance. The military leader of to-day seeks help from every branch of science; the victorious leader is he who best knows where to seek the help of which he is in need; who has the genius early and quickly to perceive how all new knowledge can be best applied to the art of war. Surgery too is warfare; its advance is conditioned by contemporary progress in every branch of science, and its virtue lies in the number and the vigour of its allies. Into what alliances, then, has surgery entered with other branches of knowledge?

SURGERY AND THE ANCILLARY SCIENCES.

The science of physics has brought radiology to our aid, and the discovery of the x ray has rendered the living body translucent. After an opaque meal these rays disclose the normal movements of the alimentary canal, and we learn, as in no other way, the functional anatomy of the intestine. Any defect of outline may reveal a structural deformity and perhaps enable us to make a precocious diagnosis of conditions whose terminal stages when neglected are fatal.

The art of the chemist can be allied with that of the physicist, as the work of Graham of St. Louis has shown, with the result that the physiology of the liver, the functional anatomy and the pathological conditions of the gall bladder, the association of gall-bladder activity with movements of the duodenum, may all be studied by a new method. And this method, in alliance with that of the surgeon, realizes another stage in our advance towards the prevention of gall stones, themselves a tardy result of insidious changes originating elsewhere. Chemistry lends its invaluable aid in discovering for us the functional activity of the kidneys, and by its investigation into the cholesterin and calcium content of the blood is helping us to understand some of the problems relating to the functional activity of the liver and gall bladder. Such conditions as acidosis and alkalosis offer impenetrable secrets if chemistry is not brought to our aid.

Physiology by its inclusion in the Faculty of Medicine acquires a double function: it remains a pure science, directing its inquiries solely to the advance and perfection of knowledge; but it becomes also an applied science, in league with clinical medicine and surgery. As he sees his conquest of knowledge applied practically to the saving of human life the physiologist will be encouraged to yet closer study of normal and aberrant vital processes in man. He too should stand with the surgeon by the bedside. The great gap between the powers of the surgeon and the aid which the physiologist might give would thereby be reduced, and the reproach removed from his science that in this sense it is lagging far behind. The surgeon's activities enable him to uncover the hidden mysteries of early structural changes. He offers new opportunities for the study of normal and perverted function to the physiologist, with whom he might inquire into those early functional changes which correspond to and are caused by organic disorder. The surgeon seeks earnestly to know what degree of impairment of function is to be attributed to the textural changes which our new methods have revealed to us. The physiologist may tell us much that we are eager to learn of the effects of our manipulations upon the normal activity of tissues, and of the full or imperfect return of function when diseased tissues have been removed. With his help we may learn what without him we may never learn—the significance and the methods of the causation of early symptoms, and the origins of those pathological changes with whose late mutilations we are, unhappily, only too familiar. With our help he has learnt what otherwise he could not learn—that, for example, the spleen by an excessive destruction of red cells may be responsible for a condition of jaundice, and that the removal of the enlarged spleen results in the disappearance of the jaundice, which is thereby demonstrated to be of haemolytic origin. Physiologist and surgeon are, far more often than is realized, necessary to each other, and a closer communion should exist between them. Many of the truths the physiologist endeavours to teach can be demonstrated more clearly in the wards than in the laboratory, and are therefore, because of this human interest, impressed almost indelibly upon the minds of students. The phenomena of cerebral compression, of Traube-Hering curves, of Cheyne-Stokes respiration; the symptoms of hyperthyroidism, and those produced when the secretion of the thyroid gland is diminished or absent; many of the aspects of jaundice, in addition to the demonstration of haemolysis as its occasional cause, and of the relations between the liver, the spleen, and the bone-marrow; illustrations of the normal and aberrant functions of the kidney; changes in the chemistry and constitution of the blood, may all profitably be discussed in the ward rather than in the laboratory or the lecture theatre. Students would then realize from their earliest days the truth which later comes almost with a shock—that physiology and anatomy are not fundamental subjects, but are interstitial, and should grow alongside and be incorporated with the facts of clinical medicine and surgery, which they illuminate and explain.

Interstitial tissue has as one of its functions the carrying of blood vessels to nourish cells whose activity is dependent upon the richness of their blood supply. Biology provides the interstitial tissue of surgery; the activity and the growth of surgery depend upon the nourishment which biology may bring. Unless surgery calls in the aid of all the sciences with which biology is related it will remain as static as ancient geometry, whose figures were drawn once for all. Modern geometry is concerned with function, with the variations of movement by which a figure is described. Surgery's concern in the future will not only be with the states produced—with established organic disease—but with its allies it will help to eradicate some of those variations in function by which perhaps they have been caused, with which they are associated, and by which their presence is declared.

If sometimes we blame Sharpey and his school for the unhappy cleavage between anatomy and physiology we must at least acknowledge the great debt we owe to him for laying so firm the foundation of new methods for the

studying of functional anatomy in man and in animals. Physiology, with its offspring biochemistry, has introduced physical and physico-chemical methods—methods of quantitative observation which have supplemented where they have not supplanted the merely qualitative methods. The brilliant work of Sherrington, Lucas, and others upon the nervous system gave us fresh conceptions of it; further advances along their lines were becoming difficult until the application of thermionic valves made it possible, by recording the transmission of impulses in the afferent nerves, to investigate the effects of stimuli upon the sensory end-organs. And in the interpretation of symptoms, a study to which my old friend James Mackenzie bent the strength of a most eager and original mind, physiology alone can read the occult significance. In acute pancreatitis there is, as Halsted,[1] a great benefactor of mankind, first told us, a lividity of the face. Why? Is it due to some disordered action of the respiratory system imposed by the closeness of the affected organ to the diaphragm and the structures which lie above it, or is there circulatory stasis, or alteration in the blood pigment? Physiology is the master of all the methods by which these three possible causes may be quantitatively investigated. Estimations of the oxygen saturation of the arterial blood give information of disturbance of respiratory function—information which we may compare to that derived from a measurement of the amount of blood urea when the renal functions are deficient. Estimations of the carbon dioxide combining power of the blood are essential if we are to recognize the presence and the degree of acidosis. Circulatory stasis may be gauged by the ethyl iodide method of measuring the circulation rate. Alterations of the blood pigment are detected by the spectroscope, and quantitative estimations of abnormal pigments are readily made after the method of Hartridge.

Like the physiologist, the bacteriologist is engaged in work which is ranged alongside our own. The more he discovers of the offensive powers of bacteria and of the defensive mechanism of living flesh under their attack the nearer are we brought to our surgical ideal. The alliance between bacteriologist and surgeon has been necessary for the proof that the true estimate of an antiseptic is not measured only by its bactericidal value tested in the laboratory, but also by its power to encourage the blood serum or the tissues themselves to ward off and to break up an attack. Hunter, with the crude methods which were all he had at his disposal, demonstrated the tryptic power of wound discharges, and anticipated a part of the admirable work of Almroth Wright during the war. Who could have imagined, when Lister's work began, that to-day we should be able to keep tissues alive in our laboratories, breeding them and growing them in captivity, separating the one kind from the other, noting the influence which one type of cell is able to produce on its neighbours, and thus coming by the kind of knowledge which John Hunter so earnestly sought—a knowledge of the intrinsic processes of growth and repair? The problem of malignancy is now installed in our laboratories, and the cancer cell is being compelled to yield most reluctantly some of the complex secrets of its Bolshevist behaviour.

The old art of vital staining, which Hunter learnt from Belchier of Guy's, has taken on new improvements: by means of suitable dyes we can now select special elements in the living body, trace their movements, and note their conduct. The experimental embryologist, too, can help us if we seek to know in what manner the various tissues of the body come into existence.

Hunter: Pasteur: Lister.

These, then, are the allies of surgery in the great war: Biology in all its branches, Chemistry, Physics, Radiology. Never before has the master surgeon had such bountiful resources at his disposal. He cannot afford to neglect a single one of them. The urgent problem of our time, therefore, is a dual one: We must seek to determine the line of advance which surgery will trace in the years ahead, increasing and strengthening our alliances; and we must earnestly discover how the leaders of our army of advance are to be trained. Are the old methods, which in their day served so well, still enough; or is the form of warfare already so changed, and now so rapidly changing, that a new discipline and a wider knowledge are needed?

To answer these questions we must look backwards, and, calling upon our past experience, seek in the records of our great masters not so much what their knowledge was, but what methods they pursued as they qualified themselves for great leadership. We shall find at once that Hunter and Lister, incomparable among surgeons, each put himself through a long and arduous training, never resting in his inquiries as to the activities of living matter, as to its behaviour in health, and its reactions in disease. At the threshold of our survey we recognize that the activities of our two leaders are not unrelated. Hunter's professional life covered the latter half of the eighteenth century; Lister's the corresponding half of the nineteenth century; between them there intervened two generations of surgeons. My distinguished predecessor, the late Sir Rickman Godlee, who gave this oration in 1913, tells us in the Life of his uncle, Lord Lister,[2] that "Hunter was Lister's greatest hero"; that "his copy of Palmer's Life of Hunter was marked in many places by pencil notes which show that he was studying it at least as early as 1855"; that "a proof of Sharp's engraving of the portrait of Hunter by Reynolds, which had belonged to Syme, hung in his study"; that "he always spoke of Hunter with reverence." Further, if we turn to the paper[3] which Lister read to the Medico-Chirurgical Society of Edinburgh in March, 1858, on the "Causes of the coagulation of the blood," we find evidence of his early admiration of Hunter.

> "The nearest approach," he wrote, "which I have been able to find to such an observation [that blood which is retained in the smaller veins of the body remains uncoagulated] is contained in that inexhaustible treasury of original observations and profound reflection, the works of John Hunter."

If I may borrow a simile from the football field to express the relation of these two great men, I would say that it was Pasteur who made the final pass to Lister possible; it was Hunter's captaincy in the scrum that placed Lister in the scoring position. Indeed, we have to admit that while Hunter's resource in midfield has never been excelled, or even approached, and though the ingenuity with which he worked the surgical ball towards the goal remains unsurpassed, yet when he was in a scoring position and we were counting so confidently upon a "try," the ball was fumbled, and our hopes were foiled. The young surgeon of to-day can learn almost as much from Hunter's mistakes as from his triumphs.

Hunter's Discipline and Methods.

Let us now examine the discipline to which John Hunter submitted himself to attain his leadership. He is the "Dick Whittington" of British surgery. In September, 1748, at the age of 20, he left his home, an upland farm in the parish of Kilbride, eight miles to the south of Glasgow, and, travelling on horseback, he entered London in a little under a fortnight, alighting in Covent Garden, where his brother William kept a school of anatomy. William Hunter was beyond doubt the foremost medical teacher of his time; his best pupils caught from him the spirit of research: among his inspired disciples were John Hunter, William Howson, William Cruickshank, Charles White of Manchester, and William Hey of Leeds, the founder of the Leeds Infirmary, the first stone of which was laid in 1767 by Edwin Lascelles, the first Lord Harewood. In 1751, after three years of study, John Hunter counted himself a qualified surgeon; he remained in his brother's school to teach and to research, at what salary we cannot now tell, but assuredly it was a small one. John Hunter thus entered the critical years of his life, for the career of a young surgeon was determined then, just as it is to-day, not so much by his conduct during the years of pupilage, as by the use made of the period after qualification. The problems which a young surgeon first attacks, and the methods he employs to solve them, are suggested to him by the age in which he lives and by the school in which he has been trained. In John Hunter's youth a knowledge of the human body was being extended

by a skilled use of the art of injection. And so we find him in his earlier years following arteries to their ultimate termination, tracing the course of lymphatic vessels, unravelling the structure of the testis and kidney by means of an expert use of the injecting syringe and of the hand *lens*. He remained in his brother's school teaching and researching until the spring of 1761, when he entered his thirty-fourth year.

Here is a list of the subjects he investigated during that period. He began to note the earliest stages in the development of the chick[10] and continued this study to the end of his life, deriving from it guidance for the interpretation of the phenomena of repair and of disease. We find him exposing the thoracic viscera, using artificial respiration, and noting accurately what happened to heart and lungs when the air supply was withdrawn and when it was renewed.[11] He studied respiration in birds, keeping cocks alive which breathed through the cannulae inserted in their air sacs instead of through their windpipes.[12] He carried out a series of experiments on absorption from the bowel in various animals; the experiments were well planned and skilfully executed, but he drew from them a wrong inference—one which misled him subsequently time after time—in the interpretation of the processes of disease. He believed that these experiments proved that all the products of digestion were absorbed by the lacteal or lymphatic system, and that none entered by the veins.[13] Our hero, as we have seen, was often weak when he approached the goal posts. We find him tracing out the distribution of nerves in the nose and giving, for the first time, the right explanation of why the fifth pair of cranial nerves should enter into the field of mucous membrane supplied by the olfactory nerves.[14] The description he then gave of the descent of the testis[15] and of the vital phenomena which attend that still mysterious operation has never been surpassed. He kept a tame kite to prove that a stomach accustomed to a flesh diet could be educated to deal with one which was purely vegetarian; he noted the phenomena of digestion in the stomachs of fish, fowls, dogs; he explained *post-mortem* destruction of the stomach.[16] He placed pieces of raw meat in suppurating wounds and observed the digestive effects which followed; he measured the digestive (or tryptic) action of pus.[17] We find him deeply interested in the formation of pus upon the unbroken surfaces of serous and of mucous membranes. He began a series of observations on the uses of the vesiculae seminales,[18] and was led thereby to investigate experimentally the potent and mysterious influence which testis and ovary exercise on the development and growth of the body.[19] We find him seeking signs to distinguish between tissues in which life was latent and those from which life had already vanished. He believed he had discovered the organ of hearing in fishes, and sought to discover an explanation of the curious fact that the ovaries of eels were always destitute of ova.

As a collector—like Pascal a *ramasseur de coquilles*, who often found a pearl of great price—as an observer of incredible industry, gathering facts just for the sake of their individual value and without at the moment any care for their relative significance or for the effect of their impact upon other facts, he ranks second only to Hippocrates. But when these facts were stored in his mind and illustrated by a series of specimens he was by no means inexpert in their interpretation or in raising a general truth from a multitude of singular examples. But as we read we seem to be oppressed by the verbal difficulties he encountered. The words will not come. Even the constructive thoughts may sometimes appear to be absent, puny, or unmanageable. He cannot get his mind round them. If by chance we seem to think that he has done so, the splendour of his thought is disfigured by his uncouth language. Abernethy is not alone in telling us of Hunter's paucity of language and of his inaptitude in its use; but we need no other evidence than that which his own works rarely fail to give us. His letters are the same. Illiteracy is not absent from them, though their meaning is often clear enough, especially when express instructions are given. It is when Hunter endeavours to rise to abstract generalizations that we see this incapacity chiefly and lamentably displayed. Obscurity of language, I believe, even in abstract matters, often means obscurity of thought. Words may come after thought, but not long after, surely. Hunter's defects in language were due in part, no doubt, to the absence of any early education of value, but they were not lessened by his studious avoidance of the work of others. His rebuke to Jesse Foot, as brutal and irrelevant as many of Johnson's, would have confounded anybody, but it is irrelevant nevertheless, and it was a confession of his own imperfection.

After spending fully twelve years experimenting, John Hunter in the spring of 1761, and in the thirty-fourth year of his age, engaged in the practical work of his profession and was appointed surgeon to the army. In the summer of 1763 he returned to London on half-pay and commenced practice. He bought "a piece of ground called Earl's Court, near the village of Brompton, and two miles from Hyde Park Corner," on which he built a small house. Earl's Court, his week-end cottage, was soon converted into a zoological garden and experimental laboratory; many new problems engaged his mind and several avenues of investigation were opened up there; all of them were made to converge on the same subject—the behaviour of living matter under all conditions. It was not until 1768, when he was 40 years of age, that his private practice began to grow, enabling him to take a lease of the house, 42, Jermyn Street, vacated by his brother William. We may now consider him, after an apprenticeship of twenty years, fairly launched in practice. Three years later he considered that his income justified him in undertaking the responsibilities of marriage.

We see, then, this leader of surgery of the eighteenth century devoting twenty years of his life to arduous observation and experiment so as to qualify himself for the practice of his art. There has probably never been a man in our profession with so wide an intellectual interest, so profound a knowledge of so many varied subjects wholly derived from direct personal inquiry and observation. His industry was inexhaustible. He had no equal either as physiologist or pathologist; he was already first among comparative anatomists, and was indeed one of the founders of this science. He was a naturalist, all subjects in animal and vegetable physiology seeming to attract him. All his unequalled attainments as biologist were brought to the service of surgery, in his hospital work and finally in the largest private practice of his day. Before Hunter's time surgery was a thing apart, independent of all other sciences, ostentatiously aloof from them, and governed only by the experiences and aptitude gained in the day-to-day practice of the art. All advance was therefore slow, even when recognizable, and was largely empirical. No physiological knowledge, nor any experimental discovery, broadened the old path or opened up new ones. Hunter changed all this. Not the least of his achievements was that he made alliances for surgery, and linked it inseparably with biology. Hardly a day passed without some experiment. I may quote a statement of his to show how he regarded experiment.[20]

> "In pursuing any subject, most things come to light by accident; that is, many things arise out of an investigation that were not at first conceived, and even misfortune in experiment has brought things to our knowledge that were not, and probably could not, have been conceived; on the other hand, I have often devised experiments by the fire-side or in my carriage, and have also conceived the result; but when I tried the experiment the result was different, or I found that the experiment could not be attended with all the circumstances that were suggested."

This statement helps in some degree to explain the number of apparently unrelated subjects which Hunter explored in his younger years. As he opened a new subject, he still continued to investigate the old; at the time of his death he had over fifty portfolios in use, each relating to a particular line of investigation.

The "misfortune in experiment" has its counterpart in operative surgery. An interesting little paper might be written on "The advantage of error in medicine." We may recall Spencer Wells's operation for an "ovarian cyst," when tuberculous ascites was found and the surgical treatment of peritoneal tuberculosis inaugurated. The

same distinguished surgeon, a pupil of the Leeds school, operating upon a jaundiced girl of 18 for "fibroid tumour of the uterus," discovered that the tumour was not pelvic but splenic. He removed the spleen: in a few days the lifelong jaundice was gone, and the surgical treatment of haemolytic jaundice was begun. So McGill, the pioneer in the operation of prostatectomy—precedence in which is so foolishly claimed for others—removed what he believed to be a "tumour at the base of the bladder." When I, acting as his house-surgeon, examined the tumour microscopically and found that it was prostatic, I felt that I had the chance to twit my beloved chief with his error. His reply when I told him of his mistaken diagnosis was, "Then why don't we always take the prostate out when it projects into the bladder?"

Lister's Discipline and Methods.

When we compare Lister's preparation for professional leadership with that of John Hunter we are impressed rather by the resemblance than by contrast. Lister, the greatest material benefactor of mankind that the world has ever known, began his medical studies at University College, London, at the age of 21, in 1848, exactly a century after John Hunter had settled down to his work in Covent Garden. In the hundred years that had passed medical education in London had undergone a revolution; voluntary schools had almost disappeared, to be replaced by the organized schools and colleges with which we are familiar to-day. John Hunter was Scotch, Lister English, his ancestry coming from Yorkshire and Cumberland. John Hunter owed much to his brother, Lister still more to his father, who was not only a successful man of business, but also a Fellow of the Royal Society. William Hunter, who impregnated the mind of his brother, drew his own inspiration and owed his intellectual guidance to the Monro-Cullen school of Edinburgh. Lister was early influenced by William Sharpey and by Wharton Jones, both Edinburgh men steeped in the traditions of this very school. After qualifying in 1851, and taking the Fellowship of this College at the age of 25, Lister's first research was begun: it was concerned with the contractile tissue of the iris.[21] The injection syringe, the new instrument which had served Hunter so well, had been displaced during Lister's youth by the microscope. We rejoice, nevertheless, to notice that when Lister applied this new instrument to the tissue of the iris, it was the function rather than the form of this structure which excited his interest. In this investigation, and in another[22] begun in 1852, "Observations on the muscular tissue of the skin," we recognize that, influenced by William Sharpey, he had become familiar with discoveries made in other countries, notably with those of Kölliker in Germany. But clinical work was not forgotten, and a house-surgeoncy at University College was followed by perhaps the most critical event of Lister's life. In tracing the motives which have directed the progress of medicine we are constantly reminded of the influence and the power of great teachers. Such men are gratefully remembered by posterity—not so much for the work which their own hands or minds have created or have modified; not for their written words which so soon seem to possess little more than an antiquarian interest; not for their spoken words, which, though at the moment of their delivery they may walk up and down in the hearts of men and stir them to new thought or to great action, yet seem so frail and cold and lifeless when the morning comes—not for any of these, but for the spiritual legacy they bequeath to those trained in their own methods and inspired by their own zeal. It is this which gives posthumous life—the true immortality.

Not the least of the claims that John Hunter makes upon our reverence is that he was the first founder of a School of Surgery. He was not distinguished as teacher. "He had not the happy talent of displaying the stores of his mind, nor of communicating to others the same perception of the importance of his facts and opinions as he himself entertained."[23] Abernethy said his language was "inelegant and often coarse"; "his delivery heavy and unengaging"; "his method confused with attempts to find words for thoughts, or else to read from little scraps of paper." Yet despite these unattractive or even repellent qualities, men who themselves influenced surgery for generations afterwards, whose influence still survives—Abernethy, Astley Cooper, Cline, Everard Home, Blizard—all boasted of being his pupils, and taught his method until it became, and still remains, a tradition in their schools, and from them has spread to every school of medicine in the world, where Hunter is recognized, unchallenged, as the founder of scientific surgery. So, too, our debt to Italy will be forever unrequited while we remember that it was the magnetism of Fabricius that drew Harvey to Padua. But for Fabricius and the magic of his work the discovery of Harvey, the great glory of British medicine, might not have been made for generations.

William Sharpey, whose lectures "inspired me with a love of physiology that has never left me," had not only Lister's future, but also all that this meant for mankind, in his own hands when he sent Lister to Edinburgh to the "safest surgeon" of his day, James Syme. It was an almost incredible exodus. When the Hunters came southwards they followed a national habit established for centuries, and never permitted to fall into disuse—a habit which incited the characteristic irony of Samuel Johnson. When Lister went northward he founded a new tradition and made a novel breach in a custom which seemed to have become as firmly accepted as a law of nature. Lister's most distinguished successor in his chair of clinical surgery, my old friend Harold Stiles, made the same adventure, to Scotland's great advantage.

London hardly notes and seems but little disturbed by the arrival and the progress in her midst of young medical men from Scotland. (Whatever would she do without them?) Edinburgh, one may suspect, raised her eyebrows when she saw a young doctor from London established as Syme's house-surgeon; and she must have rubbed her incredulous eyes when, within two years, she saw him become an extramural lecturer in surgery within her own stronghold. It is quite impossible to exaggerate the importance of this teaching appointment on Lister's future. He met his students—the ultimate number in his first class was seven—on Wednesday, November 7th, 1855. Lister believed, as Hunter had believed, that the beginning of surgery was a knowledge of the process of inflammation; and accordingly he had resolved, before his lectures commenced, to obtain a new first-hand acquaintance with inflammatory processes as watched in living tissues. Clearly he realized long before the humblest of his intellectual descendants the need to study the "pathology of the living." A frog was caught in Duddington Loch—surely the greatest frog in history, honoured by being made the subject of this research. Why did not someone suggest to Lister when he was granted arms that this frog should be immortalized in heraldic device? The web of this frog's foot gave all the necessary opportunities for the inquiry. Lister had many new advantages over Hunter: he knew that the tissue he examined was made up of living units—cells; he had at his disposal a powerful microscope, which could mark the behaviour of these cells; and Claude Bernard in 1853 had taught him the existence of vasomotor nerves. It was during the examination of the frog's web that Lister made a biological discovery of the highest importance—one which experimental biologists are still exploiting: that pigment-containing cells such as are seen in the frog's web give more easily visible, and more delicate, reactions than any other kind of living cell, when subjected to a physiological or a pathological stimulus. This quality enabled him to study the effects of inflammation in terms of individual cells. He was able to prove that these pigment cells still gave vital responses fifteen days after the leg had been amputated.

The list of researches carried out by Lister between the time of his arrival in Edinburgh in 1853 and his appointment to the chair of surgery in Glasgow in 1860 would almost suggest that he was seeking to fit himself to become an experimental physiologist or pathologist rather than surgeon. I would earnestly emphasize this point, for its significance in Lister's day was far less than it is to-day, when the full harvest of his work is ready to be gathered. In most of these researches we can clearly see the strong

influence of John Hunter. It is not accident, surely, that the men who have done most for surgery trained themselves rather as research workers than as practitioners, that they revelled in and set out to master one problem after another in biology. Lister's acknowledgement of the immense influence of Hunter upon him is not in the least overstrained. If the spirit of Hunter watches over his Museum and this College, as we hope it may, how infinite must be its pride in the thought that the one man greater in service than Hunter himself was his direct intellectual offspring!

Let me recall the names of a few of Lister's early papers: that "On the flow of the lacteal fluid in the mesentery of the mouse,"[24] begun in 1853 and published in 1857, is a direct extension of Hunter's experiments on absorption;[25] the communication on "The persistent vitality of the tissues"[26] is founded upon observation made by Hunter himself on the same subject. The studies on "Coagulation of the blood" began by observing what happened in the veins of "sheep's trotters" taken from the shambles. By devising new and critical experiments he was able to carry the knowledge concerning coagulation to a point far beyond that which Hunter had reached a century before him. Yet his methods were clearly modifications of Hunter's. Lister's vocabulary, indeed, was still that of Hunter: for he spoke of the "solids" of the body, of "preternatural stimuli," of the "disposition of the tissues," of "inherent tendencies," and of "sympathetic irritation."

THE ANTISEPTIC SYSTEM: PREVENTIVE AND CURATIVE.

The events which followed Lister's arrival in Glasgow are too well known to all the world to need more than the briefest recapitulation. Lister was then 33 years of age, almost the same age as Hunter when he joined the army as a surgeon. As a result of seven years of a preparatory experimental investigation, conjoined with a wide clinical observation which was closely related to it, he had become immersed in all the problems relating to inflammation and suppuration. He had already formulated a hypothesis that suppuration was due to putrefaction, and in 1865 was ready to put his supposition to a practical test. Pasteur's epochal discovery that putrefaction was due to "germs" set matters going. Lister wrote:[27]

> "To prevent the occurrence of suppuration, with all its attendant risks, was an object manifestly desirable; but till lately apparently unattainable, since it seemed hopeless to attempt to exclude the oxygen, which was universally regarded as the agent by which putrefaction was effected. But when it had been shown by the researches of Pasteur that the septic property of the atmosphere depended, not on the oxygen or any gaseous constituent, but on minute organisms suspended in it, which owed their energy to their vitality, it occurred to me that decomposition in the injured part might be avoided without excluding the air, by applying as a dressing some material capable of destroying the life of the floating particles."

Lister was first of all concerned with the destruction of organisms after they had obtained access to wounds. He knew of the experiments with the Carlisle sewage, and of the bactericidal properties of carbolic acid. He observed carefully the effects produced upon living tissues by antiseptics, and concluded that the reparative processes in a wound were not thereby weakened. We are apt, however, to forget the gradual change that came over Lister's views, and the effect this had upon his practice: how he came to a full realization of the essential powers of defence possessed by the living tissues, and of our obligation to protect and if possible to increase them. Sir Rickman Godlee, who knew more of Lister than any man, has written that Lister before 1881, when he first told the world of his changed opinions, "had long recognized and taught that healthy living tissues exercised an inhibiting influence on the growth of micro-organisms. . . . He therefore began to wonder, whether if only slightly damaged, for example, by the incision made by a very sharp knife, the living tissues of any wound might not be able to deal with a certain number of germs by their own efforts." This we gleefully observe is a return to Hunter's work in which he recognized the "powers," "disposition," and "action" of living tissues. It may not be inappropriate to quote Lister's own words. He writes:[28 29]

> "The original idea of the antiseptic system was the exclusion of all microbes from wounds." Again, "During the operation, to avoid the introduction into the wound of material capable of inducing septic changes in it, and secondly to dress the wound in such manner as to prevent the subsequent entrance of septic mischief." Again, "In wounds already septic attempts are made with more or less success to restore the aseptic state." Again, "In speaking of the antiseptic system of treatment I refer to the systematic employment of some antiseptic substance so as entirely to prevent the occurrence of putrefaction in the part concerned, as distinguished from the mere use of such an agent as a dressing"; and further, "I always endeavour to avoid the direct action of the antiseptic substance upon all tissues."

The distinction between the preventive and the curative use of antiseptics is in many respects that existing between, on the one hand, the power of a germicide as determined by experiments *in vitro*, and, on the other hand, its capacity to destroy organisms when it is introduced among the living and the dead tissues of a wound. In the former there is a direct conflict, a clean fight between the microbe and the chemical agent. Few or none of the many intervening conditions are present which have to be considered when a bactericide is introduced into a wound cavity wherein there are multitudes of actions and reactions which even now seem very obscure and are so often conflicting.

We may therefore regard Hunter and Lister as bridge-builders; it is out of a multitude of scientific observations, of apposite inferences, and of wide generalizations that such bridges are built, stone by stone, arch by arch. Posterity will perhaps remember only the one bridge—permanent, indestructible, all-sufficing—of Lister. Across that bridge we have swarmed, a triumphant host, and a vast new territory has met our almost incredulous eyes. Hunter was forever building bridges, ambitious in design, firm in their foundations, but always left unfinished. Some day new architects will come and give them the full span which Hunter surely meant them to have. It is remarkable to note how often he anticipated the lines along which we see that modern surgery is making its advance. Cultures of both benign and malignant tissues are now being kept alive by methods which, devised by Dr. Ross G. Harrison while studying the growth of fibres from the nerve cells of a tadpole, have been rapidly developed by Alexis Carrel. John Hunter, too, tried his hand at experimental embryology. He "exposed the little animal [the chick embryo] by putting it into water heated to about 104° F. just covering the egg" and "hoped to keep it alive by these means and observe in the same chick the whole progress of growth, but it soon died"; therefore, he says "I was obliged to have recourse to a succession."[30] He was an experimental surgeon, as may be shown from the following quotation[31] from one of his lectures:

> "Here is the testicle of a cock, separated from that animal and put through a wound, made for that purpose, into the belly of a hen, which mode of turning hens into cocks is much such an improvement for its utility as that of Dean Swift when he proposed to obtain a breed of sheep without wool. The hen was afterwards killed and the testicle was found adhering to the intestines, as may be seen in this preparation where the parts are preserved."

He devised and carried out experiments to ascertain whether the growth in a cock's spur is due to a "disposition" inherent in the spur or derived from the constitution of the cock. He excised spurs from the legs of cocks and implanted them in their combs to note the rate of growth under such unfamiliar surroundings. The first vital stain ever used was madder; it was introduced to the notice of biologists in 1764 by John Belchier, surgeon to Guy's Hospital; by its experimental application John Hunter revolutionized our knowledge of bone growth and bone decay.[32] In the hands of Professor A. V. Hill the measurement of heat in living tissue has become the most delicate and certain indication of the nature of their vital reactions. The manner in which living matter reacted to

the application of heat and cold, and to a degree of heat generated in living tissues, Hunter made the subject of an endless number of investigations, all with the practical view of ascertaining how much or how little should be done to keep damaged human tissues alive.[33] Here was, as we have seen, an experimental physiologist and also an experimental pharmacologist.[34] He was a psycho-analyst;[35] he tried to inoculate an ass and a bitch with the virus of syphilis.[36] He preached the doctrine of operating at the earliest possible stage of a disease, and, placing himself in the position of the patient, said, "Nor do I go further than I now think I would have performed on myself were I in the same situation."[37] He performed experiments on the sensitive plant which are now being repeated.[38] These are only some of the points in which Hunter has anticipated modern progress.

So much for the past in its relation to our greatest men. What of the future?

THE FUTURE.

As I look forward I like to humour my fancy and indulge my dreams. Imagination, Keats tells us, may be compared to Adam's dream—he awoke to find it truth. The art of the surgeon is the pillar of science, and it is for science to discover how that almost perfect art may now be used to the fullest advantage. We eagerly await the day when disease shall not require to be checked in high career, but shall be blighted at its origin, or even denied existence, when our weapons of war shall be laid aside. That day may yet be far away, but already beyond the distant hills we see promise of the dawn. It does not, perhaps, so much or so deeply concern ourselves as those who soon must take up our task, and lead the hosts whose victory shall attain our high ideal. In due time, and in accord with ancient precedent, this country of ours, the fruitful mother of so many gifted sons, shall raise up in our schools the youths who shall go forth to conquer a crown. They will be best equipped who keep to the course, recall the methods, and are imbued with the ardent spirit of the two famous men whom we praise to-day—the two greatest surgeons the world has ever known.

Our youths must be prepared for self-sacrifice, for arduous discipline, perhaps for the most heart-breaking rebuffs, for the stern or even bitter criticism of their fellows. But there never was a time so rich in promise, so laden with rewards for those who labour with sincerity and truth. They will not travel alone. The whole army of science is in league with them, moving forward with incredible speed, eager to lay at their feet the triumphs of its astounding conquests. The responsibilities which rest on them, the intellectual accomplishments and the dedication of their lives demanded of them, are enough to cause the stoutest heart sometimes to falter. Yet, armed with the sword of the spirit and the breastplate of faith, they will remember that the happiness of life lies in its responsibilities, that true joy is found in the search for what may after a weary journey prove unattainable. Ahead lies the noblest of tasks to which they may consecrate themselves: for the lives of men are in their hands, the love, the happiness, the whole welfare of mankind. We need not fear. They will be worthy of their charge. God counts not result but effort.

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EXPERIMENTAL PRODUCTION OF ACUTE AND CHRONIC ARTHRITIS AND ARTICULAR NEOPLASM BY RADIUM.*

(With Special Plate.)

BY

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A FEW years ago, in a Hunterian Lecture on osteo-arthritis, I ventured the opinion that the peculiar proliferations of bone and cartilage often occurring in the more chronic form of arthritis usually known as osteo-arthritis, some of which attain a very considerable size, were intermediate between a frankly inflammatory process and a genuine neoplasm. The difficulty experienced in distinguishing between the two was so great that some of the loose bodies occurring in osteo-arthritis were designated "synovial chondromata" by Professor Shattock and myself. It is unnecessary to enter now into the histological differences between such forms of proliferation and frankly inflammatory developments. It is interesting to note, however, that the form of chronic arthritis usually known as "rheumatoid arthritis" or "chronic arthritis of the synovial or mixed types" (Fisher) is a frankly inflammatory process, whereas the proliferative changes in the so-called "osteo-arthritis" belong to the peculiar type of proliferation akin to new growth that we are considering. It is interesting to note also that the age incidence of osteo-arthritis or chronic arthritis of the chondro-osseous type is, as a general rule, very similar to that of many forms of malignant change, particularly the carcinomatous—that is, they both occur when the resistance of the body to irritation of *moderate* degree of intensity is beginning to diminish because the patient has passed the meridian of life. In younger organisms the vascular response to irritation of slight or moderate intensity is marked, and, combined with a moderate degree of cellular proliferation, probably suffices to cope with minor degrees of irritation.

After the meridian of life is past the vascular reaction is not so much in evidence, and a slight but persistent form of irritation tends to bring about a proliferation of cells that are fairly well nourished but degeneration of cells whose nourishment is poor. A good example of this is seen in "osteo-arthritis." The physiological basis for the changes in the latter is that while the central part of the articular cartilage which is devoid of blood vessels is poorly nourished, the extreme lateral portions receive blood vessels from the circulus articuli vasculosus. Irritation, therefore, whether mechanical or toxic, tends to cause degeneration of the central portion of the articular area and proliferation of the lateral portions. We observe this same peculiar admixture of proliferation and degeneration in many forms of true neoplasm, both innocent and malignant. It appears that in new growths we are faced with an essential alteration. There is a breaking down of the physiological harmony between cells and the inhibiting intercellular substance. We can imagine, for example, that prolonged irritation or toxaemia might have, simultaneously, a stimulating effect upon cells but an inhibiting effect upon intercellular substance. On the other hand, inhibition might be at a very low ebb from the degeneration of old age, and might, in a person with suitable disposition, cause a growth to develop. If inhibition is temporarily abolished but eventually recovers, a so-called innocent new growth may result, which after a time ceases to develop actively. If inhibition is impaired a subinflammatory process such as osteo-arthritis develops (compare prostatic adenomata). If it is severely impaired and the irritation is moderate, or if it is slightly impaired and the irritation great, or if irritation is great and inhibition severely impaired, a malignant growth results.

As according to this theory the condition known as "osteo-arthritis" is a stage intermediate between inflammation and new growth, it seemed to me that it might be of considerable interest to ascertain whether it would be

* The expenses of this research were defrayed by the Medical Research Council.

possible to bring about osteo-arthritis and new growth experimentally through the same agency, and for this object tubes containing radium were introduced into the knee-joints of rabbits. The following experiments show the results obtained.

A. *Experiments with Radium contained in Glass Tubes.*

Fig. 1 represents the left knee-joint of a full-grown rabbit, and shows well marked proliferation of the cartilage of the inner and upper margin of the trochlear surface of the femur.

Experiment 20 (*Old Series*).—The left knee-joint of a rabbit was opened by an incision upon the internal aspect and under strict aseptic precautions. A glass tube containing 0.0382 mg. of radium bromide was fixed by a catgut suture against the inner margin of the trochlear surface, and the joint carefully closed by suture. The joint was immobilized as far as possible by several layers of gauze saturated with collodion. A glass tube containing 0.15 mg. radium bromide was fixed in a similar position in the right knee-joint. The rabbit remained perfectly healthy, and nineteen weeks later was killed. The left knee-joint revealed the presence of a large chondro-osteophyte similar to those seen in osteo-arthritis (Fig. 1). It had developed from that portion of the articular edge opposite to where lay the radium tube, which had formed for itself an oblong shallow pit in the adjacent part of the internal femoral condyle. The remainder of the joint showed no obvious change beyond localized synovial hypertrophy in the vicinity of the radium tube. The right knee-joint showed similar changes, but to a lesser degree.

Experiment 19 (*Old Series*).—The left knee-joint of a rabbit was opened as above, and a glass tube containing 0.15 mg. of radium bromide was fixed against the inner border of the internal condyle of the femur. The animal was killed four weeks later, and it was noted that well marked proliferation of the lateral part of the cartilage had occurred at the junction of the internal condyle with the trochlear surface of the femur. A patch of fibrillation of the cartilage had occurred more centrally. Localized synovial hypertrophy was again present.

Experiment 6 (*New Series*).—A glass tube containing 0.15 mg. of radium bromide was introduced into a similar position in the right knee-joint of a rabbit. Two weeks later the animal died, and it was noted that no alteration in bone and cartilage had occurred, but that a localized villous synovitis was present in the immediate vicinity of the tube.

Experiment 5 (*Old Series*).—A glass tube containing 0.15 mg. of radium bromide was introduced into the suprapatellar pouch of the right knee-joint of a rabbit. Fourteen months later the animal was killed. The radium tube had created for itself a deep pit above the trochlear surface. Slight osteo-arthritic changes were present. An interesting feature was the fact that the patella had become dislocated, and lay upon the outer side of the femoral condyle. Here an articular surface had developed for the patella with a covering of newly formed articular cartilage (Fig. 4).

B. *Experiments with Radium contained in Platinum Tubes.*

Experiment 2 (*New Series*).—The left knee-joint of a rabbit was opened from the inner side under scrupulous aseptic technique, and three platinum tubes containing radium were introduced as follows:

Platinum tube No. 151, containing 1.2 mg., into the outer part of the suprapatellar pouch.

Platinum tube No. 152, containing 0.50 mg., into the lower and anterior part of the joint.

Platinum tube No. 153, containing 0.51 mg., into the inner part of the suprapatellar pouch. Total 2.21 mg.

After an interval of several weeks the animal developed acute destructive suppurative arthritis of a fulminating type, which necessitated its destruction. It is highly improbable that the infection was introduced at the time of the operation owing to the interval that elapsed.

Experiment 1 (*New Series*).—The left knee-joint of a rabbit was opened from the inner aspect, and platinum tube No. 150, containing 2.44 mg. of radium, was introduced into the joint. The animal was killed eleven months later, and the following conditions were observed (Fig. 2). A condition of chronic arthritis of mixed type or "rheumatoid arthritis" had developed. The radium tube lay in front of the crucial ligaments. The articular ends of both tibia and femur were considerably enlarged from inflammatory thickening of the periosteum. Considerable destruction of the articular surfaces of both femur and tibia had occurred, associated with the formation of chondro-osteophytes at the articular margins. This formation of new bone was particularly well marked from the antero-internal part of the internal tibial condyle, where a very large osteophyte had developed (see drawing). Adhesive ankylosis occurred in places between the adjacent surfaces of the femur and tibia. The synovial membrane was inflamed, and in places invaded the articular surface in the form of pannus.

Experiment 4 (*New Series*).—The left knee-joint of a rabbit was opened from the inner side. Two platinum tubes, one containing 0.22 mg. and the second 0.24 mg. of radium bromide, were introduced into the joint cavity (suprapatellar pouch). The animal was killed fourteen months later, and the following interesting conditions were observed (Fig. 3).

The joint was enormously enlarged, partly from a fluid swelling occupying the inner part of the joint and partly from a hard tumour-like mass growing from the lower end of the femur and projecting backwards into the popliteal space, but also inwards. On carefully opening the joint it was seen that the fluid swelling on the inner side was an abscess cavity, containing thick, curdy, purulent fluid, and in which the radium tubes lay. Internally the cavity had a dense fibrous wall, whereas externally the wall of the abscess cavity was formed by the enlarged lower end of the femur. In sagittal section the shape, size, and general relations of the tumour are demonstrated clearly. It is seen to be developing principally from the inner and posterior aspects of the lower end of the femur; to be of a somewhat dense and compact consistency, and to be covered externally by a tough periosteal envelope. Histologically the tumour is clearly an ossifying periosteal sarcoma which has originated from the periosteum covering the intra-articular portion of the diaphysis and the adjacent portion of the epiphysis of the internal femoral condyle.

I am indebted to Professor H. M. Turnbull, Director of the Pathological Institute, London Hospital, for the following report upon the tumour:

The peripheral portions of the mass for a considerable depth consist of a very cellular tissue that is invading and destroying muscle. The cells are spindle-shaped, triangular, polygonal, and spherical, vary greatly in size, but are for the most part large. Deeper in the mass very numerous swollen collagenous fibres appear among the cells, and gradually enlarge to form a close irregular meshwork of very narrow osteoid trabeculae. As still deeper layers are followed the trabeculae become gradually stouter, and enclose larger medullary spaces, in which lie essentially similar, usually degenerated, cells; these trabeculae are of coarse-fibred bone, are for the most part necrosed, and are arranged very irregularly. In the section from the maximal convexity of the mass some large medullated nerves are included in this tissue, and the adventitia of an artery is replaced by the polymorphic cells. The femur as it touches the mass is cut tangentially; the mass replaces the periosteum, but the corticalis is neither necrosed nor interrupted. The medulla of this portion of femur is, however, filled with a close meshwork of trabeculae of necrosed coarse-fibred bone, with some superimposed finely fibrillated bone or osteoid tissue; the medullar spaces contain the polymorphic cells, and these cells show extensive degeneration and necrosis. Similar cells fill some of the inner Haversian spaces and canals of the corticalis. There are a considerable number of leucocytes within the mass and in places close to it; there are leucocytic thrombi in some large vessels near the mass, and there is much perivascular infiltration with plasma cells in the muscle at a distance from the mass.

The conditions to be separated for a diagnosis are: (1) inflammation leading to bone formation, (2) callus formation following trauma, and (3) neoplasm. The features which I have tried to sketch in the description, particularly the wide peripheral zone of destructive cellular infiltration, make, I think, the diagnosis of osteo-sarcoma undoubted. There is some inflammatory infiltration in the mass and in the tissue beyond the mass, but this infiltration is relatively insignificant, and is such as is frequently found in association with malignant neoplasms. The sections alone do not suffice to settle the origin of the growth, but, taken in conjunction with your pictures, there can be little doubt that the sarcoma arose in the periosteum of the femur, and had invaded the medulla nearer the centre of the mass than the site of the section that includes femur.

I conclude that the condition is an osteo-sarcoma of the periosteum of the lower end of the femur.

It is not claimed that these experiments are anything more than suggestive, and it is obvious that confirmatory evidence will be necessary. The first fact that demands our notice is that, in the series of experiments with small quantities of radium contained in glass tubes, the reaction of the joint elements was slight or moderate and took the form of proliferation of the better nourished edges of the articular cartilage or synovial hypertrophy in the vicinity of the tube. The experiments were conducted under rigid aseptic technique, and suppuration did not occur. The localized proliferations at the edges of the articular

A. G. TIMBRELL FISHER: ARTHRITIS AND NEOPLASM PRODUCED BY RADIUM.

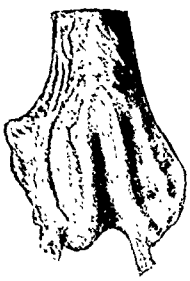
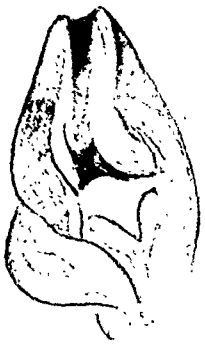
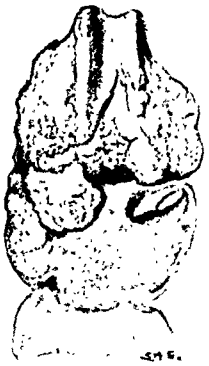


FIG. 1.—*Left* knee joint of rabbit. Tube containing 0.0382 mg. of radium fixed in contact with inner margin of condyle. Growth of cartilage after nineteen weeks. (Experiment 20, old series.)



Right knee.



Left knee.

FIG. 2.—Rabbit A. 2.44 mg. of radium bromide were introduced into the left knee-joint. Animal died eleven months later. A subacute arthritis is present with a mixture of degeneration and marked bony hypertrophy. The articular ends are greatly enlarged, and below and internal a large detached osteophyte is present. Associated with the degeneration of the central poorly nourished portion of the articular cartilage is definite proliferation of the better nourished lateral portion. (Experiment 1, new series.)

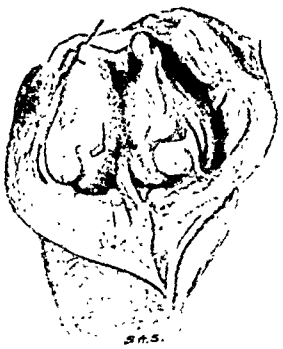


FIG. 4.—Osteo-arthritic changes in knee-joint of rabbit. (Experiment 5, old series.)





FIG. 3.—Periosteal sarcoma growing from the lower end of the femur. Sagittal section of knee-joint (natural size). (Experiment 4, new series.)

M. R. DRENNAN: THE AURICULO-VENTRICULAR BUNDLE IN THE BIRD'S HEART.



FIG. A.—Photograph of the A-V bundle, between the auriculo-ventricular openings (ostrich heart). P.=Pulmonary artery. A.=Aorta. R.O.=Right auriculo-ventricular orifice. B.=Bundle. L.O.=Left auriculo-ventricular orifice.



FIG. B.—Photograph of the right side of the dissected ostrich heart, showing the A-V bundle.



FIG. C.—*Photograph of the left side* of the dissected ostrich heart, showing the termination of the left branch of the A-V bundle in a complex network under the endocardium.



FIG. 1.—Showing two posterior grafts six months after implantation as thin osteo-periosteal shavings.



FIG. 2.—Showing consolidation of grafts one year after operation, and after using foot for six months. Note commencing equinus deformity due to faulty implantation of grafts and unequal growth at lower end of tibia.



FIG. 3.—Taken two months later, showing fracture of graft and further equinus deformity in tibia.

BERNARD HUDSON: A CASE OF ARTIFICIAL PNEUMOTHORAX.

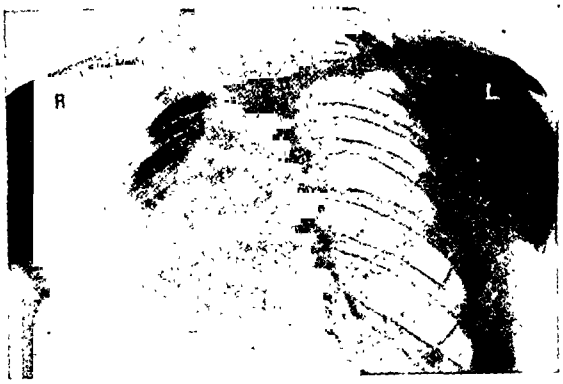


FIG. 1.

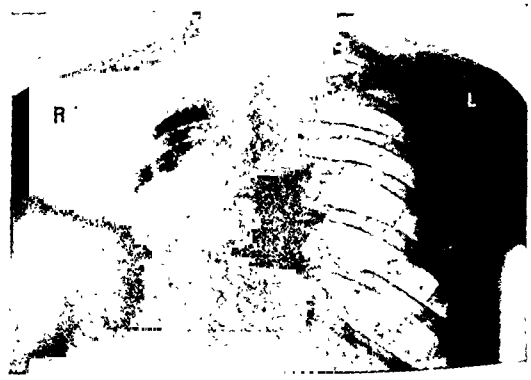


FIG. 2.

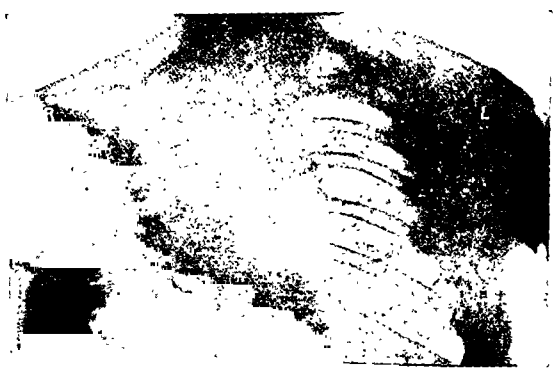


FIG. 3.



FIG. 4.

cartilage were similar to those seen in osteo-arthritis, particularly in the more localized "traumatic" forms.

In the second series of experiments, with larger quantities of radium contained in platinum tubes, a striking fact was the severity of the reaction. Although scrupulous aseptic technique was used, suppuration occurred in a large proportion of cases. It is probable that the suppuration was not introduced at the time of the operation, but was due to auto-infection, for it is known that bacteria settle in damaged tissues.

In Experiment 2 (new series) the total quantity of radium in the three platinum tubes introduced into the left knee-joint of the rabbit was 2.21 mg., and acute destructive arthritis of fulminating type supervened.

In Experiment 1 (new series) one tube containing 2.44 mg. of radium was inserted into the joint, and at the end of eleven months a marked degree of chronic arthritis of "rheumatoid arthritis," with a combination of destruction and hypertrophy, was found.

In Experiment 4 (new series) two platinum tubes containing a total quantity of 0.46 mg. of radium were inserted. At the end of fourteen months a localized abscess was found combined with a large sarcomatous growth.

We have already noted that in the experiments with radium contained in glass tubes changes akin to localized osteo-arthritis accrued. In the three experiments with radium in platinum tubes the results may be summarized as follows:

Experiment 2: Acute suppurative arthritis.
Experiment 1: Subacute arthritis of mixed type similar to "rheumatoid arthritis."
Experiment 4: Localized abscess and sarcoma.

It would be rash to form conclusions from a small series of experiments, but it would appear that the smaller quantities of radium contained in the glass tubes caused proliferative changes only. The larger quantities of radium contained in the platinum tubes caused destructive changes, whereas the smaller quantity in Experiment 4 caused the marked and irregular proliferation of a malignant growth. The resistance of the animal and the time factor are, of course, important.

THE AURICULO-VENTRICULAR BUNDLE IN THE BIRD'S HEART.

(With Special Plate.)

BY

M. R. DRENNAN, M.A., M.B., F.R.C.S.E.

(From the Anatomy Department of the University of Capetown.)

In fishes, amphibia, and reptiles the muscular wall of the auricles of the heart is continuous with that of the ventricles. In mammals the muscular continuity is almost completely interrupted by the fibrous auriculo-ventricular rings. The very attenuated auriculo-ventricular bundle (bundle of His) is the only direct neuro-muscular connexion between the auricles and the ventricles. The existence of this structure, in a more or less definite form, has now been demonstrated in the whole mammalian group.

In the heart of the bird, however, the presence of the bundle of His has not, so far as I am aware, been established. Keith and Flack (1907), in an important paper dealing with the "Muscular connexions of the primary divisions of the vertebrate heart,"[1] seemed to have no doubt that there was an auriculo-ventricular bundle in the birds' hearts which they examined. On the other hand, Mackenzie and Robertson (1910), in a paper dealing with "Recent researches on the anatomy of the bird's heart,"[2] state emphatically that "in the bird's heart there is no bundle of His, or other specialized form of muscle tissue connecting the auricles with the ventricles." These same authors state that "Tawara's monograph leaves the impression that the bird's heart resembles the mammalian heart in the possession of a special muscle system. He refers to fibres of the Purkinje type in the region of the blood vessels (of the bird's heart)." Dr. Alexander Morison (1912), in his paper "On the innervation of the sino-auricular node,"[3] states in his argument that in birds "most investigators have failed to find the auriculo-ventricular bundle; not that this fact proves its absence."

The presence or absence of this structure in the bird's heart would seem, therefore, to be "not proven." Yet it seems to me that it is very important that an attempt should be made to decide this question. If the bird's heart can dispense with a bundle of His, it suggests that the physiological importance of the bundle is perhaps being overrated in the mammal. On the other hand, if the bundle can be proved to be present, it brings this heart and its contractile phenomena more into line with that of the mammal, and adds to the significance of this structure in cardiology.

Most workers hitherto have relied on the findings from a microscopical investigation of the hearts of small birds, but it would appear that such an examination is unsatisfactory from the fact that the bundle fibres, if they exist, appear to be little differentiated from the ordinary heart muscle. Keith and Flack[1] state that in birds they "have been unable to find any differentiation of fibres in the bundle; the guide to it being its position and its definite demarcation by fibrous tissue. In the birds' hearts examined (sparrows and goldfinch) the A-V bundle arises from the auricular ring and dives at once into the interventricular septum."

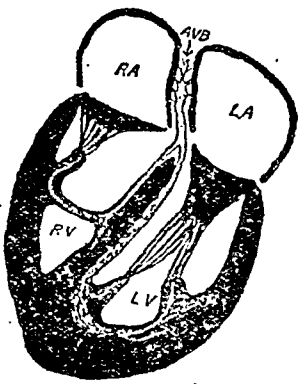


FIG. 1.—Scheme of the distribution of the A-V bundle in the human heart.

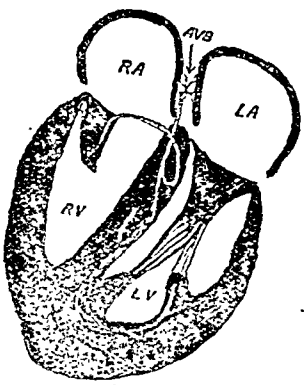


FIG. 2.—Scheme of the distribution of the A-V bundle in the ostrich's heart.

I have recently dissected five ostrich hearts with a view to determining whether any trace of a bundle could be detected with the naked eye. The size of these hearts—they are as big as a small ox heart—gave promise that, if there was a bundle, it would be of tangible size. In all of these hearts I have been able to demonstrate a structure which is probably homologous and analogous to the auriculo-ventricular bundle in the mammal.

This structure is not so easily defined as the auriculo-ventricular bundle in the ox, but it is nevertheless as definite as the auriculo-ventricular bundles which I have been able to trace out in the human heart. It arises in the same region as the mammalian bundle, but there is no sign of any definite auriculo-ventricular node at its commencement. In several of the hearts, however, I was able to make out a rich nerve supply to this region from the right coronary plexus. At its commencement this structure is pale and delicate, varying in thickness in the different hearts examined. It is best made out by approaching it from behind, by separating the right and left atrial walls in the region of the interauricular septum (see Plate, Fig. A). It passes through the medial aspect of the right auriculo-ventricular fibrous ring, just under the endocardium, to which it is adherent. As soon as it reaches the interventricular septum it plunges deeply into its substance (see Plate, Fig. B), and runs obliquely towards the left side of the septum. Here, on the septal wall of the left ventricle, it divides at once into a large number of branches, which form a network just under the endocardium (see Plate, Fig. C). The distribution of this part of the avian bundle is very similar to that of the left branch of the mammalian bundle.

In the ostrich heart there is no branch of this bundle tissue having a distribution similar to that of the right

branch of the mammalian bundle—namely, running down the right side of the interventricular septum to the moderator band, etc. (see Fig. 1). There is a branch, however, which is analogous to this one, but it takes a very different course. As the avian bundle passes through the interventricular septum it gives off a branch, which runs in a curved direction to the left, then upwards and to the right, to end in that wonderful single muscle valve which in the bird's heart takes the place of the mammalian tricuspid (see Fig. 2). This avian muscle valve consists of a wedge-shaped mass of muscle, which extends from the upper limit of the right auriculo-ventricular opening to its lower part. It is situated on the lateral aspect of the opening, and it becomes closely applied to the septum when the right ventricle is in systole. It has no chordae tendineae nor musculi papillares. This marked difference in the arrangement of the right auriculo-ventricular valve in the bird, as compared with the mammalian tricuspid, accounts for the very different course taken by the right branch of the bundles in the two hearts. On the other hand, the similarity between the avian and the mammalian mitral valves, and the almost identical distribution of the left branches of avian and mammalian bundles, has its significance. From the above considerations it looks as if the avian and the mammalian bundles have a similar function.

The general naked-eye characters of the auriculo-ventricular bundle vary very much in different mammals, and even in different individuals of the same species. In the ox heart the bundle is relatively thick, smooth, and rounded, and more like muscle tissue than the human bundle, which is thin, ragged, and pale, like a fine nerve fibre. In the ostrich heart the bundle is more like glistening fibrous tissue. This shiny appearance is more marked on the left side of the bundle than on the right, and on this aspect the bundle is easily separated from the heart muscle. Elsewhere the bundle is adherent to the muscle fibres, and it presents a ragged appearance when dissected out. Within the septum the bundle tissue gives off several fine white branches to the heart muscle in addition to the curious right branch already described. The individual variations of the several bundles dissected out in the five ostrich hearts are very considerable, especially as regards size and definition of the bundle system.

CONCLUSION.

The ostrich heart presents a system of fibres which is somewhat similar to the auriculo-ventricular bundle of the mammalian heart. The distribution of this system is such as to indicate that it has a similar function to the bundle of His—in short, that it constitutes a true avian auriculo-ventricular bundle.

REFERENCES.

[1] *Journ. Anat. and Physiol.*, vol. xli, 1907. [2] BRITISH MEDICAL JOURNAL, 1910, vol. ii, pp. 1161-1164. [3] *Journ. Anat. and Physiol.*, vol. xlvi, 1912.

THE OSTEO-PERIOSTEAL GRAFT IN DANGLE-FOOT.

(With Special Plate.)

BY

JOHN GILMOUR, M.S., F.R.C.S.,

HONORARY ASSISTANT SURGEON, ROYAL VICTORIA INFIRMARY, NEWCASTLE-ON-TYNE; ORTHOPAEDIC SURGEON, W. J. SANDERSON HOME FOR CRIPPLED CHILDREN, GOSFORTH.

IN *Surgery, Gynecology and Obstetrics* for February, 1926, Professor Rutherford Morison and Dr. William Mackenzie describe an "operation for dangle-foot" in which they use osteo-periosteal grafts to stabilize the ankle-joint. These grafts are taken from the patient's tibia, and are implanted to form osseous ligaments between the tibia and fibula above, and the astragalus and os calcis below. Two procedures are described:

(1) *Posterior grafts*—extending from the back of the tibial and fibular epiphyses to the sides of the os calcis below.

(2) *Lateral grafts*—stretching from the outer aspects of the malleoli above to the peroneal area of the os calcis externally, and to the inner aspect of the astragalus and os calcis below.

During the last year I have been associated with the authors at the W. J. Sanderson Home for Crippled Children at Gosforth, and I have had repeated opportunities of examining the efficacy of these procedures in fixing the ankle and subastragaloid joints, and of extending the principle in other directions. Time has shown that uniformly good stabilization is secured, and evidence is accumulating to demonstrate the superior value of the method.

In a number of cases of flail-foot astragalectomy had been performed to produce fixation, but the results were generally disappointing. It was found that there was a marked tendency for the foot to become fixed in a varus position, due partly to the over-development of the os calcis externally, partly to the irregular development of fragments of cartilaginous bone in place of the astragalus, and partly to the natural shortening of the longitudinal arch of the foot on the inner side after astragalectomy.

Other operations in which bone is removed to shorten the tarsus, and to arthrodese the astragaloid joints, are apt to leave the patient with feet that are unequal in size, and to present to him the ever-recurring problem of getting boots for feet which are not neighbours.

The paralytic foot is already often smaller than its fellow, and its bony tissue is thin and largely decalcified. For this reason alone it would seem to be better to fix such a foot by introducing bone, which may at the same time exert an osteogenic stimulus, than by removing it.

The illustrations show how remarkable is the growth of bone from the thin osteo-periosteal shavings which were used as grafts in these cases. The purpose of this communication, however, is to draw attention in this operation to the importance of accuracy in the process of embedding the grafts, and to illustrate the interesting though undesirable results which occurred in one case where the graft extended beyond the tibial epiphysis and gained an attachment over the epiphyseal cartilage to the diaphysis.

The case is that of a boy, aged 14 years, who had a paralytic dangle-foot on the left side. For this disability two posterior osteo-periosteal grafts were implanted on January 19th, 1925. Radiographic examination showed the grafts in position but reaching up over the epiphyseal "line." After fixation for six months the plaster-of-Paris casing was removed and the foot was again radiographed. Fig. 1 shows the two posterior grafts behind the ankle and subastragaloid joints. Their upper limits appear as bony shadows beyond the tibial and fibular epiphyses, the lower ends are seen to be blending with the bony texture of the os calcis. It is important to notice that the long axis of the tibial shaft is at right angles with the plane of the "epiphyseal" cartilage.

The boy was now (July 1st, 1925) permitted to walk about on this foot with no other support than the grafts. Fig. 2 is a radiogram taken six months later (December 9th). It shows how the grafts have become consolidated, and how the bones have increased in density. The upward extension of the grafts beyond the epiphysis is clear. Clinically, there was good fixation at the ankle, but a mild degree of equinus deformity. The radiogram shows this distinctly: the shaft of the tibia no longer makes a right angle with the plane of the epiphyseal cartilage, but is inclined backwards from it in a manner which is comparable to the inward deviation of the femoral shaft to its lower epiphysis in cases of genu valgum. This can only be due to the freer growth of bone at the front of the tibial epiphyseal cartilage, the posterior region having been fixed down, as it were, by the binding pressure of the grafts.

The ultimate result in this case would naturally be spoilt by the further development of this bony deformity causing a fixed equinus. Indeed, it is possible that the amount of equinus already present was enough to cause this boy to jar his foot and fracture one of the grafts two months later. Attention was called to the fact by his complaint of pain at the back of the ankle, and the third radiogram (Fig. 3) shows this condition (February 11th, 1926).

The presence of pain and the fracture in the graft are recorded as interesting features of this case, since radiographic examination of other cases occasionally shows clear areas in the graft without there being any history of pain in the neighbourhood. It is not yet certain that these areas of rarefaction are fractures; they may be, but it is fortunately true that their appearance has not interfered with the clinical results. The radiogram shows very clearly the increasing tibial deformity. Professor Morison's instruction that the grafts should extend up to but not over the

epiphyseal line is seen to be of primary importance. They are to be used as osseous ligaments, and should retain sites of implantation corresponding with ligamentous attachments. In the neighbourhood of growing epiphyses due regard must be paid to the laws of growth. This case may therefore be looked upon as an instance of the extraneous fixation of the epiphysis to the diaphysis (by a graft), which the late Sir William Macewen showed would interfere with or prevent normal linear growth.

A CASE OF ARTIFICIAL PNEUMOTHORAX.

(*With Special Plate.*)

BY

BERNARD HUDSON, M.D.CANTAB., M.R.C.P.,

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A MAN, aged 26, was under treatment for eighteen months (1922-23) for pulmonary tuberculosis affecting the upper lobe of the right lung. Recovery was excellent, and, by the sanction and advice of his doctors, he went to Kenya Colony in September, 1924, and invested in a farm there. The place suited him, and all went well until some months ago, when he became very ill, apparently (as far as can be made out from the history) with an acute exacerbation, which spread rapidly through the right lung, but chiefly affected the base. He saw a doctor, who advised him to get away as quickly as possible, and go straight to Davos-Platz. He arrived here under my care on February 22nd, 1926. He was exceedingly ill on arrival, the daily temperature varying from about 99° in the morning to 102° and over at 7 p.m. (taken by the mouth). He had a racking cough, and was bringing up a large quantity of sputum loaded with tubercle bacilli; he had lost about 2 st. in weight, and was looking a typical picture of what is known as "galloping consumption."

On examination the whole of the right lung was dull, and the lower half absolutely so; the whole lung was full of moist râles, and at the base there was *loud bronchial* breathing, increased vocal resonance, and increased vocal vibrations. Some moist crackling râles were heard in the upper lobe of the left lung, and the disease apparently had well started in this lung.

The radiographic appearance (Fig. 1) showed extensive trouble in the right lung, cavitation at the apex, and a dense black shadow in the lower part. It will be seen that the heart is drawn well over to the right side; the left lung shows commencing tubercle in the upper lobe. The appearance of this radiograph made me consider the possibility of an effusion at the right base, and I accordingly explored with a large-bore needle, but got nothing out. As the patient was obviously going downhill, and showed no signs of any improvement, I thought it worth while to see if it would be possible to establish an artificial pneumothorax on the right side, although there seemed very little hope of being able to do so, because of the probable presence of strong adhesions. However, on March 13th an attempt was made, and, to my great astonishment, a free space was found at once, the manometer swinging well, showing a strong negative pressure; 150 c.cm. of air only was introduced and a small initial pocket made. This amount of air sufficed to raise the pressure from a negative one to a strongly positive one, the pressures being as follows:

Induction	−2 −6	...	150 c.cm.	...	+2 −4
March 16th	−2 −6	...	200 c.cm.	...	0 +3
March 21st	−2 −7	...	300 c.cm.	...	+1 −4

A radiograph taken shortly afterwards showed the production of a small pocket (Fig. 2). Two more insufflations were made, the results being as follows:

March 31st	−2 −7	...	300 c.cm.	...	0 −3
April 10th	−3 −8	...	500 c.cm.	...	0 −1.5

The fillings were continued at intervals of a fortnight, about 600 c.cm. being introduced each time, and the radiograms (Figs. 3 and 4) show the development of a fair-sized artificial pneumothorax in the lower part of the right lung, many adhesions having given way, but leaving two or three powerful bands, which are very plainly seen in the illustrations.

An interesting point is that after the third insufflation the patient remarked that he felt his heart once more beating on the left side instead of on the right. On inspection of Figs. 3 and 4 it will be seen that the heart, which was formerly drawn over to the right side by adhesions, has returned to its proper position on the left.

July, 1926.—The pneumothorax, although only a partial one, caused an undoubted and pronounced improvement in the patient's condition. The cough and expectoration have very much diminished, the pulse rate, instead of being 120 to 130, is now running at about 80, the breathing is easier and quieter, and the temperature has come down. The patient is now getting up for a short period each day without any ill effects. The signs in the left lung are diminishing in extent and intensity.

February 1st, 1927.—The further progress of this case is as follows: The patient kept very well all through the summer, and was able to take moderate exercise, the temperature being always quite normal, and the cough and the sputum diminished. The general condition improved considerably, and he gained weight. Fillings were continued every three weeks, the pneumothorax cavity gradually increasing in size, and the adhesions thinning and stretching. On January 17th the patient's temperature began to rise again, and he developed pain on the side of the pneumothorax; this was shortly followed by the appearance of a small serous effusion, which is following the ordinary course of such effusions; and the patient is already improving daily. Incidentally it is of interest to note that with the establishment of this effusion the adhesions have given way, the pneumothorax now being nearly "complete"; the other lung is holding up in a very satisfactory manner.

I am indebted to Mr. P. G. Sutton, M.S.R., of the X-Ray Institute, Davos-Platz, for the radiographs.

PARAPLEGIA (MEGALOCYTIC) CURED BY *HYDROCHLORIC ACID.*

BY

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DIAGNOSIS in the following case was possible by measuring the average diameter of the red cells, and by that alone. Haematology, and all its complexities, gave no light. How forcibly this illustrates my favourite doctrine that simple recorded measurements in clinical medicine are richly rewarded, yet greatly neglected.

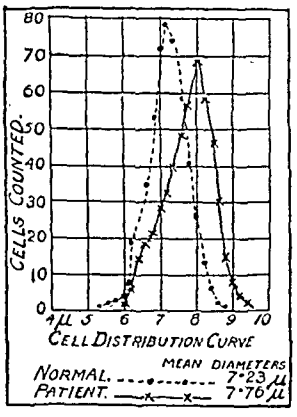
A florid, healthy, active young man of 37, a cargo superintendent, decent and clean living—noticed tingling in both legs up to the groins in January, 1925; later his hands tingled, he was drowsy, and had sacral pains, worse on walking. Next his ankles gave way, micturition became difficult, and the pavement felt like cotton-wool.

He was much worried sexually at this time by the exactions of his second wife, to whom he had been married a few months. In July he could no longer walk, and in August I saw him in consultation with Drs. Eddie and Robertson. I diagnosed posterior combined sclerosis, and he was admitted into the Royal Infirmary under my care. There he lay on the balcony for five months, and then went to the seaside under Dr. Sproulle. The plantar reflexes were extensor, knee-jerks absent, and he could not move his feet. Hydrochloric acid was not present in the test-meal secretions, and *x* rays were suggestive at first of pyloric new growth, but became normal after belladonna. Haemoglobin was 75 per cent., and the pathologist reported more than once that there was no evidence of pernicious anaemia. As he had had sore tongue before admission I still felt incredulous.

In view of the recent illuminating work of Dr. A. F. Hurst on this subject I ventured to send him a blood film and an outline of the case. At his instance, Dr. Hampson kindly carried out the measurements of

the red cells shown in the curve. Dr. Hurst wrote (February 18th, 1926):

"The average size of the red cells is increased, so that there is the megalocytosis which is characteristic of Addison's anaemia. We find not infrequently that in the early stages this is the only evidence of Addison's anaemia—a general examination pointing to quite normal blood or slight anaemia of a secondary type, but I believe the megalocytosis is conclusive evidence."



Presumably the interpretation of the case is that, owing to the absence of hydrochloric acid, his intestines became infected with some germ which is capable either of producing the haemolysis of pernicious anaemia or of causing the degenerative changes in the spinal cord. Probably the sexual exhaustion was a factor in deciding the incidence on the spinal cord; for doubtless our medical forebears had good reasons for attributing tabes to sexual excess before its syphilitic nature had been ascertained.

Treatment.

He had four teeth extracted, and massage. He drank half a pint of hydrochloric acid three times a day after food, and must continue to do so all his life, as the deficiency is doubtless congenital. Its strength is 5 drachms of dilute hydrochloric acid to the pint of sweetened water. He had twenty-four hours' fresh air every day for four months; besides sunshine, he had two hours a week of ultra-violet rays from three carbon arc lamps running at 30 per cent. over pressure, according to my system.[1] To the latter he himself largely attributed his cure. I find that they nearly always make a medical patient feel better—which is half the battle won. Hence they are a very useful addition to a general medical ward.

After a month or so in hospital he gradually improved, and walked after fifteen months' illness. His gait is now brisk, with only a hint of spasticity. He looks well, can run, and has been at work for three months clambering about ships. His legs and finger-tips still tingle. Haemoglobin is 100 per cent., sensation is normal, and the knee-jerks have returned, but the extensor plantar reflex persists.

"When once these cases are bedridden improvement is unusual"; so that his recovery is remarkable, and is due, I think, to the hydrochloric acid. Hitherto a case of this kind would be foredoomed to Addison's anaemia. It will be interesting to see if the hydrochloric acid habit will save him from this fate—of which he has been warned.

REFERENCE.

[1] BRITISH MEDICAL JOURNAL, October 3rd, 1925, p. 613.

HABIT FORMATION IN THE BLOOD VESSELS OF THE SKIN.

BY

P. B. MUMFORD, M.D., M.R.C.P.

SUPERFICIAL blood vessels appear to possess a property of retaining for a variable period an altered sensibility to stimuli, whether internal, external, chemical, thermal, mechanical, or nervous. A vessel by the constant use of its power of contraction or dilatation may acquire the habit of so responding to the same degree when the stimulus is lessened or when another form of stimulus is supplied. Hypersensitivity may remain in a skin vessel for a considerable period after the application of the original stimuli. Certain phenomena demonstrate these peculiar properties, but in mentioning them it should be realized that the alteration of reaction is not always specific and that there may be an altered response to other forms of stimuli.

A. *Mechanical Stimulation.*—When an area of skin is subjected to a pressure of about 2 lb. by stroking with a round bobbin of wood the vascular changes, active and passive, which follow will disappear within a few minutes. If the skin be now immersed in *hot* water it will be found that the line of the stroke reappears as an area of more marked erythema than the surrounding skin. The line represents an area of hypersensitivity. The line shows also a much slower return to normal.

B. *Thermal Stimulation.*—Prolonged exposure of the skin to heat will often leave vessels very responsive to stimulation. A stoker who had been accustomed to wear a singlet which covered the lower chest and abdomen showed a very marked response to dry and moist heat; the response was especially deep over the exposed areas. Similar excessive vascular dilatation is to be found in many other persons who make a continual demand on the skin for heat excretion power. Hyperthyroidic individuals flush up very freely in heat. One of the "excuses" generally given for the morning cold bath is that by exposure of the body to a sudden cold medium the arterioles and capillaries of the skin are taught to react quickly and actively. By the phrase "acclimatization" is meant the adjustment of the superficial blood vessels to changed surroundings and changed metabolic level.

C. *Chemical Stimulation.*—When an area of skin has been chemically irritated there may remain for a considerable period an oversensitiveness of that area even though all trace of lesion has gone.

A woman who had had a severe fur dermatitis on the neck returned in three weeks with severe irritative dermatitis over the same area of skin; apparently it had followed the exposure of the neck to very cold winds. After this had settled down she again had a severe relapse over the original areas due to the use of carbolic soap. In each case the relapse had followed the exposure of the whole face and neck, and yet the only portions of skin affected were those which had been left in a hypersensitive condition by the original fur dermatitis.

D. *Infective Stimulation.*—The skin around areas of mild inflammation (acne follicles, pustules, etc.) shows a more marked response when subjected to mechanical irritation than do the intervening areas. For example, in a case where there had been a bromide eruption the areas where there had been lesions developed an urticarial response when they occurred in the path of a heavy flat stroke stimulus. When the whole body was immersed in warm water the areas of injury stood out as points of deeper erythema. Patients suffering from acne rosacea will often volunteer the information that a heated room causes the sites of disease to reappear after their apparent cure. This apparent manifestation of "habit" cannot altogether be explained as due to the fact that areas of infection are of higher temperature (Lewis), since they are found when all traces of disease have disappeared. The temperature change may, however, explain the development of wheals over patches of acute seborrhoea when the whole skin is rubbed or heated. A simple experiment to show that after the subsidence of infection there is some change in vessels is found in the warming of the skin of a person who has just recovered from impetigo: the areas are shown up as of deeper erythema mapped out on the unaffected skin.

E. *Nervous Stimulation.*—After the complete disappearance of all signs of the eruption of herpes zoster in a young man, areas where lesions had been present were found to remain excessively active in their response to heat stimulation. Urticarial papules may reappear frequently at one point of the body, and the mildest of external or internal stimulation may be sufficient to cause whealing—for example, a mosquito bite on the hand of a middle-aged medical man left such a sensibility for at least eight years; the least provocation, such as temporary ill health or overwork, will cause the lesion to become irritable and raised. Darwin has noticed that blushing will occur in areas which are the subject of constant thought. He quotes the example of a pianist with rather ungainly hands who blushed from the mid-forearm downwards whenever hands were mentioned or even when he thought of them. Blushing can certainly become a vascular habit.

F. Light Stimulation.—In Finsen's original experiments on the effect of light on the skin he noted that even after six months' absence from stimulation by light the areas when rubbed showed an increased response to stimulation. This phenomenon is often seen in those who have been sunburnt and who have returned to normal colour. Heat, mechanical, and even emotional stimuli may be sufficient to cause the reappearance of the erythema originally produced by the light.

Conclusion.

It should be realized that continuous dilatation of capillaries and arterioles if persisted in will produce a paralysis of vessel wall, for all contractility to cold and mechanical stimulation has been lost. The acquisition of healthy vascular habit on the part of the blood vessels of the skin which are liable to lose tone or capacity for response is made use of in the alternate hot and cold douching employed in the treatment of pernio. There is an experimental basis for such treatment, and especially so if pernio be regarded as merely an exaggerated physiological response in an unbalanced individual.

The most important conclusion to be drawn from the above remarks is that vessels can acquire a "bad habit." We have a rational basis for regarding relapses in certain forms of skin trouble as being due to a non-specific sensitization. This is of marked legal significance when considering capacity for work of persons who have suffered from "trade" dermatitis.

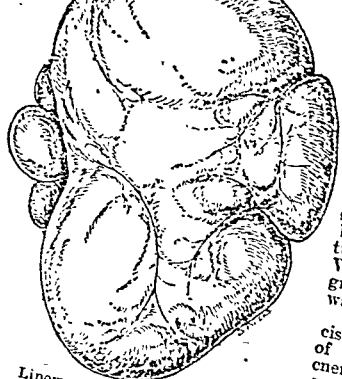
Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

INTERMUSCULAR LIPOMA OF THE CALF.

A LIPOMA may take origin from almost any structure in the body, but an interesting example may yet be sufficient to arrest the attention of readers.

A married lady, aged 41, for eleven years had watched the progressive increase in the circumference of the calf of the right leg; her anxiety increased in direct proportion to the rate of fashionable change in the length of ladies' skirts, though the limb was not rendered unsightly or misshapen; apart from an obvious diffuse enlargement of the calf the contour of the limb remained that of the normal one. The greatest circumference of the affected limb exceeded by six inches that of the opposite.



Lipoma, one-third actual size

Pain and stiffness on movement were entirely absent. Elevation of the limb did not decrease the swelling, but it hardened with contraction of the calf muscles, indicating that it either involved the muscles themselves or was covered by those structures. There was increased resiliency in the affected calf as compared with the other. X-ray examination showed no bone changes, but the outline of the tumour was distinctly seen. With the provisional diagnosis of lipoma, operation was advised.

Through a curved incision on the medial aspect of the calf the gastrocnemius and soleus muscles were displaced laterally and a large lipoma was revealed lying between the superficial and deep groups of muscles; its pedicle arose from the interosseous membrane. The tumour after removal measured 7 by 5 inches and weighed 1¾ lb. It had been moulded, presumably by the tension and action of the muscles, so as to preserve to perfection the normal configuration of the calf.

The patient made an uninterrupted recovery; but the circumference of the affected limb was still one inch more than that of the normal one, due most probably to two factors—oedema and hypertrophy of the muscles.

I have to express my indebtedness to Professor E. W. Hey Groves for permitting me to publish this case.

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CARCINOMA OF THE HEART.

I WOULD like to put on record a case of primary squamous-celled carcinoma of the wall of the left ventricle of the heart.

An old woman, aged 77, was admitted to the Tooting Bec Mental Hospital on August 28th, 1925, and died on December 25th, 1926, after suffering for five to seven days from hypostatic pneumonia. She was a typical case of senile dementia and ran a very common course for that condition. The heart was not suspected, but at the *post-mortem* examination a large white tumour, about the size of a hen's egg, was found in the anterior wall of the left ventricle. The whole of the alimentary tract was searched for a primary lesion, and a suspicious piece of lung and of cervix uteri were sent with the tumour to the Metropolitan Asylums Board research and pathological services. The pathologist reported that the heart tumour was a typical squamous-celled carcinoma; the cervix afforded no evidence of any tumour, and the lung presented some bronchopneumonia. To the naked eye the tumour showed some degeneration towards the centre.

London, S.W. THOMAS LINDSAY, M.D., F.R.C.S.Ed.

APPENDICULAR COLIC ASSOCIATED WITH TUBERCULOUS PERITONITIS SIMULATING ACUTE APPENDICITIS.

THE following unusual case seems of sufficient interest to merit publication.

A lad, aged 13, when admitted to the Booth Hall Infirmary, Manchester, had for twenty-four hours complained of severe abdominal pain. The onset was sudden; at first it was over the navel, but later it settled in the right side above the groin. He had vomited several times, and the bowels had not acted for two days. There was no history of a similar attack. He had been coughing for several days. The abdomen was rigid and tender, the tenderness being most marked in the right iliac fossa; McBurney's point was hyperaesthetic. The temperature was 101.2° F., the pulse was 104, regular and full, and the respirations 18. A simple enema was given, and the return contained a trace of faeces; no flatus was passed. Digital examination of the rectum showed considerable tenderness on both sides of the pelvis.—A diagnosis of acute appendicitis was made, and it was decided to operate. Ether was given by Pinson's bomb. A right para-median incision was made, the rectus muscle being pulled outwards instead of inwards. The peritoneum contained a small quantity of fluid. The appendix appeared to be quite healthy, but the mesentery was studded with tuberculous glands of rather recent origin. I removed the appendix and closed the abdomen. The lumen of the appendix was filled with threadworms.

The patient made an uninterrupted recovery from the operation, but a little later he complained of severe abdominal pain. Masses of enlarged glands were palpable in the abdomen. The temperature was hectic and the bowels costive. He began to vomit after meals, but I came to the conclusion that the pain and vomiting were due mainly to a neurosis. Suggestion was first tried as a cure, with only partial success; but the vomiting ceased entirely, and the pain became much easier after the patient had been shown and told the use of a stomach-tube.

Several months in bed on a balcony facing a large park, together with daily treatment with the tungsten arc lamp, have been beneficial; but the mesenteric glands have greatly decreased and his general condition greatly improved since the exhibition of tuberculin emulsion. He was sent to a sanatorium to complete the cure.

No threadworms were detected in his stools while he was in the infirmary.

Booth Hall Infirmary, Manchester. GERALD RALSTON, M.R.C.S., L.R.C.P.

MENINGITIS AS A COMPLICATION OF PREGNANCY.

MENINGITIS in pregnancy is said to be rare, but it seems to occur often enough to merit consideration in the differential diagnosis of eclampsia. During the last twelve months I have treated the following cases in the North Evington Infirmary, Leicester; both present points of interest.

CASE I.

Mrs. S., multipara, aged 26, whose previous health had been good, complained of a very severe headache for a week previous to admission, and, on the evening before admission, a commencing left-sided facial palsy was noticed by her doctor.

Examination showed that she was full-time pregnant, but not in labour. The pupils were dilated and the reaction to light was lost. There was slight but definite paresis of the left side of the face and some loss of power in the left arm. No classical signs of meningitis were present. The temperature was 102.6° F., respirations 44, pulse 124. A catheter specimen of urine measuring 18 oz. was acid, high coloured ("febrile"), and contained a faint trace of albumin. On lumbar puncture the cerebro-spinal fluid was seen to be very cloudy, and bacteriological examination showed the presence of the pneumococcus in pure culture.

Five hours after admission the condition was obviously hopeless. Quinine was administered, the os dilated manually, and a live

infant was extracted by high forceps. The mother died five hours later.

At the *post-mortem* examination the surface of the cerebrum was covered by thick, greenish pus. The pleurae, at both apices, were adherent to the chest wall, and the lungs were congested, but there was no consolidation or cavitation.

The infant lived for several weeks, and died of acute enteritis.

CASE II.

Mrs. E., multipara, aged 36, was admitted with a history of otorrhoea of several years' duration. She was seven months advanced in pregnancy. She had enjoyed normal health until five hours before admission, when she had two "fits" and became comatose and delirious. Her family doctor considered she was suffering from eclampsia, while another practitioner diagnosed the case as "mental."

On examination the temperature was 99.6° F., falling to 96° F., respirations 32, pulse 110, irregular. She was restless and noisy. The pupils were unequal and reacted to light; the reflexes unchanged, and marked retraction of the neck developed later on. The urine contained no abnormal constituent, and 41 oz. were passed in two days. There was a discharge from the *right* ear. On lumbar puncture the cerebro-spinal fluid was found to be purulent and was so thick that it could only drop slowly from the needle.

The patient died thirty-six hours after admission. Caesarean section was performed three minutes after death was certain, and a live foetus weighing 4 lb. was extracted.

At the *post-mortem* examination the lower surface of the cerebellum and medulla and pons and the surface of the temporo-sphenoidal lobe and insula were covered by a thick layer of greenish pus. The source of infection was the left middle ear, by way of the tegmen tympani. Part of the temporo-sphenoidal lobe appeared to be eroded, but there were no signs of a definite cerebral abscess. The causal organism was the pneumococcus.

Meningitis in pregnancy is most likely to be confused with eclampsia, which it may greatly resemble. The differential diagnosis is easy; examination of the urine and lumbar puncture clear the matter up. *Post-mortem* Caesarean section is so easy to perform that it needs no description and can hardly be dignified by the term "operation." It should be performed as soon as possible after death is certain. Care is necessary to avoid injury to the foetus, and the operation need not be unduly hurried.

I am indebted to Dr. E. C. Hadley, medical superintendent, for permission to publish these notes.

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British Medical Association.

CLINICAL AND SCIENTIFIC PROCEEDINGS.

SOUTH WALES AND MONMOUTHSHIRE BRANCH.

Stillbirths and Neo-natal Mortality.

THE winter meeting of the South Wales and Monmouthshire Branch was held at the Hotel Metropole, Swansea, on January 27th; in the absence of the President, Dr. R. Prichard, Dr. A. CLARKE BEGG occupied the chair.

Dr. T. EVANS, medical officer of health, Swansea, showed a chart of the number of children who died in Swansea each year during the thirty-five years ending 1925, arranged in averages of five years. During the first three periods the mortality rate had remained at approximately the same level, but between 1905 and 1909 this rate began to drop, and had continued to do so since. For the five-year period 1910-14 and afterwards the table was more instructive, as all stillborn infants became notifiable under the Notification of Births Act, 1908, and the death rate for children under one week of age could be included. These figures showed that no reduction had been made in the "stillbirth rate" during this fifteen-year period, and the rate for 1925 was even higher. The same held true for the "death rate under one week." On the other hand, the death rate in infants "over one week and under one year" showed a marked reduction, the 1925 figure (43) being well under half the average (96) for the 1910-14 period. Alongside the official infant mortality rates calculated on the number of living births, he showed what he called a "true infant mortality rate," including amongst the deaths the "dead births," and calculating the rate on both living and dead births combined. The beginning of the reduction of the official infant mortality rate coincided with the time of the appointment of the first superintendent of midwives and health visitor in 1904, and Dr. Evans considered that the education of mothers in infant care had been an important factor in the improvement. A table was shown compiled from inquiries made by the superintendent of midwives of the circumstances associated with 414 full-time, successive stillbirths in the town of Swansea. These circumstances had been classified in accordance with the classification of causes of death in the recent report of the Medical Research Council.

The classification of the causes in the table and the report was not strictly comparable, as in some of the Swansea cases instrumental delivery had been taken as the chief circumstance and they had been included under this heading, whereas they might possibly be more appropriately included under another, such as ante-partum haemorrhage. There was no classification in the Swansea cases under "placental state" as the superintendent of midwives could not make inquiries as to placental conditions. It was shown that 59 per cent. of the full-time stillbirths of Swansea were associated with instrumental delivery. There was a marked contrast between the Swansea figure for the neo-natal deaths under prematurity and that of the Medical Research Council, but this might be partly explained by the higher percentage in the latter report under "complications of labour." In conclusion Dr. Evans quoted an extract from the Medical Research Council's report advocating the practice of preventive midwifery as a means of reducing dead births and neo-natal deaths.

Treatment of Eclampsia in General Practice.

Dr. CELLAN JONES read a paper on the treatment of eclampsia in general practice, some of the observations being based on the result of six months' research work in Vienna. He said that eclampsia was a term used even in the time of Hippocrates, but unfortunately the early writers frequently confused true eclampsia with epilepsy complicating pregnancy, the two conditions being regarded as identical. In 1713, however, Amberg gave a report of a case which might be regarded as genuine. Reading critically through the literature of later times, several régimes of treatment were definable, each with its firm adherents. At the time when blood-letting was fashionable it was naturally applied to every case of eclampsia, and undoubtedly cured some cases which would otherwise have proved fatal. With the discovery of chloroform as an anaesthetic in complicated obstetrics its application for the control of convulsions in pregnancy naturally followed. It was only within the last half-century that surgery had made its most important strides, recovery after operation becoming the rule rather than the exception. Since also the obstetrician laid the blame for eclampsia entirely upon the foetus, the surgeon was encouraged in a third routine measure—the surgical treatment of eclampsia. This was the period of rapid Caesarean section, vaginal Caesarean section, and accouchement forcé in all its horrible branches. In the treatment of the pre-eclamptic state Dr. Jones said that he had adopted the Rotunda method almost in its entirety. The method was good, and had been responsible for a very considerable reduction in the mortality. The treatment adopted for the eclamptic state must be that which was least exhausting to a comatose patient with rapidly recurring and dangerous convulsions. Narcotics, usually in heroic doses, had been used for many years before Stroganoff of Petrograd employed them in a routine carefully regulated both as regards dosage and time of administration. He used morphine and chloral hydrate, and attached great importance to segregation in a quiet, darkened room, with avoidance of all forms of irritation. Generally speaking, Dr. Jones did not believe in venesection, and was opposed to all forms of interference with pregnancy. There were two fairly easily definable types of albuminuria in pregnancy. The first or nephritic type was gradual in onset; oedema was more often extensive, but there was little or no rise in blood pressure. There was little tendency to the onset of convulsions, but recovery was slow, and there was nearly always some permanent damage to renal function. In the second, or true pre-eclamptic, variety there was a much shorter history, and oedema might be trifling, but the blood pressure was almost always raised, and without treatment convulsions followed almost inevitably; should recovery occur there was seldom any permanent damage to

the kidneys. Other premonitory signs must be looked for, including the swollen face and puffiness affecting the hands, the lower abdomen, or the vulva. Headache, vomiting, drowsiness, and disturbances of vision were danger signals, and there should be no delay in the commencement of drastic treatment. The pre-eclamptic patient should be confined to bed as soon as her condition was discovered, and three ounces of mist. sennae co., with one drachm of magnesium sulphate to each ounce, should be given every eight hours. No food was allowed, but if vomiting occurred water or weak tea was permissible. The urine was collected and twenty-four-hour specimens measured. Large fluid consumption with purgatives must be continued until over forty ounces of urine were passed on two consecutive days. All being well it was then possible to begin with milk, leading up to milk puddings, fish, and other light diet. Unfortunately a large number of these cases were not seen in time; 20 per cent. occurred during labour, when the prognosis was least serious. The 60 per cent. beginning between the fifth month of pregnancy and term were more alarming, but most fatal of all were the 20 per cent. which began after labour was terminated. Morphine was given in sufficient doses to keep the patient moderately narcotized throughout its exhibition. Magnesium sulphate, by its synergistic action, enhanced the sedative effect of the comparatively small doses of morphine. Luminal had replaced chloral hydrate for two reasons: it was not a cardiac depressant like chloral, and it had in addition a specific dilating effect on the vessels of the brain. Venesection was recommended in practically every case where the blood pressure exceeded 140 mm. of mercury, and even this stipulation might be disregarded when the rectal temperature was high and the convulsions were frequent. A most dangerous preparation to use in eclampsia was pituitrin. With regard to labour complicating eclampsia, it was most important to realize that recovery varied inversely with manipulation. If the cervix was not dilated manual dilatation should never be employed, and version was contraindicated unless delivery was impossible without t. Forceps were permissible only to shorten the second tage, when the cervix was fully dilated and the presenting art almost on the perineum. Tables were shown giving e mortality (1) where delivery was natural, (2) when minor manipulations were used, and (3) in cases where forceps, Caesarean section, or accouchement forcé were adopted. Treatment of the convalescent stage was discussed and case histories mentioned in conclusion.

Partial Gastrectomy.

Mr. H. W. GABE demonstrated two cases in which partial gastrectomy had been performed for chronic gastric ulcer with success.

(1) A man, aged 41, had a history of ten years' abdominal discomfort, coming on about two and a half hours after food. Vomiting was frequent and relieved the pain; the vomit was of a brownish colour but never bright red. On occasions the pain was relieved by taking food. The periodicity of the attacks had been well marked, and dieting had no real relief. Constipation of the stools for occult blood had been gradual. Examination was noted, and loss of weight had been positive. The Wassermann reaction was negative, and the *x*-ray report stated that there was delay in the emptying of the stomach, with a penetrating ulcer on the lesser curvature near the pylorus. In spite of a Hurst diet and the administration of atropine, the patient lost weight steadily. Operation by Moynihan's method of partial gastrectomy was performed and an ulcer the size of a sixpenny piece was found present on the lesser curvature, near the pylorus, and adherent to the pancreas. Microscopical section showed it to be benign, with much fibrosis. For the last fifteen months since operation the patient had followed his work as an engine driver with regularity. The abdominal symptoms had disappeared entirely and his weight had increased from 8 st. 2 lb. on admission to 11 st. 4 lb. in January this year.

(2) A woman aged 40. She had had her first attack of indigestion sixteen years previously, with pain immediately after meals. The symptoms had recurred with regularity. Alkalis at first relieved the pain, and the appetite was good. The patient was much wasted, with a scaphoid abdomen; there was no local tenderness nor rigidity, and no tumour was felt. A test-meal analysis showed gastric function to be mainly of the normal type; there was rather prolonged secretion with some degree of hyperacidity, and the result was compatible with gastric ulcer. With a barium meal an hour-glass stomach was found; the stricture dividing the stomach was placed about midway between the cardiac and pyloric orifices. There was also definite scarring of the anterior wall of the first part of the duodenum. An operation by Moynihan's method of partial gastrectomy was performed, the distal pouch of the stomach and the appendix being removed. About nine small ulcers were seen in the specimen of the stomach. The ulceration appeared to be confined to the mucous membrane, and section of the ulcer showed a subacute form of inflammation between the gastric gland acini. There was no evidence of malignancy. The patient was now on ordinary diet, suffered no discomfort, and was putting on weight steadily.

Mr. H. E. QUICK gave a demonstration of the slit-lamp associated with the names of Gullstrand and Vogt. This apparatus was primarily an instrument combining brilliant critical illumination of the tissues of the living eye, with a binocular microscope.

Reports of Societies.

RENAL HAEMATURIA.

AT a meeting of the Section of Surgery of the Royal Academy of Medicine in Ireland, on January 14th, with the President, Mr. ANDREW FULLERTON, in the chair, Sir ARTHUR BALL read a paper on renal haematuria.

Sir Arthur Ball first commented on the serious import of this symptom, and then gave an account of the difficulties frequently met with in diagnosis; he showed how serious the result might be when there was delay in exploring a kidney which had been proved to be the source of the haemorrhage. This was illustrated by the notes of five cases. The function of the other kidney, and the total power of excretion, should be estimated previously, so that, if necessary, nephrectomy could be performed without hesitation. Details were then given of three cases in which the kidney was found apparently normal when exposed for haemorrhage, and the paper concluded with a brief review of the hypothesis as to the origin of "adrenal rests" and tumours of the kidney.

Mr. A. A. MCCONNELL emphasized the importance of examining a patient by cystoscope during the actual time of the haematuria. The first attack of haematuria might be separated by months or even years from the second attack, and therefore every patient should be examined by cystoscope during the first attack. Sometimes patients suffered from two attacks without any attempt at diagnosis being made, and when they were finally admitted to hospital the condition was found to be inoperable. He referred to the difficulty of finding the source of the haematuria in some cases, but thought that if it was impossible to make a diagnosis of a kidney lesion before the operation he did not think it was possible to make it while operating.

Sir W. I. DE C. WHEELER said that it must not be forgotten that ligaturing the ureter in cases where nephrectomy was impossible or hazardous might be the operation of choice. He had had one case when nephrectomy was attempted by a surgeon of great experience and skill in this branch of surgery, but had to be abandoned, owing to difficulties arising from previous operations and the onset of uncontrollable haemorrhage. The patient was passing blood and pus in large quantities, associated with the presence of calculi. The calculi were curetted out of the kidney bed, and the ureter was divided and ligatured by the extraperitoneal route through a ventral incision. The patient recovered. Sir William Wheeler recalled two consecutive cases of haemorrhage from the kidney from rare causes. In the first case there were four stones in the upper pole and ten in the lower pole of the kidney. After nephrectomy a tumour was found, which, on microscopic section, proved to be squamous-celled carcinoma. A series of sections demonstrated the transition from pelvic to squamous epithelium, with the addition of squamous cells embedded in dense fibrous tissue in the capsular area. Infiltrating strands of squamous epithelium with "pearl" formation were present among the glomeruli and tubules. Squamous-celled carcinoma of the kidney was very rare. In the great majority of published cases calculi were also present.

In the second case the haemorrhage from the kidney came on suddenly and in greater profusion: life was only maintained by transfusion of blood. Cystoscopic examinations were made without result owing to the continuity of the bleeding. The haemorrhage finally ceased, but on

palpating the left renal region it recurred and a nephrectomy was at once performed. On examination of the specimen an angiomatous tumour was discovered, which took the form of proliferation of small blood vessels forming a rich arterial plexus At the upper end of the pelvis a plexiform mass of thick-walled vessels was observed occupying an area of about 1.5 centimetres in diameter. Other cases had been recorded, but angiomata of the kidney were extremely rare.

Mr. V. J. MCALLISTER said that congenital polycystic kidney must be remembered as a cause of haematuria. The cysto-urethroscope was sometimes useful in discovering the source of bleeding. He referred to a case which he had recently seen with a long history of urinary trouble and severe bleeding; it was found at operation that the kidney had been very largely destroyed as a result of chronic inflammatory change. He also mentioned the case of a young man who suffered from very severe pain and haemorrhage from one kidney; the cortex was incised and found normal. The kidney was then removed, when hydronephrosis was found and microus haemorrhages. This would have caused the bleeding, but he did not think it could have caused the severe pain. When treating a patient in early adult life for haematuria the possibility of tuberculosis should always be borne in mind.

Mr. A. CHANCE referred to chronic interstitial nephritis as a cause of haemorrhage. He had seen a man five years ago with severe recurrent haematuria; cystoscopy showed blood coming freely from the right ureter. The right kidney was exposed, and appeared outwardly to be normal, but owing to the severe haemorrhage it was removed. Later, the patient had haemorrhage from the other side, and during the next year there were four or five attacks of bleeding. He was now in hospital, having been operated on for chronic duodenal ulcer.

Dr. W. M. CROFTON said that if bleeding from the kidneys was caused by tuberculosis he thought it could be cured by immunization. Microbial cultures were very important, and cultures should be made even from urine which contained no pus.

The PRESIDENT called attention to the danger of treating haematuria by medicine. Some tuberculous cases had been treated by tuberculin, but he himself was against this, and thought that haematuria was very difficult to cure except by radical surgical operation. He did not believe that copious haematuria from the kidney was at all a common symptom of tuberculosis. Nearly all his patients had been cystoscoped. In his own series of 600 cases 47 were classified as having essential haematuria; these were cases in which no cause for the haemorrhage from the kidney could be found. There were 44 cases of renal calculus; this could give rise to severe haematuria. There was one case of pyelitis and renal tumour, and some cases of polycystic kidney. In one case of polycystic kidney in which the kidney was removed against his advice the patient died from uraemia. A very small injury to the kidney could produce haematuria. It was useless to attempt to diagnose cases of haematuria without a cystoscopic examination. In cases of tumour of the kidney, even in the early stages, there was generally some distortion of the pelvis, and it was usually possible to diagnose some alteration in the shape of the pelvis or the kidney, apart from the actual filling defect. In cases of ureteral papillomata if with a catheter it was possible to get beyond the level of the small papilloma, and then clear urine was obtained, the inference was that the haematuria was coming from some portion of the ureter. Quite a large number of patients with nephritis had unilateral or bilateral haematuria. The presence of organisms in the urine was not proof of disease. In one of his cases tubercle bacilli had been seen in the urine; he had watched the case for several years to see if tuberculosis would develop, but the patient had remained well.

Sir ARTHUR BALL, in reply, agreed that it was most important in these cases to make an early diagnosis. It was sometimes very difficult to know when a kidney should be removed, and, though it was a grave responsibility to remove an apparently healthy kidney, still, in some cases, delay due to inconclusive evidence was disastrous.

Ectopia Vesicae.

Mr. W. C. STEVENSON showed a treated case of ectopia vesicae in a boy aged 10. Mr. Stevenson said that he had transplanted first the right ureter into the rectum on February 26th, 1926, and the left on June 29th, the bladder being removed on November 16th. The ureters traversed the rectal wall between a longitudinal muscular band and the mucous membrane for an inch, following the technique described in the Mayo Clinic. A tube was left in the rectum for six days after each transplantation. The boy had good control of his rectum, but sometimes wet the bed at night.

Mr. A. CHANCE said that this operation, in his mind, had a series of merits which put it above all other operations for the condition. It was technically easy to deal with one ureter at a time, and it was safer than to operate on both together. The risk of infection of the kidneys was reduced to a minimum by the valvular method of inserting the ureters into the pelvic colon.

Mr. V. J. MCALLISTER referred to an operation which had been praised by Professor Young of Baltimore for ectopia vesicae. The bladder was approached from the perineum, an incision was made to expose the perineal tissues, the central point of the perineum was divided, and it was then easy to get to the base of the bladder. In this way the bladder could be drawn right down into the pelvis.

Sir ARTHUR BALL had only operated on one case of ectopia vesicae, and that was nineteen years previously. He had transplanted both ureters at the same time, and the result had been very satisfactory. The patient (a man) was now perfectly well, and able to earn his own living. It was questionable whether it was safer to operate on one ureter first or to treat both simultaneously. He had seen several patients with this condition since the one he had operated on, but they had all died before they were in a fit condition for operation.

The PRESIDENT, referring to Coffey's operation, said he did not think it was advisable to operate on both ureters at the same time. In adults operations on the urinary organs were never contemplated until renal function tests had been made. These tests, however, were not used for children, and he thought they ought to be. One child upon whom he had operated had died of uraemia about thirteen days after the operation. One of the kidneys was enlarged.

Sir WILLIAM WHEELER said that he thought the result in the case of ectopia vesicae was very satisfactory. He had under observation a little boy, aged 10, who had been so well nursed that cleanliness was complete, and the everted wall of the bladder was not inflamed; there was no ulceration, and the urine was not ammoniacal. He thought that all attempts at plastic operations should now be abandoned, and that the transplantation of the ureters should be recommended as a routine. The prognosis was far better if the urinary flow was diverted into the rectum by modern methods than if the patient was left alone. Ascending infection occurred in the great majority of unoperated cases before adult life. Coffey had sent him a description of his operation, and the new technique appeared simple and safe. He did not agree, however, that this improved technique justified transplantation of both ureters at the same time.

Massive Gangrene in Youth.

Mr. STEVENSON showed also a case of amputation of the arm for dry gangrene in a girl, aged 22, following abscesses in the tonsils and an acute septic condition of the left side of the neck and shoulder. The patient had been sent for radium treatment of the subclavian area with a view to improving the condition of the arm, which was pulseless owing to the blocking of the subclavian artery, presumably by a septic clot. She had been given an autogenous vaccine. A pad containing radium was applied over the subclavian, and a smaller one in the axilla for three hours. The fingers were gangrenous on admission when the radium was applied, and a line of demarcation formed in the middle of the forearm within twenty-four hours of its application. The arm was amputated two days later, eight days from the onset of the subclavian trouble. A circular amputation of the forearm was abandoned, as there was no

sign of bleeding. A small artery spouted feebly for an instant at the back of the arm when the muscles were severed above the elbow. There was no other bleeding except a slight ooze from the medullary cavity of the humerus when it was divided about the centre of the arm. A tourniquet was not employed, and no vessel was ligatured. As the muscles appeared healthy, the stump was closed by suture, leaving in a large drainage tube to avoid tension and as a precaution in case of sepsis, which, fortunately, did not occur. No tight bandages were applied, and the stump was kept warm for a fortnight with the aid of a carbon filament electric lamp. The stitches were removed after a fortnight. As the wound at the end of the stump was sluggish and appeared bloodless on the eighth day, the end of the stump was radiated for six hours, and the subclavian area and the axilla for nine hours. The stump was completely healed three weeks later.

Dr. CROFTON said that when he saw the patient she was extremely ill. Her arm was very swollen, pus was pouring from the left tonsil, and she had a severe headache. The heart sounds were quite clear and the pulse was traceable, though in the axilla there was no pulsation. He gave her antigen. Next day she was better, but there was still no pulsation in the arm, and he thought it was possibly a case of thrombosis, and sent her into hospital.

Mr. R. C. B. MAUNSELL commented on the rarity of massive gangrene in a young person with the arteries apparently healthy. He thought this must be a thrombosis which accompanied an acute bacterinl disease; he would hardly call it a septic thrombosis, but thought it would be wiser to call it an infective condition. He had seen a similar occurrence during a case of acute osteomyelitis. Rendle Short had stated that during the four years he had had three or four cases of gangrene of the arm following pneumonia, and Mr. Maunsell thought that the present case was almost identical with those of Rendle Short. He did not think that such a case of most sudden massive gangrene should be termed dry gangrene, but that it should be included in the moist gangrene class. He did not agree that radium could have done anything for a condition like this. Rendle Short had brought out another point—namely, the type of case in which embolectomy should be done. Mr. Maunsell had tried embolectomy in one case, but owing to extensive clotting in the distal arteries no benefit to the patient had followed.

Sir WILLIAM WHEELER pointed out that obstruction to one of the main arteries in the course of infective diseases was not very uncommon. Rendle Short had drawn attention to thrombosis of the arm following pneumonia, and described an unsuccessful case of embolectomy. One case had been reported of a child under three years of age in whom both legs became gangrenous during an attack of scarlatina. Blockage of arteries also occurred in typhoid, typhus, and other fevers. Recent results of embolectomy were most encouraging. In cases where the artery was inaccessible, such as at the bifurcation of the aorta, the embolus could be teased out by opening the external iliac arteries or upper portion of the femoral. According to Jefferson, fifteen successes had been obtained in twenty-eight cases since 1922. There was no more urgent operation in surgery than blockage of a main artery, except the control of haemorrhage, and it must be performed at once if success was to be expected. The question of how long the blood stream through the deep arteries to an extremity could be suspended by an embolus was of great importance, but had never been accurately estimated. Sir William Wheeler mentioned a very successful case of embolectomy recently reported by Jefferson. The embolus was situated at the origin of the superior profunda artery of the left arm. The clot was removed through a longitudinal incision under local anaesthesia, and the relief afforded was immediate and dramatic, the arm completely recovering. The lesson was that a limb could be saved when gangrene was impending, if operative treatment was not delayed.

Mr. STEVENSON, in reply, said that the specimen now did not resemble a dry gangrene, but when he had first seen the patient her fingers were black and quite dry, the whole arm was discoloured, and it looked as if it would have become quite dry.

Traumatic Dislocation of Hip.

Mr. R. A. STONEY showed skiagrams of a case of traumatic dislocation of the hip in a child, a boy of 6, who, while crossing a road, had been run over by a motor car; when picked up he was lying between the two wheels, the front wheel having gone over him. The head of the bone was out of position. An anaesthetic was given, and the dislocation was reduced by full flexion, abduction, eversion, and full extension. The head of the bone went into position, and on the third day the child was allowed to move his leg freely; on the seventh day he was allowed out of bed, and on the eighth day he left hospital, able to walk.

Mr. W. DOOLIN mentioned a somewhat similar case of traumatic dislocation in which the posterior margin of the acetabulum was broken off. This patient, however, was not fit to be discharged from hospital for about five weeks.

Mr. H. STOKES referred to a patient with a dislocated hip whom he had treated in hospital, and who had had the condition for eight weeks. In all textbooks it was agreed that it was impossible to get a hip in after a month, but he had had no difficulty in getting in this patient's hip with ordinary manipulations.

TREATMENT OF RINGWORM BY THALLIUM ACETATE.

AT a meeting of the Section of Medicine of the Royal Academy of Medicine in Ireland on January 28th, the President, Dr. G. E. NESBITT, in the chair, Dr. MAURICE DRUMMOND showed three cases of ringworm in children, aged respectively 6, 4, and 2 years and 5 months, which had been epilated by the internal administration of thallium acetate.

Dr. Drummond said that the method had been used successfully in over 500 cases by Cicero and Peter in ringworm schools in Mexico, and in over 100 cases by Buschke and Langer in the Rudolf Virchow Hospital, Berlin. He gave a short account of the experimental and clinical methods by which these investigators had made this form of epilation practicable and safe. It was essential that the protoxide of the acetate of thallium should be used; he had employed the preparation of Kahlbaum. The Germans had found that 8 milligrams per kilogram of body weight was the most satisfactory dose for children of all ages. Peter in Mexico gave 5 milligrams per kilogram for children under 5 years. In each of the children shown 8 milligrams had been administered. Dr. Drummond had found it only just sufficient in the case of the two younger children. Rapid and profuse fall of the 2 oz. of sweetened water. The drug was given in hair occurred on the fifteenth day with the two younger children. The fall had not been so satisfactory with the eldest child. The action of the drug was apparently selective, the eyebrows and fringe on the front of the head being unaffected. Since x-ray epilation could not be performed in children under 3, he thought that thallium epilation should be of much value in such young children and in epidemics. The eldest child's hair was growing again well after epilation in November, and was beginning to grow in the case of the second child, who had been treated in December. The youngest child had only just been epilated. The drug was contraindicated in the presence of albuminuria. In case of partial failure a further dose must on no account be given within at least two or three months, as the action of the drug was strongly cumulative, and symptoms of acute poisoning might develop. The greatest care was necessary in the weighing of the child and of the drug. Dr. Drummond was not yet sure that a slightly higher dose might not be necessary with older children. The constitution, the climate, and the freshness of the drug were all factors to be considered. The PRESIDENT said that the effects of the treatment in the three cases shown were very striking. He regarded the method as much better than x rays, but further experience would be necessary before a final judgement could be pronounced.

Dr. E. FREEMAN referred to a statement in the *British Journal of Dermatology*, in which it was reported that

104 cases of ringworm had been treated successfully by this method; in all of them the hair had grown again.

Dr. W. G. HARVEY referred to the original experiments with thallium by Sabouraud, which had been quite unsuccessful; the very large doses employed had perhaps been the cause of the failure, since very serious symptoms had arisen after treatment, such as haemorrhage and purpura. This method now seemed to be of much use, quite apart from the question whether it would replace *x*-ray treatment. The difficulty of *x*-raying young children was great.

Dr. DRUMMOND, replying, said that Langer in Berlin had stated that they only obtained the thallium salt from one chemist, and that the drug deteriorated with age. If the drug was fresh the hair would fall out on the fifteenth day after application, but if the drugs were not fresh when applied the hair might take three weeks to fall out.

Spontaneous Cerebral Haemorrhage.

Dr. V. M. SYNGE showed specimens from a case of spontaneous haemorrhage into the brain of a man, aged 21, who while at work fell down unconscious. He had been perfectly healthy previously, and had received no injury of any sort.

When admitted to hospital a few hours later he was still unconscious, the limbs were rigid and flexed, and occasional clonic spasms occurred. The neck was stiff. The pulse was 66, the temperature 99° F., and the respirations 26. He vomited undigested food several times. A catheter specimen of urine contained a fair amount of albumin. The blood pressure was normal, and the blood urea was 65 mg. per 100 c.cm. During the following days the temperature rose to 104° F.; the unconsciousness diminished. Two days after the attack 30 c.cm. of cerebro-spinal fluid was removed by lumbar puncture; it was under great tension, and contained much blood. There was no improvement after the puncture. The blood Wassermann reaction was negative. The patient remained semi-conscious, the neck stiffness increased, Kernig's sign was positive, and the limbs were stiff but without paralysis. Five days later another lumbar puncture was performed, and 35 c.cm. of fluid under tension was removed. A little blood was present, but the fluid was otherwise clear; the globulin was slightly increased, glucose was present, there was no pus, the fluid was sterile on culture, and no tubercle bacilli were found. An intravenous injection of sodium salicylate solution was given, the high temperature, general condition, Kernig's sign, and the characters of the cerebro-spinal fluid suggesting the probability of encephalitis lethargica. The temperature dropped, the pulse, which had been 100, fell to 60, but there was no improvement in the general condition. The fundus of each eye was normal. The patient became suddenly convulsed, he collapsed ten days later, and died in a few hours. At necropsy there was no sign of any injury. In the anterior horn of the right lateral ventricle there was a mass of clotted blood which had destroyed a large part of the frontal lobe; all the ventricles were full of blood, and there was a mass of effused blood on the base of the brain. The heart, spleen, kidneys, and other organs were normal, and there was no sign of arterial disease. Sections failed to show any evidence of a tumour in the brain, and the kidneys were normal.

This apparently quite spontaneous haemorrhage had evidently originated in the right frontal lobe, burst into the ventricles, and thence into the subarachnoid space.

The PRESIDENT said that in so young a patient no one would have thought of making a diagnosis of cerebral haemorrhage, especially in the absence of the phenomena which were usually expected. The cause of spontaneous haemorrhage was always difficult to ascertain. It was possible to have fairly advanced renal disease with a blood urea figure no higher than 65, and he thought that in this case the boy probably had some chronic renal disease. The earliest incidence of cerebral haemorrhage that he could remember had been in a woman aged 29.

Sir JAMES CRAIG said that although in this case the blood urea was greater than normal, yet the kidneys were healthy. He did not think that it could be assumed that the haemorrhage was due to any kidney disease.

Dr. SYNGE, replying, said it had not been possible to examine the artery which had actually ruptured, on account of the destruction caused by the haemorrhage. The small arteries seen under the microscope appeared to be perfectly normal, and he did not think that an artery was likely to rupture unless the pressure inside was very great. Nothing abnormal had been found in the kidneys, and there had been no evidence of nephritis, except albuminuria, which had been present at first. It was, however, very hard to examine the urine, as the patient had suffered from persistent incontinence.

VERTIGO.

AT a meeting of the Manchester Medical Society on February 2nd, Dr. A. A. MUMFORD in the chair, a discussion on vertigo was opened by Dr. R. I. POSTON.

Dr. Poston dealt with the occurrence of vertigo in epidemic encephalitis or encephalitis lethargica, where this symptom was often associated with other signs of vestibular disorder. Recalling Gertier's "paralysing vertigo" of 1888, he then proceeded to describe "kubisagari," the endemic paralytic vertigo of Japan. Both disorders had much in common, and there could be little doubt that both were variants of the same condition, being due to an infective encephalitis. Dr. Poston suggested that as kubisagari occurred in Japan up to 1912, it was possible that this endemic, or undiagnosed cases of Gertier's disease in Europe, might have been responsible for the pandemic of the last decade. Cases of encephalitis with vestibular symptoms were next described, special reference being made to an outbreak in Strasbourg in 1921. Having dealt with the known pathology of the condition and the results of several experimental workers who actually found vestibular lesions in rabbits, a brief description was given of six cases of encephalitis under the speaker's own care. The vestibular reaction of these cases had been determined and abnormal induced nystagmus had been found in three. One case with complete external ophthalmoplegia was described; simple syringing of the ears with cold water had relieved ptosis, and enabled the patient to move his eyeballs in every direction, alleviating the diplopia of which the patient had complained. In the case of another patient who showed "spasmodic cramp of the upward glance," change of position altered the direction but not the character of the phenomenon. The Babinski-Weil reactions were described, each being illustrated by lantern slides showing the results in nine normal people and ten encephalitic patients. Discussing the diagnosis of vestibular encephalitis, Dr. Poston urged the importance of first excluding cerebro-spinal syphilis, ear disease, and intracranial lesions. It was stated that cases of epidemic encephalitis had occurred with gross signs of cerebellar involvement, yet at necropsy the cerebellum had been found to be normal. Nystagmus might suggest disseminated sclerosis unless definite and incontestable signs of Parkinsonism were present. The following triad was suggested as clinical evidence of disordered vestibular function in the absence of ear disease: disorders of equilibration such as vertigo, spontaneous nystagmus, and abnormal induced nystagmus or abnormal Babinski-Weil reactions. Dr. Poston offered a classification of epidemic encephalitis as follows: (1) vestibular syndrome; (2) juxtavestibular syndrome, with signs pointing to involvement of structures adjacent to or connected with the vestibular nucleus, such as oculomotor symptoms, neuralgia, facial paralysis, dysphagia, sialorrhoea, and disorders of respiration and pulse; (3) pallidal syndrome—namely, tremor and rigidity; (4) striate syndrome, or tremor and myoclonus. Pyrexia and lethargy were the only common symptoms not included in such a classification. The vestibular syndrome in epidemic encephalitis might occur alone or with such symptoms as those mentioned. It might appear at the onset, or during the acute stage of the disease, or it might persist as a residuum, and, lastly, interference with vestibular function might account for many, if not all, of the oculomotor phenomena of the disease.

Mr. DIGGLE, after mentioning that vertigo was only one manifestation of a disturbance of the vestibular apparatus, said that by artificial stimulation of the peripheral sense organ in the labyrinth all the symptoms and signs of such a disturbance—namely, vertigo, nystagmus, reeling gait, and vomiting—could be produced. He further showed that by a close study of such induced symptoms it was possible to test the integrity of the peripheral end organ, the labyrinth, and also, in a few cases, to locate a lesion in other parts of the vestibular nervous arc. Vertigo might be produced by a lesion in the labyrinth, a lesion in its intracranial and spinal connexions, or by ocular lesions. Vertigo arising in acute inflammatory conditions of the middle ear was usually relieved after an efficient para-

centesis tympani. Mr. Diggle drew attention, however, to the prevalence and seriousness of vertigo in acute exacerbations in chronic ear suppuration. The danger lay in the fact that translabyrinthine infection was the commonest precursor of fatal meningitis; the warning signal of vertigo should not be neglected. Vertigo might be due to abnormal pressure of the intralabyrinthine fluids, to irregularities in the vascularity of the organ, or to the effects of toxins upon the nerve end organ. After brief reference to the regulating device of the endolymphatic and perilymphatic membranous tubes of the labyrinth, he suggested that vertigo associated with impacted cerumінous plugs, intermittent Eustachian obstruction, and occasionally hydrops of the middle ear, could be explained by abnormal intralabyrinthine pressure. Increased pressure of cerebro-spinal fluid might directly raise the intralabyrinthine pressure and so produce vertigo, though often cerebral anaemia could not be excluded. He referred to the relief occasionally following lumbar puncture, and to the few cases recorded by Aboulker and Colledge of relief after subtentorial decompression; also to the interesting cases recorded by Mollison of relief in vertigo after trephining the external semicircular canal. In considering vascular lesions affecting the labyrinth, attention was directed to the fact that many patients when examined presented a normal inner ear. Massive haemorrhage as a cause of Ménière's syndrome was considered infrequent, though the occurrence of small leakages from atheromatous vessels he considered could not be denied. Other remote lesions, apart from intralabyrinthine haemorrhage, such as arterio-sclerosis, abnormal blood pressure, certain anaemias, metabolic disorders, and toxins, might be responsible for Ménière's syndrome. Was the vertigo in such cases due to effusions into the labyrinth, to atheromatous disease of the vessels, or to toxic neuritis? Mr. Diggle indicated the analogy in the eye—namely, retinal detachments from effusions, retinal haemorrhages, and amblyopia, nephritic retinal changes. He drew attention to the toxaemic conditions responsible for vertigo, to the frequent association of vertigo with nicotine poisoning and tobacco with nasal sinus suppuration. In discussing treatment he emphasized that no operative ablation of the labyrinth should be undertaken until all other measures had failed, and then only if the labyrinth was functionally inactive.

PUERPERAL SEPSIS.

At a meeting of the North-East London Clinical Society on January 4th, Dr. F. G. CROOKSHANK in the chair, Dr. ARTHUR GILES opened a discussion on the etiology and prevention of puerperal sepsis.

Dr. Giles said that infection from within, as a cause of puerperal sepsis, was relatively uncommon; it might take the form of the waking up of a latent infection in a tube or chronic appendix, caused by the anatomical alterations associated with delivery. Infection from without was the really important matter. In the case of a confinement without either examination or interference, infection could hardly occur, except possibly through a damaged and unrepaired perineum; therefore, the more that confinements were allowed to take their natural course the less was the chance of infection. When intervention was necessary the aseptic precautions adopted should be as complete as for surgical operation, but in many confinement cases this was a counsel of perfection owing to the adverse conditions prevailing. Both objects could be attained in a great measure by a large increase of accommodation for lying-in women in hospitals and maternity homes. With cases collected under one roof each patient could be allowed time for natural delivery, and the lying-in rooms might be fitted and treated like an operating theatre, under which conditions there would probably be a marked fall in the recorded deaths from puerperal sepsis. The ante-natal investigation of every case of pregnancy would give early warning of possible complications, especially in the matter of obstructed delivery, and arrangements could be made accordingly. This was a case in which to be forewarned was to be forearmed, because many obstetrical tragedies were the result of some unfavourable feature whose presence was not known until the confinement was actually in progress.

Dr. KIRKNOFF dealt with the matter from the public health point of view, and detailed a number of cases of puerperal pyrexia notified in his district in recent months. The majority of these cases were due to intercurrent diseases such as influenza, and in one case scarlet fever, and not strictly to be included under the heading of puerperal fever. He described the new arrangements made by the local authority for the supply of consultant advice and hospital accommodation in Tottenham.

Dr. BENIANS continued the discussion from the point of view of the pathologist. The battle between the exogenous and endogenous modes of infection had waged for years, and for the moment an inevitable mortality, ranging from 0.1 per cent. to 0.2 per cent., must be accepted as being inherent at present in the conduct of the puerperium. Without belittling the obviously immense importance of asepsis, prevention and cure must be sought in other directions. Since the days of Semmelweiss it had been beyond doubt that the accoucheur might implant the infection, and Geddes (1926) had collected statistics of infective wounds and brought them into relation with the incidence of puerperal infection in the same areas. These statistics were interesting and striking, but seemed to fail by hinging on the assertion that streptococci were constantly present in infected wounds, to which many pathologists would be unwilling to assent. Many septic cases were beyond possibility of infection by the accoucheur, so that an endogenous infection was also a possibility in perhaps not less than 25 per cent. of all septic cases. The infective agent was usually a streptococcus, and in severe cases nearly always one of the virulent pyogenes group. Western's figures (1912) of 100 cases which were very thoroughly examined had shown this beyond question. Uterine cultures had proved that the disease was an infection of this viscus, primarily, perhaps, of the placental site or of some other raw area of the genital tract; early in severe cases the organism was not quite a specific cause of this disease, since the *Staphylococcus aureus* might produce severe and fatal infections; this organism, however, was a very rare cause, except in criminal abortion cases, which were undoubtedly due to direct implantations. It was not known how the organism reached the placental site, but it was certain that a virulent streptococcus inoculated into a tissue lesion set up symptoms within a few hours, which was seldom the case in puerperal septicaemia. In this disease there was almost always a waiting period of about two or three days after delivery; in any other disease this would be called an incubation period, a term not used in puerperal septicaemia for fear of giving grounds for the suspicion of going back fifty years or more and classing this disease with the specific infectious fevers such as scarlet fever. If they were logical and called it the incubation period, they would in this way admit that they believed some process was operating which differentiated this disease from that which usually resulted when a streptococcus was inoculated into an open wound. Attempts had been made from time to time to ally puerperal fever with scarlet fever, but few believed in any direct connexion. If there was no causal relation there was in some respects a close similarity, as for instance, it was quite likely that the recent work on scarlet fever might produce something of use in connexion with puerperal fever, especially in relation to the preparation of an effective anti-serum. Assuming that the infective agent was implanted, or was present in the genital tract at the time of delivery, there seemed to be several possibilities during the incubation period. The organisms might have to ascend from the vagina to the raw placental site and effect an entrance there; this might take time. The organisms might have to increase in numbers before any sign of activity showed. The tissues, for some puerperal reason, might not be adapted to infection, and this was delayed until some tissue change occurred and they became so. Dr. Benians knew of no clinical or experimental evidence in support of this idea. The organisms might have to increase in virulence, and he thought that the crux of the

matter lay here. If delay during the latent period meant that infection was awaiting an exaltation of virulence of the organism, it implied further that the streptococcus had not been conveyed direct from a septic wound, or, if it had, attenuation in transit had occurred, which might well be the case. From an endogenous point of view an infection by streptococci normally present in the vagina would invariably require an increase in virulence. Streptococci might be increased in virulence by the process of "passage" —that is, by passing through the body, and usually the blood stream, of a susceptible animal. It was possible that *something of this nature occurred in the human body after* the implantation of the infective agent, and that the organism acquired virulence in the tissues; quite likely it passed out of the blood stream, and was redeposited in the placental site. If such a process as this were shown to occur it would mean that the streptococci so disseminated, though they might originally be derived from the genital tract, might also come into the blood stream from other sites, as, for instance, from infective conditions of the throat; possibilities of this sort would have to be taken more into consideration, both in connexion with the patient and with her attendants.

Dr. R. SPEARS quoted two cases in which the child had been born before his arrival and no vaginal examination had been made. In one instance, that of a multipara, a child with acute influenza was in bed with the mother. On the third day the mother's temperature rose, streptococci were recovered from the blood on the fifth day, and the patient died on the tenth. In the second case, a primipara, no vaginal examination was made, but on the day after the delivery the temperature was 104°. She ran a septic temperature, with rigors, for fifteen weeks, and collections of pus were let out from the pelvis on several occasions. Blood cultures were negative twice. There had been in this case an indefinite history of shivering attacks and sweating for six weeks before the confinement.

X-RAY TREATMENT OF RODENT ULCER.

AT a meeting of the Brighton and Sussex Medico-Chirurgical Society on February 4th Dr. J. H. T. DAVIES exhibited some cases of rodent ulcer and read a paper on this subject.

Dr. Davies stated that his object in showing these cases was to dispel the cloud which seemed to overshadow the treatment of rodent ulcer by *x* rays. The patients had not been under observation for very long after treatment, and he only drew attention to the result from an aesthetic point of view. He did not imply that *x*-ray treatment was the only, or even the best, one for rodent ulcer, but while every case should be treated individually on its own merits the method he had been using for the last ten years had given very satisfactory results. A cubic centimetre or so of 2 per cent. novocain was injected under the growth, which was then scraped vigorously with a sharp spoon. The rodent tissue had the consistency of cheese, and it was easy to distinguish when healthy tissues had been reached. The excavation was found to occupy a much larger area than the original growth, and was often of a different shape. This preliminary scraping was, he thought, the most important part of the treatment. First of all the bulk of the rodent tissue was removed; secondly, the operator was enabled to judge accurately the extent of the lesion; and thirdly, the part to be *x*-rayed was freed from any trace of the skin which would be burnt by the subsequent application of the *x* rays, and so render healing of the ulcer a lengthy and painful process. A fourth advantage was that the rays were enabled to reach the deeper parts of the lesion without passing through the overlying tissue. In process of scraping such a contraindication to radiotherapy might be discovered as the invasion by the growth of cartilage or bone, when the cavity could be filled with arsenical paste, or the whole lesion be removed surgically, or diathermy be applied. Dr. Davies asserted that no surgical excision of a rodent ulcer should be begun without a preliminary scraping. He then described the preparation of a lead shield for the surrounding skin, and said that a dose corresponding to four, five, or six Sabouraud B doses of *x* rays unfiltered was used. The ulcer healed up under a scab in about three weeks' time. This operation took less than an hour to perform throughout and was quite painless, both at the time and afterwards. In the connective tissue thus exposed to the rays there was no noticeable change, nor were any subjective symptoms felt by the patient. In cases where the rodent ulcer had been on the side of the nose there was no apparent effect on the mucous membrane inside. MacLeod, who had measured the proportion of a pastille dose of unfiltered *x* rays, using a 10-in. spark-gap through the cranial wall and coverings of a child of 3, found that no more than a quarter of the dose reached the other side. Complete surgical excision was often the best and easiest method of dealing with a rodent ulcer, provided that the preliminary scraping was employed. Unfortunately rodent ulcers frequented those situations where excision was difficult or appeared unnecessarily drastic, and in such cases, and with patients who refused surgical operation, the *x*-ray treatment described gave an equal, if not a better, chance of a cure.

Nephritis.

Dr. WALTER BROADBENT read a paper on nephritis. He laid stress on the importance of McClean's urea concentration test and on the estimation of blood urea. Of chronic parenchymatous nephritis with oedema there were two types; in one the blood urea came down to normal and the urea concentration test gave 2 per cent. or more. When this type was treated by Epstein's diet of increased protein, moderate carbohydrates, and no fat, the oedema disappeared and the patient's general condition improved greatly, so that he could lead an ordinary life. The other type, with high blood urea and low urea concentration, drifted into uraemia or heart failure. In chronic interstitial nephritis the urea concentration test sank below 2 per cent. and the blood urea increased. The blood pressure rose and there was danger of cerebral haemorrhage and of heart failure, or the case might end in uraemia. In treatment Dr. Broadbent mentioned keeping the bowels active with salts and a weekly blue pill, potassium iodide, evening hot baths, spa treatment at Contrexeville or Vittal, and occasional bleeding. For uraemic asthma, purging and morphine were recommended, and for convulsions, lumbar puncture, bleeding, chloral, and morphine. With uraemic headache he said that there were often marked signs of intracranial pressure, Kernig's sign, and difficulty in making the chin touch the chest, and sometimes extensor toe reflexes. Lumbar puncture gave great relief. *B. coli* nephritis was then dealt with. In acute attacks there were rigors, high temperature, vomiting, renal pain, and profuse haematuria. Often only one kidney was affected, and that usually the right. The condition had to be distinguished from stone, perinephric abscess, retrocolic appendicitis, cholecystitis, and even malaria, when there was no renal pain. The treatment was to render the urine permanently alkaline by potassium citrate and bicarbonate in full doses, giving also a large amount of fluid to drink. In severe cases not yielding to this treatment a ureteric catheter should be passed through a cystoscope up to the pelvis of the kidney, and be left *in situ* to afford drainage. Dr. Broadbent remarked that chronic *B. coli* nephritis, though very common, was frequently undiagnosed, as the urinary symptoms were slight. It occurred in female babies, and more often in women than in men. The symptoms were headache, loss of energy, pains in joints and muscles, and intermittent pyrexia. Recurring "influenza" was often really due to this. The treatment was alternating courses of alkalis and hexamine with acid sodium phosphate, also intestinal disinfectants.

INDUSTRIAL MEDICINE.

A MEETING of the London Association of Medical Women was held at the British Medical Association House on January 25th, with the President, Miss BOLTON, in the chair; Dr. MARGARET DOBBIE-BATEMAN gave an address on some aspects of industrial medicine.

Dr. Dobbie-Bateman said she did not intend to discuss the treatment of vocational disease, but to deal with industrial medicine in so far as it represented a particular

organization of medical practice to meet a particular social service. Factory medical officers must be distinguished from certifying surgeons. The latter were invested with certain statutory powers and were required to fulfil certain statutory duties; whereas the factory medical officers were the officials of the industrial organizations in which they worked, and had no executive but only advisory powers. Their business, from the staff managerial point of view, was to prevent the engagement of people unable by reason of physical disability to do the work required of them; to forestall absence of workers, and therefore loss of work through sickness; and to obviate loss of work through lowered physical efficiency. Restated from the point of view of the workers—and on this she laid great stress—the medical officer's duty was to restrain people from undertaking work they were unable to do, and to keep them in a full and happy capacity at work. The first aim was met by a preliminary medical examination of candidates for employment. Between those completely fit and those totally unfit was a large class whose applications had to be considered with reference to several points. Standards of fitness for employment in industry need not be so rigid as standards for acceptance in the army, where men had to be fit for service in any emergency, must be interchangeable, serve over a prolonged period, and were pensionable. In productive work no one who was likely to be able to help in producing should be excluded from doing so. In practice the number rejected from those industrial occupations of which the speaker had experience need be very few. It was often possible to allocate suitable work to a candidate who would not be capable of work in certain departments, or to recommend treatment, after which the candidate was fit for any work. A knowledge of the industrial processes was therefore necessary to the medical officer. Unfortunately certain people still had an objection to a compulsory medical examination, and Dr. Dobbie-Bateman was now trying the experiment of a voluntary medical examination for applicants over the age of 16; for younger people she was convinced that compulsory examination was necessary in their own interests. For the prevention of absenteeism two procedures were essential—namely, the examination of staff returning from sick leave, if possible before they rejoined their departments, and the rule that the only pass-out given to workers leaving their posts for reasons of health should be given by the medical officer. The first rule prevented people from returning to work before they were fit to do so, and, on the other hand, the knowledge that a visit had to be paid to a medical officer acted as a deterrent to those whose headaches tended to occur on the Tuesday after a bank holiday. The industrial medical officer was also called on for first aid, for advice as to lighting, heating, and ventilation, for the determination of optimum periods of rest, and for the superintendence of canteen arrangements. There was urgent need of a dental scheme in connexion with industrial medicine, and an ophthalmological service would also be of value. Finally, research into industrial dermatitis and industrial fatigue should be actively pursued.

JAMES MACKENZIE INSTITUTE.

At the opening meeting of the Spring Session of the James Mackenzie Institute for Clinical Research, St. Andrews, on January 18th, the honorary director, Dr. MAITLAND RAMSAY took as his subject toxic iritis. He deprecated the use of the term rheumatic iritis because, though sometimes associated with chronic arthritic states, iritis practically never occurred in rheumatic fever. In the course of his lecture Dr. Ramsay described fully the symptoms and treatment of the condition. He said, however, that he had chosen the subject, not as a lecture on eye disease, but because it so aptly illustrated the general principle that the cause of disease was not necessarily to be found in the organ manifesting the symptoms. Toxic iritis being a local manifestation of a general state, local treatment was essential to its relief, but cure was not obtained until general treatment had removed the underlying cause, and so prevented recurrence. For success general treatment must depend upon recognition of the toxic process. In many cases the focus of infection was found in the teeth, the tonsils, the nasal sinuses, or the intestinal tract, but in others it followed after an attack of some general infection such as influenza. In some cases the source of the infection remained a matter of conjecture, and the iritis was then termed idiopathic, but it was difficult to understand how an iritis could occur in a healthy patient. When, for example, a posterior synechia interfered with the intraocular circulation and tension, the local symptoms were intense. The relief afforded by iridectomy was so complete that apparent cure resulted, but if general treatment was discontinued recurrence of the inflammation in the affected or even in the healthy eye was to be expected. Operation was a confession of failure, and if its dramatic results led to neglect of general treatment disaster would inevitably follow.

On February 1st Dr. ORR gave an address on the later views of Mackenzie on the nature of cardiac action, with particular reference to the phenomena of heart-block. Mackenzie's work, he said, was the subject of adverse criticism, mainly on the ground that it was purely speculative.—Mackenzie was a speculative thinker, but the views he expressed latterly were based upon prolonged clinical observation. In view of this criticism it was important to examine Mackenzie's position critically in the light of modern experimental research. This position was distinctive in its conception of the Purkinje system of the heart—the nodes and bundle—as the regulating and controlling structure of the organ. The heart muscle only contracted in response to stimuli reaching it from this source. Conduction in the bundle was attained, not by the passage of an impulse along a conducting structure, as that, term is generally understood, but by successive stimulation of contiguous cells in the bundle, each one discharging an individual impulse. For this reason Mackenzie described the nodes and bundle as the "genetic" system of the heart. Dr. Orr then discussed recent experimental work upon the passage of the excitation process in the various parts of the heart. It was generally agreed that the S-A node was normally responsible for initiating the cardiac contraction. As regards the spread of the excitation wave through the auricle, the balance of evidence, having regard to direction and spread and rate of transmission, was greatly in favour of a spread through the auricular node. A spread between the S-A and A-V nodes by means of a distinctive path had not been demonstrated, though an experiment by Mines showing the persistence of electro-cardiographic deflections after muscular contraction had been abolished was suggestive. In the ventricle there was no doubt that the spread of excitation was accomplished by means of the bundle and its ramifications. The question centred upon the means by which this spread was accomplished, whether by simple conduction or by cell stimulation. Experimental observation made it clear that the A-V node could not be regarded as a simple conductor, but that it acted as a centre for the discharge of impulses. The phenomena of the nodal extra-systole and of reversed heart-block demonstrated this conclusively. With regard to the bundle, the question presented itself as to the source of the ventricular beats in complete auriculo-ventricular dissociation. That there was no "set" ventricular rate was shown by the fact that, in a single individual the subject of complete heart-block, the ventricular rate varied at different times from 30 to 45 per minute. The electro-cardiogram in conditions of complete heart-block showed that the excitation wave entered the ventricle supraventricularly. It presumably had its origin either in the A-V node or in the supraventricular part of the bundle immediately peripheral to the lesion. This view was accepted by many experimental observers, and the trend of recent work appeared to be in the direction of regarding the whole Purkinje system as essentially a stimulus-producing structure. Mackenzie's conception of the Purkinje system as a "genetic" structure afforded a complete and consistent explanation of the phenomena observed experimentally and clinically. The only other alternative was to regard it as a conducting mechanism which, in certain circumstances, acquired the capacity of stimulus production.

Reviews.

A CYCLOPAEDIA OF PATHOLOGICAL ANATOMY AND HISTOLOGY.

Two volumes of the cyclopaedia of pathological anatomy edited by F. HENKE and O. LUBARSCH were reviewed in the JOURNAL of March 6th last (p. 427). They contained altogether nearly 2,000 pages. These were Volumes II and VI. The first part of the fourth volume,[1] issued a short time ago, contains over 1,100 pages. The volume has to do with the morbid anatomy of the alimentary system, including diseases of the pharynx, the tonsils, salivary glands, the stomach, the intestines, and the peritoneum. Acute and chronic ulcers of the stomach and duodenum are described in great detail and the text is illustrated by some excellent coloured pictures. An account of experimental work and clinical investigations is followed by a summary. Briefly, the conclusions are that simple ulcers and haemorrhagic erosions are due to infarct of the mucous membrane. The area affected may be from one to four centimetres in width, but may subsequently enlarge. Arterio-sclerosis may be the initial vascular lesion, and embolism may arise after operation or be due to sepsis, and in young individuals the vascular disturbance may be neurogenic. A chronic ulcer may be started by the same causes as the acute, but special features of the physiology and anatomy of the stomach play a part; mention is made of the increase in the acidity of the gastric juice, and of irritation of the ulcer by movements of the stomach. The ulcer may cause the movements to be augmented and to become cramp-like, perhaps constricting the vessels. Associated endarteritis is important. The same facts hold for duodenal ulcer, and pyloric spasm and hypertrophy dependent on neurogenic influences are factors also. The so-called gastric street along the lesser curvature is of importance in both acute and chronic ulcers because the vascular supply and the nerves have here a special distribution. The literature cited covers forty-two pages.

The section on the tumours of the stomach is most excellently illustrated. Many aspects of the etiology of carcinoma are discussed, including, of course, the relation of chronic ulcer to carcinoma. The author of this section, Professor Dr. R. Borrmann-Bremen, concludes his long analysis by saying, "I personally hold the view that the number of 'ulcer carcinomas' definitely proved, which can stand the most searching criticism, reaches only 1 or 2 per cent."

The eighth volume, which has also been published, is devoted to the glands of internal secretion. More than half of its thousand pages are devoted to the thyroid and parathyroid glands; the sections on the thymus, pineal, pituitary, and the suprarenal and chromaffin system occupy the remainder. There are three hundred and fifty-eight illustrations, some of which are coloured. The value of the volume would have been increased if to each section a summary of what the author considers may be regarded as well attested knowledge had been appended. This is done in some cases, but not in all. A very full account is given of exophthalmic goitre. Despite the vast amount of attention devoted to its pathogenesis many features are still obscure. The author's conclusion is that a combination of factors are concerned in its production; there is first the abnormal constitution, in which the most important factor is the special reaction of the nervous system. Hyperthyroidism, it is believed, is brought about either through psychical influences on the secreto-motor nerves of the thyroid gland, or by chemical means through the increased activity of associated organs, or finally through disease processes in the thyroid itself. The theory that endemic goitre is primarily due to insufficiency of iodine is accepted. This insufficiency, it is supposed, renders the performance of the functions of the thyroid difficult, and then accessory causes, such as a diet deficient in fat, water-borne infections, lack of sunlight (and of ultra-violet light in particular), as well as other factors, induce the phenomena of thyroid deficiency.

The author of the section on the pineal gland, despite the lack of physiological evidence, believes that structure, comparative anatomy, and cytology establish its glandular nature. This conclusion is in harmony with the observations of human pathology, to the effect that it plays a part in the production of the sexual characters and activity. Knowledge of the pathology of the parathyroid is in just the opposite state. There is abundant evidence of its association with tetany, with calcium metabolism, and therefore with the pathology of such diseases as osteomalacia, but morbid anatomy has no special changes to describe.

The relation of the pituitary to certain diseases is set out in tabular form, the substance of which may be reproduced here; it is interesting in view of recent work which has tended to extend the anatomical basis of these disorders to the adjacent areas of the diencephalon.

Relation of the Pituitary to Disease.

Acromegaly. Excessive function of the eosinophilous cells of the hypophysis.

Giantism. In the acromegalic type through excess of the secretion of the eosinophilous cells before the cessation of bone growth. In the eunuchoid type, probably a combination of hypofunction of the sexual glands and hyperfunction of the hypophysis.

Hypophyseal Dwarfism. Disappearance or marked reduction of the function of the anterior lobe before the cessation of bone growth. The most common pathological finding is a tumour not affecting the anterior lobe, but the duct of the hypophysis; the condition may be congenital, or may come on in infancy or perhaps later.

Hypophyseal cachexia occurs predominantly in women, and is attended by disappearance or great reduction of the function of the anterior lobe.

Dystrophia Adiposo-genitalis. Destruction of the correlation between the hypophysis, probably the anterior lobe, and the diencephalon.

Diabetes Insipidus. Destruction of the function of the nervous part of the hypophysis (posterior lobe, infundibulum, floor of the third ventricle).

The twelfth volume is on the ear. The gross anatomy of the region is shown in some excellent coloured pictures, and the histology is most adequately rendered by the reproduction of serial sections through the ear. A long section on the inflammatory diseases is followed by one on the regressive, degenerative, and dystrophic changes; others deal with tumours, malformations, injuries, foreign bodies, and parasites. An attempt is made to correlate the effects of disease with the theories of hearing. The tympanic membrane is rarely affected alone, but it would appear that lesions of it which do not destroy its integrity, such as partial thickenings and patches of calcification, have only a slight effect on the acuity of hearing. Scar formation and perforation seem mainly to limit the appreciation of low notes. The acuity of hearing is thought to be dependent on the preservation of the stapes and its mobility. If it becomes fixed hearing is made much more difficult, and there is a loss of sensibility to the higher tones. Though the drum, malleus, and incus be absent, if the ear is otherwise normal there is appreciation of low tones unless the stapes becomes fixed. Fixation of the ossicles without defect of the internal ear produces only very slight change in the acuity of hearing. For the author's views of the results of derangement of the fenestra rotunda, and of the cochlea, we must refer our readers to the volume itself. The author remarks, in conclusion, that it is extremely difficult to correlate the changes in hearing with the pathological findings. There are even cases of complete deafness in which no changes are found peripherally and in which it is fairly certain that central changes were absent.

There can be no doubt that this work represents a high standard of achievement. Each section contains, in addition to a discussion of the pathology of the organ, an account of the anatomy, physiology, and chemistry, and of the methods of investigation.

[1] *Handbuch der speziellen pathologischen Anatomie und Histologie.* Von F. Henke und O. Lubarsch. Berlin: J. Springer. 1926. (Sup. roy. 8vo, Bd. IV, pp. xiv + 1127, 377 figures; R.M.156, bound R.M.159. Bd. VIII. pp. xii + 1147, 358 figures; R.M.165, bound R.M.168. Bd. XII, pp. xii + 802, 640 figures; R.M.81, bound R.M.87.)

OBSTETRICS: DIFFICULT LABOUR.

DRS. CAMERON and HEWITT of Glasgow are already known to the profession as writers on obstetrical conditions, and they have recently added to their list of publications a book entitled *Difficult Labour*.[1] It is, perhaps, unfortunate that they have chosen a title which for many years has at once brought to mind the classical work of Herman, but it must be admitted that the character of the book justifies its name. In some three hundred pages the authors have endeavoured to cover the field of difficult obstetrics from the point of view of the general practitioner. This aim has been accomplished, for the most suitable lines of treatment for the anxious cases in midwifery practice are well described. It is evident that the work is more or less a record of the authors' clinical experience. The three main sections of the book deal with delayed labour, with labour complicated by haemorrhage and toxaemia, and with obstetrical operations; in two shorter sections maternal and foetal complications of labour and ante-natal supervision are discussed. No part of the subject is omitted; the chapters are written from the practical standpoint, and purely theoretical questions receive no attention. Perhaps the best chapter in the book is that on the use of forceps, and many pages are rightly devoted to the commonest operation in midwifery practice. The indications for forceps application and the value of the instrument in cases of pelvic deformity are fully considered, and attention is directed to the risks involved when the instrument is used in unsuitable cases. The authors advise conservative treatment of concealed accidental haemorrhage unless such treatment results in no clinical improvement; they base their opinion on the view that the uterus in such cases is in a state of painful spasm, which should be relieved by the use of morphine, repeated if necessary. The arguments brought forward point strongly to the correctness of this view. Hendry's method of controlling post-partum haemorrhage is severely criticized, but others will agree with Hendry's claim that the method is of value in many cases. The subjects of the albuminurias of pregnancy and eclampsia receive full attention; the authors distrust the value sometimes attached to the results of biochemical investigations of toxic cases. Few will agree with the practice of routine sterilization after Caesarean section; the writers seem to overlook the fact that the relative sterility after the operation is often voluntary owing to the patient's desire to avoid another section. This opinion has been expressed by Dr. Herbert Spencer, and is held by many other obstetricians. The subject of uterine inertia receives less attention than is due to so common a cause of delay in labour; it is dismissed in less than a couple of pages, while a page is devoted to the surgical procedures of extraperitoneal Caesarean section and plastic operations on the pelvic girdle, both matters of little moment to the general practitioner. The book has a definite place in the library of the medical man, its value lying in the clear and concise manner in which the various subjects are discussed and the general soundness of the views expressed.

The sixth edition of EDGAR'S *Practice of Obstetrics*[2] has been revised for publication by Dr. N. W. VAUX. The popularity of the book in the United States is shown by its many editions. It is a large volume, and readers will find that no part of the subject has been omitted, while it contains information on subjects not often dealt with in textbooks. After an opening discussion of the more theoretical parts of midwifery—development, ovulation, and menstruation—there follow sections on pregnancy, labour, and the puerperium. Here a rather peculiar arrangement has been adopted, for the pathology of pregnancy is discussed before touching on normal labour, and the pathology of labour before the normal puerperium is dealt with, a plan which it would be thought must tend to produce confusion in the mind of the student. The sections are themselves well written and present the essential points clearly. That on the management of the infant is worthy of special mention. Resort to manual dilatation of the cervix is advocated in many cases of placenta praevia, but we would suggest that this is risky advice for the average student, for the cervix suffers laceration only too easily in these cases. External podalic version, which is a valuable manœuvre in many cases of placenta praevia, is not mentioned. The discussion on the treatment of eclampsia leaves the reader in doubt on the question of emptying the uterus; surely there is now no need for hesitation on this important question. Obstetrical operations are described at the end of the book. Pubiotomy is mentioned only to be condemned as an obsolete procedure, and this probably is in general accord with modern teaching. We are surprised to find no mention of the combined cranioclast and cephalotribe as an instrument for craniotomy operations. We can commend the book to those who prefer a large treatise, but it will probably appeal more to the qualified medical man than to the undergraduate. The numerous figures and illustrations are excellent and well reproduced, but too many printer's errors have been left uncorrected.

[1] *Difficult Labour.* By Samuel J. Cameron, M.B., B.Ch., F.R.F.P.S.G., and John Hewitt, M.B. London: E. Arnold. 1926. (Cr. 8vo, pp. xii + 305; 33 figures. 10s. 6d. net.)

[2] *Edgar's Practice of Obstetrics for Students and Practitioners of Medicine.* By J. Clifton Edgar. Revised by Norris W. Vaux. Sixth edition. London: W. Heinemann, Ltd. 1926. (Sup. roy. 8vo, pp. xvi + 779; 681 figures. 42s. net.)

DISEASES OF THE ENDOCRINE SYSTEM.

THAT the second edition of Dr. ZONDEK'S book on diseases of the endocrine system[4] has appeared within three years of the first indicates that it has been appreciated by the medical profession.

The general scope of the book is unaltered, and the greater portion of the volume is occupied by the descriptions of the outstanding types of endocrine disorders. The first chapter has, however, been extended, and the author discusses in detail the relation between the action of hormones and the ionic milieu of the blood in an inactive form, and the relation of the milieu of the cell to the blood in an active form, and are only activated at their site of action, and advances the hypothesis that the action of a hormone is not a constant effect, but is very largely dependent on the nature of the milieu upon which it acts. In particular he associates increased vagal action with excess of potassium, and increased sympathetic action with excess of calcium. This is a very interesting but very difficult problem, and we are of opinion that the experimental evidence available is scarcely adequate to justify the author's generalizations.

The book concludes with a few pages of selected references. It is, of course, impossible for anyone to keep abreast of the colossal literature on endocrine secretions, but the author has omitted some recent work of first-rate importance, such as the researches of Abel on the nature of the active principle of the parathyroid gland.

As regards the vexed question of endocrine therapy, the author shows a healthy scepticism; in particular he mentions that his results with most ovarian preparations have been almost completely negative; and on page 358 he says: "A large number of clinical communications evidence a marked lack of critical capacity on the part of the authors, since they ascribe any results following ovarian preparations immediately to specific products assumed to be present. B. Zondek informs me that he also could stop amenorrhoea of some months' duration by non-specific remedies such as proteins."

The numerous illustrations were an outstanding feature of the first edition of this book, and in the new edition their number has been increased to 220. They will be found very useful by anyone who wishes to identify unusual forms of abnormalities due to endocrine deficiency.

A FRENCH TEXTBOOK OF MEDICINE.

IN Dr. JOURNÉ'S book on medical pathology,[5] the second edition of which has recently been issued, the whole domain of medical pathology is sketched in outline. He calls it a *Précis*, but it contains over fifteen hundred pages.

[4] *Die Krankheiten der Endokrinen Drüsen.* Von Dr. Hermann Zondek. Zweite, vermehrte und verbesserte Auflage. Berlin: J. Springer. 1926. (Roy. 8vo, pp. ix + 421; 220 figures. R.M.37.50.)

[5] *Précis de Pathologie Médicale.* By M. Journé. Second edition, entirely revised. Paris: N. Maloine. 1926. (Cr. 8vo, pp. 1520. 40fr.)

The orthodox method of exposition has been adopted; a short definition of each disease is followed by a concise account of the etiology, pathological anatomy, symptoms, and so forth. Details concerning pathological anatomy have, however, been considerably curtailed, only such facts being included as are indispensable to the proper understanding of the disease. Selection has also been exercised in dealing with the symptomatology. The aim has been to render descriptions as concise as possible, but sufficiently complete to include all cardinal symptoms, while those of minor importance, of inconstant occurrence, or presenting difficulties in clinical demonstration, have been omitted. Technical laboratory methods have been briefly referred to where they constitute important adjuvants in clinical diagnosis.

The arrangement of the book is partly on an anatomical, partly on an etiological basis. The majority of the diseases are described under the several anatomical systems, while the first five chapters are devoted to infectious diseases, parasitic diseases, intoxications, affections due to the action of physical agents, and nutritional diseases. The value of a book of this kind depends, not only on the completeness of the information within the assigned limits, but also upon the information being up to date. The author refers to the difficulty of keeping a textbook abreast of the continuous and rapid advance of medical science. After the lapse of a few years a medical work is antiquated. On the other hand, the multiplicity of medical doctrines with which an author is confronted is disconcerting and suggests reflections as to the possible vanity of certain pathological explanations. In this matter there is room for the exercise of discretion, and the author has endeavoured to include current doctrines which would be regarded as essential in an accurate sketch of the existing features of the science.

NOTES ON BOOKS.

PROFESSOR JEAN PIAGET of Neuchâtel has written a most interesting book with the title in its English translation of *The Language and Thought of the Child*,[6] giving the result of a long investigation into the mind processes of the child. How does a child think, and what is the basis of his reasoning? Why does he think and say what he does? Why is his curiosity so easily satisfied (a habit Binet considered one of the features of imbecile mentality)? Why does he affirm and believe things manifestly contrary to fact, and how and by what steps is his incoherence gradually superseded by the logic of adult thought? According to Professor Piaget the problem of the child mentality has been thought of as one of quantity, whereas he states it as a problem of quality. If the child mind appears opaque to adult observation it is because it belongs to a different kind of thought—autistic or symbolic thought—which the adult has long since left behind him or suppressed. Piaget's method has been to let the child talk and to observe the manner in which his thoughts unfold, allowing him to take the lead, and to talk freely with a minimum of questioning. It would seem that up to a certain age the child thinks and acts more egocentrically than adults; children share each other's intellectual life less than we do. When they are together they seem to talk to each other a great deal more than we do about what they are doing, but for the most part they are only talking to themselves. The adult keeps silent far longer about his action, and his talk is almost always socialized. The book is most suggestive and informative, and worthy of close study by teachers and psychologists.

Dr. GANS has sent us the first volume of his monumental work on the histology of diseases of the skin.[7] Although it contains over six hundred pages and is copiously illustrated, it deals only with atrophies, dystrophies, and inflammatory changes due to bacterial infection. The effects of mycotic infections, animal parasites, congenital abnormalities, and tumours are left for future volumes. In contrast with Unna's work on the same subject published in 1894, which was founded principally on that author's personal researches, the present treatise, owing to the great increase of knowledge of the subject, consists very largely of a critical summary of the results obtained by numerous workers. When necessary, however, the author, who is a highly skilled pathologist himself, indicates his own position when debatable points come under discussion. The illustrations, the majority of which are coloured, are exceedingly clear and helpful, and many of them are drawn from the author's own preparations. The bibliography is full, and well arranged for easy reference. In fact, Dr. Gans has produced a book which deserves the attention of every dermatologist and clinical pathologist, and we hope that the volumes promised for the future will not be unduly delayed.

The first volume of the second edition of Professor TANDLER'S textbook of anatomy[8] comprises the sections of osteology, arthrology, and myology—sections which, if they present little scope for originality in the text, are not so unpromising in regard to illustrations; these, reproduced on heavy paper, form in fact the main feature of the volume. As is usual in German textbooks, the mechanics of the various joints are considered at greater length than in English textbooks, while—another generic difference—the paragraphs introductory to the sections are written from a broader general biological standpoint. As an indication of the size of the work it may be stated that the space allotted to each section is slightly less than that given to the corresponding section in *Gray's Anatomy*.

For the last seven years each annual issue of *Burdett's Hospitals and Charities*[9] has been subjected to careful revision and condensation. To a great extent the aim, which is to provide a more convenient though still comprehensive register, has been attained for the time being, and in the thirty-seventh issue, which has just appeared, there is no radical alteration, though it is larger by some sixty pages than last year. A newcomer in its contents is a short statement about the central bureau of hospital information, which is now conducted by the Incorporated Association of Hospital Officers, at 28, Bedford Square, W.C.1. This bureau, which was established in 1925, works in co-operation with the Information and Service Branch of the Charities Board of Victoria, the Hospital Board Association of New Zealand, and the Lord Mayor's Hospital Fund of Melbourne. The hope is expressed that further institutions of this kind will appear in other Dominions and outside the Empire. The review of the conditions of voluntary hospital finance indicates that there is steady progress towards a co-ordinated system of hospital services, which will enable the individual units to function more effectually. The directory of institutions includes universities, colleges, and schools; hospitals in the Empire and in foreign lands; educational and charitable funds and institutions; nursing associations throughout the world; and periodicals in the United Kingdom dealing with medicine and allied subjects. As a reference book in these respects this year-book retains its unsurpassed value.

The *Minutes of the General Medical Council and of its Various Committees*[10] for the year 1926 have now been published with fifteen appendixes in a volume which includes the customary detailed reports of the two sessions of the General Medical Council and those of the English, Scottish, and Irish Branch Councils. Sir Donald MacAlister's two presidential addresses, which were published in our columns when delivered (SUPPLEMENT, June 5th, 1926, p. 205, and November 27th, p. 225), are also printed here. The longest of the appendixes comprises the interim report of the Education Committee on the progress made throughout the country towards the readjustment of the medical curriculum in accordance with the resolutions adopted by the Council on May 26th, 1922, which came into force on January 1st of the following year. The *General Index* to the Minutes of the General Medical Council and of its Executive and Dental Committees, and of its three Branch Councils, from 1903 to 1926, has also been published. It relates to volumes xl to xliii of the *Minutes*. The plan of previous editions has been followed, and each subject is fully indexed, the references being arranged chronologically, in many cases special subheadings being inserted. Since 1909 this useful work of reference has been kept standing in type and brought up to date from year to year, but in the interests of economy a number of entries are annually curtailed where experience shows that this can be done without impairing the usefulness of the index.

[6] *The Language and Thought of the Child.* By Jean Piaget, Professor at the University of Neuchâtel. Preface by Prof. E. Claparède. Translated by Marjorie Warden. International Library of Psychology, Philosophy, and Scientific Method. London: Kegan Paul, Trench, Trübner and Co., Ltd. 1926. (Demy 8vo, pp. xvii + 236; 2 figures. 10s. 6d. net.)

[7] *Histologie der Hautkrankheiten.* Von Dr. med. O. Gans. Band I. Berlin: Julius Springer. 1925. (Pp. 653; 254 figures. G.M.135.)

[8] *Lehrbuch der Systematischen Anatomie.* Von. Prof. Julius Tandler. I Band, Zweite Auflage. Leipzig: F. C. W. Vogel. 1926. (Imp. 8vo, pp. viii + 467; 352 figures. M.36.)

[9] *Burdett's Hospitals and Charities, 1927.* Founded by Sir Henry Burdett, K.C.B., K.C.V.O. Thirty-seventh year. London: Faber and Gwyer, Ltd., the Scientific Press. 1927. (Demy 8vo, pp. xiii + 1058. 17s. 6d. net.)

[10] *Minutes*, 12s.; *Index to Minutes*, 7s. 6d. London: Constable and Co., Ltd. 1927.

The Dance of Çiva: Life's Unity and Rhythm,[1] by COLLUM, belongs to the "To-day and To-morrow" Series, which are described as written by some of the most distinguished English thinkers to provide a stimulating survey of the most modern thought in many departments of life. The Eastern dance of Çiva, a representation of which forms the frontispiece, symbolizes life and death in a rapidly turning wheel, on the top of which a rather weird and scantily clothed female figure is represented as dancing. Written in what some may consider a clever style, with hints of underlying learning, it appears to argue that Western knowledge and culture are inferior to the Oriental. The medical profession comes in for reproaches which, if it reads them, it may accept with chastened resignation.

[1] *The Dance of Çiva: Life's Unity and Rhythm.* By Collum. To-day and To-morrow Series. London: Kegan Paul, Trench, Trübner and Co., Ltd. 1927. (Crap. 8vo, pp. 91; frontispiece. 2s. 6d. net.)

PREPARATIONS AND APPLIANCES.

Ephedrine.

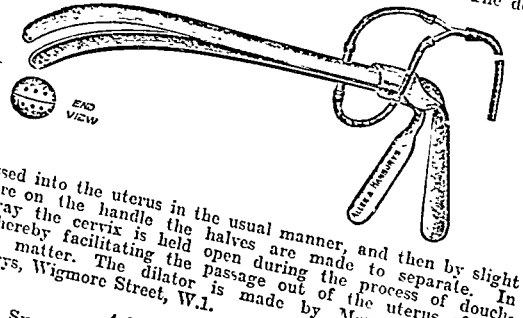
EPHEDRINE is obtained from the Chinese drug Ma Huang, which has, it is said, been used in China since 3200 B.C. The active principle, ephedrine, has recently been introduced into clinical medicine; its full chemical name is β-phenyl-β-hydroxy-α-methyl ethyl methylamine. The drug has been introduced to Western medicine by the researches of Read, Chen, and Schmidt of the Peking Union Medical College. Ephedrine is a sympathetico-mimetic amine, and therefore its pharmacological action is very similar to that of adrenaline, but ephedrine has the great practical advantage over adrenaline of being a stable compound that produces an effect lasting for an hour or more when given by the mouth. It produces powerful mydriasis when instilled into the conjunctiva, and when given by mouth is followed by a rise of blood pressure, which commences in about half an hour and lasts for several hours. Ephedrine has been used with success in place of adrenaline in the treatment of hay fever and asthma. The value of adrenaline in therapeutics has been limited by the fact that it cannot be given by mouth and has a very transient action. Neither of these objections appears to apply to ephedrine, and the drug ought to prove of therapeutic value in a number of different ways. The dose of ephedrine is from 1/2 to 2 grains. The drug has been prepared for clinical use by Messrs. Burroughs Wellcome and Co. and also by the British Drug Houses.

Concentrated Scarlet Fever Antitoxin.

The Wellcome Physiological Research Laboratories have produced an interesting new product—a concentrated scarlet fever antitoxin. It has been known for a few years that injection of the *Streptococcus scarlatinae* into horses resulted in the formation of an antitoxin, but progress was hampered by the fact that no animal test was known by which the activity of the product could be measured, and all tests had to be made on human volunteers. A test on rabbits has been discovered that is believed to be satisfactory, and this has rendered possible the production of concentrated serum. The dose recommended is from 20 c.cm. in a severe case up to 50 c.cm. in a very severe case. The antitoxin has proved valuable in a number of trials, but it cannot be expected to produce any direct action on the septic complications of scarlet fever. It is, of course, obvious that a considerable time must elapse before it is possible to make any certain estimate of the clinical value of a remedy of this character. The antitoxin is supplied by Messrs. Burroughs Wellcome and Co.

Uterine Douche Dilator.

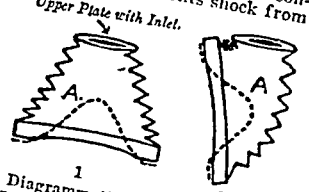
Dr. J. E. HEPPER (Brenchley, Kent) has devised an instrument for rendering uterine lavage more effective. The uterine douche dilator shown in the illustration is made in two halves, which, when closed, resemble an ordinary uterine douche. Each half is hollow and is perforated at the distal extremity, so that fluid will pass through it and be sprayed out at the end. The douche



is passed into the uterus in the usual manner, and then by slight pressure on the handle the halves are made to separate. In this way the cervix is held open during the process of douching, thereby facilitating the passage out of the uterus of any foreign matter. The dilator is made by Messrs. Allen and Hanburys, Wigmore Street, W.1.

A Modified Ether Inhaler.

Mr. R. SHAFFER, M.B., Ch.B. (Manchester), has devised an ether inhaler with an adjustable outer chamber for use in conjunction with an open ether mask. "By the open ether method," he writes, "a vapour strength of 12 to 14 per cent. is attainable, and whilst this safeguards against overdose, it has certain disadvantages. Chief amongst these is difficulty in inducing anaesthesia and securing adequate muscular relaxation in powerful subjects. There is thus a tendency to resort to chloroform at a stage when its use is to be particularly deprecated. The necessary result can be obtained by ether alone if provision be made for concentration of the ether vapour. By the use of the apparatus here described the induction period is shortened and the amount of ether used greatly reduced. The carbon dioxide in the patient's expired air is conserved and acts as a stimulus to breathing and prevents shock from acapnia. The chamber can be used in conjunction with the vapour method, or, if desired, can be converted into a closed inhaler by the adjustable cover. Being adjustable, it is equally efficient whether the head be in the medial or lateral position. The apparatus consists of (1) an upper metal plate with a central aperture through which the ether is dripped; (2) a lower base plate fitting over the Schimmelbusch; (3) tubular bellows attached above and below to the plates, enabling the upper plate to be kept horizontal irrespective of the angle of the mask and base plate. Anaesthesia is conducted by the ordinary drop or vapour methods, and the appliance provides an efficient secondary chamber for the concentration of the ether vapour and conservation of the carbon dioxide. The aperture being always at the top of the chamber, irrespective of the position of the patient's head, the vapour is retained by its own weight, and complete conservation is obtained by closing the cover. Since almost all the ether is actually inhaled by the patient, instead of being disseminated into the atmosphere, a great saving of ether is effected. In Manchester the apparatus has been used with success in powerful, muscular, and alcoholic subjects in whom the open method and semi-open methods have failed to produce adequate muscular relaxation. The model used was made by Messrs. James Woolley, Ltd., Manchester.



1 2

Diagrammatic illustration of the apparatus. 1, Position at beginning of induction. 2, Position during the operation. The Schimmelbusch shown by dotted line. A, A, Outer chamber of ether surrounding the Schimmelbusch in both positions.

INTERNATIONAL OPHTHALMOLOGICAL CONFERENCES.

AT the meeting of the convention of English-speaking Ophthalmological Societies held in London in July, 1925, the President, Mr. E. Treacher Collins, was invited to appoint a committee of five to obtain the co-operation of ophthalmologists of all countries for the promotion of international ophthalmological congresses. Early in October this committee sent out a general notice to ophthalmological societies and ophthalmologists in all parts of the world, asking them to nominate two delegates from each country to confer on the question of the re-establishment of international congresses, and on other matters of international ophthalmological interest. The response to that notice has been widespread; already all the principal countries of the world have indicated their approval of the project, and, in the great majority of cases, have named their delegates. The provisional arrangement is that the committee shall, in response to an invitation from the Netherlands Ophthalmological Society, meet at the Hague on Tuesday, July 12th. Mr. E. Treacher Collins will attend as convener of the conference. The delegates nominated are:

Argentine: Professors Enrique B. Demaria and Raúl Argañaraz.
Austria: Dr. Adalbert Fuchs and Professor Dr. Josef Meller.
Belgium: Drs. Henri Coppez and Léon Weekers.
Bulgaria: Professor C. Pascheff and Dr. Slavoff.
China: Dr. T. P. Lee.
Czecho-Slovakia: Dr. A. Elschnig and Professor Leser.
Denmark: Drs. K. K. K. Lundsgaard and Chr. F. Bentzen.
Finland: Professor V. Grönholm and Dr. Y. G. Lindberg.
France: Drs. Morax and Terrien.
Germany: Professors Axenfeld and Wessely.
Great Britain: Sir J. Herbert Parsons and Mr. Leslie Paton.
Holland: Professors G. F. Rochat and J. van der Hoeve.
Hungary: Professors Emile de Grósz and L. de Blaskovich.
Japan: Professors S. Ishihara and Oguchi.
Norway: Professor Hagen and Dr. Malling. Substitutes, if necessary, Drs. Gjessing and I. Schiötz.
Rumania: Drs. C. Pandelescu and N. Rásvan.
Spain: Drs. M. Marquez and F. Poyales.
Sweden: Professors Fritz Ask and Albin Dalén.
Switzerland: Professor J. Gonin and Dr. Ernst Pflüger.
United States: Drs. G. E. de Schweinitz and Arnold Knapp. Substitute, if necessary, Dr. Walter R. Parker.

The following countries have intimated their intention of taking part, but have not yet nominated their delegates: Cuba, Italy, Poland, and Jugo-Slavia. No reply has, so far, been received from Brazil, Chile, Egypt, Greece, Peru, Portugal, Russia, and Venezuela.

A MEDICAL REVIEW OF SOVIET RUSSIA.*

V.—THE MEDICAL PROFESSION, SOVIET SCIENCE, AND SOVIET SANITATION.

BY

W. HORSLEY GANTT, B.Sc., M.D.

(Formerly Chief of the Medical Division of the American Relief Administration, Leningrad Unit.)

PART III.

WORK AND ORGANIZATION OF THE PUBLIC HEALTH DEPARTMENT.

As the public health department (Narkomzdrav)† in Russia is an innovation of the Soviet Government—there was none under the Tsar—its organization and work merit some description.

The Narkomzdrav is under central control and in close relation with the other branches of the Government. The Commissar (Minister) of Health, Dr. N. Semashko, is also a member of the "Tsik"‡ or Central Executive Committee, which constitutes the pinnacle of power in the Soviet Government, having for its other members the other people's commissars (Ministers), Zinoviev, Trotsky (formerly), Lunacharsky, Rykoff, etc. Each State has a public health department, or Gubzdrav, at whose head is usually a Communist doctor having control of the public health affairs of his district and responsible to the central authority.

The work of the Narkomzdrav is divided among departments, each administered by a competent physician: (1) sanitary-epidemic, including sections for tuberculosis, syphilis, malaria, etc.; (2) therapeutical; (3) department of sanatoriums; (4) war sanitation; (5) railroad and steamship sanitation; (6) maternity and child welfare; (7) care of youth, including departments for athletic sports and physical culture; (8) control and organization of scientific research work. Practically all of the medical work in Russia is under the Narkomzdrav, but the medical schools are under the People's Commissar of Education, Lunacharsky. The post-graduate courses for doctors, however, are under the Narkomzdrav.

The work of the various departments is unified and co-ordinated by the central control and frequent conferences. It has obvious advantages over the former poorly organized work under the Tsar. Professor A. A. Vladimiroff, director of the Institute of Experimental Medicine, said: "Under the old system, that now being done by the Narkomzdrav was inefficiently handled by fourteen different organizations, which had no connexion one with the other." Each department of the Narkomzdrav has a scientific section with laboratories for research to direct the practical work. For example, the tuberculosis section has a central scientific institute in Moscow under which are many branch institutes in different parts of Russia. These laboratories are not fully established in all the departments, and some years will be required for the complete elaboration of this new plan.

Dr. Semashko, the head of the Narkomzdrav, who has the twofold duty of being a Communist leader and of caring for the health of a territory occupying one-half of Europe and one-half of Asia, was a country doctor on the middle Volga (Samara) before the revolution. He is an energetic and efficient organizer. He has won the admiration of all, including even political foes, by his integrity and justness. In outlining his work to me, he said:

"The present tendency of our work is prophylactic and sanitary—education of the peasant and workman to care for himself. This was entirely neglected under the rule of the Tsar. The whole population will be brought under medical examination and sanitation, by means of our newly installed medical points throughout the country, and the polyclinic and dispensary. In these we have also a complete system for carrying on social welfare work."

To illustrate, I will outline the work of several of the departments of the Narkomzdrav.

The antituberculosis work is modelled on the Edinburgh scheme, and is indirectly indebted to Sir Robert Philip for its inspiration. Besides the organization of medical points, ambulatory, dispensary, and polyclinic groups designed to care for prophylaxis, treatment, propaganda, etc., there were organized in 1922 in every large institute a system of "cells" or units claimed to be original in Russia. They are made up of workmen—voluntary workers—who are members of the organization to which they belong. The units are of various kinds—tuberculosis, venereal, sanitation (ventilation, heating), maternity, etc. The work consists in the distribution of educational health pamphlets, the carrying on of public health campaigns, the detecting of the sick and bringing them to the physician, and so on. By thus shifting part of the responsibility on to the working man, he is taught to take an interest in and have a care for his own health. The principle involved is that of Dr. Semashko: "The health of the working masses should be in the hands of the workmen." Patients detected by the medical units are sent to the ambulatories, which exist in every factory and important institution, for first aid and preliminary examination, and if more attention is needed, the physician sends them on to the polyclinic or dispensary. Each dispensary consists of a medical and a social section. The latter investigates homes, sanitation, registers social and infectious diseases, and carries on educational propaganda. Separate departments exist for children, the youth, tuberculosis, venereal disease, obstetrics, etc.

In connexion with the dispensary, polyclinic, and medical "cells" are the Councils of Social Help, consisting of the staff of the dispensary and of representatives of trade unions, factories, schools, and Government departments. Their duty is to provide help for the individual patient.

The following is a quotation from Professor A. A. Vladimiroff, to whom I am greatly indebted for other explanations in regard to public health work in Russia.

"Before the revolution there was no systematic fight against tuberculosis in Russia. In 1918 there was organized for the first time a special department for tuberculosis in the Narkomzdrav. Once a year there is a tuberculosis week; the newspapers, schools, museums, cinemas, present the subject to the public; pamphlets and posters are distributed. Educational propaganda is now one of the chief factors of the work."

Dr. Semashko, in commenting on the work against syphilis, said to me:

"Prostitution, which is one of the greatest causes of syphilis, has been officially prohibited by the Soviet Government and is punishable by fine. There are now no houses of prostitutes in Russia. A vigorous campaign is to be made again this autumn against venereal disease. Women's organizations are finding employment for the prostitutes. Although there are still some places in Soviet Russia where syphilis is very prevalent, there is less in the Red Army than there was in the Tsarist Army."

Malaria, now three times more frequent than in pre-war times, is demanding the attention of several branches of the Soviet Government. Before the revolution there was no systematized campaign against this disease. The methods enforced under the initiative of the Narkomzdrav are: (1) obligatory registration by card of the sick; (2) the establishment (in 1922) of an institute in Moscow for professional study of malaria with branch institutes in the large cities; (3) the opening of 113 antimalarial stations between 1921 and 1925; these constitute the primary units, and consist of dispensary, a small section for clinical observation, a laboratory, and a museum for sanitary instruction; (4) direction of the work by a central commission in Moscow with subcommissions throughout Russia; (5) compulsory co-operation of the other Government departments; (6) propaganda by instruction in the schools, cinemas, newspapers, and factories; (7) exemption of quinine from taxation and the distribution of a certain amount free (10,000 kilograms in 1923). In 1922, 8,000 kg. of quinine were imported; in 1923, 12,000 kg.; in 1924,

* Previous papers on medical and scientific work in Soviet Russia by Dr. Horsley Gantt were published in the BRITISH MEDICAL JOURNAL in 1924: I, A Review of Medical Education in Soviet Russia, vol. i, p. 1055; II, Hospitals and Health Conditions, vol. ii, p. 356; III, Scientific Work, vol ii, p. 533. The first part of section IV, on "Change in type and incidence of disease," was published on August 14th, 1926, p. 303; Part II of this section was commenced on October 23rd (p. 747) and concluded on October 30th (p. 802). Part I of Section V was published on January 29th, 1927 (p. 198), and Part II on February 5th (p. 244).

† Narkomzdrav = official abbreviation for Narodny Kommissariat Zdravoochranenia (People's Commissar of Health).

‡ Tsik=abbreviation for Tsentralny Ispolnitelny Komitet.

60,000 kg.; but, according to Dr. Dobreitzer, four times this amount was needed.

The physico-therapeutical section of the Narkomzdrav was established in 1924. Dr. N. S. Zvonitsky, its chief, described its work to me as follows:

"During the war four physico-therapeutical institutes were built, but now we have over a hundred, and in the next two years we plan to build fifty more. We have received one million roubles from the central Government for this, and we shall receive three times this amount from the local governments where they are erected. Three million treatments were given in 1924. Our work is chiefly with the factory employees. In villages where we have no institutes we are beginning to teach the peasants to make use of natural agencies, as sun and air baths. The plan is being evolved by a central commission in Moscow for the whole of the U.S.S.R."

Dr. N. Kishkin, formerly Minister of the Interior under Kerensky, and now chief of the health resorts for the whole of Russia, said (1925) of his work:

"After the revolution we have many more diseases in Russia than formerly, and diseases that we never had before. The order of occurrence of these in our sanatoriums is: tuberculosis, bone diseases, nervous diseases, mostly functional, and stomach diseases. During the famine we had markedly fewer stomach ailments than now. The occurrence of syphilis this summer (1925) in our health resorts was 1.1 per cent. of the total number of patients—a decrease over previous years.

"We are doing ten times as much prophylaxis as before the war, through our tuberculosis and venereal institutes and dispensaries. We are doing less treatment because of the lack of drugs, equipment, and money. But the work is progressing. Although we have had workers in our sanatoriums for four years, we have had this year for the first time many thousands of peasants, and will have more next year." [The sanatoriums have been almost exclusively for workers and Communists, who receive maintenance free of charge.] "Many of our palaces are now turned into sanatoriums."

When I asked him about the relative position of scientific work in his department, he said:

"We formerly had no commissariat for health and no scientific work in the sanatoriums. For two years scientific institutes have been attached to the health resorts. There are central parent institutes in Moscow, where laboratory specialists work during the winter in conjunction with our therapists, planning the work for the summer. There are balneological, hydrological, and climatological sections at work. Before the war the sanatoriums were private, and the best doctors did not have charge of them; now the foremost surgeons and physicians are sent from Moscow, Petrograd, etc., during the summer to carry on the work."*

Care of Youth: Athletics.

After the revolution, children's homes, intended to care for the entire child population, were instituted, but these have been abandoned, so that there remain only homes for certain organizations, such as those for the orphans of peasants and workmen. Their condition is remarkably good compared to what it was when I visited them three years ago (1922-23). Besides the drilling in Marxism and antireligious formulae, the inmates are being taught personal hygiene and given systematic scientific instruction. This type of institute is entirely new in Russia.

In old Russia there was a lack of almost every form of sport. In the short space of three or four years its development has been phenomenal; athletics are now general in the large cities and institutes, and are spreading all over Russia. I have seen in villages two thousand miles away from the great centres boys playing football; and in the large cities great numbers of boys and girls engaged in football, games, rowing, swimming, and foot races—many more than there were two years ago.

The Highest Soviet of Physical Culture is under the control of the Narkomzdrav and of the Narkompross (Department of Education). It has chargo of physical culture in Soviet Russia. Mr. H. A. Anderson, of the European Student Relief, who has been responsible for the introduction of physical culture in the universities, has given me the following account (October, 1925):

"Physical culture is compulsory (on paper) in every school, from the lowest to the university, but is not carried out on account of the lack of funds, leaders, and programme, except in the large cities. In the whole country there is not a modern gymnasium, an indoor track, or an indoor public swimming pool.

"At first the Soviets allowed no competitive games, and tried to make the gymnasium supreme over sport, to agree with Marxian politics; however, this was impracticable, and now competitions predominate. There are two schools (Moscow and Leningrad) for training teachers of physical culture, with 600 students. The best physical culture is being done in the factories, where gymnastics is more general than in American factories, though not so well conducted as in the best American. School gymnastics are as yet poorly organized. Courses for physical culture are now, for the first time, conducted in Russia. One can judge of the progress of athletics by the record of the Russian soccer team, which ranks among the best three or four in the world, although this game was almost unknown in Russia six years ago. Other sports, however, have not developed so remarkably."

Propaganda.

One of the most successful efforts of the Narkomzdrav has been its propaganda for personal hygiene and against disease. I have seen placards of exhortation, not only in all public places, trams, etc., but in the reading rooms in small villages; and in the newly established peasants' and workers' clubs there are pamphlets and books on hygiene and infections. Several cinema films of educational and scientific value have been worked out. Among those which I have seen are "Abortion," explaining the dangers of irregular abortions; "Rejuvenation," explaining the Voronoff and Steinach operations; "Conditioned reflexes," dealing with the work of the Pavlov laboratories. These are shown to the general public. They contain scenes which, though entirely represented from the scientific point of view, would not be permitted in America—for example, full details of the birth of a child, sexual intercourse in animals, lunatics, etc. This shows both the naïveté and the freedom from prudery of the Russian mind.

Dr. Semashko, in commenting on the work of the Narkomzdrav to me, made the following observations: The present bad health conditions are largely the result of the lack of education dating from the imperial period and the effects of the famine. Prophylaxis by educating the people, which is one of the cardinal principles of the public health work at present, was forbidden under the rule of the Tsar. Trachoma and other such diseases were not combated then; there were no laws regulating working hours, nor rest homes for mothers, nor participation of workers in public health matters as at present, nor dispensaries. The death rate is now below that of 1913; infantile mortality, which was higher in Russia than in any other European country, has diminished from 25 per cent. before the war to 12 per cent. in Leningrad and 13.7 per cent. in Moscow; health officers are being sent into the villages; abortions, though legalized, are regulated, and are fewer than in other countries; there are now 1,699 country medical stations; against 1,338 before the war; the average radius of a doctor's practice is now 11.2 km. compared with 13.1 km. before the war; the Soviet Government gave 10,125,000 roubles in 1925 for the construction of hospitals and public health work. The campaign against prostitution illustrates the general trend of the work. "The battle against this social evil is against prostitution and not against the prostitutes. It proceeds on two lines: first, the relief of the unemployment of women and the prevention of vagrancy among women and children, and secondly, against houses of prostitution and their proprietors."*

CONCLUSION.

As a matter of historical interest I have described the past life of the Russian scientist. As regards the future, I have quoted the opinion of leading scientists both pro and con.

Scientific working conditions as well as general living have gradually improved during three years: for the last year there has been a marked improvement. There is no doubt in my mind, after nearly four years of intimate acquaintance with Russia, that the Soviet Government desires in every way to aid science. Its attitude, though coloured by the enthusiasm of the officials for Marxian politics, is comparatively liberal and generous, and is becoming more so. Though the Government is at present in financial straits, funds allotted to scientific work are being increased. There is a question, however, as to the extent to which their methods will produce practical results, in view of the

* The total number of patients at the health resorts is now less than before the war, but this is attributed to the need of repairs and the lack of money of the individual. Most of the beds are occupied by Government officials, members of unions, etc., whose expenses are paid by the Government or unions.

* The account in the above paragraph is derived from personal interviews with Dr. Semashko, and also from the *Weekly News Bulletin* of the Society for Cultural Relations with Foreign Countries.

changed living and social conditions under which scientists have to work. They are now treated with favour, and though they have suffered it has not been on account of any direct action against them. Their present economical condition compares favourably with that of other countries, if one makes allowance for the difference in the standard of living in Russia. While there has been deep gloom and pessimism as to the future of science in Soviet Russia, there seems to be a slowly growing optimism.

The newly organized public health department—the first worthy of the name in Russia—has shown interesting and energetic developments under the able leadership of Dr. Semashko. The extreme conditions under which it has had to work make difficult a judgement of its efficiency.

In the next (and concluding) article of this series I shall give details of the work of some of the scientists of Russia.

TUBERCULIN IN THE PROPHYLAXIS AND TREATMENT OF TUBERCULOSIS.

THE control of an infectious disease may be attempted in two ways: first, by exterminating the germ which causes the infection; secondly, by immunizing, or raising the resistance of, potential sufferers from the disease. In practice both methods are usually carried out in a large number of infectious diseases. Thus in typhoid fever the system of notification, isolation, and disinfection aims at destroying the bacillus, and so preventing the spread of the disease; while antityphoid inoculation is designed to prevent exposed persons from being infected. Similarly with small-pox, in which the object is to render the whole community insusceptible; but in the event of a case occurring measures are taken for stamping out the freshly introduced germ. It is, perhaps, failure to distinguish between these two processes which has prevented victory in the various crusades against tuberculosis. What are called tuberculosis schemes are mainly concerned with an attempt to exterminate the tubercle bacillus. It is not far off half a century since Koch discovered the tubercle bacillus. With the recognition of the infectiousness of tuberculosis battalions of sanitary forces have been thrown into the attack. The main objective of all these forces has been to destroy the tubercle bacillus wherever found, or at least to confine its ravages to the infected. The ubiquity of the bacillus has stood in the way of the success of these offensive measures; and it is still possible to maintain that defensive measures of immunization are the true way to victory.

Modern procedure in dealing with tuberculosis consists in notification, sanatorium treatment, dispensary supervision, the establishment of colonies, disinfection, and the examination of contacts. Subsidiary measures are concerned with the milk and meat supply. The object of all these measures is to prevent the dissemination of the tubercle bacillus. They have had some success, but it is very far from being complete; so widespread is the disease that many doubt if it ever can be; and not a few experts in the disease hold that if the measures were successful the result would be a community intensely susceptible to chance introduction of infection. If they are correct it would follow that the only way to check the ravages of tuberculosis must be by some form of immunization, that the disease must be fought on lines similar to those which overcame small-pox, though the conditions in tuberculosis may not render necessary universal vaccination. But it seems evident that any scheme must have regard to the cure of persons already suffering from chronic tuberculosis, since they may disseminate the infection.

TUBERCULIN IN DIAGNOSIS AND TREATMENT.

When Koch first prepared his tuberculin it was with the idea of curing actual sufferers from tuberculosis. Later its use was extended to diagnosis, especially in cattle. The unfortunate results in early days in the human being prevented its adoption as a routine means of treatment. Nevertheless, tuberculin or methods based on the theory of its action have continued to find supporters, and the possibilities of some such method as a preventive procedure should not be neglected. At present there are at least three methods of treatment in existence for definitely raising the resistance to tuberculosis: vaccination with the bacillus by the method devised by Calmette and Guérin, applicable only to the newly born; the Spahlinger method, which has attracted a great deal of public attention, but has not yet been thoroughly tested by competent and impartial observers; and the tuberculin treatment at dispensaries, advocated especially by Dr. Camac Wilkinson. There is, of course, a preventive side to tuberculosis schemes, and general public health administration, by raising the general health of the people, and presumably, therefore, their resistance to tuberculosis, by better housing, better food, and better hygiene, must have had a considerable effect. Moreover, it has within its range the examination of contacts, by which means it is hoped to detect early cases and prevent the development of the disease. But notwithstanding the undoubted value of these measures, the fact remains that in many instances, however early the disease is detected, and however thorough the hygienic measures adopted, the patient goes from bad to worse, and treatment is of no avail.

THE SCIENTIFIC ASPECT OF TUBERCULIN TREATMENT.

We propose to state the views of Dr. Camac Wilkinson, not because we have any conclusive evidence that his treatment is of any more value than other forms of treatment, but because they form a connected and ingenious theory of the disease which, if true, should be helpful in research. Moreover, although they do not necessarily involve preventive immunization of the whole community, they contain a suggestion that prevention may be aided by rendering sufferers from the disease less dangerous than ordinary hygienic measures can make them.

According to Dr. Camac Wilkinson, acute tuberculosis occurs mainly in two classes of people—in children under 2 years of age, and in adults who have never been infected at all. In both cases the disease is very severe and is nearly always fatal. Very many people, however, are affected mildly, possibly through milk, after 2 years of age, but they have been able to overcome the disease, and they have done so by encysting the tubercle bacilli in a fibrous capsule. The process renders such persons immune to mild doses of infection, so that the majority go through life without any further manifestation of the disease. Dr. Wilkinson, we gather, holds that without this encapsuled focus there would be no immunity for them; but if by chance they meet with some massive source of infection at a time when their resisting power is lowered, they are very liable to become infected. These are the persons who provide the vast bulk of the cases of chronic pulmonary tuberculosis. Having originally had an infected focus they are comparatively immune, and do not suffer from acute forms of the disease, but meeting a massive infection when their resistance is lowered they become chronic tuberculous cases.

Dr. Wilkinson's next proposition is that tuberculin enables a diagnosis to be made at a time when physical signs are practically absent, and also when it is still doubtful whether the case is one of acute or chronic tuberculosis. According to his view a positive reaction to tuberculin indicates the presence of living tubercle bacilli in the body. In a patient who has reacted positively, a lessened reaction on later inoculation shows that the tissues are winning; an increased reaction indicates that the bacilli are winning. No reaction to tuberculin indicates that no bacilli are present. Consequently tuberculin, he holds, not only shows whether tubercle bacilli are present or not; it also discriminates between cases that are progressing and cases that are retrogressing, and is the only means of distinguishing the early stages of acutely fatal forms from the early stages of chronic forms of the disease. He believes, however, that tubercle bacilli cannot survive long in fibrous tissue.

THE USE OF TUBERCULIN IN TUBERCULOSIS.

Dr. Wilkinson's next assertion is that tuberculin is the best treatment in forms of tuberculosis which are amenable to any treatment. The therapeutic effect of tuberculin, he

says, is to favour fibrosis, which is the only process that can lead to anything that can be described as cure. The production of fibrosis leads to the disappearance of tubercle bacilli from the sputum; those that have not perished have become encysted, and so are rendered harmless. Consequently tuberculin treatment can be applied at a dispensary, the diseased process can be arrested in individual patients, and the bulk of them rendered free from danger to others; and the enormous costs of present tuberculosis schemes can be largely curtailed. Infectious cases are, he maintains, thus converted into non-infectious, and the risk of massive infection in the family is minimized or removed.

The point in Dr. Wilkinson's thesis which may prove most difficult of acceptance is his statement that to produce immunity in tuberculosis it is necessary that a focus of infant infected under 2 years of age almost invariably contracts an acute tuberculosis which is fatal. But after 2 years of age a mild infection may be contracted, the bacilli may become encysted, and the presence of this encysted focus of the disease will render the child more or less immune, but not completely so. If the tubercle bacilli, says Dr. Wilkinson, are destroyed in the primary stage, as probably often happens especially in the chronic forms of the disease should exist. According to Dr. Wilkinson an infection may be contracted, the immunity slowly disappears and reinfection may occur, but not in an acute form. In these cases in middle life a massive infection may overcome such immunity as remains, and the patient may become an example of the common form of chronic pulmonary tuberculosis. It appears, therefore, that in Dr. Wilkinson's opinion a mild infection after 2 years of age may either be completely cured or may leave a fibrous encysted focus. In either case the patient is fairly well protected from acute forms of tuberculosis; but in both he is susceptible to the chronic form of the disease if exposed to massive infection. The completely healed person will not react to tuberculin, while a reaction is obtained whenever an encysted focus is present.

Dr. Wilkinson regards the disuse of tuberculin in the cure of the disease as due to errors in its administration. He asserts that he has never seen any harm caused by tuberculin when properly administered; and, as we have indicated, he regards it as by far the best and least costly treatment. Dr. Wilkinson's method of treating his patients is to begin by injecting a dose—generally 0.0002 c.cm. of T.A.F. or T.A.—for diagnostic purposes. Any rise of temperature to 100° F. or over, coupled with a skin reaction and other special symptoms following the dose, is regarded as conclusive of the existence of living tubercle bacilli in the body. If the temperature rises to less than 100° F. further diagnostic doses of 0.001 c.cm., 0.005 c.cm., and 0.01 c.cm. are given. Dr. Wilkinson asserts that in thirty years' constant use of tuberculin he has never seen a bad effect from one or several test doses. On many occasions, on the other hand, he has been able to prove the existence of tuberculosis in people who had been regarded as free from the disease; while in others a previous diagnosis of tubercle has been shown to be erroneous.

When satisfied that the diagnosis of tuberculosis is correct, Dr. Wilkinson proceeds to treat the patient with tuberculin, beginning with quite small doses, increased at intervals of four to six days, until as much as 1 or 2 c.cm. are injected. The speed with which the dose is increased depends upon the reaction shown by the patient, who is taught to keep a record of his own temperature. The patient's weight, to increase of which Dr. Wilkinson attaches great importance, is recorded at each visit to the dispensary. After a course of treatment, lasting some months, patients are advised to present themselves a year later for further test doses.

WHAT IS IMMUNITY TO TUBERCULOSIS?

It is not, however, with Dr. Wilkinson's claims to successful treatment of individual sufferers from tuberculosis that we are most concerned. Such claims are made by everyone who treats tuberculosis, yet tuberculosis persists. The questions which seem to be of importance are: First, does tuberculin cause fibrosis, and thereby shut off foci of infection? Secondly, if so, does it produce results sufficiently effective to render unnecessary some of the costly tuberculosis schemes? Thirdly, to what extent can its use be described as preventive? We gather that no claim is made that tuberculin can be used as a vaccine for immunization against tuberculosis comparable to the vaccination by attenuated living bacilli, for which good results in infants are claimed by Calmette. It appears, however, to be a fact that tuberculin is used in treatment, even in some sanatoriums; it seems to be very difficult to obtain definite statements as to the results; and it is clear that the questions we have asked can only be answered after proper investigation. In 1920 the Medical Research Council was asked by the Ministry of Health to investigate the claims made by Dr. Wilkinson, and Drs. G. T. Western, L. S. T. Burrell, and A. S. MacNalty were entrusted with the task. The report of these observers was at first regarded as confidential. But in the summer of 1923 Dr. Wilkinson published a pamphlet, entitled *The Tuberculin Dispensary for the Poor*, in which he criticized the report severely, and complained that the observers had made serious misstatements about his treatment, and had not given sufficient time to the investigation of his methods and his cases. In reply to this pamphlet the report was published in full in the *Lancet* on November 3rd, 1923.

In matters of scientific interest, especially in those which may have large public importance, it is unfortunate should prejudice or intolerance of criticism be allowed to affect the issue. The main conclusion of the observers was that "the method of tuberculin administration advocated by the Tuberculin Dispensary League does not appear to have claims over other methods of treating tuberculosis, either with or without tuberculin, which would justify its general adoption." There is no reason to doubt that the observers arrived at this conclusion after due deliberation on the material offered to them; and, from the point of view from which they investigated, it is quite possible that the conclusion was legitimate. What may be doubted is whether the observers had in mind the object which, perhaps, is alone of any real value to public health.

Let us briefly recapitulate the argument. All tuberculosis schemes are more or less ineffective in exterminating tubercle. We have ventured to suggest that in most schemes the objectives of extermination and immunization are not clearly distinguished. Among the schemes having an immunizing objective may be placed Dr. Wilkinson's. He alleges that large numbers of people are immunized in childhood, probably by bovine infection. This immunity is liable to break down later on when a patient is exposed to massive infection. If this occurs he proposes again to close the open tuberculosis by means of tuberculin, which promotes fibrosis. In doing so he asserts that he renders the patient less liable to infect others. The observers from the Medical Research Council appear to have confined their attention solely to the percentage of cures obtained by Dr. Wilkinson's treatment. They do not seem to have made any criticism of the scientific value of Dr. Wilkinson's views; and they made no comparative estimation of the merits and costs of the treatment. They found that the percentage of cures was no larger than that obtained by other forms of treatment. The question at once leaps to the mind, if the cures are the same and the costs to the community and also to the individual are less, what reasons are there for preferring the more expensive treatments to the cheaper? The observers do not answer this question, unless it is by leaving us to infer that tuberculin as administered by Dr. Wilkinson appeared to them to be useless, although they do not go so far as to say so. Indeed, they cannot have come quite to this conclusion, since they state that occasionally individual cases seem to derive distinct benefit from tuberculin treatment. They found that Dr. Wilkinson succeeded in immunizing his patients to large doses of tuberculin, but that there was no evidence that he immunized them to tuberculosis. Yet in the next paragraph, referring to patients who had had "hygienic" treatment as well as tuberculin, they say that early recognition and putting the patient under hygienic conditions rank as *equal* with, or as more important factors than, tuberculin in the arrest of the disease. We have confessed that we had no evidence that Dr. Camac Wilkinson's tuberculin

treatment is of any more value than other forms of treatment in individual cases of tuberculosis. What we cannot gather from the report of the Medical Research Council's observers is whether it is of less, or no, value. Above all we find in that report no definite challenge to the views on tuberculosis held by Dr. Wilkinson.

Seeing that offers of assistance have been made to M. Spahlinger for the purpose of testing his views, which, so far as we understand them, have a certain general resemblance to those of Dr. Wilkinson, we think it would be justifiable to ask the Medical Research Council or the Ministry of Health to undertake further investigation of the tuberculin dispensary treatment, especially in its scientific aspect. The questions to which answers might be sought are: Is it true that tuberculin as administered by Dr. Wilkinson produces no ill effects? Does tuberculin cause fibrosis around tuberculous foci? If so, can the effect be produced in a sufficient number of patients to lessen the dangers of infection to others? Is tuberculin of use for diagnosis in the human being? If the answer to these questions is in the affirmative, the final question is whether the use of the treatment is sufficiently effective to relieve the country of some of its burdensome expenditure on tuberculosis. If the answer to the questions is negative, the tuberculin dispensary patients might profitably be directed to other forms of treatment.

PNEUMONIC PLAGUE.

EPIDEMIOLOGY, DIAGNOSIS, AND TREATMENT.

A Treatise on Pneumonic Plague[1] by Dr. Wu Lien-Teh is a valuable recent addition to the series of publications issued by the Health Organization of the League of Nations. Its author, who is a graduate in medicine of Cambridge, is the greatest living authority on this form of the most devastating of epidemics. The arrangement of the work is excellent; full attention is paid to theoretical ideas and explanations, each tested by carefully planned and admirably executed scientific investigation, and followed by a cautious summing-up of the evidence and an unbiased statement of the conclusions which may legitimately be drawn. To each of the eight chapters is appended a full bibliography; in the bibliography to Chapter I, on the history of pneumonic plague, 561 references are given. This chapter is of great interest; in it are discussed the epidemics which have been, often on insufficient grounds, regarded as plague, and it is concluded that the first definite reference to the disease dates from the time of Justinian (A.D. 542). There is a table giving the incidence in different countries from the beginning of the fifteenth century (by mistake called fourteenth in the heading) to the present day, and another, even more important, stating the various places all over the world where outbreaks have occurred, naming the rodent and other mammals involved in the epizoötic, and their principal fleas, and stating the incidence of pneumonic plague. The author shows that in the vast majority of epidemics the earliest cases are bubonic, but that pneumonic cases occur with greater frequency at the beginning of pandemics. The first bubonic cases become quickly complicated with secondary pneumonia and appear clinically as if they were primary pneumonic plague. "Only at autopsy can the primary bubo be found."

The outbreak on s.s. *Calypso* in 1906 appears to have been at first of true pneumonic type, and in this instance rats and mice killed by fumigation were examined with negative results.

Chapter II deals with plague in wild rodents and its spread to man. The countries which the rodents inhabit are enumerated, with histories of outbreaks among them, and their distinguishing features, modes of life, the existence in them of natural plague and experimental infection, are discussed. Appended to this chapter is a list of those rodents which are known to suffer from spontaneous plague, the countries in which they occur, and the references to the literature where the record can be found.

The epidemiology of pneumonic plague is considered in three main sections—rise, spread, and decline. The first question which occurs is one that has not yet been fully answered: it has to do with the origin of pneumonic plague epidemics; they do not arise directly from epizoötics, but from human cases with secondary lung involvement. They may originate from bubonic cases by action of "extrinsic" factors, meteorological and social. This, however, does not explain the frequency of pneumonic cases in newly invaded areas at the start of an epidemic; examples of this are afforded by the black death, and by the pandemics in India, Japan, and elsewhere; it may be that climatic conditions enhance the susceptibility of the lungs to disease while bad social conditions impair individual resistance. Other explanations offered are that there is an "intrinsic" factor, that there are two strains of the bacillus (not confirmed by the Plague Commission), that there may be a special virulence, or a mixed infection, or, lastly, a "pneumotropism" of bacilli; in favour of this last there is some evidence. The relation of special flea-vectors is also considered; the *Xenopsylla cheopis* is said to account more for bubonic, the *Pygiopsylla ahalae* for pneumonic attacks; but this matter is complicated by the question of the species of rodent involved and the characters of the corresponding epidemics. Probably the human factor is the most important, because pneumonic plague usually spreads directly from man to man, and not by the intermediation of the flea; when dealing with the pathology of the disease and primary pneumonic plague in animals the author shows, moreover, that all are not equally susceptible to respiratory infection. After a description of the morbid anatomy, bacteriology, and diagnosis there follows a discussion of the site of entry, which is shown to be the deep portion of the respiratory tract.

Chapter V, on the clinical features and diagnosis, amplifies the statements found in modern textbooks, and the next chapter clears up several dubious points, and tells all that is known of the infectivity and immunity of this form of plague. It is shown that patients are non-infective in the very early stage, because cough and expectoration are absent, that even fairly close contact may not suffice to communicate infection, that the bacillus has a poor resistance to drying, and that, on this account, the evidence for dust-borne infection is weak. If the temperature is sufficiently low, dead bodies remain infected for considerable periods, even through the winter. There is no racial immunity or susceptibility; spread depends on the living conditions—bad ventilation, overcrowding, habits of indiscriminate spitting, etc. The possibility of carriers must not be forgotten; they probably play a very limited part in the spread of pneumonic plague.

Therapy and prophylaxis occupy the last two chapters; the penultimate dealing with personnel, the last with general prophylaxis and the management of epidemics. The value of serum, vaccines, and a combination of the two is discussed with sound and impartial reasoning. The management of epidemics is considered from the two aspects: Measures *within* the infected area, such as detention of cases, disposal of patients, management of contacts, evacuation of buildings, disinfection, disposal of corpses, etc.; measures *outside*, such as the establishment of a cordon, control or stoppage of traffic, and other like matters, while publicity, propaganda, and educational campaigns are not omitted.

Appended to the treatise are some good plates of rodents and of patients, microphotographs of the tissue changes set up, and stained sections of them; pictures of masks and clothing, ambulances, etc., while, as a frontispiece, there is an excellent reproduction of a plague lung. The bibliographies, as already stated, are very full; so is the table of contents, but this does not quite make up for the absence of an index. This is not only the best book on the subject of pneumonic plague which has appeared up to the present, but it will probably remain the standard treatise for many years to come.

[1] *A Treatise on Pneumonic Plague.* By Wu Lien-Teh, M.A., M.D., LL.D., Sc.D., Litt.D. Geneva: Publications of the League of Nations. C.H. 474. III. Health. 1926. (6¼ × 9¼; 40 figures. 20s.)

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HUNTER AND LISTER.

THE task set before a Harveian or a Hunterian Orator nowadays is no light one. His many distinguished predecessors must seem to him to have covered the ground so thoroughly as to leave little scope for saying anything new. Sir Berkeley Moynihan, the latest Hunterian Orator, nothing daunted by the difficulties of the situation, has drawn a parallel between John Hunter and his successor at a century's interval, Joseph Lister, which is of the greatest interest. If, as Timothy Holmes said in 1893, on the occasion of the centenary of Hunter's death, he was the "greatest man indeed who ever practised surgery," Sir Berkeley Moynihan was surely justified in his claim for Hunter and Lister together that they were the two greatest surgeons the world has ever known. Despite the deficiencies of his early education, Hunter was the first scientific and philosophic surgeon who approached his subject, as Lister did, by the way of physiological and biological experiment and investigation.

It is fitting that the latest panegyrist of these two great men should in himself fulfil Sir Jonathan Hutchinson's ideal of a surgeon as "a physician who operates," and should be so eminently well qualified to take a broad philosophic view of the progress and prospects of surgery. It was a happy inspiration which led him to couple in his oration these two heroes of modern surgery—the young Scot who left his native Lanarkshire in 1748 to join his celebrated brother William in London, and to become successively pupil, house-surgeon, and surgeon at St. George's Hospital, and the young Englishman who, like him, but with a difference, left his Alma Mater, University College, to become house-surgeon to Syme in Edinburgh, almost exactly a century after Hunter had filled a similar office in London. Both were natural philosophers and physiologists before they were surgeons, and both made revolutions in practice and founded schools of surgery. In his lifetime Hunter's fame was by no means commensurate with his merits, and only the elect realized his greatness: for his gift of exposition was poor, and he never acquired the power of clarity of expression. Ill health impaired his vigour and no doubt affected his temper for the last twenty years of his life, during which he felt the effects of that experiment which "rendered him, in the words of Sir D'Arcy Power, "a martyr to science," and terminated his existence before he could receive his due meed of fame. Abernethy, who might be called an apostle of Hunter, and knew him well and admired him, wrote of him: "I was acquainted with Mr. Hunter at a period of his life when he must have greatly interested anyone who duly appreciated the results of his talents and labours, or who had any sympathy for the highly susceptible mind of genius, rendered still more so by excess of exertion and the perturbed feelings incident to bodily disease. He seemed to be conscious of his own desert, of the insufficiency and uncertainty of his acquirements, and of his own inability readily to communicate what he knew and thought."

Lister, more fortunate in his intellectual equipment and training, and enjoying a much longer span of life, lived to see his teaching triumphant over prejudice, ill-judged opposition, and ridicule, until when he died, full of years and honours, the Council of the Royal College of Surgeons of England passed that worthy resolution in which it is truly stated that "He raised Surgery from a dangerous and precarious practice to a precise, safe, and beneficent Art, and in doing so, his name became renowned throughout the civilized world. . . . His gentle nature, his deep compassion, his imperturbable temper, his resolute will, his indifference to ridicule, his tolerance of hostile criticism, combined to make him one of the noblest of men." To adopt the orator's striking metaphor, Lister has erected a great, complete, and permanent bridge over which we have all passed to triumphant successes in surgery. Hunter was forever building bridges, ambitious in design, firm in their foundations, but always left unfinished, as witness his experiments in embryology, in the transplantation of life in the tissues, and organs, in the preservation of life in the tissues, and on the sensitive plant, to mention only a few of his researches. Some of these bridges are being completed, and others doubtless will be, when the foundations laid by Hunter will be found sound.

If to-day the amount of ground covered by the ancillary sciences is so vast that no man can hope to possess an up-to-date knowledge of physiology, pathology, chemistry, physics, and surgery, as was possible in Hunter's day, then the surgeon must more and more often and more fully take into his counsels the experts in these branches of knowledge. Let no man think that in so doing the gain is likely to be all on one side. The pathologist and the physiologist may learn much from what the surgeon has to show them of the pathology of the living, on the importance of which Sir Berkeley Moynihan has elsewhere and at other times insisted, and on which he again insists in this oration. As he pointed out, Lister—although he did not use this phrase—well recognized the importance of this part of the subject when he devoted so much industry and intelligence to the study of inflammation. Surgery, in the orator's opinion, is a great weapon of research. Operations undertaken and conducted solely in the interests of the individual patient have resulted incidentally in valuable additions to our knowledge of normal anatomy and physiology, as well as of pathology, which could hardly have been gained by any other means.

We all hope we may flatter ourselves that we of the twentieth century have more open minds, freer from prejudice and with a wider outlook, than our predecessors of the nineteenth; yet it is probable that the surgeons and pathologists of the middle of the last century laid a similar flattering unction to their souls, although there are those now living who remember how hardly and how slowly Lister's principles won recognition in London. Their value once demonstrated, it might have been thought that they would have found ready acceptance. But it was not so. These principles were arrived at by Lister and by him alone. The work of Pasteur and his triumphs in general pathology were well known in this country, but Lister alone saw their bearing upon the problems of suppuration and sepsis, and applied Pasteur's discoveries in the hospital ward. This reflection should make us humble, and incline the hearts of the younger generation to follow the advice of Sir Berkeley Moynihan to profit by the great spiritual legacy left by such men as Hunter and Lister, and to avail themselves of that surgery which he describes as the mo-

powerful weapon of research. We look forward, with the orator, to the day when preventive surgery as well as preventive medicine shall have rendered unnecessary much of what is now familiar to us as surgery, and when our weapons of war—or rather, those of our successors and descendants—shall be laid aside as no longer needed. Sir Berkeley Moynihan's eloquent peroration must inspire all who read it with a spirit of hope and faith in the future of our art.

THE VOLUNTARY SYSTEM IN MEDICINE.

SOME prominence has been given in the daily press to a speech by Sir Kingsley Wood, Parliamentary Secretary to the Ministry of Health, delivered on the occasion of the opening of the new buildings of a convalescent home at Worthing. The speech, along with other interesting matter, contained two declarations of policy which are worth noting. Speaking with some appearance of authority (though in such matters it is difficult to be certain what amount of authority appertains to the utterances of a subordinate member of the Government), the Parliamentary Secretary said with regard to the hospital question that "the Government stood firmly by the voluntary system, and would do everything it could to encourage voluntary organizations and hospitals"; and he went on to declare that "the Government's policy was wholly opposed to the creation of a State medical service. It would not be in anybody's interest to take the work now being done by the medical practitioners of the country and put it into the hands of whole-time public servants."

The main reason for which these declarations will be welcomed by the medical profession is not that they remove any apprehension of an early and radical change of system in public health and hospital organization. No such apprehension exists. The defences against any such frontal assault on existing methods are secure. As Sir Kingsley Wood himself said: "One of the best signs of the time was that during the last two years the voluntary hospitals had demonstrated their vitality and their hold on the people of this country." These hospitals have so established themselves in the hearts of all classes in the community, givers and receivers alike, that any direct and deliberate attempt to change fundamentally the system of their governance and management would be emphatically condemned by public opinion. A similar statement is equally true with regard to any suggestion to impose upon large numbers of people in this country a system by which they would be provided with medical advice and treatment through whole-time State or municipal doctors rather than by means of private practitioners of their own choice. As Sir Kingsley Wood again said, "Nothing would be gained by such a course, and much would be lost."

Changes and extensions are, however, in progress or in contemplation in connexion with various health and hospital services. Some of these changes and extensions are urgently necessary, and will receive the whole-hearted support of the medical profession. The danger is lest, in this process of reform and enlargement, anything shall be done insidiously, almost unwittingly, to weaken the principles and traditions of voluntary hospital management and of private medical practice, which are now by common consent recognized as being of such vital importance to the health and social life of the nation. In changing the character or position of Poor Law hospitals, and in encouraging or sanctioning the extension of municipal or county hospitals of various kinds, the relation of these institutions to the existing voluntary hospitals is of the utmost possible moment. In making increased communal provision for the giving of medical advice and treatment to certain sections of the population, whether mothers and babies, school children, or dependants of insured persons and others in like economic position, the decision as to whether this shall be effected by municipal clinics and treatment centres which are, or have a tendency to be, staffed by whole-time medical officers, or shall be brought about by an insurance or other system in which the best features of purely private practice, including an effective freedom of choice of doctor, can without difficulty be incorporated, is perhaps the most vital of choices presented to the profession, the social reformer, and the politician. On professional and on public grounds alike there should be no hesitation in making it. The one method leads insidiously, but scarcely less certainly, to a whole-time State clinical service; the other can be used effectively to maintain all that the medical profession holds most essential and all that the public has learnt most to appreciate in its relations with members of the profession. It is because the declarations of the Parliamentary Secretary to the Ministry of Health have such an important bearing on these questions that they will most be welcomed; and they are of the greater importance if they can be taken as an official assurance that the principles thus enunciated will be applied by the Government in any legislative and administrative measures that it may propose or take.

DIVERTICULOSIS AND DIVERTICULITIS.

SEVEN years ago the Subsection of Proctology of the Royal Society of Medicine staged what is believed to have been the first set discussion on the subject of diverticulitis. The meeting was extremely well attended, and its immediate result was that diverticulitis ceased to be known merely as a sort of occasional by-product of the operating theatre or *post-mortem* table, but earned for itself a place in scientific medicine, with well defined symptomatology and pathology. But that discussion did more for medicine than merely to put diverticulitis in its proper place, for it set in train a series of investigations as to its causes, its early history, and its clinical course, of which only the last stage had previously been recognized and studied.

Last week the Subsection once again chose diverticulitis for discussion, and it soon became evident that the intervening seven years had been fruitful in results. Dr. Spriggs opened the proceedings by recounting the conclusions arrived at by himself and his colleagues at Ruthin Castle, and an international atmosphere was given to the discussion by the presence of the well known French surgeons Drs. Martel and Pauchet, both of whom addressed the meeting in fluent English, the latter supplementing his remarks by showing some of those splendid drawings for which his surgical contributions are so notable. Dr. Spriggs made it clear that the chief advances in our knowledge of diverticulitis are due to improvements in radiological technique, particularly as applied to the opaque enema, and he showed slides which had been taken from the same patient over a period of years in which it was easy to trace the progress of events from the early stage of multiple small diverticula to the final condition of chronic

inflammatory thickening of the bowel, leading to obstruction. It became evident from the figures and the x-ray slides how well founded was the suggestion that the term "diverticulitis" should be reserved for those cases in which secondary changes had become established. The much larger number of cases where secondary changes have not yet developed would then be classified as examples of diverticulosis.

When does diverticulosis become diverticulitis? This change is at once revealed by serial x-ray photographs following an opaque enema, and wherever inflammatory changes are occurring in the diverticula the normal peristaltic waves are lost—a fact readily demonstrated by superimposing one picture upon another and taking tracings. It appears to be agreed by all observers that, when once established, diverticulitis is always progressive, although a great deal may be done by careful treatment to delay the final complications of obstruction, pericolic abscess, and fistula. With diverticulosis, on the other hand, it seems that efficient medical treatment may avert indefinitely the onset of secondary changes, so that it is probable that increasing knowledge and experience will go a long way in the direction of diminishing the proportion of cases that come into the surgeon's hands.

Although, in a sense, the physician would appear to have it all his own way with diverticulosis and diverticulitis, it must not be supposed that surgery has stood still. Far from it; for as the nature and pathology of these interesting cases have become better understood, the surgeon has been able to develop his technique in such a way as to enable him to deal successfully with most of the complications that may arise when the early stages have been unrecognized or inadequately treated. Sir Charles Gordon-Watson, Mr. Mummery, Dr. Martel, and Dr. Pauchet all gave lists of cases in which a high degree of success had been obtained, and the latter described a most ingenious method of replacing by a piece of small intestine a portion of the descending colon excised for diverticulitis. It seems evident, however, that whereas seven years ago diverticulitis was essentially a surgical disease, it has now definitely come within the province of the physician, and that in future it is only his failures that the surgeon will be called upon to treat.

TESTS FOR DRUNKENNESS.

A good example of the work the British Medical Association does for the information, not only of the profession, but of the public—and in this instance for the better administration of justice—is afforded by the report on tests for drunkenness, which is published in full in the SUPPLEMENT this week. For several years a good deal of public attention has been aroused by the number of convictions of persons charged with drunkenness when driving a motor car, and a certain amount of apprehension was caused by the fact that in some of these cases, which were reviewed with the assistance of counsel, the decision of the magistrate was not sustained. In the autumn of 1925 the Association of Metropolitan Police Surgeons informed the British Medical Association that it had been considering the revision of the tests in common use, but had arrived at the conclusion that it would be better for the British Medical Association, which is representative of all shades of professional opinion, to take the matter up. The Council accordingly appointed a committee, containing some of its own members, two metropolitan police magistrates, and several police surgeons. It was well known that charges involving an allegation of drunkenness were also made in the police courts in a large number of other cases not connected with motor cars. The British Medical Association was concerned in two aspects of the position which had arisen: first, there was what may be called the clinical question—the diagnosis of drunkenness; secondly, it was aware that in a good many cases a regrettable conflict of medical evidence was disclosed. The committee, over which Major-General Sir William Macpherson presided, had from the first to take into consideration the fact that the symptoms produced by alcohol, as by other toxic substances, vary in severity, according to the size of the dose, and, possibly, the susceptibility of the individual. The mere fact that it was proved, or admitted, that some alcoholic liquor had been taken a short time before the occurrence of the circumstances which led to the charge was, in a country like this, where so many people are in the habit of taking alcoholic beverages, clearly insufficient. The committee studied the subject very thoroughly in all its aspects, and examined much of the voluminous literature which has grown up about it, including the practice and regulations in foreign countries. It examined also the tests in common use in this country to determine the fact that the accused person was "drunk," and came to the conclusion that there is no single symptom due to the consumption of alcohol which might not also be a sign of some other pathological condition. The committee attempted a definition of the word "drunk," which it considers "should always be taken to mean that the person concerned was so much under the influence of alcohol as to have lost control of his faculties to such an extent as to render him unable to execute safely the occupation on which he was engaged at the material time." The advice to the medical practitioner called in to such cases is that in the absence of any pathological condition a person may be declared to be definitely under the influence of alcohol if there is a smell of it in the breath or in the vomited matter, but only provided certain concomitant signs or symptoms are observed—namely, a dry furred tongue or excessive salivation, irregularities in behaviour, suffusion of the conjunctiva, coupled with an abnormal condition of the pupil, loss or confusion of memory, particularly for recent events, and of appreciation of time, hesitancy and thickness in speech, and tremors and errors of co-ordination and orientation. An interesting clinical observation which has been made by many police surgeons is that when alcohol in toxic quantity has been consumed the pupil reflex to ordinary light is absent, but that to a bright light the pupil will contract and remain contracted for an abnormally long time, indicating delayed reaction. The committee was not able to recommend the estimation, by analysis of the blood, urine, or cerebro-spinal fluid, of the amount of alcohol consumed. This is also the opinion of the Danish Medico-Legal Society, after consultation with the police. Such examinations are not practicable in the circumstance in which an allegation of drunkenness is ordinarily made. A medical decision must be reached within a short time, and the committee recommends that in ordinary cases any person accused of drunkenness should be able to rely upon being seen by a doctor, if he so desires, within half an hour of the time at which he is charged. After studying the procedure of the police in Great Britain, of the Royal Navy, and of the Army, and also in New Zealand, France, and the United States of America, the committee arrived at the conclusion that in order to obtain uniformity in the method of testing drunkenness some such form of certificate as that drawn up by the Danish Medico-Legal Society might with advantage be adopted when examining persons in this country. For particulars of the Danish method reference must be made to the report itself, where they are set out in an appendix. The Council of the Association has directed that the report should be printed separately and put on sale.

THE HUNTERIAN FESTIVAL, LONDON.

THE Hunterian Festival of the Royal College of Surgeons of England was held on Monday last, when the President, Sir Berkeley Moynihan, delivered the Hunterian Oration, which is published in the opening pages of this issue. Before the oration, at a private meeting of the Council, Princess Mary, Viscountess Lascelles, was admitted an Honorary Fellow of the College; she is thus the first woman to be placed on the roll of honorary Fellows, and the fourth member of the Royal Family whose name appears on that roll, the others being the King, the Prince of Wales, and the Duke of Connaught. She attended the oration wearing the academic costume of a Fellow. In the evening a dinner was given in the College Library, where a large company of guests was entertained. After the usual loyal toasts had been honoured and "The Memory of John Hunter" had been drunk in silence, the toast of "The Guests" was given by the senior Vice-President, Sir Cuthbert Wallace, who asked Viscount Lascelles to convey to Princess Mary the College's appreciation of the honour she had done it; she had thus set the seal of her favour on the action of the College in giving full rights to its women Fellows. In speaking of the guests he mentioned them in groups—the law, the arts, the public services, and the many members of the medical profession present. In conclusion he expressed the opinion that owing to the work of Lister the technical achievements of surgery had perhaps reached a limit, and that it would be necessary to turn away from the mere handicrafts of surgery to the collateral and ancillary sciences. Lord Riddell, who replied in a jocular vein, said that what the public wanted to know from the medical profession was, not what to avoid, but what diet to take in order to attain the intellectual eminence which he saw in so many of those around him. The toast of "The President and the Hunterian Orator" was given by Viscount Lascelles, K.G., who began by conveying a message from Princess Mary expressing her pleasure in receiving the honour conferred upon her that day. She looked upon it as setting the seal on the work she had attempted to do during the last six or seven years. She had begun her active career during the war, and had always been attracted to that part of social work which aimed at the alleviation of suffering. Lord Lascelles went on to speak of his long association with Sir Berkeley Moynihan in many movements in which they were both interested in the part of the West Riding where they both resided. The President, in an eloquent and moving reply, recalled how the family to which Viscount Lascelles belonged had consistently used its influence to promote the welfare of the Leeds Infirmary from the time of its foundation in the eighteenth century by the first Hey. He mentioned the succession of Heys as surgeons to the Infirmary and the high ideal possessed by the staff of that great hospital—an ideal which he had always endeavoured to maintain. The end of his own services to the Infirmary was approaching, but he had the satisfaction of feeling that he had helped to inspire his present colleagues, who would be his successors, and most of whom were his pupils, with the hopes for the future of surgery by which his own career had been actuated.

THE BRIGHT CENTENARY.

THE centenary of the publication of Bright's *Reports of Medical Cases*, the famous book which announced the discovery with which his name has ever since been associated, will be celebrated next July at Guy's Hospital. Richard Bright, who was born in Bristol in 1789 and graduated M.D.Edin. in 1812, took several opportunities which opened to him to visit many parts of Europe, including Iceland, and did not settle in London until 1820, when he was elected assistant physician to Guy's Hospital. He became full physician in 1824, and when he resigned in 1843 he was made consulting physician. As was stated by Dr. J. F. Payne in the *Dictionary of National Biography*, Blackall and Wells had pointed out that dropsy was in many cases connected with a special symptom—namely, that the urine was coagulable by heat, owing to the presence in it of albumin. But the two symptoms were not traced to their source until Bright, by his *post-mortem* investigations, ascertained that in all such cases a peculiar condition of the kidneys was present, and thus proved that the symptoms really were those of a disease of the kidneys. "The explanation," Dr. Payne continues, "once given seems as simple as putting two and two together, but the importance of the discovery is shown by the fact that no one before had suspected the kidney to be the organ implicated. It proved Bright not only to be an acute observer, but to possess the much rarer faculty of synthesis, which makes an observer a discoverer." The significance of Bright's synthesis was quickly understood in all parts of the world, and has perhaps rather obscured the fact that Bright showed his originality of mind in the description of many other diseases, especially those of the abdomen. Sir William Hale-White pointed all this out in *Guy's Hospital Reports* for 1921, and noted in particular that one book written jointly by Bright and Thomas Addison contained a description which Howard Kelly seventy years later said "could not be surpassed to-day" of the now common disease which in 1866 was named appendicitis by the late R. H. Fitz of Boston, U.S.A. Invitations to be present at the celebration have been accepted by many distinguished persons in all parts of the world, and the Royal College of Physicians of London will give a conversazione.

INDIAN PILGRIMAGES AND CHOLERA.

SIR LEONARD ROGERS'S recent paper before the Indian Section of the Royal Society of Arts on the forecasting and control of cholera epidemics in India was in part a recapitulation of the considerations he had addressed to the Royal Society of Medicine some months ago;[1] but he stressed more particularly the part played by fairs and pilgrimages in the occurrence of such epidemics. While deficient rainfall, he said, was a constant factor predisposing to cholera epidemics, the effect of the great pilgrimages could not be disregarded. His warning is timely, because 1927 is the year of the great Kumbh Hardwar fair, which takes place every twelfth year, and attracts pilgrims to the number of between one and two millions. The fair years of 1867, 1879, 1903, and 1915 were all marked by epidemic invasions of the Punjab from the endemic areas of the western United Provinces, and the Hardwar pilgrims were almost certainly the vehicle. In one of the fair years, 1891, the increased incidence was comparatively small, because the absolute humidity in that year was unfavourable to cholera spread. In other parts of India also pilgrimages and fairs were shown to be active agencies, as, for instance, in the dissemination of cholera over the Central Provinces from the surrounding areas, and in the Bombay Deccan. Discussing prophylactic measures, Sir Leonard Rogers said that much had already been done to diminish cholera in some of the large towns by the provision of good water supplies, but India was in the main a land of villages, and it would take centuries to improve village sanitation to the extent necessary to reduce materially the prevalence of this disease in India. A simple and effective measure, however, was available in anticholera inoculation. The numbers to be inoculated in any one district, even in the Kumbh year, would only be

[1] BRITISH MEDICAL JOURNAL, May 1st, 1926, p. 784.

a few thousand, and with a little organization every dispensary in the district could be utilized. As the breaking up of the pilgrimages consequent upon an outbreak of cholera was very inimical to the interests of the Hindu priests, the Government should be able to obtain their cordial assistance in carrying out this harmless measure. It was in the epidemic areas of the Punjab and Central Provinces that such a plan of protection was most essential, for those provinces owed their epidemics chiefly to their own pilgrim population visiting the cholera-infected areas and bringing back the disease with them. In the endemic areas themselves the problem was more difficult, but the principle was the same; and he held that no one should be allowed to attend the great fairs at Hardwar, Allahabad, Puri, and elsewhere without first being inoculated against cholera. The sensitization of the cholera vaccine, as worked out in Tokyo, had resulted in an efficient protection combined with an absence of all severe reactions, and this last would be an important point in dealing with the Indian populations. In a brief discussion which followed the paper, Sir Havelock Charles suggested that, before inoculation was made compulsory, the Government should have available a special staff of thoroughly trained men to carry it out. Major W. A. Justice mentioned that in Madras attention had been more or less confined to the provision of protected water supplies in places where the sacred festivals were held, and during the last twenty years this had made a material difference to the incidence of cholera. There was opposition, however, from the pilgrims to the protection and covering-in of the wells on their route. Sir Michael O'Dwyer, speaking as a former governor of the Punjab, said that matters of public health under the reform scheme were in the hands of an Indian minister, and his action in this matter, so important to the well-being of his people, would be one of the tests of the new constitution. Another speaker, Major-General D. Harvey, remarked that a large supply of cholera vaccine was being sent with the troops embarking for China for use if necessary before the cholera season, which began later in the year in Shanghai.

LUIGI ROLANDO.

DR. PIETRO CAPPARONI, in a recent historical sketch,[1] has given an account of an anatomist whose name is familiar to every medical student. Luigi Rolando was born at Turin on June 16th, 1773, where, on the death of his father, he was brought up by his maternal uncle, the learned priest Maffei. From the first he showed a special predilection for anatomy, and became the favourite pupil of Cigna. He also distinguished himself at an early date in clinical medicine and in natural science, particularly zoology. In 1802 he published a dissertation on the structure and function of the lungs in all classes of animals. On November 5th, 1804, he was nominated professor of practical medicine at the University of Sassari in Sardinia. At Florence, where he resided before taking up his appointment in Sardinia, he pursued advanced studies of anatomy with Mascagni and made the acquaintance of Fontana. In 1809 he published an essay on the true structure of the brain in man and animals and the functions of the nervous system, with illustrations which he had drawn and engraved himself. In 1814 he was appointed professor of anatomy at Turin, and during the next fifteen years his scientific output was considerable. He died of carcinoma of the pylorus, in 1831, at the age of 59. During the last years of his life he was physician to Maria Theresa of Austria. Rolando's scientific work was mainly anatomo-physiological and embryological. Though he devoted his attention particularly to the anatomy and physiology of the brain, he published also an important physiological study on the passage of fluids into the solid state, the formation of vegetable and animal tissues, and the vessels and heart, and two zoological works. Rolando is best known for his description of the fissure between the frontal and parietal convolutions which bears his name.

[1] *Bollettino dell'Istituto Storico Italiano dell'arte sanitaria*, November-December, 1926.

A PRIVATE HOSPITAL SCHEME.

THE directors of the Ladies' National Clubs, Ltd., propose to extend their activities to the provision of a private hospital and nursing home "where the best medical care and efficient nursing can be obtained at fees which gentlefolk of moderate means can afford to pay." A large house has been secured in South Kensington which it is intended to open for the reception of resident and non-resident patients. It is anticipated that each bed in a small ward will cost four guineas a week and private rooms six guineas and upwards; personal laundry, medicines, dressings, and operation room fee are extras. The hospital will be under the supervision of a medical superintendent, who will, when necessary, be able to procure for any member the services of physicians, surgeons, and specialists at modified fees: "Medical list will be sent on application." There will be a sister-in-charge with fully trained nurses under her. The managing director of the club will be the resident organizer. It is hoped that the hospital will be self-supporting, but it is not intended that it shall be run for a profit to the company. It is proposed to provide a guest-house close to the hospital so that members coming to London for medical advice or friends of patients may obtain accommodation. Attached to the preliminary prospectus, of which we have received a copy, is a printed slip giving the names of nine medical practitioners (all of high repute); there is a note that the list is incomplete, and written thereon is the statement, "Not for publication." The scheme is variously described as intending to provide a "private hospital" and "nursing home." Presumably what is really meant is a nursing home, for it is to have some thirty to forty beds. The home appears to be intended for the use of members of the Ladies' National Clubs, who are reported to number some sixteen hundred. The covering letter of the prospectus states: "Members of the clubs are being asked to contribute a fixed sum per annum (10s. 6d. and 21s.) for the upkeep of the hospital, to which they will have the right of admission on the payment of reasonable fees." This statement would indicate that the nursing home is a strictly private concern arranged for the convenience of the subscribers. The wording of the prospectus is, however, a little vague on this point. The policy of the British Medical Association on nursing homes is worth recalling in this connexion—it favours the formation of self-supporting public nursing homes for patients who, being ineligible for the voluntary hospitals, are yet unable to pay the customary professional fees as well as the charges usually made in private nursing homes. The management of such homes should be vested in a committee in which the local profession is adequately represented. Patients should be admitted only on the recommendation of their own doctor. It should be open to a patient to select any registered medical practitioner as his attendant. Modification of professional fees should be made only when there is a satisfactory representation of the particular circumstances of the patient. If this projected nursing home be for the convenience of the members of these proprietary clubs only, the foregoing provisions may not apply to it, since on this assumption they, as subscribers, are solely entitled to admission. But in some of the published accounts of the scheme in the lay press it is stated that

both women and men will be admitted to the home, which would appear to bring this scheme within the policy of the Association as given in these extracts. This is a matter which might well receive the consideration of the promoters of the scheme. On the face of it, the idea of providing for the emergencies that must arise in the large membership of this combination of ladies' clubs would seem to be admirable, but it is not clear that this is the sole field that it is proposed to cover.

SUBCUTANEOUS INJECTION OF B.C.G.

ON January 23rd Drs. Weill-Hallé and Turpin read before the Académie de Médecine a note on "*pre-immunization*" of the infant against tuberculosis by subcutaneous injection of B.C.G. (bacillus Calmette-Guérin). Pre-immunization,[1] it may be remembered, is defined as a vaccination comparable with that produced by vaccinal viruses, but with this difference, that it is bound up with the persistence of the vaccinating organisms in the lymphatic tissues of the immune subject. Calmette administered the vaccine by the mouth in three doses on alternate days within the first ten days after birth. This limitation to ten days was due to Calmette's belief that the intestinal mucosa of newly born animals easily absorbs bacteria, but loses this power in a few weeks. Drs. Weill-Hallé and Turpin found that certain infants from contaminated stocks did not benefit from pre-immunization by ingestion of B.C.G. through the intestinal mucosa. With the approval of Professor Calmette it was decided to try the subcutaneous method, already used for calves. The infants thus treated were carefully selected, were infants of tuberculous parentage, and were from 3 weeks to 9 months old. A single dose of B.C.G. was given, in the earlier cases 1 mg., in the later 1/4 mg., so that the number of bacilli injected was from 10 to 40 million, as compared with 1,200 million given by the buccal method. It appears that there was no general reaction from the injections, and no serious symptom arose. A nodule appeared at the site of injection about the third week, but there was no glandular enlargement. A cold abscess formed by the thirty-fifth or fortieth day. This began to discharge about the eighth week and lasted from two to three months, ultimately healing spontaneously with a punctiform scar. To avoid all fear of the phenomenon of Koch the tuberculin skin reaction was tested several times before the injection was given. After injection the reaction became fairly rapidly positive. One of the ten infants died some time after the injection, apparently from meningitis; but the observers had been unable to obtain particulars. The other nine infants had done well, notwithstanding in some cases exposure to massive infection. Drs. Weill-Hallé and Turpin hoped to be able to report later the minimum efficacious dose that should be injected subcutaneously, and the relative indications for the use of B.C.G. subcutaneously and by ingestion.

THE HOSPITAL PROBLEM IN CANADA.

IN his presidential address before the Manitoba Medical Association last September,[2] Dr. D. A. Stewart made some trenchant comments upon the present state of affairs in the Dominion as regards hospitals and the admission of patients thereto. He urged the need for more hospitals and better hospitals, with broader foundations and better ways of supporting them. Hospitals, he said, were needed for diagnosis and observation, and as retreats for a few weeks' rest for tired-out people, as well as for long periods of rest for chronic cases. Beds were needed also for longer convalescence, which might be both cure and prevention. Hospitals in the past had been quarantine stations for the protection of the community; now they were taking on the functions of community health centres. Just as the factory was the workshop taken out of the home, and the school the teaching of children taken out of the home, so the hospital was the sick-room taken out of the home. The hospital was as logical a place for the sick of the community as the school for its scholars. But there was no problem in social administration more difficult than the founding of hospitals and their conduct on a proper basis, so that they might welcome all, help all, yet hopelessly burden none and pauperize none. The tendency was to throw the whole responsibility upon the public purse, as "a sort of neighbourhood cow that everybody wants to milk and nobody wants to feed." Dr. Stewart recorded his belief that in Canada they had gone far enough in the direction of free treatment, with its tendency to make the individual negligent and forgetful of the fact that the primary responsibility for illness was his own. "Sickness is as often a fault as poverty is. . . . Every doctor knows that, in hard times especially, a differential diagnosis has often to be made between sickness and unemployment, or sickness and imagined sickness." Further, the working out of any scheme of treatment must not overlook the mental and moral factors. "To lose health is bad; but to lose moral stamina is worse. For a man to get out of hospital with legs and lungs healed, and body patched up, but moral backbone flimsy for life, is not a triumph but a tragedy." In Dr. Stewart's judgement a reasonable and workable way of paying the costs of illness might be found "in some general plan of more or less compulsory personal insurance under State auspices. . . . At any rate, the proper time to pay the costs of illness is while well and working, not while sick and spending. Such an arrangement would be a great boon, not only to sick people and the heads of sick families, but to hospitals and doctors as well. Both these unfortunately have to earn their livings from the sick, since the belief still prevails that they that are whole have no need of the physician, but they that are sick."

INFLUENZA.

THE mortality from influenza appears to be waning. In the great towns of England and Wales the deaths diminished last week from 818 to 759, and in London from 215 to 159. Excluding London from the total, the deaths of the last three weeks have numbered 473, 603, and 600. At the time of writing this note the detailed figures of notifications of pneumonia are not available, but the provisional figures suggest a considerable decrease in London and little change in the country as a whole.

LISTER DAY IN CANADA.

THE Lister Memorial Committee of the Canadian Medical Association has arranged that the second Listerian Oration shall be delivered in Toronto on April 5th, the anniversary of his birth. The committee has now proposed that April 5th should be selected every year as a Lister Day in every medical school, hospital, and health centre. One suggestion is that a lecture on Lister should be given in all hospitals, and that every convalescent patient should be invited to attend it. Another suggestion is that the medical profession in every locality should arrange for co-operation with the public health authority, and that Lister Day should be selected for making special appeals in aid of hospitals and of measures seeking to interest the public in the antituberculosis movement, the cancer campaign, and sanitation in general. A final proposal is that medical men should assist the educational authorities in observing the day in some appropriate way in the schools.

[1] Reference may be made to the leading article in the JOURNAL of August 21st, 1926, p. 353.
[2] *Canadian Medical Association Journal*, January, 1927, p. 94.

RHEUMATIC HEART DISEASE AMONG SCHOOL-CHILDREN IN GLOUCESTERSHIRE.

(Preliminary Note.)

CONSIDERABLE attention has been given recently to the incidence of organic disease of the heart—particularly among the young—in various areas, and to the possibility of mitigating the results on the individual and on the community. The routine medical examination of school children offers exceptional opportunity for a preliminary investigation of the problem, and for an inquiry as to the significance of signs and symptoms pointing to organic disease of the heart due to recognized or unknown attacks of acute rheumatism or to other causes.

In different groups of school children the proportion found affected has varied very widely, the mean as the result of 121,898 examinations of entrants and leavers in Gloucestershire during fifteen years being 7 per cent. affected. Some of the observed differences are probably due to the personal equation of the examiner, but this by no means offers a full explanation, as the following table shows.

Percentage of Children presenting Symptoms consistent with Organic Disease of the Heart.

Year.	Entrants.		Leavers.	
	No. of Examinations.	Proportion Affected.	No. of Examinations.	Proportion Affected.
1915	4,598	2.9	4,193	2.5
1916	4,379	2.9	2,271	3 5
1917	4,763	5.5	718	10.3
1918	5.074	8.4	644	19.6
1919	4,671	10.2	2,827	12.8
1920	5,801	6.6	5,389	9.7
1921	4,550	6.8	4,014	11 6
1922	3,714	4.85	3,783	9.7
1923	3,646	4.55	3,794	9.5
1924	3,999	3.4	3,772	10.1
1925	4,633	2.4	3,579	7.2
1926	5,162	1.7	4, 54	5 65

Percentage in Two Groups of Five Years.

Group.	No. of Examinations.	Proportion Affected.		
		Male.	Female.	Both.
ENTRANTS.				
1916-20	24,688	7.4	6.2	6.8
1921-25	20,542	5.1	3.7	4.4
LEAVERS.				
1916-20	11,849	9.0	10.5	9 8
1921-25	18,942	9.0	10.3	9.7

During the war years comparatively few children were examined as leavers, but in the last seven years there have been about 4,000 entrants and the same number of leavers examined each year. The medical personnel has been the same throughout the past eleven years, with the addition of a fifth examiner at the beginning of 1921.

From the above statement it would appear that with the same personnel and with no conscious variation in standard the proportion of children with signs pointing to organic disease of the heart has varied as follows:

(*a*) Between 1919 and 1926 the proportion of infants (at about 5 years of age) reported to be affected has fallen fairly steadily from 10.2 to 1.7 per cent.

(*b*) The numbers for leavers (at about 12 years of age) between 1919 and 1924 varied from 12.8 per cent. in 1919 to 9.5 per cent. in 1923, and between 1920 and 1924 ranged round 10 per cent. In 1925 the rate fell to 7.2 per cent., and in 1926 to 5.65 per cent.

(*c*) The incidence on leavers is about 50 per cent. heavier than on entrants.

(*d*) Among entrants, boys present these signs more than girls, while at the time of leaving the sex proportions are reversed.

It would therefore seem that for some reason the children born round about 1913 are particularly liable to present signs of heart trouble, and that this liability has steadily diminished among the children born subsequently.

It is proposed to make further investigation, but meanwhile the present observation appears to be of sufficient importance for immediate publication.

J. MIDDLETON MARTIN, M.D., D.P.H.,
County Medical Officer of Health and School Medical Officer.

England and Wales.

THE YORKSHIRE CANCER COUNCIL.

THE Yorkshire Council of the British Empire Cancer Campaign, to which Sir Berkeley Moynihan referred in his Hastings Lecture (SUPPLEMENT, January 29th, p. 29), had its origin in a meeting in Leeds in May, 1925. The Council consists of 130 members, representative of professional, business, political, and social life in the county; Viscount Lascelles is its president, and its vice-president is Sir Berkeley Moynihan, who is also chairman of the Medical and Scientific Committee. An Executive Committee has been formed, which contains members from the districts into which Yorkshire has been divided for the purpose. It has three subcommittees—a finance and general purposes, a medical and scientific, consisting of medical men from all parts of Yorkshire, and another for medical propaganda, containing both medical men and laymen. An appeal was made for £75,000 to establish a cancer research institute in Yorkshire; this amount was soon exceeded and the sum aimed at was raised to £150,000. In the West Riding sixteen districts were formed, each with its committee, honorary secretaries, and treasurers. Local committees have also been formed in the North and East Ridings. Some districts soon collected two or three times the amount at which they had aimed, and the fund will be closed next month. The cost of administration has been kept down to about 2 per cent., despite the fact that considerable sums have been expended on advertising and publicity. Sir Algernon Firth gave £20,000 for the establishment of a research institute in the University of Leeds; pending its completion temporary premises have been secured, and cancer research work is being carried on there by Professor R. D. Passey (the director) and a strong staff, comprising Mr. J. S. Young, *M.C.*, M.B., from the department of pathology, University of Glasgow, and Mr. H. J. Channon, M.Sc., from the biochemical department, University College, London. In addition, two cancer research fellowships have been awarded to Mrs. Bonser, M.D., and Mr. G. A. Collinson, M.Sc., Ph.D., formerly members of the department of pathology of the School of Medicine, Leeds. Work has already been begun; grants have been made also to the departments of physiology and of pathology in the School of Medicine, and to Dr. Cooper for *x*-ray investigations at the General Infirmary at Leeds. A grant has been made to the University of Sheffield towards the research work on cancer in connexion with dietetics, which is being carried on by Professor Mellanby and his assistants. Steps are being taken to establish an experimental farm in direct association with the department of experimental pathology and cancer research. Cases of malignant diseases treated at the General Infirmary at Leeds are being followed up along the lines of Dr. Gretta Wardle, whose previous report on the late results of operation for cancer of the breast (Ministry of Health Reports No. 23) was noticed in our issue of August 14th, 1926 (p. 318). The publication of a pamphlet entitled *Notes on Cancer for Medical Men*, prepared by the Medical and Scientific Committee of the Council, was noted by us a few months ago (October 23rd, 1926, p. 746); it has been sent to every registered medical practitioner in Yorkshire, and a copy can be obtained free by medical men residing elsewhere on application to the offices of the Yorkshire Council, 47, Park

Street, Leeds. This pamphlet contains two short sections directly addressed to the public; the first is on the education of the public on cancer, and the second consists of questions and answers. Copies of these sections can be obtained as leaflets by any medical man desiring to distribute them among his patients. The Propaganda Committee had cancer stalls at the health exhibition in Hull and Rotherham, and it is proposed to have stalls in other towns during cancer exhibition weeks. In its appeal to the public the Council takes care to emphasize the essential importance of an early visit to a doctor for diagnosis in every case in which there is any suspicion of cancer.

THE HUNTERIAN SOCIETY, LONDON.

The connexion between the Hunterian Society and the City of London was illustrated at the annual dinner on February 10th by the presence of the Lord Mayor. Dr. Irwin Moore, in proposing the health of the Lord Mayor and Corporation, referred to the many-sided efficiency of Sir Rowland Blades, and expressed the gratitude of the society for the hospitality accorded to it at the Mansion House. The Lord Mayor, replying, mentioned that he had attended a meeting of the society—a somewhat unusual occupation for the chief magistrate of the City. He went on to refer to other links between the City and the science of healing, and instanced the Barbers Company, originally called the Barber-Surgeons Company at its foundation in 1540, until in 1745 the surgeons severed this association. It possessed a priceless Holbein and some valuable plate, including very fine loving-cups. The Apothecaries Company, with their Hall in Blackfriars, constituted another similar association, and the Corporation, in addition to being responsible for the health of the City, was the sanitary authority for the Port of London. Sir Rowland Blades expressed surprise that more medical practitioners had not become Lord Mayor of London, though they were to be found in both the House of Lords and the House of Commons. The late Sir Thomas Crosby, who had filled the post in 1912, was the only medical man who had ever been Lord Mayor, and this was the more remarkable when it was remembered that Finsbury Square, Finsbury Circus, and Moorfields, which were in the City, had been the headquarters of the medical profession in London before Harley Street became popular. The toast of the Hunterian Society was proposed by the Lord Chief Justice, Lord Hewart, who, in a very humorous speech, cast a side glance at the way in which the medical profession appeared to be conspiring with the Church, the law, and the press. The president of the Hunterian Society, Mr. A. E. Mortimer Woolf, in his reply, stated that the society had been the first to institute discussions with other professions on subjects of common interest; and referred to the recent invitation of the Dean of St. Paul's to medical practitioners to preach in the Cathedral. The toast of "The Guests and Kindred Societies" was proposed by Mr. J. E. H. Roberts, and replies were made by Sir Francis Newbolt, Mr. Hugh Edwards, M.P., and Dr. H. C. Cameron. Sir James Berry proposed the health of the chairman, who, in responding, spoke of the value of the services rendered by the two secretaries.

OSLER PAVILION, HEADINGTON.

The Osler Pavilion, which has been erected on the Manor House estate, Headington, for the treatment of pulmonary tuberculosis, is a branch of the Radcliffe Infirmary, Oxford. The Headington estate, which consists of 140 acres of well wooded land, was purchased by the Radcliffe Infirmary in 1919. The British Red Cross Society contributed £15,000 in order to provide for tuberculous ex-soldiers, their dependants, and for the district in general. The remainder of the money required was raised by a public appeal, and the general funds of the hospital have not been touched. The pavilion, which faces south, contains forty beds distributed in eight single cubicles, eight two-bedded rooms, and two wards containing eight beds each. Recreation rooms for men and women are provided, and the pavilion is connected by a covered corridor with the dining hall and the kitchen block, to the east of which is a building containing an *x*-ray room, a small operating theatre, a pathological laboratory, and a room for light treatment. The old Manor House has been converted into a nurses' home, one wing being allocated to the permanent staff of the pavilion, and the other equipped as a preliminary training school for nurses. The buildings are heated by low-pressure hot-water boilers. Contributions from the county during the last year amounted to £26,000. The Minister of Health, who performed the opening ceremony, said that rapid progress was being made in eradicating tuberculosis by the combination of such different factors as the increasing resistance to the disease among the members of the population, the provision of scientific methods of prevention and treatment, the improvement of sanitary conditions generally, the rise in the social standard of living, and the spread of education among the general public about the prevention of tuberculosis.

MEMORIAL TO THE LATE MR. HAMILTON DRUMMOND.

A meeting of subscribers to the fund for a memorial to the late Mr. Hamilton Drummond, surgeon to the Royal Victoria Infirmary, Newcastle, who was killed in a motor car accident in June, 1925, when returning from a week in camp with his old regiment, the Northumberland Hussars, was held on February 7th, when it was agreed to place a medallion portrait, with a suitable inscription, in the infirmary, and to endow a university scholarship in clinical surgery to be known as "The Hamilton Drummond Memorial Scholarship." Mr. G. Grey Turner said that it would be available during the first two years after graduation, and Sir Thomas Oliver that the proposal would be cordially accepted by the College of Medicine. Subscriptions to the fund have been limited to five guineas, and there has been a gratifying response to the appeal on the part of laymen as well as medical practitioners. The general subscription yielded £866, and a further sum of £268 has been subscribed or promised towards the special Yeomanry account. It is confidently anticipated that £1,200 will eventually be available.

THE WELSH TUBERCULOSIS ASSOCIATION.

Colonel S. Lyle Cummins, professor of tuberculosis in University College, Cardiff, has resigned the additional office of principal medical officer of the Welsh National Memorial Association. He informed the meeting of the Council of the Memorial Association on February 4th that his experience during the last five years had convinced him that the offices should be separated and that the principal medical officership should be a full-time appointment. Mr. David Davies, M.P., who was in the chair, announced that Professor Cummins had consented to accept the position of director of research to the association, to which a salary of £250 a year would attach. The chair of tuberculosis was founded in 1921 by Mr. David Davies and his sisters, by a gift of £12,500. It was announced at the meeting that they had decided to augment this endowment by a further sum of £2,000. Dr. D. A. Powell was appointed principal medical officer; he was one of the first officers to be appointed by the association when it was established in 1911, and with the exception of the war period has continued in its service ever since. He has recently been medical superintendent of the North Wales Sanatorium in the Vale of Clwyd, near Denbigh.

Scotland.

CARNEGIE TRUST FOR UNIVERSITIES OF SCOTLAND.

THE twenty-fifth annual report of the executive committee of the Carnegie Trust for the Universities of Scotland, dealing with the academic year 1925-26, was submitted to a meeting of the Trust at the Universities Bureau of the British Empire on February 9th. Lord Sands, chairman of the trustees, presided. An allocation of funds for the quinquennial distribution, 1925-30, came into operation at the beginning of the year under review. To the universities and extramural institutions a sum of £231,225 had been allocated as follows: St. Andrews, £38,000; Aberdeen, £40,000; Glasgow, £60,000; Edinburgh, £60,500; and extramural institutions, £32,725. The way in which the total was distributed was: for libraries, £24,225; for buildings and permanent equipment, £196,500; and for teaching and general purposes, £10,500. While no altera-

tion had been made in the regulations for the award of fellowships and scholarships, the conditions relative to grants in aid of research had been revised. It had been found desirable to limit the grants in aid of illustration of papers to three-fourths of the actual cost certified by vouchers; in this way it was expected to enlist the author as his own censor. The holders of teaching fellowships are now required to devote not less than half of their time to research. With regard to assistance in the payment of class fees of students, the beneficiaries for the year had numbered 4,711, and had received a total sum of £57,212, as compared with corresponding figures for the previous year of 4,543 recipients and a total of £55,173. At November 30th last the sum of £55,116 had so far been paid for 1926-27 on behalf of 4,643 students. During 1925-26 the sum of £1,510 had been returned by former beneficiaries in repayment of advances for class fees, and forty-eight names had been added to the list of those who had repaid in whole or part. This number of individuals was the highest on record, and the committee felt gratified by this sign of a growing appreciation of the intention and expectation of the founder. The chairman said that the secretary had prepared a history of the work of the Trust, which would be a valuable book of reference to those interested in university work and development in Scotland. He pointed out that whereas the original capital of the Trust was £2,000,000, it had, during the past twenty-five years, expended £2,668,000 on educational and research work in Scotland. Notwithstanding this, the capital had, through prudent investment, augmented to £2,547,000, and the annual income, originally £100,000, was now £125,000. With regard to the payment of students' fees, the Trust required a declaration from the parent or guardian that without assistance by way of payment of part of the class fees the student could not attend the university. The proportion of the total of matriculated students who had the necessary qualifications and whose parents made this declaration could not be less than 70 per cent. The result of such a large number of claims was that the Trust could only pay approximately half the fees for each beneficiary; this, it had been estimated, was equivalent to one-eighth of the total cost of university education. Taking the parents' declaration, therefore, at its face value, in the case of the majority of students the ability of the parent to send son or daughter to the university would seem to turn upon a margin of one-eighth. It was difficult to avoid the conclusion that the declaration was often signed merely as a matter of form. The executive had accordingly arrived at the conclusion that in future new applicants could not be admitted as Carnegie students merely because the application papers and relative declaration were in order, and applications would be considered individually upon their merits in relation to family and other circumstances. It was believed that in this way the assistance rendered to the really necessitous would not be abridged by indiscriminate expenditure. Lord Haldane, in referring to the same matter, said that a special reason why the previous policy should not be continued was the phenomenal increase in the number of students at the universities, which made it more than ever necessary for the Carnegie Trust to husband its resources. It was no exaggeration to say that nowadays every boy or girl who had got the talent and cared for it could proceed to the university notwithstanding the attenuated resources of the parents. This was becoming possible in England also. He thought that as the universities increased more money should be found for them by the State, which was being forced to recognize that universities were national institutions. Sir Donald MacAlister said that the executive committee believed that it would be justified were it to allot the £60,000 annually available for paying students' fees to half the number of beneficiaries and give them twice the present award. Sir Alfred Ewing said that as a rule former beneficiaries who repaid money did not attach any conditions to the repayment, and the money then simply came into the general trust fund. It would be a great advantage if former beneficiaries would give the trustees a freer hand with regard to its expenditure and if a special fund were created from which the trustees would be free to make grants to specially necessitous cases which they were at present obliged to ignore. Mr. H. P. Macmillan said that Mr. Carnegie had fortunately been very generous in the terms of his deed in reposing a discretion in his trustees, and a new departure on such lines was quite within the powers of the deed.

ROYAL MEDICAL SOCIETY OF EDINBURGH.

The annual dinner of the Royal Medical Society was held in the Hall of the Royal College of Physicians of Edinburgh on February 10th. Dr. W. R. Russell, senior president, occupied the chair, and Dr. Robert Hutchison, of the London Hospital, was the principal guest. After the usual toasts, the chairman proposed the toast of "The Guest," and Dr. Hutchison, in reply, proposed "The Royal Medical Society." He mentioned that the Society was unique in many ways—in its old customs, its self-management, and the freedom of its debates. It was now in its 190th session; it had existed side by side with the medical school of the university for nearly two hundred years, and had been an important adjunct to the school. In obtaining medical knowledge the first essential was to acquire knowledge by a solitary process in the wards and lecture rooms. If, however, the knowledge was to be of real use, it must also be digested, and this process of mental digestion was best done in company; in the Royal Medical Society the digestion of the students' knowledge could and did take place.

HOUSING EXHIBITION IN EDINBURGH.

The second annual Housing and Building Exhibition was opened in the Waverley Market, Edinburgh, on February 9th. In connexion with it Dr. W. Robertson, medical officer of health for Edinburgh, delivered a lecture on slums. He defined a slum as a series of houses unfit for human habitation by reason of disrepair, want of light, defective ventilation, and lack of sanitary and other conveniences. The slum stunted growth, dulled the senses, and soured the souls of its inmates. In Edinburgh the very poor houses of long ago had been swept away, leaving the solidly constructed abodes of nobles to endure, and many of them had become the slums of the present day. The dining hall, dormitories, and spacious kitchens of olden days had been subdivided by long dark passages from which eight or ten separate tenements could be entered. Many of those living in slums tried to make the best of them, but too many lapsed into a condition of indifference, carelessness, and improvidence. There were two types of slum population—those who had been reared in the slums and preferred to live and die in them, and those who had gravitated there and were willing, if poverty did not prevent them, to remove to better and higher rented houses. Slum clearance and the provision of alternative accommodation was an economic problem from beginning to end, and, in the long run, local authorities might be faced with the question of bearing the loss rather than tolerate the continued financial drain exacted for public health services.

GIFFORD LECTURES IN GLASGOW.

A fortnight ago we gave an account of the argument of the earlier lectures of the Gifford course Dr. J. S. Haldane of Oxford is giving in the University of Glasgow. In a later lecture he quoted Johannes Müller, who had said that living organisms, which we regarded as unconscious, displayed no exercise of "learning" from experience. Conscious evidence of "learning," from experience. Conscious behaviour had two aspects, which could be distinguished as receptive and voluntary, although they were in fact inseparable. The prediction which controlled conscious behaviour was based on the presence of past experience called memory. Recognition of the distinction between psychological and merely biological phenomena seemed to be essential to clear thinking, just as the distinction between life and mechanism was essential to clear thinking and successful investigation in biology. It had been suggested that when life had attained to a certain stage of organic complexity conscious behaviour automatically appeared; but would it be safe to conclude that, in spite of superficial appearance, something of conscious behaviour must in reality be present behind what appeared to be blind organic behaviour of lower organisms and plants? This was a working hypothesis of which gradual verification

might come as knowledge advanced. Meanwhile the average person, confident in the practical success with which the Newtonian conception had been applied in many directions, continued to apply it to things to which it was not applicable and to suppose that such attempts constituted realism.

VICTORIA INFIRMARY, GLASGOW.

The governors of the Victoria Infirmary, Glasgow, have submitted their annual report for 1926 on the work of the institution, including the dispensaries and the convalescent home at Largs in Ayrshire. The total number of cases admitted during the year was 4,615, of whom 3,178 were surgical and 1,437 medical. The deaths numbered 374—8.1 per cent. of the cases treated to a conclusion; if deaths within forty-eight hours were excluded the mortality was 5.4 per cent. The cases of accident and minor surgical ailment treated without admission numbered 3,167. The throat and nose dispensary at the infirmary dealt with 2,282 patients. There were 20,891 attendances at the electrical department. The operations performed numbered 2,450. Of the total patients admitted the city of Glasgow furnished 3,560, while 1,049 were derived from twenty-one Scottish counties, ranging from Orkney to Wigtown and from the Western Isles to Fife; Lanarkshire sent 565, Renfrewshire 240, and Ayrshire 128. Three patients came from England, two from Ireland, and one from Canada. In the clinical research laboratory 1,935 bacteriological, chemical, and blood examinations were carried out, and 607 microscopic and histological examinations made; special investigations were conducted regarding leptothrix meningitis, myelogenous leukaemia, and the internal secretory glands. At the Bellahouston dispensary there were 42,066 consultations, an increase of 4,405 over the previous year, which is a gratifying demonstration of the utility of the dispensary in the densely peopled area it serves. The sum expended upon the maintenance of the infirmary, dispensaries, and convalescent home amounted to £48,356. The subscribed income for the period was £26,298, which, together with revenue from other sources, fell short of expenditure by £860. The new wing, to be opened shortly by Sir John Gilmour, Secretary for Scotland, which will accommodate 120 extra patients, will involve an additional annual expenditure of about £14,000. The contributions received from patients during the year amounted to £735. The employees' contributions totalled £10,551, a reduction of £455 on the previous year. In view of the industrial conditions of the year a greater decrease might have been expected. The governors highly appreciate the generous contributions of employees during that difficult time. By means of a legacy for the purpose a complete wireless installation has been established, with ear-phones at patients' beds and loud speakers in staff rooms. The building of the auxiliary hospital at Thorntonhall, near Glasgow, the estimated cost of which is £50,000, will begin at an early date.

Ireland.

THE CAMPBELL ORATION, BELFAST.

THE Robert Campbell Memorial Oration was delivered by Sir John Campbell, M.A., F.R.C.S., in the Medical Institute, Belfast, on February 10th. Dr. Nolan, Downpatrick, President of the Ulster Medical Society, occupied the chair, and there was a large audience. The title of the oration was "The renaissance of surgery in Belfast." The speaker dealt with the youth of the late Mr. Robert Campbell, and the effect of his country surroundings and early education on his future career. After referring to his love for the classics, his training in anatomy, his invaluable experience as an assistant in England and his hospital appointments in Belfast, which all gave him the opportunities for the development of his original and logical mind, Sir John Campbell enumerated his operations for perforation in typhoid fever, for hernia in infants at any age, his differentiation of the forms of appendicular trouble and of tuberculous peritonitis, and his investigations of affections of the thyroid gland. The lecturer then went on to discuss the present hospital system, the necessity for change, and the difficulty of providing for patients with only very moderate means who required skilled surgical treatment and nursing. The work done in the past inspired hope for the future; McKeown's removal of steel bodies from the eye by the electro-magnet, and his removal of unripe cataract were examples. X-ray treatment, vaccines, insulin, the causes of monstrosities, and many other subjects still awaited further investigation and gave scope to the energies of youthful enthusiasm. A vote of thanks, moved by Professor Fullerton, P.R.C.S.I., and seconded by Mr. Howard Stevenson, was carried by acclamation, and the chairman presented Sir John Campbell with the gold medal of the oration. Sir Thomas Houston, honorary secretary of the Campbell Memorial Committee, on behalf of the committee, presented to the Ulster Medical Society two replicas of the medal, which was designed by Miss Praeger. The reverse shows the head of the late Robert Campbell, and the obverse the figure of a surgeon bandaging the limb of a child, seated on its mother's lap, with a quotation from Hippocrates, "Where there is the love of man, there is also the love of the art," which had been suggested by the Vice-Chancellor of the University.

PAYMENT OF DISPENSARY DOCTORS' SALARIES WHILE ON SICK LEAVE.

The Ministry of Home Affairs (Northern Ireland) has had under consideration the recommendation made by the Board on November 16th relative to the deductions from the salaries of the dispensary medical officers of Enniskillen and Tempo dispensary districts, and the amounts paid by the Board to Dr. M. E. McBrien for his services as temporary medical officer of the respective districts during the illness of the permanent officers. The Ministry inform the Board that, having regard to the agreement in 1920 made with the dispensary medical officers regarding the payment by them of substitutes employed during illness, the Ministry approved of the deductions in question—namely, a sum of £25 4s. from the salary of Dr. Smyth, medical officer for the Enniskillen dispensary district, and £8 8s. from the salary of Dr. Carraher, medical officer for the Tempo dispensary district. When in 1920 a scale of salaries was made for the Enniskillen Union the medical officers of the area undertook, among other matters, that in the case of illness they would forgo their statutory rights to have substitutes paid by the guardians. This is the agreement referred to in the letter from the Ministry of Home Affairs. Enniskillen is the only union in Ireland in which such an arrangement was made between the guardians and their medical officials.

COUNTY SURGEON AND PRIVATE PATIENTS.

At a special meeting of the County Wexford Health Board a letter was read from the Local Government Department stating that in drawing up regulations under Article 15 of the County Scheme Order for the payment by patients it would be open to the Board to make provision to enable the surgeon to charge fees to private patients. The Board, after consultation with the surgeon, could fix a salary for him, subject to the approval of the Minister, to cover his services towards the patients—paying or otherwise—admitted to the hospital. The Board decided to fix a salary of £800 a year, with existing allowances, to cover the surgeon's services in respect of all patients admitted to the county hospital. The suggestion contained in the letter from the Department of Local Government and Public Health that the Health Board, in consultation with the county surgeon, should arrange for him an inclusive salary to cover the treatment of both private patients and poor persons for whose treatment the Board is statutorily responsible, is contrary to the recommendations forwarded on behalf of the profession to the Local Government Department. It was understood that the Local Government Department had accepted the principal suggestion made on behalf of the profession, that fees to be paid by private patients were a matter of arrangement between these patients and the county hospital doctor, without any interference on the part of the Health

Board. Regulation 7 (1) and (2) bears out this interpretation; its terms are as follows:

(1) The medical officer and surgeon of the hospital may agree with any person admitted to the ward as to the terms upon which such person shall be medically or surgically treated by him and shall be entitled to demand payment of such sums so agreed upon, but he shall out of any such sums received by him from such person pay to the Board of Health any sums that may be due from such person to the Board of Health under Regulation No. 5 which have not been paid to or recovered by the matron of the hospital.

(2) The medical officer and surgeon of the hospital shall, if the person admitted to the ward so requires, permit any duly qualified medical practitioner to have access to such person, and shall so far as possible act in consultation with such medical practitioner. The matron of the hospital shall keep a register, to be known as the Paying Patients' Register, in such form as shall be prescribed or approved by the Minister for Local Government and Public Health, and shall enter therein the particulars required in respect of each person admitted to the wards, and shall furnish an abstract therefrom at the end of each month in such form as may be prescribed or approved by the Minister for Local Government and Public Health to the secretary, to be laid by him before the Board of Health at their ordinary meeting.

SERUM TREATMENT IN DIPHTHERIA AND SCARLET FEVER.

Dr. J. S. Darling, medical officer, Lurgan Union Infirmary, reported to the Lurgan guardians that during 1926 there were treated in the fever hospital 226 cases of fever of all kinds, and that there were six deaths from diphtheria. There had been no deaths among 126 cases of scarlet fever, while during 1925 there had been seven deaths. By the use of the new serum the duration of the treatment of patients had been reduced from six weeks to four and three-eighths weeks. The cost of the serum treatment last year was roughly £100, and he thought the outlay fully justified itself. The Board noted that it was a very creditable record.

Correspondence.

THE MANCHESTER MEDICAL SOCIETY.

SIR,—As the Manchester Medical School is now well over 100 years old, it seems desirable that material relating to its history and the history of medicine generally in the town should be collected carefully lest it should be lost. The Manchester Medical Society has therefore decided to collect and store in its library all material relating to this history, and we are now writing to appeal for such material.

It is difficult to define what is wanted, but we may make a few suggestions—namely, papers, such as minute-books or lists of students of the earlier medical schools, pictures of these schools, diplomas and certificates granted from the schools, reports of prize givings and inaugural addresses, photographs of the medical men of past generations, and letters and diaries written by them. The following episode may be used to illustrate the height of our ambition. In 1840, in the opening address, Thomas Turner, pointing to a small oval table, painted green and set on small wooden wheels, which stood near him, said: "Excuse me making a digression and directing your attention to that table; meanlooking, insignificant, intrinsically of no value as it is, it was the table of John Hunter. This is John Hunter's dissecting table. It would seem almost as if the glory of London anatomy were travelling northward, and that we have arrested it in Manchester. It is more than likely that, on that very table, John Hunter prepared some of those splendid specimens which now enrich the walls of the museum of the Royal College of Surgeons. Let us now, therefore, that we possess a relic of that great man, be stimulated, by the associations it awakens, to pursue the same path that he pursued." Alas! this relic has disappeared.

Doubtless the relatives of former leaders of medicine in Manchester are now scattered all over the world, but this letter may remind them that the memory of those leaders is still treasured.

Communications should be made to Dr. Leech, the Manchester Medical Society, at the University of Manchester.—We are, etc.,

ALFRED A. MUMFORD, M.D.,
President of the Manchester Medical Society.
E. M. BROCKBANK, M.D., F.R.C.P.,
Chairman of the Library Committee.

The University, Manchester, Feb. 17th.

THE MODERN TREATMENT OF HERNIA.

SIR,—The address by Mr. Geoffrey Keynes on "The modern treatment of hernia," published in your issue of January 29th (p. 173), introduces some points of great importance. Two of these I must content myself with emphasizing without further comment—namely, the usefulness of local anaesthesia in dealing with difficult cases and the undoubted value of the inguinal as opposed to the femoral route in dealing with femoral hernia.

To a third point I wish to refer at greater length. He very rightly deals somewhat fully with the use of fascial sutures according to Gallie's technique in operating upon large or recurrent herniae. I am struck, however, by certain points which emerge in dealing especially with inguinal hernia. He says in one place "The whole operation will

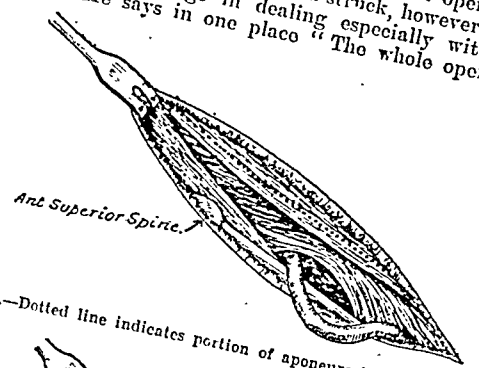


FIG. 1.—Dotted line indicates portion of aponeurosis to be split off.

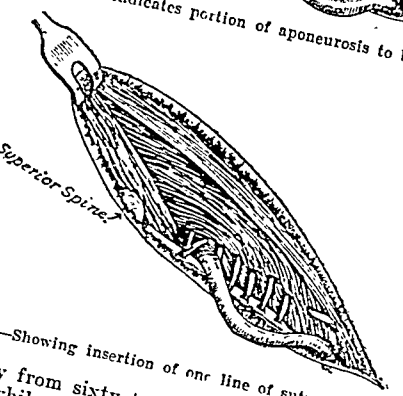


FIG 2.—Showing insertion of one line of suturing.

probably occupy from sixty to seventy-five minutes"; and again, "Meanwhile a second operator . . ." The method I have been using during the last two years does away with the necessity for a second operator and enables the operation to be finished in really very little longer time than the ordinary radical cure. It is applicable in all but exceptionally severe cases where the gap in the parietes is enormous.

The usual incision is made, but it is prolonged outwards and upwards to the level of the anterior superior spine. The external oblique is split in the direction of its fibres from the apex of the external abdominal "ring" if necessary up to the muscle fibres. A strip of aponeurosis about 1/4 in. wide is detached from the upper edge of the split external oblique, and this is cut free at its upper and outer end. The inner end is left attached, thus obviating the necessity for fixing the "tail" of the suture, saving time and also minimizing manipulation of the living suture. The sac having been dealt with, a Cleveland needle is passed through the thoroughly cleaned Poupart's ligament and conjoined tendon beginning at the inner end. The free end of the fascial suture is grasped and pulled through. This process is repeated as often as necessary until the neighbourhood of the internal ring is reached. The "suture" is then made

to encircle the cord and is finished off in the usual way. Neither in this step nor at any other stage must the living graft be drawn tight. The only instruments required are the Cleveland needle and a pair of Spencer-Wells forceps. From first to last the hand should never touch the fascial suture. I make a point of introducing the sutures through conjoined tendon and internal oblique at different levels (Fig. 2), otherwise there is a little tendency to splitting of the muscle and tendinous fibres.

If one strip of aponeurosis is not enough, a second may be used in the same way, to complete or strengthen the first series of sutures. As Mr. Keynes points out, the external oblique is always redundant. There is never any difficulty in getting it together again, and in any case it is well to realize that one is not depending upon the suture of this layer for the efficacy of the cure.—I am, etc.,

Liverpool, Feb. 6th. JOHN T. MORRISON.

ZOOLOGICAL NOMENCLATURE IN MEDICAL LITERATURE.

SIR,—I should like to reinforce the appeal of Professor R. T. Leiper, F.R.S., and the hope expressed by you in the BRITISH MEDICAL JOURNAL dated December 11th, 1926 (p. 1129), *that something may be done to obviate the grave* inconvenience caused by the tiresome pedantry of the archaeo-parasitologists.

May I quote one illustration? As the result of the strict application of the "law of priority" adopted by the International Congress of Zoologists the identity of the commonest anopheline mosquito of India and of certain other parts of the East, so long and so familiarly known as *Anopheles rossii*, is now hidden under the name of *Anopheles subpictus*.

Here surely was an instance in which the taxonomists might well have exercised the discretion with which they have invested themselves. The anopheline mosquitos derive much of their importance from the fact that they "carry" malaria. It would therefore seem a not unreasonable proposition that the commonest anopheline mosquito in the country where Sir Ronald Ross made his epoch-making discovery—a species, moreover, which he used in some of his original experiments—should have been allowed to retain the name by which it has been known for a quarter of a century. To malariologists in the East the name "*rossii*" is as familiar as a household word.

I cannot help thinking how much kinder Nature is than man, in spite of the "struggle for existence." She at least changes her species by a slow and imperceptible process of evolution, but man, as represented by the taxonomists, appears to take a delight (from a stern sense of duty) in "sinking" their names without scruple and without remorse.—I am, etc.,

Lahore, Jan. 5th. C. A. GILL, Lieut.-Colonel I.M.S.

ANTIGENS FOR THERAPEUTIC IMMUNIZATION.

SIR,—Although one is accustomed from time to time to see grave doubts expressed in medical journals concerning the therapeutic value of serums and vaccines, it is a new experience to read (BRITISH MEDICAL JOURNAL, July 31st, 1926, p. 177), on the authority of men like Sir Thomas Horder and Dr. N. S. Ferry, that the resultant products in the preparation of antigens for immunizing properties exist in a crude state, and that they contain products of no value in the process of immunization, and *which are not seldom extremely injurious to the patient*, as well as to the antigen itself. Some sixteen years ago, in my little book on tropical conditions, the following words were used with reference to immunization, and after a fairly extensive experience, gained partly during the war as physician in charge of fever and dysentery wards, I see no tangible reason for altering my opinions; indeed, Horder and Ferry's statements could only serve to strengthen them.

"Such may be an attempt to follow Nature's system of immunization, but what Nature has taken centuries to accomplish by the extremely slow adaptation of certain organisms to the environment, artificial immunization attempts to accomplish abruptly by profoundly modifying the vital fluids of the body. To assert that the very abruptness of such practices may upset the natural standard of life would be as rash as to deny it." . . . "Nor can we ignore entirely any possible ulterior results that may supervene after injection of some millions of dead micro-organisms into the tissues of a healthy individual."

In view of the widespread use of specific products in the prophylaxis and cure of disease—due possibly in no small measure to commercial exploitation—to the very definite limits to their usefulness, certainly in infective processes, and to the positive danger to the patient from their use, the time would appear to be overdue when an authoritative pronouncement should be made on the results of such practices.

Although there appears to be a consensus of opinion in *favour of vaccines as prophylactics against the typhoid* group of fevers, their use has been by no means invariably crowned with success nor entirely free from unpleasant results. The success obtained in France during the war was, of course, undeniable, especially if considered apart from other factors; but I have seen many severe inoculated cases from Gallipoli and other places where the sanitary conditions were not altogether ideal, and during a recent epidemic in a German town, among 1,500 inoculated cases over 70 developed typhoid of average severity. But some recent personal experiences have afforded much cause for reflection, without, however, offering any satisfactory solution.

1. Miss A. was inoculated in New York before departure, again in the Atlantic, and for the third time in the Mediterranean. Very shortly after arrival in Egypt a very serious form of enteric (with one relapse) developed. At the outset the symptoms were very obscure, and the abdominal symptoms were so severe and persistent that intestinal obstruction was suspected.

2. In the case of Miss B., shortly after the third inoculation (American practice) jaundice developed, which was very persistent; it was treated by emetine by the doctor in charge. Finally enteric was diagnosed, and after a prolonged convalescence (with one relapse) the patient recovered. Books written in the last generation allude to jaundice as a rare complication of typhoid fever; certainly during the war it was not an infrequent complication, and since then there would appear to be a number of sporadic cases which might repay closer investigation.

3. Miss C., also an American, had three inoculations six weeks previous to illness, which, clinically (fever, abundant rash, enlarged spleen), appeared to belong to the typhoid group, and was diagnosed by two Italian doctors as paratyphoid, but the abdominal symptoms and signs were too pronounced to allow me to agree. The fever subsided and other symptoms disappeared at the end of three weeks, but unfortunately no bacterial tests were possible.

4. The case of Mr. D., aged 42, was of an entirely different nature. The patient contracted posterior urethritis with complications. Had two separate attacks and underwent, in London, vigorous vaccine treatment, apparently with relief. A few years afterwards grave myocardial disease developed, and, after much suffering, proved fatal.

It has been seriously asserted in some quarters, on evidence not available, that this form of therapy does give rise to myocardial disease, and in this connexion it may be of interest to state that Luys asserts that gonococcal myocarditis is never found alone, that it is always associated with endocarditis, or as a sequela of the latter or pericarditis, conditions non-existent in this instance. If, then, as alleged, vaccine therapy is of no real value except in a few definite conditions, that it may possibly be "extremely injurious to the patient," it may be permissible to ask why is its employment so general and so much sought after by the public?

We may well smile at the crude notions of the ancient Egyptians concerning the medical art, with their invocations and magical formulae, but at least their "words of power" were invoked over products mostly innocuous.—I am, etc.,

Cairo, Jan. 19th. T. GERALD GARRY, M.D.

THE MENTAL DEFICIENCY BILL OF 1926.

SIR,—I agree with Sir Bryan Donkin that the definition of "mental defectiveness" in the above bill is "too vague."

The letters from Dr. Tredgold and Sir Bryan Donkin prove this to be the case, for the former limits the period of mental development to the first eighteen years of life, whilst the latter appears to limit it to the first twenty-five years of life, and it is quite possible that some other authority would place the limit at another age.

In order to prevent this uncertainty the definition of mental defectiveness should contain some precise time limit to the expression "mental development" as used in the

bill. By the English and American law persons come to majority at the age of 21 years, until which time they are under guardianship. Until they have attained their majority they can possess, but they cannot manage or control, property, for they are not supposed to have sufficient discretion or ability for this purpose. I think it would be generally admitted that mental development is complete at the age of 21 so far as "managing himself and his affairs" are concerned. If this age limit were introduced into the definition it would prevent any ambiguity and conform with existing law. I suggest a definition on the following lines:

"Mental defectiveness means an imperfect condition of mind due to its arrested development either before or during the first twenty-one years of life; this condition may be induced by injury, disease, or other cause."

I am strongly in favour of retaining the fourth class of mental deficiency under the title of moral defective. The Mental Deficiency Act, 1913, appears to me to legislate for two distinct types of mental defect: (1) a defect of the intellectual faculty; (2) a defect of the moral faculty.

The first three classes defined under the Act—idiot, imbecile, and feeble-minded—are different degrees of the same defect, namely, an intellectual defect. Many feeble-minded persons, owing to their defect, commit anti-social acts and are quite properly certified as feeble-minded persons. But there is a class of person who is morally defective without any intellectual defect. Such a patient I do not consider certifiable as a feeble-minded person. It is true that they require care, supervision, and control like the feeble-minded, but the feeble-minded person is, by definition, related to the imbecile and idiot—it is only a question of degree. The moral defective who has no intellectual defect cannot be said to be related to the imbecile, and he should not be certified as, or treated with, the feeble-minded.—I am, etc.,

Leicester, Feb. 7th. ALLAN WARNER,
Medical Officer to the Mental Deficiency Committee

HISTORY OF DIPHTHERIA.

SIR,—In Sir Humphry Rolleston's address (JOURNAL, January 15th) the late J. G. Adami is quoted as suggesting the transformation of some previously harmless diphtheroid bacillus to account for the appearance of diphtheria at the beginning of the last century—"a disease so sharply cut that it could hardly have been overlooked by all physicians until Bretonneau of Tours gave his classical description in 1821." Further references to the disease are given by correspondents, the earliest of which appears to be that by Gooch in 1740. I can record a much earlier reference than this to what is undoubtedly an epidemic of diphtheria, in a little book in my possession entitled "Miscellaneous Observations in the Practise of Physick, Anatomy, and Surgery . . . communicated in several Letters to Eminent Physicians and Learned Members of the Royal Society, viz., Sir Hans Sloane, Dr. Mead, Dr. Halley, Dr. Douglass, Mr. Petiver, etc., by Patrick Blair, M.D., F.R.S., London, 1718." In the section of this book headed "A second letter to Dr. Richard Mead concerning some Epidemical Diseases in Scotland," the following occurs:

"The Tussis convulsiva or Chink-cough, is also some Years Epidemical, and becomes universal among Children; as is a certain Distemper with us, called the Croops, with the Variety, that whereas the Chink-cough encreases gradually, is of a long continuance, seizes in Paroxysms, and the Patient is well in the interval. This Convulsion of the Larinx, as it begins so it continues, so violently, that unless the Child be relieved in a few Hours, 'tis carried off within twenty-four, or at most forty-eight Hours. When they are seized they have a terrible snorting at the Nose and Squeeking in the Throat, without the least Minute of free Breathing, and that all of a sudden, when perhaps the Child was but a little time before healthful and well."

Here we have a description of an epidemic disease in children whose main symptoms, in fatal cases, were extreme laryngeal obstruction and stridor, and this can only have been diphtheria. As far back as 1718, therefore, the Klebs-Loeffler bacillus was as virulent as it is now. That it was so, too, much earlier than this, I could bring a considerable body of evidence to establish. In the books in my possession, published between the years 1570 and 1700, the disease "squinancy" (quinsy) is described, apparently common and much dreaded for its frequently fatal issue, and undoubtedly diphtheria would be included as a "squinancy." In support of this opinion I will quote "The General Practise of Physicke . . . compiled and written by the . . . learned Doctour Wirzung in the germane tongue and now translated into English . . . by Jacob Mosan, germane, Doctor in the same facultie. London, 1617." In the second part of this treatise is a section entitled "Of the squinancie or swelling of the throate." This commences with a very involved description of varities of the disease, from which it appears that one of these varieties "ariseth about the throte, in the mouth, and about the throte boil, and very quickly stoppeth the breath." Further on he says:

"*First* . . . So doe the learned devide the same into foure kinds: *Secondly*, if about the throate there be no swelling seene on the outside, notwithstanding above all this, that the breath is so short that one would think the patient would be strangled." In the next paragraph he says: "But after what manner soever it commeth, it is alwaies a perillous sickness and especially the second kind, for that it is very quick and speedy, so that oftentimes it dispatcheth one in two or three daies; and commonly is more dangerous for children than for aged folk: therefore doe the Latinists call this kind of squinancy Strangulatorem, which is Strangler. . . ."

Some of these cases of squinancy occurring more commonly in children, with little or no swelling of the neck and causing death by laryngeal obstruction, could hardly be other than diphtheria. I should like to quote the learned Dr. Wirzung's treatment of the disease, but space forbids. There is no mention of any surgical interference.

Diphtheria, therefore, seems to have occurred in Europe at least 310 years ago, and there is no evidence of a sudden mutation of a diphtheroid bacillus into the true Klebs-Loeffler bacillus about 100 years ago.—I am, etc.,

Tunbridge Wells, Feb. 7th. C. F. SELOUS.

THE PREVENTION OF GOITRE.

SIR,—The conclusive and successful experimental work of Colonel R. McCarrison on goitre prevention ("An experiment in goitre prevention," BRITISH MEDICAL JOURNAL, January 15th, 1927, p. 94) at the Lawrence Royal Military School, Sanawar, India, confirms his earlier evidence in 1913 and 1914 that endemic goitre is due to bacteriological impurities in the water supply, and that it can be eradicated by the provision of a pure potable water. Surely this far-reaching conclusion is so important that it merits the collaboration of the Medical Research Council and the Swiss committee for the investigation of goitre?

As pathologist to the Royal Sussex County Hospital, and later as a school medical officer to the West Sussex County Council, I collected data and reported them on the close association that was obvious in 1911 and 1912 between my analyses of the shallow well waters of the West Sussex villages (which were usually impure by bacteriological and chemical standards) and my school records of the prevalence of enlargement of the thyroid (amounting in many cases to true goitre) in the children and young people in these rural districts. Since then I have observed similar relationship between impure water supplies and goitrous enlargement of the thyroid in Plymouth and districts adjacent.

It appears that on such evidence goitre could be eliminated from the United Kingdom by the provision of pure water supplies in districts where it is not already eradicated, and that medical officers of health and school medical officers could determine this important hygienic question in their areas. I was surprised to learn in Switzerland last summer on good authority that goitre research workers were not known to have taken action on McCarrison's work, as drinking water supplies (at any rate in Swiss rural districts where goitre in endemic) are obviously open to gross pollution, though clear, cold, and sparkling.—I am etc.,

Plymouth, Jan. 22nd. F. G. BUSHNELL, M.D.

THE CAPTAIN OF THE MEN OF DEATH.

SIR,—Sir Berkeley Moynihan, in his Hastings Lecture, acclaimed cancer as the "Captain of the men of death." This is to do an injustice to the real captain—heart disease.

Dr. Moore, medical officer of health for Huddersfield,

has kindly extracted for me, from the Registrar-General's Statistical Review for 1925, the number of deaths from cancer and heart disease during that year. The deaths in England and Wales in 1925 were: from cancer 51,939; from heart disease, including pericarditis, acute endocarditis and myocarditis, and angina pectoris, 64,059. If pericarditis, endocarditis, myocarditis, and angina pectoris are not included, the deaths from heart disease total 59,894. The return for 1924 shows a like preponderance of heart disease. Unfortunately the need for a campaign against heart disease has not stirred public imagination, although the British Medical Association, by its investigation into the causes of rheumatism, is giving the nation a much needed lead.—I am, etc.,

Llandudno, Feb. 3rd. NORMAN PORRITT.

MEDICAL GOVERNORS.

SIR,—To the roll of medical governors noted in the JOURNAL of February 12th (p. 295) may fitly be added the name of Sir Samuel Rowe, K.C.M.G. Qualifying in 1856, he was in 1862 appointed on the Army Medical Staff and sent to Lagos, where his administrative gifts were utilized both in the civil service and in dealing with the native tribes. In 1864-65 he came home on leave, and utilized the opportunity to take his degree at the University of Aberdeen. He then returned to West Africa, and for a number of years held various appointments, civil as well as medical. In the Ashanti war of 1873 he took a prominent part in withstanding the early invasion of the British territories, and during the war he acted on the staff of the expeditionary force under Sir John Glover. These services were recognized by the award of the C.M.G., followed later by promotion to K.C.M.G. From 1876 onwards he was governor successively of Gambia, Sierra Leone, West African Settlements, and Gold Coast and Lagos. He retired from the army with the rank of brigade surgeon, and in 1886 Aberdeen made him an honorary LL.D. He died at Madeira on his way home in 1888.—I am, etc.,

London, W., Feb. 14th. C. O. HAWTHORNE.

Obituary.

DOUGLAS DOUGLAS-CRAWFORD, M.B., C.M.EDIN., F.R.C.S.ENG.

Honorary Surgeon to the Royal Southern Hospital, Liverpool.

WE regret to record the death of Mr. Douglas Douglas-Crawford of Liverpool, on February 7th, at the age of 60. While apparently in his usual health and at work he collapsed suddenly, and passed away very quickly from cerebral haemorrhage.

A native of Liverpool, he spent his undergraduate life in Edinburgh, where he graduated M.B., C.M. in 1887, after which he became a demonstrator for the late Professor Melville Paterson at Dundee. He studied later in Berlin and at University College Hospital, and obtained the F.R.C.S. in 1894, in which year also he joined the staff of the University of Liverpool as assistant demonstrator of anatomy with Professor Paterson. Until the day of his death the importance of anatomy in surgery was an outstanding feature of his life's work. By every means in his power he sought to promote the study of anatomy as applied to surgery, both general and dental, and in 1912 was a vice-president of the Section of Anatomy at the Liverpool Annual Meeting. In 1903 he was appointed lecturer in surgical and applied anatomy; in 1907 lecturer in clinical surgery; in 1912 lecturer in surgery for dental students; and during the year 1925-26 he was chairman of the Faculty of Medicine. Throughout the whole period of his association with the University he took a remarkable personal interest in medical and dental students; his secret kindnesses and benefactions were very many, and his reticence was a fine element of his character. In 1895 he was appointed assistant surgeon to the Stanley Hospital, and full surgeon in 1898; twelve years later he became attached to the Royal Southern Hospital, where the bulk of his hospital surgery was carried out during the past seventeen years. At the time of his death he was senior honorary surgeon to this institution, and also held the posts of consulting surgeon to the Liverpool Dental Hospital, the Hoylake and West Kirby Cottage Hospital, and the Druids Cross Hospital. These posts were no sinecures, and most of the time an ordinary doctor would have deservedly counted as brief spells of recreation or leisure he spent in devoted attention to this work. During the war he served with the 1st Western General Hospital (Territorial) in Liverpool and overseas.

He was unstinted in giving, whether of work, advice, or more material means. He was an ardent supporter of, and acted as surgeon to, the Caledonian Association, and in this manner also found many opportunities of unselfish service. Among his colleagues he was universally popular, and in the Liverpool Medical Institution he held at different times the posts of secretary for pathological meetings and vice-president. By practitioners in a wide area and by private patients he was revered and loved for patent honesty and a great fund of human charity. A man of action rather than of words, he yet contributed from time to time, principally to the *Liverpool Medico-Chirurgical Journal*, articles of characteristic vigour; in debate or discussion he was often incisive, but always kindly and generous.

The memorial service held in Liverpool Cathedral was a fitting testimonial to the man and his work. It was attended by a very large congregation of sorrowing friends who, while mourning the sudden close of a valued life, were yet proud to recall its happiness and many merits. To his devoted widow we extend sincere sympathy.

ARTHUR HIRST WATKINS, M.D., C.M.,

Senator, Union of South Africa.

THE death occurred suddenly on the evening of December 24th, 1926, of Senator the Hon. A. H. Watkins, at the age of 76. He had been seized with cerebral apoplexy the previous evening. He was born at Brentford, Middlesex, and received his early education at Clevedon and his medical education at Glasgow and Edinburgh, graduating at Edinburgh in 1875, and obtaining the doctorate in 1883. He settled in South Africa in 1875, practising first at Alice in the Cape Colony, later at Boshof in the Orange Free State, and lastly at Kimberley. Here he built up a very large practice until in 1910 he went into politics. In that year he was elected a member of the Legislative Assembly, having contested the Barkly West seat as a Unionist; the Unionist party, it may be remembered, was the official Opposition to the South African party led by General Botha in the first Parliament of the united provinces of South Africa. He continued to represent this constituency until 1920, when he was defeated at the polls, but in the following year he was elected to the Senate. His election to the Upper House was undoubtedly the result of the respect which members of all parties had for him.

The medical profession in South Africa owes him much. He served the Griqualand West Branch of the British Medical Association well, and was many times its president. He was for a time a member of the board of management of the Kimberley Hospital. In 1910 he was appointed a nominee member of the Cape Colonial Medical Council, and was reappointed at each succeeding nomination until in 1921 he was elected president—an office which he continued to hold until his death. He did much, too, for education and devoted much of his time to its advancement; he was one of the founders of the Kimberley Public Schools, and was for many years chairman of the Kimberley School Board. He found leisure to write a novel on South African life, *From Farm to Forum*; though its literary merit was not great, it was yet of considerable value as a portrayal of conditions in that country during an interesting historical period.

He married in 1876 a daughter of the late Sir Thomas Fuller, and sister of Dr. E. B. Fuller; she died in 1903; he married again in 1910, and his second wife, who was the widow of Mr. James Brown, dental surgeon, of Kimberley, survives him. He had no children. He was buried at Maitland Cemetery in the Cape Peninsula. The funeral was attended by many senators and members of the Legislative Assembly, by the members of the (Cape) Colonial Medical Council, and numerous friends.

W. C. BEEVOR, C.B., C.M.G.,
Colonel, R.A.M.C., T.F.

COLONEL WALTER CALVERLEY BEEVOR, C.B., C.M.G., R.A.M.C. (ret.), died suddenly of heart failure in London on February 6th, aged 68. He was the son of Mr. John Beevor, M.P., of Newark-on-Trent, and was educated at Edinburgh, where he graduated M.B. in 1880; he took the M.R.C.S. in the same year. After filling the posts of house-surgeon at the Royal Portsmouth Hospital, the Newark-on-Trent Hospital, and the Midland Counties Eye Infirmary, he entered the Army Medical Service as surgeon on August 2nd, 1884, and was appointed medical officer of the Scots Guards in November, 1885. He became surgeon major, on special promotion for Ashanti, on March 25th, 1896, was transferred to the Grenadier Guards on June 26th, 1897, to the Coldstreams on September 14th, 1898, and again to the Scots Guards two months later. He reverted to the R.A.M.C. as major on May 25th, 1904, and retired on August 20th, 1913. colonel in August, 1904, and became lieutenant-colonel in 1883 with second class honours in natural science. After his retirement he joined the R.A.M.C., T.F., North Midland Division, as lieutenant-colonel and D.A.D.M.S., and was promoted to colonel, R.A.M.C., T.F.; he became D.M.S. on December 3rd, 1914, and served as such throughout the great war.

He had a long record of war service: Sudan expedition, 1885, at Suakin, Egyptian medal with clasp and Khedive's bronze star; Ashanti expedition, 1895-96, mentioned in dispatches, specially promoted to surgeon major, star; north-west frontier of India, 1897, Tirah, mentioned in dispatches, *London Gazette*, April 5th, 1898, frontier medal with two clasps; South African war, 1899-1902, advance on Kimberley, actions at Belmont, Enslin, Modder River, and Magersfontein; operations in Orange Free State, actions at Poplar Grove, Dreifontein, Vet River, and Zand River; operations in Transvaal, actions at Pretoria, Johannesburg, Diamond Hill, and Belfast; mentioned in dispatches, *London Gazette* of September 10th, 1901, Queen's medal with six clasps, King's medal with two clasps, and C.M.G.; war of 1914-18, mentioned in dispatches, *London Gazette*, January 1st, 1916, and May 29th, 1917, C.B. He was the first to take and use an *x*-ray apparatus on active service, which he did in the Tirah expedition of 1897-98. He served on the staff of the Duke of Connaught at Lord Curzon's Delhi Durbar in 1902, and on the staff of Lord Northcote, Governor of Bombay, in 1903.

In 1890 he married the eldest daughter of Mr. Charles Taylor, J.P., of Horton Manor, Slough, and had one son and one daughter.

We regret to record the sudden death, at Weybridge, on February 2nd, of Dr. FREDERIC OSMUND STEDMAN, whose valuable work for the profession in Hong-Kong is well known to many of our readers. He was born in Devonshire in 1863, and in entering the medical profession followed the example of his father and grandfather, who both practised at Bookham in Surrey. From Epsom College he went with a scholarship to Charing Cross Hospital, and obtained the L.S.A. diploma in 1884 and the M.R.C.S. in the following year, graduating later as M.B., B.S.Lond., and proceeding to the M.D. degree in 1888. Before he went to China and settled in practice in Hong-Kong he had held the posts of house-physician, house-surgeon, and surgical registrar at Charing Cross Hospital, and of house-physician to the National Hospital, Queen Square, London. Dr. Stedman was keenly interested in the British Medical Association. For many years he took an active part in the work of the Hong-Kong and China Branch Council, holding office as vice-president in 1897 and 1903, and president in 1901. He represented the Branch upon the Central Council of the Association from 1904 to 1906, and again in 1920-21, and during 1921 he served also on the Dominions Committee. He was a member of the Representative Body at the time of the Annual Meeting at Cambridge in 1920, on his retirement after twenty-five years' practice in Hong-Kong. Since then he had lived at Weybridge, and devoted much of his leisure to the business of the local cottage hospital, of which he was honorary treasurer.

The death of Dr. CHARLES JOSEPH HARRISON of Chelsea occurred on February 7th, after a short illness due to influenza. Dr. Harrison received his medical education at University College Hospital; he graduated M.B., B.S.Lond. in 1892, obtained the diplomas M.R.C.S., L.R.C.P. in 1893, and proceeded M.D. in 1894. After holding the post of house-surgeon at the Victoria Hospital for Children he settled in Chelsea, where he practised for thirty-three years; he was honorary physician to the Chelsea District Nursing Association, and to the Chelsea, Belgrave, and Brompton Dispensary. During the war he acted as surgeon to the Fulham Military Hospital.

Dr. FRANCIS SORELL ARNOLD, who died at Painswick, Gloucestershire, on February 5th, in his sixty-seventh year, was a son of Thomas Arnold, M.A., a nephew of Matthew Arnold, and a grandson of Thomas Arnold, D.D., headmaster of Rugby. He received his early education at Clifton College and went up to Christ Church, Oxford, with a junior studentship in 1879; he graduated B.A. in 1883 with second class honours in natural science. After studying medicine at St. Bartholomew's Hospital he obtained the M.R.C.S. and L.S.A. diplomas, and graduated M.B., B.Ch.Oxon. in 1887. He then served as house-surgeon at the Radcliffe Infirmary, Oxford, and afterwards settled in general practice at Bovington and Berkhamsted. In later life he moved to Painswick, where he became medical officer to the Stroud Union. Dr. Arnold district medical officer under the Gyde Orphanage, and inherited some of the scholarship of his father's family, and had a sound literary knowledge of most of the modern European languages. He translated into English Bing's *Compendium of Regional Diagnosis in Affections of the Brain and Spinal Cord*, Guelpa's *Auto-intoxication and Disintoxication*, and Schlesinger's *Local Anaesthesia*. In 1899 he published a small work on the modern therapeutics of pulmonary phthisis, a subject to which he had given much thought during the time he acted as medical superintendent of the Hailey Open-Air Sanatorium. He was for many years a member of the West Herts Division of the British Medical Association, and latterly of the Gloucestershire Branch.

Dr. JOHN WILLIAM STEVEN died at his home in Edinburgh on February 10th; he had had a long illness following an attack of pneumonia, and had been completely laid aside from professional work for some months. He graduated at Edinburgh University in 1889 and took the Fellowship of the Royal College of Surgeons of Edinburgh ten years later. Dr. Steven conducted a very large practice, chiefly under the National Health Insurance Act, and he was greatly beloved by his patients. He was very fond of sport, especially of angling, and when he could seize an opportunity to escape would betake himself for several hours to the banks of some quiet border stream. He was unmarried.

Dr. FRANCES ELIZABETH HOGGAN, whose maiden name was Morgan, died at Brighton on February 5th. She was born in 1843; she received her medical education at Zürich, Prague, and Vienna, and graduated M.D. Zürich in 1870, six years before the passing of the Medical Act (1876) which opened the medical profession in England to women. She obtained the diplomas L.R.C.P.I. and L.M. in 1877, and the M.R.C.P.I. in 1880. She was one of the first women to practise in England, and, with Dr. Garrett Anderson, was a physician on the staff of St. Mary's Dispensary in Crawford Street, which subsequently became the New Hospital for Women. Owing to the ill health of her husband she lived in the South of France until his death in 1900, when she returned to London. Soon afterwards she visited America, where she became interested in the colour question, and published articles on this subject. When over 60 years of age she accompanied an exploring expedition to native villages of South Africa. For the last five years she had resided in Brighton. Her health failed during the last three months, but up to that time she had been very active in body and mind and took a deep interest in professional matters.

The Services.

ARMY MEDICAL SERVICES.

Scholarships for Sons of Medical Officers.

SIX years ago the Aldershot R.A.M.C. Fund Committee endowed four scholarships, one to be competed for annually at Cheltenham College. The foundation is for the benefit of the sons of all officers of the R.A.M.C. The first two scholars who entered Cheltenham under this scheme have just left, having taken fifth and sixth places respectively on the Woolwich and Sandhurst lists of December last. Both are awarded prize cadetships into those institutions on account of their high positions on the lists. It is not generally known that the sons of all medical officers, Regular, Special Reserve, Territorial, and Temporary, who died of wounds or disease during the great war are primarily eligible to compete for these scholarships, and that in default of candidates under this category, the sons of all living medical officers serving or retired come within the scope of this foundation. In the event of any boy falling short of scholarship standard money grants are sanctioned in suitable cases, and several boys are receiving these benefits at the college now. The value of the scholarships is approximately £50 per annum, tenable for four to five years, a purely classical or modern education being given at the desire of the parents or guardians. Further particulars can, we understand, be obtained on application to Major-General Sir S. G. Guise-Moores, K.C.B., Osborne House, East Cowes, Isle of Wight.

HONORARY PHYSICIAN TO THE KING.

COLONEL JOHN GRAHAM MARTIN, T.D., A.D.M.S., 55th (West Lancashire) Division, T.A., has been appointed Honorary Physician to the King in succession to Colonel G. H. Edington, T.D., retired.

FOREIGN DECORATIONS.

THE KING has granted unrestricted permission to the following officers of the Canadian Army Medical Corps to wear the medals indicated awarded by the French Government in respect of services rendered during the war 1914-19:

Medaille d'Honneur des Epidemics.—En Vermeil: Major G. Archambault, Captains L. B. Blagdon, R. Dumont, A. Larose, and G. Lefebvre. En Argent: Captains A. J. Lefleur and J. G. du Val.

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

ON the nomination of the Council of the Senate the following have been appointed electors to the professorships indicated: Anatomy, Sir Humphry Rolleston, Bt.; Medicine (Downing), Professor A. V. Hill, F.R.S.; Pathology, Sir Charles Sherrington, G.B.E., F.R.S.; Biochemistry (Sir William Dunn's), Sir William J. Pope, F.R.S.; Animal Pathology, Sir Walter M. Fletcher, F.R.S.

At a congregation held on February 12th the degree of B.Chir. was conferred on W. L. Roberts (admitted by proxy).

UNIVERSITY OF LONDON.

THE following have been recognized as teachers of the University in the subjects at the institutions indicated:

University College.—Mr. H. A. Harris (anatomy).
Guy's Hospital.—Dr. J. M. H. Campbell (medicine).
St George's Hospital.—Dr. H. Gainsborough and Dr. T. S. Nelson (medicine), Mr. G. R. E. Colquhoun (surgery).
London Hospital.—Mr. W. Morris and Mr. G. W. Carte (oto-rhino-laryngology), Mr. V. J. F. Lack (midwifery and diseases of women), Dr. A. G. Maitland-Jones (diseases of children), Dr. W. J. O'Donovan (dermatology and venereal diseases), Mr. A. C. Perry and Mr. H. W. B. Carns (surgery).
London School of Medicine for Women.—Miss Joan M. Ross (bacteriology and pathology).
University College Hospital.—Dr. C. White (midwifery and diseases of women), Dr. R. W. A. Salmond (radiology).
Maudsley Hospital.—Dr. W. Moodie (psychiatry), Dr. W. N. East (mental diseases of psychiatry).

The following is the constitution of the Boards of Examiners for the second examination for medical degrees in 1927, the chairmen of the respective boards being indicated by an asterisk:

Anatomy.—G. E. Smith (University College), *E. Barclay-Smith (King's College), W. E. Le Gros Clark (St. Bartholomew's Hospital Medical College), F. G. Parsons (St. Thomas's Hospital Medical School), T. B. Johnston (Guy's Hospital Medical School), W. Wright (London Hospital Medical College), Mrs. Lucas Keene (London School of Medicine for Women), J. E. S. Frazer (St. Mary's Hospital Medical School), together with the external examiners.
Pharmacology.—E. B. Verney (University College), O. Inchley (King's College), P. Hamill (S[illegible]), N. Match (Guy's Hospital [illegible] Hospital Medical College), Sw[illegible] School), [illegible] School of Medicine for Women), B. J. [illegible] Medical School), together with the [illegible] College), R. J. S. McDowall (King's College), J. Mellanby (St. Thomas's Hospital Medical School), G. W. de P. Nicholso[illegible] Hospital Medical School), H. E. Roaf (London H[illegible] E. C. Dodds, Swale Vincent, J. H. Woodger (Mi[illegible] School), B. J. Collingwood (St. Mary's Hospital [illegible] with the external examiners.

The scheme for the second medical examination Parts I and II for internal students approved in July, 1925, is to be continued for the session 1926-27.

A course of lectures on mental deficiency, supplemented by a course of clinical instruction, will be held at the central buildings of the University from May 23rd to 28th, 1927. Full particulars may be obtained from Miss Evelyn Fox, c.o. the University Extension Department, University of London, S.W.7.

The University medal at the M.B., B.S. examination for internal and external students, November, 1926, has been awarded to G. H. Steele of University College Hospital.

Applications are invited for the Laura de Saliceto Studentship for the Advancement of Cancer Research. It is of the value of £150 a year, is a part-time appointment, and may be held in conjunction with an appointment in a physiological or pathological laboratory, or clinical appointment affording special opportunities for the study of cancer. A statement of qualifications with the names of two persons as referees, one of whom should be the head of the laboratory, or the physician or surgeon under whom the candidate is working, should be sent to the Academic Registrar by July 1st, 1927.

The following have been appointed staff examiners in the subjects of examinations for medical degrees for 1927:

Bacteriology.—Dr. J. W. H. Eyre.
Forensic Medicine and Hygiene.—Dr. A. Allison and Dr. E. W. Hope.
Medicine.—Dr. C. Bolton (internal), Dr. F. R. Fraser, Dr. A. J. Hall, and Dr. C. [illegible] s: Dr. C. F. Coombs, Dr. A. G. Phear, [illegible] J. H. Bond and Dr. E. D. Macnamara.
Neurology.—Dr. Gordon M. Holmes and Dr. C. M. Hinds Howell.
Obstetric Medicine.—Dr. J. S. Fairbairn and Dr. Eardley Holland. Associate examiners: Dr. J. B. Banister and Dr. F. J. Browne.
Oto-Rhino-Laryngology.—Sir William Milligan and Mr. Herbert Tilley.
Pathology.—Sir Bernard H. Spilsbury, Dr. S. McDonald. Associate ex[illegible] lis. [illegible] annett (in [illegible] uired: M[illegible] Rock Ca[illegible] iner if required; Mr. N. C. Lake.
Tropical Medicine.—Sir P. Bassett-Smith.

UNIVERSITY OF BRISTOL.

THE following candidates have been approved at the examination indicated:

F[illegible] *Forensic Medicine and Toxicology).*—T. A. Braud, †R. M. Norman, E. A. R. Williams. (*Part I only*): L. Cleave, R. D. Jenkins, Helen B. [illegible] *Part II completing examination*): [illegible] Camps-Campins, A. M. Critchley, [illegible] R. Jackson, E. R. Wide. (*Group I only*): Helen M. Aldwinckle.

* Distinction in materia medica, pharmacy, pharmacology, and therapeutics.
† Distinction in materia medica, pharmacy, pharmacology, [illegible]
‡ [illegible]
§ toxicology.

UNIVERSITY OF THE WITWATERSRAND, JOHANNESBURG.

OF the twenty-six candidates who presented themselves for the final examination for the M.B., Ch.B., in November, 1926, the following were successful in all subjects:

M. Abrams, P. Braude, Dora Dart, T. J. Faurie, Julia M. Fleming, M. Franks, F. C. Gray, R. Grieve, E. Meltzer, P. Menof, E. J. Rocher, Bella Shawsin, P. Toker, F. van den Steen.

These graduands are now eligible for registration with the various provincial medical councils. The degrees will be formally conferred on them at the University graduation ceremony next March.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN ordinary Council meeting was held on February 10th, when the President, Sir Berkeley Moynihan, Bt., was in the chair.

Diplomas.

Diplomas of Membership were granted and Diplomas in Ophthalmic Medicine and Surgery were granted jointly with the Royal College of Physicians. (The names were included in the list of licences granted by the Royal College of Physicians of London published in the BRITISH MEDICAL JOURNAL of February 5th, p. 266, and February 12th, p. 310.)

Appointments.

Sir James Berry was appointed to represent the College on the Council of the Fellowship of Medicine, in place of Mr. C. H. Fagge, who has resigned.

Sir Cuthbert Wallace was appointed Bradshaw Lecturer for the ensuing year.

Presentation.

Two silver cups, bequeathed to the College by the late Herbert William Page, M.A., F.R.C.S., "in happy remembrance of his connexion with the College as a Member of the Council and of the Court of Examiners," were presented by Mr. Low as executor.

Council Election.

An election of three Fellows into the Council will take place on Thursday, July 7th, at 10.30 a.m., in the vacancies occasioned by the retirement in rotation of Sir John Bland-Sutton, Sir Cuthbert S. Wallace, and Mr. W. Thelwall Thomas. Notice of the election will be given to the Fellows by advertisement and by circular on March 11th. The last day for the nomination of candidates will be March 21st, and a voting paper will be sent on April 5th to every Fellow of the College whose address is registered at the College.

Hunterian Lecture.

A Hunterian lecture on testicular tumours of congenital origin will be delivered by Mr. J. Howell Evans, M.D., M.Ch., F.R.C.S., in the theatre of the Royal College of Surgeons, Lincoln's Inn Fields, W.C., on Wednesday, February 23rd, at 5 p.m.

Medico-Legal.

A SUMMONS WITHDRAWN.

THE further summons taken out by the Director of Public Prosecutions against John Kynaston, retired lieutenant-colonel R.A.M.C., of unlawfully, wilfully, and falsely using the descriptions "M.R.C.S., L.R.C.P.Lond.," contrary to the provisions of the Medical Act, 1858, was withdrawn before Mr. Cancellor, at Marlborough Street police court, on February 6th. At the preliminary magisterial hearing of the summons for an offence in contravention of the Dangerous Drugs Acts it was stated by the magistrate that while the accused would be committed for trial on that summons, the further summons under the Medical Act would be adjourned *sine die*. The accused was convicted at the Old Bailey, but the Court of Criminal Appeal quashed the conviction upon its appearing that the summons was brought under rules purporting to have been made under the sanction of an Order in Council which, in fact, never existed. Mr. Evans, on behalf of the Director of Public Prosecutions, said that following proceedings elsewhere relating to the other summons, he had been instructed to ask the court to allow the second summons to be withdrawn, and to this the magistrate consented. The previous proceedings relating to the summonses were reported in the BRITISH MEDICAL JOURNAL of October 16th, 1926 (p. 716), November 20th (p. 964), and December 18th (p. 1199).

Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

THE House of Commons completed the debate on the Address on February 14th, devoting the rest of the week to Supplementary Estimates and private members' business. In the House of Lords the Poor Law Bill, a measure consolidating the existing law in England and Wales, was read a second time on February 15th. Viscount Gage said the bill had obtained a second reading last year, and had been referred to a joint committee. Viscount Haldane complained that the Government did not tell the House when the larger measure of Poor Law reform would be introduced.

On February 14th, at the House of Commons, the Medical Committee of the Central Association for Mental Welfare met members of Parliament who are specially interested in the Mental Deficiency Bill, which has won a good place in the ballot. The text of the bill will not be available much before March 18th, the day chosen for the second reading debate, but, as explained by Sir Leslie Scott, who was in the chair at the meeting on February 14th, the text of last year's bill, as amended by a Select Committee of the House of Commons, will be followed, with the exception that the definition of mental deficiency is to be amended. The loss of the bill last session was chiefly due to lay and legal objections against this definition. The meeting on February 14th agreed that to overcome these objections a definite age (18 years) should be put in the bill as the maximum age at which a person could be certified as mentally defective. Medical opinion was unanimous against fixing any legal age, but the meeting agreed that if an age must be inserted in the bill 18 years would be likely to suit all views. Dr. Shrubsall, speaking with experience of all the schools of London, said very few young persons became mentally defective between the ages of 16 and 18. There was a strong feeling in the meeting that "moral imbecility" should be deleted from the list of grounds justifying certification, as such cases would come under the other categories, in particular feeble-mindedness. No decision to delete was taken, however, and "moral imbecility" will probably remain in the bill as printed and presented to the House. A member who will share in presenting the bill to the House on second reading spoke of the desirability of preventing, either by segregation or surgery, the propagation of the feeble-minded, but the meeting decided that to incorporate such a proposal would destroy the chances of the bill. The meeting was attended by several alienists and women doctors, and, among other members of Parliament, by Dr. Fremantle and by Major Cadogan, who spoke for those interested in the Borstal system.

The Parliamentary Medical Committee met for the first time this session on February 18th to arrange procedure for the session and to hear statements from medical members who accompanied the parliamentary delegations to Australia and Malta.

The Executive Committee of the Unionist Health and Housing Committee met, Dr. Fremantle presiding, on February 15th, to arrange its programme for the session.

Bills.

In the House of Lords, on February 15th, Viscount Astor introduced the Education (Employment of Children and Young Persons) Bill, which was read the first time.

Bills presented in the House of Commons include a Mental Deficiency Bill "to amend certain enactments relating to mental defectives." This is presented by Mr. Crompton Wood, supported by Sir Douglas Newton, Sir Leslie Scott, Mr. Rhys Davies, Mr. Cadogan, Dr. Fremantle, Dr. Haden Guest, Lord Apsley, and Mr. Geoffrey Peto. It is set down for second reading on March 18th. An Optical Practitioners (Registration) Bill, presented by Mr. West Russell, is down for second reading on May 13th. A Factories Bill, prepared by the Labour party and presented by Mr. Tinker, is set down for second reading on May 27th. A Nursing Homes (Registration) Bill is presented by Mrs. Philipson (second reading April 1st), and a Midwives and Maternity Homes (Scotland) Bill by Mr. Barclay Harvey (second reading March 18th). These last two may not be reached on the dates appointed, but should receive a second reading on other dates. A Maternity Benefit Bill "to extend maternity benefits to mothers in cases of miscarriage" is introduced by Sir Hugh Lucas-Tooth, supported by Dr. Vernon Davies, Dr. Watts, and other members.

Experiments on Dogs.—In the House of Commons, on February 14th, Sir Robert Gower (Hackney, Central, U.) presented a bill to prohibit the vivisection of dogs, and it was read a first time. It was put down for second reading on April 29th. On the same day the Home Secretary told Mr. Bromley (Barrow-in-Furness, Lab.) that he had received a resolution, passed at a public meeting, asking the Government to empower the police to grant a permit to anyone who had lost a dog to visit and inspect the kennels and animal houses attached to establishments where vivisection was practised. The Home Secretary said that he had no power to authorize the grant of such permits. Replying further to Mr. Bromley, the Home Secretary said that the idea of such permits was a good one. Perhaps Mr. Bromley would ballot for a bill on the subject.

Motions.

In the House of Commons, on February 15th, Dr. Watts gave notice that in Committee of Supply on the Civil Service Estimates he would call attention to the serious outbreaks of small-pox and move a resolution. Dr. Fremantle, on behalf of Major Tasker, gave notice to call attention on the Naval Estimates to the increased need of scientific research.

Treatment of Physically Defective Children.—On February 14th the Duchess of Atholl (Parliamentary Secretary to the Board of Education) stated that in thirty-five areas local authorities so far had made no provision for physically defective children, but in some of these areas voluntary agencies were at work. The Education Minister did not think that further action on his part was required at present. The education of children of school age who were suffering from more than one defect was receiving careful attention. Replying to Mr. Cave, the Duchess of Atholl said that a circular just published did not state that the President of the Board of Education would not allow local authorities to provide schools for defective children, nor was that his intention. The circular merely drew the attention of the authorities to the question of the completion of the medical services, which was of primary importance.

Spahlinger Treatment.—Mr. Neville Chamberlain states that the offer made to M. Spahlinger by the Ministry of Health is still open. This is to arrange for a scientific investigation in this country of his methods of treatment as soon as the necessary materials are forthcoming. Mr. Chamberlain is not at present in communication with M. Spahlinger.

Use of Poisons and Bacteria in War.—On February 15th Mr. Baldwin, in reply to Mr. James Hudson, said that until a definite assurance could be obtained that all the Powers were willing to adopt prohibitive measures against the military use of poisons and bacteria, the British Government must take steps to be in a position to defend itself against such attacks. Answering another question on the same day, Sir L. Worthington Evans said no animals had been used for experimental purposes in the Chemical Warfare Research Station at Sutton Oak.

African-born Medical Officers.—On February 14th Mr. Amery (Secretary for Dominion Affairs), told Sir Cooper Rawson the Government's policy was that natives of West Africa, who were qualified medical men and otherwise suitable for public employment, should be employed in the Government service there. In the Gold Coast, out of a total medical staff of sixty-seven, three were Africans. The Colonial Government must make the best use of the staff at its disposal, and he could not see his way to interfere with the Governor's exercise of his discretion. Sir Cooper Rawson raised this question in consequence of a proposal to appoint a native doctor to succeed a European doctor at Dunkwa, Gold Coast Colony, where there are over forty European residents.

including women, the nearest European doctors being at Sekondi and Kumasi, six and a half and four and a half hours away respectively.

Pensions.—Major Tryon told Mr. Robinson that experience of the past year had shown that where old wounds inflicted in the war had broken down more than seven years after discharge the cases were, for the most part, restored by treatment. If in any such case the man, after treatment, was found to be seriously incapacitated, the making of an appropriate grant was considered. In a case where a first application in respect of a shrapnel wound had not been made till more than seven years after discharge treatment had been provided.

Factories Bill.—Answering Mr. P. J. Hannon, on February 10th, Sir William Joynson-Hicks said the Government had decided to introduce the Factories Bill at the beginning of the next session in November next, so that it could be read a second time before Christmas and pass into law in 1928. He expected during the next few months to receive deputations from manufacturers and organizations of workers.

Notes in Brief.

In the year ended March, 1925, the average weekly cost of maintaining lunatics at institutions at the charge of the guardians in England and Wales was 21s. 3½d. a head, and the average weekly cost of persons in Poor Law institutions 27s. 1½d. a head.

Importers of milk have to be registered and may be struck off if they import milk which does not comply with the Public Health (Imported Milk) Regulations. The amount of milk imported into England and Wales is negligible.

The Minister of Health is communicating with the London County Council about the provision of open spaces in London.

Thirteen outbreaks of foot-and-mouth disease were confirmed between January 1st and February 10th. In 1926 there were 204 outbreaks.

Additions have been made to the sanitary staff in Tanganyika Territory, and the training of native assistants and nurses is making rapid progress.

No bill dealing with slum clearances will be introduced by the Government this session.

One of the medical inspectors of the Home Office will, at an early date, investigate the incidence of lead poisoning in potteries using low solubility glazes. In the years 1916-26 cases of lead poisoning reported in such potteries numbered sixty-seven; sixty of these persons had previously been employed in factories using raw lead glazes.

In 1923-24 the expenditure on maternity and child welfare in England and Wales was £791,000; in 1924-25 it was £814,000; and in 1925-26 £897,000. The expenditure on the treatment of tuberculosis in the same periods was £1,337,000, £1,430,000, and £1,547,000 respectively; and in grants towards the provision of sanatoriums £87,000, £15,000, and £19,000. The expenditure on the treatment of venereal diseases was £303,000, £298,000, and £307,000; and on welfare of the blind £83,000, £95,000, and £104,000 respectively.

San Salvador has ratified the International Opium Convention.

In 1925 no deaths in any London hospital were certified as from tetanus following dog bites. Later figures are not available.

The percentage of recruits discharged from the army for medical reasons within three months of enlistment during the year ended September 30th, 1926, was 2.18.

Medical News.

AT the social evening of the Royal Society of Medicine on Monday next Mr. Percy Flemming, consulting ophthalmic surgeon to University College Hospital and to the Moorfields Hospital, will give an illustrated address consisting of topographical and medical notes on "Harley Street," at 9.30 p.m. Fellows and guests will be received by the President and Lady Berry at 8.30, and there will be an exhibition of prints and maps of the neighbourhood of Harley Street, lent by the London County Council, University College, the Wellcome Historical Medical Museum, Mr. Francis Edwards, and others.

THE International Society of Hydrology, whose president is Dr. Gustav Monod of Paris, will hold a conversazione at the rooms of the Medical Society of London on the evening of Thursday, March 3rd, when Mr. Lewis Abbott, F.G.S., will give a demonstration with the epidiascope on hydration and dehydration, the life history of silica from the colloid to the crystalline, including the birth, life, and death of the opal. Exhibits of hydrological interest from the Wellcome Historical Medical Museum will be on view. Representatives from France, Germany, Italy, Czecho-Slovakia, Holland, and Belgium have accepted the invitation. Any members of the medical profession who would like to attend are invited to communicate (by letter) with Miss Fox, 139, Marylebone Road, W.1.

AT the meeting of the Harveian Society to be held at the Paddington Town Hall, W., on Thursday, March 10th, at 8.30 p.m., Sir Berkeley Moynihan, Bt., K.C.M.G., C.B., President of the Royal College of Surgeons of England, will deliver the Harveian Lecture on diverticula of the alimentary canal.

THE Hunterian Oration before the Hunterian Society of London will be delivered by Mr. Girling Ball, at the Cutlers' Hall, Warwick Lane, E.C., on Monday, February 28th, at 9 p.m. The subject is "The value of modern methods of investigation in the diagnosis and treatment of haematuria."

THE Oxford Ophthalmological Congress will assemble at Keble College on the afternoon of July 6th, and the meeting will be held on the three following days. On the morning of July 7th a discussion on the results of the operative treatment of glaucoma will be opened by Dr. W. H. Wilmer, ophthalmologist-in-chief of the Johns Hopkins Hospital, Baltimore. The Doyne Memorial Lecture will be delivered on the morning of July 8th by Professor K. K. K. Lundsgaard of Copenhagen, the subject being "The pneumococcus in connexion with ophthalmology." One afternoon will be devoted to demonstrations in the scientific and commercial museums, and members are invited to exhibit pathological specimens, instruments, and apparatus. The official dinner of the congress will be held on the evening of July 7th in the hall of Keble College. Members who desire to take part in the discussion, or to contribute papers or specimens, should notify the honorary secretary, Mr. Bernard Cridland, Salisbury House, Wolverhampton, as soon as possible.

AT a meeting to be held on February 23rd, at 6.30 p.m., at the Royal Institute of British Architects, 9, Conduit Street, W.1, Mr. G. F. Barwick, late keeper of printed books at the British Museum, will give an address on the *Directory of Sources of Specialized Information* now being compiled by him for the Association of Special Libraries and Information Bureaux. Before the address there will be an informal discussion on public and special libraries: their spheres of service and potential relationship.

DR. G. A. SUTHERLAND will lecture for the Fellowship of Medicine on February 24th on fits and faints, at 5 p.m., at the Medical Society, 11, Chandos Street, W., and on February 23rd Mr. Gimblett will give a lecture at the Royal Westminster Ophthalmic Hospital on affections of the cornea. Dr. Wylie will give a special demonstration at the Central London Throat, Nose, and Ear Hospital on February 24th at 2 p.m. This demonstration and the two lectures are free to all members of the medical profession, but in the last case notice of intention to attend should be sent to the hospital secretary (Museum 1539). Beginning on March 7th, the Brompton Hospital will hold a six-day course of instruction, including demonstrations in artificial pneumothorax, radiology, and the use of the cardiograph. The Chelsea Hospital for Women will hold a course from March 14th to 25th, and there will be a comprehensive course at the Royal National Orthopaedic Hospital from March 21st to April 2nd. During the same fortnight there will also be a course, primarily for the general practitioner, at the Lot
in the late afternoon. From Mar
Queen's Hospital for Children will
A series of demonstrations on diagnosis and treatment will be given at the Royal Eye Hospital for the two weeks beginning March 28th. The Fellowship arranges practical courses in anaesthetics and courses in obstetrics; arrangements are also made for clinical assistantships in gynaecology. Copies of all syllabuses and of the *Post-Graduate Medical Journal* may be obtained from Secretary of the Fellowship, 1, Wimpole Street, W.1.

THE programme of the Post-Graduate Hostel at the Imperial Hotel, Russell Square, W.C.1, for next week includes an address on Wednesday, at 9 p.m., by Mr. H. W. Carson, on ulcers of the lesser curvature, and on Thursday a symposium on ulcers of the tibia, under the chairmanship of Sir D'Arcy Power. Dinner (5s.) will be served at 8 p.m.

AN intensive post-graduate course will be held at the Great Northern Hospital, Holloway Road, N., during next week. Afternoon lectures will be given as follows at 2.15 and 3.15 p.m.: February 21st, Dr. Reynell, Anxiety neuroses; Mr. Kenneth Walker, Treatment of prostatic obstruction. February 22nd, Dr. McNee, Diseases of biliary tract; Mr. Zamora, Carcinoma of larynx. February 23rd, Dr. Semon, Diagnosis of skin diseases; Mr. Hunter, Surgery of the chest. February 24th, Dr. Bruce Williamson, Drugs in heart disease; Mr. Lane Roberts, Obstructed labour. February 25th, Mr. Sauer, Cancer of rectum; Mr. Gimblett, Points of general interest in eye diseases. The entire work of the hospital, between 10 and 12, will be open to those attending. The course is free, and tea will be provided at 4.15 p.m.

AN afternoon post-graduate course in cardiology will be held at the Liverpool and District Hospital for Diseases of the Heart during the fortnight beginning March 7th. The fee for the course is one guinea; the number taking the course is limited to twenty. Application should be made to Professor Beattie, at the hospital, 34, Oxford Street, Liverpool.

THE Scottish Board of Health has renewed for one year the regulations with regard to the notification of infective jaundice.

AT a meeting of the Central Midwives Board for England and Wales, on February 3rd, Hammersmith and Lewisham Hospitals were approved as training schools. A letter was sent to a midwife informing her that when a doctor was in charge of a case the responsibility for it was his, and that the midwife must faithfully obey his instructions. In reply to a question from a medical officer of health it was stated that under the new rules the form for keeping ante-natal notes must be the one approved by the Board, though the local supervising authority would be permitted to exhaust any stock of the previously used type of ante-natal registers.

AT the thirteenth annual general meeting of St. Andrew's Hospital, Dollis Hill, for the professional and middle classes, when Cardinal Bourne was in the chair, it was reported that £30,000 is required for the provision of additional beds, the opening of a children's ward, and a home for the nurses and staff. The amount that has so far been contributed is £4,600, and an appeal was made for £15,000 to enable the building to be started immediately according to plans approved by King Edward's Fund. The hospital was opened in 1913, and although contributions are asked from patients who can afford to pay, no patient, it is stated, has ever been refused, whatever his nationality or creed, solely on the ground that he could not pay a fee.

SOME years ago—it seems a good many—Dr. Leonard Hill, F.R.S., exhibited a number of his own pictures; the collection seemed to prove that in art, as in science, he was specially interested in phenomena of air and light. He has now arranged a larger one-man show containing upwards of 120 works, most of them in oil, but others in water-colour and pastel. Some of them are elaborate pictures, others sketches, or, as it were, passing notes of colour effects. The water-colours are perhaps the most successful. The exhibition is being held at the Alpine Club, Savile Row, and will remain open until February 25th. It is well worth a visit.

AT the recent by-election in the Streatham Division Dr. James Kirkland was returned to the Wandsworth Borough Council, polling 3,638 votes in the Municipal Reform interest, against 520 and 328 recorded respectively for the Labour and Progressive candidates.

THE Henry Saxon Snell prize of the Royal Sanitary Institute, which is awarded every three years, will in 1927 consist of fifty guineas and the medal of the Institute; candidates must submit an essay on "Sanitary accommodation, appliances and fittings, for hotels and flats, with suggestions as to proper placing, arrangement, ventilation and lighting, particularly where there are no external walls in which windows can be placed." Essays must be sent on or before September 30th, 1927, to the secretary of the Royal Sanitary Institute, 90, Buckingham Palace Road, S.W.1, from whom further information may be obtained.

THE late Sir John Sherburn, M.B., C.M., a former mayor and sheriff of Hull, and consulting surgeon to the Hull Royal Infirmary, has left estate valued at £144,583. He was a partner in the shipping firm of Bailey and Leatham.

THE Cambridge University Press announces that it will publish early next month a book by Dr. Bernard Hart entitled *Psychopathology: Its Development and its Place in Medicine.* The text will be founded on the Goulstonian Lectures of 1926.

THE first number of the *British Journal of Tuberculosis* appeared in January, 1907, so that its January issue is the coming-of-age number. A symposium of congratulatory comments includes contributions from Sir George Newman, Sir Arthur Newsholme, Sir Humphry Rolleston, Sir Robert Jones, Dr. Rollier, and others. In this issue Dr. Varrier-Jones describes, with illustrations, the Papworth tuberculosis colony, and Dr. Muthu gives a general survey of tuberculosis in India. An account of the American National Tuberculosis Association is supplied by its publicity director, Dr. P. P. Jacobs.

FOUR German universities will celebrate the anniversary of their foundation this [illegible]g, founded 1402 (exact date unknow[illegible] 9th, 1447; Marburg, May 30th, 1527; [illegible] 15th, 1702.

WE have recently received the special number of *Bruxelles Médicales* devoted to the congress held at Brussels from June 26th to 30th under the name of *Journées medicales de Bruxelles.* The issue contains numerous illustrations, including photographs of prominent members of the congress.

AT the end of January a medical congress entitled Journées Médicales was held at Nancy, and was attended by Professor Forman, director of the Anticancer Institute of Luxemburg, and many physicians and surgeons of the surrounding provinces. Professor Vautrin, director of the Nancy Anticancer Institute, gave an address in which he denied that cancer was inherited or incurable. He emphasized the value of the work performed by various anticancer institutes, with especial reference to radium treatment.

Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to ***The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.***

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the BRITISH MEDICAL JOURNAL alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the BRITISH MEDICAL JOURNAL must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, *on receipt of proofs.*

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the JOURNAL, should be addressed to the Financial Secretary and Business Manager.

The ***TELEPHONE NUMBERS*** of the British Medical Association and the BRITISH MEDICAL JOURNAL are *MUSEUM 9861, 9862, 9863,* and *9864* (internal exchange, four lines).

The ***TELEGRAPHIC ADDRESSES*** are:

EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology Westcent, London.*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westcent, London.*

MEDICAL SECRETARY, *Mediscern Westcent, London.*

The address of the Irish Office of the British Medical Association is *16,* South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 4737 Dublin), and of the Scottish Office, 6, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 4361 Central).

QUERIES AND ANSWERS.

"B. B." asks whether ionization in a case of chronic otorrhœa of thirty years' standing is likely to cure or alleviate the condition, and, alternatively, whether this treatment would be likely to do any damage to the ear.

EPIPHORA.

DR. A. C. BALFOUR (Aviemore) writes: If "G. A." (Norfolk) will use a lotion of adrenaline chloride (P., D. and Co.) 1 in 8,000 I think his case of epiphora will improve. It only requires one or two drops two or three times a day.

RECURRENT TONSILLITIS.

DR. F. PEARCE STURM (Leigh, Lancs) writes: "Scrutator's" patient (BRITISH MEDICAL JOURNAL, February 12th, p. 312) possibly suffers from infection of the granulation masses containing extra-capsular lymphoid tissue, which occasionally grow in the tonsillar fossæ after the most skilful enucleation of the tonsils. They are very troublesome, and if removed tend to recur with a persistence whic[illegible]al malignancy. Beck of Chicago (*Applied [illegible] the Nose, Throat, and Ear*, London, 1923) states that the condition is easily controlled by electro-thermal [illegible] tor's" patient required the removal o[illegible] years, she probably has some deficie[illegible] iggest, therefore, a trial of parathyr[illegible] local application of Dundas-Grant's paint: Iodine 6 grains, acetic ether 2 drachms, and glycerin 6 drachms.

INCOME TAX.

Assessment of Income.

"FIDUS" holds a part-time appointment and commenced private practice at his residence as from February 8th, 1926. His first year's takings amounted to £51, and the "expenses of practice, of course, exceed this." His inspector of taxes says he must include the annual value of the house, which he owns, and that he cannot deduct the amount of his professional loss from the assessment of his salary.

*** It is correct that the annual value must be included in the statement of his total income. The assessment of his salary must be dealt with as a matter separate from the private practice, but if he makes a loss on the latter he is entitled under Sec. 34, Income Tax Act, 1918, to an adjustment accordingly for the same year. In computing the result of his practice, however, the capital outlay in starting will have to be excluded from the expenses, and it is unlikely in all the circumstances that he will be allowed to deduct one-half the general cost of rates, wages, telephone, and "rent"—the rent being the amount on which he is assessed as owner. Further, the cash basis is inapplicable to a new practice, and he will have to bring into the computation of the first year's profits the value of the book debts due to him at the end of the year.

"S. C." seeks advice as to how he should declare his income from property and shares in his statement of total income.

*** Such income is returnable on the basis of the amount received in the year of assessment. When changes in ownership are involved, or are likely to be, it is advisable, unless the amount of the total income is immaterial, to state the facts

briefly in a note accompanying the return. Where property is concerned, the amount of the income to be included is correctly the proportion of the annual value, according to the period for which the property has been owned, in the year for which the return is made.

Information as to Capital.

"L. C." inquires whether the income tax authorities are entitled to information as to the source of the *capital* which he put into the purchase of a practice.

*** The authorities are concerned with the proper assessment of "L. C.'s" *income* either for the present or any previous year as far back as April 5th, 1920, and we cannot see any grounds on which they could claim that the source of his capital was relevant to his assessment. If not relevant they have no right to a reply, and if the inquiry is put and pressed "L. C." might write again after ascertaining the grounds for the inquiry.

Cash Receipts Basis.

"KLAXON" has taken over a practice as from October, 1926, and has been informed by the local authorities that for the half-year to April, 1927, he will have to pay on one-half of his predecessor's assessment and that he will be assessed in future on the basis of his book debts.

*** As regards the first point, the position is that he is liable to be assessed according to his predecessor's past average profits—that is, on one-half of the gross assessment so calculated, less all the personal allowances which may be due to him. If, however, "Klaxon" can show that the earnings of the practice fell short from some specific cause since or by reason of his succession, then he will be entitled to have the assessment for the six months to April, 1927, adjusted to the amount of his earnings. If such an adjustment is probably due, no doubt he can arrange with the inspector of taxes for the assessment to remain in abeyance until after March. It is assumed that "Klaxon" is not collecting his predecessor's accounts and bringing them into his own income tax returns, in which case the cash receipts would not reflect the full gross earnings of the practice and would properly be refused; but he should claim a reasonable allowance for outstanding debts likely to be wholly or partially irrecoverable.

Motor Car Transactions.

"E. J. B." bought an "R" car in 1921 for £273 and sold it in 1923 for £90, buying an "F" car for £160. He sold that car in 1926 for £15, buying an "M-O" car for £362.

*** The amounts to be claimed as *expenses* are as follows: (1) of the year 1923, £160−£90=£70; (2) of the year 1926, £362−£15=£347, less the excess of the gross cost (£362) over the original car outlay (£273)—that is, a net amount of £347−£89=£258. For the financial year 1926-27 he should also claim a depreciation allowance of 20 per cent. of £362=£72.

"M. H.'s" car transactions have been as follows: In 1915 he purchased a second-hand "S" car for £335 and sold it in 1927 for £30; he bought a new "St." car in 1925 for £275 and sold it in December, 1926, for £128; in July, 1926, he bought a second-hand "V" car for £320, which he is still using.

*** In our opinion the renewal or obsolescence claim is best made as for the year definite figures are ascertainable—that is, the year of sale. On that basis "M. H." should claim as follows: (1) "S" car, renewal cost as an expense of the year 1927, £335−£30=£305. (2) "St." car, obsolescence allowance, £275−£128=£147, deduct depreciation allowance given (that is, 20 per cent. of £275=£55), net claim £92, as an expense of the year 1926. (3) "V" car, 20 per cent. of £320=£64 as a depreciation allowance for 1927-28. The authorities may claim to restrict the above to allow for the falling value of cars generally on the ground that there was some loss of capital. If so perhaps "M. H." will send us their figures.

LETTERS, NOTES, ETC.

ACQUIRED MELANISM IN MOTHS TRANSMITTED BY INHERITANCE.

SURGEON REAR-ADMIRAL CHARLES M. BEADNELL, R.N.(ret.), writes: With reference to the note in the BRITISH MEDICAL JOURNAL of February 5th on acquired melanism in moths transmitted by inheritance, may I protest against the easy assumption that an "acquired melanism" had been proved by Dr. Heslop Harrison to be "transmissible by inheritance" on the basis of the alleged fact that certain moths fed in their larval stages on a lead-manganese contaminated diet begot, as descendants, melanized moths the larvae of which had been fed entirely on uncontaminated food. The expression "acquired melanism" would appear to me to beg the question. Sir Archdall Reid, who, more than any biologist past or present, has shown the confusion of thought, through faulty terminology, that has accompanied the long and heated controversy concerning the transmission of acquired characters, defines an acquired character as one developed under the stimulus of *use or injury* in contrast to an inborn character which is one developed under the stimulus of *nutriment*, inheritance being, according to this authority, the reproduction, as a nutritional character, by the offspring of a parental character of any sort. Now I submit there is no evidence in the case in point of any use or injury stimulus having called forth a deposition of pigment in the hypodermal cells of the metal-fed moths. On the other hand, it is surely obvious that a nutriment stimulus was present and that it was this that produced in the moths the inborn character melanism which, happening to be a variation in a direction favourable to the industrialized environment of the insects, was fostered and furthered by natural selection and reproduced as a nutritional character by descendants. In short, it was, I submit, the germ plasm of the moths that was directly acted upon by the circulating manganese and lead salts. If, at any point in the eighty odd million year line of germ cells of the multicellular organisms, the germ-plasm be affected by nutritional or mechanical stimuli to the point of definite structural adjustments, there would be brought about in descendant germ cells the potentiality (temporary or permanent according to the survival value) to induce related structural adjustments in certain groups of cells of that ephemeral excrescence on the germ cell that we term the *body*.

HERPES ZOSTER AND VARICELLA.

DR. H. TAYLOR (Banbury) states that in December, 1926, he attended a man who was suffering from a severe attack of herpes zoster. Ten days later, when the herpes was drying up, he was called to the patient's wife, who was suffering from a severe acute form of chicken-pox. Neither of the two patients had been away from the village for several weeks previously, and there had been no other case of herpes or varicella in the neighbourhood. Although the baby in the family had been in contact with the father during the acute herpes eruption, it escaped entirely.

JUDICIAL HANGING.

"EX-COLONIAL SURGEON" writes: Early one morning a few years ago I had to witness the execution of four coloured men in a gaol. As it happened, the executioner was anxious to finish his work as soon as possible in order to catch a train, and the scaffold held two at a time, so they were divided accordingly. When the first pair were hanged it was my duty to determine the fact of death. As a general rule, on auscultation the heart may be heard beating for about ten minutes after the drop, and on this occasion, when the sounds had ceased, there was nothing to suggest any vital spark. The bodies were cut down after fifteen minutes and placed in an ante-chamber, when I was horrified to hear one of the supposed corpses give a gasp and find him making spasmodic respiratory efforts, evidently a prelude to revival. The two bodies were quickly suspended again for a quarter of an hour longer. The executioner, who was thoroughly experienced, had done his part without a hitch, and the drop given was the regulation one according to individual physique. Dislocation of the neck is the ideal aimed at, but, out of all my *post-mortem* findings, that has proved rather an exception, while in the majority of instances the cause of death was strangulation and asphyxia. One such gruesome incident seems to me enough to condemn hanging in any civilized country.

*** The nature of death by judicial hanging has been discussed at intervals during the last fifty years, and Dr. J. de Zouche Marshall, who took much interest in the subject, wrote in our issue of November 15th, 1913 (p. 1341), to suggest that the time had come for further inquiry, since the recommendations of the Aberdare Committee of 1886, with reference to the length of the drop, were not being followed. General opinion at present is to the effect that with an expert hangman, using the submental knot, death is due to fracture dislocation of the axis vertebra and severing of the spinal cord, as described by F. Wood-Jones in the *Lancet* in 1913. With the subaural knot death by strangulation or fracture of the base of the skull seems to be more likely.

JOHN LEYDEN.

[illegible] writes: At the close of your most [illegible] medical man and orientalist [illegible] you remark: [illegible] is perfectly true, but inasmuch as his name occurs at the end of a beautiful stanza in "The Lord of the Isles," there is less excuse than otherwise for this neglect. Just before going out to India Leyden visited the Inner Hebrides, and thus Scott wrote of—

> "Scenes sung by him who sings no more,
> His bright and brief career is o'er
> And mute his tuneful strains;
> Quenched is his lamp of var ed lore,
> That loved the light of song to pour;
> A distant and a deadly shore
> Has Leyden's cold remains."
>
> "Lord of the Isles," Canto IV, Stanza XI.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 40, 41, 42, 43, 46, and 47 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 44 and 45.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 63.

EPITOME OF CURRENT MEDICAL LITERATURE.

Medicine.

190. Latency in Syphilis.

J. H. STOKES (*Brit. Journ. Vener. Dis.*, October, 1926, p. 289) considers that the interpretation and management of latency in syphilis depend upon complete examination repeated at intervals during life, and that latency as defined in terms of the Wassermann reaction alone has no significance for the patient. Since it appears to be impossible to define the amount of treatment which should be given to a patient with a persistent Wassermann reaction, Stokes advocates as guiding principles in treatment that every accessible organ and tissue should be examined by every available clinical method for evidence of syphilitic changes, and that the degree of activity, extent of damage, and probable recuperative power of the most vital structure involved by the infection should be thoroughly investigated. The aim should be, after estimating the tolerance for arsenic and mercury of the liver, kidneys, and skin, to increase such tolerance by protective measures, and the removal of focal infection, in order to obtain a satisfactory symptomatic response of those structures involved by the disease within the limitation of the weakest element in the tolerance, and, if possible, to give as much treatment as to a fully developed secondary case. Stokes suggests a tentative maximum schedule of four courses of eight weekly injections of arsphenamine with three courses of bismuth or mercury intramuscularly, 100 to 150 inunctions, and 20-grain doses of iodide by mouth before meals. It is important that when once treatment has been begun it should be performed thoroughly, as otherwise it is better to limit the treatment to mercury, iodide, and bismuth rather than to start an inadequate arsphenamine therapy which cannot be continued till it results in complete and persistent Wassermann negativity. If the initial treatment has been thorough the question of lifelong intermittent treatment in the presence of a persistent positive Wassermann reaction is one for decision in each individual case, depending upon the type of involvement found before the process came to apparent quiescence. Short courses of arsphenamine injections or insufficient mercurial treatment are deprecated as being half measures likely to be harmful.

191. The Heart in Thyroid Disease.

E. P. BOAS (*Med. Journ. and Record*, December 1st, 1926, p. 695) states that in simple goitre cardiac hypertrophy is usually constant and proportional to the size of the goitre; it appears to be due to the increased vascularity of the thyroid in the earlier stages, to mechanical pressure, and to increased blood pressure. It has also been attributed to toxic influences. The hypertrophy may diminish after operation, but ordinary cardiac therapy is of little avail, and digitalis is usually ineffectual. In exophthalmic goitre there is often moderate hypertrophy and dilatation of both ventricles, with fatty infiltration. Extensive myocardial necrosis without evidence of myocarditis or of coronary lesions has been described. These lesions are probably toxic. Disorders of the cardiovascular system are among the most important symptoms of Graves's disease. Digitalis is useless in the tachycardia until arrhythmia occurs, but when auricular fibrillation and myocardial insufficiency appear the treatment is that of ordinary heart disease. With auricular fibrillation sufficient doses of digitalis should be given to reduce the pulse rate to approximately 72. These patients are particularly subject to the cerebral toxic effects of digitalis. The author strongly recommends quinidine hydrochloride in auricular fibrillation in exophthalmic goitre. In myxoedema the heart is usually normal. Boas adds that some writers have recorded large hearts in myxoedematous patients which receded rapidly in size after administration of desiccated thyroid, but says that this remedy should be given cautiously, since many of these damaged hearts cannot withstand the strain of the sudden increase of general metabolism.

192. Prolonged Chorea.

P.-F. ARMAND-DELILLE and J. IBERT (*Bull. et Mém. Soc. Méd. des Hôp. de Paris*, December 16th, 1926, p. 1694) report the case of a child, aged 4 years, who for six months has been in a choreic state, characterized by involuntary movements of a somewhat peculiar type, these being slight, irregular, and frequent. There are no points of importance in the antecedent history of the child or its parents, both of whom are healthy. Movements of the head to the right and left are sometimes extreme, and movements also involve the lips, the shoulders (particularly the right), the fingers, the thighs in flexion, and the feet in adduction. The diaphragm is unaffected. While voluntary movement of the lower extremities is normal, the gait seems to be difficult and hesitant. There is no alteration of the reflexes, sensibility, or psychic state. The eyes show a certain degree of functional paralysis of convergence and a slight exophthalmos. The cerebro-spinal fluid contains a normal amount of albumin, but a marked increase of sugar; there is no leucocytosis, and a negative Wassermann reaction, which is, however, weakly positive in the blood. The other organs are normal, and there are no cardiac changes or urinary abnormalities. Treatment with Boudin's liquor and sulpharsenol does not modify the movements. As chorea is one of the sequelae of epidemic encephalitis the authors incline to this diagnosis, but the blood Wassermann reaction has raised the possibility of congenital syphilis.

193. Control of Scarlet Fever.

W. COLBY (*Journ. Amer. Med. Assoc.*, September 18th, 1926, p. 919) states that the process of active immunization against scarlet fever has been made mild, safe, and rapid by proper neutralization of the raw toxin with sodium ricinoleate. By such a method 87 per cent. of children under 8 years of age, and as high as 77 per cent. of older children susceptible to scarlet fever, have been made Dick-negative in eight days. On the occurrence of three cases of scarlet fever in a school for the deaf 272 children, whose ages ranged from 6 to 18 years, were tested by Dick's method; 76 proved positive, and were immediately injected in the deltoid muscle with scarlet fever streptococcus toxin in a 2 per cent. solution of sodium ricinoleate, so that the concentration of the toxin was 3,000 skin test doses per cubic centimetre. A second injection was given a week later with a concentration of 5,000 skin test doses per cubic centimetre neutralized by a 2 per cent. sodium ricinoleate solution. Local reactions were few and mild. Only two patients had general reactions, consisting in slight fever and headache for twenty-four hours. One case of scarlet fever developed in a patient with a positive Dick reaction five days after the first injection. No case occurred after the second injection. Three months later 32 of the 36 girls immunized (88 per cent.) and 23 of the 38 boys (60.5 per cent.) were negative. The lower percentage of negatives in the boys was due to the fact that most of them were 15 years of age or over, which tended to confirm the previous observation that older children and young adults are not so readily immunized as younger children. In view of the fact that mild scarlet fever may occur in cases with a negative Dick reaction Colby argues that the strength of the test material should be increased.

Surgery.

194. Fracture of the Semilunar Carpal Bone.

ADNET and PANIS (*Bull. et Mém. Soc. Nat. de Chir.*, January 1st, 1927, p. 1229) report a case of fracture of the semilunar carpal bone. The patient fell on his hand and was treated, by splinting, for a fracture of the lower end of the radius. Three months later, when examined again, he was found to have marked limitation of movement at the wrist and some swelling. Radiograms at this time showed a united fracture of the styloid process of the radius and a fracture of the semilunar into three fragments, which were united in bad apposition. In view of this fact and the limitation of movement at the wrist-joint it was decided to excise the semilunar bone. The incision was made on the dorsal aspect and the bone was removed after considerable difficulty owing to its attachments and the irregularity of the callus formation. The result of the operation was extremely satisfactory, and the movements were very greatly increased. The authors believe that the loss of movement was probably due to the faulty position of the fragments of bone rather than to an arthritis in the wrist-joint.

195 Statistics of Renal Tuberculosis.

G. MATRONOLA (*Arch. Ital. di Urol.*, October, 1926, p. 129) gives the following statistics of 125 cases of renal tuberculosis observed at the Institute of Clinical Surgery of the University of Rome. In 93 cases, or 73 per cent., the ages of the patients were between 20 and 40; only 9 were less than 20 and 8 older than 50; 58 patients were males and 67 females. In 54 the right kidney, in 59 the left kidney, and in 12 both kidneys were affected. The initial symptoms were as follows:

vesical symptoms such as pollakiuria, strangury, and pyuria in 53, lumbar pain in 40, haematuria in 15, general weakness in 8, nothing definite in 9. Fifty-one patients showed pre-existing or concomitant tuberculous lesions elsewhere, involving the pleura, lungs, bones and joints, peritoneum, epididymis, lymphatic glands, or larynx. Out of a total of 104 patients who underwent operation 14 died before leaving hospital, death being due in 6 cases to renal insufficiency, in 3 to infections, in 2 to tuberculous meningitis, and in 3 to causes not stated. Of 54 patients who could be subsequently traced 39 were still living and 15 had died after intervals ranging from ten years to less than a year, the causes of death being as follows: probable tuberculosis of the other kidney in 9, pulmonary tuberculosis in 2, tuberculosis of bone in 1; in 3 the cause was unknown. Of the 39 survivors of whom details could be obtained the time which had elapsed since their operation ranged from two to fourteen years; 27 showed no symptoms whatever and the remainder presented more or less intense pollakiuria, pyuria, or haematuria.

196. Splenectomy in Henoch's Purpura.

B. MYERS, A. K. GORDON, and R. MAINGOT (*Brit. Journ. Child. Dis.*, October–December, 1926, p. 241) report a case of Henoch's purpura, in a girl aged 6, characterized by purpuric spots on the arms, legs, and face, vomiting, haematemesis, melaena, and persistent haematuria. All medical treatment failed to stop the haematuria. Laboratory tests showed (1) that the blood platelets underwent progressive reduction, (2) that the polymorphonuclear leucocytes were similarly affected, (3) that evidence of bacterial toxaemia was absent, and (4) that while a slight degree of secondary irritation was present the primary lesion was haemorrhage and not nephritis. As the evidence tended to implicate the spleen splenectomy was performed, and was followed by complete and immediate cessation of the haematuria and rapid improvement in the general health. Two months after the operation the patient seemed to be a normal child, and the urine had remained free from blood. The authors consider the case remarkable as being the first example on record of Henoch's purpura in which splenectomy was performed with success on the pathological findings, and also as being the first case of this disease in which phagocytic giant cells have been reported.

197. Acute Cholecystitis in a Child.

W. MÜLLER (*Zentralbl. f. Chir.*, December 4th, 1926, p. 3092), who records an illustrative case, mentions that diseases of the gall bladder in children are generally regarded as very rare. In 1914 von Khautz was able to collect fifteen cases, in a third of which the condition was recognized before the autopsy. In 1925 Gregov reported two personal cases and collected seventy-seven from the literature. As a general rule a distinction is made between cholecystitis with the formation of calculi and cholecystitis without such formation; the former is much the more frequent. Gregov states that acute non-calculous cholecystitis in children runs a more severe and violent course than the other variety, so that there is a greater risk of perforation, and a mistaken diagnosis such as appendicitis or intestinal obstruction is easily made. Müller's case was that of a boy, aged 4, who, fourteen days before admission, complained of pain in the right side of the abdomen. After temporary improvement he suffered from very severe pain in the same area and also in the right arm, vomited several times, and had complete intestinal obstruction. The abdomen was much distended. Under an anaesthetic a circumscribed swelling was felt two fingerbreadths to the right of the middle line of laparotomy; the inflamed gall bladder was found to be filled with pale green thin fluid and was excised. Bacteriological examination of the contents was negative, and subsequent recovery was uneventful.

198. A Chemical Substitute for Sympathectomy.

K. DOPPLER (*Med. Klinik*, December 17th, 1926, p. 1954) describes the treatment of a series of cases of Raynaud's disease, senile gangrene, necrosing amputation stumps, intermittent claudication, severe pains in the legs, and intractable non-varicose, non-syphilitic ulcers, due to defective circulation of blood in the lower limb. Attempts have been made to paralyse by cutting the sympathetic nerve supply to the femoral artery, and thus to secure permanent vaso-dilatation, but the results have not always been good. Doppler's method is to expose the femoral artery in Scarpa's triangle under local or general anaesthesia; the femoral sheath is opened and the vessel freely painted with a 7 per cent. solution in water of isophenol, or phenol, the latter being slightly more toxic. The artery, which is usually thickened, rigid, and almost pulseless, instantly begins to pulsate, and the limb, which has been blue or black, regains its colour. The wound is closed and Doppler states that relief is immediate; pain ceases, ulcers heal within a few days, and the good effects are permanent.

Therapeutics.

199. Serum Treatment of Bites of European Vipers.

P. MORITSCH (*Wien. klin. Woch.*, December 23rd, 1926, p. 1514) states that R. Kraus had previously shown that the serum obtained from the poison of *Lachesis jaraca* (*lanceolata*), a South American viper, proved efficacious in cases of bites by European vipers, and thinks that this discovery has a practical significance. The preparation of snake serum is a more difficult matter than the preparation of antitoxic serums against bacterial toxins, principally on account of the sensitiveness of horses to the snake poison, and especially on account of the large quantities of snake poison required for immunization. Antitoxic serums against the bites of the large snakes in tropical and subtropical countries can easily be produced if the necessary organization is present and the poison can be obtained from large snakes. It is much more difficult to prepare serum against the bites of small snakes, as only a small quantity of poison can be obtained from them. For this reason the serum treatment of snake bites in Europe has made little progress hitherto. As the result of his experiments Moritsch found that the serum obtained from the poison of *Lachesis jaraca* has not only the power to neutralize the poison of *Vipera aspis* (the French viper) in a mixture of serum and poison, but that this serum has the same neutralizing power when the serum and poison are injected separately. Subsequent experiments showed that the polyvalent serum made from a mixture of poisons of different South American vipers is able to neutralize a more than fatal dose of European viper poison.

200. Treatment of Urticaria.

G. MILIAN (*Paris Méd.*, January 15th, 1927, p. 81) recalls that the classical view of urticaria is that it is a toxic condition of either digestive or colloidoclasic origin, and asserts that most cases are due to infection. For many years he has noticed that infectious jaundice is often accompanied by urticaria, and that in patients previously free from this affection an attack often occurred in the course of some microbic disease. He has frequently seen urticaria developing in furunculosis and anthrax, the two commonest causes of this disease. Recurring attacks of urticaria have also been reported in cases of proved syphilis, these being rapidly cured by antisyphilitic treatment. In support of his contention, he reports two cases—one of abscess of the back, the other of a large furuncle on the arm—both associated with urticaria, and both proving to be staphylococcic infections. Milian has found that phosphoric acid is an effective antistaphylococcal agent, and in order to obtain a [illegible] nation of the phosphorus, instead of administering [illegible] s intravenously 20 to 30 c.cm. of galyl, which contains a considerable proportion of phosphoric acid. No other treatment, such as dieting, medicine, or protein desensitization, is employed. The author states that, combined with incision and evacuation of the pus, this method of treatment gives excellent results, both the primary infection and the accompanying urticaria being rapidly cured.

201. Garlic and Benzyl Benzoate in Arterial Hypertension.

C. MATTEI and J. DIAS-CAVARONI (*Bull. Soc. de Thér.*, December 8th, 1926, p. 267) studied the action of tincture of garlic and benzyl benzoate in arterial hypertension, with the following results. Tincture of garlic, in daily doses of 15 drops of a 1 in 10 solution morning and evening, appeared to have a very feeble and irregular action on the maximum blood pressure in cases of moderate hypertension. In the few cases where a favourable action was observed the fall of the systolic pressure never exceeded 2 cm. of mercury in extent or a few hours in duration, whereas increase of the dose and prolonged administration seemed to cause a fresh rise of the arterial pressure. The oculo-cardiac reflex usually remained unchanged, and the renal functions were not affected. Benzyl benzoate, in doses of 25 drops of a 1 in 20 solution morning and evening, appeared to have a very weak and transient effect in cases of moderate hypertension, since in two out of five cases the systolic pressure fell only 2 cm. and the diastolic only 1 cm. twenty minutes after ingestion of the drug, and did not keep down for more than forty-eight hours, although the treatment was continued for another six days. In three other patients a fall of only 1 cm. was obtained for forty-eight hours. Similar negative results were obtained by Musser of Philadelphia and other physicians, who gave benzyl benzoate to their patients for weeks without observing any effect on the blood pressure. In cases of considerable hypertension (with a systolic reading above 25 cm.) the effect of the drug in large doses (up to 100 drops a day) appeared to be more marked; the fall was as much as 5 cm. of mercury in six days, and persisted, the blood pressure not

reaching its usual level until three or six days after the end of treatment. The fall of the diastolic pressure, even in the most successful cases, was much less marked than that of the systolic. The oscillometric index, pulse, oculo-cardiac reflex, and renal elimination were not appreciably affected by benzyl benzoate.

Ophthalmology.

202. Blocking the Main Trunk of the Facial Nerve in Cataract Operations.

R. E. WRIGHT (*Arch. of Ophthalmol.*, November, 1926, p. 555) describes his method of producing complete circumorbital flaccidity in cataract operations. The only disadvantages appear to be that occasionally the paralysis lasts longer than is desirable and it may be necessary to perform tarsorrhaphy. He uses two parts of 4 per cent. novocain and one part of 1 in 1,000 adrenaline; 1 to 2 c.cm. of the mixture are injected. The lobe of the ear is pulled forward and the needle is inserted just behind the skin fold made by the drawn-up lobe, about the level of the tip of the mastoid process; the needle is pushed upward and inward and backwards along the anterior face of the mastoid and so towards the stylo-mastoid foramen.

203. Irradiation in Ophthalmology.

W. STOCK (*Med. Klinik*, November 26th, 1926, p. 1834) recommends the employment of *x*-ray treatment in certain diseases of the eye, but insists that it must only be given under strict medical control. He thinks that it is specially indicated before an operation of any kind, as, for instance, in carcinoma of the eyelids, tumours of the corneo-sclerotic junction, and pituitary and cerebral tumours. Tuberculosis of the iris in many cases clears up remarkably quickly under *x*-ray treatment, but the prognosis in cyclitis is much worse, and no success has hitherto been obtained in choroiditis. Scleritis, sclerosing keratitis, and tuberculosis of the conjunctiva and lacrymal sac are also suitable for *x*-ray treatment.

204. Retrobulbar Neuritis in Diabetes.

ACCORDING to L. M. FRANCIS and I. KOENIG (*Journ. Amer. Med. Assoc.*, October 23rd, 1926, p. 1373), apart from the commonly recognized ocular manifestations of diabetes, there are amblyopias affecting the peripheral and particularly the central visual fields. Retrobulbar neuritis arising in the course of diabetes is the evident result of an endogenous toxin which exercises a selective action on the papillomacular bundle of the optic nerve. Some thirty cases of this condition have been reported by Leber, Foster Moore, and others. Rönne has reported two cases, and described the process in the papillomacular bundle as being degenerative rather than a neuritis, and similar to that found in alcohol and tobacco amblyopias, except for the presence of granule cells in diabetes and not in tobacco and alcohol cases. The present authors report another case, and maintain that glycosuric amblyopia, involving the central visual fields, the result of an endogenous toxin, is a clinical entity; that the precise toxin or toxins cannot be specified, but the intimate relation between the presence of the ketone bodies, and especially acetone in the urine, coincident with the amblyopia, and their disappearance with the visual improvement and the disappearance of scotomas, suggest that the ketone bodies may be the index of the toxin or toxins themselves; that glycosuric amblyopia with central field changes is probably more common than is thought; and that routine central field studies should be made in all diabetic patients complaining of visual disturbances.

205. A Prism Test for Monocular Malingering.

E. H. SCHILD (*Amer. Journ. Ophthalmol.*, October, 1926, p. 741) describes a method of detecting visual malingerers. He uses a small piece of rectangular glass, one-half of which is a thick plane part which, near the middle line, tapers off to a prism of 5 degrees. With this glass the effect of either a plane or a double prism or a single 5-degree prism can be produced. This apparatus is an extension of the well known test for malingerers with a prism, but has the added advantage of being able to produce easily monocular diplopia, owing to the prism being incorporated with the plane glass, and then further to produce binocular diplopia by moving the glass so as to bring the prism part in front of the eye. The apparatus is held in front of the good eye. It has further use in determining what actual vision is on the test types of a suspected malingering eye. The lines of the test types must be shown separately, but, with this secured, it is possible to confuse the malingerer completely as to whether his diplopia is uniocular or binocular, and so assess the vision of the suspected eye.

Obstetrics and Gynaecology.

206. Chorion-epithelioma Malignum.

M. A. VAN BOUWDIJK BASTIAANSE (*Nederl. Tijdschr. v. Geneesk.*, December 18th, 1926, p. 2765), who records three illustrative cases, comes to the following conclusions: (1) Every abnormal haemorrhage following molar pregnancy is suggestive of chorion-epithelioma malignum. (2) Curetting in chorion-epithelioma malignum is not without danger, since there is great probability of its causing metastases, profuse haemorrhage, or perforation of the uterine wall. (3) The uterus should be removed at once without previous exploratory curetting, when the clinical diagnosis of chorion-epithelioma is probable; the older the woman the earlier should this be performed. (4) Laparotomy is advisable and the efferent vessels should be ligatured as far as possible at the beginning of the hysterectomy. (5) An operation is also indicated in the presence of a metastasis in the vagina. (6) After-treatment consists of combined radium and *x*-ray applications. (7) The transfusion of blood of women in the last months of pregnancy or in the puerperium should be considered.

207. Conservative Operation in Chronic Adnexal Disease.

O. P. MANSFELD (*Zentralbl. f. Gynäk.*, November 20th, 1926, p. 3040) states that total extirpation of the uterus and adnexa in chronic adnexal disease, while successful in 80 to 95 per cent. of cases, is followed in young subjects by such severe symptoms of the artificial menopause that Döderlein and others have abandoned it in favour of bilateral salpingectomy with ovarian conservation. The results of this operation, however, are much less satisfactory, with only 56 to 70 per cent. of lasting cures; and Heynemann, as well as Lindig, comparing severe menopausal symptoms following conservative and radical pelvic operations, have found that patients with ovaries but no uterus are in no more favourable position than those with neither. The inference is that the preservation, whenever possible, of uterus and ovaries in biological unity is desirable. This is attained by Beuttner's operation, described in 1918, in which a wedge-shaped portion of the fundus uteri is excised and the Fallopian tube or tubes removed by extending the transverse fundal incision to the mesosalpinx, the ovary being preserved, whenever possible, in whole or in part, and with intact vascular and nervous connexions, hemisection having been done if necessary. Mansfeld writes favourably of Beuttner's operation, which he has performed in 72 cases with 1.3 per cent. mortality. Its indications are: youth of the patient, adnexal disease on both sides, and apparent conservability of the ovary or ovaries. Among its advantages are a technical facilitation of approach to the adnexa and the possibility of removal of the portion of the fundus—usually diseased—lying between the two Fallopian tubes. Mansfeld's 72 patients included a majority of prostitutes, and 40 per cent. with pyosalpinx; he was able in 90 per cent. to preserve organic connexion between uterus and ovaries or ovarian remnants, and in 8 per cent. to effect transplantation into the sheath of the rectus abdominis, so that ovulation and menstruation were practically always preserved.

208. Pregnancy in Graves's Disease.

M. FABRE (*Bull. Soc. d'Obstét. et de Gynécol. de Paris*, November, 1926, p. 559) reports a case of Graves's disease presenting the symptoms of continued tachycardia with violent exacerbations, tremors, exophthalmos, and a small goitre. Radiotherapy being refused, haemato-ethyroïdin was administered in progressive doses. An amelioration of the condition followed this treatment, but unfortunately there was a relapse six months later caused by a domestic bereavement. The patient became pregnant in the next month and all treatment was stopped. In spite of this there was no return of the symptoms, and the mental and physical condition of the patient remained excellent. The pregnancy followed a normal course, and the patient was delivered of a healthy child, the puerperium being normal. The mother nursed the child, and her condition remains satisfactory. Fabre agrees with Fruhinsholz and Parisot that pregnancy has a beneficial, and sometimes a curative, effect on the Graves-Basedow syndrome.

209. Intentional Fracture of Foetal Humerus.

D. F. CLARK (*Surg., Gynecol. and Obstet.*, December, 1926, p. 795) considers that intentional fracture of the humerus is justified in exceptional cases when either the mother or child is in danger. Notes of five cases are given in which this procedure was adopted in breech extractions where it was found necessary to hasten delivery in the interests of the child, the arm being wedged by the aftercoming head. References to the literature and five years' hospital experience show that the occasions for such a measure are rare. Great care must be exercised to avoid injury to the brachial plexus or the soft

parts; the finger is hooked round the middle of the arm, preferably on its outer aspect, with rapid firm pressure until the bone is felt to yield. By such rapid fracture less brachial injury occurs than may result from prolonged pressure even when the arm is delivered unbroken, and this appears to be the case even with pressure at the inner aspect of the arm where the brachial plexus is open to more direct injury. In treatment such a degree of abduction with elbow flexion should be adopted as will favour proper alignment and such dorsiflexion of the wrist as will definitely overcorrect any tendency to wrist-drop. Clark advocates encasing the chest in a well padded plaster jacket from the waist to the axilla, and continued as part of the shoulder, arm, forearm, and hand plaster, the upper part of which latter should be removable in order to allow of the arm, forearm, and hand being frequently inspected. Should any tendency towards outward angulation arise it is important to correct this if necessary during the first ten days, while the callus is pliable. The method allows of successful breast feeding.

210. Syphilis of the Cervix.

G. GELLHORN (*Journ. Amer. Med. Assoc.*, November 27th, 1926, p. 1812) directs attention to syphilis of the cervix, which he believes is more common than is generally recognized and may be the cause of various forms of disability. The primary and secondary lesions are apt to be overlooked, since they produce no symptoms, but the tertiary lesions in the form of gummata cause bleeding and discharge and simulate carcinoma. Occasionally a syphilitic infection of the cervix may be very rapid and have a fatal termination. The diagnosis from malignant disease is based upon the relative scantiness of discharge from a syphilitic ulcer, the absence of pain and tenderness, the occurrence of lesions at some distance from the external os, and the characteristic sharp outline, yellow colour, and absence of inflammatory reaction of syphilitic ulcers. Dystocia may result from rigidity of the syphilitic cervix and malignancy may supervene. The author mentions three cases in his own practice in which syphilitic infection eventually became cancerous.

Pathology.

211. Effect of Calcium Ingestion on Serum Calcium.

IN studying calcium absorption from the intestinal tract W. BAUER and MARIAN W. ROPES (*Journ. Amer. Med. Assoc.*, December 4th, 1926, p. 1902) have tested the effect on the serum calcium of the oral administration of calcium, using the Clark modification of the Kramer-Tisdall method. Nine normal subjects, who had fasted for at least twelve hours, were given 5 grams of calcium lactate followed by 250 c.cm. of water. Calcium estimations were made every hour for the first six hours, and at the ninth and twelfth hours after ingestion. At the end of the sixth hour a light lunch containing from about 25 to 35 mg. of calcium was allowed. The readings gave a minimal elevation of 5 per cent., a maximal of 14 per cent., and an average of 8 per cent. in the serum calcium. The maximal rise came on between the first and fourth hours after ingestion, and was maintained usually for more than twelve hours. In a second experiment under similar conditions 10 grams of calcium lactate were administered to eight normal subjects. Here the minimal rise in the serum calcium was 5 per cent., the maximal 28.5 per cent., and the average 14 per cent., the maximal rise occurring between the first and fifth hours and lasting for twelve hours. These results disagree with those recently reported by Kahn and Roe, who obtained increases in the blood calcium as high as 103 per cent. after the ingestion of 5 grams of calcium lactate.

212. Immunization by the Buccal Route.

G. RAMON and E. GRASSET (*C. R. de la Soc. de Biologie*, December 10th, 1926, p. 1405) find that a large amount of tetanus toxin can be administered to rabbits by the mouth without giving rise to toxaemia; but if 2 to 3 c.cm. of ox bile are given just before the toxin, the animals die of generalized tetanus. At necropsy the epithelium of the stomach and intestine is found to be eroded or desquamated. The bile apparently injures the lining of the gut and thus renders it possible for the toxin to be absorbed. If instead of the toxin tetanus anatoxin is given after the preliminary administration of bile, immune bodies appear in the serum of the rabbit; eighteen days after injection they were able to neutralize two lethal doses of toxin for the guinea-pig. If the same amount of anatoxin is given subcutaneously the antibodies appear in far greater strength; after eighteen days 1 c.cm. of serum will neutralize 50 to 100 lethal doses for the guinea-pig. This work suggests that it is possible to induce a true humoral immunity in rabbits by the oral administration of tetanus anatoxin preceded by ox bile, but the degree of immunity reached is very much inferior to that obtained by subcutaneous administration of the same amount of anatoxin. E. Grasset (ibid., p. 1407) finds that a passive immunity may be conferred on rabbits by the oral administration of tetanus or diphtheria antitoxin after the usual dose of ox bile. Twenty-four hours after 9,000 antitoxic units had been given by the mouth 1 c.cm. of the rabbit's serum was able to neutralize 100 lethal doses for the guinea-pig; after the same dose subcutaneously the serum neutralized 1,000 to 10,000 lethal doses. G. Ramon and C. Zoeller (ibid., p. 1409) have repeated some of these experiments on human beings. They endeavoured to produce an active immunity to tetanus in two groups of persons by the oral administration of anatoxin, preceded in one group by pills of ox bile. No antitoxin could be detected in the serum of any of these persons. Similarly attempts with diphtheria anatoxin failed completely; they were also unable to confer passive immunity by giving purified tetanus antitoxin by the mouth. It is concluded, therefore, that while a low grade of active or passive immunity may be produced in rabbits by the oral method combined with administration of ox bile, it is quite impossible to do so in human beings.

213. Effect of Excessive Doses of Cod-liver Oil.

WHILE studying post-natal development, E. AGDUHR (*Acta Paediat.*, December 18th, 1926, p. 165) observed changes in the animals experimented with, which he attributed to the cod-liver oil given. In a series of experiments he found that large doses of oil caused a diminution in the number of erythrocytes with an increase of the haemoglobin value. At the beginning of the administration a leucocytosis appeared, followed by a leucopenia if the treatment were continued. The blood platelets were usually considerably increased in number, and several animals showed haemorrhages. The spleen was abundantly supplied with blood pigment, the suprarenals showed pigment atrophy, and the kidneys a nephrosis. Ulcerations of the gastric mucosa were common, accompanied by icterus. In the liver central necrosis and peripheral necroses in the lobuli were seen, as well as chronic passive congestion and acute yellow atrophy. The most pronounced changes in the heart consisted in pigmental atrophy and vacuolar degeneration of the muscle cells. Atelectasis and oedema were present in the lungs of many of the animals. Agduhr thinks that these poisonous effects are dependent on the composition of the basal diet, especially the content of vitamins B and C, and that they are less in warm weather and sunshine. In a subsequent paper on the changes in the heart through the presence of cod-liver oil in the food, A. HÖJER (ibid., p. 180) reports that in investigations on white rats he found that if large doses of oil were given as an addition to a complete diet, no cardiac changes were produced. If the diet was deficient in vitamin B, the oil caused severe atrophic changes in the heart, which were more pronounced if salts were also absent from the diet. Höjer holds that, if the diet is deficient in vitamin B, large doses of vitamin A may in a short time prove noxious to the heart, and he advances the hypothesis that a hypervitaminosis may be dangerous, but only in case of deficiency of the other vitamins or of other foodstuffs.

214. Estimation of Bilirubin in Capillary Blood.

FOR the estimation of the bilirubin content in blood D. DAVIS (*Amer. Journ. Med. Sci.*, December, 1926, p. 848) has devised a method whereby the test can be applied to small quantities. He uses glass tubing of 2 mm. bore cut into 10 cm. lengths. These are cleansed by immersion in 5 per cent. nitric acid, thoroughly washed in running water, and dried with alcohol and ether. Careful cleansing and drying is necessary to avoid haemolysis. Both ends of the tube are drawn out to capillary size. The patient's finger-tip is wiped dry and a few drops of blood obtained, the first drop being wiped off. Excessive squeezing should be avoided as this tends to produce haemolysis. A column of blood 2 cm. long is sufficient for accurate determinations. The blood is allowed to clot, the opposite clear end of the tube sealed off, and the tube centrifuged until a clear layer of serum is obtained. This is matched in diffused daylight against the standards; these, in tubes of the same bore, are made up of potassium bichromate, Meulengracht's original standard of 1 in 10,000 of this salt having been arbitrarily chosen to represent an "icterus index" of 1. Ten standards are recommended as a satisfactory set. Davis has found this test to be reliable and accurate if haemolysis is avoided and the determinations made within twenty-four hours after taking the blood. Owing to the small amount of blood required, this method is particularly useful in children. He adds that the blood should be taken in a fasting state, as food digestion and absorption causes a cloudiness of the serum due to food lipoids, and clear serum is essential. The other normal pigments of the blood occur in such very small amounts that the icterus index is not appreciably affected.

An Address
ON
HIGH BLOOD PRESSURE, ALBUMINURIA, AND GLYCOSURIA IN THEIR RELATION TO LIFE INSURANCE.

DELIVERED BEFORE THE JAMES MACKENZIE INSTITUTE FOR CLINICAL RESEARCH, ST. ANDREWS, [1]
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THE duties of a doctor in ordinary practice and in insurance work are entirely different. In the former case the patient pays the doctor to diagnose and treat his ailments, to support and comfort him; in the latter the insurance office pays the doctor to make certain scheduled inquiries and investigations into the case of a proposer who regards himself generally as a healthy man, and to express an opinion as to his present health and his prospects of living to a good old age. The doctor's only duty to the proposer is to treat him with courtesy and consideration; he must never tell him in what sense he proposes to report, because that report is the property of the insurance office. The medical examination forms of different companies differ slightly, but not in any important particular; they are nicely gauged to extract the maximum of information from the proposer and the maximum of diagnostic observation that can be expected from the doctor in general practice. Cases that are known, either before or after examination, to present special difficulty are brought, if possible, before someone in whom the office has special confidence.

HIGH BLOOD PRESSURE.

Judging from the syllabus of the Institute the scientific side of high pressure, and a good many of its practical bearings also, must already have been thrashed out.* I need not, therefore, dwell on theoretical considerations; my remarks will be severely practical.

In the medical examination papers of most life offices a question is now inserted asking that the blood pressure be taken in all proposers over 50 years of age, or where there is any reason to suspect that it may be abnormal. How is the pressure taken? I think we may assume that in ninety-nine cases out of a hundred it is taken with one of the aneroid sphygmomanometers. These are accurate instruments enough provided that they are checked from time to time by a mercurial instrument, and provided that the ordinary rules sent out with them are observed. One doctor recently reported that the pressure in a man of 35 was 150; he made no comment on this, and recommended the proposer as an average life. When he was asked to repeat the observation he wrote apologizing that he found his instrument when at rest was standing at 15 instead of at zero. Another experienced examiner gave the systolic pressure as 100, without remark. When asked to comment on the bearing of this figure on the eligibility of the proposer he replied that he had had his instrument calibrated since the examination, and it had been found to be out of order. The pressure was really normal. One has to remember that the practice of pressure estimation has been introduced comparatively recently, that many established practitioners have had to teach themselves to do it, and that too great accuracy must not be expected. Some men take a keen interest in pressure estimations, others approach them either with fear and trembling or with an unfounded confidence. Some go the length of reporting figures such as 170 or 180 without commenting on them, or apparently without regarding them as of any importance. Of course, a chief medical officer who has had some experience gets to know his examiners and what may be expected of them.

It is generally left to the examiner whether he uses the method of auscultation or palpation. Personally I practically always do both, but prefer auscultation as on the whole more correct. It is generally stated that the systolic figure from auscultation is higher than that from palpation, but I can often get readings exactly equal, and in a large proportion of cases the palpation figure is the higher. I am not yet able to determine why or in what groups of cases this difference occurs. In insurance work we have to depend on the maximum systolic figure. The diastolic is hardly ever given, and I do not think that our knowledge of the normal diastolic pressure and the meaning of its variations is as yet sufficiently great to allow us to make much use of the figure if it were given. The diastolic pressure can practically only be measured by auscultation—and I am pretty sure that palpation is more often used—and there is not yet a definite agreement whether the minimum diastolic is to be measured by the total cessation of all sound or by one of the changes in note which precede that. I find that these changes vary so much in different people that I regard cessation as the only safe reading. Unless the method used is stated in each case the reading is therefore valueless. The estimation of the pulse pressure looks as if it might be made to give indications of value in ordinary practice when a great deal more work has been done upon it. At present the wide pulse pressure of aortic incompetence and the narrow one of chronic interstitial nephritis are the only indications of much service.

What are we to regard as the normal blood pressure? I have looked up all the authoritative textbooks on the heart and vessels, and am amused to find with what unanimity a direct answer to this question is evaded—and wisely evaded. The truth is that it varies so much in different people, and in the same people at different times, that it can only be said that the normal limit ranges between 110 and 150, with the proviso that, other things being equal, young people tend to have a pressure nearer the lower figure, old people nearer the higher. The ordinary age rule holds only approximately. A child of 10 may have a pressure of 110, a man of 40 one of 140, but a man of 70 should not have a pressure of 170 if his heart and vessels are normal. A pressure of 120 is sometimes found in men of 60 or so, with normal hearts, soft arteries, and quite efficient circulations; but, on the other hand, if the pressure has been known to be higher at some previous time, a low pressure may be an early indication of cardiac failure. This will, however, generally be evidenced in some further way—by a rapid pulse, dyspnœa on exertion, or some alteration in the size or sounds of the heart. A writer, signing himself "Sphygmos," in the *Post Magazine*, December, 1922, makes a useful suggestion. He proposes that the rule should be:

Standard systolic pressure equals 120 *plus* half the age. Thus:

Age.	B.P.	Age.	B.P.
20	130	50	145
30	135	60	150
40	140	70	155

This suggested rule is a much closer approximation to the truth than the time-honoured addition of the age to 100, and is probably as near the actual facts as any rule can be.

I do not propose to catalogue the causes of high pressure; they are well known. I would only recall that, in addition to the organic causes, such as arterial and renal disease, obesity, worry, sleeplessness, and recent or prolonged physical or mental strain all tend to raise it, and must be inquired into by the examiner. But the commonest temporary difficulty is the excitement of examination. Offices generally require, for obvious reasons, that a proposer shall be examined by someone who is not his own doctor. An unbiased opinion is more easily got from a stranger and given by him, and there is the further advantage that in doubtful cases, or in proposals for large sums, a report from the private medical attendant can also be obtained, so that the proposer is seen from two angles. But examination by a stranger always increases a proposer's nervousness. I constantly find in patients that the pressure which I get is 10, 20, or even 30 mm. higher than those got by their own doctors. One can sometimes get this excitement-rise down by waiting and repeating the observation, but by no means always. I find pressures of 150 not

[1] Professor MacWilliam's address on "High blood pressure from the physiological aspect" was published a few weeks ago (January 22nd, p. 125).

uncommon in nervous young men whose hearts and arteries are quite normal. Anything above that figure I always regard with suspicion; for some reason, not always discoverable, that man is not quite normal, and it is not wise to accept him *at that time*. A repetition later, when the man is more at his ease with the examiner and the novelty of the procedure itself has worn off, may give a lower figure and the case may be accepted. But repetition may give information in the other direction. Recently a man was examined who was suffering from a cold, and whose pressure was just over 150. He was delayed for both these reasons, and it was found that the pressure had risen to 180, which made him ineligible. The wisdom of re-examination was brought out forcibly in another recent case, a proposal for a very large sum by a man of 60. The blood pressure was at first 164, it was known to have been 135 two years before, and the urine was normal. A later examination gave a blood pressure of 170, with a trace of albumin, and the case was declined.

Rejections for high pressure are apt to cause more than the usual amount of discontent among proposers and consequent worry to agents and officials. The proposers feel in perfect health, and it is of course often a matter of years before any symptoms arise. We all know people with pressures of, say, 200, who are leading active and useful lives, but naturally their tenure is precarious. Little is gained in insurance work by trying to distinguish between hyperpiesis and organic arterial change; in any case continuance of the former will certainly go on to the latter.

There is no room for doubt that people with high pressure are worse lives than those whose pressure is normal. Statistics are plentiful; a recent table published by May (BRITISH MEDICAL JOURNAL, 1925, ii, p. 1166), part of which I annex, is sufficiently convincing. It gives the experience of the Prudential office in 1920-24, and shows the ratio of actual deaths to expected deaths, the figure 100 being taken as the ratio.

1.	Systolic B.P. not recorded	97.1
2.	,, ,, under 140	102.8
3.	,, ,, 141-170	133.6
4.	,, ,, over 170	219.6
5.	,, ,, 200 and over	827.3

ALBUMINURIA.

It is a truism that albumin is present in the urine in many cases in which the kidneys are normal, and absent in many cases in which the kidneys are seriously affected. But just as a cardiac murmur is evidence that there is something wrong with either the heart or the man himself, so is albuminuria evidence that there is something wrong either with the kidneys, the urinary passages and their adnexa, or with the man generally. It is, in fact, the most valuable single indication of genito-urinary disturbance we have.

We must, of course, be sure that we really are dealing with albumin. The most reliable test, to my mind, is cold nitric acid, and if I am in doubt I supplement it by saturated solution of salicyl-sulphonic acid, a test which deserves to be used much more than it is. My reason for preferring nitric acid is that while it is a delicate, but not too delicate, test for albumin, valuable information is often obtained from the pigment rings and other deposits found, so that the very fallacies of the test are really an advantage, if you know how to use them. But many, probably most, practitioners use heat and acetic acid—a test not so delicate as the other but quite satisfactory provided they remember that boiling brings down a deposit of phosphates and carbonates, which is cleared up by the acid, and which is not albumin. We have a rule in the Scottish Widows Society that doubtful urines are to be sent to the head office if possible, and recently a urine was sent in with a note that the doctor could find nothing wrong with the case except the albuminuria. There was no albumin; the urine when boiled deposited phosphates, and he had either forgotten to add acetic acid or did not know that he ought to do so. It is not always appreciated that the acid added should be weak and just enough to acidify the urine. Strong acid or too much of it will convert a real precipitate of albumin to an acid albumin and render it soluble.

Let us now turn to the daily recurring difficulties. Many cases are fortunately simple enough. The man of 50 with albumin, a raised pressure, and an unsatisfactory heart is turned down at once. So is the youth with a recent history of scarlet fever, or the woman who had eclampsia two years ago, and still has albumin. Among the adult cases the most difficult are those in whom albumin is found—say, in a man of 40; the cardio-vascular system is declared to be quite normal, there is nothing in the history to suggest a kidney lesion, and no story of violent exercise just before examination. These cases have to be delayed and referred to their own doctors for investigation and report. If the examiner or the doctor would condescend to use the microscope occasionally, the explanation of many of these cases would probably be found at once in accidental additions—spermatozoa, oxalate crystals with red blood corpuscles, and so on. The most curious finding of that sort that I remember was the discovery of bilharzia on the day on which I examined a candidate, while it did not reappear, and there was no albumin in the urine of any of the seven following days. If casts other than hyaline casts, especially epithelial casts, are found, the case should be regarded as a kidney case and delayed until ample proof can be afforded that the kidneys are normal. It is misleading to say, as Maclean does, that "the presence of albuminuria with a few epithelial casts is no proof that we are dealing with defective kidneys," and to press the view that only renal efficiency tests give evidence of defective kidneys. As I shall point out later, they are often wildly misleading themselves, while the test tube and microscope give definite evidence that the person whom we are examining has a desquamative catarrh of the kidneys. This may be quite trifling or extremely serious, temporary or permanent, associated with grave deficiency of the kidneys or with practically none at all. The point is that albuminuria with epithelial casts means that the kidney is not normal at that moment, which is enough for the insurance examiner. I have not a doubt that slight degrees of nephritis are vastly more common, and more commonly recovered from entirely, than is believed; one proof of this was the complete recovery of such a large proportion of the cases of trench nephritis, and the fact that so few of them have slipped into chronic disease. An albuminuria of this sort is very much like an ordinary bronchitis—usually of no permanent importance, and clearing up completely; but it has to be remembered that an ordinary bronchitis is capable of killing the patient by bronchopneumonia, or, after repeated attacks, going on to chronic bronchitis, emphysema, and the rest. The association of ideas here reminds me how often albuminuria occurs with ordinary colds, either in the head or chest. This is obviously a toxic condition of the same kind as that occurring in the fevers. We have always found that it had disappeared on later examinations.

It is undeniable that albumin occurs with fair frequency in the presumably healthy. As far back as 1887 I took part in Grainger Stewart's investigations into this point; and, as you know, there was a collective investigation of 60,000 men during the war in the course of the research on trench nephritis. These statistics are absolutely valueless from the insurance point of view; indeed, the larger the numbers used the less valuable do they become, because it is impossible to find out the cause of the albuminuria in individual cases, or to follow them up. A study of ten or twenty cases from the time when albumin was first discovered till their deaths would be a piece of work of real importance.

But all the other albuminurias are cast into the shade by the problem of adolescent albuminuria. Probably these cases are in the proportion of 4 to 1 of all the other albuminurias put together, especially in offices which deal with large pension and superannuation schemes into which come large numbers of young clerks or teachers. The condition occurs most often in growing weedy youths in whom the circulatory apparatus, of which the kidneys form a part, is not yet "set"; but it is by no means confined to that class, and may occur in youths quite normal in every other way. The condition is also known to occur in girls, but they so seldom insure that no serious difficulty arises.

Our practice is to regard albuminuria in youths up to

'25 as probably functional unless there is something in the history or examination to suggest organic disease; to delay the case and refer the proposer to his own doctor for investigation; to lay stress on the presence or absence of albumin in the urine passed in the morning on rising, and, if it is consistently absent then, to regard the case as functional and take it without an extra. In some cases, where large sums of money were involved, we have asked for the performance in addition of the ordinary renal efficiency tests—urea concentration, blood urea, phenol-sulphone-phthalein excretion. All the cases investigated gave normal figures, as have others which I have investigated independently. I am inclined now to think that these tests are hardly worth the time and money expended on them in this particular class of case, because in mild nephritics of early age, which are the only kind of case comparable with the adolescents, these tests practically always give normal values also. To tell the truth, I am not greatly impressed by the value of any of these tests of renal efficiency. They generally merely confirm by an arithmetical figure the fact that kidneys are not efficient when we know already for other reasons that this is the case. Sometimes they actually tend to lead us astray. I saw the other day a lady whom I know to have chronic parenchymatous nephritis which has passed into the secondary contracted stage. She has a small amount of albumin, practically no casts, is anaemic, the heart dilated, systolic blood pressure 200, and so on, but is able to concentrate urea to the high figure of 4.2 per cent. I have often seen the same sort of difficulty with blood urea estimations, though perhaps they are a little more helpful. The point is, however, that in the mild symptomless cases, which alone are likely to come up for insurance examination, these tests will seldom help us and may sometimes mislead.

In adolescent albuminuria the quantity of albumin passed is of no importance. It is usually slight, but I have seen it large with no effect on the diagnosis or the ultimate result, which is that they always clear up. Towards the end of the war I saw a man in the forties whom I had known as a youth of 20 with albuminuria of very considerable amount, which persisted to my knowledge for three years. When I saw him in 1918 he was in charge of a munition factory and had been working practically day and night for three years, was a man of extraordinary vigour, had a perfectly normal heart and vessels, and perfectly normal urine.

Glycosuria.

Everyone knows how often glycosuria is discovered for the first time in the routine of insurance examination, and has followed up these cases until the condition was found to be unimportant or serious. I need say little about the true diabetic. His life has been made much more comfortable and useful by the better understanding of his diet and by the use of insulin, and in very many cases it has been prolonged. But his disease is not cured, and he is nearly as much at the mercy of septic complications, using the term in its widest sense, as he was before. He is not, and possibly never will be, a proper case for insurance. Can we take proposers suffering from the symptomless or nearly symptomless diabetes of elderly persons, the cases in which the hyperglycaemia and glycosuria depend, not on defective oxidation of glucose in the tissues as in true diabetes, but on defective storage in the liver? I think not. We all know that these cases often reach advanced age with glycosuria of many years' standing, but they are no more safe risks because of that than people with pressures of 200, who also often go on for many years. They may develop the more serious form of diabetes at any time, they are very apt to suffer from arterio-sclerosis, gangrene, eye lesions, neuritis, and they are bad subjects for operation and for intercurrent disease.

Fehling's solution is a quite satisfactory test for sugar, provided the two component solutions are kept in separate bottles, that equal parts of urine and the solution are used, and either heated together to boiling, or brought to boiling point separately and then mixed. The mixture should not be further heated after boiling. The clear olive-green discoloration which may occur with concentrated urines is disregarded, and only a definite precipitate is considered to be due to sugar—green, yellow, red, or intervening shades according to the amount present—and only if it occurs while the mixture is still hot. Almost any urine will precipitate if allowed to stand till it is cold. In doubtful cases there are always the yeast and phenylhydrazine tests to fall back upon.

If sugar is found to be present, it is customary to delay the case and refer the proposer to his own doctor for investigation and report. Of course, there may be other factors present, such as undue obesity, high blood pressure, loss of weight, etc., which may lead to the case being declined at once. The examiner should always inquire into the nature of preceding meals. The man who comes to examination after a tea of sweet cakes and four cups of tea each with four lumps of sugar, or after mixing champagne and port, is of course riding for a fall. The former case, which used to be called alimentary glycosuria, is probably generally an example either of mild renal glycosuria with a medium threshold or of rapid intestinal absorption of sugar, and a resulting "lag" curve of blood sugar; the latter is due to the toxic effect of the alcohol and other substances contained in the wines.

The after-history of the delayed cases depends on their own intelligence and that of their doctor, their social position, and whether they are really anxious to be insured or not. Some let the whole thing drop; some are willing to take any trouble to find out what is the real state of affairs; many take the middle course of going to their doctor at irregular intervals through the course of three or four months, so that we get a report on half a dozen examinations, in perhaps two of which sugar has been present, without any statement as to the length of time after a meal at which the specimen was taken, or the kind of meal which preceded it. The doctor is left much where he was before, except that probably he can be sure that the patient has not a true diabetes, though there is no guarantee that the findings may not represent a pre-diabetic state. If these cases are taken at all it is with misgiving and a heavy extra, in the hope, which is often fulfilled, that they will not be taken up. Sometimes we come across cases in which a man's own doctor reports a long series of negative examinations, which there is no reason to consider incorrect, but where the proposer passes sugar every time he comes to the society's examiner. Possibly in this case the glycosuria is due to suprarenal overactivity induced by excitement. I have never had an opportunity of examining one of these cases personally. The proper course in doubtful cases, if the circumstances permit it, is to have a full blood sugar curve taken. It is only in that way that renal glycosurias and "lag" curves can be distinguished and true diabetes excluded. We are told by some of the metabolic experts that renal glycosuria is of no importance, and that these cases ought to be taken at ordinary rates. I always put on an extra, and shall continue to do so. One reason for this is that I have seen cases of renal glycosuria pass into true diabetes. Another is that the differentiation of these cases is so recent an affair that the life-histories of very few cases have been completely studied, and we really do not know what becomes of them in the long run. The metabolic expert usually knows nothing about insurance, and while he is thinking of the present, or at most of the next few years, he forgets that the man of 25 with renal glycosuria ought still at the age of 65 to be paying his premium. How can he tell us what the carbohydrate metabolism will be after forty years? Incidentally it is pretty certain that the passage of sugar irritates the kidney at last. The same conclusions probably apply to the "lag" curves, the knowledge of which is even more recent than that of renal glycosuria.

Occasionally we come across cases of glycosuria which are very difficult to understand or explain. A few months ago I had a lady under observation for some time who told me that eighteen months before she had been in a nursing home in London under one of the best known diabetic experts there for the treatment of diabetes, and was discharged on a diet on which she was told she would remain sugar-free without insulin. The blood sugar curve taken at that time was certainly a mild diabetic one. She tired of the diet after a time, went back to ordinary things, and when

I saw her was sugar-free; nor, though I encouraged her for other reasons, as she was miserably thin, to take large quantities of starches and sugar, did she ever show sugar in the urine, while her blood sugar curve was perfectly normal. Another recent case was that of a man who at intervals of a few months passed large quantities of sugar for a few days at a time without making any change in his habits, and with no discomfort except the polyuria.

I might multiply these out-of-the-way cases indefinitely from my experience and probably from yours. Many of them occurred before blood sugar curves were dreamt of. They are of little general interest, but they serve to prove that we do not yet know all there is to be known about the production of glycosuria, and that until we do know a good deal more it behoves us to be cautious, especially in insurance work.

A Lecture ON MULE-SPINNERS' CANCER:

CLINICAL FEATURES AND TREATMENT.*

BY

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IT is only within a very recent period that cancer of the scrotum and skin has come to be recognized as being associated with the occupation of mule-spinning in cotton mills. The subject was brought into prominence by an article on cancer of the scrotum published in the BRITISH MEDICAL JOURNAL in 1922.[1] Since that date numerous cases have been reported to the Factory Department, and through these notifications, through the mortality records of the Registrar-General, and from other sources the department has been able up to the present to trace 667 cases—570 in spinners and 97 in ex-spinners who passed into other employment.

Following the publication of the above-mentioned paper the Federation of Master Cotton Spinners and the Association of Operative Cotton Spinners and Twiners, with the co-operation of the Factory Department, drew up a warning leaflet in 1923. This was distributed among the workers to direct the attention of the industry to the prevalence of the disease. The importance of cleanliness was urged, and the danger of delay in securing early medical treatment, as soon as symptoms show themselves, was emphasized.

On March 27th, 1925, the Home Secretary appointed a Departmental Committee to inquire into the question; its report was published in February, 1926. In the opinion of the committee the evidence was strongly in favour of the view that this form of cancer was due to the prolonged action of mineral oils.

As the occurrence of the disease has only been recognized for a few years the premonitory signs and clinical course of the condition have not yet been fully studied. It is proposed to describe shortly the clinical features of this form of cancer as it occurs amongst mule-spinners, and to show how the disease can be diagnosed at an early stage after its commencement. At the onset it is a relatively benign type of malignant growth, and early operation for its removal offers a good chance of cure.

The lesion on the scrotum is a cutaneous epithelioma similar to that arising elsewhere. It is commonly seen in men between 40 and 60 years of age, though it may occur earlier, or at an age considerably older. The first manifestation is a wart-like excrescence or a flat plaque due to local hyperplasia of the epithelium. This wart or papule is usually single and about the size of a pea; it is raised above the surface and may be covered with scales, which the man removes by scratching, leaving a small bleeding surface over which the scales soon re-form. The only symptom which troubles the patient at this stage may be itching about the growth. In other cases there may have been several small papillomata present on the scrotum, and one of these takes on the above characteristics whilst the others remain benign. Later the growth sloughs and definite ulceration follows in six to twelve months, when the patient seeks medical advice on account of the irritation and discharge.

Until quite recently it was uncommon to see cases in the early stages, for three reasons. First, for reasons of modesty, owing to the position of the growth; secondly, because the men did not pay any attention to these slight symptoms; and thirdly, because both the spinners and their doctors failed to recognize their significance and to realize the importance of early treatment. Owing to the wide publicity given to the disease in the last four years the men themselves are now beginning to understand the meaning of the initial signs and to seek medical advice if symptoms appear.

When fully developed the tumour is proliferative, of the cauliflower type, with a raised everted and indurated edge surrounding an ulcer. The ulcer is often the size of a shilling; it is of relatively slow growth and rarely involves the deeper structures. This is due to the fact that the lymphatics of the scrotum and testis are quite separate and there is no anastomosis between the superficial and deep systems.

It may sometimes be difficult to determine when the lesion has become malignant, but from the very first it should always be regarded with grave suspicion. The disease is usually seen on the scrotum and on the left side; in approximately 25 per cent. of cases the growth may be found on other sites, chiefly the head, neck, and forearm.

The tendency for this type of cancer to form metastases is at first slow and its malignancy is not great. In the initial stages the enlarged inguinal glands do not necessarily contain carcinomatous deposits; the enlargement may be purely inflammatory, due to the infective processes taking place on the surface of the ulcer. Sooner or later, however, malignant invasion of the glands is bound to occur, and with the progress of the disease the most conspicuous feature is the breaking down of the glands in the groin. Finally death follows from exhaustion due to septic absorption or haemorrhage from the femoral vessels, whilst occasionally internal metastases in the abdominal glands, liver, or peritoneum give rise to abdominal symptoms or pain from pressure on nerves.

It is important to remember that the disease at first and for a considerable time is purely local, and there is ample time both for diagnosis and treatment before it has spread to other parts.

TREATMENT.

Cancer of the scrotum should be one of the most favourable types of malignant disease for surgical treatment, as it can be discovered at a very early stage. The cure of the disease depends on its early diagnosis and radical removal.

In considering treatment, it is essential to have a clear understanding of the lymphatic vessels of the scrotum and the glandular areas into which they drain.[2] The superficial lymphatic system consists of a fine network of lymph capillaries covering the whole scrotum, lying beneath the skin and external to the dartos muscle. There is a free anastomosis of this network across the two sides of the scrotum. The collecting channels from this run above and below Poupart's ligament to reach the superficial inguinal glands. The trunks coming from the anterior surface of the scrotum may pass direct to a gland which lies just internal to the anterior superior spine of the ilium, and is the most external gland of the horizontal set. This point is of considerable importance, since mule-spinners' cancer is commonly found on the anterior aspect of the scrotum. The lymph channels run both superficial and deep to the saphenous vein. No channels appear to pass the inguinal glands to reach the iliac glands direct, and primary lymphatic infection is therefore only found in the inguinal glands.

The treatment of this disease is essentially surgical. Any other form of treatment can be merely palliative. All forms of radiotherapy have proved disappointing and appear to be of doubtful value. We know of no case improved after *x*-ray treatment, in spite of the fact that

*Delivered in the Post-Graduate Course of the Manchester Committee on Cancer.

these tumours are so superficial and easily reached. In the early stages all scrotal warts and papillomata seen in mule-spinners should be removed, and local excision should be followed by microscopical examination.

When a definite ulcer is present a wide operation, consisting of removal of the growth with a healthy margin of skin and excision of the lymph-bearing areas in both groins, should be carried out. In the past many cases were treated by simple removal of the scrotal growth without excising the glands. Metastasis in the groin occurred later on in the majority of these cases and further operation was then often impossible.

It is important to treat this disease radically at the onset by removing both growth and glands at once. Our knowledge of the lymphatic system shows that it is only necessary to remove the scrotal ulcer and skin around it; deeper dissection is not required if the whole thickness of skin and dartos be excised. The glandular areas require more extensive dissection, and owing to the free anastomosis between the superficial lymphatics of both sides of the scrotum, bilateral infection of the glands is not uncommon. This is particularly likely to occur when the growth is situated on the anterior aspect of the scrotum.

The incision for the glands should extend from the spine of the pubes right out to the anterior superior spine of the ilium with a convexity downwards. The whole mass, consisting of fat, glands, and lymphatic vessels, is dissected out from above downwards in one piece, the dissection extending above Poupart's ligament. The upper three or four inches of the saphenous vein are removed also. All the glands and fatty tissue in Scarpa's triangle are thus excised and the femoral vessels stripped clean. These wounds are closed without drainage, and if the glands have not broken down should heal without any difficulty. There may for a short time be an escape of lymph from these incisions, owing to the division of the lymphatic channels, but this soon ceases. Oedema of the lower limbs after operation, due to the same cause, is sometimes troublesome, but, in the absence of infection, clears up in a few months.

Prophylactic application of x rays has been given as a routine after operation for about twelve months.

PROGNOSIS.

The prognosis after surgical treatment in mule-spinners' cancer is generally considered to be good, as in other types of skin epitheliomata.

In an investigation of the after-results following operative and x-ray treatment, Dr. John Bromley, of the x-ray department of the Manchester Royal Infirmary, has collected details relative to thirteen cases dealt with during the past two years, which he has kindly placed at my disposal.

After-Results of Operative and X-Ray Treatment of Thirteen Cases of Mule-Spinners' Cancer.

Alive and well	4=31	per cent.
Have had recurrence	6=46	,,
Dead	3=23	,,

Such figures as these, although few in number, show conclusively the serious nature of this condition.

The cases under investigation have proved beyond doubt that deep x-ray therapy has been of little or no value as a prophylactic agent against glandular recurrence, and was of even less value in preventing local recurrence of the disease. In view of the fact that ordinary types of skin epitheliomata appear to give satisfactory results with both radium and superficial x-ray therapy, a series of cases of mule-spinners' cancer are now being treated with this type of radiation to see if the effects are better than those obtained after deep therapy. The best results were unquestionably obtained in those cases in which both the growth and the glands had been removed by the surgeon.

Finally, in considering the etiology of this disease, it appears likely that certain individuals possess a peculiar susceptibility to the irritant effects of mineral oil. Whilst this only affects a small minority of spinners—statistics showing that of the 25,000 adult males engaged in mule-spinning approximately 2.5 per 1,000 develop the disease—the problem presented merits consideration.

An important question arises as to whether a spinner who has once suffered from this form of cancer should be advised to return to his occupation in the mill on recovery. Apparently it can only be answered by examination of a series of statistics, and is at present engaging our attention. It should be made a rule that all patients shall attend for inspection, after operation, at regular intervals. In this way any recurrence of the cancer will be discovered at an early stage and curative operation will be carried out with a good chance of success.

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THE CLINICAL ASPECTS OF ACUTE PANCREATITIS.*

BY

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ACUTE pancreatitis, the most serious intra-abdominal inflammatory catastrophe, was first recognized by Dr. Fitz of Boston,[1] who communicated his observations to the New York Pathological Society in 1889. Since then other observers have added their quota, and to-day we are able to diagnose this disease in its typical forms, and to confirm the diagnosis scientifically.



FIG. 1.—Section of pancreas from a patient who died eight days after operation for acute pancreatitis. The pancreatic tissue is invaded by bacteria. A culture from the gall bladder at the time of the operation grew *Staphylococcus aureus* in profusion. (Author's case.)

The salient features by which the disease can be distinguished from other acute abdominal disasters are as follows: (1) The patient is usually fat; it would appear that obesity definitely predisposes to this disease. (2) There is a considerable accumulation of evidence to show that pancreatitis is recurrent—that is to say, that the same patient is the victim of several visitations of the disease. Dick[2] reports the case of a publican, aged 44, who had an attack of acute pancreatitis; it was treated expectantly, and he recovered. Two months later the patient returned with a second attack, and died twenty-four hours later. Timbrell Fisher[3] describes the case of a man who had two attacks, separated by an interval of ten months. On each occasion the pancreas was drained and the man recovered.

A case under my own observation, in which I collected the past history, illustrates the recurrent nature of this disease.

The patient was a brewer's drayman. In 1907, at the age of 36, he was suddenly seized with acute abdominal pain. He recovered sufficiently to attend the medical out-patient department of the

* A paper read before the Birmingham Division of the British Medical Association.

London Hospital. A diagnosis of acute alcoholic gastritis was made. He was given medicine, and discharged a few weeks later as cured.

In 1910, after drinking a glass of water (apparently by mistake), he was suddenly seized with severe pains similar to the last. He vomited several times, and was admitted to the hospital. On examination tenderness was present over the gall bladder area. The symptoms abated, and he was discharged.

In February, 1924, he had a third severe attack while rolling barrels. Pain was so acute that the patient collapsed. The brewery at which he worked was immediately opposite the hospital, and I saw him within an hour of the onset. The patient was profoundly shocked, cyanosis was present, and abdominal rigidity entirely absent. A diagnosis of acute pancreatitis was made. After antishock treatment had been instituted the abdomen was opened. Fat necrosis was general; the pancreas was purple and oedematous; the gall bladder was distended, but no stones were present. Cholecystotomy was performed, and the lesser sac drained. The patient recovered and returned to work.

In July, 1924, he was seized with a fourth attack. He was admitted cyanosed and quite pulseless, although conscious. He stated that it was exactly the same pain, and it began in the middle of the night forty-eight hours before. He did not respond to antishock treatment, and died three hours later. The necropsy revealed advanced haemorrhagic pancreatitis.

This case is both instructive and suggestive. In the first place it admirably shows the recurrent nature of the disease, and secondly, it makes one wonder if many of the sudden but indefinite attacks of abdominal pain which pass off under expectant treatment are not pancreatic in origin.

Rigidity.

An outstanding feature, which helps to differentiate pancreatitis from other acute intra-abdominal inflammations, is the almost complete absence of rigidity of the abdominal wall. This point has received scant attention, but is emphasized by Timbrell Fisher, who states: "Rigidity is not characteristic, and may be completely absent."

Of the seven cases in which I have palpated the abdominal wall of patients suffering from acute pancreatitis abdominal rigidity has been completely absent in six instances. This comparative flaccidity is accounted for by the fact that pre-operative general peritonitis is absent. Mr. Huddy, as a result of his pathological work, has made it quite clear that the absence of general peritonitis is a remarkable feature in this disease.

Cyanosis.

Cyanosis is a fairly common accompaniment of the most acute forms of this disease; it is most marked in the cervico-facial region. The general explanation given to account for this phenomenon is that the abdominal musculature and diaphragm are held so rigidly that the respiratory movement is embarrassed and anoxaemia results. Such a hypothesis is untenable, for the abdominal muscles, far from being held in vice-like contracture, are relaxed. The cyanosis is undoubtedly due to the profundity of the toxaemia. Ogilvie has come to the conclusion that this toxaemia is due to the absorption of protein metabolites, particularly histamine, formed from the auto-digestion of the tissues, by the liberated pancreatic ferments. This is a rational explanation. Profound toxaemia will often give rise to cyanosis, as those who witnessed cases of heliotrope cyanosis in the 1918 influenza epidemic will testify. Experience teaches us that in a toxaemia the deeper the cyanosis the more surely can we hear the beating of the wings of the angel of death. Acute pancreatitis is no exception.

The Pain.

A late chief, under whom it was my privilege to work, said: "When I get a telephone call, and hear that it is an acute abdomen, and the doctor says that he has given morphine and the pain is unrelieved, I say, 'Ha, acute pancreatitis!'"

The widespread belief that the pain in acute pancreatitis is more severe than that of other abdominal catastrophes seems to have originated in a remark uttered by John B. Murphy,[4] who in the surgical clinics of Chicago is reported to have said: "The pain of acute pancreatitis is enormously greater than that of perforated duodenal or gastric ulcer."

We have no scientific gauge with which to measure pain. But while admitting of exceptions I am inclined to agree with the observations of Ogilvie[5] at Guy's Hospital, who says: "It is very doubtful if the onset is as sudden or the pain as agonizing as it is in cases of perforation. . . . Cases of perforation never move from the place where the pain has felled them." All observers agree that the pain is epigastric, and passes to the back. This radiation to the back is of considerable differential significance.

Loewi's Mydriatic Test.

In the mydriatic test we have a valuable scientific confirmatory sign which, above all, is eminently practical. It requires no laboratory—an important point when dealing with a grave emergency. I have heard several surgeons speak disparagingly of the sign, but, as a rule, one finds they have not given it a fair trial.

In order to get reliable results the technique laid down by the discoverer, Otto Loewi of Vienna, must be carried out. The pupils are examined; into one conjunctival sac four drops of fresh 1 in 1,000 adrenaline solution are instilled; after five minutes four more drops are instilled, and the pupils examined again after half an hour. While adrenaline has no effect upon the pupil of a healthy individual, in acute pancreatitis a positive reaction—namely, *dilatation of the pupil—is quite often obtained.* (Fig. 2.)



FIG. 2.—Loewi's test, a positive reaction. Photograph taken twenty hours after an operation for acute pancreatitis.

The dilatation is not infrequently slightly eccentric, and often conspicuously oval in form.[6] A negative pupillary reaction implies nothing, but a positive result in an acute abdominal case is highly suggestive of acute pancreatitis. The true explanation of this remarkable phenomenon is unknown, but it may be suggested that the inflamed and swollen pancreas irritates the solar plexus; the whole of the autonomic nervous system is thus rendered very sensitive, and the adrenaline detonates the ocular sympathetic.

The foregoing are the outstanding clinical features of acute pancreatitis from a differential standpoint.

Some points may also be mentioned which may be categorized as of minor importance, not because they lack interest, but because either they are rarely present or they lack the possibility of immediate application.

1. *The presence of a palpable abdominal tumour* is rarely noted; probably obesity militates against the regular detection of a pancreatic enlargement.

2. *Grey Turner's sign*[7] is a local discoloration of the skin. It usually occurs in the loin. The patches have the appearance of the skin in late extravasation. It is only seen in cases of some two or three days' standing. The condition is clearly due to the direct action of the pancreatic juice, which escapes by way of the retroperitoneal tissues and passes by the most direct route to the surface.

3. *The diastatic index of the urine* is not uncommonly raised from the normal 15 units to 150 or more. Recently I had a case in Dudley Road Hospital in which the index stood at 200 units. This test would be most valuable if it could be performed readily at the bedside. Unfortunately, by the time the report has come from the laboratory the index has ceased to be anything but a matter of academic interest. Sir Gilbert Barling[8] has shown that this test is not uniformly reliable—the increased index may be present in pneumococcal peritonitis.

4. *The Lipase Index of the Urine.*—Gordon Cameron, in 1923,[9] described a test for lipase in the urine. This again is essentially a laboratory procedure.

5. *Sugar in the urine* is present in a small proportion of cases of acute pancreatitis. It is of little diagnostic significance unless we know that glycosuria was not present previously.

TREATMENT.

Certain principles of treatment are agreed upon, but there are differences of opinion as to some details. Of the necessity for operation Deaver[10] says: "Instant drainage of the pancreas is the procedure indicated. Recovery from acute pancreatitis is not unknown, but it is safe to say that cases which recover by medical, that is expectant, treatment, would also recover by operative treatment, while some of those who die without operation might have been saved had they been submitted to operation."

Laparotomy being imperative, the patient should be given antishock treatment whilst preparation is being made for operation, and during the interval the result of the mydriatic test may be observed.

A liberal supply of oxygen should be administered with the anaesthetic from the commencement. I favour the mid-line incision because of the rapidity with which the abdomen can be opened and closed. The diagnosis is at once clinched by the blood-stained exudate and fat necroses. The pancreas is most readily explored by tearing the layers of peritoneum between the stomach and the transverse colon. In rare cases *where there is marked ptosis* of the stomach the pancreas can be conveniently exposed through the gastro-hepatic omentum. It is never justifiable to approach the organ through the transverse mesocolon, for subsequent drainage is difficult, and infection of the general peritoneal cavity almost certain. (Fig. 3.) Sir Berkeley Moynihan[11] has

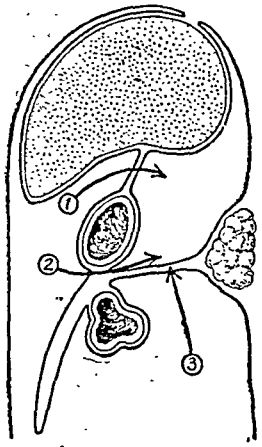


FIG. 3.—Diagram of routes of approach to the pancreas. (1) Through the gastro-hepatic omentum. (2) Through the gastro-colic omentum. (3) Through the transverse mesocolon.

emphasized the importance of packing off the field of operation thoroughly, in order to avoid soiling the general peritoneal cavity with the infected contents of the lesser sac.

Various Operative Procedures Recommended.

Incision of the pancreas was introduced by von Mikulicz in 1903.[12] The general consensus of opinion to-day is that this procedure involves a very grave mortality. Sir Berkeley Moynihan has modified the method, and recommends that the peritoneum covering the pancreas should alone be incised; but in my limited experience, with everything in an inflamed and turgescent state, this is very difficult to carry out.

Posterior drainage was championed by Barker[13] of University College Hospital. When the diagnosis was confirmed by laparotomy he made an incision below the right twelfth rib, and, with one finger in this incision, he burrowed his way through the extraperitoneal fat to the head of the pancreas, guided by the other hand in the abdomen. This would appear to be the best method in those cases which tend to go on to abscess formation, and in which the inflammatory process is mainly retroperitoneal.

Gall stones are present in about 50 per cent. of cases submitted to operation. Cholecystitis is probably intimately associated with pancreatitis, and consequently, if the condition of the patient permits, the diseased gall bladder should receive attention.

Cholecystotomy and Cholecystectomy.—Cholecystotomy is a very simple rapid procedure. It is very doubtful if it is of much value in draining the common duct. Nevertheless, there is much to be said in its favour as a supplementary therapeutic measure in acute pancreatitis. Following Deaver's teaching of the lymphatic origin of pancreatitis, I believed that, in those cases in which the gall bladder was definitely diseased, cholecystectomy, in addition to local treatment, would, if the patient survived the existing attack, bring about a permanent cure. Doubt has now been cast upon this belief; I have recently had a case of a mild recurrent attack in a patient in whom I had four months before extirpated the gall bladder and drained the lesser sac. The attack, however, passed off. Further proof that cholecystectomy is not a panacea is afforded by Holden and Moran,[14] who cite a case of acute pancreatitis occurring seven years after the gall bladder had been removed for uncomplicated gall stones. Therefore, in a grave emergency, cholecystotomy, on account of its simplicity, should have priority.

Archibald's Operation.—Archibald of Montreal,[15] as the result of much experimental work, has come to the conclusion *that acute pancreatitis is largely due to a spasm* of Oddi's sphincter, which surrounds the ampulla of Vater. This sphincter will resist an intraduodenal pressure of 1,000 mg. of water. His operation consists of opening the duodenum and dividing the sphincter. This procedure is still young, but has been received with enthusiasm in the new world.

Appendicostomy.—Appendicostomy has recently been recommended for the rapid instillation of large quantities of saline to collapsed patients after abdominal operations. Billington and Goodwin (1912)[16] advocated this procedure, and applied it successfully in two cases of acute pancreatitis.

Post-operative Treatment.

The escaping pancreatic juices tend to digest the abdominal wall and sutures contained therein. "Burst abdomen" is not an uncommon complication, and should be especially guarded against by suitably supporting the incision. Digestion of the skin around the wound may be effectively prevented by smearing the skin with an ointment containing 2 per cent. of hydrochloric acid, which renders the ferments impotent.

Pancreatic Asthenia.—Whipple[17] has drawn attention to a most interesting condition which he has named pancreatic asthenia. It occurs during the second and ninth days after operations upon the pancreas, and lasts for a varying period; seven of his forty cases followed operations for acute pancreatitis. Weakness is the chief complaint; the asthenia in some cases approaches that of Addison's disease; there is a mask-like expression, a drawling voice, muscular relaxation, and a tendency to salivation. The only treatment of permanent value is blood transfusion. It is curious to note that the request for bizarre dishes is often the first indication of a subjective improvement.

Conclusion.

The mortality of pancreatitis is still very high. Doubtless some improvement can be brought about by earlier diagnosis; but no substantial advance is likely to be made until the cause has been conclusively elucidated.

The riddle of all acute intra-abdominal inflammatory catastrophes will probably be solved when the key to the commonest is found—I refer to acute appendicitis.

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ARREST OF HAEMORRHAGE AFTER PROSTATECTOMY:
A HAEMOSTATIC CLAMP.

BY

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THE surgeon who can perform an operation with the least damage to the tissues, with the least loss of blood, and with least sepsis gives his patient the best chances of successful recovery. The operation of prostatectomy, in whatever way it is conducted, leaves much to be desired in respect of each of these three ideals.

Access to the prostate by the suprapubic route always involves some disturbance of part of the peritoneum; from this and from the drainage of the bladder a local peritonitis results; usually this is unimportant, but sometimes it is severe enough to be a factor in the development of troublesome meteorism. Again, the incision through the abdominal wall has the effect of impairing temporarily the function of the recti abdominis. This is of consequence because, as accessory muscles of respiration, they have a part to play if the diaphragm is to function fully. Admittedly, approach to the prostate through the perineum spares the patient injury to these two important structures, but there are other disadvantages to this method of prostatectomy which cause it to be less often employed. Damage to tissues necessarily accompanies the removal of the prostate by enucleation, for however skilfully it is carried out, and whether the gland is reached from above or from below, this is essentially a forceful manœuvre and therefore shock is often produced.

In prostatectomy sepsis is inevitable, primary union is impossible, and healing can only be by granulation; and the sepsis accompanying this often places a severe tax upon the patient's powers of recuperation. If, then, there are means by which the third ideal can be reached—namely, the avoidance of loss of blood—it is certainly desirable to adopt them, and most surgeons endeavour to effect this in some way or other. To be sure there are some who declare that it does old men good to bleed, but it seems unlikely that those who hold this view will object to the arrest of haemorrhage from their own prostatic cavities, if ever these have to be emptied of an adenomatous enlargement. It is true that patients do not often die of haemorrhage after prostatectomy, though it is equally true that this not uncommonly gives cause for much anxiety. But it is obvious that the patient who has to recover from shock, and has subsequently to withstand sepsis, will do so with difficulty if he has lost much blood; and it is certain that when sepsis, renal failure, cardiac failure, and bronchopneumonia kill patients after prostatectomy this is often because their vitality has been seriously impaired by haemorrhage.

In prostatectomy there is trivial bleeding when the abdomen is opened, and there is often more when the bladder is incised, but though this may be considerable the vessels are easily ligatured. It occurs most while the prostate is being enucleated, and though this cannot be prevented, yet it should be noted that it may be unnecessarily large if the surgeon takes a long time to remove the growth, and does not do so skilfully. During the formation of granulations some bleeding continues, and the urine is commonly tinged for the first few days after the operation. But the most serious haemorrhage, after the completion of the operation, is that which occurs during the subsequent five or six hours. This is almost always considerable, and it is not possible to predict with any certainty that it may not be quite serious.

There are various methods of controlling the haemorrhage. Freyer used to flush the prostatic cavity with lotions at 120° F. In the open operation of Thomson-Walker the suture of the periphery of the inlet to the prostatic cavity does much to stop bleeding, for this occurs chiefly from beneath the torn vesical mucous membrane. Sometimes, in spite of this procedure, packing is necessary, and this is because in these cases there is haemorrhage, often arterial, from the lateral walls of the prostatic cavity; the bleeding points can sometimes be identified, but to secure them by transfixion and ligature is occasionally impossible, and in any case involves a further prolongation of the operation.

The prostatic cavity can be packed with ribbon gauze, and if this is properly done haemostasis is secured, though this is not quite so easily obtained as might be expected, the reason being that it is difficult to bring pressure to bear upon the circle of torn vesical mucous membrane from beneath which, as has been said, most of the bleeding occurs.

If the packing is left in for forty-eight hours its condition on removal shows the state of sepsis which has arisen round about it, whereas if it is taken out after twenty-four hours, and indeed at whatever time it is removed, there is some risk of again starting enough bleeding to be of consequence—for the process of withdrawing the gauze involves always a disturbance of the tissues forming the prostatic cavity and especially the mucous membrane at the prostatic inlet. The removal of the packing is also a cause of pain, and this is often bad enough to necessitate the employment of nitrous oxide anaesthesia.

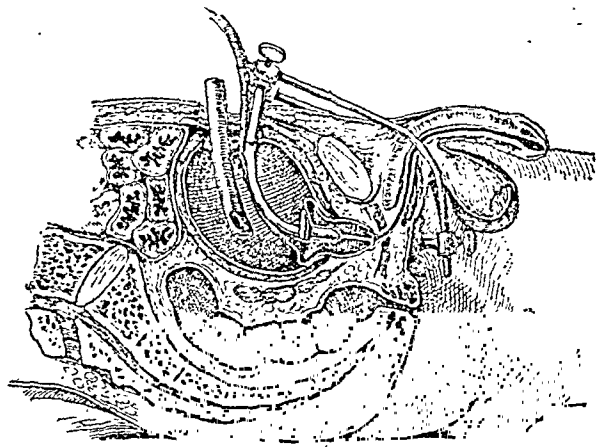


FIG. 1.—The haemostatic clamp and bag in position after removal of the enlarged prostate.

To overcome the disadvantages inherent to the use of packing Hagner devised a haemostatic rubber bag which was placed in the prostatic cavity and then distended. Pilcher has improved upon this, and uses a bag which is held in position by a tube, which traverses the urethra, tension upon this being maintained by strapping it to the thigh. With the same object, Hamer has devised a metal frame based upon the pubic arch, to which the tube is attached; and more recently Millar has suggested a method of weight extension. I employ a different method, which is designed to do away with any need for traction upon the bag, by providing a fixed support above and counter-pressure below. Occasionally incontinence of urine has followed the use of the Pilcher bag, and it is due to the compressor urethrae becoming stretched because the apex of the bag has been drawn into the membranous urethra. To avoid this, V. A. Hunt arranged for a traction upon the base of the bag by silk threads through the tube. The bag which I use is slightly modified from Pilcher's pattern, and is mounted upon part of a special clamp, one arm of which descends into the bladder; counter-pressure is obtained by another part of the instrument ending in a small plate, which supports the area around the central point of the perineum (Fig. 1). In this way two fixed points are obtained, and between them the rubber bag is held and there distended to the necessary amount. When once in position it is secure, and does not get out of place if the patient moves about and turns on to his side, or even on to his face. Fig. 2 shows that the dimensions of the clamp can all be varied at will, so that it can easily be adjusted to suit any size of patient. The structure of the rubber bag is shown in Fig. 3. It is made in two sizes.

Method of Using Clamp and Bag.

he silk web catheter through which the bladder has been ended is left in position during the enucleation of the prostate, s being usually done through a 4-inch incision and without the of a finger in the rectum. If a preliminary cystostomy exists atheter is passed before the operation starts. After the prostate been removed and the cavity explored to ensure that no tions of adenomatous gland remain, the end of the catheter drawn up into the bladder until a stout piece of catgut can threaded through its two eyes. The bag has been previously tended lightly and mounted upon the bladder arm of the trument, which it fits tightly, and where it remains ready in

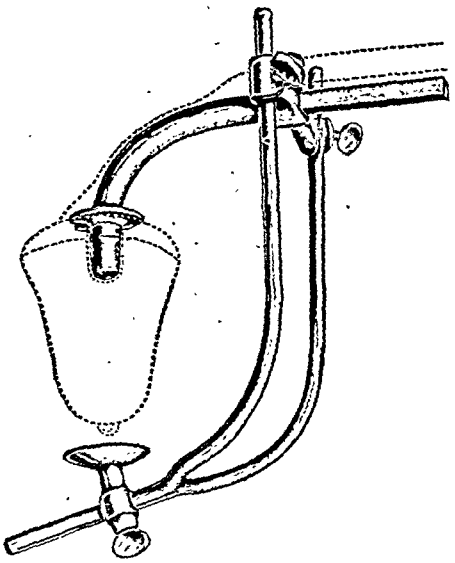


FIG. 2.—The haemostatic clamp.

position. One end of the catgut is now passed through the hole at its apex and knotted to the other near the catheter. This is then withdrawn from the urethra by an assistant, thus pulling upon the bag while the operator pushes it into the prostatic cavity. One strand of the catgut is then cut, and all of it pulled away from the bag through the urethra. If for any reason no catheter is employed, the operator can introduce the bag without the help of traction from below, but it is not quite so easily done.

The patient's scrotum, penis, and groins, which have been included in the area "prepared" for operation, are now uncovered for a moment. As a further precaution the operator covers his left hand and forearm with a sterile towel. Through this he holds the perineal half of the instrument and places it in position, while his assistant, having, if necessary, moved the scrotum and penis with holding forceps, now tightens the two screws, thus fixing together the two halves of the clamp. The bag is distended with water to the required extent, and its tube is then clamped with pressure forceps. It will be found that it is firmly fixed in position between the arm within the bladder and the counter-pressure afforded by the plate. Haemostasis is thus secured.



FIG. 3.—Sectional diagram of the haemostatic bag.

A drainage tube is inserted, and the wound closed round it and the arm of the instrument along which lies the tube leading to the bag. The pressure is sometimes lessened after four or five hours, but if haemorrhage recurs it is again restored. More usually it is maintained for about eighteen hours. Then, or rarely forty-eight hours after the operation, the screws are undone, and when the drainage tube has been withdrawn the instrument and bag are removed. This is effected without difficulty, and there is no need for any anaesthesia, for the empty rubber bag slides out of the prostatic cavity very easily, and in a manner contrasting markedly with the painful process of removing packing. A small drainage tube is placed in the bladder, which is then irrigated.

There are no special points about the subsequent treatment of the case. Pilcher has pointed out that another advantage which the haemostatic bag has over packing is that it always brings pressure to bear upon the circle of torn vesical mucous membrane, as can be seen in Fig. 1, and it is from here that much of the bleeding occurs; the sides of the bag which I use are sloped to secure this (Fig. 3). But it does more than this, for it carries the vesical mucous membrane down into the prostatic cavity, and encourages it to adhere there, thus lessening the risk of formation of a ring of scar tissue which may subsequently contract and cause obstruction.

It will be seen, then, that by means of the haemostatic bags which Hagner and Pilcher introduced haemorrhage can be stopped with more certainty than by other means. It is cleaner than packing, and it is more easily removed. The clamp which is here described ensures that its position and the tension which it exercises shall be unvarying until such time as the surgeon wishes to make any alteration, and that this is effected without any possibility of damage to neighbouring structures.

I am indebted to Mr. Schranz of the Genito-Urinary Manufacturing Company for the skilful construction of the instrument, and to Dr. Georges Dupuy for the illustrations.

AIDS TO PALATAL SUFFICIENCY AFTER CLEFT PALATE OPERATIONS.

BY

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EVERY operator on cleft palates is familiar with the difficulty of restoring speech after closing the cleft. Where the child is reasonably young, careful training is often all that is required, and about such cases I have nothing new to say. But there are many in which, while the operation turns out as good as could be hoped for, yet the distance between the palate and the pharyngeal wall is too great for any effort the muscles are capable of making.

When the patient is old enough to understand, the best preliminary step is to teach him or her to practise before a looking-glass so as to get voluntary control of the constrictors of the naso-pharynx. This exercise develops the muscles, and as they strengthen, it sometimes happens in a moderate case that complete voluntary closure may be counted upon, after which good speech is only a matter of teaching. But there are others in which no amount of training overcomes the difficulty of shutting off the nasal cavity; nevertheless, improvement is often possible.

When the opening left after the post-nasal sphincter has contracted is small, I have had good results from injections of paraffin wax behind the sac of the pharynx. This forms a cushion or boss against which the soft palate makes a contact, which it just failed to make before, thus eliminating the nasal quality from the labials and dentals. For this purpose I have used Mahu's paraffin syringe, the end of the needle being turned upwards at about the angle of a post-rhinal mirror. The operation is painless under local anaesthesia. I assume there is some risk of infection during injection, but it has not happened in the few cases in which I have employed the method.

It is, however, concerning the worst cases of this kind that I want more particularly to write—cases where a good and successful operation has been performed, but where the hiatus behind the palate is so great that they look quite hopeless. Though I have but one case to place on record, it was one in which the gap was so bad, and the result so good, that I think myself justified in suggesting that in the future few should be abandoned without giving the method a trial.

In 1925 I was consulted by a lady, aged over 30, on whom quite a good operation had been performed, but the opening behind the palate was literally huge. She felt her disability very acutely, and was most anxious that something should be done, so I consented to try. I thought that by snipping away the mucous membrane of the naso-pharynx at the level of the palate, so as to form a linear wound, there might be some hope that, after cicatrization when the scar contracted, the defect might be so reduced that she could supplement it by training the muscles. I accordingly snipped away a ring of tissue, but the result was most disappointing, and as a remedy proved quite futile. The wound healed with the most aggravating rapidity, leaving her neither better nor worse for the attempt.

I next tried diathermy. This produced a slough of the superficial tissues of the sides and back of the pharynx and the edge of the soft palate, including the uvula. The throat was very sore for some days, and deglutition was, of course, difficult. She suffered no rise of temperature, and after a week or so the wound cleaned off and contraction began. This continued until, about three months later, the opening was reduced to the size of the tip of a small finger. I found then that it was quite easy for her to close it completely by an effort of will. She thus had all the physical conditions necessary for normal speech.

She returned to London, where she was employed at secretarial work, and by my advice put herself under the care of a tutor for defective speech. It will easily be understood that the faulty voice production of a lifetime was not to be overcome after a lesson or two, but she was diligent and intelligent, and she gradually acquired complete control so as to be able to talk quite correctly, if at the first a little pedantically. Her greatest obstacle was in dispensing with the glottal stop of which such people make so much use as a substitute for labials and dentals.

RIGHT BRANCH BUNDLE BLOCK.

BY

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ELECTROCARDIOGRAPHY is the only means of discovering the existence of disorders of heart conductivity in the terminal branches of the bundle of His. Right branch bundle block does not imply a disturbance of rate or of regularity, and, being an expression of myocardial degeneration, recognition is of importance for prognosis. It may be that visible evidence of abnormal activity of the left ventricle is present and that a reduplicated first sound is heard, but these signs are not pathognomonic of the condition.

A normal electrocardiogram is shown in Fig. 1: P represents auricular activity and QRST ventricular; QRS is called initial ventricular, for it is recorded as the ventricles are passing into activity, and T is terminal ventricular. The ventricular curve arises from the change of potential induced as the wave of contraction passes through the ventricles, and it is really the algebraic sum of the deflections which would be produced by the right and left ventricles contracting separately. Lewis[1] has shown that R of Lead 1 and S of Lead 3 are mainly left ventricular events. These preliminaries help the understanding of what takes place when the contraction stimulus fails to pass along the right branch in right branch bundle block.

Having traversed the bundle of His, this stimulus finds in right branch block the right branch impermeable, or that conduction is slower than it is along the left branch. Consequently the contraction stimulus reaches first the left

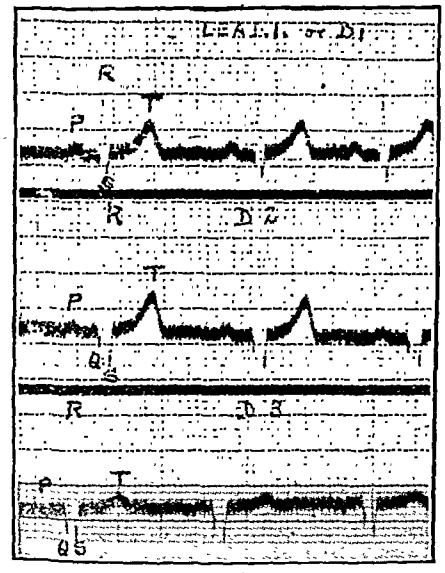


FIG. 1.

ventricle, and if the right branch is impermeable the stimulus passes from left to right ventricle through the medium of myocardial fibres common to both ventricles. Thus the right ventricle is later than the left in passing into contraction. Now QRS represents the initial activity of both ventricles; consequently the duration of the initial ventricular contraction is prolonged. The lengthening of the QRS period is the principal feature of branch block. Normally it does not exceed 0.10 second, and in health its duration is less than one-third of the total duration of ventricular activity (QRST). In branch block it exceeds

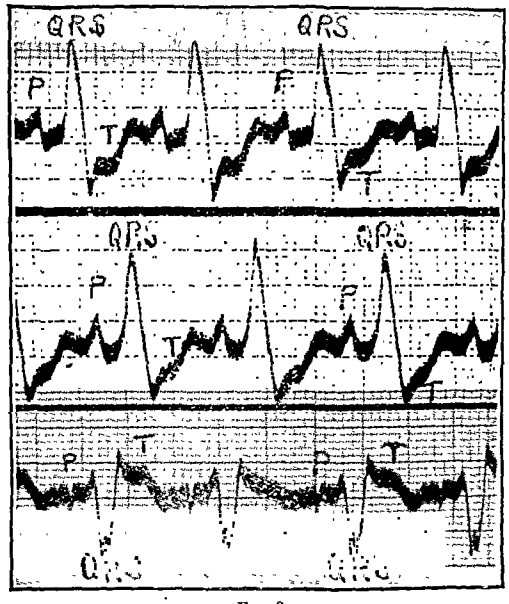


FIG. 2.

0.10 second and it lasts longer than one-third of QRST. The fact that the contraction concerns first the left ventricle and then passes to the right explains the beading or notching frequently seen on the group deflection QRS.

The second characteristic of branch block is that the terminal wave T of the ventricular deflection has a direction opposite to that of the initial one (QRS). If QRS is upward, T is downward, and if QRS is downward, T is upward. Having decided from these two signs that there is a block of one branch of the bifurcation of the bundle of His, we have to determine whether it is left or right. If the main spike of the QRS group is upward in Lead 1

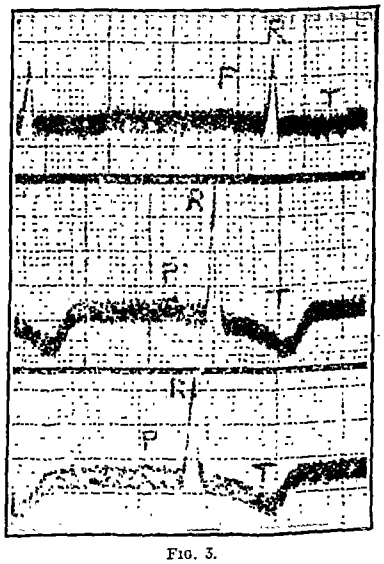


FIG. 3.

and downward in Lead 3, there is a condition of predominance of the left side, for R1 and S3 are mainly left ventricular events.[1] This implies that the left branch is intact and that the right fails in conductivity, the condition of right branch bundle block.

The condition in a spinster, aged 60, with signs of heart failure with oedema and congestion, clubbed finger-tips,

triple rhythm, daily range of temperature 97° to 98.4°, is illustrated in Fig. 2. The diphasic ventricular complex is shown with characteristics already noted. The initial phase of ventricular activity is necessarily prolonged, for the stimulus has first to traverse the left ventricle before reaching the right.

A record closing five months' observation is shown in Fig. 3. The tracing shows reversion to the physiological type, but the steep negativity of T2 and T3 is ominous.[3]

Of three cases encountered two were males. All had reached the degenerate period of life, with thickened arteries and high systolic and diastolic readings, and with symptoms indicative of cardiac insufficiency. The associated cardiac lesions were respectively mitral, aortic (Wassermann reaction positive), and hypertrophy (with renal cirrhosis), the common factor being myocardial with degenerative arterial change.

Branch block adds to the gravity of prognosis, as the much quoted statistics of Willius[5] show. In an analysis of twenty-four cases of branch block, Cowan and Bramwell[4] found that in only one case did the block show a tendency to disappear. Lewis,[6] Ritchie,[7] and Hewlett[8] have recorded cases in which block was present as a temporary manifestation in association with febrile or toxic disturbance, as in the case here quoted. In Hall's case[9] the block was permanent but stationary, in contrast with the ordinary rule that the lesion, if chronic, is progressive.

I wish to acknowledge my indebtedness to Dr. Foggie, in whose ward the patient was.

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TUBERCULOSIS AND MILK.*

BY

NATHAN RAW, C.M.G., M.D.,

LORD CHANCELLOR'S VISITOR IN LUNACY.

IN the BRITISH MEDICAL JOURNAL of 1903 I ventured to suggest that bovine bacilli conveyed by milk played an important part in causing tuberculosis in children. This has since been confirmed by many other workers, and is now accepted as a serious menace to child life.

The International Congress on Tuberculosis which was held in Washington in 1908 will always be remembered on account of the discussion which took place on the part played by the bovine bacillus in the production of tuberculosis in man. We were honoured on that occasion by the presence of the great master, Robert Koch; and those of us who took part in the secret session will never forget it. Up to that time Koch had not publicly admitted that bovine infections in man were possible, but he later modified his views, and we are all now agreed that an important amount of tuberculosis, especially in children, is directly conveyed from the dairy cow.

At that conference I read a paper, entirely based on clinical and hospital observation, pointing out the possibility that surgical tuberculosis in children, such as enlarged lymph glands, mesenteric disease, and affections of bones and joints, were separate and distinct infections from those of pulmonary tuberculosis, and might be caused by milk. The brilliant pioneer work of our president, Thebold Smith, on the role of the bovine bacillus, stimulated many workers, myself included, to further investigation, and it is particularly fitting that, eighteen years afterwards in this city of Washington, Dr. Park should tell us of the immense reductions in infant mortality and suffering as the result of their researches.

The incidence of bovine tuberculosis varies in different countries, and depends upon the extent to which cattle are infected with tuberculosis and the amount of uncooked milk, butter, cheese, and other dairy products consumed. In England and Scotland dairy cows are very heavily affected, with the result that surgical tuberculosis is very common in children.

In the light of our present knowledge we cannot say with certainty which particular strain of bacillus has caused the infection. We are accustomed to recognize three types of tubercle bacilli: human, bovine, and avian. I feel convinced that there are several intermediate strains of bacilli, which we cannot yet recognize with certainty, and it is not possible to say without bacteriological and animal tests to which group those from any lesion belong. For this reason, for the purpose of determining milk infections, clinical and hospital evidence is valuable.

Pulmonary tuberculosis is in a class by itself, and is practically always caused by the human type of bacillus, which also causes laryngitis, secondary intestinal ulceration, and fistula. It is rare for such cases to develop any other lesions. On the other hand, bovine infections in human beings rarely cause pulmonary lesions; in fact, they seem to be antagonistic to each other, and it is possible that a primary bovine infection, such as enlarged neck glands, may produce immunity against pulmonary tuberculosis for life.

Should this theory prove correct, the beneficial effects of sterilization of tuberculous milk may be followed by diminished resistance to human infection in the form of pulmonary tuberculosis. In any case it is imperative that the milk supply be pure and safe for children.

Avian bacilli, though considered to be non-pathogenic to man, may contaminate a milk supply, but with what effect we do not know. In Denmark the danger of infection of pigs by avian bacilli is so real that legislation has been introduced forbidding chickens on the farm.

To sum up. In my opinion—

Human bacilli produce:

1. Pulmonary tuberculosis.
2. Tuberculous laryngitis.
3. Secondary intestinal ulceration.
4. Fistula in ano.

Bovine bacilli produce:

1. Enlarged lymph glands.
2. Abdominal tuberculosis.
3. Lesions of bones and joints.
4. Meningitis.
5. Acute miliary tuberculosis.
6. Lupus.
7. Rarely, secondary extension to lungs.

These infections are antagonistic to each other, and human and bovine bacilli are rarely found in the body at the same time. The practical measures that should be taken against bovine infection are eradication of tuberculosis from dairy cows and pasteurization of all milk for human consumption.

Eradication will for a long time be impossible; pasteurization is a safe and certain remedy. The results in several large cities where compulsory pasteurization is law are truly wonderful, and have resulted in the saving of the lives of thousands of children every year, and endless pain and suffering with lifelong deformity. I sincerely trust the splendid pioneer work in New York and other American cities will soon be universal. At the same time it is imperative that every effort should be made to stamp out tuberculosis in dairy cattle.

It is estimated that in England about a million dairy cows are affected with tuberculosis. The cows with udder disease are, of course, the most dangerous. The compulsory seizure, isolation, and slaughter of these cows is a slow, laborious, and very costly procedure. The new Tuberculosis Order recently made in England will in time have a most beneficial effect in removing diseased cows from dairy herds, and so reducing the amount of bovine infection in children. In addition it is to be remembered that the financial loss to stock breeders and farmers from tuberculosis is enormous.

The question of the possible immunization or vaccination of cattle against tuberculous infection is of supreme importance, and as practically all cattle are born free of any tubercle—infection taking place after birth—the problem ought to admit of a solution.

I would like to lay before this conference the results of my own work, during the last eighteen years, in attempting to produce immunity in animals against tuberculosis. In 1906 Professor Koch gave me in Berlin a pure culture on

* Read before the International Conference on Tuberculosis, Washington, October 2nd, 1925.

glycerin agar of human bacilli from a virulent case of pulmonary tuberculosis. Professor Calmette, then of Lille, supplied me with a virulent bovine culture from the mesenteric glands of a cow, and Professor Bang of Copenhagen gave me a culture of avian bacilli from the liver of a chicken.

These cultures have been subcultured on glycerin potato and transferred to glycerin agar every month for twenty years in my laboratory, and the present growths represent the 241st generation. At the end of 1914 I was afraid the work would be interrupted, but I took the cultures with me to France, and as I had a good laboratory in the hospital I was able to continue the subculturing there for the next four years. The growths are still profuse and true to type, but they are now completely non-tuberculogenic and non-pathogenic to animals.

Every year since 1906 I injected these bacilli into animals with a view of testing their pathogenicity; until 1913—that is, the 84th generation—I noticed no change in their virulence. After that time attenuation became marked, and in a series of inoculations of these bacilli into animals in 1914 they were observed to be avirulent. These experiments conclusively prove that virulent tubercle bacilli can be attenuated to such a degree as to be avirulent and non-pathogenic to highly susceptible animals. Some hundreds of animals have been inoculated to test the powers of immunization of healthy animals, and with excellent results. For the purpose of immunizing calves a vaccine was prepared from attenuated cultures of human bacilli. It is a bacillary emulsion of killed bacilli, and contains all the products of the bacillus. Living bacilli are never used; they are destroyed by heat before preparation.

Calves that are to be immunized should be separated from the mother at birth and fed on healthy milk for a week, when the first dose of vaccine is given; this is followed a week later by the second dose. They then associate with the other animals. The injection is given hypodermically in the usual way, under the skin of the abdomen, with strict antiseptic precautions. The method is only applicable, of course, to healthy animals.

During the last four years over 600 calves in valuable pedigree herds have been vaccinated by careful veterinary surgeons, and tuberculin tests at intervals of six months have so far been most satisfactory; the duration of immunity in 120 calves has been over three and a half years.

The problem of tuberculosis resolves itself into the question of immunity, and, in my opinion, we want to aim at producing an immunity in the animal against the amount of infection it is likely to encounter in ordinary life. It is almost impossible to immunize any animal against a lethal dose of virulent culture. The protection of the community by some safe scientific method of active immunization is the only effective way by which this preventable scourge can be eradicated.

Turning to the question of human immunity the problem is much more difficult, as children are susceptible to both human and bovine infection. At the special request of the parents in a large tuberculosis colony to which I was attached, and where each father has pulmonary tuberculosis, I gave all the children, over a hundred in number, two doses of protective vaccine prepared from dead attenuated bovine bacilli, with the object of protecting them from human infection. So far they appear to be healthy, but it will require at least ten years of observation before we can give any definite opinion as to its efficacy.

In conclusion, I am of the opinion that it is possible to immunize cattle against ordinary infection by using killed cultures of attenuated human tubercle bacilli, in precisely the same way that we can give immunity to man against ordinary infection of typhoid and paratyphoid by using dead cultures of typhoid bacilli. Animals cannot withstand large doses of virulent bacilli as a test of immunity, and I cannot see that it is necessary to give them. Our aim is to protect animals and children against the ordinary infection they are likely to meet with in life, and not against a lethal laboratory dose of virulent bacilli. In my opinion it is not necessary to use living organisms for the purpose of producing a relative immunity against tuberculosis.

TREATMENT OF TUBERCULOSIS.

A NOTE ON THE EFFECT OF COLLOIDAL ANTIMONY.

BY

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PULMONARY tuberculosis is so widespread and accommodation in sanatoriums is so limited that any form of treatment to be of much value to the community at large should be one than can be carried out under ordinary conditions with the patient living at home, or even continuing his work. It should also be such as can be carried out by the patient's own medical attendant.

In looking for a drug which would at least alleviate some of the most distressing symptoms of phthisis it occurred to me to make trial of antimony, which has been used with some success in the treatment of leprosy, kala-azar, and bilharziasis. The difficulty at first was to find a preparation which caused no unpleasant symptoms. A 2 per cent. solution of tartar emetic in normal saline was tried for some time, half-grain doses of antimony tartrate being administered intravenously twice a week. Improvement followed a course of these injections, but the immediate effect was often a feeling of collapse.

I next decided to try collosol antimony (Crookes's) in 1/2 c.cm. doses intramuscularly twice a week, and found that with this there was no shock, and it could be given in the out-patient clinic without fear of untoward symptoms. On the day after the injection the patient feels a little tired, but when this has passed off there is a distinct improvement; appetite increases, the breathing becomes easier, and the patient feels much brighter and more alert. The effects on the lesion seem to resemble those produced by sanocrysin, but without its dangers; for a week or two moist signs increase and the expectoration becomes more profuse, but these eventually diminish, the evening temperature drops slowly to normal, and thereafter pursues a much more level course.

The colloidal antimony is most conveniently injected into the flexor muscles of the forearm, and in some thousands of injections during the past year I have had no ill effects from it. There is often a little pain with the first few doses, but this is seldom complained of at subsequent injections. The dose at first is 0.5 c.cm., increased later to 1 c.cm. The temperature is as a rule improved after three or four injections, but if the pyrexia persists, both the quantity and the frequency of the injections may be increased. In severe cases I have given daily injections for a fortnight without ill effect. Occasionally when a patient has not reacted to intramuscular injections I have given them intravenously, with immediate result; on the other hand, intravenous injections not uncommonly cause some malaise.

How long the injections of antimony should be continued it is as yet too early to say, but in general one would suppose that they should be persevered with until the physical signs have cleared up.

To patients with troublesome cough during the day I give also a mixture thrice daily of vinum antimoniale 10 minims, oxymel scillae 1 drachm, in half an ounce of water. This reinforces the antimony administration, and also soothes the cough and assists expectoration. For the morning cough, often so distressing, I give asparagin 1 grain first thing, dissolved in a drachm of water; this loosens the tenacious sputum. At night I give the liquid extract of *Sanguinaria canadensis* in 2-minim doses in water to allay bronchial irritation and promote a good night's rest. The two drugs asparagin and sanguinarin have been used by me now for many months and in over 200 cases, and I am convinced of their value, although where there is haemoptysis or even blood-stained sputum I omit the sanguinarin. In very acute cases I administer these drugs alone for a week or two before beginning the antimony injections, lest the antimony, by increasing congestion in the lungs, might do fatal injury. If the sanguinarin irritates the stomach it should be discontinued. For pleuritic pain in phthisis I use a simple liniment of turpentine, alcohol, and compound camphor liniment in olive oil, to be rubbed on the chest and back daily.

It is only right to mention that the temperature often drops directly after administering asparagin and sanguinarin, before the injections of antimony are begun.

I have satisfied myself that under the treatment detailed above a much shorter residence in a sanatorium is required than has hitherto been the case, and this permits a larger number of cases to pass through the sanatorium in a given time. Even in Stage 3 cases I have often found three months' in-patient treatment sufficient to enable them to return home greatly improved with a fairly normal evening temperature and fit to attend the clinic regularly. So far I have treated about 200 cases in this manner, with most satisfactory results on the whole, and but few failures.

It is, of course, essential that the patient should continue to lead a quiet life with sufficient food and comfort until he is fit to resume work. For patients with much bronchial irritation exposure to cold, damp, and foggy weather is harmful; certainly in such cases the fresh-air treatment can be much overdone.

Much more work with this treatment is clearly necessary before it is possible to say whether the results are better than those produced by other methods; but my own observations are distinctly encouraging, and it is with the hope that other workers in this field will give it a trial and report their results that this preliminary note has been written.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

THE TREATMENT OF VARICOSE VEINS BY ORGANIC ARSENIC INJECTIONS.

IN the BRITISH MEDICAL JOURNAL of October 2nd, 1926 (p. 614), are described the effects of treatment by injections of quinine and salicylates, causing thrombosis of the diseased vein.

About 1910, when "606" was first introduced, I had occasion to treat a mild case of inherited syphilis. The patient was sitting with the arm resting on a table. When I had injected about 10 c.cm. of the fluid the patient fainted—it may have been due to the view of the 300 c.cm. to be yet injected. We knew little or nothing of the effects of the Ehrlich-Hata preparation except what we were warned against, which was not of much use as the effect happened before we could prevent it.

Later in the day the patient again presented himself, determined to go through with it. Knowing that he had a varicose vein in his leg I decided to inject into this, as I was under the impression that it would be expedited by being put into a large-bore vein, without thinking that no more could go through the needle than the bore would transmit, but knowing, however, that the rule was not to touch the varicose vein unless it was to be excised at once, which I had no intention of doing at the time.

I succeeded in completing the injection at this sitting, but as a precaution had the patient lying on the operating table. I at once bandaged the leg as usual and allowed him to go home. I saw him three days later, when I was informed that the varicose condition had vanished. On examination the vein could not be seen. It has remained well ever since, and no bandages have been worn subsequently. From this experience I have ever since used injections of galyl, kharsivan, neokharsivan, or novarsenobillon, with the same effect, but I have now adopted the regular anti-syphilitic course of treatment in all cases, being convinced that the varicose condition is syphilitic and possibly only hereditary in origin. Piles I deal with in the same way, with most satisfactory results. I have had occasion to treat two sleep-walkers. The first had a very bad history of apoplexy in his father, mother, two brothers, and a sister, who all died between 35 and 43 years of age. This man used to walk in his sleep and screech as if he were being stabbed with a knife, frightening everyone around; he was fast asleep all the time. He had "Circe's girdle" well marked round the upper edge of the liver. One injection of galyl stopped his nightly peregrinations. I lost sight of him during the war, but met him afterwards, when he told me that he had never been troubled with sleep-walking but had developed rheumatism, probably syphilitic in nature. The second sleep-walker I injected at once without inquiring into the family history, though I had a suspicion that it was tainted. He also ceased to walk in his sleep.

Varicose ulcers I always treat by injections of the arsenical compounds into the vein or veins below the ulcer. I apply a non-irritating dressing to the ulcer and keep the patient in bed until it is soundly healed. This usually, in a very old and hard-edged ulcer, takes about fourteen days. The scar becomes very dense and unyielding; it does not recur if the treatment is carried out to the end. I give the first injection on the day of seeing the patient, the second in fourteen days, and the third three months later. Throughout this period of fourteen weeks I give Hutchinson's formula for mercury, three pills a day. If the gums become painful I stop the pills, to begin them again as soon as the gums are normal. During sixteen years' experience of treating syphilities I have noticed that the veins in the arm, as well as in other parts of the body, always become narrowed to the normal, where previously they had been more prominent than they ought to be. They further always remain pervious, so that varicose veins can be cured by injection without causing pain or thrombosis. In no case have I seen recurrence of the varicose condition.

Upington, Union of South Africa. W. M. BORCHERDS.

THE AFTER-TREATMENT OF MASTOID OPERATIONS.

IN the report of the discussion in the Section of Laryngology and Otology of the Annual Meeting on the after-treatment of mastoid operations, published in the JOURNAL of December 18th last, no mention is made of the use of paraffin preparations as a substitute for gauze packing in the radical mastoid cavity. I am so convinced of the advantages of the use of such preparations that I take this opportunity of very strongly recommending them. I claim no originality, having read of the method some time ago in a French journal, to which, unfortunately, I cannot now find the reference. Either the proprietary preparation ambrine, or the B.P.C. preparation No. 7 paraffin, can be used. The latter consists of a mixture of soft and hard paraffin, with resorcin, eucalyptus, and olive oil, and has a melting point of 48°. All that is necessary is to melt the preparation in a test tube in a water-bath and pour it into the cavity. It can be removed without difficulty by picking out with forceps. My practice is to renew the paraffin at weekly intervals. I employ it whether a skin graft has been used or not. The advantages of its use are: (1) The cavity heals with astonishing rapidity, probably owing to the absence of trauma to the spreading epithelium. (2) It can be introduced (and removed) painlessly, and by the unskilled, with the certainty that the whole cavity will be filled. (3) Presumably, owing to (1), the discharge diminishes very rapidly.

Bristol. A. J. WRIGHT, M.B., F.R.C.S.

PSEUDO-MUCINOUS CYSTADENOMA OF THE OVARY.

THE combination of a dermoid cyst and a pseudo-mucinous cyst occurring in the same ovary is very uncommon, and is worthy of record.

A woman, aged 48, complained of increasing abdominal distension; she was found to have a large ovarian cyst. The operation was performed by Mr. Rodney Maingot, F.R.C.S., and the removal of the large cyst presented no difficulties; it weighed 12 lb., the tumour consisted of two distinct parts—a large thin-walled portion which lay anteriorly and presented the macroscopical characteristics of a pseudo-mucinous multilocular cystadenoma, and a small hard thick-walled cyst which was situated posteriorly. The latter did not communicate with the former, but was loosely attached to the main tumour by areolar tissue. On section it contained a great quantity of hair, and thick pultaceous matter.

The large cyst, on microscopical examination, showed no signs of malignancy, and Dr. A. B. Rosher confirmed the diagnosis of pseudo-mucinous cystadenoma of the ovary.

Maidenhead. R. R. FOOTE, M.R.C.S., L.R.C.P.

Reports of Societies.

MIGRAINE.

A DISCUSSION on migraine was held by the Section of Medicine of the Royal Society of Medicine on February 22nd.

Dr. C. P. SYMONDS, in introducing the subject, said that the great need was for clearer definition. Very little was known about the etiology and mechanism of headaches in general, but for the purpose of scientific investigation the term "migraine" should be reserved for a group of cases which in their clinical characteristics were so well defined that there would be no difficulty in separating them from the main body of obscure recurrent headaches. He defined migraine as a liability, dating from early life, to recurrent attacks of headache which were at one time or another associated with characteristic visual or sensory disturbances and were frequently accompanied by nausea and vomiting. This definition excluded a number of cases of recurrent sick headache which might probably be regarded as incomplete migraine, but the narrower definition would help to focus attention upon a few outstanding clinical facts. In the etiology of migraine heredity was generally recognized as of first importance. Given inherited liability, which was the rule rather than the exception, what was the precipitating cause? Some said eye-strain; but he thought that in the particular group of cases under discussion this was rarely an important cause of the attacks. There were recurrent headaches due to errors of refraction and muscle balance which in many cases could be cured by proper correction, but these should not be included under the head of migraine. He suggested that migraine was due to a susceptibility of the cortical vessels to spasm of their walls, but there was nothing to show by what means this spasm was provoked, though mental stress in some way, at present obscure, played an important part. Possibly the reaction was of a chemical nature and due to the action upon the vessel walls of toxins derived from neural metabolism. Other toxins derived from faulty metabolism of fats, sugars, or proteins might be responsible. On the experimental side further research should be made along the path opened by Howard Florey into the effect of various chemical substances, such as cholesterin, acetone derivatives, acids, and alkalis upon the cortical vessels, either when applied directly or introduced into the blood stream. On the clinical side a number of cases of true migraine coming within the definition he had given should be investigated by the clinician and biochemist in collaboration before, during, and after the attack. From a comparison of the results obtained by two or three teams working upon these lines some positive knowledge might be gained as to the part played by diet and faulty metabolism in the causation of attacks. With regard to treatment, régime was of first importance. The physician could not forbid worry, but he could prescribe conditions of work, recreation, and diet which were of the greatest value. Of drugs, luminal in some cases and liquor trinitrini in others, given regularly as preventive measures, had proved useful.

Dr. HUGH THURSFIELD (*President of the Section*) described the case of a medical man of his acquaintance who had suffered from migraine for some twenty years. The sufferer's own account of his visual disturbance was that he saw a central clear space of elliptical shape surrounded by a dazzling border, beyond which was a misty area. On closing the eyes the effect changed to a central dark spot in a dazzling frame beyond which were rapidly revolving bodies. These phenomena lasted usually from ten to twenty minutes; sometimes the right eye only was affected, sometimes both eyes. Headache as a rule followed about half an hour afterwards. The attacks were most commonly the sequel to slight digestive disturbance, sometimes associated with nervous exhaustion, following hard work, and especially worry. Dr. Thursfield added that in these cases symptoms tended to disappear with advancing years.

Dr. A. F. HURST thought that Dr. Symonds was entirely wrong with regard to the pathogenesis of the condition. The speaker quite agreed that at bottom there was a constitutional inherited factor—an abnormally irritable centre somewhere in the brain. He agreed also that any interference with general health increased the irritability of that centre so that attacks became more frequent. But he thought that far and away the most important provocative influence was eye-strain. Probably in every case eye-strain was an important factor, in many cases almost the only factor. The reason why there were such differences of opinion was that oculists varied so much in the way they examined patients. In a woman who from 18 to 21 had suffered severely from migraine, every manner of drug and other treatment was tried. She was seen by five oculists, but none of them could find anything wrong with her eyes. Dr. Hurst sent her to another oculist, who made a certain correction; during the last ten or twelve years she had had only two attacks, and in each case because she had stopped wearing the glasses which had been prescribed.

Dr. JOHN L. MORTON said that the general practitioner had an unequalled opportunity of seeing migraine from the beginning. He had been called to children of about 8 or 10 with violent recurrent bilious attacks which were really attacks of migraine. In young adult life the most typical cases were seen. The most important factor, he was sure, was eye-strain. All first-class oculists were by no means equally successful in finding a defect. The detection of the small errors of refraction and muscle balance which were the stimulating factors in migraine might be very difficult. But other causes in his experience were uterine and menstrual disorders, intestinal stasis, and appendicitis, and a sluggish or inactive liver. Headache was by no means the only symptom. There were people whose heads refused to ache in any circumstances, and others in whom a sharp reprimand would create a first-class headache. In some cases intolerable itching of the scalp preceded a headache for several days, spectral mists came before the eyes, and the sufferer tended to wake increasingly early in the morning. While migraine might pass off in later life, this was not always a change for the better. A tendency to nausea and irritable stomach might remain, glycosuria might appear, and arterio-sclerosis become obvious.

Dr. KINGSTON BARTON was surprised by Dr. Hurst's emphatic statement about the eyes, and thought that other causes were also concerned. It was extraordinary that when an attack of migraine was passing off the same signs were found as if the patient had cirrhosis of the kidney—extreme polyuria associated with hard throbbing heart. A large number of older people had cured themselves, in the case of women by ceasing to eat meat, and in the men more commonly by giving up alcohol. This pointed to a dietetic element in the causation.

Dr. JOHN A. RYLE said that it would be asked why this and other explosive disorders—asthma, gout, epilepsy—could not be cured; the reason was the inheritance factor. These things were not diseases but diatheses, passed on from generation to generation.

In some further discussion, Dr. FRANK COKE mentioned a case in which violent attacks of migraine had been associated with asthma due to feather-sensitiveness, and another in which a migraine sufferer sensitive to pollen was free from migraine attacks during the hay-fever season. Dr. E. A. CARMICHAEL suggested the possibility of hydrocephalus accounting for the symptoms in migraine, pointing out that migraine could be almost described as a slow form of epilepsy, and that epilepsy did occur in hydrocephalus. Dr. W. R. REYNELL also spoke of the relation of migraine to other paroxysmal phenomena. When the problem of epilepsy was solved more would be known about the nature of migraine. Dr. H. W. NOTT referred to the value of thyroid and manganese treatment in all cases in which there was a disturbance of metabolism, even with an hereditary factor. Dr. AGNES SAVILL mentioned a case in which large doses of sodium salicylate, without bromide, given daily with a good deal of water, had entirely arrested a migrainous condition, even though the glasses had remained uncorrected. Dr. H. J. MACBRIDE could not agree with Dr. Hurst's emphasis on eye-strain. Blood counts should be made during attacks, and the family history investigated for other phenomena. Dr. F. W. COLLINGWOOD, who had been a sufferer, said that he could use his eyes in reading indefinitely without fear of attack, but the precipitating cause was most frequently an exciting debate, especially on a political subject.

OBSTETRICAL AND GYNAECOLOGICAL CASES.

THE annual meeting of the North of England Obstetrical and Gynaecological Society was held in the rooms of the Medical Society of the University of Manchester on January 28th.

Local Peritonitis following Ectopic Gestation.

Dr. J. W. A. HUNTER described an unusual case of local peritonitis following ectopic gestation. The clinical details were as follows.

A woman, aged 34, was suddenly seized with acute abdominal pain accompanied by vomiting and slight bleeding from the vagina. Examination revealed some slight fullness in the pouch of Douglas, which was tender on pressure; this was attributed to a retroverted gravid uterus. The temperature was normal, and the pulse 90. The patient admitted being fourteen days over her time. The following day she was much better and took up her daily routine, but on the third day there was a recurrence of abdominal pain, an increase in pallor, and the pulse rate rose to 100. On the fourth day she was still doing her work and her condition was unchanged. On the morning of the fifth day her symptoms rapidly became more severe. The abdomen was more tender, the pulse 110, and for the first time the temperature rose above normal, being 100°. In the evening she was still worse; the abdomen was distended, very tender, and rather rigid. The temperature had risen to 102°, pulse 130, and there was now a profuse and very foul-smelling vaginal discharge. On admission to hospital she was extremely pale and rather collapsed; tongue dry and brown, sordes on the lips; temperature 104°, pulse 124. The abdomen was distended and very tender, especially in the lower part; percussion showed free fluid in the flanks. A foul and dirty brownish discharge was found coming from the vagina, and vaginal examination revealed signs of early pregnancy with fullness and tenderness in all fornices. In both postero-lateral fornices tender adherent swellings were felt similar to those usually palpable in acute salpingitis and giving the impression of acute adnexal inflammation. A diagnosis of pelvic peritonitis complicating [illegible] made, and laparotomy was decided upon, a [illegible] to be spreading to the upper part of the [illegible].

On the sixth day of illness a small mid-line incision was made above the pubes. Difficulty was experienced in recognizing the peritoneum, for when it was reached dark brown fluid and bubbles of gas could be seen through it, so that incision seemed dangerous owing to the resemblance to bowel. On incising it there was an escape of gas followed by a large quantity of dark brown, very foul-smelling fluid which had been distributed throughout the peritoneal cavity; it contained some pieces of disintegrating blood clot. The pouch of Douglas was felt to be obliterated by adhesions, and both appendages were bound down, so a tube was passed down into the pelvis and the abdomen was closed, no further treatment being thought advisable. Next day the temperature fell to normal, rose to 102° in the evening, and again became normal on the third day, the patient being very much better. On the fourth day the temperature rose to 100° and she was not so well, and thereafter improvement ceased; the abdomen became hard and distended with obvious general peritonitis, and on the ninth day she died, the necropsy revealing a large purulent subphrenic abscess.

Dr. Hunter demonstrated a specimen from this case which showed a small tubal gestation in the isthmic portion of the right tube. He thought that this had obviously ruptured when the symptoms started and that a haematocele had formed in the pouch of Douglas. Five days later this had become infected, as was shown by the sudden onset of temperature and signs of pelvic peritonitis. He added that there were several points of interest about the case. First, was the infection due to a gas-forming organism, or was the gas present in the peritoneal cavity due to septic disintegration of blood clot? In support of the latter view were the facts that after operation there was no further sign of gas formation, and that at the necropsy the subphrenic abscess was of the ordinary pyogenic variety. The starting-point of the infection might be the bowel or the vagina, but it was probably vaginal, for otherwise it was difficult to explain the presence of the profuse and foul vaginal discharge. No evidence of interference could be obtained, though this was strongly suspected.

Dr. DOUGAL thought the gas was due to infection of the blood clot. He had seen a case of infection by *B. aerogenes capsulatus*, when the uterus and foetus therein showed gas spaces and gas cultures of this organism.

Induction of Labour by Ovarian Extract.

Dr. W. R. ADDIS read a paper on a method of inducing labour by the intramuscular injection of extract of ovarian residue (without corpus luteum). One c.cm. of the extract was injected into the *pectoralis major* where it formed the anterior border of the axilla. Contractions of the uterus were recognized by palpation at first, as the onset of labour was painless. The dose was repeated when the contractions began to diminish in intensity and frequency; the average time in which this occurred was about three hours. After the second injection 1 oz. of castor oil was given by mouth. Dr. Addis had employed this method in twenty-two cases in periods of pregnancy varying from thirty-six weeks to a week post-mature, and had come to the conclusion that it was nearly infallible as a method of induction of labour. In the first case only had the method been a partial failure. Furthermore, the labour induced was practically painless throughout the first and beginning of the second stage, pain only being really experienced when the presenting part bulged the perineum.

Squamous Carcinoma of the Clitoris.

Miss FRANCES IVENS (Liverpool) showed a specimen of squamous carcinoma of the clitoris associated with a broad ligament cyst which had been removed from a patient aged 84, a widow for twenty-six years.

The patient had had three abortions, all at about three months. The menopause had occurred at 50, but there had been slight leucorrhoea for twenty years. Irritation and a swelling of the vulva had been noticed for about three months, together with an aching pain in the left iliac fossa, associated with difficult, painful, and frequent micturition. A pedunculated swelling of the clitoris was found with some induration in the atrophied left labium minus, and general leucoplakia. The inguinal glands were palpable and a cystic swelling was felt in the lower abdomen pressing on the bladder. The Wassermann reaction was negative. The patient for her age was in very good condition, and the vulva and inguinal glands were excised in the usual manner. The abdomen was then opened and a cystic tumour the size of a coco-nut developing in the left broad ligament was removed by resection-enucleation. The fluid within it was clear. No attempt was made to remove the right ovary or the atrophied uterus, which was lying back buried in adhesions. The patient made an excellent recovery, and the urinary symptoms improved.

The pathological report stated that there was a pedunculated solid nodule the size of a [illegible] the surface and replacing the clitoris. [illegible] mous carcinoma with some infiltratic [illegible] d a good deal of round-celled infilt[illegible] not show malignant infiltration. The [illegible] size of a full-term foetal head; it was thin walled and covered by a layer of the peritoneum of the broad ligament.

The sequence of events was: three early abortions, probably caused by a retroversion of the uterus; then, after the menopause, an irritating leucorrhoeal discharge which lasted many years, and was followed by leucoplakia; and ultimately malignant disease at a very advanced age.

Mixed Celled Sarcoma of Ovary with Pelvic Tuberculosis.

Miss IVENS showed also specimens removed from a patient aged 59, a widow for three years. She had had eight children. The menopause had occurred six years previously, and her last child had been born twenty-five years earlier. A ring pessary had been worn for three years, for prolapse. The clinical history was as follows.

There was a three weeks' history of shortness of breath, very frequent micturition, and loss of weight. The abdomen was distended by free fluid, and a cystic tumour the size of a five months' pregnancy could be felt coming up from the pelvis. At the umbilicus a reddish swelling rather like an inflamed hernia was seen. The uterus was prolapsed. At the operation a gallon of bile-coloured fluid was evacuated. Supravaginal hysterectomy was performed with the removal of a tumour of the left ovary, twisted on its pedicle, and a smaller cystic mass growing from the back of the right broad ligament, which contained greenish yellow fluid. The umbilicus was excised.

The tumour consisted of an oval mass which appeared to arise from the left ovary; it was about the size of a full-term foetal head. The surface, which was irregular with projecting bosses, showed dilated veins and blood-stained areas. The tumour was pedunculated. On section about one-third of the mass was found to be firm in consistency and yellowish in colour; the other two-thirds consisted of cyst-like cavities with areas of softening, necrosis, and haemorrhage into the tissues. The solid portion consisted mainly of spindle cells; in some areas there were collections of multinuclear cells. The necrotic area showed mainly degenerating tissue and blood clot. The right ovary was normal in size and appearance, except for one area on the surface, which appeared to be invaded with malignant cells and was pigmented. The wall of the uterus was rather thickened but otherwise normal. A section taken near the fundus showed the uterus to be invaded by tuberculous giant cell systems. Both Fallopian tubes had thickened walls with caseation. At the umbilicus there was a subcutaneous nodule three-quarters of an inch in diameter, which was solid, dark, and haemorrhagic. It did not appear to arise from the squamous epithelium covering it, which was normal in appearance. The mass consisted of fibrous tissue, blood clot, and masses of malignant cells, many of them multinucleated.

Miss Ivens said that primary sarcoma of the ovary was one of the rarer forms of malignant growths, and probably did not occur in more than 5 per cent. of all ovarian tumours. It was characterized by rapidity of growth and the presence of ascites; pigmented forms occurred. She had not found any recorded instance of the occurrence of a mixed cell pigmented sarcoma superimposed upon tuberculosis of the uterus and Fallopian tubes, and thought it might be regarded as a pathological curiosity.

Mr. W. GOUGH had seen carcinoma and tuberculosis associated in the caecum.

Diffuse Adenomyoma Endometriomatosis.

Dr. J. W. BURNS (Liverpool) showed a specimen of diffuse endometriomatosis of the uterus in a woman, aged 39, who had been married eleven years and was sterile. Menstruation began at 13 and was of the 5-6/28 type. There had been no dysmenorrhoea nor leucorrhoea.

For eighteen months before coming under observation the menstrual periods had been becoming heavier than usual, and during the past month there had been more or less constant bleeding, with marked weakness, but no symptoms arising from the bladder or rectum. Her general condition was poor, and anaemia was marked. A smooth hard tumour could be felt in the lower abdomen reaching almost to a point midway between the symphysis and the umbilicus. Bimanually the cervix was found to be drawn up behind the pubes, and the uterus was enlarged, hard, smooth, and freely mobile. There was no swelling of the appendages. A diagnosis of fibroid was made. On opening the peritoneum some free dark blood was seen. The uterus was symmetrically enlarged by what was thought to be a fibroid which was undergoing degeneration. A portion of the sigmoid and the ileum were adherent to the upper surface of the tumour; the gut was liberated with difficulty, and a subtotal hysterectomy was performed with removal of both tubes and ovaries. The patient made a very rapid recovery.

The uterus measured, after hardening, 4 by 4 by 4½ inches, being symmetrically enlarged. The wall of the fundus measured 2 inches. The cut surface was fibrous with numerous small cavities scattered throughout; many of these cavities were subperitoneal and some contained dark blood. On the upper and posterior surface was a roughened area where the intestines were adherent. There was one small fibroid in the posterior wall of the fundus. The endometrium appeared thickened and ragged. Both tubes were small and appeared normal. The ovaries were slightly enlarged and contained several cysts which were filled with a clear straw-coloured fluid. Attached to the wall of two of these cysts was some old blood clot. Microscopical sections showed in the endometrium numerous glands with the epithelium regular and single-layered. The stroma was relatively scanty and there was no evidence of inflammatory reaction. The endometrium seemed to be spreading deeply into the muscular wall. Sections of the uterine wall showed some slight increase of fibrous tissue. The uterine wall was infiltrated with islands of tissue indistinguishable from the endometrium. Some of the gland spaces were filled with blood, especially those near the peritoneal surface. Sections of the ovaries did not show any evidence of endometrioma and there no lutein tissue was seen.

Dr. Burns said that in most of the specimens of diffuse adenomyoma which had been reported the adenomyomatous condition had been described as a tumour or tumours limited to some portion of the uterine wall. In the present specimen the whole uterine wall appeared to be permeated with the endometrial tissue. He suggested that this was a true endometriomatosis.

Professor MILES PHILLIPS asked if the condition was associated with pain, and if there was definite evidence of downgrowth from the surface of endometrium.

Dr. BURNS replied that there had been no pain and no microscopical evidence of endometrical downgrowths.

Suppuration in a Pseudo-mucinous Cyst.

Dr. LEITH MURRAY (Liverpool) described the only case of suppuration in a pseudo-mucinous cyst that he had seen in a consecutive series of 115 cysts of that nature. The rarity of this complication was interesting in view of the fact that the fluid from such cysts had been previously recommended for use in certain culture media.

A woman, aged 34, was admitted to hospital with a history of swelling of the abdomen since the birth of her last child seven months previously; there had been a more rapid development in the two months preceding her admission, but pain had been completely absent. The labour, her second, was reported to have been tedious, but otherwise natural. The convalescence was normal except that she was believed to have a pendulous abdomen and was ordered a belt. On examination the patient was in a condition approximating to the "typhoid state," with a dry furred tongue, dilated pupils, and a temperature ranging from 100° to 103°. As her pulse rate lay between 90 and 100 it was felt inadvisable to operate until a Widal test had been made; this proved negative for typhoid and paratyphoid A and B. A leucocyte count came to 16,875 cells per cubic millimetre. There was a slight trace of albumin in the urine, and a moderate amount of pus. The abdomen showed a tense cystic swelling reaching to midway between the umbilicus and the ensiform cartilage; it was bossy in shape and not tender, the abdominal wall moving freely over it. A cyst weighing 9 lb. 6 oz. was removed through a vertical incision. There was practically no ascites and only one adhesion of small intestine, measuring about one-third of an inch, on the right side, near its upper border. While this intestine was being separated a slight leakage of purulent material occurred. A swab was promptly placed over the spot, the cyst delivered entire as rapidly as possible, and the abdomen completely closed. The temperature was normal next day, and remained so during an uninterrupted convalescence. The improvement in her appearance was dramatically rapid.

The specimen showed a typical pseudo-mucinous cyst of the right ovary with one large loculus containing more than a pint of creamy pus approaching the surface at the point where the intestine was adherent; the rest of the cyst appeared to be uninfected. The contrast between the large purulent loculus and the clear pseudo-mucin in the smaller loculi was very marked. There was no twist of the pedicle. Cultures, both aerobic and anaerobic, proved sterile after forty-eight hours; no bacteria were observed in direct films of the pus. Pseudo-mucin was present, both in the pus and in the non-infected loculi, and the microscopical structure was as usual, except around the abscess cavity where only traces of epithelium were observed, and there was an intense round-celled deposit.

Dr. Leith Murray said that the interest of the case lay in the history of normal labour and in the very small intestinal adhesion. Bland-Sutton had observed that it seemed difficult to understand how ovarian cysts could become inflamed, enclosed as they were in airtight cavities, and having no communication with other organs. He considered the principal sources of infection to be the Fallopian tubes, the intestines, the appendix, and "tapping." To these must be added infection by the blood stream in systemic diseases of infective origin, as was proved by several cases of typhoid infection of ovarian cysts. Pfannensteil had expressed the opinion that infection of an ovarian cyst was usually derived from the tube or intestine—the latter almost exclusively when the cyst was adherent to bowel, or even near it if the bowel was injured or damaged from any cause.

Rupture of the Uterus.

Dr. N. E. EDWARDS (Manchester) described a case of rupture of the uterus in a multipara, aged 36, who had had four previous labours—the first instrumental, the second a breech, the third instrumental, and the fourth a normal delivery three years ago.

The pelvis was slightly contracted and of the rachitic flat type. Labour pains began at 5 a.m. and the membranes ruptured six hours later, the opinion then being that the breech presented. The pains increased until 4 p.m., when they suddenly ceased, being replaced by continuous pains in the abdomen, back, and right shoulder, and associated with vaginal haemorrhage. The patient was admitted into hospital with moderate collapse; the temperature was 97.4°, the pulse 120, and there was a trace of albuminuria. Abdominal examination revealed the foetus lying transversely with its head in the mother's right flank and free in the peritoneal cavity. The contracted uterus was felt lying over to the left side and no presenting part was felt in the vagina. The abdomen was opened and a female foetus, weighing 9½ lb., was removed; the placenta was taken from the peritoneal cavity. The lower segment of the uterus was the seat of a complete transverse rupture which began just in front of the right uterine artery and finished behind the left uterine artery, which was severed. Supravaginal hysterectomy was performed at the level of the rupture; a drainage tube was placed in the pouch of Douglas, and intravenous saline was given. The patient recovered after a somewhat stormy convalescence.

Dr. Edwards said that the rupture had not been caused by interference by the doctor or midwife. Repeated childbearing, with short intervals between the pregnancies, and associated probably with some injuries to the lower uterine segment by instruments, gave rise to atrophy of muscle and fibrosis. One of these weak spots gave way under the strain caused by the vigorous attempts made by the uterus to expel a relatively large child through a relatively small pelvis. The case might have been a breech with extended legs, and some part might have been played by toxaemia, as evidenced by the albuminuria.

EPISTAXIS IN THE TOXAEMIA OF PREGNANCY.

At a meeting of the Section of Obstetrics of the Royal Academy of Medicine in Ireland on February 4th, Dr. L. CASSIDY in the chair, Dr. BETHEL SOLOMONS (Master of the Rotunda Hospital), in opening a discussion on epistaxis as a symptom of toxaemia of pregnancy, mentioned first engorgement of the cavernous tissue of the nose as a symptom of pregnancy, and the rarity of epistaxis as a symptom of toxaemia. He then reported the case of a primigravida twenty-six weeks pregnant, admitted to the Rotunda with all the symptoms of toxaemia; these cleared to some extent, but three weeks later she returned with such intense epistaxis that it was necessary to plug the anterior and posterior nares. The urine was loaded with albumin, and the blood pressure was 240. The patient was in imminent danger of death, and labour had to be induced. After consideration of the various possible methods it was decided to perform abdominal hysterotomy under spinal anaesthesia. The preliminary morphine and scopolamine injections were so effective that stovaine was unnecessary, and the operation was performed without difficulty. The nasal plugs were removed the following day. The patient did well on water diet, but an unfortunate dietary error on Christmas Day caused marked disturbance of vision, and the ophthalmologist reported that she had retrobulbar paralysis. She was kept first on water, then on light milk diet, and was finally transferred to a general hospital, where she had improved considerably. Dr. Solomons said that epistaxis might be regarded in the same light as toxaemic accidental haemorrhage and the intra-abdominal and other bleedings in many severe types of toxaemia, but it was very rare. The severe symptoms which followed the ingestion of food had been considered to afford support to the food theory of toxaemia.

Dr. T. G. WILSON said that it was not often necessary to plug the posterior nares, but in this case it had been absolutely essential in order to stop the bleeding. If the patient had not been pregnant the loss of blood would probably have done good, as it would have reduced her blood pressure, which was very high. He thought this condition was rare. If this case had not been so urgent treatment by *x*-raying the spleen would probably have been successful, as it would have brought down the blood pressure, which he regarded as the cause of the epistaxis.

The CHAIRMAN was scarcely inclined to regard this as a case of toxaemia of pregnancy; he thought it was more a case of severe nephritis supervening on pregnancy. In the great majority of stillbirths the cause was underlying bad health of the mother. He believed that in this case the condition must have been present for some time, since it seemed to him unlikely that retrobulbar neuritis would come on twenty-four hours after the taking of solid food. Eye symptoms such as optic neuritis made the prognosis in these cases much more gloomy.

Professor A. H. DAVIDSON, referring to the termination of pregnancy in this case, asked if it would not have been less of a shock, and less danger to the patient, if labour had been induced by means of a tube, instead of opening the abdomen. Labour in these cases of albuminuria and toxaemia was usually very easy.

Dr. D. J. CANNON said that spinal anaesthesia was the best from the point of view of reducing shock, but it was supposed to be bad in cases of high blood pressure. He agreed with the chairman that the case appeared to be nephritic toxaemia rather than toxaemia of pregnancy. Eye symptoms sometimes occurred in pregnancy, but cleared up immediately afterwards. He thought that the Master had been quite right to empty the uterus in this case. In cases of nephritic toxaemia the great danger was severe deterioration of the kidney. In the *American Journal of Obstetrics* Werner had recently advocated the application of *x* rays to the spleen for various conditions; it might possibly check epistaxis also.

Dr. BETHEL SOLOMONS, in reply, said that he thought it was a case of true toxaemia; many women dated their troubles from a supposed chill or trauma, and little attention need be paid to them. The urine had been normal before pregnancy. It was a fallacy to suppose that the toxaemias of pregnancy occurred only in the later months: he had seen many examples in the fourth, fifth, and sixth months, and they were most difficult to treat. In treating the present case speed had been necessary, and therefore radiation of the spleen would not have been suitable. He did not fear the possibility of sudden diminution in the blood pressure with spinal anaesthesia. He agreed it was sometimes difficult to distinguish between a true nephritis and toxaemia. The literature on the subject of epistaxis in pregnancy was meagre.

Rupture of the Uterus.

Dr. SOLOMONS also read a communication on a case of rupture of the uterus treated successfully by plugging the rent. The patient, who was aged 35, was a 3-para, and the previous labours had been normal. She was brought to the Rotunda Hospital after having been given 1 c.cm. of pituitrin by her doctor in the second stage of labour. As there was no advance after an hour the Master had applied forceps and delivered a stillborn child. Efforts to express the placenta manually failed. On admission the patient was pulseless, only just conscious, and in a condition of profound shock. The cervix was closed, but on following the cord it was found that the uterus was separated from the fornix on the left side and the placenta lay among the intestines; it was removed. Intestines appeared at the vaginal vault, and the rent was plugged with a large tampon of iodoform gauze. Two days later symptoms of intestinal obstruction appeared, and the gauze was removed. For fourteen days she continued to improve, but there was always some distension without absolute rigidity. Symptoms of slight peritonitis then appeared, and the abdomen was drained; two pints of foul sero-sanguineous fluid escaped, and a drainage tube was inserted. She had progressed well since then, but there was still some discharge from the wound, which it was hoped to stop with ultra-violet rays. This patient would have died had laparotomy been performed, but she survived the treatment by plugging. The Master added that plugging was a valuable aid to obstetrical technique, and could be practised by the general practitioner. This rupture had been caused probably by the overdose of pituitrin in the second stage of labour; 1 c.cm. was far too large a dose. When pituitrin was given at all two or three minims should suffice, and should then only be given in selected cases.

The CHAIRMAN said that when a patient came in such a condition of shock there was nothing to be gained by laparotomy; he thought that death would have occurred had laparotomy been tried. Most of these patients, if not killed by shock, died from sepsis within ten days. He mentioned the statistics published by Döderlein from 50 cases of rupture of the uterus at the clinic at Munich during the last fifty years; 7 of the patients had been untreated and had died, 10 had had laparotomy performed, and of these 6 had recovered. The other cases had been treated in various ways, 8 in a way similar to that described by the Master of the Rotunda, and 3 had recovered. On the whole, the average of recovery had been between 40 and 50 per cent. during the last fifty years. He thought that in this case the large amount of pituitrin given was probably responsible for the condition. If shock was not too great, he thought that patients were better treated by laparotomy; but a great deal depended on the cause of the shock, and also on the time which had elapsed since the rupture had occurred.

Mr. W. PEARSON said it was very difficult in this case to decide what to do after the primary shock had been overcome, the diagnosis lying between peritonitis and intestinal obstruction. The patient had done fairly well for a fortnight, after which the temperature rose and the abdomen became distended and soft; it was plain that there was no obstruction, since if purgatives or enemata were given the bowels moved. There was a good deal of dullness in the right iliac fossa, extending across to the middle line, and the probability was that it was a case of mild peritonitis. The abdomen was opened, and there was found peritonitis, a great deal of turbid fluid, and also adhesions the whole way across to the abdominal wall.

Dr. D. J. CANNON had only encountered two such cases. One was caused by the injudicious use of pituitrin, and the baby had died; the other was a case of spontaneous rupture from a previous scar. He did not anticipate any great danger of sepsis if the gauze was left in for ten or fifteen days. He thought that if the foetus was completely in the peritoneal cavity it would be difficult to deliver it unless the scar was extended; and it would add to the shock to deliver through the vagina. In these cases he considered that laparotomy should be done.

Professor DAVIDSON had had three cases of rupture of the uterus—two after version and one following a breach. In the first case the rupture had been discovered when trying in vain to extract the placenta; the rupture was in the fornix. The placenta was removed by traction of the cord, and the hand was not inserted. He thought that this was a very good point in technique, since it might be possible thus to avoid introducing sepsis into the abdominal wall. All his cases had healed.

Dr. SOLOMONS, in reply, said that he had had three cases of rupture of the uterus during the previous three months. The patient reported had lived, one with a quiet rupture had died, and in a third case, which had occurred on the previous day, there was a spouting uterine artery; hysterectomy was necessary, and she was still alive. Plugging was the best treatment when possible, but there were some cases for which laparotomy alone was suitable. The practitioner must select his treatment. The patient reported had required much care in management; she had serum and saline injections, and it was difficult to keep her bowels free. The uterus was completely separated from the vaginal vault, and he believed that the gauze temporarily obstructed the bowel—a complication he had never encountered previously. At the time of the second operation ileus from the peritonitic fluid was the trouble.

UROLOGICAL PROBLEMS.

AT a meeting of the Liverpool Medical Institution on February 3rd Mr. FRANK JEANS read a short paper entitled "Some problems of urological surgery." Mr. Jeans said that very few cases of mobile kidney needed operation; when an operation was necessary the condition, if diagnosed early by pyelogram, required division of the so-called aberrant renal artery, and not nephropexy. Most of the cases in which the symptoms had been really relieved by nephropexy could have been treated by division of this artery—a much more physiological operation than converting an organ which was naturally fairly mobile into a fixed one. He did not believe that mere mobility of a kidney, unless it had some obstruction such as an extra artery, produced symptoms attributable to the kidney and hydronephrosis. In the case of renal tuberculosis he emphasized the insidious onset, illustrating it by the following cases: post-parturient pyelitis, gonorrhoea, and a latent bullet in or near the kidney. In these cases the patients had owed their lives to the medical acumen shown in suspecting tuberculosis in time to effect a cure by nephrectomy. Mr. Jeans mentioned an important cystoscopic sign diagnostic of early tuberculosis of one kidney—namely, a rebound at an acute angle of the colouring fluid used as an indicator. This proved the existence of thickening of the lower edge of the ureteric outlet. If this was seen it was very valuable and by far the earliest possible sign. He emphasized the importance of early diagnosis by cystoscopy because all his private patients who had had nephrectomy were well, and he had difficulty in recalling surviving hospital patients, as they came when the condition was bilateral. With regard to prostatectomy he raised the question of the "one, two and three operation," and was encouraged by results given him by Dr. R. Coope, who had made the blood examinations, to think that the two-style operation, though the second stage was more difficult, should be employed, and showed a lower mortality as the patient was in a better condition to stand it. He favoured the so-called "blind operation" for patients with high blood pressure.

Trauma as a Cause of Auricular Fibrillation.

Professor JOHN HAY and Dr. WALLACE JONES submitted jointly a paper on the responsibility of trauma for the disability of auricular fibrillation with reference to its medico-legal aspect. It was shown that trauma or physical strain was sometimes the exciting factor in the production of auricular fibrillation, which might occur as the result of a man's employment, in which case the employers were liable. Five cases were reported. In one the fibrillation was caused by a severe electric shock; a man, sitting on an electric crane, accidentally placed his forehead against the live terminals of the crane and received 250 volts of direct current. Before this accident he had been perfectly healthy, but after it fibrillation began and continued until broken by quinidine. Of the four other cases, three were men in whom no heart disease nor damage was found on ordinary clinical examination, nor did they suffer from any subjective manifestations of cardiac inadequacy before the onset of the fibrillation. In each case fibrillation followed sudden definite physical effort. In the fifth case the heart was not sound; there was evidence of slight aortic regurgitation, and the electro-cardiogram showed a right bundle lesion. Up to the time of the accident, however, this patient had comfortably continued his ordinary occupation, but while lifting a heavy "hip" on to a roof he suddenly "felt something give in his chest." Fibrillation started at that time; it had persisted, and the patient had not been able to resume his occupation. The medico-legal significance of these facts was of considerable practical importance, and it was for this reason that they had been put on record.

IMMUNIZATION AGAINST DIPHTHERIA.

Edinburgh Experience of Schick-Testing.

AT a meeting held at the Royal Sanitary Institute on February 15th, when Sir ARTHUR NEWSHOLME was in the chair, an address on immunization against diphtheria was given by Dr. WILLIAM ROBERTSON (medical officer of health, Edinburgh), who said that in Edinburgh this matter was now being undertaken enthusiastically. Before embarking on it from the public health standpoint, the method was tested out for two years in hospital. In that period the incidence of diphtheria in the hospital staff was reduced to vanishing point. Previously it had been usual for five or six nurses to be infected each year. The result of the trial was such that he did not hesitate to launch a scheme of immunization for the general population. An outbreak of diphtheria occurred at an Edinburgh high-grade elementary school, and the immunization scheme was explained to a meeting of parents and others when 500 were present, and questions were answered. A start was made, and no obstacle was offered by the local or the education authority.

It was essential that those engaged in the work should be skilled in the reading of the Schick test, as unskilled operators might place the reactions under the wrong categories. In Edinburgh the school teachers had always been most helpful in the matter, especially in preserving discipline. The proper time-spacing of the stages, the cleansing of the arms, and the keeping of the needles aseptic must all have careful attention. The degree to which parents consented to the application of the test to their children varied greatly with their intelligence and education. Among the fisher people 40 per cent. of the children presented themselves; in higher grade schools the proportion was 80 per cent. The response was better, however, when it was proved that the process was harmless. The poorer the environment, the greater was the exposure to the virus of diphtheria—that was to say, the well housed child did not run so great a risk as the child less fortunately circumstanced. In a hospital for sick children, out of 43 nurses, 25 were susceptible, and 5 out of 11 maids, nurses and maids alike being of the age-period 18 to 25. It was very important to give attention to children of pre-school age. This class was not easy to reach, because it meant the attendance of parents and guardians also. In Edinburgh, however, the response to the efforts to deal with

children of this age had been very encouraging. In these young children the Schick test could be omitted. The testing and immunization of children must be undertaken systematically and carefully. A positive Schick result might mean giving a fourth immunizing dose, but immunity might not reveal itself within the nine months, therefore parents were asked to allow a fourth dose where necessary. A very important statement he was able to make was that not one bad result had been observed among the children while they were receiving the immunizing doses, and no interruption of attendance at school need be apprehended.

The use of the Schick test was begun in various schools and institutions in January, 1924, and to the present date diphtheria prevention had been carried out in thirty-three schools and twelve institutions. The numbers were now over 10,000. The expenditure on the work during 1923-24 was £222, and during 1924-25 £442. Since this work was carried out the number of cases of diphtheria which had been notified to the Edinburgh authorities had been 23, extending over nearly four years. Of these 23 cases all but one had come under notice within the stipulated period of nine months, which was the time immunization required to be effective. Some of the cases had been difficult to recognize as diphtheria as usually seen. It was important to bear in mind that there could still be carriers of the disease among people who were naturally immune. At Edinburgh the health department had made headway and gained the confidence of the public, so that in these latter days of the work very little opposition was encountered. As a matter of fact, many of the expected difficulties were easy to surmount if the medical officer dealt with the matter in a resolute way.

Attempts were being made in Edinburgh to teach the people on health matters, and an intelligent interest was taken in the subject. Professional people were also taking advantage of immunization. In reply to the CHAIRMAN, who asked whether there had been cases in Edinburgh with any severe result later than the nine months after immunization was supposed to have been established, Dr. ROBERTSON said that only one case had occurred; this was after the expiration of two years, and was of very mild degree.

Dr. R. A. O'BRIEN said that the mixture ordinarily used for diphtheria immunization of humans was not so efficient as that used for animals; it was two or three editions old. He looked forward to a material shortening of the present troublesome procedure. He suggested a longer spacing and that the toxoid alone should be used. Toxoids could be made in the laboratory and gave a more rapid immunization than the ordinary toxin-antitoxin mixture. The great point was how to translate this process into human practice, and he envied the opportunities which were afforded north of the Tweed. He insisted that immunity was a relative term—that is to say, there were grades of immunity. All that could be expected was a reasonable immunity, one which sufficed to give reasonable protection, not an absolutely 100 per cent. protection. Occasionally people who had been immunized, and had a Schick-negative, turned up with a sore throat and bacilli present.

Dr. E. H. R. HARRIES spoke of the diphtheria immunization work being carried out in Birmingham. Diphtheria had now been practically eliminated from the nursing staffs of the Birmingham hospitals. His own experience of the Schick test dated from 1921. No person who gave a negative Schick reaction had, in his experience or knowledge, contracted clinical diphtheria. The practice was also carried out in children's and other residential institutions, and in these there had been great encouragement from the matrons and others responsible. In two or three institutions protection was also afforded against scarlet fever, though in regard to this the same security could not be felt as in the case of diphtheria. A third channel of activity was in regard to the child of pre-school age. As far as possible, re-Schicking was insisted on, but only about 50 per cent. came for this. Among 1,200 children to whom the process was applied there had been no complaint whatever of reaction.

Reviews.

THE HISTORY OF MEDICINE.

DR. C. GREENE CUMSTON, lecturer on the history of medical philosophy in the University of Geneva, and president of the last International Congress of the History of Medicine, who is well known for his interest in this subject, has now published *An Introduction to the History of Medicine from the Time of the Pharaohs to the End of the XVIIIth Century*,[1] which, though modestly described as "an introduction for the student of medicine to the history of his chosen profession," will be an invaluable source of reference to those who wisely remain students all their days. Beginning with the first dynasty of the Pharaohs, the ideas and the personalities of medicine are described in a manner which compels wonder for the amount of literary research, thought, and time which must have been devoted to its construction. Before tracing the events and characteristics of Egyptian medicine he supplies a brief introduction, and a chapter summarizing the evolution of medicine as described in full detail in the pages that follow. The introduction explains the value of a knowledge of medical history, and points out that neglect of this dutiful study exposes us to the danger of repeating the mistakes of our predecessors; the century-old dictum of Littré that there is nothing in the most advanced contemporary medicine the embryo of which cannot be found in the medicine of the past is endorsed. Although the Ebers papyrus contains little about anatomy, it appears that at a much earlier date—4000 B.C.—dissection was practised, and, indeed, that a treatise on anatomy was written by the second of the Egyptian kings, so that the fanatical horror of using the knife on the corpse had not then laid its veto on anatomical research. The influence of Hippocrates, who appears in a striking frontispiece, and the ideals and characteristics of Greek medicine are fully considered, and the school of Alexandria and the various sects which arose in medicine are passed in critical and philosophical review.

Of Galen Dr. Cumston remarks that he not only restored Hippocratic medicine but made it more attractive and systematic than before, though in this new dress it lost some of its original purity and force. After further description of the practice of medicine in Rome there is an interesting chapter on Islamic medicine; it is shown that far from being servile copyists of the Greeks, as some have thought, the Arabians not only contributed much to pharmacy and created it in a scientific sense, but were, as the comparatively modern investigations of Lucius Leclerc, G. Lebon, H. Renaud, E. G. Browne, and others have proved, independent and original clinical observers; Rhazes, the first describer of small-pox, measles, and scarlet fever, Avenzoar of pericarditis and gastric carcinoma, and Avicenna the neurologist, who seems to have recognized the difference between obstructive and what is now called haemolytic jaundice, were all hospital physicians. On the other hand, as religion prevented necropsies, anatomy and surgery made no real progress.

After accounts of the schools of Salerno and Montpellier, the sixteenth century, with its devastating epidemics, and the overthrow of the Galenic tradition, are discussed. The great events of the seventeenth and the eighteenth centuries and the medical doctrines of irritability, naturalism, organicism, and vitalism are treated in the historical and philosophical manner the author so pleasantly exercises. The concluding chapter surveys the evolution of therapeutics, and thus, like the opening chapter on the evolution of medicine, gathers the reins of the work together. Though mention is incidentally made of the nineteenth century, it does not remove the reader's regret that the author has not completed the task, considerable as it would be, of bringing his admirable summary down to the present time. Dr. Cumston defines the practice of medicine as

[1] *An Introduction to the History of Medicine from the Time of the Pharaohs to the End of the XVIIIth Century.* By Charles Greene Cumston, M.D. With an Essay on the Relation of History and Philosophy to Medicine by F. G. Crookshank, M.D., F.R.C.P. London: Kegan Paul, Trench, Trubner and Co., Ltd. 1926. (Med. 8vo, pp. xxxii + 390; 24 plates. 16s. net.)

empiricism tempered by science, and holds that it will improve if the passing enthusiasms are corrected by the philosophy and judgement which only a knowledge of the history of medicine can supply.

THE PSYCHO-PATHOLOGY OF TUBERCULOSIS.

THE study of the mental states which accompany various bodily diseases has not yet received the attention it merits. Even in such a widespread disease as tuberculosis, it is only such a dramatic mental manifestation as the "spes phthisica" that has forced itself into the clinical picture—the other mental phenomena receiving but scant notice. It is this deficiency in the study of this disease which Dr. MACLEOD MUNRO has set himself to remedy in his book on *The Psycho-pathology of Tuberculosis*.[2] The author numbers himself amongst those who consider that the psychical changes observed in tuberculous patients are not merely incidental, but constitute a well defined group which may be regarded as specifically characteristic of tuberculosis. This is not the generally accepted view, the majority of observers having been content to look on such psychical changes as reflections of individual temperamental changes, or, if extreme, as indications of some concomitant psychosis.

There are, of course, a host of possible fallacies to be disposed of before the conclusion is reached that the mental peculiarities are the result of the infection. The very fact that the disease is so widespread might, for example, account for the number of geniuses who have suffered from tuberculosis. There is also a psycho-pathology of invalidism in many cases of long drawn out illness. However that may be, there are sufficient mental peculiarities in this disease to merit a close examination of the problem; and Dr. Macleod Munro's contribution is, for this purpose, of special value. He discusses, in order, the "psycho-neuroses" of the various stages of the disease; phthisical insanity; the sexual factor in tuberculosis; the association of tuberculosis and genius—illustrating his argument with descriptions of the lives of Keats, R. L. Stevenson, and others. He has given us an interesting and thought-provoking little book, and one which should be of value to the general practitioner especially on account of the consideration given to the diagnosis of the early stages of the disease so often associated with neurasthenic symptoms, and for the interesting discussion of the value of psychotherapy in the treatment of some of its manifestations.

RECENT ADVANCES IN BIOCHEMISTRY.

MR. JOHN PRYDE, lecturer in physiological chemistry in the Welsh School of Medicine, is to be congratulated on his clear and well written work *Recent Advances in Biochemistry*,[3] which belongs to the successful "Recent Advances Series" and has been dovetailed in, so as to avoid overlapping, with Professor Lovatt Evans's book on the recent advances in physiology, which has already reached a second edition. The question of what to include and what to leave out has naturally exercised the author, but he has provided the reader with plenty of information, and, moreover, has supplied two chapters on the chemical basis of specific immunological reactions and on chemotherapy, which will specially appeal to the practising scientific medical man, but are not usually found in biochemical textbooks.

After dealing with protein catabolism and the amino-acids, colloids, and hydrogen ion concentration, he goes on, in the chapter on nucleo-proteins, to discuss the difficult problems connected with nucleic acid and the synthesis of purins. The biochemistry of carbohydrates and of fats is then taken up; for the latter the inclusive word "lipides," suggested by the International Congress of Applied Chemistry, is employed; numerous references to Professor J. B. Leathes's recent work on this subject are given. The part played by phosphorus and by sulphur in metabolism also receives attention.

The chapter on the vitamins A, B, C, D, and E (the anti-sterility vitamin), which it is anticipated will be shown not to exhaust the number that really exist, also describes the substances supposed to act in relation to the growth of simple organisms, such as bacteria and protozoa, in a manner somewhat similar to that of vitamin B in the case of animals higher in the scale. It appears, however, that such a substance, called "bios," when obtained from yeast, though it stimulates, is not essential for growth, and it is held that a distinction should be drawn between the hypothetical bodies of the "bios" class and vitamins which are absolutely necessary for the well-being of an organism. In the account of haemoglobin and the related natural pigments attention is drawn to the doubtful character of the evidence for the transformation *in vitro* of haemoglobin into bilirubin, and to the absence of satisfactory proof that the tissues of the body contain an enzyme capable of bringing about this change.

In the chapter on immunological reactions already mentioned it is pointed out that, while it must, in the absence of definite evidence to the contrary, be concluded that only protein bodies can act as antigens, it is possible that some toxic glucosides may be proved to have this property, and that the protein nature of the bacterial toxins, which are undoubtedly antigens, has not yet been established. A clear summary is given of knowledge about the carbohydrate obtained from the periphery of the pneumococcus, which is specific for the three fixed types, thus contrasting with the protein of the endoplasm of the pneumococcus, which is specific for the species but not for the type.

Finally, chemotherapy, which is so much more successful in protozoal than in bacterial infections, is discussed; the simple hypothesis of direct affinity between the drug and the parasite is no longer tenable on account of the complexity of the reactions; but, although Ehrlich's ideal of "therapia sterilans magna" has not been realized, the author is optimistic in regard to the results of further research in providing more potent antiseptics.

In conclusion, this compact work, which covers a wide field in an admirably balanced manner, should certainly be extremely popular with those members of the profession who wish to keep abreast of modern knowledge.

PHYSICAL THERAPY IN DISEASES OF THE EYE AND RESPIRATORY PASSAGES.

DR. HOLLENDER and Dr. COTTLE, both of Chicago, have presented in a volume[4] of moderate size, and irreproachable both in style and appearance, something more than an outline of what physical therapy (in which is included galvanism, the sinusoidal current, diathermy both surgical and other, radiant heat and light, ultra-violet light, and x rays) may be expected to accomplish at the present time in the practice of ophthalmology, otology, and laryngology. The book they have produced may be recommended because these methods, which have been much improved and developed in recent years, are in many quarters regarded at least with suspicion if not actually with hostility, and it is well to have an authoritative pronouncement from otologists who have clearly worked hard to reach definite conclusions respecting their value. The authors make no extravagant claims, are careful to state limitations, and have not allowed enthusiasm to degenerate into obsession. The first part of the book is devoted to a general description of these electro-physical agents and the apparatus employed. The second part deals with diseases of the eye. It appears that even cataract and glaucoma are to some extent amenable to these agents. The third part deals with the ear; and in this field a fair measure of success has been achieved. The fourth and fifth parts are concerned with the nose, throat, and mouth; diathermy occupies a prominent position here. Another part is devoted to border-line diseases such as asthma. The book should be particularly useful to the growing company of practitioners who specialize in these forms of treatment, and seems to fill a place hitherto vacant in current medical literature.

[2] *The Psycho-pathology of Tuberculosis.* By D. G. Macleod Munro, M.D., C.M., M.R.C.P.Ed. Oxford Medical Publications. London: Milford, Oxford University Press. 1926. (Cr 8vo, pp. viii + 92. 5s. net.)

[3] *Recent Advances in Biochemistry.* By John Pryde, B.Sc.St. And., M.Sc.Wales. London: J. and A. Churchill. 1926. (5¼ × 8¼, pp. viii + 348; 53 figures. 12s. net.)

[4] *Physical Therapy in Diseases of the Eye, Ear, Nose, and Throat.* By Abraham R. Hollender, M.D., and Maurice H. Cottle, M.D. London: J. and A. Churchill. 1926. (Demy 8vo, pp. xvii + 297; 81 figures. 21s. net.)

THE ESSENTIAL OILS.

IN the preface to his book on *The Essential Oils*[5] Mr. HORACE FINNEMORE says that he will welcome suggestions for its improvement. This is the proper spirit in which to enter on a task of such magnitude, and we hope that the implied anticipation that a second edition may presently be called for will be fulfilled. As the experience the author has had of the essential oils of economic importance is both extensive and peculiar, it might have been expected that he would devote his attention exclusively to the matters on which he writes with authority; he has not been content thus to restrict his work, but has collated all the information he could find in order to produce an encyclopaedic volume. That course was justified, for a book of the kind was needed. The number of essential oils demanding attention in such a volume is very large, and any possible method of grouping them according to their characters would leave a large number unclassified; he was therefore wise in deciding to arrange them according to their botanical sources. A great number of the essential oils are not known as official or commercial articles, and the record of their constituents and properties is in many cases no more than the notes of a single observer. Among the rarer oils there are thus a number concerning which independent verification is lacking, and the statements about them have very different values. These all properly find a place in the volume, but discrimination has been used to indicate by the use of heavier type the products which are well authenticated and those of special importance. The author has bestowed much attention on the chemical relationships of the constituent substances which confer on the oils their economic value, and has indicated the methods by which these substances may be transformed into other desired products. That branch of the subject, closely connected as it is with synthetic production, has engaged much attention in recent years, and is destined to have a great influence on the industry in the future. The book contains copious data descriptive of the characters of the oils, the tests by which they may be identified, and the means by which substitution or sophistication may be detected. It contains a great store of information, which has thus been made readily accessible and suited to meet practical requirements.

WHAT IS SCIENCE?

AMIEL in his *Journal Intime* refers to science as "a lucid madness occupied in tabulating its own necessary hallucinations." This may be pardoned, coming as it does from a dreamer such as was the Genevese professor of moral philosophy; but it is somewhat of a shock to find Dr. HANS MUCH of Hamburg, the author of a series of volumes on modern biology, denying the status of science to spheres of research on living matter. His eleventh volume[6] gives us this impression. Its ten chapters are based on lectures delivered during a lecturing tour to Budapest, Pecs, Agram, Barcelona, Madrid, and Davos. Dr. Much is manifestly a disciple of Descartes, for he applies Cartesian doubt to everything except mathematical truth, and, as mathematical laws cannot be established in living matter, the facts discoverable in biology are, he thinks, insufficient to constitute a science. For example, bacteriology, for him, is not even knowledge, for the culture of bacteria is only a technique which can be learnt by anyone in a short time. He does not, however, attack the scientific aspirations of medical investigations and research, but only the conclusions drawn from them, more especially the attempt to formulate universal laws from a study of biology and disease. The ideas of the author in this respect are illustrated by a quaint diagram showing the process by which medicine progresses from a collection of clinical experiences to knowledge; from knowledge to technical dexterity; from this to what he will not call a science but a semblance of science, and finally to art. Beyond this medicine cannot go, since a solid wall intervenes between it and mathematical truth. Much of this reasoning occurs in the first chapter on "medicine as art or science." Dr. Much says it is neither, but a little of both. Other chapters are on biology and medicine, lipoids, immunity, colds, *plus* and *minus* sickness, and on antibodies of lipoid antigen. Two of the chapters are in French, the others in unusually clear and crisp German. The volume is entertainingly written.

[5] *The Essential Oils.* By Horace Finnemore, B.Sc.Lond., F.I.C. London: E. Benn, Ltd. 1926. (Roy. 8vo, pp. xv + 880. 70s. net.)

[6] *Moderne Biologie. Heft II: Werk und Wirkung.* By Professor Dr. Hans Much. Leipzig: Curt Kabitzsch. 1926. (Cr. 8vo, pp. 227; 1 plate. M.7.20; bound, M.8.20.)

NOTES ON BOOKS.

A TEXTBOOK that would appear to meet the requirements of public health officials and students in India is the *Manual of Hygiene and Public Health*,[7] by JAHAR LAL DAS, the officiating director of public health in the province of Bihar and Orissa. It has been written from the standpoint of Indian life, and consequently enters more fully than other textbooks on the subject into those conditions of town and village sanitation that are typical of tropical and semi-tropical climates. At the same time, this aspect of hygiene is only incidentally introduced into the various chapters, which have much the same character as those of textbooks for European readers. Such subjects, for example, as vital statistics, air, water, habitations, food, infectious diseases, meteorology, disposal of refuse and sewage, and industrial and school hygiene, are dealt with in accord with the general principles of hygiene and sanitation; and it is only the last three chapters that are specially applicable to Indian conditions, as their subjects—village sanitation and mass education, sanitation of fairs and festivals, and camp sanitation—indicate. To these, too, must be added the six appendixes on the duties of medical officers of health in the author's province and in Bengal, and on the model regulations and orders regarding food and the duties of district health officers and sanitary inspectors in these provinces. All the subjects are well illustrated, but the printing and paper are not of a high-class order. Lieut.-Colonel W. C. Ross provides a short introduction; and the best we can say for this manual on hygiene is that it is an excellent example of the earnest instructional work on hygiene which is being carried out by Indian writers for Indians, and promises rapid progress in the prevention of disease and in the improvement of the conditions of life among the Indian peoples.

Professor V. H. MOTTRAM has written an excellent book on *The Functions of the Body*,[8] which is described as an outline of physiology. That is a very good term for his work. It is by no means a book of the sort we are accustomed to associate with the teaching of physiology in elementary schools, which seems to do little more than give a few simple facts about the body apparently unrelated to each other. This book is tersely written, graphic, and illuminating; it surveys the whole field so that any intelligent reader would read it with pleasure and understanding, and not with the thought that he was being "talked down to." The author says the idea of the book came to him after noting that the average medical student was aghast at the size and the apparent tracklessness of the country surveyed in the current textbooks of physiology. His intent has been to give a bird's-eye view of the boundaries and important features as a preliminary to a more detailed survey. He has certainly done what he set out to do, and done it excellently.

Dr. H. H. BASHFORD'S pleasant volume, *The Corner of Harley Street*, first appeared anonymously, if our memory serves us, about sixteen years ago; but although its authorship soon became an open secret his name had not been disclosed on the title-page until the recent publication of a twelfth impression.[9] The book, we may recall, is cast in letter form, and purports to be some familiar correspondence of Peter Harding, M.D., whose outlook on life and letters may have owed something to Stephen Paget and Conan Doyle. Its continued popularity is not difficult to understand. The letters reveal their supposed writer as a cultivated man of 50, happy in his work and his home and his friends, with a strong vein of sentiment and a shrewd eye for the simpler issues of conduct and character. Dr. Harding, in short, is a story-book version of the kind of doctor many of us can match in real life, whom everyone looks up to and leans upon and likes. Even in 1927 a little sententiousness is forgiven in such a thoroughly good fellow.

[7] *Manual of Hygiene and Public Health.* By Jahar Lal Das, D.P.H. With an introduction by Lieut.-Colonel W. C. Ross, M.B., Ch.B., D.P.H., I.M.S. Calcutta and London: Butterworth and Co. 1925. (Cr. 8vo, pp. xx + 634; 105 figures. 10s. 6d. net.)

[8] *The Functions of the Body: an Outline of Physiology.* By V. H. Mottram, M.A., Professor of Physiology in the University of London, etc. London: Nisbet and Co., Ltd. (Cr. 8vo, pp. xi + 260; 55 figures. 7s. 6d. net.)

[9] *The Corner of Harley Street.* By H. H. Bashford. Twelfth impression, reissued. London: Constable and Co., Ltd. 1927. (4½ × 7, pp. 271. 5s. net.)

In *Genius: Some Revaluations*[10] Dr. ARTHUR C. JACOBSON reviews in popular language the personal origins and characteristics of a number of well known persons of outstanding talent. He believes that the genius is a superman whose creative spirit resides, not in the primary self, but in a secondary personality which may be brought to the surface by drugs, drink, and disease. The author does not assert that geniuses are geniuses because they are insane, but argues that a genius is usually, if not always, of insane temperament, though his creative work reflects him at his best—that is, at his sanest. On the other hand, he considers that genius arises from abnormal, bad, and degenerate stocks, and is never found in the well bred, and, from a eugenic point of view, the best of the race. A number of eminent people, including Voltaire, Rousseau, Jane Austen, who, the author thinks, may have had tuberculosis, are mentioned to support the view that tuberculosis is "a quickener or inspirer of germinating or flowering faculties of extraordinary potentiality, which even without its influence would have marked their possessors as men of remarkable talent or moderated genius." The personal details about geniuses will interest many readers, but some may feel old-fashioned qualms about the good taste of a reference to a living man's relations.

[10] *Genius: Some Revaluations.* By Arthur C. Jacobson. New York: Greenberg. 1927. (5½ × 8½, pp. 160. 2.50 dollars.)

PREPARATIONS AND APPLIANCES.

Acetyl-arsan.

IN a note on the pentavalent organic arsenicals entitled "Acetyl-arsan in syphilis" (BRITISH MEDICAL JOURNAL, January 15th, p. 111) the name "acetyl-arsan" was used to include oxy-acetyl-amino-phenyl-arsinic acid and its compounds. The Laboratoire des Produits "Usines du Rhone" has pointed out to us that acetyl-arsan is a proprietary name applied to a particular compound of the acid mentioned above—namely, the oxy-acetyl-amino-phenyl-arsenate of diethylamine, which was discovered and is sold by their firm. We regret the error. In our note reference was made to certain work by Laurent, and this was carried out with acetyl-arsan, but the rest of the note deals with oxy-acetyl-amino-phenyl-arsinic acid.

Kurchi Bark in Amœbic Dysentery.

Kurchi bark extract contains as its chief active principle the alkaloid conessine. This alkaloid occurs in various plants which for centuries have been held in high repute in the East as cures for dysentery. The introduction of emetine in 1912 was a very great advance in the treatment of amœbic dysentery, but emetine does not always cure the disease, and in recent years search has proceeded for alternative remedies. Stovarsol has been used extensively with considerable success, but kurchi bark extract deserves careful trial because it has the advantages of low toxicity, of not producing ocular complications, and of cheapness. Messrs. Burroughs Wellcome and Co. have put on sale tabloids of kurchi bark extract, each containing 5 grains.

Apparatus for Ultra-violet Radiation Treatment.

The attention which is now paid to phototherapy is reflected in the number of commercial pamphlets and catalogues which continue to reach us advertising apparatus for treatment by means of ultra-violet radiations. The recent developments do not seem to have produced anything revolutionary, but only more simplicity and variety of equipment—that is to say, the improvements have not been in the lamps themselves, but in the lamp-holders and methods of projection. Increasing ease of manipulation, of course, not to speak of cheapness, opens the way to the use of phototherapy by those who do not understand the effects of light treatment, though it should be said that in the literature which has reached us there is nothing to suggest that the apparatus may be used otherwise than by medical men or by trained nurses under medical supervision. A portable carbon-arc lamp for use on any voltage from 100 to 260, alternating or direct current, is made by the Apex Sun-Ray, Ltd. (Balfour House, Finsbury Pavement, London, E.C.). It is obviously a great advantage to the practitioner to be able to give treatment in the patients' rooms, and the spectrum of the lamp is said to cover the whole of the near ultra-violet region and to extend a useful distance into the far region. The lamp is easy to manipulate, and the manufacturers estimate the running cost at sixpence an hour. The Medical Supply Association, Ltd. (167-185, Gray's Inn Road, London, W.C.), has introduced a new arc-lamp rectifier whereby it is possible to work either a tungsten arc or a mercury vapour lamp from the alternating current. This is designed to save the much greater expense of installing a motor transformer or of making some modification in the system. The purchaser of any type of lamp for use on an alternating current supply will, therefore, by means of this rectifier, have to pay only a relatively small sum more for his equipment than would be the case if he had a direct current supply. We have also received the latest catalogue from Kelvin Bottomley and Baird, Ltd., who have opened new London showrooms at Imperial House, Regent Street. The catalogue describes the "K.B.B." apparatus (already noticed in these columns) for ultra-violet treatment. The special feature is a range of "sun lamps" and mercury vapour lamps designed to meet various conditions of treatment; some of them are on a floor stand, and others suspended from the ceiling. On a previous occasion also we have noticed a pamphlet entitled *Artificial Sunlight*, prepared by Watson and Sons (Electro-Medical), Ltd. (Parker Street, Kingsway, London, W.C.3). The edition for 1927 has been enlarged, and includes particulars of a considerable number of models of open arc lamps, with tungsten or carbon electrodes, and of mercury vapour lamps, as also a general description of the nature and action of ultra-violet radiation and the possibilities of the different sources.

HYGIENE OF SWIMMING BATHS.

A COMMITTEE of the Section of Laryngology, Otology, and Rhinology of the American Medical Association presented at the close of last year a report on the oto-rhinologic hygiene of swimming.[1] The numerous cases of otitis media, and also of infections of the external ear and accessory sinuses of the nose, which occur every year from swimming and bathing, lend importance to the recommendations of this committee; they take the form of a standard set of rules for sanitation and a notice for exhibition in swimming baths.

RULES FOR SANITATION AND SAFETY OF SWIMMING POOLS.

1. All swimming pools are to be maintained with a practical minimum amount of contamination. There shall be not more than 1,000 colonies per cubic centimetre of standard agar medium after incubating for twenty-four hours at 37° F. The *B. coli* content shall be such that gas is produced in not more than one and a half of standard lactic broth cultures after incubation for twenty-four hours with 1 c.cm. of water.
2. Water in the pool shall at all times of use be sufficiently transparent, under existing lighting conditions, that when the water surface is not excessively agitated by bathers, a person can stand at the side of the pool and see the bottom distinctly where the depth of water is 6 ft. or less.
3. Facilities for adequate protection of the pool water against unnecessary sputum contamination by bathers shall be provided.
4. All persons known to be or suspected of being affected with infectious diseases shall be excluded from the pool.
5. Contamination of the pool resulting from lack of personal cleanliness of bathers shall be maintained at a minimum.
6. Construction and appliances shall be such as to reduce to a practical minimum the danger of drowning and of injury to bathers from falls or collisions.
7. Dressing rooms, hallways, toilet rooms, shower rooms, and other places to which patrons of a bath house have access shall be kept clean and well ventilated at all times.
8. Bathing suits and towels, when distributed to bathers by the pool management, shall be clean and free from excessive bacterial contamination.
9. The management of the pool shall have printed and posted in conspicuous places about the establishment notices briefly informing patrons of the requirements to which they are subject in the maintenance of a safe and sanitary pool. A form of notice is suggested to pool operators; it should be so placed that all bathers cannot fail to read it before entering the pool.

The approved form of notice to be exhibited in swimming baths (referred to in Rule 9 above) is as follows:

Form of Notice.

Warning: Persons with colds, head infections, "running nose or ears," catarrh, are warned that swimming, diving, etc., tend to force the infection into the sinuses or ears, and result in serious if not fatal complications.

1. All bathers shall use shower baths, including soap, if necessary, before entering the plunge. (The plunge is not intended as a bath tub.)
2. Bathers who have been outside the bath house or plunge enclosure shall not re-enter without passing through a foot-bath and using a shower.
3. Bathers shall be forbidden to wear private bathing suits that are not properly laundered; light coloured or undyed wool is suggested.
4. Women shall wear caps while in the plunge.
5. Persons not dressed for bathing shall not be allowed on walks surrounding plunge, and bathers shall not be allowed in places provided for spectators.
6. No person suffering from a fever, cold, cough, or inflamed eyes shall be allowed the use of the plunge. (These disorders may be transmitted to others.)
7. No person with sores or other evidence of skin disease, or who is wearing a bandage of any kind, shall be allowed the use of the plunge. (A bandage may conceal a source of infection.)
8. Spitting in, or in any other way contaminating, the plunge, and spitting on floors, runway, aisles, or dressing rooms shall be prohibited.
9. Public combs or brushes shall not be furnished, and such articles left by bathers shall be permanently removed.
10. Eating within the plunge enclosure shall be prohibited.
11. Bringing or throwing into the plunge any objects that may in any way carry contamination, endanger safety of bathers, or produce unsightliness shall be prohibited.

[1] *Journ. Amer. Med. Assoc.*, December 11th, 1926.

SPAHLINGER TREATMENT.

REPORT FROM NEW SOUTH WALES.

THE Premier of New South Wales last November laid on the table of the Legislative Assembly a report on M. Spahlinger's treatment of tuberculosis by Dr. McIntyre Sinclair, who in August, 1925, visited Geneva and spent several weeks there inspecting the laboratory at Carouge and examining patients under treatment or previously treated. The cases selected were of severe type or had failed to respond to other methods.

As Dr. Sinclair was formerly Medical Superintendent of the Queen Victoria Homes for Consumption, New South Wales, he was in a good position to judge the clinical results; he examined over thirty cases of more or less advanced type. In forming his opinion he was able to study the histories, along with temperature charts, and skiagrams when available. He discussed the serum therapeutics of tuberculosis with members of the Pasteur Institute, Paris, with Dr. S. R. Douglas of the National Medical Research Institute, Hampstead, with Mr. Alexander Fleming of the vaccine laboratories, St. Mary's Hospital, London, and with Professor Carl Browning of Glasgow. *He seems, therefore, fully justified in claiming that he* was careful to ascertain the clinical facts, and to obtain opinions on the theoretical considerations that arise.

Dr. Sinclair's report falls into two parts: the first deals with the therapeutic value of M. Spahlinger's vaccine and serums, the second with the policy to be followed in making an independent test of their practical value.

Vaccine and Serums.

On the vaccine Dr. Sinclair makes the following observations:

> The "vaccine" remedy is applied to exploit the active immunity responses of the human organism, while the "serum" is used as a passive immunization agent on similar principles to the well known diphtheria antitoxin. Spahlinger uses his "vaccine" in apyrexial or slightly pyrexial cases, and also in cases which have already been improved by the "serum," but in which he desires to confer a more lasting immunity. I examined several cases treated or under treatment with Spahlinger's "vaccine," and soon came to the conclusion that its effects, clinically and otherwise, are practically identical with those produced by the tuberculin "bacillen emulsion" of Koch, a remedy with which some of us in New South Wales are quite familiar, and which I have been using in my own practice for at least twenty years. Spahlinger's "vaccine" is, without doubt, a valuable remedy, but it does not, in my opinion, teach us anything we did not know before.

Of the serum Dr. Sinclair writes:

> [it] certainly makes a new claim on medical science, inasmuch as the production of an "antitoxic serum" for tuberculosis (on similar lines to the antidiphtheritic serum for diphtheria) has, up till now, baffled the ingenuity of all scientific workers on the subject. In the production of an antitoxic serum, Spahlinger, in my opinion, has succeeded where others have failed. It is true that the serum has its proportion of failures, that its administration is in many cases not unattended by discomfort and even occasional danger; but taken all over it appears to have many remarkable successes in cases of tuberculosis, and even in cases where every other known method of treatment has failed. In my opinion it marks a distinct step forward in the treatment of the disease.

On this head his conclusion is that

> "Spahlinger has discovered a remedy of considerable value, and that every reasonable endeavour should be made to obtain the serum for use in certain types of tubercular disease. It appears to me to be of particular value in tuberculosis of the acute toxaemic type, in cases with continuous high temperatures which have failed to respond to open-air or other methods of treatment, and in cases of pulmonary tuberculosis with gastro-intestinal complications. I saw cases of those types which had apparently made good recoveries—cases which from their histories would probably have died but for the use of the serum."

The Need for Extended Test: Personal Difficulties.

Holding these views, Dr. Sinclair is of opinion that a case had been made out for an independent test on a large scale, and advises his Government to co-operate with the British Government in making a grant to M. Spahlinger to defray the cost of making the material. He is, however, like others before him, baffled by the attitude M. Spahlinger has assumed during the various negotiations between him, the Ministry of Health, the British Red Cross Society, and others.

In the first place, Dr. Sinclair notes that the remedy is secret, and observes that the "continued preservation of a secret remedy likely to be of use to suffering humanity is totally contrary to the ethical code of the medical profession. Such a secret remedy is always looked upon with suspicion, and history proves that this view is generally correct." In this connexion Dr. Sinclair mentions an incident which is perhaps not generally known—namely, that Professor Calmette of the Pasteur Institute, Paris, in September, 1925, had made a personal offer to M. Spahlinger "to test out his serum for its antitoxic value, and that Spahlinger had declined to avail himself of the offer." Dr. Sinclair notes that

> "It is true that if Spahlinger's serum is really all that is claimed for it, then it rather upsets Calmette's teaching on the subject of antitubercle sera. Spahlinger apparently distrusts Calmette. But there are surely other leading bacteriologists who could serve equally well. *The refusal to submit his serum to independent* scientific tests is one for which Spahlinger is himself responsible, and if the refusal leads to suspicion and scepticism, it seems to me it is not difficult to allocate the blame."

While in Switzerland Dr. Sinclair received a telegram stating that the Government of New South Wales contemplated sending a bacteriologist and four patients to Geneva if M. Spahlinger would consent to treat them. This request M. Spahlinger refused, and in an interview with Dr. Sinclair mentioned shortage of serum and financial difficulties. In order to bring the matter to an issue Dr. Sinclair asked M. Spahlinger to suggest a sum which might be offered to him in order that he might treat these cases, but he declined to do so. Subsequently the Agents-General for New South Wales negotiated with M. Spahlinger, but no further progress could be made. M. Spahlinger informed Dr. Sinclair that he would never exploit his remedies and did not wish to make any money out of his discoveries. While admiring this altruistic spirit Dr. Sinclair suggests that all M. Spahlinger has to do is to publish his formula to the scientific world, or to permit the preparation of the remedies under Government supervision, comparable with the method followed in the case of insulin. Failing this Dr. Sinclair thinks it would be better to have the remedies distributed by a reputable commercial house than not at all. One firm of world-wide commercial chemists did, Dr. Sinclair adds, make M. Spahlinger an offer which would have made him rich. The proposed agreement was on business lines, and M. Spahlinger would have had to show the firm's scientific experts how to produce the serum so that they could commercially meet the demand. M. Spahlinger declined this offer, and Dr. Sinclair adds:

> "So far as I could ascertain from M. Spahlinger and his friends, he is willing to accept a large sum of money to free him from his liabilities, and you then trust him to deliver the goods. I think that is putting it fairly in plain English. I cannot be expected to recommend this course to any responsible Government. To use Sir Neville Howse's expressive words, it would be 'buying a pig in a poke.' Although Sir Neville Howse and I hold opposite views on the value of the serum, we are agreed on that point."

The report notes that the British Government's offer still stands good, to test out the serum under its auspices in London provided M. Spahlinger will submit the remedy for an extensive trial. As will be seen from Mr. Neville Chamberlain's reply in the House of Commons published last week (p. 359), this offer is still open.

Dr. Sinclair thinks that if M. Spahlinger cannot produce the material necessary owing to shortage of funds it would be fair to go a step further and give him the financial assistance necessary to produce the required quantity of serum. How much money would be necessary for this purpose it would be for M. Spahlinger to indicate, and Dr. Sinclair concludes by advising his Government to offer the British Government a proportion of the grant for the purpose.

MENTAL DISORDER IN RELATION TO EUGENICS.

GALTON LECTURE BY DR. A. F. TREDGOLD.

AT the annual dinner of the Eugenics Education Society, commemorating the birthday of Sir Francis Galton, on February 16th, the Galton lecture was delivered by Dr. A. F. TREDGOLD, whose subject was "Mental disorder in relation to eugenics."

Dr. Tredgold said that the evolutionary change which had taken place in man since his emergence from the anthropoid apes had been mainly in the sphere of mind, and if he was to undergo any further evolution—which was certainly possible—there could be little doubt that it would be in the same direction. Progressive evolution, however, was dependent upon vitality and mental capacity, hence the importance of mental disease from the aspect of eugenics. A distinction should be made between mental disease and eccentricity. Many persons were to be found whose mode of thought and behaviour differed very much from that of the majority. These persons were regarded as eccentric, but this did not mean that they were inefficient or were lacking in adaptation; on the contrary, they were often pioneers of thought and most valuable members of the community. Mental disease might be said to take one of three forms: defect, disorder, and decay—all of them due to the failure of the organism to adapt itself to its environment. With certain exceptions, all these three forms were but different manifestations of one and the same underlying cause. The great majority were the result of inheritance. In insanity and mental breakdown undoubtedly environmental factors played a great part, but even here it was generally accepted that the main cause was constitutional rather than environmental. In shell-shock cases, for instance, the real cause of breakdown was mental stress, and in most of the sufferers a definite predisposition to this breakdown was present. Some of them were never near the firing line, nor had they seen or heard an exploding shell.

The inheritance, however, was not of the disease itself, but of the neuropathic diathesis, which diathesis was due to an impairment, or devitalization, of the germ cell. This impairment varied in degree in different cells, and as it was influenced by the condition of the second or combining cell, as well as by the environment, the results upon the offspring differed very greatly. Dr. Tredgold stressed this point that there was no inheritance of mental defect or insanity as such, or of any quality as it existed in the individual. While every organ and tissue of the body was represented in the germ plasm from which it was derived, such representation was not in the form of organ or tissue, but of determinants or directive forces. What was inherited was a tendency for development to proceed in certain particular directions and up to a certain limit. The result of such inheritance was, in some cases, mental deficiency, in others various forms of insanity or dementia, and in yet others the individual might go through life apparently normal, though still a "carrier" of the impairment, which might reveal itself in mental disease in a subsequent generation. During the past ten or twelve years a good many attempts had been made to show that mental disease or defect was a Mendelian unit, transmitted in accordance with Mendelian laws, but these attempts had failed. What seemed to be clear was that if with the impaired cell there was combined a cell similarly impaired then the developmental potentiality of the embryo was still further reduced, but that if the combining cell was healthy such reduction would be less marked, and the individual might show a normal mentality, though he or she was always liable to mental breakdown when exposed to physical or mental stresses, or even to changes incident to any of the physiological periods of life, such as the climacteric, and in many cases such breakdown was the beginning of a steadily progressive dementia. On the other hand, given the healthy combining cell together with favourable surroundings, particularly in early life, and the impairment might be neutralized and even bred out. Mental disease in the community was kept alive by "carriers"—that is to say, people who might themselves appear to be normal, inasmuch as the disordered tendency was very slight, and they had not been exposed to any conditions which would precipitate a breakdown. But the tendency was there, and under certain conditions their offspring might again have the taint.

In assessing the ravages of mental disease, the lecturer found himself quite unable to place on the asset side the contributions of genius. He found no evidence of close association between genius and insanity. No doubt some men of genius had been of poor physical constitution and prone to ill health, and others had been eccentric and possessed a delicately balanced brain. But he had searched in vain for any close correlation between the two things, and the great majority of men of genius struck him as having been remarkably sane. On the other hand, there was abundant evidence that mental disease was closely associated with social inefficiency and retrogression. The statistics furnished to the Royal Commission of 1904 showed that in every 1,000 of the population there were four mental defectives and nearly as many insane. This corresponded at the present time to a total of 174,000 defectives and 134,000 lunatics, and no doubt these figures underestimated the real incidence. Probably over 1 per cent., perhaps nearer 2 per cent., of the population were in some way affected. In addition to these, an even larger number of persons, while not certifiable, suffered from such disabling conditions as neurasthenia, hysteria, epilepsy, and borderland states. According to a recent report of the Board of Education there were no fewer than 600,000 mentally backward children in the country. Serious as was the damage done by mental disease to the present generation, it was probable that that inflicted upon the race was even greater, for, by the mating of affected persons or of carriers with the healthy, the impairment was greatly disseminated. If the mating of neuropaths could be rigidly restricted to those similarly affected, the disease would work out its own elimination in eventual sterility. This factor had probably been at work in the reduction of the incidence of other diseases; the decline in tuberculosis, for example, might be due to the gradual eradication of the susceptible rather than to preventive medicine. The statement had been made that no families were free from the neuropathic taint, but with this he did not agree, and he considered that the danger to the race lay in the contamination of sound and healthy stocks by those predisposed to the disease.

There could be no question, Dr. Tredgold said, that one thing urgently needed was the prevention of propagation of those persons who suffered from diseases which were due to inheritance. As for the merits of sterilization and segregation, after consideration of all the problems involved, he had come to the conclusion that the advantages of segregation outweighed those of sterilization, but even were it possible to prevent, by one or other of these methods, propagation by every person now suffering from insanity or mental defect, there would still be a long way to go before mental disease could be eradicated. The mating of carriers with the healthy was the greatest danger to the race. Every change in social conditions and every advance in evolution brought in its train certain inimical agencies which impaired the germ cells of those individuals who were unfit to continue the march. The great need was to prevent such persons contaminating the healthy stocks, and there was real danger of the dragging of sound stocks into the vortex of disease. His own feeling was that there was only one way in which it could be hoped to stem degeneracy and assist racial progress, and that was by an intensive educational campaign for the development throughout the nation of the eugenic ideal—an ideal which should not merely be given intellectual adherence, but should have the quality of a sentiment and emotion, like the religious and aesthetic sentiments which had been so widely diffused and had achieved so much.

The vote of thanks to the lecturer was proposed and seconded respectively by Professor E. W. MACBRIDE and Sir FREDERICK WILLIS; Major LEONARD DARWIN, who presided, added a few words, in which he advocated the Mendelian theory of heredity, which he thought offered the only rational explanation of many of the facts.

MEDICAL RESEARCH COUNCIL.

ANNUAL REPORT.

I.

THE annual report of the Medical Research Council for the year 1925-26 is arranged on what we may now call its usual plan, which from the experience of past years is already familiar to our readers. Itself a summary of many and diverse investigations it is a difficult document to analyse, and we must content ourselves with giving a brief outline of some of the work in its various sections.

Although outside the work of the Council itself, attention may be drawn to a passage in the report of the Committee of the Privy Council for Medical Research, wherein Lord Balfour speaks with confidence and hope of the way in which the new Committee of Civil Research has already, in its early beginnings, co-operated with the Medical Research Council in the work of bringing science into its fullest application to the practical problems of administration and human need; and also to the fact that at the recent Imperial Conference it was for the first time decided that among the primary subjects for discussion should be the problem of organization of research work and the better application of its results to the full development of the natural resources in different parts of the Empire. Representatives of the Medical Research Council took part in these discussions as members of the Special Research Subcommittee.

ACADEMIC RESEARCH AND PRACTICAL APPLICATIONS.

In the introduction to the report the Council explains the principles that guide it, and lays stress on the need for allowing complete freedom to individual workers to advance along whatever lines seem most advantageous to them in the pursuit of their object; and it points out how frequently the key to any particular problem is obtained in most unexpected quarters, and how often what would appear to be an observation of purely academic interest may prove of immense value to practical medical science. As illustrations of this the stories of a few investigations are related in fuller detail than is possible in the general body of the report. Histamine, isolated by Dr. Dale with Dr. Barger and Dr. Laidlaw from ergot, and shown by them to exist in the wall of the human intestine, was at first thought something of a curiosity. During the war, in the investigations into the phenomena of fatal shock following on extensive wounds it was apparent that the symptoms were exactly comparable to those produced by histamine, and Dr. Dale and Dr. Laidlaw, pursuing their investigations, were led to what are now classical observations upon the capillary circulation, and the new knowledge thus gained helped greatly towards the practical methods of prevention that were eventually developed. Further study now suggests that the phenomena observed in shock are merely the exaggeration of the normal physiological mechanism for the control of the capillary circulation, and much evidence in this direction is coming from the studies of Sir Thomas Lewis and his colleagues upon the circulation of the skin, some of which are briefly reviewed in this report.

The part played by the chemical study of the sterols in the elucidation of the nature of the action of the vitamins is another of the illustrations chosen. Recently it has been shown that the vitamin in which cod-liver oil is peculiarly rich, and which is of such value in the treatment of rickets, is formed when cholesterol and other sterols are exposed to rays of ultra-violet light, and it now appears that in reality the true parent of the vitamin is not actually cholesterol but some closely related substance inseparable by ordinary methods of purification. Here the knowledge of the structure of the sterol group acquired by purely academic chemical studies promises again to solve our problem; Professor Windhaus of Göttingen, with his unrivalled knowledge of this aspect of the subject, has co-operated most generously with Dr. Rosenheim and Mr. Webster of the National Institute, as also has Professor Heilbron of Liverpool, whose own independent research on the subject was noted in our columns a fortnight ago (p. 296). With this happy co-operation of academic study and clinical observation the authors of the report are able to express the hope that it may soon be possible to express in the terms of exact science the relation between the effects of natural foods and substances like cod-liver oil, and of exposure to clear sunlight in clean air in producing healthy development of the body with straight limbs and sound teeth.

Other examples are found in the work on insulin, diet in relation to the formation of teeth and the prevention of decay, and studies of filter-passing viruses; these will be referred to briefly in their sections.

PROBLEMS OF CHILD LIFE.

Dr. F. J. Browne has continued his investigations on neo-natal deaths, and has shown that infection may occur from the inhalation of liquor amnii and its contents; he has also found evidence that brings the accidental haemorrhages into the category of the toxaemias of pregnancy. A combined clinical and chemical study of a series of cases of albuminuria, toxaemia, and eclampsia with a control series of normal pregnancies has been undertaken by Dr. Cruikshank and his colleagues in Glasgow. Mrs. M. Forest-Smith's report on the incidence and causation of rheumatism in children, which includes the results obtained at St. Thomas's Hospital, Great Ormond Street, and Glasgow, and to which reference has been made in the previous report, has been concluded, and is now in the press. Dr. Lucy Wills and Dr. D. Paterson have continued their work on gastric acidity and calcium absorption; a detailed study of the gastric secretion, including chloride estimations, has been conducted. Similar investigations have been made by Dr. L. Parsons confirming his previous conclusion that in general there is no defect of absorption in infantile atrophy.

HUMAN NUTRITION.

At the Lister Institute Dr. S. S. Zilva has continued his chemical study of vitamin C, particularly with regard to the relationship between the antiscorbutic activity and the reducing substances present. Miss M. Soames and Miss Leigh-Clare have estimated the relative potency of different Norwegian cod-liver oils in vitamin A content; parallel experiments were made to determine their vitamin D content. The vitamin A and D potencies were not parallel, although in general for both vitamins the order of merit of the oils was the same. Professor Drummond and his colleagues at University College have continued their investigations on the nature of the vitamin in cod-liver oil with the object of preparing on a large scale the unsaponifiable fraction; valuable help has been given here by Mr. F. H. Carr of British Drug Houses, Ltd., who has provided suitable plant. Reasonably large yields have already been obtained. With Mr. H. J. Channon, Professor Drummond has also studied some of the substances that accompany the vitamin in the unsaponifiable fraction of some fish-liver oils; it has been shown that squalene may constitute 80 per cent. of the total fat in some fish livers, and that it is absorbed by the mammalian intestine; Professor Heilbron's work has shown that on the chemical side squalene may be regarded as a precursor of cholesterol, and Mr. Channon, who has already proved that the animal organism can synthesize cholesterol from an unknown precursor, has now found an increase in the cholesterol of the livers of rats fed on squalene. Professor Drummond's work on the mode of action of vitamin B suggests that there is an essential relationship between the results of vitamin B deficiency and those of starvation, and that vitamin B acts mainly as an essential stimulator of appetite and food consumption. Miss Reader, in the same laboratory, has shown that whereas young animals often fail to grow if the diet consists too largely of protein, normal growth may be obtained if the vitamin B in the diet be increased in proportion to the increase in the protein. These studies have also shown that the excretion of large quantities of nitrogenous end-products has no harmful effect on the kidneys

provided that there is no deficiency of vitamin B; extensive damage to these organs, however, may occur, whatever the composition of the diet, if there is a deficiency of vitamin B.

DENTAL DISEASE.

Special attention is drawn by the Council this year to the results of Mrs. Mellanby's work on the relationship of vitamin D deficiency and the formation of teeth and the prevention of decay. Mrs. Mellanby long ago ascertained that deficiency of vitamin D in an otherwise complete diet during the period of dentition leads to imperfect development of the jaws and teeth in animals, showing itself in an absence or imperfection of the enamel and a corresponding defect in the secondary dentine. To the obvious suggestion that such teeth might be expected to be affected more easily by caries, it was at once objected that caries appears quite commonly in teeth with good enamel; but Mrs. Mellanby, by the microscopical examination of 1,000 teeth, has shown that naked-eye examination is insufficient to reveal defect in the finer structure of the enamel, and records that although only 3 per cent. of these teeth would have been condemned by ordinary standards as malformed, no less than 80 per cent. were structurally imperfect. Of the badly formed teeth, 95 per cent. showed evidence of decay, whilst of the sound teeth only 23 per cent. showed decay. With Dr. C. L. Pattison Mrs. Mellanby has also studied the dietetic control of dental caries; in a series of 75 children it was found that with a diet rich in vitamin D and with relatively little oatmeal, the average number of teeth showing an extension of caries was 1.77; when the diet contained less vitamin and more cereal the number was 5.78. These results with others already obtained show clearly that the dietetic conditions which produce good or badly formed teeth in dogs similarly influence the resistance to caries in fully erupted teeth of children.

DISORDERS OF THE CARDIO-VASCULAR SYSTEM.

Sir Thomas Lewis has continued his studies of the physiology and pathology of the cutaneous blood vessels. The regulation of the blood flow in the capillaries is found to be effected in part by the products of local change, an excessive supply of blood due to the opening of the small arteries being balanced by a diminution in the minute capillaries as these products are diluted and removed. Freezing damages the cells proper to the skin, liberating chemical substances to act on the vessel walls. Cold slows the skin blood flow, but also lessens the local oxygen exchange and the skin remains red. The redness due to warmth is not a direct temperature effect, but is due to an excess of chemical products in the tissue spaces producing dilatation of the capillary vessels. It is suggested that frostbite and burns in their early stages should be treated by temporary obstruction of the circulation, since a free circulation of fluid aggravates the original damage.

Dr. Drury and his colleagues have gone on with their work on conduction in the auricle of the heart, and have devised special methods giving a much more accurate estimate of the changes that occur in the electrical charge upon the muscle fibre when it passes into activity than has previously been possible; and they consider that the method of measuring the rate of conduction used by Burdon-Sanderson and Page should be abandoned. Their work also shows that much previous work on the refractory period in heart muscle needs careful revision. The effects of ouabain in auricular fibrillation have also been studied.

Dr. J. C. Bramwell and Dr. Sylvia Hickson have investigated the mode of production of "Korotkow sounds"; some of these appear to be true records of the movements of the arterial wall, others are due to the resonance of the air in the recording system.

At the National Institute for Medical Research Dr. Best and Dr. Dale, examining a liver extract advocated for the reduction of excessive blood pressure in man, found present in it two vaso-dilator principles resembling choline and histamine in their mode of action. Dr. Dudley and Mr. Thorpe succeeded in isolating these two active principles from the liver substance, with the result that they were actually shown to be choline and histamine. It was then ascertained that extracts from lung were also particularly rich in substances having an action of the histamine type. It is already clear that a widely spread vaso-dilator substance, known to be yielded by almost all the tissues of the body, will probably prove to be actually histamine itself.

MENTAL DISORDERS.

Miss L. P. Fildes, working at Cambridge, has completed her inquiry into the possible value of tests involving moral judgement in the diagnosis of moral defect; her conclusion is that tests of this kind are of little or no value.

Dr. F. E. Reynolds has collaborated with Dr. A. Logan Turner in Edinburgh in an investigation into the paths of infection of the brain, meninges, and venous sinuses from local foci of infection, and finds that in three specially studied cases infection spread by the venous blood stream in two when the face and the sphenoidal and ethmoidal air sinuses were the primary focus; in the third the infection spread from the nasal cavity by way of the olfactory perineural lymph sheaths.

GLANDS OF INTERNAL SECRETION.

Dr. Gardiner-Hill, Dr. Forest-Smith and Dr. Jones, at St. Thomas's Hospital, have established the fact that pituitary extract taken by the mouth has a definite effect, the influence being particularly noticeable on carbohydrate metabolism. Their observations have been directed chiefly towards a more efficient treatment of obscure endocrine disorders, and some very encouraging results have been obtained.

Mr. C. W. Bellerby, with Dr. A. S. Parker, at University College, has studied the internal secretion of the ovary; they find that the oestrus-producing hormone can be extracted from the stroma as well as from the ovarian follicle. Injection of the extract in the early stages of pregnancy invariably causes oestrus and terminates the pregnancy.

Professor Korenchevsky, at the Lister Institute, has continued his work on the sexual glands. Protein and lipoid extracts of testes and prostates have been prepared; some of the protein fractions were found to increase nitrogenous metabolism by one-third; no fraction exerted any influence on the growth of normal sexual organs or on the regeneration of atrophied sexual organs in the rat.

DIABETES AND INSULIN.

Dr. C. H. Best of Toronto and Dr. J. P. Hoet of Louvain, working as guests at the National Institute for Medical Research, have renewed the investigation of the fate of glucose which disappears from the circulation under the action of insulin. Work by Dr. Best on artificially perfused limbs showed that the muscles were the chief site of the disappearance; further combined investigations indicated that the phosphates left the blood concurrently with the disappearance of glucose from the blood, and that this was not accompanied by storage of phosphoric esters in the muscles when a large amount of the missing glucose was found in the form of glycogen. Later studies showed that under all conditions of glucose supply in relation to the dose of insulin the sum of the glucose accounted for as burnt, together with that found stored in the muscles as glycogen, was regularly equal to the total quantity of glucose disappearing from the system. They suggest that insulin not only promotes the storage of glucose as glycogen, but also restrains the new formation of carbohydrate in the liver; the action of insulin in excessive doses would thus be merely an exaggeration of that which it exerts in physiological and therapeutic amounts. Arising out of this work on insulin, certain phenomena were observed with an important bearing on the nature of rigor mortis, and, by implication, on the chemical changes which result in muscular contraction. In animals dying from an overdose of insulin there is practically complete exhaustion of muscle glycogen, and these glycogen-free muscles enter into rigor with their reaction still alkaline. The evidence suggests that the disappearance and re-formation of lactacidogen are as important factors in contraction and relaxation as are the appearance and removal of lactic acid.

(To be continued.)

British Medical Journal.

SATURDAY, FEBRUARY 26TH, 1927.

PUZZLES OF LIFE ASSURANCE EXAMINATION.

THE address by Professor Lovell Gulland which appears in our columns this week (p. 363) deals with three of the great puzzles of life assurance examination—high blood pressure, albuminuria, and glycosuria. It speaks with the voice of experience, and will repay the close attention of those who are interested in this bypath of medical practice. Of the three faults, high blood pressure is comparatively a newcomer to the list of insurance riddles, and a very awkward customer it is proving to be. The two others have been offering themselves for solution in different guises for years, but still remain capable of flooring the best of us upon occasion. If to these three we add phthisis and syphilis we shall have completed the tally of the standard difficulties encountered in this branch of our art. There are plenty of posers set to the examiner for life assurance which fall outside these boundaries, but no others occur to us which present themselves at once so often and so abundantly provided with imponderables.

Of all these five, save one, it may be said that we have come to treat them with growing leniency as we have learnt to grade their degrees and varieties. The one exception is high blood pressure. Here, it must be confessed, time and experience have but served to accent the significance of the finding. High blood pressure may, indeed, be but a passing event, the expression perhaps of a vasomotor storm due to worry or overwork, or even the panic fear of a medical examination; or perhaps it is the signal of some fault of chemistry born of too much food or too much drink, or some other manageable external agency. But it is certain that the more a man's regular established blood pressure exceeds the modest scale allotted to youth, the less, proportionately, is his prospect of long living.

What is a high blood pressure? The question is easier asked than answered, but informed opinion will not quarrel with Professor Gulland when he says that "the normal limit ranges between 110 and 150, with the proviso that, other things being equal, young people tend to have a pressure nearer the lower figure, old people nearer the higher." There is, however, a wide range of pressures which all would agree in calling high without being able to agree upon the assessment of their significance. This disability is inherent in the quality of the problem. High blood pressure is either a cause or a consequence of arteriosclerosis—that is to say, it is attended by very widely spread lesions of the vascular system. The extent of the threat to life in any given case will be settled to a large extent by the precise points of impact of these lesions—that is, by their geographical caprice. And so it comes that one man will live for years on good terms with his blood pressure, although it is of a height which seems capable of putting another into immediate jeopardy of his life; the distinction between them, could we but see it, being perhaps no more than this, that the atheroma which is common to them both occurs harmlessly along the highway of the aorta of the first, while in the second it has barred the coronary artery. Such are the abiding uncertainties of high blood pressure.

Albuminuria is being treated by insurance medical examiners with increasing leniency. This does not imply any random disregard of a finding which may be ominous, but rather that the presumption, as regards proposers for life assurance, is in favour of their being healthy in the mass. Accordingly albuminuria in the apparently healthy, provided they wear none of the livery of chronic renal disease such as an enlarged heart, is regarded with a good deal of composure. Especially is this the case in youth; for after middle age the presumption begins to be against the good health of a kidney which secretes an albuminous urine, and the burden of proof that this departure is of no importance rests now upon the owner of it. It is here that, according to some, the modern tests of renal function may be invoked to save the situation and permit justice to be done. Others, like Professor Gulland, are unconvinced. "I am not greatly impressed," says he, "by the value of any of these tests of renal efficiency. They generally merely confirm by an arithmetical figure the fact that kidneys are not efficient when we know already for other reasons that this is the case. Sometimes they actually tend to lead us astray." So the matter stands at present — *sub judice* for the judicially minded, *judicata* for those who incline by nature to short cuts and novelties, about whom we shall have something to say presently.

Glycosuria, like albuminuria, has established its claim for more lenient treatment than was accorded to it twenty years ago, not so much perhaps because diabetes is less fatal as that we are better able to say what glycosurias are diabetic. Certainly we are in debt to those whose analyses of sugar tolerance and blood sugar have put us in the way of classifying this motley company; but whether all is now as plain sailing as some pilots would have us believe is a question that still waits upon the future. Professor Gulland is again among the doubters. "We are told," he says, "by some of the metabolic experts that renal glycosuria [that is, the glycosuria of those whose blood sugar never exceeds the normal range] is of no importance, and that these cases ought to be taken at ordinary rates. I always put on an extra, and shall continue to do so. One reason for this is that I have seen cases of renal glycosuria pass into true diabetes. Another is that the differentiation of these cases is so recent an affair that the life-histories of very few cases have been completely studied, and we really do not know what becomes of them in the long run."

These reactionary—or should we say subversive?—sentiments lead us to recur, for a moment in conclusion, to the saying of Hughlings Jackson quoted with veiled approval by Dr. Kinnier Wilson in a recent issue (p. 224), to the effect that it takes twenty-five years for new conceptions of disease to penetrate the mind of the medical profession. Hasty generalizations such as those to which Professor Gulland takes exception are the laggard's warrant for hurrying slowly. Whether in medicine, or fashions, or politics, we seem fated to move in jerks and exaggerations, like the departing traveller in a tube-railway carriage. He goes too fast and too far, and checks and staggers and plunges, yet makes the doorway at last. And so it is with new methods and ideas. The claims that are made for them may be too large, or made too early, and yet the advance may be real enough. It

behoves us, then, to be patient, and to cherish a subdued hopefulness of these new things; and if, as we do not expect, it should in time appear that renal glycosuria is after all none other than our old acquaintance diabetes, in a beard, so to speak—why, it is the penalty of growing older in medicine that we are often in black for lost illusions, so our wardrobes will be equal to the occasion.

THE EXPERIMENTAL METHOD IN THE HEALING ART.

IT cannot be gainsaid that the ultimate object of medicine is the prevention or cure of disease. In past ages disease was associated, in the minds of men, with malevolent spirits, and treatment consisted of an endeavour to appease these by prayers and incantations. In the Middle Ages treatment was largely based on the doctrine of signatures. This had it that an all-benevolent Deity had placed His stamp on plants so as to indicate to the physician their use in treatment; hence the names of lungwort and liverwort, while lunacy was treated with silver because this metal was dedicated to the moon.

The School of Spagirists, which reached its climax in the time of Paracelsus, insisted on the mystical virtues of antimony, arsenic, and silver. It is not surprising, then, that homoeopathy, which was a reaction against excessive drug-taking, found ready disciples in the profession. Disease was regarded as a perverted spiritual force; plants also were thought to have a spiritual power which could be liberated by dilution, and the greater the dilution the greater the power. The nineteenth century was characterized by a period of therapeutic nihilism which, starting in Vienna, spread over Europe, its object being, as we see now, to destroy and bury the accumulated refuse of the centuries. Until a rational diagnosis had developed from scientific and physical methods real treatment could not exist. All these mystical and subjective speculations in past centuries have left us little or nothing for the good of humanity or for the treatment of disease.

All precise knowledge of treatment is based upon controlled experiments on animals and man, and the last half-century has done more for the alleviation of pain and suffering than all the centuries preceding it. Huxley, who saw further than most men, enunciated this principle more than a quarter of a century ago when he wrote: "The search for the explanation of diseased states in modified cell life; the discovery of the important part played by parasitic organisms in the etiology of disease; the elucidation of the action of medicaments by the methods and the data of experimental physiology; appear to me to be the greatest steps which have ever been made towards the establishment of medicine on a scientific basis."

All who follow medicine are practically unanimous in recognizing, not only what they owe to the experimental method, but that advance in medicine, as in all other sciences, can only come from experiment and observation. Moreover, all fundamental advances in treatment in the last quarter of a century have originated, directly or indirectly, from experiments on animals, and no new drugs have been applied to treatment during that period except such as have been introduced through the medium of the laboratories. The treatment of endocrine diseases is even now being revolutionized by laboratory experiments. Thus insulin, which has done so much to help our diabetics, is not necessarily the end-point in treatment. A derivative of agmatin, a body obtained from the amino-acid arginin, has been found to lower the blood sugar like insulin, but it acts by the mouth; how far this or allied drugs may replace insulin has yet to be determined by further experiments.

Nevertheless, history shows that all great progressive movements meet with opposition, which generally makes up with noise what it lacks in reason. A majority of the council of the Royal Society for the Prevention of Cruelty to Animals are using their position and influence to petition Parliament to forbid all experiments on dogs. The passage into law of such a bill would seriously curtail medical research in this country. Scientific men are apt to be absorbed in their work and unmindful of the clamour around them; but the present Dogs Bill, rightly understood, is in reality an attack on the public and on the practice of medicine. No life is better adapted to bring out the higher qualities in man than that which demands continuous service on the sick; and infinite patience and sympathy with pain and suffering are essential in those who follow the healing art. We yield to none in our affection for the dog, and desire that everything should be done for its proper protection, but we have no sympathy with the present misguided effort on the part of the R.S.P.C.A., which is an insidious attack on medicine.

The council of the society has adopted a new and highly controversial policy, which its patrons and vice-presidents could hardly have anticipated when they lent their names. The society must, for example, be regarded as being in sympathy with the National Canine Defence League, which is also petitioning Parliament. The second paragraph of the league's petition runs as follows: "Your Petitioners are furthermore of opinion that, on account of this docility and obedience to the word of command, the dog has of late years been specially selected by vivisectors for extensive and peculiarly revolting and painful experimentation, and also for demonstrations of a prolonged and agonizing nature before classes of students." The substance of this statement is false, and no person having any acquaintance with the facts would have made it or would support it. The league ought to know, and we can hardly suppose it does not, that any experiment involving serious pain is forbidden by law, and no demonstration is permitted by law in which the animal is not under complete anaesthesia the whole time—an anaesthesia from which the animal is not allowed to recover. We hope that our readers will refer again to the report of the Science Committee on the use of dogs for experimental purposes, published in the JOURNAL of December 4th, 1926 (p. 1073).

SICKNESS BENEFIT CLAIMS.

IN Committee of Supply on Monday last the House of Commons considered Supplementary Estimates, which included those for additional grants necessitated by the very greatly increased claims made on approved societies for sickness benefit, both in England and in Scotland, during the last eight months of 1926. A report of the debate will be found on page 406. The Secretary and the Under Secretary for Scotland, and the Parliamentary Secretary to the Ministry of Health, all made statements pointing out the seriousness of the position, and emphasizing the facts that the increased claims were not general, but coincided very closely with the incidence of unemployment due to the coal dispute, and that as soon as this dispute ended these sickness claims immediately dropped by some 40 or

50 per cent. These speeches, on the whole, seem to have been fair presentations of the position; but they were all apparently taken by certain members to imply an accusation of improper or careless certification on the part of insurance practitioners. It is curious and a little refreshing to note that a defence of the medical profession against any such implication came from unusual and unexpected quarters on the Opposition benches; and the implication, at all events in this form, was disclaimed by Sir Kingsley Wood. It is perhaps less satisfactory to note that, so far as Scotland is concerned, Major Elliot felt that, as a member of the profession, he was at liberty to suggest laxness on the part of many of its members, while at the same time stating that he would "bitterly resent" such suggestions if made by laymen. Both these members of the Government, however, acknowledged that the Insurance Acts Committee and the Local Panel Committees had shown that they, equally with the Ministries, were alive to the importance of the matter, and were inquiring into the causes of the position which had arisen and as to any reforms or action which experience seemed to necessitate. It may be as well to note at once what steps have been taken in this direction.

It was at the October Conference of Local Medical and Panel Committees that Sir Walter Kinnear placed the facts, as then known to the Ministry of Health, before the representatives of insurance practitioners. At the earliest possible moment thereafter the Insurance Acts Committee, acting on the instructions of that Conference, wrote to all Local Medical and Panel Committees asking that all insurance practitioners in each area should be urged to bear in mind the strict conditions with which the claims for sickness benefit were surrounded, and not to allow any pressure on economic grounds to interfere with their full observance. This was effectively done in most of the areas concerned. The Insurance Acts Committee felt at the same time that there was room for inquiry into the exact causes which had brought about the great increase of the claims in areas most affected by the coal dispute, being sure that laxness in certification, however worthy the motive by which it might be prompted, was altogether insufficient to account for it. This inquiry was set on foot, and the conclusions to which it led have been placed before the Ministry of Health. It has become abundantly clear—as was, indeed, pointed out in the course of the debate in the House of Commons—that there are large numbers of insured persons who in normal times persist in working when they are really ill enough quite legitimately to claim sickness benefit. When the opportunity to continue at work is no longer present, such persons probably feel their ills more and seize quite properly the occasion to remedy them in the right way. Similarly, after an acute incapacitating illness the period of perfectly genuine convalescence extends to its full duration instead of being prematurely ended by an injudicious return to work. It is exactly in such cases that the greatest difficulty arises in determining just when a legitimate incapacity to work may be certified as ending. It is found, too, that there is an increasing tendency for the medical officers of maternity centres to advise insured women attending thereat to claim sickness benefit for longer periods both before and after confinement, and, as rest at these times is in itself good, it is very difficult for the insurance practitioner to refuse certification when this rest has been urged upon the patient by another responsible practitioner.

It is not denied that there have in some cases been causes at work less legitimate than these. The insured person has an ever-increasing appreciation of the opportunities which the insurance scheme offers to obtain financial help, and it is quite impossible for the doctor to be always confident in rejecting the statements of his patient. There have been instances, too, of collective pressure, as distinguished from doubtful individual claims, upon a practitioner to give certificates freely. Such pressure obviously increases the difficulty of the doctor's position, and means ought to be taken to protect him against it. Nevertheless, it appears probable that the traditional and natural desire of a doctor in presence of his patient to afford every help that he can possibly give may have outweighed the strict balancing of all the factors which go to determine "incapacity for work" in its narrower legal connotation under the Health Insurance Acts in a number of instances which, though proportionately small, may, in the aggregate, be large. It seems necessary to bring to the notice of insurance practitioners once more that it is these narrower, strictly legal, less sympathetic considerations which are imperative in connexion with the granting of medical certificates to insured persons, and that if the present insurance scheme is to continue to be successful they must constantly be borne in mind. In so far as the Insurance Acts Committee can emphasize this it is prepared to do so. But it is equally important that the inherent difficulties of the problem should be realized by others, and that everything possible should be done to avoid adding to these difficulties by meticulous rules and regulations and by improper pressure from any quarter.

THE CONSULTANTS' LONDON.

At the social evening of the Royal Society of Medicine on February 21st, when Sir James and Lady Berry received the guests, the Barnes Hall was crowded to hear Mr. Percy Flemming, F.R.C.S., speak on the topography and medical associations of the Harley Street neighbourhood. He extended the term to the whole area from Great Portland Street on the west, to Regent's Park on the north, and Oxford Street on the south, but did not strictly define the boundary on the east. Mr. Flemming had arranged an interesting collection of maps, plans, and old prints of what is now the borough of St. Marylebone, and illustrated what he had to say by a number of lantern views. Apart from the City, London had grown by taking in a number of villages, of which Marylebone was one. In Domesday it was in the manor of Ty-Bourne, and the windings of that now buried stream can be traced by Marylebone Lane, and its existence is indicated also in the distinct dip across Wigmore and Oxford Streets and further on. The lecturer brought out the interesting fact that it was the geological formation which determined in former days the limits of the residential quarters. The authorities of the City of London having impounded the Ty-Bourne, each new house in the Marylebone district had to be served by its own well, and this being the case it was obvious, Mr. Flemming said, that houses could not be built in any number on the clay, but only on the gravel brought down and spread out over the clay by the Thames. Beds of gravel existed under Marylebone. Here wells could be sunk at almost any point and water obtained. This need for water at a time when there was no public supply from distant reservoirs determined the line of London building, and accounted for the fact that certain areas which had no gravel or water-bearing beds were built over very much later. When the public water supply came Regent's Park

itself had a narrow escape, for plans were got out to cover it with houses. From contemporary chronicles and maps Mr. Flemming conveyed an idea of the rural character of the more northerly part of the Harley Street district, even down almost to the end of the eighteenth century. Building developments to the north of Cavendish Square began about 1717, but even eighty years later Harley Street had not reached as far as the Marylebone Road, and the part of Harley Street which was Crown property had not been developed. Harley Street was not at first a street of medical residents. It was a favoured place of residence for the "nobility and gentry." Boswell, who lived in the neighbouring Queen Anne Street in 1788, described it as "genteel," by which he meant aristocratic, and much later Mrs. Gaskell, in her *North and South* (1855), made Harley Street the residence of a nobleman's family. The street at that time had its quota of general practitioners, and quite a number of names of general practitioners in Harley Street were to be found in the issue of the *Medical Directory* for 1847. The headquarters of the consulting part of the profession were at first in the City, where there was a large resident population, as well as easy access to four big hospitals, while another group, including Hunter and Brodie, of St. George's, lived in the Piccadilly neighbourhood. Of the fifty-two original members of the Medical and Chirurgical Society, which was founded in 1805, only nineteen lived in the West End. Later, when the population began to move westwards, the profession followed, making a halt in Bloomsbury, where Abernethy lived. When the profession finally got to the West End its locality was, not Harley Street, but certain streets south of Oxford Street, around Hanover Square, and between Piccadilly and Bond Street. Robert Liston in 1833 lived in Clifford Street, off Bond Street. Syme, the great Edinburgh surgeon, when he was for a few months on the staff of University College Hospital, went to live in Bruton Street, also off Bond Street. Later Cavendish Square, on the north of Oxford Street, attracted a few medical residents. Richard Quain, the surgeon, moved there in 1850. Sir George Burrows, who was president of the Medical and Chirurgical Society in 1869, also had a house in Cavendish Square. Gradually the square became the fashionable quarter, and every young consultant, if he could not get a house in the square itself, tried to get one as near as possible, and thus Harley Street, leading from its north-western corner, filled up. Sir William Jenner took a house in Harley Street in 1851, though in 1868 he moved into Brook Street. By 1870 the tide had definitely set in the Harley Street direction, and Wimpole Street, to a smaller degree, at first shared its popularity. It might be said, therefore, that for the first hundred years of its existence Harley Street was the home of the aristocracy, and for the following fifty years the home of the medical consultants. What, asked Mr. Flemming, would be its future? Would it continue indefinitely to be a street of consulting rooms? There were evidences already of an invasion of the street by commercial firms, and the profession was now beginning to trickle northwards across the Marylebone Road. Would the "herd" regard these adventurers across the border as leaders, and follow them, so that the home of the consultants would presently be, not Harley Street, but the Outer Circle of Regent's Park? Time would show. In proposing a vote of thanks to the lecturer, Sir D'Arcy Power mentioned that he remembered his father in 1870 debating the question whether he should move into Harley Street, but as at that time the rent of a Harley Street house was £100 a year (!) and the rates £50 more, he decided, having eleven children, that this was too expensive. Dr. Walter Carr, in seconding, indulged in a prophecy with regard to the Harley Street of fifty years hence. He saw the smaller houses demolished, and the great houses enlarged to become the homes of medical "teams." Sir James Berry drew attention to one curious fact which came out in Mr. Flemming's maps—namely, that what is now called Chandos Street formerly bore the name of Harley Street.

HOSPITAL DIFFICULTIES IN CHINA.

TEN months ago Dr. James Maxwell, secretary of the China Medical Association and editor of its journal, reported the forcible closing of Canton Hospital by a labour organization (JOURNAL, 1926, vol. i, p. 753). He now describes in the February issue of the *China Medical Journal* the anxious position of the J. G. Kerr Hospital for the Insane in Canton, which is threatened with interference of a similar kind. This hospital, which is described as being the only well equipped and efficiently run institution of any size in China for the insane, accommodates between 700 and 800 patients under normal conditions. Its governing body has now received a series of provocative demands from the local labour union, to which some of the hospital attendants belong. These requirements include an admission that the hospital employees are free to talk, to publish any matter desired, and to strike; while they may not be reprimanded or discharged, or their work changed, without the consent of the union, whose nominees alone may be employed by the hospital. The minimum wage of an employee is to be 15 dollars a month, with board, and double wages for the last months of the year; four suits of clothes are to be provided also. Wages must increase each year, and, in addition to this, it is stipulated that all special demands for other increases must be granted. Double wages are to be paid to employees remaining at work on public holidays and national parade days. The hospital must contribute money towards the establishment of schools for the benefit of the employees, but are not to require any to study who feel disinclined to do so. As no institution could be administered under such deliberately impossible conditions, the directors of the J. G. Kerr Hospital approached the responsible department of the Cantonese Government, and from it a certain amount of sympathy was received. Attempts made to arrange a meeting between the Government, the hospital, and the labour union were abortive, however, owing to the failure of the Government representatives to appear. The hospital authorities, after consultation with the local branch of the China Medical Association, drew up a statement of the basic principles of employment in hospitals, and asked to be protected from strikes, forcible closing, intimidation, or any outside illegal interference. The outcome of the matter remains in doubt, and Dr. Maxwell adds that, while it appears that the Southern Government of China views medical work in its area with a benevolent eye, it is very doubtful how far the communistic and Bolshevik elements in the labour unions can be controlled.

THE NATIONAL UNION OF SCIENTIFIC WORKERS.

AN appeal for increased support has been issued by the National Union of Scientific Workers, which was founded in 1918 to promote the cause of science in the national life, and to improve the status of those engaged in scientific work. The present membership of the union is a little under 1,000, although there are thought to be nearly 10,000 persons in Great Britain eligible for admission. Among the large number of signatories to the appeal are statesmen of differing political views, many leading industrialists, and representatives of medical science, including Sir Humphry Rolleston, Sir Charles Sherrington, Sir David Bruce, Sir F. Gowland Hopkins, Professor R. T. Leiper, Professor Swale Vincent, Dr. Major Greenwood, and Dr. Charles Singer. It is believed that the establishment of

such a representative body as is contemplated would be of the greatest importance to science and to those who are devoting their lives to it. The union aims at promoting the general interests of the scientific profession as a whole; it claims to be entirely non-political, and to have been already markedly successful in improving the conditions of groups of scientific workers in Government and private employ. It has been represented upon, or given evidence before, various Government committees when the interests of scientific workers have been involved, and it has intervened successfully to prevent curtailment of the activities of research institutions supported by public funds. With better support the union might hope to obtain more effective representation of scientific workers on bodies set up to consider problems of national, imperial, and international importance. It would be able to view the whole field of research comprehensively and suggest useful lines of advance. A code of professional ethics could be drawn up, and a complete register made of those engaged in scientific work. The union has never contemplated the possibility of a strike, since this is looked upon as a weapon that scientific workers could not use. The present annual subscription to the union is 30s., but with any considerable addition to the membership this could be reduced substantially.

ST. DUNSTAN'S.

"LIGHTEN our darkness." These familiar words form the title of the eleventh annual report of St. Dunstan's, for the year ending March, 1926. The words epitomize the aim of the founder of this beneficent organization for the care of blinded sailors and soldiers of the great war. The aim has been realized in the great majority of cases, for through the efforts of St. Dunstan's most of the men who have gone there for training have been taught some useful employment and been enabled to become to a greater or less extent economically independent. Such a realization is surely light in darkness. Occupation is the salt of life to everyone, and to none more so than to the physically disabled, and particularly the blinded. The organization has not only trained the men, but it acts as a continuous agent for them. It provides the workers with the raw material necessary for their industry, buying for them on terms which they could not separately secure. It further collects the products of their work and markets it for them, again at an advantage as compared with what they could secure locally and in retail fashion, for not every producer is a good salesman. During the past year the value of the goods produced has increased by nearly £10,000—a sign that the workers are both more efficient and more productive. But this notable increase is not without its difficulties to the administration. In a year of falling markets and industrial stagnation sales were more difficult to effect, so that at the end of the year the council found itself with an accumulation of saleable goods for which there was no ready market. If the organization were a strictly industrial concern this would inevitably mean a lessening of production, a course which cannot be adopted, for it would be likely to have a bad effect upon the morale of the men. The difficulty is not solved, and therefore a special plea is made that buyers will consider the goods of St. Dunstan's wherever that is possible. Enclosed in the report is an attractive trade catalogue of the goods on sale. The range covers baskets of all sorts, both of workaday and fancy types, trays, occasional tables, mats and rugs, netted goods of many kinds, string bags, and some woollen goods. All goods are "marked in plain figures." Last year the council instituted a new departure. The Widows', Orphans', and Old Age Pensions Act of 1925 applies in the main to employed persons; those who "work on their own" may join in this insurance provided they pay both their own contribution and what would for employed persons be the employer's contribution. The advantages of this form of thrift for blind men was studied, and the conclusion was formed that it would furnish a most satisfactory provision. But there was this difficulty, that the means of the blind did not suffice for the double contribution. The council accordingly decided to pay the employer's half, assuming a liability that was purely an act of grace, but which seemed to fall within the scope of the scheme. The men have taken full advantage of this offer, so that 986 have already taken it up—that is, 80 per cent. of those eligible for this form of insurance. The report gives full information of the working of St. Dunstan's, with detailed balance sheets. The address of the offices is St. Dunstan's Headquarters, Inner Circle, Regent's Park, N.W.1.

THE ART OF MEDICAL PRACTICE.

"WHATEVER houses I enter, I will go into them for the benefit of the sick." This familiar phrase from the Hippocratic Oath sums up the first and fundamental rule of medical ethics, and all who read with due attention Mr. E. B. Turner's address to new graduates and senior students, printed in the SUPPLEMENT this week, will recognize that it is the underlying theme of his discourse. Whether at the bedside or in the surgery, in his relations with colleagues or in his attitude towards cults and charlatans, the doctor's first care must be the good of the patient. The lecture touches on varied aspects of medical practice; its many hints and cautions to young practitioners are drawn from a ripe experience of fifty years' professional work; and the advice on matters large and small is a wholesome blend of idealism and shrewd common sense—two essential ingredients in the make-up of a good family physician. Success in private practice, as has often been remarked, demands a great deal of knowledge beyond that gained in the medical schools, and it is just this kind of knowledge that Mr. Turner imparts. With such guidance some of the pitfalls of the earlier years of professional life may be avoided, for though it is true that we learn by our own mistakes, experience so acquired can often be bought too dearly. Particularly interesting and helpful to those who are still *in statu pupillari* is the contrast Mr. Turner draws between hospital cases and the cases commonly seen in private practice; and the emphasis he lays both on the need for keeping up anatomy and physiology and on the incalculable value of house appointments. One among many sound pieces of practical advice might well be inscribed on the title-page of every visiting list: "However much you may be tempted, never palliate symptoms only—get right down, try to discover the cause of the trouble, and, if possible, remove it." And the final-year students of to-day could do worse than copy into their notebooks these sayings: "Above all things never become slaves to your instruments. . . . Every general practitioner should be prepared to accept and face his own responsibilities. . . . A good physician never treats the illness, but always the patient." Truisms, perhaps; but, as their context shows, they go straight down to bedrock in the art of medical practice.

INTERNATIONAL CONGRESS OF MILITARY MEDICINE AND PHARMACY.

AFTER the war the idea occurred to the Belgian army medical authorities that advantage should be taken of the medical experiences of the war in order to arrive at definite conclusions with regard to a number of questions affecting military medical practice and organization. In

pursuance of this idea an International Congress of *Military Medicine and Pharmacy* was held in Brussels in 1921, when an International Association of Military Medicine and Pharmacy was inaugurated, with a small permanent committee and with the *Archives Médicales Belges* as its official journal. A short account of the congress appeared in June, 1922, in the *Journal of the Royal Army Medical Corps*. A second congress was held in Rome in 1923, and an entertaining account of it, by Colonel D. Harvey, was published in the same journal in August, 1924. Arrangements had been made to hold these international congresses every two years, and consequently the third congress took place in 1925, this time in Paris, but hitherto no report of it has appeared in the British military medical journal. We are therefore all the more indebted to Commander Bainbridge of the Medical Corps of the United States Naval Reserve Forces for a series of articles in the *Military Surgeon* of May to August, 1926, which the Association of Military Surgeons of the United States has now reprinted in a separate volume.[1] It contains an interesting and detailed summary of the various papers read at the meetings of the congress, the chief subjects discussed being technical specialization, selection of recruits with reference to tuberculosis, the etiology and treatment of traumatic arthritis, and the analysis of dressing and suture material. Although several British officers, including the late Sir William Leishman, attended the congress, none appear to have read papers or taken part in the discussions. The next congress is to be held in May next at Warsaw, and it is understood that it will be followed by a fifth international congress in London in 1929.

R.S.P.C.A.

WE regret to announce that the Royal Society for the Prevention of Cruelty to Animals, by a majority vote of the council, has now changed its policy and become in practice an antivivisection organization. The society is promoting a petition to Parliament praying it to pass the Dogs Protection Bill (of which the text appears in our Parliamentary column), and thus bring to an end all experiments on dogs. It was hoped by its well-wishers that the society, after the recent fiasco regarding the export of old horses for butchery on the Continent, would have taken some pains to prevent misleading statements appearing in its future propaganda, but a pamphlet which it is circulating to stimulate the signing of its petition contains the following paragraph: "From replies to questions asked in the House of Commons, we learn that 'during 1925 and 1926, 1,147 dogs have been used for experimental purposes at University College alone, of which 21 were used for demonstrations before students and 28 were not kept under anaesthetics during the whole of the experiments.'" In such cases the experimental animals are given anaesthetics carefully and individually so as not even to frighten them. At a dogs' home a number of animals may be put into lethal chambers *en masse*. A point we particularly wish to make is that in 1,119 cases out of 1,147—that is, 97 per cent.—the dogs used were destroyed as humanely, if not more humanely, than at a dogs' home, and entirely without pain or discomfort. Special Home Office regulations safeguard the other 3 per cent. from serious pain. The council of the society has taken a grave step in thus associating itself with the various antivivisection societies. It has vacated an impregnable position which appealed to all right-minded people, and particularly to medical men, for one of fanaticism which we know is, in reality, opposed to the welfare, not only of the general public and the medical profession, but of dogs themselves. George Eliot said: "I call a man fanatical when his enthusiasm is narrow and hoodwinked so that he has no sense of proportion, and becomes unjust and unsympathetic to men who are out of his own track." The educated public in this country are whole-heartedly with the medical profession in its endeavour to alleviate suffering and disease in animals as well as in man, and we believe it is the duty of the profession to instruct the public as to the nature of the retrograde step now being taken by the R.S.P.C.A. The change in policy is such that the society cannot retain the public confidence so long as it continues in this new course.

[1] *Report on Third International Congress of Military Medicine and Pharmacy, Paris, April, 1925.* By Commander William Seaman Bainbridge, M.C. Washington: Reprinted from *The Military Surgeon*, May to August, 1926, inclusive. (5½ × 9, pp. viii + 111; illustrated.)

PUBLIC ASSISTANCE FOR RIVER POLLUTION RESEARCH.

A JOINT committee of the British Waterworks Association and the Salmon and Trout Association recently addressed to the Prime Minister a memorandum on the pollution of rivers. On February 15th Lord Balfour received a deputation from these two and other bodies on the subject of the memorandum. The topic is no new one, and the appendix to the memorandum is a review of the findings of Royal Commissions and of committees which have had the matter under consideration from various aspects from 1866 to the present time. Each report has emphasized the seriousness of river pollution; in practically every report some form of central control of watersheds and rivers has been recommended. The results of these reports have been so meagre that the British Waterworks Association and the Salmon and Trout Association feel entitled to speak of the "progressive" pollution of the rivers of England and Wales as a menace to the well-being of the community. With the growth of population in large towns practically all the areas in which water can be impounded have been taken up, and underground supplies have greatly diminished. In fact, the medical officer of health for Essex, in a recent report, stated that for his county the limit of supply from underground sources had already been reached; and, all suitable rivers having been appropriated, the only source for the necessary extension of the supply of water was the river Stour, a polluted river belonging partly to Essex and partly to Suffolk. The main sources of pollution are sewage, increased by the conversion in many districts of privies and pail closets to the water-carriage system, and trade effluents. With the latter the difficulty in many cases is to discover a method of dealing with them without interfering with the prosperity of industry. This difficulty has been illustrated lately by the disastrous effects on fish life of effluents from beet sugar factories. It is pointed out in the memorandum that for pollution by many trade effluents science has so far been unable to find a remedy. The joint committee calls attention to the excellent results that have been obtained in some rivers, where public spirit has aided the efforts of local authorities and river boards, and pays a tribute to the administration of the Thames Conservancy Board. The deputation urged on Lord Balfour the appointment of a central committee of about five representatives of departments and boards, with power to co-ordinate varying interests for the purpose of reducing the pollution of all rivers and estuaries in England and Wales. It was suggested that this authority should be directly under the Privy Council, and that research should form an important part of its functions. Lord Balfour, in reply to the deputation, said that the Government was prepared to supply the necessary financial resources to see that scientific investigations were adequately carried out. Scientific research, he said, would require *not only* laboratory experiments, but full-sized

manufacturing experiments; and for this the co-operation of the interests most nearly affected might be required. In addition the scheme of river boards should be extended. But Lord Balfour held out no hope of the Government establishing at present a central authority; those, he said, who used the "magic phrase" did not seem agreed as to the precise powers to be given to the authority, and what relation it was to bear to present Government organizations. A perusal of the memorandum suggests that the views of the joint committee were somewhat nebulous on these matters. A further reflection may occur to some people that, inasmuch as even manufacturers probably drink water in one form or another, it is curious that they do not display greater personal and private interest in the source of their supply.

INFLUENZA.

THE decline of mortality from influenza noted in our last issue has unfortunately not continued, and last week the number of deaths registered in the great towns of England and Wales increased from 759 to 990. This increase is due to the spread of the epidemic in the north and north-west, a process which has more than counterbalanced the decline in the south (in London the deaths last week decreased again, from 159 to 128). The age distribution of the deaths continues to be of the normal type—that is, showing a large proportion of older persons—contrasting greatly with the state of affairs noted in the great pandemic of 1918-19. The special reports furnished to the Scottish Board of Health by the medical officers of health of the sixteen principal towns and the county medical officers of Lanark and Fife show that there has not been much change in the prevalence of influenza in Scotland during the week ended February 19th. In Glasgow and Edinburgh there are not an abnormal number of cases, while Aberdeen reports a decrease in incidence. Influenza accounts for more absences from Dundee schools than in the previous week, but there is no other indication in the city of a heavier incidence. More cases are reported from Greenock, Motherwell and Wishaw, Coatbridge, Dunfermline, Kirkcaldy and Hamilton, and the county of Lanark, except the Lower Ward and Lanark Burgh. In Kilmarnock the disease is prevalent in a mild form, and there are a good many cases in Inverness and surrounding districts. On the other hand, incidence is definitely lower in the county of Fife, except for a few limited areas. In Scotland, as elsewhere, the epidemic has been generally of the mild catarrhal type.

RESEARCH DEFENCE SOCIETY.

THE January issue of the *Fight Against Disease*, the journal of the Research Defence Society, deals at some length with the two cases relating to the use of dogs for experiment heard in the courts at the end of last year. A reasoned statement by the honorary secretary of the society, Dr. G. P. Crowden, on the principles involved in the use of animals for research provides a timely reminder of the safeguards which are invariably in operation, and indicates some of the benefits which have been obtained. A similar note is struck by an article entitled "Research or suffering?" in which the success of the experimental method of investigating disease is further vindicated. The suggestion is repeated that 1,000 of the 50,000 dogs annually destroyed in the lethal chambers of the dogs' homes in London should replace the animals which have at present to be obtained through private agencies. The memorandum of the Science Committee of the British Medical Association on the use of dogs in physiological and therapeutic experiments is reprinted from the BRITISH MEDICAL JOURNAL of December 4th last. This number of its journal is, therefore, a sound and weighty appeal for more support of the Research Defence Society, of which the president is Lord Lamington and the chairman Lord Knutsford. Arrangements are made by the society for addresses and lantern lectures, and for the supply of literature to clubs and institutes. The subscription for members is 10s., and for associates 5s. Further information may be obtained from the honorary secretary, Dr. G. P. Crowden, at the address of the society, 11, Chandos Street, W.1.

BRITISH CONGRESS OF OBSTETRICS AND GYNAECOLOGY, 1927.

THE sixth British Congress of Obstetrics and Gynaecology will be held in Manchester on Wednesday, Thursday, and Friday, April 27th, 28th, and 29th. The main subject chosen for discussion is the treatment of inflammatory conditions of the uterine adnexa. This will occupy the first day. The remaining days will be devoted to short papers on obstetrical and gynaecological subjects, and to demonstrations of surgical operations. In connexion with the Congress a museum of pathological specimens is being arranged. The secretaries of the Congress are Professor Daniel Dougal, 11, St. John Street, and Dr. John Bride, 2, St. John Street, Manchester, to one or other of whom all communications should be addressed. Those wishing to take part in the principal discussion, or to contribute short papers, should send in their names immediately, giving the title of any proposed contribution. The last congress was held in London in April, 1925.

THE Home Secretary has informed the British Medical Association that he has appointed Dr. J. W. Bone (a member of the Council of the Association) and Dr. T. K. Monro (Regius Professor of Practical Medicine in the University of Glasgow) to be members of the tribunals under the Dangerous Drugs Regulations (1926) for England and Scotland respectively, and has appointed the other medical practitioners named by the Association to be substitute members of the respective tribunals. Sir Humphry Rolleston has been appointed chairman of the tribunal for England, and Sir Robert Philip chairman of the tribunal for Scotland; the respective legal assessors are Mr. E. W. Hansell, M.A., and Mr. John Cowan, K.C.

AMONG the fifteen candidates recommended for election into the Royal Society of London at a meeting of the Council on February 17th were: Dr. T. G. Brown, professor of physiology and dean of the Welsh National School of Medicine; Mr. Richard Higgins Burne, M.A., physiological curator of the Royal College of Surgeons of England since 1912; Dr. P. P. Laidlaw, a member of the Department of Experimental Pathology of the Medical Research Council; Dr. J S. B. Stopford, professor of anatomy at Manchester; and Dr. C. M. Wenyon, director of the Wellcome Bureau of Scientific Research.

THE Council of the University of Leeds has gratefully accepted an offer by Mr. L. R. Braithwaite, surgeon to the Leeds Infirmary, to present to the Medical School a bronze bust of Sir Berkeley Moynihan.

THE Sir William Dunn School of Pathology at Oxford will be opened on the afternoon of Friday, March 11th, by Viscount Cave, Lord Chancellor of England and Chancellor of the University.

Nova et Vetera.

CZECHO-SLOVAK MEDICINE.

THE UNIVERSITIES AND THEIR MEDICAL CLINICS.

IN the rearrangement of Europe which resulted from the war many things have been gained, but some, we think, have been lost, and one of these latter is the romantic name of Bohemia, which has disappeared in the title of the much larger republic of Czecho-Slovakia. To all Western peoples the name of Bohemia has been associated with romance, whether in connexion with "La Vie de Bohème" or with the gipsy folk who have been inaccurately supposed to come from that kingdom. To Englishmen in particular it has been bound up with recollections of that British princess who became for a time its "Winter" Queen—her descendant occupies the throne of this country to-day. She inspired much romantic devotion among our countrymen in general, and especially in that public-spirited Lord Craven, whose bequest of land to maintain a pest house is represented by Craven Hill, Bayswater, and is still a source of revenue devoted to public purposes. In Bohemia, too, Shakespeare placed one of the most charming of his pastoral scenes and endowed the country with a sea-coast which even the enlarged Czecho-Slovakia still lacks. The ancient kingdom suffered many vicissitudes and was the scene of many evil deeds perpetrated in the name of religion, until at last it fell a prey to its unscrupulous and too powerful neighbours and seemed to have sunk into perpetual vassalage to the house of Habsburg. But in spite of all attempts to make them German, the Czech people always preserved their national spirit and their language until, as John Hay wrote of another country,

> "God maddened the Greedy Kings
> And gave to its people"—Prague!

Since the end of the war the Czecho-Slovakians have shown themselves to be the most progressive and energetic of the new nationalities, not only in material things, but also in those of the mind. In an address recently delivered in English before the Inter-State Post-Graduate Association of North America, Professor Ladislas Syllaba, M.D., who is president of the Czech Medical Society of Prague, gave a most interesting review of the development of Czech medical science.

The University of Prague was founded so long ago as 1348 by Charles IV, King of Bohemia, and can thus claim to be the first university of Middle Europe. In the words of the original charter, this was done "in order that the loyal inhabitants of the kingdom who are ever hungry for the fruits of science should not be driven to beg of strangers, but should find their table spread with food in their own kingdom." So many foreign students resorted to this University that they threatened to squeeze out the native scholars, and early in the fifteenth century it was found necessary to give the Czechs a preponderating voice in its management. It is said that as a result as many as twenty thousand Germans left, and that the University of Leipzig was founded for their benefit on the pattern of that of Prague. This last-named University flourished until the catastrophe of the battle of the White Mountain, in the course of the Thirty Years War, and the successes of the counter-reformation resulted in its being shorn of some of its faculties, which were transferred to a Jesuit academy. The present Czech University at Prague is called from its original founder the "Charles University," but during the Habsburg despotism its name had been changed to "Carolo-Ferdinandean," after the Emperor Ferdinand III; by this act, Professor Syllaba says, "the name of the great founder was joined in bitter irony with the name of the representative of a dynasty that for the University, for the nation, and for the whole of Europe, was a calamity." But even after 1867, when the non-German portions of the Austrian patchwork empire received some measure of liberty, the Germans and Czechs did not work harmoniously together, and in order, no doubt, to strengthen the German position a separate German university was founded in Prague in 1882, and the old University had its full faculties restored to it. The German institution still flourishes, for there is a large and energetic German population in Bohemia.

Since the establishment of the republic two more Czech universities have been founded, one in Brno—long known as Brünn—in Moravia, and one in Bratislav in Slovakia, on the Danube in the fortress-city formerly known as Presburg. Thus it will be seen that there are four universities in Czecho-Slovakia, so that the higher education of its fourteen million inhabitants is well provided for.

The Czech Medical Society of Prague, which has been at work since 1862, played a great part in promoting medical and surgical knowledge and the study of the ancillary sciences. The name of John Everard Purkyné, which the Germans have phoneticized into their own language as Purkinjé, is known all over the world as that of a physiologist, histologist, and comparative anatomist. He had done much good work in the Silesian University of Breslau before he came back to Prague in 1850. He not only founded the society, but also at the same time its necessary accompaniment, the "Journal of Czech Medicine." The achievements in science of the men the society and its journal helped to bring forward were of such a high character that it became impossible for the Viennese Government any longer to postpone the establishment of a Czech university, with all the usual faculties. Accordingly the Czech professors exchanged their chairs in the Carolo-Ferdinandean University for analogous ones in the new institution, while their posts were filled by Germans in the now Teutonized old university. Their task was hard, for not only had new buildings to be provided and libraries and museums furnished, but scientific instruments and even handbooks for students had to be written and printed in the Czech language. But no difficulties could daunt the patriotic and scientific fervour of the Czechs, and their success was evident in the transactions of the Academy of Sciences and Arts and at the conferences of Czech physicians and naturalists held in 1901, 1908, and 1914. Revival after the war was much helped by the financial support given by the Rockefeller Foundation in reorganizing various institutions and completing equipment and bringing libraries up to date. New medical societies have sprung up in connexion with the new universities, and it is evident that scientific progress in the republic is as vigorous as its industrial development.

We are indebted to Professor Prusik of the (Czech) University of Prague for giving us the opportunity of reading Professor Syllaba's address, and also for some other documents from which we learn that there are two medical clinics in the University, the one under the direction of Professor Syllaba, and the other under that of Professor Pelnar; Professor Prusik, who belongs to the latter, has given a sketch of the scientific research carried on by it. At the present time the work is handicapped by the fact that building operations are going on, but the staff is large and is kept fully employed. It consists of three clinical assistants, of three hospital secundarii, of extern assistants (who never number fewer than twenty), and of auxiliaries recruited from among the medical students. Professor Pelnar, who is known for his writings on disorders of the nervous system, gives five clinical lectures a week, and Professor Prusik himself, who is in charge of the cardiological laboratory, supervises a group of workers in the diseases of the heart and blood vessels; this group is in charge of out-patients suffering from diseases of this nature. The clinic has a section for physical therapy, another for metabolic disorders, and another for tuberculosis. New chemical laboratories are being erected, and there is a good æ-ray equipment.

Nationalism has its drawbacks, one of the chief of which is the danger of increasing the barriers formed by differences of language. No doubt it was more convenient for the outside world when the works of Czech men of science were published in French and German and so made accessible, but the price to be paid for this convenience was too high, and the increased production of important researches and discoveries stimulated by the national spirit, which not all the years of German-Austrian domination could crush, compensates for the language difficulty, which will also be evaded by translation of the more important publications.

Union of South Africa.

[FROM OUR CORRESPONDENT IN JOHANNESBURG.]

ANTIPLAGUE MEASURES.

PLAGUE has now for several years been enzoötic among the veld rodents in certain parts of the country, and has been spreading extensively. The gerbille, or nagmuis, is the rodent chiefly responsible for this spread, because of its migratory habits. Fortunately the soil is not everywhere suitable for this animal, and it avoids human habitations. A rodent survey of the Union revealed that about one-third of the country is relatively free from the gerbille. This area includes the southern coastal parts of the Cape Province, the smaller blocks of country further north in the Cape, Natal, Orange Free State, and the Transvaal. All the rest of the country has soil suitable for gerbilles, and in grain lands in these parts their burrows are usually plentiful. In this gerbille area plague has been steadily spreading, until now only about one-third of it can be considered to be free. The gerbilles are, however, entirely wild veld rodents, and their burrows are seldom found in the vicinity of human habitations. This is held to account for the fact that human cases of plague are relatively infrequent, though each summer a few are reported, usually from points very far apart. The connecting link between the gerbille and man appears in many cases to have been the multimammate mouse—a wild rodent found round about farmhouses. This animal, as also the wild striped mouse, is frequently found dying of plague. Both kinds occur in disconnected patches, are not migratory in their habits, and are therefore unlikely to be responsible for extensive spread of the disease. It is, then, against the gerbille that preventive measures have to be taken.

Until last June the Cape Peninsula was not considered to be in any danger from plague, even though the whole of the west coast, from the peninsula northwards, is soil ideally suited to the gerbille. The nearest known plague infection was some four hundred miles away to the north-west, beyond Kenhardt. Then quite unexpectedly human cases were reported at Calvinia, only 200 miles from Capetown. Investigation showed that the disease had spread extensively amongst the rodents of the sparsely populated intervening area. It became necessary for the Health Department to consider the safety of Capetown. From the massive block of mountains between Stellenbosch and Worcester, a narrow range separates itself and runs due north for 200 miles to beyond Van Rhynsdorp. This range itself is gerbille-free, but on both sides of it is gerbille country. At its northern end the Calvinia district lies on its east side, and here the gerbilles are plague-infected. Plague can advance on Capetown round the northern end of this range and down its western side. The width of the strip of land lying between this range and the Atlantic is, on an average, sixty miles. On it are extensive grain lands, and the gerbille everywhere flourishes. Were no precautions taken, plague might be expected to advance rapidly down this strip towards Capetown. To prevent this the Health Department has put a barrier across the strip between the mountain range and the sea, in the shape of a gerbille-free belt. The Olifants River flows across this strip of country in a north-westerly direction from Clanwilliam to the sea. This river will effectively prevent the crossing of gerbilles during the greater part of the year, when it contains water. From the sea for a distance of about fifteen miles to a place called Koekenaap, it is wide and deep throughout the year, receiving tidal flows. Twelve miles south of Clanwilliam a weir crosses the river, and a wide stretch of water is piled behind it for many miles. Between the weir and Koekenaap the river is liable to become a series of disconnected water-holes during the drier summer months. It is this stretch of some sixty miles which is in danger of being crossed by plague-infected gerbilles from the north; and it is the northern bank of this portion of the river which the department is attempting to keep rodent-free.

Four gangs of natives and Eurafricans are working under departmental rodent officers, and the first clearance of this belt of rodents has just been completed. The methods adopted against gerbilles and striped mice consist of poisoning; against Karroo rats, of gassing the burrows and burning the nests. These methods are very effective, and it is estimated that over 90 per cent. of the rodents are destroyed. Poisoning is by strychnine-impregnated grain. The employees provided with this grain spread out in a line fairly close to one another, and drop a few grains into each burrow as they advance. The gerbille (nagmuis, or night-mouse, as it is called in Afrikaans) comes out of its burrow after sunset. Next morning early numerous carcasses may be seen lying about on the surface, but they do not remain there long, as eagles, owls, and night-prowling carnivorous animals follow the activities of the rodent gangs with interest, and speedily devour the bodies of the dead. The birds seem to suffer no harm from this diet; they do not consume the intestines containing the poisoned grain.

Gassing is performed near homesteads, where the laying down of poisoned grain might be dangerous to domestic animals. A cartridge is lighted, plunged into a burrow, and the opening of the burrow closed with earth. The natives stand by with spadefuls of earth, and wherever smoke emerges—indicating a connexion with the gassed burrow—the opening is closed. This method produces a 100 per cent. kill, but is much more laborious than the poisoned grain method. The average width of the belt so cleared is about a mile; the gangs advance about half a mile a day. Having now completed a first clearance, the gangs will work over the same belt for a second time. This belt will afford very considerable protection against plague carried by the small rodents, but one grave danger persists. South of Clanwilliam, at a place called Citrusdal, hares are very abundant; these animals have been known to travel tremendous distances in a night. It is thought that they were largely responsible for the rapid spread of plague from Kenhardt to Calvinia last year. Should plague travel down the east of the mountain range to a point opposite Citrusdal, infected hares might readily carry the infection across the range. The Health Department is alive to this danger, and round about Citrusdal the country is being extensively cleared of rodents by a special gang. Even such a wide area is liable to be crossed by migratory hares.

MEDICAL ASSOCIATION OF SOUTH AFRICA (B.M.A.).

On January 8th, 1927, there appeared the first number of the official journal of the Medical Association of South Africa (B.M.A.). Previously there had been two privately owned journals—the *Medical Journal of South Africa*, published in Johannesburg, and the *South African Medical Record*, published in Capetown. After success had crowned the continuous efforts to combine the two medical associations (efforts which had lasted many years, and which had at times seemed merely to be increasing and rendering more bitter the points of difference between the two bodies), the need for an official organ of the new association was felt. The directorates of the two existing journals were approached, and they generously agreed that the individual journals should be merged into a single official journal. The atmosphere in the profession is one of peace and co-operation. The first number of the new journal exhales this atmosphere happily. Its staff has the confidence of the profession. All members of the Association will feel a personal and proprietary interest in the *Journal of the Medical Association of South Africa* such as they could hardly have had in its predecessors, however loyally these papers tried, as undoubtedly they did, to promote the interests of the profession. The desire for unity in the profession had been growing, but it would be difficult to exaggerate the good services of Dr. Cox a year ago. To his genius for organization the profession in South Africa will ever be indebted. The Federal Council of the united Association is a representative and powerful body. Its president, Dr. A. J. Orenstein, is a man of enthusiasm and remorseless energy, possessed of an instinct for organization that is quickly recognized by anyone with whom he comes into contact. As an organizer he

is in the first rank, as his career testifies. He was on the medical staff under Gorgas during the construction of the Panama Canal. He served as sanitation officer before the war in German East Africa (1913-14). During the war he was Director of Medical Services for the South African Forces. He is superintendent of sanitation of the Rand Mines, Limited, and the splendid organization of the medical services of that group bears eloquent witness to his ability. Last year, in spite of his already numerous and onerous duties, he accepted the presidency of the South African Red Cross Society (Transvaal); he has for long been the moving spirit in that virile body, and his election to the presidency was richly deserved. At this early stage of the existence of the Medical Association of South Africa, when enthusiasm and organizing ability are so greatly needed, the Federal Council has clearly appointed the obvious man to lead it.

Scotland.

THE ROYAL SOCIETY OF EDINBURGH.

THE Council of the Royal Society of Edinburgh has recommended thirty-one persons for election as Fellows at the March meeting; among them are the following medical practitioners: Dr. J. M. Munro Kerr, Muirhead professor of midwifery and gynaecology in the University of Glasgow; Dr. C. G. Lambie, lecturer in clinical medicine and assistant in therapeutics, University of Edinburgh; Dr. D. McIntyre, assistant to the Muirhead professor of midwifery; Dr. F. N. K. Menzies, medical officer of health and school medical officer for the County of London; and Mr. T. P. Noble, M.B.Ed., F.R.C.S.Eng., professor of surgery, Bangkok University, Siam.

PUBLIC DEBATE ON VIVISECTION.

A public debate dealing with experiments on animals was held on February 11th in the Synod Hall, Edinburgh. Mr. Robert Lawson presided, and the leading speakers were Dr. J. H. Burn, M.A., M.D., director of the pharmacological laboratory of the Pharmaceutical Society of Great Britain, in favour of the value of animal experimentation, and Mr. Herbert Brown, who argued against vivisection. Dr. Burn said he spoke as a person who habitually, in the course of his work, carried out experiments on animals. Medical treatment at the present time, and in particular surgical treatment, was dependent on experiments performed on animals. Operations done to-day rested on the discoveries of Lord Lister, who had himself said that more was to be attributed to experiments on animals than to any other work on which he was engaged. Mainly through experiments on animals medicine had advanced a long way towards the cure of syphilis. Insulin, which had transformed the whole aspect of diabetes, was purely the result of experiments on dogs. Experiments on dogs had indicated the means by which no child need ever run the risk of having rickets. The whole outlook towards cancer had been transformed by animal experiment, and there was now the greatest probability that cancer would ultimately be found to be preventable. Very grave responsibility rested on anyone who said that animal experimentation must stop. Experiments could go on, however, without pain or torture to the animal, and the whole propaganda of antivivisection was based on incorrect facts and ignorance. Mr. Herbert Brown, on the other hand, said that during the past half-century a steady increase had taken place in the number of animals used for experiments. The great majority of these were done without anaesthetics, and although many of these were simple inoculations, he held that even inoculations could be followed by great suffering. He expressed the opinion that experiments on animals had frequently led Lord Lister astray. He also questioned the benefits derived from experiments, and quoted opinions in support of his contentions.

GIFFORD LECTURES IN GLASGOW.

In his seventh Gifford lecture at the University of Glasgow Dr. J. S. Haldane spoke on animistic interpretations of conscious behaviour. From time immemorial, he said, the distinguishing feature of conscious behaviour was supposed to be due to the presence of an independent soul within the body. The development of this idea had proceeded side by side with the development of the Newtonian conception of the physical world. The supposed independent soul had turned out now to be something which was dependent in every respect on the physical body and environment, and their influences could not be separated. The animistic conception of a physical body guided by an independently existing soul could no longer be upheld, for such a conception would amount to a denial of the validity of the law of conservation of energy. They were bound to conclude that all psychical phenomena were mechanically determined. In his eighth lecture Dr. Haldane discussed the mechanistic and biological interpretations. In mediaeval and modern times mechanistic conceptions of conscious behaviour had been to a large extent suppressed by ecclesiastical or State authority. They were commonly associated with atheism, although that was not always the case. Some forms of theology had come very close to mechanistic interpretation in their conception of human behaviour. That conception had been a natural revolt from animism, and the mechanistic interpretation of conscious behaviour appeared at its strongest when pitted against animism, just as the animistic interpretation also appeared at its best when pitted against vitalism. The objection to the mechanistic interpretation as commonly applied was that it made no attempt to give any physico-chemical explanation of the fact of consciousness. It simply treated consciousness as a completely mysterious accompaniment of physiological phenomena, which occurred in the central nervous system of higher animals. Intermediate between mechanistic and animistic interpretations of conscious experience was another mode of interpretation which might be called biological. This was represented in the writings of Leibnitz and Bergson, and had recently been given in a clear-cut form by General Smuts in a book known as *Holism and Evolution*. The lecturer agreed with the conception held by General Smuts, although he differed from the latter's treatment of the personality.

GLASGOW WESTERN INFIRMARY.

The David Elder Infirmary at Govan, which is an adjunct to the Glasgow Western Infirmary, is nearing completion, and will, it is expected, be ready for occupation in the course of the next few months. The accommodation afforded by this new building would help to reduce the waiting list at the Western Infirmary, where 45,000 patients were treated during 1926. Despite the adverse industrial conditions of last year subscriptions from employees amounted to £20,648, a decrease of only £3,000 on the previous year. Legacies had enabled the managers not only to clear off a deficit on the maintenance account amounting to about £15,000, but to carry about £3,000 to capital account.

CHALMERS HOSPITAL, EDINBURGH.

The annual report by the directors of Chalmers Hospital showed that the number of patients treated during the year was 518 in the public wards and 407 in the private wards, making a total of 925. The ordinary income had exceeded the ordinary expenditure by £28. For some years there had been an increasing necessity for accommodation for the study and training of nurses, and it was now decided at a cost of £1,500 to build an additional lecture room and study. It was also decided to build an open-air balcony attached to the male public ward.

CENTRAL MIDWIVES BOARD FOR SCOTLAND.

The examination of the Central Midwives Board for Scotland, held simultaneously in Edinburgh, Glasgow, and Dundee, has just concluded, with the following results: Out of 98 candidates who appeared for the examination, 90 passed. Of the successful candidates, 14 were trained at the Royal Maternity Hospital, Edinburgh, 31 at the Royal Maternity Hospital, Glasgow, 3 at the Maternity Hospital, Aberdeen, 9 at the Maternity Hospital, Dundee, 9 at the Queen Victoria Jubilee Institute, Edinburgh, and the remainder at various recognized institutions. At a meeting of the Board for the election of office-bearers

Dr. Haig Ferguson was unanimously re-elected chairman. Sir Archibald Buchan-Hepburn, Bt., was re-elected deputy-chairman and convener of the finance committee. The meeting appointed other committees and examiners, and approved, subject to inspection by the Board, the list of recognized institutions, with the teachers attached thereto, for the training of midwifery nurses.

EDINBURGH SOCIETY FOR THE RELIEF OF DESTITUTE SICK.

The annual report of the Edinburgh Society for the Relief of the Destitute Sick showed that the number of applications for relief during 1926 had not been notably affected by the industrial position, but the weekly expenditure on each beneficiary had on the average been increased during the coal dispute. The new cases assisted numbered 1,085, as compared with 1,238 in the previous year; the number of visits paid was 7,350, as compared with 8,100 in the previous year; and the total sum expended in relief of the sick poor had been £2,960, as compared with £3,123. The Lord Provost, who was in the chair at the annual meeting, congratulated the directors on their successful work among the destitute sick of the city, which had been carried on for over 140 years. The object of the society was to assist families over temporary difficulties when the breadwinner was laid aside by illness, and though legislation had done much to insure working people against accident and illness, there was still a wide field for the society's activities.

Ireland.

ORTHOPAEDIC WORK IN DUBLIN.

At the annual meeting of the Incorporated Orthopaedic Hospital, Dublin, when Lord Glenavy was in the chair, Dr. Kirkpatrick submitted the report, in the course of which it was stated that the number of patients treated during the year was 1,522 (1,347 extern and 175 in-patients). The open-air ward in the garden, with sixteen beds, had been in existence for more than twenty years, and was the pioneer example of open-air treatment in Ireland. The waiting list of patients for admission had steadily increased to 75. This showed the urgent need for increasing the number of beds available, a total of 150 at least being necessary. This expansion to 150 beds should be accomplished by obtaining an open-air home or hospital in the country, in accordance with the most modern orthopaedic principles. For this object a fund had already been opened. A most valuable scheme had been formulated by the Rotary Club for undertaking the after-care of some of the patients. The governors offered their thanks to, among others, the Rotary Club, to Lady Chance, to the officials of the Land Commission, to the United Free Church of Scotland, and to many others for gifts of money and toys. His Excellency the Governor-General, in moving the adoption of the report and a resolution stating that the hospital was worthy of public support, expressed his congratulations on the escape from death or injury of the nurses, medical officers, and children in the calamity that had befallen the building in the great storm. He thought all would feel that there was imposed upon them an additional duty because of the effects of this occurrence on the funds of the hospital. As an old friend of the late Mr. Joseph Mooney, he felt grateful that his services to the institution had not been forgotten, and that in the report a tribute of recognition had been paid him and his family for the devotion which he had given to the great institution. Mr. Mooney was a man of exceptional virtue and merit, and it was not until his death that he (the Governor-General) was acquainted with all his virtuous activities. In visiting the hospital that day he had the pleasure and satisfaction of going through some of the wards, and he would express his thanks to the matron, officers, and doctors of the institution for the happiness which glowed on the faces of the children. He detected among the children a feeling that they were at home—and in an affectionate and kindly home—and, suffering as they were, cheerfulness was the best proof, not merely of their docility, but of the kindness which they were shown by the sisters and doctors. Dr. Haughton, whose zeal was remarkable, had told him that during the last two years 3,098 crippled children had been attended to and benefited. He would like the public to take into their minds what that meant—3,000 children benefited, and some of them, he might say, altogether cured. They read in the gospel of the miracles wrought by our Lord—and was it not something to think that to-day Christian charity, flowing through the minds and souls and skill of persons like those who had charge of that institution, had been able to give healing and benefit to 3,000 children? A way of appreciating that noble institution was that those who had wealth should send from time to time some donation or give it some benefit in their wills. He proposed himself to give a cheque for £50 to the institution because of the calamity which had befallen it, and there were few who could not, by a small donation, help in the great work which that institution was performing. Mr. E. D. MacLaughlin, who seconded, said the hospital had been honoured last year and the year before by visits from Sir Robert Jones, who delivered several addresses, and impressed the enormous advantage of open air and sunshine in the treatment of orthopaedic cases. There was at Cappagh a magnificent open-air establishment approaching completion, which would have accommodation for 200 beds devoted to the cases of crippled children. It was imperative on the hospital some time or other to leave its present building and emigrate to the country. The only obstacle to the move was want of money. The governors of the National Hospital for Children, Harcourt Street, Dublin, had decided to move it to the country, and had suggested that the Orthopaedic Hospital should join forces with them and set up a conjoint establishment. There were, however, difficulties, the main one being that the Orthopaedic Hospital might not get all the accommodation it wanted. The suggestion was receiving the very careful and sympathetic attention of the medical and surgical staff and of the governors. Referring to the damage done by the storm, Mr. MacLaughlin said that the matron and the nursing staff had displayed remarkable coolness and courage. Thanks were due to them, to the Civic Guard and the soldiers, and to the students of the College of Science, who had rushed in and given assistance. The cost of repairs might be anything from £700 to £1,000. He expressed the gratitude of all present to the Governor-General for attending.

ROYAL COLLEGE OF SURGEONS IN IRELAND.

The Charter Day dinner of the Royal College of Surgeons in Ireland was held on February 19th, when the guests included the Governor-General of the Irish Free State, the Vice-Chancellors of the Universities of Dublin and Belfast, the Chief Justice, the President of the University of Dublin, and some thirty medical practitioners from Belfast. The President, Mr. Andrew Fullerton, proposing the health of the Governor-General, referred to the great interest which he had taken in the Royal College of Surgeons. In his reply, the Governor-General congratulated the President on the support received from the two Universities of Dublin and Belfast. In medicine and surgery such geographical considerations as longitude and latitude seemed to have been abolished, and boundary differences did not arise. The medical profession differed from that of politics in that a preliminary diploma was required before practice was allowed, whereas politicians elected by universal suffrage could recommend both evil and good courses for their country without previous training or personal responsibility. He hoped that this bond of union between North and South Ireland would tend to dissipate prejudice, intensify mutual acquaintance, and forward the conjoint interests of the whole country.

INSPECTION OF DOWN COUNTY MENTAL HOSPITAL.

The Prime Minister of Northern Ireland, Lord Craigavon, accompanied by Sir Dawson Bates, the Minister of Home Affairs, in the course of a tour of Northern Ireland visited Downpatrick and inspected the Down County Mental Hospital on February 7th. He was received by the chairman, Senator J. Hill Dickson, who expressed his satisfaction that the recommendations of the recent Royal Commission on Lunacy in England had been previously adopted in the hospital. The economy in administration

and efficiency of treatment were largely due to Dr. M. J. Nolan, the resident medical superintendent, who had held office as president of the Royal Medico-Psychological Association of Great Britain and Ireland, and was this year president of the Ulster Medical Society. Lord Craigavon explained that the purpose of his visit was to establish close co-operation between the Government and those who were in charge of the administration of public institutions. After an extended visit to the different departments of the hospital he expressed his strong approval of the way in which the work was being carried out.

England and Wales.

Manchester Post-Graduate Courses.

The Manchester Royal Infirmary post-graduate lectures, which were revived at the close of the war, and have received a good amount of support among practitioners in the district, are to be continued in the coming session, March 1st to May 27th. On Tuesdays lectures on various subjects, and on Fridays ward demonstrations of cases, are to be given. With the next academic year (1927-28), commencing in September, it is hoped to start university post-graduate courses, most of which are for those in the district and outside who can devote their whole time to the work for a shorter or longer period, though some are being specially arranged as part-time courses in subjects of interest to those in public health services. A prospectus of these courses will be issued shortly. Manchester has an untapped wealth of clinical material for such post-graduate instruction, and all the leading hospitals of the town are working with the University to make this scheme a success.

Seamen's Hospital Society.

H.R.H. Prince George, acting for his brother, the Duke of York, who is president of the society, took the chair at the annual court of governors of the Seamen's Hospital Society on February 21st, when the 106th annual report was presented. It showed that the number of in-patients treated during the year at the Dreadnought Hospital, Greenwich, and the five other institutions under the management of the society, was 5,381, and the number of out-patients was 22,883. Prince George said that the hospitals of the society were never closed to a sick sailor. The motor ambulance would fetch him from any dock, and he received the services of the eminent physicians and surgeons who were on the honorary staff of the hospitals. They attended him voluntarily, with that generous expenditure of time and skill which was characteristic of the medical profession. The patient might or might not go to the Dreadnought Hospital itself. He might be taken to the Tilbury Dock Hospital, the Albert Dock Hospital, the Hospital for Tropical Diseases, or the King George's Sanatorium for Tuberculous Seamen. When he was convalescent he would go to the Angas Home in Kent, with its 300 beds. He would be nursed back to health if that was possible at all—not half-way to health, but to a condition in which he was able to return to his employment. Prince George added that, as himself a sailor lately back from the East, the work the hospital did for tropical diseases was particularly interesting to him; such diseases called for highly specialized medical knowledge, which the society, through its medical staff, made available for the sailor in London. The impression he had formed of the Dreadnought Hospital on a recent visit was that it would satisfy the commander of a battleship, which was the highest praise an officer of the navy could give to a shoregoing establishment. Sir Arthur W. Clarke, chairman of the society, said that Tilbury Hospital, the latest addition to the institutions overlooked by the society, was now established with sixty beds, all fully occupied. At the Bramshott sanatorium a light unit was being provided. The commitments of the society required £80,000 to be collected every year. Sir Burton Chadwick, M.P., Parliamentary Secretary to the Board of Trade, and Sir I. Hamilton Benn made speeches in which they paid tribute to the merchant seaman and the hospital work done on his behalf, and a vote of thanks to Prince George for presiding was proposed by Dr. C. E. Sundell, senior physician at the Dreadnought Hospital, and seconded by Sir George Hume, chairman of the London County Council.

The Smoke Abatement Act, 1926.

Further reduction of the smoke evil is expected to follow the coming into operation on July 1st of the Public Health (Smoke Abatement) Act, 1926, to which, while under consideration in the House of Commons, we have previously referred. The Ministry of Health has now issued a circular (759) to county councils and sanitary authorities in England and Wales summarizing the Act, and suggesting how the new powers vested in local authorities may be wisely used. Special courses of training are already available for officials responsible for the abatement of smoke nuisances, and it is hoped that an increasing number of officers will attend. Regional committees are recommended in areas where the smoke problem is common to a number of local authorities, so as to secure uniformity of administration, fuller investigation of the problem, more thorough co-operation with industrial interest, and a higher standard in administration. The Minister advises that by-laws should be made in every considerable industrial district defining a nuisance under this Act; and that, in the absence of exceptional circumstances, the aim should be to legislate against the emission of black smoke for two minutes in the aggregate within any continuous period of thirty minutes. The production of smoke by private dwellings is not yet brought within the scope of the Act, but the Minister suggests that those concerned in building new houses should be encouraged to install heating and cooking arrangements which will reduce the amount of smoke. Care should also be taken to reduce the needless output of smoke from old dwellings.

Consulting Dental Surgeon to the London County Council.

An unusual course has been taken in the appointment of consulting dental surgeon (part-time) to the London County Council, a post rendered vacant by the recent death of Mr. Edward Wallis. The Establishment Committee, in making its recommendation, states that the consulting dental surgeon is required to advise respecting the dental treatment of school children, and his duties include the general supervision of the dental treatment centres. It is necessary that the officer holding this position should not only have a wide knowledge of dentistry, but should also be experienced in organization, and, if possible, be connected with one of the large dental schools, and thus be in touch with the latest aspects of dental research and knowledge. An appointment of this character is considered to require qualifications so exceptional as to justify a departure from the usual method of obtaining applications by public advertisement. The committee therefore invited an application from Mr. Alexander Livingston, M.B., Ch.B., M.D.S.Liverpool, director of dental studies at the school of dental surgery, King's College Hospital. It is considered that his experience and qualifications render him eminently suitable for the appointment, and therefore Mr. Livingston's is the only name put forward. The salary attaching to the appointment is £300 a year (based on pre-war conditions, and at present, with temporary additions, amounting to £388); the holder is required to devote five half-days a week to the Council service.

Leicester Medical Service.

The board of management of the Leicester Public Medical Service in its report for 1926—presented to the annual meeting on February 15th—states that the number of subscribers to the various sections of the service has increased, and the capitation fee to acting members of the service for attendance on subscribers, who were not State-insured persons, remained the same as during the previous year in spite of the unsettled industrial conditions which had affected the receipts. The number of prescriptions dispensed was fewer than in 1926. A radiological and electrotherapeutical department was inaugurated in connexion with the service during the year, and the dental depart-

ment was considerably extended by an arrangement with a large panel of dentists to give dental treatment to subscribers to the service on payment of moderate fees. The benevolent fund to assist uninsured persons in reduced circumstances to purchase insulin at a reduced cost proved very useful in a number of cases. A revised edition of the *Leicester Pharmacopoeia* was issued by the drug committee of the service during the year. At the same meeting the report of the committee of the Leicester subdivision of the Union of Medical Practitioners was presented, and it was stated that the scheme of collective locumtenencies during holidays or sickness had been successfully continued.

ROYAL DEVON AND EXETER HOSPITAL.

Improvements introduced during 1926 at the Royal Devon and Exeter Hospital included the allocation of a ward for maternity cases, but more accommodation of this kind is contemplated to meet the increasing demand. Additional separation wards have been arranged for tonsil and adenoid cases, and new fittings and apparatus have been installed in the operating theatre and the x-ray and pathological departments. During the present year it is hoped to establish a new dispensary, and to make various structural and administrative improvements. The inauguration of a scheme of pensions for the nursing staff is under consideration. The number of in-patients admitted during 1926 was 3,043, and of new out-patients 6,670; 2,350 surgical operations were performed, as compared with 1,896 in the previous year. To cope with the increasing work the resident medical staff has been increased to four, the nursing staff has been augmented, and a second masseuse has been appointed. In spite of the depression due to the coal dispute, the ordinary income increased by £998. The receipt of a legacy of over £15,000 enabled the balance of the building account to be paid off and a sum of £9,000 to be invested.

ST. MARK'S HOSPITAL, LONDON.

Presiding at the annual meeting of the St. Mark's Hospital, London, on February 18th, the Lord Mayor stated that the out-patient attendances had increased from 3,951 in 1923 to 5,956 in 1926. The number of in-patients admitted was 707, and the number of new out-patients was 1,522. The new wing of the hospital, which was being erected, would provide twenty-four more beds, and the plan of extension included the provision of a private ward for patients of limited means. Sir Charles Gordon-Watson said that owing to the fact that St. Mark's Hospital, with only one other hospital, was devoted to the treatment of cancer of the rectum, it received patients from all over the kingdom and was well known on the Continent and in the United States. Patients whose condition presented special difficulty and complexity tended to gravitate to St. Mark's Hospital, as also did surgeons who specialized in this direction. A gift of £500 was promised towards the £5,000 still required for the extension fund.

Correspondence.

LEPROSY: ITS TRANSMISSION AND TREATMENT.

SIR,—I have read in the BRITISH MEDICAL JOURNAL of January 1st (p. 40) letters by Dr. Hasson and Dr. Graham Little, in which, *inter alia*, they say that in their experience chaulmoogra oil has not been of much use in the treatment and cure of leprosy. With this opinion I concur. Some time ago Sir Leonard Rogers appealed for funds to cure leprosy. I wrote to him saying that though I thought his object a good one I was afraid he would be disappointed in the results of his treatment with chaulmoogra oil.

The two kinds of leprosy, the anaesthetic or nerve leprosy, and the nodular or tubercular leprosy, though due to the same bacillus, are so different in appearance and symptoms and require such a great difference in treatment that they should be classed as different diseases. The tubercle bacillus causes phthisis and lupus, two diseases not more different than anaesthetic and tubercular leprosy, and yet no one would treat phthisis and lupus in the same way. So that what may be beneficial in one form of leprosy may not be of any use in the other. In the anaesthetic form of leprosy, when the patient consults his medical man for "neuritis," the mischief has usually been done. The bacillus of leprosy causes an inflammation within the nerve sheath, and as the sheath is dense and tough the nerve fibres are destroyed by compression. Elsewhere I have said that, though I have had no opportunity of trying it, I feel sure that by making a linear incision in the nerve sheath at the affected part, the tension may be removed and the nerve saved. The nerves as a rule are not affected in their whole length, but only at certain points corresponding to the joints where the thickened nerves may be readily detected.

For these anaesthetic cases no treatment by medication is of any avail, for no medical skill or treatment can restore a destroyed nerve. In my *Handbook on Leprosy*, published in 1895, I pointed out that the anaesthetic form of leprosy started as neuritis, which lasted for about four years. By this time the bacillus has done its deadly work and has been destroyed in the debris. After this the patient is not a leper but is suffering from destroyed nerves, which lead to the terrible deformities which we associate with this form of leprosy. In the tubercular form of leprosy chaulmoogra oil is useful, but only in the very earliest stages of the disease. The drug has to be administered in large doses, and as it is most unpalatable this causes much trouble. I have tried many methods, but the one I have found the best is as follows:

Make up two bottles of the oil, 10 ounces of each. Colour the oil in one bottle with oil of lavender and use this as a liniment. The whole skin from top to toe has to be rubbed with the oil every day. The internal administration of the oil is a difficulty which can only be overcome by patience and perseverance. Start with five drops of the oil three times a day. The next day give ten drops three times a day. Gradually increase the dose by five drops every day until 120 drops are reached, which is the maximum dose I have used. If at any time the patient rejects the oil the whole process must be repeated. What with the inunction and this large dose of the oil the skin exudes the oil from every pore, and then one sees the good effect of the oil, if it does any good.

I once spoke to Professor Koch about the treatment of leprosy by vaccine, which could be extracted, I think, from the blood of cured lepers. He thought the idea good, but was afraid there would not be enough serum obtainable in this way to be of practical use, but I feel sure that if such a serum were of benefit to the sufferers there would be no lack of volunteers to supply the serum.

After a careful study of the disease and its bacilli I have come to the conclusion that the human body is not the natural habitat of the leprosy bacillus, but that the bodies of certain fish are.

If this is correct would it not be possible to obtain the bacilli from the fish and cultivate them, for in the fish, without producing any disease, the bacilli grow to an enormous size and very abundantly? In my book above mentioned I show two photographs of lepers before and after an attack of erysipelas, which produced a marked improvement in their condition. This one experiment shows that the leper can be cured by proper treatment, and I think a scheme of treatment based upon the action of erysipelas on the disease would be justified.—I am, etc.,

Capetown, Jan. 26th. S. P. IMPEY, M.D.

THE MENTAL DEFICIENCY BILL OF 1926.

SIR,—Will you allow me to reply to a few of the criticisms by Dr. Tredgold in his letter to you of February 5th (p. 259), in order that I may try to make clear to him and your readers that my chief reason for discussing this subject is that any revision of the existing "definitions" in the Act of 1913 should not be confined merely to such difficulties as have been already found in working that Act, but should contemplate the possibility of some further modification of the present legislation relating to the matter of the care and control of mentally affected persons generally, whether grouped as "insane" (that is, of diseased mind) or as "defective" (that is, of imperfectly developed mind). I intend by this the *unification* of the Acts regarding "*lunacy*" and "*mental deficiency*" respectively.

Were it not for the fact that a noticeable number of criminals come under these headings, and the nature of their cases is frequently disputed in law courts, I should lay somewhat less stress on my present contention. But it is a fact that the recognition of the importance of a better form of certification of persons deemed to be mentally affected did contribute largely to that desire for further legislation which occasioned the setting up of a Royal Commission, and, later, the passing of the Act of 1913.

It may be argued, of course, and indeed has been argued, that "mentally defective" criminals or any other "mentally defective" persons could be certified under the existing Lunacy Act, but it has been fully shown, since the Royal Commission reported, and up to the present date, nearly twenty years later, that medical experts do not thus certify them. And cases sometimes arise when medical witnesses, disagreeing as to whether a person charged with crime should be classed as "defective" or "insane," practically leave the court helpless, and a risk is run of a sane criminal being confined in an asylum. I do not believe that much, if any, risk is now run of an insane or a plainly defective person being convicted and awarded a severe sentence.

It must not be forgotten that there is now a rapidly growing tendency, especially in the United States and in England (I do not include Scotland or Ireland, lest I should err), to regard habitual and other criminals generally as mentally defective or deranged, and thus to teach or imply that they are "irresponsible" and should be treated as patients rather than criminals. I will not ask to occupy your space by illustrating this statement, but merely introduce it crudely for the sake of making my meaning clear. I am certainly not denying that there are several cases in which this plea may be sound and just in all its aspects; but to assume the truth of it generally, or in the majority of cases, would be, in my judgement, a grave error, against which the law should be carefully guarded.

With regard to one of Dr. Tredgold's criticisms, I wish to emphasize that I have not anywhere expressed, nor do I hold, the view that any new bill concerning this subject should not include adults. That opinion was expressed, not by myself, but by another writer elsewhere. It was merely mentioned by me as an instance of a popular misconception leading to the popular objection to measures of "control" generally. My own view is, of course, that any bill whatever that may be brought forward must, for any practical purpose, include not only adolescents, but adults also. Although I hold that the definition of "mental deficiency" approved by Dr. Tredgold would be inadequate to deal with the needs of any such future bill as I deem desirable, I confess to him my plain error in using such a term as "complete adolescence" in my attempt to improve upon the proposed definition: this attempt might more appropriately have ended at the words "observed subsequently." But I would now withdraw my suggested improvement altogether as not relevant to my main object.

I am of the opinion, since cases of any kind of mental affection often require control for the first time at an adult age, no short or strictly exclusive *definition* of the origin or cause of such affections should be laid down in a statutory declaration. I do not think that among the many cases which are subjects of various grades of mental feebleness, and come under medical inquiry for legal purposes, any medical witness should be called upon to state definitely that such and such an adolescent or adult is or is not suffering "from incomplete development of mind, either innate or induced after birth by disease, injury, or other cause." Rather should the medical witness be asked and encouraged to give his opinion clearly in such case, stating in his own words what he has observed, and should be allowed to express his opinion freely as to what kind of treatment—penal, medical, or otherwise—would be most appropriate.

Thoroughly watertight *definitions* are mostly very difficult to frame, and wellnigh impossible when it comes to framing one in the sphere of mental functioning. Thus when used in cases of criminal action they would probably be the occasion of a greater number of practically "responsible" criminals escaping the gaol or even the gallows than most medico-psychologists, however they might differ on many questions, would see with approval.—I am, etc.,

London, W.2, Feb. 17th. H. BRYAN DONKIN.

THE MODERN TREATMENT OF HERNIA.

SIR,—May I be allowed to make a few observations and criticisms on the remarks of Mr. John T. Morrison on this subject.

Undoubtedly pedicled sutures cut from the external oblique are of the greatest value in most cases of hernioplasty. This idea, however, is not new, and the technique has probably been carried out by more surgeons than may appear likely from a perusal of the literature. McArthur of Chicago in 1901 was probably the pioneer in this direction, and both McEachern and Adair in 1924 redescribed the procedure. Wainschenker of Czitomir commenced in 1923 the practice of stitching the conjoined tendon to Poupart's ligament by pedicled strips torn from each side of the external aponeurosis. In two years 125 cases were operated on by this method with only one recurrence. In order to facilitate the manipulation of this short suture I attach a "loop thread" to the head of the fascial strip.

I disagree with the practice of attempting to unite the conjoined tendon to Poupart's ligament. The observations of Oudard and Jean (1922) and the experiments of Gallie and Lemesurier, Seelig and Chouke and Koontz (1926) all show how difficult it is to obtain any permanent union from stitching muscle to fascia.

In the operation which I have now performed 201 times in the past two years, I take a flap from the inner side of the external aponeurosis of sufficient size to cover in the weak posterior wall of the canal. This is stitched to Poupart's ligament by a narrow pedicled strip taken from the opposite side.

The full details have now been published in a little book, *Hernia and Hernioplasty* (London: Lewis and Co.).—I am, etc.,

London, Feb. 19th. ERNEST COWELL.

SIR,—My attention has just been drawn to the fact that the method described by me in my letter (BRITISH MEDICAL JOURNAL, February 19th, p. 353) covers ground already somewhat fully dealt with. In 1904 Professor Blair Bell described a method of making use of autogenous fascial sutures from neighbouring aponeurosis (BRITISH MEDICAL JOURNAL, ii, 1145). In 1901 also Dr. L. L. McArthur described what is essentially identical with the technique I use. I need hardly say that my work was done in entire ignorance of both of these contributions.

Perhaps my letter may not be altogether useless if it serves to draw attention to what I consider a valuable adjunct to the surgeon's armoury in dealing with difficult cases of hernia.—I am, etc.,

Liverpool, Feb. 21st. JOHN T. MORRISON.

SIR,—A letter from Mr. John Morrison (JOURNAL, February 19th, p. 353) rightly draws attention to the value of fascial sutures derived from the external oblique aponeurosis in dealing with some of the more difficult cases of hernia. I cannot agree, however, that this procedure can ever be substituted for "Gallie's operation" proper. It was of the "exceptionally severe cases" that I was writing, and for these the more elaborate operation is necessary, as it is impossible to obtain in any other way enough material for the sutures. I should, perhaps, have referred to the operation described by Mr. Morrison, but I regard it only as an alternative to the still simpler operation (described in my article) in which a flap from the internal oblique aponeurosis is used to form a new floor for the inguinal canal.—I am, etc.,

London, Feb. 20th. GEOFFREY KEYNES.

POST-GRADUATE TOUR TO AMERICA.

SIR,—May I remind the surgical members of the profession of the proposed post-graduate tour in the United States of America and Canada which is now being organized by the Surgical Section of the Royal Society of Medicine? The details have already been set forth in your issue of February 12th.

It has been found necessary to alter the date of departure, which has now been fixed for August 20th. This alteration has been made partly to avoid interfering with the British Medical Association meeting, and also for the reason that more American surgeons of eminence will, by that time, have returned from their holidays.

The tour has been arranged to give surgeons in this country an opportunity of seeing the work of some of the important surgical clinics in the United States and Canada, at a reasonable cost, and with the minimum of time and personal trouble. Should the numbers exceed one hundred a special train for the party will be provided and the Cunard Company will send a travelling courier.

The organizers hope that this invitation will meet with an adequate response and that the members of the tour will compriso a representative body of British surgeons.—I am, etc.,

Wimpole Street, W.1, Feb. 22nd. V. WARREN LOW, President of the Section of Surgery of the Royal Society of Medicine.

R.A.F.M.S.

SIR,—The advantages and disadvantages of a career in the medical branches of the armed forces of the Crown have of recent years been brought much to the fore, and the firm front taken by the British Medical Association on certain questions has been of the greatest value. As a result of recent financial and other improvements, I understand that the services have, as a whole, again received the qualified blessing of the Association.

Although much has been heard of the Army and Navy, the Royal Air Force has passed largely unnoticed, doubtless owing to the fact that it is of tender age and not so well known in medical circles. The most useful information is not always obtainable from official sources, and it may serve a useful purpose to note some points not set forth at Air Ministry interviews.

Air stations at home, compared with army stations, are, on the average, unutterably dreary as to site. The amount of medical work is slight, but the necessity for remaining on duty while flying is in progress by day and night is inexpressibly tedious, as medical officers are far too frequently single-handed. Provision for housing married officers is seldom made, and they have to live where they can. A motor car becomes a necessity.

Hospitals are few, and scant encouragement is given to officers to develop along the line of their own special interests. Study leave and ordinary leave are both difficult to obtain. Transfers are never-ending. Foreign service invariably means Iraq sooner or later, and the married man should know that ladies are not allowed to land even in the cold weather. He must go alone.

The status of the medical branch within the Royal Air Force is not yet satisfactory, doubtless owing to the shortage of senior officers of real standing. It should also be realized that it is advisable to rely solely on those prospects which are clearly laid down in printed regulations, and it is further necessary to remember that the Royal Air Force as a whole does not confer the social seal of the older services. Candidates for the services would do well to approach the R.A.F.M.S. with special caution.

A word of warning is needed for officers of other services who may contemplate a transfer. Owing to the extraordinary system, or rather lack of system, of promotion which has been in rogue, they are likely to find themselves, even after promotion, permanently junior to a number of men of considerably less total service. This is entirely opposed to the recognized principles of transfer, and is a pitfall for the unwary, for the discovery will probably not be made until too late. It is hardly necessary to say that the facts are unlikely to be pointed out officially.

This may well be regarded as a serious matter, for its effect both on the individual and on the service needs no elaboration.—I am, etc.,

LUX IN TENEBRIS.

ANAEROBIC STREPTOCOCCI.

SIR,—The attention Dr. C. E. Jenkins draws to anaerobic streptococci (February 5th, 1927, p. 231) emphasizes an interesting point in regular laboratory routine—that is, the importance of more thorough anaerobic work in all cases under bacteriological investigation. For many years it has been a routine arrangement that all specimens under bacteriological examination, such as abscess, dental, sinus, and particularly intestinal, urinary, and uterine cultures, should be treated anaerobically as well as aerobically, and the result of this has been that in a considerable proportion of such examinations streptococci particularly are recovered anaerobically when none have appeared in aerobic cultures; further, varying species of streptococci are sometimes more definitely isolated by these methods than by the aerobic cultures alone.

Of particular interest is the isolation of cutaneous organisms in psoriasis and other chronic skin infections, which on aerobic culture will frequently only give evidence of staphylococci, but by a careful anaerobic technique organisms of more obvious pathogenic importance are not infrequently isolated. These have included organisms of the streptococcal and diphtheroid groups.

Of equal interest is the use of anaerobic cultures of tissue specimens, such as those removed from joints, or periarticular material obtained from chronic rheumatic infections, etc. In these the organisms' natural habitat is anaerobic, and it seems strange that those searching for evidence of infection in such tissues do not more extensively use effective anaerobic culture methods, for in many cases it is only by such methods that any positive cultural results will be obtained.

Dr. Jenkins does not refer to the work of the late Dr. Ford Robertson, whose special anaerobic technique is probably the most useful and satisfactory yet introduced, and it has been the adoption of his methods which has made it possible to obtain, in general routine bacteriological examinations, the most satisfactory streptococcal cultures of obvious pathogenic importance from many specimens of various kinds. From personal experience one would agree that those who use an efficient anaerobic method, along with the ordinary aerobic cultivation, in the examination of clinical material, will not be disappointed with the improved results obtained, which make the extra trouble well worth while.

Particularly is this of importance if vaccine therapy is being contemplated as the result of the clinical investigation being carried out, for the immunizing response to vaccines prepared from such anaerobic cultures is frequently very much more satisfactory than when cultures obtained by aerobic methods only are employed. There are numerous instances of patients who have failed to show improvement on a vaccine prepared from aerobic cultures having later satisfactorily responded to one which includes organisms isolated anaerobically.—I am, etc.,

February 8th. E. CRONIN LOWE, M.B.E., M.B., B.S., Honorary Pathologist and Bacteriologist to the Southport Infirmary and the Eye and Ear Infirmary, Liverpool.

THE EFFECT OF CLOTHING ON THE BODY.

SIR,—In judging the effect of clothing on the body, the actions and reactions of the body itself have not been sufficiently considered. The temperature of the body is maintained at the level of about 98.4° F. by means of the immense chemical activity of the body cells. The heat thus produced is much greater than is necessary to keep the body at this temperature, and a big surplus has to be got rid of, but it must be eliminated slowly and evenly, without sudden changes. The chief methods are by respiration, and by the skin by radiation and evaporation.

By a dry skin, warmer than the surrounding air, the heat is radiated gently and regularly. The greater the difference of temperature between two objects, the greater and swifter is the exchange of heat and cold, so that, other things being equal, a cool skin parts with less heat, and more slowly, than does a warm one. Invisible perspiration is constantly going on, surrounding the body with a vapour which is warmer and damper than the outer air, but if the

skin is well ventilated this is removed as it forms, leaving the skin dry.

In this climate evaporation by sweating occurs when the body is in urgent need of getting rid of surplus heat, as during violent exertion. It also occurs when the sympathetic system is violently excited. Sweating is an "emergency exit" producing great and sudden loss of heat, and is followed by chill if the cause is not continued. In ordinary life no sweating should occur. A short run of a hundred yards to catch a train, or a round of golf, followed by sweating means that the person is unsuitably clothed. The skin should be as free from moisture after as before.

But clothing has been chosen which prevents aeration of the skin. The popular woollen undergarments, elastic and closely fitting, prevent the body vapour from being swept away; the film of warm damp air becomes warmer, denser, and damper; the body cannot discharge its surplus heat to an air cooler than itself, and has to resort to visible perspiration. Immediately the body loses heat at a rapid rate by evaporation, instead of by the slower and healthier method of radiation, its vitality is lowered by the sudden chill, and disease results.

In wearing wool next the skin the need of elimination of heat has been entirely lost sight of. This climate is not a cold one, but it is very windy; and when the skin is damp and warm, the wind, and especially the dry east wind, exerts a tremendous power of lowering the body temperature by evaporation. The body can keep itself warm if it is allowed to do so, but it is constantly being thwarted by the peculiar clothes demanded by civilization. In our desire to keep warm we destroy the innate power of the body to resist cold.—I am, etc.,

London, N.W.3, Feb. 14th. MARIAN THORNETT, F.R.C.S.I.

THE "NURSING MIRROR."

WE referred recently, in a leading article, to the *Nursing Times* as "the leading nursing journal," and in the following issue we gave full publicity to a letter from the proprietors of the *Nursing Mirror*. In order, however, to obviate any possibility of misunderstanding, we desire to say that we used the epithet "leading" solely on account of the official connexion of the *Nursing Times* with the College of Nursing, and we had no intention of representing the *Nursing Times* as a more important or more widely read paper than the *Nursing Mirror*, or of depreciating in any way the well established position and influence of the latter journal.

Obituary.

GEORGE ARTHUR PHILLIPS, M.R.C.S., J.P.,

Consulting Surgeon, Wallsall Hospital.

MR. G. A. PHILLIPS died at his home at Streetly, Staffs, on February 18th. Born at Whitwell, Herts, in June, 1849, he was the son of a doctor—George Marshall Phillips, M.R.C.S., who carried on active work into ripe old age and when about eighty years old acted as locumtenent to his son.

George Arthur Phillips was educated at Rossall and St. Bartholomew's Hospital, and in the early seventies, after obtaining the M.R.C.S.Eng. and L.S.A. diplomas, he settled in Walsall, where he speedily made a name for himself. Among the many activities crowded into his fifty years' association with the borough were, at various times, those of senior and afterwards consulting surgeon at the Walsall Hospital (of which he was a trustee, and where for many years he was a carver on Christmas Day), a certifying surgeon under the Factory Acts, a county court medical referee under the Workmen's Compensation Acts, local surgeon to the railway companies, medical officer to the Post Office and leading insurance societies, president of the Staffordshire Branch of the British Medical Association, examiner for the St. John Ambulance Association (he was also an honorary associate of the Order of the Hospital of St. John of Jerusalem), a governor of Queen Mary's Schools and vice-chairman for several years, a commissioner of taxes, chief consul for Staffordshire for the Cyclists' Touring Club, and a trustee of several charities, including Fishley and Bentley Hay.

But his public activities (writes the colleague to whom we owe the details of Mr. Phillips's career) were really his lesser activities. Where he chiefly shone was as the personal, private, family doctor—a type which seems to be becoming less and less apparent. He had a charm of manner which endeared him to all. It is no exaggeration to say that he carried with him, wherever he went, a ray of sunshine. Old ladies loved him, old gentlemen offered him glasses of port, which he refused—always was he a most abstemious man; young people beamed at him and became suddenly well at the behest of his cheery bidding. He was of the good old school. He believed in himself and he believed in everyone else—with a few exceptions. May he rest in peace. He was a very gallant gentleman, who kept a stiff upper lip when things went against him.

By the death of Sir JOHN UTTING, an ex-Lord Mayor and chairman of the Corporation Finance Committee, Liverpool has lost a distinguished citizen, an impressive, decorative, and valuable alderman, and a very popular man, who first earned affection as a practising physician. He was born in Norfolk in 1852, and received his medical education at Guy's Hospital. He obtained the diplomas M.R.C.S.Eng. in 1874 and the L.R.C.P.Ed. and L.M. in 1884, after spending three years as a ship surgeon. He settled in Liverpool at the age of 25, and rapidly established a large practice, while at the same time taking a keen interest in all matters of public health. He entered the city council in 1899, and did a large amount of work on the Port Sanitary and Hospitals Committee. As chairman of the committee for twenty years he contributed greatly to developments in sanitary science, and as chairman of the Liverpool University School of Hygiene he did equally valuable work. In the early years of the war he served in the R.A.M.C. as major on the staff of the 1st Western Military Hospital; he was demobilized in 1917 in order to become Lord Mayor of Liverpool. During his tenure of this office he was wonderfully successful in sustaining financial contributions to charitable institutions, while at the same time he raised over £80,000 for the Red Cross funds. In 1919 he became chairman of the Finance Committee of the Corporation, and in this position showed great capacity. In the following year he was created Commander of the Order of George I by the King of the Hellenes, and in 1921 the Red Cross medal of the 3rd Class Cruz Vermelha de Merito was presented to him by the President of the Portuguese Republic. He received the honour of knighthood in 1924.

By the unexpected death, on February 5th, of Dr. RICHARD RICHMOND of Wimbledon the medical profession has lost a member of the finest type; a man wholly devoted to his work and to the welfare of his patients, for whom no sacrifice of strength or comfort seemed to him to be too much. He was born at Kendal, and received his medical education at Edinburgh University, where he graduated M.B., C.M. in 1888, and proceeded M.D. in 1893. He then undertook a course of study at the Royal London Ophthalmic Hospital, Moorfields, and acquired the skill and interest in ophthalmology which he found very useful in his first practice at Great Bardfield in Essex, where he did quite a considerable amount of operating in eye cases. He moved to Wimbledon nearly thirty years ago, practising at first single-handed and afterwards in partnership with Drs. Bates and Newton. He was one of the honorary medical staff of the Wimbledon Hospital. He leaves a widow and four children; one son holds a commission in the R.A.M.C. and another is a medical student. A colleague writes: Dr. Richmond was an excellent all-round clinician, practical and resourceful in treatment. But the feature in his medical work which always especially struck the writer, who knew him well, was his determination, and his refusal in the case of patients to acknowledge failure or defeat. Unwearied on their behalf, always on the alert, and ready to try some fresh line of treatment, he was extremely happy in his measures, and his insight enabled him again and again to register marked successes in cases which had seemed unfavourable or hopeless.

Dr. JOHN FLETCHER PORTER of Upper Clapton died on February 17th, aged 54 years. He was the son of a clergyman, was educated at the Victoria University, Leeds, and at the London Hospital, and took the diploma of L.S.A. in 1897, and two years later graduated M.B.Lond. He had practised for many years in the East End of London, was physician to the Home Hospital for Women, Stoke Newington, medical officer to the Salvation Army Maternity Hospital and Homes, surgeon to the Linen and Woollen Drapers' Institute, and medical officer to the Post Office. In 1915 he was appointed president of the Special Army Medical Board for Neurasthenic Cases, and subsequently became Deputy Director of Medical Services under the Ministry of Pensions. He held the rank of major in the R.A.M.C. Dr. Porter was a well known Freemason, a member of the City Division of the British Medical Association, and a magistrate for the Tower Division. The honour of C.B.E. was conferred upon him for services rendered during the war. He married in 1901 and is survived by his widow and two daughters.

Sir KAILAS CHANDRA BOSE, C.I.E., died recently, aged 76, in Calcutta. He was educated at the Calcutta Medical College, and after taking his degree, fifty years ago, started practice in Calcutta. He was honorary physician to the Calcutta Medical College Hospital, and was a member of the governing body of the State Medical Faculty of Bengal. He had been of great assistance to the Calcutta School of Tropical Medicine and its attached hospital, by inducing some of his wealthy Indian patients, chiefly marwaris, to contribute liberally to the school. He found time for an immense amount of general public work in Calcutta. He was vice-president of the last Indian Medical Congress, delegate from Bengal to the All-India Sanitary Conference, president of the Calcutta Medical Club, and a member of the Plague Commission; for twenty-two years he was a member of the Calcutta municipality; he was also an honorary Presidency magistrate, and a Fellow of Calcutta University. In 1909 he received the gold medal of the Kaisar-i-Hind order, in 1910 he was decorated with the C.I.E., was knighted in 1916, and was given the O.B.E. in 1918. He leaves a widow, six sons, and three daughters.

Dr. WILLIAM JAMES CAIE of Bury St. Edmunds died on February 6th. He was the elder son of the late Rev. W. S. Caie, minister of the parish of Enzie, Banffshire, and after studying at the Universities of Aberdeen and Dublin, graduated M.A.Aberd. in 1895, and M.B., Ch.B. in 1900. He was prosector of anatomy in the University of Aberdeen, and served as resident surgeon and resident gynaecologist at the Aberdeen Royal Infirmary. He subsequently went to Bury St. Edmunds, where he joined Dr. Kilner in partnership. He was for over twenty years a member of the Bury St. Edmunds Town Council, held office as mayor of the borough for two terms (1923-25), and was appointed a Justice of the Peace. He was a member of the medical board of the West Suffolk Sanatorium, and medical officer of the Sir John James Charity. Dr. Caie was a member of the West Suffolk Division of the British Medical Association, and several papers by him on obstetric subjects were published in these columns. On the day of the funeral at Aberdeen a memorial service was held at St. Mary's Church, Bury St. Edmunds, which was attended by the mayor and a number of public officials and friends.

The death of Dr. WALTER P. SIMPSON, M.B., C.M., occurred on February 10th at his residence in Bathgate. He had been carrying out his professional duties as usual down to February 5th, and his death came as a shock to the public. Dr. Simpson was born at Edinburgh in 1869 and was a grand-nephew of the late Sir James Y. Simpson. After graduating at Edinburgh University in 1892 he became house-surgeon in the Royal Maternity Hospital, Edinburgh, and after holding several other minor appointments settled in Bathgate, taking over the practice of the late Dr. Tennant some twenty-nine years ago. In addition to the duties of a large practice Dr. Simpson took a great interest in all forms of sport, his favourite recreations being golf and curling. He was an enthusiastic member of the British Medical Association and was a keen Freemason, being twice elected to the chair of the lodge to which he belonged. He was unmarried.

An old friend of Dr. C. J. Harrison of Chelsea, of whose life a short account was given on February 19th (p. 357), desires us to add to what was then published some lines about Dr. Harrison as a sportsman and artist. He was an experienced yachtsman; within nine months of commencing golf his handicap was plus one; as a photographer he produced most artistic prints; he was a good woodcarver, and a past master with the lathe. Harrison, he adds, "excelled in anything he put his hand to; and inspired the greatest confidence in his patients."

Universities and Colleges.

UNIVERSITY OF OXFORD.

AT a congregation held on February 19th the following medical degrees were conferred:

D.M.—V. S. Hodson.
B.M.—D. A. Robertson, C. S. Broadbent, M. D. Bower.

UNIVERSITY OF CAMBRIDGE.

AT a congregation held on February 18th Dr. H. H. Dale, F.R.S., was appointed an elector to the Professorship of Physiology. The following medical degrees were conferred:

M.B., B.CHIR.—J. C. P. Grey, W. H. Palmer.
M.B.—R. W. Cuningham.
B.CHIR.—F. C. Roles, H. J. Heathcote.

UNIVERSITY OF LONDON.

LONDON SCHOOL OF HYGIENE AND TROPICAL MEDICINE.

Division of Tropical Medicine and Hygiene.

THE following passed the school examination at the termination of the eighty-first session (October, 1926–February, 1927):

*H. W. Kumm (Duncan Medal), *P. H. Martin, *C. L. Bilderbeck, *B. Williamson, *E. S. Anthonisz, *S. G. Harrison, *H. M. Shelley, *N. P. Dalal, *L. W. Keays, T. B. M'Aleer, Young, W. Young, F. King, H. O. Newell, T Menon, N. R. Tadiwa Miller, I. J. Patel, S. T F. R. Lockhart, M. I J. H. Hislop, N. Vane J. S. Oliphant, J. H. Loganadan, P. L. Whig, E. Stuart-Taylor, E. C. A. Fristedt, M. M. Nolan, J. Pattis, F. M. Frost, Ou Koh Boo, K. A. Maclean.

*With distinction.

NATIONAL UNIVERSITY OF IRELAND.

AT a recent meeting the Senate had under consideration the reports of the examiners upon the results of the Pre-registration Examination in Physics and Chemistry, December, 1926, and the M.B., B.Ch., B.A.O. Degrees Examination, January, 1927, and awarded passes, honours, etc., in connexion therewith.

James M. O'Donovan, M.D., B.Ch., B.A.O., M.Sc., was appointed to the lectureship in medical jurisprudence at University College, Cork.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THE remaining lectures of the course arranged by the Royal College of Surgeons of England include one on Monday, February 28th, by Mr. V. Zachary Cope on shock and collapse, with special reference to abdominal disease. Sir Arthur Keith's series of six lectures on recent researches carried out in the Museum will commence on Wednesday, March 2nd, and will be continued on Fridays, Mondays, and Wednesdays until March 14th. On Wednesday, March 16th, Dr. Hildred Carlill will lecture on simulation of surgical affections by hysteria, and on Friday, March 18th, Mr. R. St.Leger Brockman on the toxaemia of acute intestinal obstruction. The final lecture of the series will be delivered by Dr. Alfred Piney on hyperplasia and neoplasia in lymphatic tissue. The lectures will be delivered at 5 p.m.

Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

AFTER hearing an announcement from the Foreign Secretary on Monday that an agreement regarding the status of the British settlement at Hankow had been signed with the Nationalist Government, the House of Commons spent the week on Supplementary Estimates, and on a bill whereby the Government proposed to indemnify Scottish parish councils for certain poor relief given, apparently illegally, to miners' families during last year's coal dispute.

Keen debates arose in the House of Commons on Supplementary Estimates for the Ministry of Health. These discussions centred round the allegation that, both in Scotland and in England, during the mining dispute, an unusual number of claims to benefit had been passed by medical practitioners under the National Health Insurance Act.

Experiments on Dogs.

As mentioned last week, a dogs' protection bill was introduced in the House of Commons by Sir Robert Gower. The bill has now been printed, and is backed by Colonel Moore, Mr. Macquisten, Captain Arthur Evans, Mr. Sexton, Mr. Thurtle, Mr. Radford, Mr. G. W. H. Jones, and Mr. Bromley. The bill has been put down for second reading on April 29th. The following is the text of the bill; its terms seem to be identical with those of bills brought in at various dates since 1920 in either House by Lord Banbury, Lieut.-Commander Kenworthy, and others.

A BILL to Prohibit the Vivisection of Dogs.

BE it enacted by the King's most Excellent Majesty, by and with the advice and consent of the Lords Spiritual and Temporal, and Commons, in this present Parliament assembled, and by the authority of the same, as follows:

1. *Prohibition of Painful Experiments on Dogs.*—Notwithstanding anything in the Cruelty to Animals Act, 1876 (hereinafter referred to as "the principal Act"), it shall be unlawful to perform any experiment of a nature calculated to give pain or disease to any dog for any purpose whatsoever, either with or without anæsthetics, and no person or place shall be licensed for the purpose of performing any such experiments.

2. *Penalties.*—Any person performing or assisting or taking part in performing any such experiment on any dog shall be guilty of an offence against the principal Act and punishable accordingly, and the provisions of this Act shall have effect as though they formed part of that Act.

3. *Short Title and Citation.*—This Act may be cited for all purposes as the Dogs' (Protection) Act, 1927, and the principal Act and this Act may be cited together as the Cruelty to Animals Acts, 1876 to 1927.

Medical Benefit during the Coal Dispute.

Scotland.

In Committee on the Civil Service Supplementary Estimates, in the House of Commons, on February 21st, Sir John Gilmour (Secretary for Scotland) presented a supplementary estimate for £322,295. This included £48,700 for maternity and child welfare, £20,000 for treatment of tuberculosis, and £95,000 for sickness, disablement, and maternity benefits (grant in aid). He said that the estimate for maternity and child welfare had been increased considerably owing to the very heavy claims during the recent troubles in the country. The cost of the treatment of tuberculosis also showed a serious increase, due in the main to the great rise in the price of fuel. Sickness, disablement, and maternity benefit had shown a rather alarming increase, which was causing considerable difficulty both to the Board of Health and to the medical profession in ascertaining the cause. He believed that the problem had arisen owing to the very abnormal circumstances, but that it did show some slackness of administration, and that there had been some lack of appreciation on the part of many of the medical men who had to deal with this admittedly difficult problem, would, he thought, be proved on investigation. At any rate, it was a matter which his department was taking up with those responsible. He could only say that during the period in which this enormous rise took place there was no real epidemic of sickness, or other difficulty which would have given rise to it. Equally, it was surprising to find how, on a certain date, this expenditure fell with great rapidity. It was quite clear that it had been, in the main, due to the abnormal circumstances and to the difficulty in which they might have placed many people in the administration of these services. It was a matter which the department was investigating, and of which, probably, further might be heard. An additional sum for the erection of another 1,000 steel houses was asked. These houses had proved, on experience, to commend themselves to the people.

Mr. W. Adamson, formerly Secretary for Scotland, said that experience showed that many of the criticisms levelled against steel houses were justified. People living in them said that, while they had no complaint against the accommodation provided, which was quite equal to that in the brick or stone houses, in the winter they were very much colder. He did not disagree with the increased estimate for maternity and child welfare, and said that if the Scottish Board of Health had been doing its duty during the trying times of the last nine months, it would have asked for a considerably larger sum. The Board objected to the town and parish councils doing so much for child welfare during the stoppage of last summer, and held up loans until the parish councils took on themselves the onus of making provision for child welfare. As a result the councils had been very heavily burdened. He would be very much surprised to find that the coal bill in the tuberculosis institutions had increased by the amount of the estimate for tuberculosis treatment. There must be some other explanation.

Dr. Shiels said that the remarks of the Secretary for Scotland suggested that the unfortunate doctors were to blame for the £93,000 now asked for for sickness, disability, and maternity benefit, and he would like the Secretary for Scotland either to justify or to retract this slur on an honourable profession. It seemed to him that another explanation was possible and more likely—namely, that the miners and their wives and children suffered owing to the coal stoppage and the lack of proper food, and that consequently there was an increase in sickness.

Dr. W. E. Elliot (Parliamentary Under Secretary for Health for Scotland) said that he had every desire to avoid the unpalatable conclusion that the £93,000 by which the sickness benefit had gone up was due to some extent to maladministration, but he could not entirely acquit the administration, particularly the medical administration of benefit, from having had a share in the very rapid rise in the curve of benefit in the months of the coal dispute. It was not due to a great increase in sickness. A great increase in sickness could not have been, and was not, purely a temporary thing. Some reflection of that increase would have been found in some of the other sickness curves, but none of the other vital statistic curves had moved up to an extent at all comparable. There was no corresponding peak in any of the curves except the benefit curve, and when a monetary curve moved like that, and all the vital curves remained down, the conclusion that this distortion was due to some other than a purely medical factor could not be avoided.

Dr. Shiels asked whether there had been any increase in sickness.

Dr. Elliot said that there was an increase in sickness benefit, but whether there was a corresponding increase in sickness or not was a question which was engaging the attention not only of the Board of Health in Scotland, but also of the Ministry of Health and of the British Medical Association and the Insurance Committees, all of which bodies were going into the matter very carefully at the present time. It would be premature to say more, but it was the case that there was a rise in the sickness benefit, but no corresponding rise took place in any of the epidemic diseases.

Dr. Shiels asked if the implied suggestion was that the doctors had certified people as being ill when they were not.

Dr. Elliot replied that he too, like Dr. Shiels, was a member of the medical profession; they could say things with regard to that profession which they would bitterly resent if said by laymen. All he would say was that the sickness benefit seemed certainly above the sickness rates. The statutory conditions with regard to sickness were undoubtedly relaxed in the period of the stoppage. Whether that was right or wrong—and conclusions could not now be drawn—it was the reason of the big rise in the benefits under this scheme.

Mr. James Stewart (formerly Under Secretary for Health for Scotland) said that he was rather astonished at Dr. Elliot's statement in regard to the medical profession. Dr. Elliot had implied that the doctors had connived at a state of affairs under which people had obtained sickness certificates in circumstances that were not creditable to them or to the doctors who granted the certificates. He then went on to say that this matter was under consideration by various bodies, including the Government and the medical profession. He (Mr. Stewart) thought that it would have been better if Dr. Elliot had left the remark as to the connivance of doctors until the investigation had been made and the charge proved or otherwise.

The vote was agreed to by 178—majority 100.

England and Wales.

In Committee of the House of Commons, on February 21st, a Supplementary Estimate for £220,000, for salaries and expenses of the Ministry of Health, and grants in aid in respect of benefits and expenses of administration under the National Health Insurance Acts, was considered.

Sir Kingsley Wood (Parliamentary Secretary to the Ministry of Health) said that in England and Wales, as in Scotland, it had been found that during the financial year, although there had been for the most part no prevalence of any marked epidemic or exceptional outbreak of illness, there had been a wholly exceptional

increase in claims on certain approved societies, especially in the coal-mining areas. The same conditions had led to an increased expenditure on drugs, necessitating an extra grant of £25,000. The Ministry of Health regarded this as a very serious matter, for it was estimated that, after making an allowance for the increased amounts distributed as additional benefits, the claims experience of the approved societies had exceeded that of 1925 by no less than £2,309,000. It was very significant that the rate of increase and the expansion of sickness benefit had not been uniform throughout the country, but that its geographical distribution had corresponded very closely with the incidence of unemployment due to the coal dispute. Up to the beginning of May the sickness experience of the country, apart from a slight tendency to rise, which had been general during the last two or three years, was fairly normal. After that date there was a tremendous rise in the expenditure of the approved societies.

Dr. Shiels asked if there had not been a considerable amount of destitution in the mining areas, and whether many miners had insufficient food. Did not that, apart altogether from the ordinary epidemic curves, prove that there was a great likelihood of excessive sickness in the mining areas?

Sir K. Wood said the answer to that was that, after the termination of the dispute, the average weekly expenditure of certain of the societies specially affected dropped as much as one-third. In some of the societies, in December last, the average weekly expenditure was less than that of December, 1925. While he agreed that in times of industrial depression some measure of increased sickness might be looked for, the Minister of Health (and, he thought, everyone concerned in the matter) could not escape the conclusion that large numbers of insured persons had succeeded in obtaining medical certificates, although they were not, in fact, incapable of work within the definition of the National Insurance Act. This had been confirmed by the very large number of cases that were referred to the medical referees for examination. In the present vote there was an extra sum of £30,000, which was spent in the increased employment of medical referees, because directly the Ministry saw this abnormal rise in the sickness expenditure it got into communication with the medical men of the country and the approved societies, who had very largely increased the employment on the regional medical staffs. The normal number of people who were referred to the medical referees under the Act each year was some 200,000. From the beginning to the end of the coal stoppage the societies, largely on their own account, referred between 400,000 and 500,000 persons to the medical referees. It was a very astonishing thing that some 40 per cent. of the people so referred signed off in preference to presenting themselves for medical examination As for the remainder, the examination proved that instead of the usual experience, which was that of the number who actually presented themselves to the medical referees, some 80 per cent. were found incapable of work, although there were two or three times the number referred, it was found that only some 66 per cent. were incapable of work. Therefore, out of every 100 cases referred to the referees, 40 per cent. signed off and only 60 per cent. presented themselves. Of these 60 per cent., it was found that another 20 per cent. were not incapable of work. Undoubtedly it had been a very abnormal period, and the resumption of work had had a very marked effect on the expenditure so far as medical benefit was concerned: So far as ordinary foresight could go, this was an unforeseen and unfortunate experience as far as national insurance was concerned, which everyone hoped would not be repeated. Things were now rapidly approaching the normal rate of sickness experience, which, he hoped, would soon be reached.

The vote, he added, contained an item in connexion with a new dental service which was being inaugurated in connexion with national insurance. The money was required for the salaries of regional dental officers for the last two months of the present financial year. At present, 6,300 societies were engaged in administering this extra benefit, which was one of the most popular additional benefits under the Act. The scope of the new service had been agreed on by a committee representing the approved societies and the dental profession, almost with unanimity he thought. There was some objection by a very small body as to the terms and conditions of the service. He believed that this new advance, so far as dental treatment was concerned, would have very far-reaching consequences in improving the health of the people.

Mr. Wheatley moved a reduction in the vote by £100 as a protest against the attack which had been made on the medical profession. He said that Sir K. Wood's statement with regard to an honoured and honourable profession could not go unchallenged or uncriticized. It amounted to this: that during the coal stoppage large numbers of the medical profession were guilty of fraud, and that they were aided and abetted in carrying out this fraudulent policy by large masses of the working classes. There was no use mincing matters. If it were true, as Sir K. Wood had alleged, that the approved societies had been deprived of large sums through members of the medical profession granting certificates that were not warranted, then those medical practitioners were guilty of a very gross system of fraud. That was not the view of the medical profession which he had learned from his experience in life or during his brief experience as Minister of Health. He had always been taught to look up to the medical profession as being among the most honourable sections of the community, and he was sure that they would read with amazement the statements just made on behalf of the Government. He had no doubt that the medical profession would find means of clearing its character of the unjust imputation cast on it by the Ministry of Health. The only evidence in support of this amazing charge was the results of the appeals made to the medical referees.

Miss Wilkinson contended that to say that doctors had put people on the fund improperly was not only a libel on the medical profession but an insult to the intelligence of the committee. The doctors had behaved like decent citizens, and as men with some humanity. They had tried to get food for these unfortunate people, whom the Ministry tried to starve.

Dr. Vernon Davies said it was rather an unusual but pleasant experience to hear the medical profession belauded by the Labour party, but Miss Wilkinson had paid them rather a back-handed compliment, because she said that the medical men had been more kind and charitable than the department, and had put these men on to medical benefit when they ought not to have been put there; that they were, in fact, doing a dishonest act, that they were men of dishonour. Malnutrition was not a disease for which medical benefit could be given. If a doctor put on a medical certificate that a person was suffering from disability or malnutrition the approved society could not accept that certificate. The question raised by Sir K. Wood had brought to the front one of the inherent defects of the National Insurance Act which it had been recognized from the beginning was bound to come up some time. His statement as to the great increase in medical benefit, which coincided with the coal stoppage, showed, or rather was an implication, that an extra number of men went on medical benefit, either because they were not genuinely sick or because doctors were lenient in giving them certificates. That was a most serious implication against his profession, and one which ought to be most carefully examined. Doctors were human beings; they had their hopes, desires, and anxieties, and, while in practice, were anxious not to offend their patients unnecessarily. One very strange occurrence, however, was that as soon as the coal stoppage was over there was a sudden drop in benefits. If Miss Wilkinson was right that a great amount of the sickness was due to starvation or malnutrition, it would not have been expected that as soon as the stoppage was over these people would suddenly recover their health and strength and go back to work. Another point that was suspicious was that the approved societies sent a larger number of cases to the medical referees—100 per cent. more than the average. That gave rise to a suspicion that the approved societies thought that some of these people were not genuinely ill, and ought not to have a certificate. Another suspicious sign was that 40 per cent. of those who ought to have gone to the medical referees suddenly decided to sign off. At the present time the doctor had to please his panel patients if he wanted to keep his panel practice; that was the particular difficulty. If a doctor wanted to be absolutely honest to his own conscience he had to run the risk of offending patients and of losing his practice. In all cases there was a certain element of doubt. It was very difficult for a doctor to prove whether a man was fit for work. So, although he thought that the doctors, perhaps, were under a little suspicion, and perhaps were a little too lenient and did not exercise sufficient care, the main result that the committee would judge from the estimate now brought forward was this: that a certain number of people, finding that they were locked out and that they could not get relief from the Poor Law, suddenly remembered that there was such a thing as a panel doctor, and if they had a cough or a cold that they could legitimately get medical benefit. Having got on the list, they took good care that they did not get off until they were absolutely fit and strong. That, perhaps, was human nature. So long as national insurance was on its present basis that difficulty would have to be faced—the man who was anxious to get benefit and the doctor who was in the awkward position of having to decide whether the patient was ill or well. The result was that the moral of the patient, and the moral of the doctor in some cases, was sapped, so that the medical benefit suddenly increased with the coal stoppage and suddenly decreased when the stoppage was over.

Replying to the debate, Sir K. Wood said it was only right to say that the medical profession itself took action in this matter. In July the Minister of Health communicated with the appropriate authority, and in October the National Insurance Controller attended a representative Conference, and put the whole facts before the medical men chiefly affected. A very significant resolution was passed by the Conference, asking the Insurance Acts Committee to consider what practical steps could be taken to meet the difficulty, and pledging themselves to use their influence locally in endeavouring to secure strict adherence to the principles governing certification for the purpose of the National Health Insurance Act. Therefore, he (Sir K. Wood) hoped no one would think he had overstated the case, or that the

medical men themselves were not alive to the evils which had resulted from the state of affairs he had indicated. With regard to the dental service, the department had appointed some seven or eight new dental regional officers. The chief dental officer would receive a salary of £1,000, and the others £700 or £800 a year. These sums were moderate and quite adequate, having regard to the duties.

The amendment was rejected by 187 votes to 78—majority 109; and the vote was agreed to by 189 votes to 75—majority 114.

National Health Insurance.

Mr. Chamberlain cannot yet make any statement as to when a bill will be introduced giving effect to the recommendations of the Royal Commission on National Health Insurance. He hopes to include in that bill a provision that the fee for the medical examination of emigrants seeking assisted passages shall be paid from National Health Insurance funds.

Mr. Chamberlain rules that there is no conflict with any provisions of the National Health Insurance Acts in the order of the West Ham Board of Guardians that any member of their resident staff who is sick must make a claim for sickness benefit from his approved society, the benefit so receivable being deducted from his salary.

Mr. Couper asked whether action was proposed on representations made by the Pharmaceutical Society against the practice of doctors in England and Wales dispensing medicines and supplying surgical requisites. Mr. Chamberlain replied that legislation would be needed to preclude medical practitioners from doing this, and he was not, as at present advised, prepared to introduce it.

The Minister of Health cannot extend the period during which persons could become voluntary contributors under the combined health and pensions insurance scheme. The period ended on January 2nd.

Insulin in Diabetes.—Brigadier-General Brooke asked the Minister of Health whether his medical officers still recommended the use of insulin for the treatment of diabetes; and whether, in view of the attacks now made on this remedy, he would define the position of his department. Mr. Chamberlain said it was not ordinarily part of the duties of medical officers of the Ministry to make recommendations in regard to treatment, though regional medical officers might occasionally offer suggestions at the request of an insurance practitioner. The administration of insulin was unquestionably of great value in suitable cases. The mortality rate from diabetes did not appear to be increasing, although the number of deaths from this disease naturally tended to increase with the increase in the population.

Committee on Mental Deficiency.—On February 21st the Duchess of Atholl told Mr. Cove that the committee which was inquiring into certain questions relating to mental deficiency among adults as well as among children consisted of the following members: Mr. Arthur H. Wood (chairman), Dr. R. H. Crowley (vice-chairman), Mr. C. Eaton, Mrs. Pinsent, Miss Evelyn Fox, Miss Redfern, Professor Cyril Burt, Dr. F. C. Shrubsall, Dr. A. F. Tredgold, Dr. F. Douglas Turner, with Dr. N. D. Bosworth Smith as secretary. The President of the Board of Education understood that evidence had not yet been invited. She could not say whether the committee's report would be published.

Miner's Nystagmus and Alcohol.—Asked whether, in a compensation case in Yorkshire, a statement had been made that nystagmus was improved by excessive drinking, the Home Secretary said the Miner's Nystagmus Committee of the Medical Research Council had found that, while large doses of alcohol might lessen for an hour or so the oscillation of the eyes, the influence of alcohol, generally speaking, was markedly harmful and delayed recovery.

Poor Law Emergency Provisions (Scotland) Bill.—On February 22nd the Lord Advocate (Mr. Watson) moved the second reading of the Poor Law Emergency Provisions (Scotland) Bill. This measure legalizes the payment of poor relief to dependants of persons involved in trade disputes in Scotland and brings the law into harmony with that in England. It arose out of the payment of such relief by the parish councils during the coal stoppage of last year. These payments were declared by the Court of Session to be illegal. In the course of the debate Dr. Shiels remarked that it was a very pleasant thing to know that it was now recognized that in an industrial dispute the women and children would not be factors in the dispute. An amendment moved by the Labour party, urging that the cost should be made a national charge and declining to agree to the limitation of the Exchequer contribution to a maximum of 40 per cent. of the expenditure, as provided in the bill, was rejected by 257 votes to 127—majority 130—and the bill was then read a second time.

Tuberculosis in the Services.—Colonel Headlam (Secretary of the Admiralty) announced that 197 men were discharged from the Royal Navy with tuberculosis in 1926. In six cases this was found to be attributable to conditions of service, and pensions were awarded. Answering Dr. V. Davies, on February 21st, Mr. Bridgeman said the six men discharged from the navy during 1926 for tuberculosis held to be attributable to conditions of service had served 4, 9, 9, 14, 15, and 20 years. Sir L. [illegible] Dr. Davies that similar details were not [illegible] army.

Economics in Pensions Administration.—In Committee on the Civil Service Supplementary Estimates, in the House of Commons, on February 21st, Major Tryon (*Minister of Pensions*) said there had been a great reduction of complaints regarding administration, and a smaller staff was sufficient. Thanks to the committee which had considered the question of artificial limbs, it had been possible to effect a considerable saving on that charge. The limbs supplied were very satisfactory. Mr. F. Roberts, a former Minister of Pensions, pointed out that there was an estimated saving of £5,000 on salaries, wages, and allowances in respect of medical services. He asked if that was due to a demand made to the men under treatment to go to their panel doctors. Major Tryon replied that the saving did not indicate any change in the medical policy of the Ministry, but was due entirely to the falling off in the volume of work. The vote, which was for £420,600, was carried.

Insanitary Conditions on Emigrant Ships.—On a Supplementary Estimate of £142,000 for overseas settlement, Mr. W. Baker drew attention to allegations about overcrowding and insanitary conditions on ships carrying British emigrants to Canada. Mr. Ormsby-Gore said the Board of Trade and those who supervised the work of migration did their utmost to prevent such conditions arising, but when rough seas prevailed sea travelling in a crowded ship was generally beastly.

Certified Special Schools for Children.—The Duchess of Atholl stated, on February 21st, that there were 75 certified special schools for the blind on March 31st, 1926, 49 for the deaf, 192 for the mentally defective, 233 for the physically defective, and 6 for the epileptic. The estimated number of children on the registers on March 31st, 1926, were: blind, 3,919; deaf, 4,230; mentally defective, 16,331; physically defective, 18,804; epileptic, 520.

Notes in Brief.

In the past eighteen months accommodation in open-air schools in England and Wales has been increased by 900 places, and proposals have been approved for over 1,500 further places.

Mr. Chamberlain does not propose to take further action on the recent decision in the King's Bench Division that a guardian of the poor receiving and paying in full for treatment in the union hospital is not disqualified.

The committee appointed to deal with the preparation and testing of vaccine lymph and with cognate questions has not reported.

It has not yet been possible to arrange a test case on the liability of offices to inspection under the Factories Acts.

No milk is imported into England from Ireland, the Channel Islands, or the Isle of Man.

It is hoped that the Committee on Youthful Offenders will report within two months. The Home Secretary will then consider whether legislation is required on the report of the Committee on Offences against Young Persons.

No plans have been submitted for the additional accommodation required for the headquarters of London University at South Kensington.

The Minister of Agriculture sees no reason for departing from the decision reached by a Select Committee of the House of Lords in 1919 to the effect that the use of an anaesthetic in the castration of animals, except dogs and cats over six months of age, is neither desirable nor practicable.

Tests and inquiries about the effect of "ultra-violet glass" on the health of school children have not reached a stage where any general recommendation can be made.

The Colonial Secretary is awaiting a report from the High Commissioner for Palestine on quarantine arrangements at Haifa. A question in the House of Commons suggested that the quarantine station was near a mosquito-breeding swamp.

On February 21st the Sale of Food and Drugs Bill was read a second time and committed to a Standing Committee.

There were 379 men and 1,057 boys accepted for the Air Force in 1926, while 258 men and 234 boys were rejected on account of some physical or medical disability.

The Minister of Transport is considering whether the bill for the regulation of traffic on roads should deal with smoke issued by steam vehicles.

The total of persons insured under the National Insurance Acts in England and Wales during 1926 was roughly the same as in 1925—14,196,000.

The Services.

DEATHS IN THE SERVICES.

FLEET SURGEON JOHN BELLHOUSE BOWDEN TRIGGS, R.N.(ret.), died in a nursing home at Malden, Surrey, on February 1st, aged 75. He was educated at University College, London, and at Aberdeen, where he graduated M.B. and C.M. in 1873; he took the L.S.A. in 1872, and the M.R.C.S. in 1874, and entered the navy soon after; he was medical officer of H.M.S. *Active* during the Zulu war of 1879, receiving the medal. In 1892 he received a medal and diploma from the Venezuelan Red Cross Society for his services to the wounded in the neighbourhood of La Guayra, during the revolution in Venezuela in that year.

Lieut.-Colonel Henry Pruce Jervis, Bombay Medical Service (ret.), died at New Milton, Hants, on February 7th, aged 71. He was the son of Thomas Jervis, superintendent of Customs, Bombay, and was educated at the Grant Medical College, Bombay, where he gained the Reid scholarship in anatomy and physiology, and the Anderson scholarship in surgery. Subsequently he was a student of St. Bartholomew's Hospital Medical College, and took the L.S.A. and the L.R.C.S.Ed. in 1877. He entered the I.M.S. as surgeon on October 1st, 1877, became lieutenant-colonel after twenty years' service, and retired on November 27th, 1902. He served in the third Burmese war in 1885-87, receiving the frontier medal with a clasp.

Medical News.

THE Ministry of Health is about to appoint a Departmental Committee to consider a draft bill prepared by the Joint Committee of Qualified Opticians, which seeks to provide for the registration of optical practitioners and to regulate the practice of sight-testing.

THE 154th anniversary dinner of the Medical Society of London will be held at the Grand Hotel, Trafalgar Square, on Monday, March 7th, at 7.30 p.m. Sir Humphry Rolleston, Bt., president, will be in the chair.

AT a general meeting of the Royal Society of Medicine to be held at 1, Wimpole Street, on Thursday, April 7th, at 5 p.m., a discussion will be held on blood-letting. Fellows wishing to take part are asked to send in their names to the secretary of the society.

PROFESSOR S. LYLE CUMMINS, C.B., C.M.G., M.D., professor of tuberculosis, University College, Cardiff, will read a paper at a meeting of the North-Western Tuberculosis Society to be held at 3.15 on March 31st, 1927, at the Public Health Laboratory, York Place, Oxford Road, Manchester. The subject selected is "The bearing of recent laboratory research on clinical conceptions in tuberculosis." Members of the Lancashire and Cheshire Branch are cordially invited to attend.

AN illustrated descriptive account in English of the Bad-Nauheim cure has been compiled by the association of medical practitioners of this spa, and may be obtained from Dr. Ricklinger. Details are given of the methods and treatment, the effects of the carbonic acid baths on different ailments, and the indications for this kind of spa therapy.

AT a meeting of the London Natural History Society on Tuesday, March 1st, at 6.30 p.m., in Hall 40, Winchester House, E.C., a lecture on tsetse flies and their significance to tropical Africa will be given by Major E. E. Austen, D.S.O., Deputy Keeper, Department of Entomology, British Museum. Visitors are welcomed.

THE Post-Graduate Hostel will hold a ladies' night at the Imperial Hotel, Russell Square, W.C.1, on Monday, February 28th, when Mr. E. Muirhead Little, F.R.C.S., will lecture on the history of Bloomsbury; all medical practitioners, ladies, and friends are welcome. The lecture will commence at 9 p.m. Dinner (5s.) will be served at 8 p.m., and coffee and biscuits (6d.) can be obtained at 10 p.m.

DR. ARTHUR WHITFIELD will lecture for the Fellowship of Medicine on the differential diagnosis of some acute rashes, at the Medical Society, 11, Chandos Street, W., at 5 p.m., on March 3rd, and on March 1st, at 3.15 p.m., Dr. R. Wade will lecture on safety in anaesthesia, at the Royal Northern Hospital. These lectures are free to medical practitioners. The Brompton Hospital will hold an all-day course from March 7th to 12th, including demonstrations in the cardiographic and *x*-ray departments and the wards. From March 14th to 25th a course in gynaecology will be given at the Chelsea Hospital. From March 21st to April 2nd a comprehensive course in orthopaedics will be held at the Royal National Orthopaedic Hospital, and a course primarily intended for general practitioners in the late afternoons at the London Temperance Hospital. From March 28th to April 9th there will be an all-day course in diseases of children at the Queen's Hospital. At the Royal Eye Hospital a series of demonstrations will be given on diagnosis and treatment from March 28th for two weeks. The Fellowship arranges for practical courses in obstetrics and anaesthetics and for clinical assistantships in gynaecology. Copies of all syllabuses and of the *Post-Graduate Medical Journal* may be obtained from the Secretary of the Fellowship, 1, Wimpole Street, W.1.

A SHORT post-graduate course in orthopaedics will be given by Mr. Godfrey Taunton at St. Bartholomew's Hospital, Rochester, on March 1st and following Tuesdays at 3 p.m. Lectures on other subjects are being arranged. Practitioners wishing to attend are asked to notify Dr. Myles Tonks, Manor House, Brompton, Chatham.

MAJOR-GENERAL T. H. SYMONS, Director-General Indian Medical Service, has been elected president of the next congress of the Far Eastern Association of Tropical Medicine, which will be held at Calcutta from December 5th to 22nd.

THE annual dinner of the Cambridge Graduates' Medical Club will be held, as already announced, at the Langham Hotel on Tuesday, March 1st, at 7.30 p.m., with Sir Humphry Rolleston, president, in the chair. All Cambridge medical men who are graduates of the University are eligible for membership. Application forms can be obtained from the honorary secretaries, Mr. R. N. Vick of 113, Harley Street, W., and Dr. F. G. Chandler of 1, Park Square West, Portland Place, N.W.1.

PUBLIC health officials of twelve foreign countries are at present paying a six weeks' visit to England under the auspices of the Health Organization of the League of Nations. Having spent this past week in London the party is dividing into groups to visit Liverpool, Glasgow, large industrial and residential centres, and rural areas. The final week will be spent in London, and the party will probably leave England on April 2nd for Geneva, where a brief study will be made of the working of the Health Organization of the League. This is the fifth party to make a visit of this kind.

THE Wellcome Historical Medical Museum, 54A, Wigmore Street, will be closed from Monday, February 28th, until March 14th.

RECENT bequests to hospitals include £5,000 to the Oldham Infirmary for the endowment of two beds under the will of Mr. James Whitehead. Mr. E. S. Moore of Erdington has bequeathed £1,250 each to the Birmingham General Hospital; Jaffray Hospital, Birmingham; Queen's Hospital, Birmingham; Birmingham and Midland Skin and Urinary Hospital; Birmingham and Midland Hospital for Women; Birmingham Maternity Hospital; Birmingham and Midland Eye Hospital; and the Birmingham and Midland Ear and Throat Hospital; and £1,000 each to the Children's Hospital, Birmingham; Royal Orthopaedic and Spinal Hospital, Birmingham; Taylor Memorial Hospital of Rest, Sparkhill; and the Smedley Memorial Hospital, Matlock. Miss S. E. F. Payne bequeathed £500 to the Hospital for Sick Children, Great Ormond Street, £1,000 to the Children's Hospital, Carlton, Melbourne, and £250 to the Women's Convalescent Home, Clayton, Melbourne. Miss S. M. Harrop of Colwyn Bay bequeathed £2,000 to the Ancoats Hospital and Dispensary, £500 to the Manchester Royal Infirmary, and £250 to the Colwyn Bay Hospital.

UNDER the name of Journées Médicales Marseillaises et Coloniales a congress will be held at Marseilles from April 20th to 24th, when the following papers, among others, will be read: The role of the streptococcus in the etiology of scarlet fever, by Professor Cantacuzène of Bucarest; recent advances in the treatment of cancer, by Dr. Mayer of Brussels; malaria, by Professor Ottolenghi of Bologna; beriberi, by Dr. Noel Bernard of Indo-China; bone-grafting, by Professor Imbert of Marseilles. Further information can be obtained from the general secretary, Dr. André Sauvan, 40, Allées Léon-Gambetta, Marseilles.

THE French Goverment has presented Dr. Vincenzo Neri, professor of nervous diseases at the University of Bologna, with the Cross of the Legion of Honour.

PROFESSOR MOURE, who formerly occupied the chair of oto-rhino-laryngology at Bordeaux University, was recently presented with a medallion of himself by his former pupils and friends.

ALTHOUGH the measures adopted in Germany in recent years to instruct the population in hygienic principles have proved fruitful, the movement has, for various reasons, failed to reach the industrial middle classes, and an effort is now being made to meet this defect. Several insurance companies of good standing have agreed to adopt the plan, successfully applied in America, of offering periodical medical examinations to their clients, the medical fee to be defrayed by the companies and the doctor to give such advice as may appear necessary. A central life assurance hygienic office, with a strong staff, has already been established in Berlin, and will control this part of the companies' business.

THE thirty-ninth Congress of the German Society for Internal Medicine will be held at Wiesbaden, under the presidency of Professor Naegeli of Zürich, from April 25th to 28th, when the following subjects will be discussed: (1) Psychotherapy, introduced by Gaupp of Talingen and Fleischmann of Nassau; (2) the results of the recent functional investigations of the stomach and duodenum, introduced by G. Katsch of Frankfort. A joint meeting with the German Röntgen Society will be held on April 28th, when a discussion will take place on the significance of Röntgen-ray examination of the lungs and mediastinum for internal medicine (excluding tuberculosis), introduced by Dietlen of Homburg Saar, Assmann of Leipzig, Haenisch and Lorey of Hamburg, and Fleischner of Vienna.

THE fifth edition of the Dutch *Pharmacopoeia* will be published on April 1st.

ACCORDING to official statistics there are 8,000 medical practitioners and 2,000 dentists in Poland; 25 per cent. of the doctors are in practice at Warsaw.

THE following appointments have recently been made in foreign faculties of medicine: Dr. Savy, professor of therapeutics, hydrology, and climatology at Lyons; Dr. Leclercq, professor of medical jurisprudence at Lille; and Dr. Luigi Pirus, professor of hygiene, medical jurisprudence, and bacteriology at Parma.

Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to ***The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.***

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the BRITISH MEDICAL JOURNAL alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the BRITISH MEDICAL JOURNAL must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the JOURNAL, should be addressed to the Financial Secretary and Business Manager.

The ***TELEPHONE NUMBERS*** of the British Medical Association and the BRITISH MEDICAL JOURNAL are *MUSEUM 9861, 9862, 9863,* and *9864* (internal exchange, four lines).

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FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westcent, London.*

MEDICAL SECRETARY, *Medisecra Westcent, London.*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 4737 Dublin), and of the Scottish Office, 6, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 4361 Central).

QUERIES AND ANSWERS.

MORBID SHYNESS IN A CHILD.

"K. H. G." asks for suggestions for the treatment of excessive shyness in a girl, aged 7, who is stated to have suffered from "fits" at the age of 12 months, since when there have been none. Her physical condition is good, and she is quite happy and bright when among the other members of her family, but as soon as a stranger enters her home she runs to her mother and hides her face. She refuses to meet even a playmate of her own age. Chastisement (as might be expected) has not improved her.

CHRONIC OTORRHOEA.

DR. G. H. RUTTER (Eastbourne) writes in reply to "B. B.": It would *not be very probable* (but impossible to say without inspection or fuller details as to the exact condition) that any damage would be done by ionization in a case of chronic otorrhoea. Cases of several months' standing in about 90 cent. of those treated do remarkably well, and show no discharge after a solitary treatment of a few minutes. It is unnecessary to say that only a properly qualified medical man with experience should attempt such a case.

DR. W. E. CROSBIE (Alder Hey Hospital, West Derby, Liverpool) writes: *If* "B. B.'s" case is one of chronic tympanic sepsis uncomplicated by bone disease, ionization should alleviate the condition and will in all probability effect a
of course, that there are no extraneous
Ionization of an ear is not likely to do any

LETTERS, NOTES, ETC.

A COMMUNICATION on the subject of assistants to general practitioners has been received from a correspondent in Birmingham, who has, however, omitted to enclose his name and address.

EPIPHORA.

DR. A. T. BRAND (Driffield) writes: Has Dr. A. C. Balfour (JOURNAL, February 19th, p. 361) stated the correct strength, or rather "weakness," of the adrenaline chloride lotion for cases of epiphora? One drop in 16.6 ounces of water is suggestive of homoeopathic *dilution*. I have used the full strength in conjunctivitis with immediate removal (if temporary) of the congestion, with no discomfort.

HAEMATOLOGY.

DR. A. PINEY (Charing Cross Hospital Institute of Pathology) writes: I read with great interest Dr. Eve's article on "Paraplegia (megalocytic) cured by hydrochloric acid" (JOURNAL, February 19th, p. 323). The case is admittedly a striking one, in which the diagnosis appears to have been made on the basis of the curve graphically plotted from measurements of the size of red corpuscles. Dr. Eve states: "Haematology and all its complexities gave no light." It would be interesting to know why he regards the process of measuring the size of red corpuscles as belonging to some branch of science other than haematology. The not infrequent attacks on the value of haematological data suggest that Dr. Eve is not the only one who is unaware of the extent of the ramifications of the subject.

A MEMORABLE OBSTETRIC TRAGEDY.

"M. E. R." writes: It may interest readers of the recent article on the royal tragedy of Princess Charlotte's accouchement (BRITISH MEDICAL JOURNAL, Feb. 5th, p. 255) to learn that a number of mourning tokens dealing with the event were struck and that some of them still exist. A specimen handled lately was extracted, along with a quantity of foreign coins and metal discs, from an automatic machine by its exasperated owner. It has the appearance of a copper coin about the size of a halfpenny. The obverse shows the bust of a grim and elderly-looking lady with filleted hair, with around it the inscription, "H.R.H. The Princess Charlotte." The reverse, within an inscription to the effect that "Britannia mourns her Princess dead," shows an urn on a pedestal, the whole overshadowed by a tree-like growth, which may be either a cypress or a weeping willow; underneath this lugubrious device are the words, "*Died November 6th, 1817. Aged 21.*"

CHOREA IN INDIA.

DR. E. F. SKINNER (*Sheffield*) writes: I have this week dispatched to various medical missionaries in India a number of letters in the form of a printed circular, asking for information on the subject of chorea in natives, and by a clerical error I find that a few have been sent out without the name of the addressee having been inserted. I would like to offer my apologies to those medical men and women who may receive one of these letters.

OPIUM SMOKE AS AN ANAESTHETIC.

DR. G. L. *DESHMUKH (Bombay)* writes: The accident recorded below happened in Koshi-Shang, the outport of Bangkok, on a British ship of which I was medical officer. We were loading a cargo of rice for London when one of the slings gave way and the rope rent open the scrotum of a Siamese labourer. Being unable to give chloroform and attend to the injuries alone, and considering it cruel to handle the torn part without anaesthesia, I asked his friends to give him his opium hookah—an L-shaped tube on which an opium ball is fixed, ignited and smoked (it is the practice in these parts to drown the fatigue of the day in opium smoke). After a few whiffs he permitted me to wash the part and replace the structures; a few more puffs and I was able to suture the rent. He was by this time fast asleep, and we removed him to hospital on board the vessel. On awaking he began to feel the part and inquired what had happened. We remained in the neighbourhood for seven days, and then sent the patient to a hospital at some distance. The report received from the hospital stated that there was no sepsis and that he was improving. I leave it to the medical world and to scientists to decide whether opium smoke is to take a place in the field of anaesthetics.

PRECONCEIVED PERFECTION.

THE object of the Quest Society is "to seek for spiritual values in religion, philosophy, science, literature, and art." To the quarterly review Professor D. Fraser on science and preconceived *perfec-*s, Professor Harris contends, are to embody some religious opinion r Hoffmann of Nüremburg *objected* to Harvey's idea of the circulation of the blood, because it "and error in making the blood return rt to be reconcocted, thus spoiling the rely to find t

Steusen was criticized for saying that as it was held that the soul was in the heart, that the heart could be a common muscle. Tagliaccozzi was denounced for his operation of rhinoplasty, because he had dared impiously to alter a countenance "made in the image of God." The Rev. Dr. Rowley accused Edward Jenner of presumption and violation of religion in producing cow-pox to interfere with small-pox—a visitation ordained by God. He forgot, apparently, that cow-pox must have been a visitation from *God on cattle.* Gall was objected to, not because he taught an absurd system of cerebral physiology, but because he had outraged religion by teaching that *mental and moral qualities had a physical basis* in the brain. The most recent preconception alluded to by Professor Harris is the objection formerly raised against chloroform, *in that to abolish pain,* even of childbirth, was "contrary to Nature." The Quest Society might carry the matter a little further and inquire how far some modern ideas about man and his destiny are tinged with the notion of preconceived perfection.

A WARNING.

DR. N. F. WINDER (209, *Roundhay Road, Leeds*) writes: I am informed that a man, who is described as being about 5 ft. 1 in. in height, with fair brown hair, and wearing a dark blue water- my name among London practitioners ial assistance, stating that he is tuber- impersonation, and London practitioners should be on their guard.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 41, 44, 45, 48, and 47 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 42 and 43.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 75.

A British Medical Association Lecture
ON
GASTRIC HAEMORRHAGE.

GIVEN BEFORE THE EXETER DIVISION
BY
CHARLES MILLER, C.B.E., M.D., F.R.C.P.,
CONSULTING PHYSICIAN TO THE LONDON HOSPITAL; ASSISTANT PHYSICIAN, ROYAL DEVON AND EXETER HOSPITAL.

FEW occurrences cause so much consternation as the vomiting of a large quantity of blood. The equally serious but less sensational events, fainting, sudden pallor, and the subsequent passage of a tarry stool, do not produce the same effect on the minds of the patient and his friends. But from the standpoint of the doctor the two events are seen to be of equal importance, for they point to internal haemorrhage in stomach or duodenum. For convenience I propose to consider the acid part of the duodenum as part of the stomach, as both are subject to the same kind of digestive juice. Pathologically the two regions are subject to similar disorders, though anatomically they have to be described separately.

It used to be thought that melaena without haematemesis was a point in favour of the diagnosis of duodenal ulcer rather than of gastric ulcer. But this condition is found in cases of gastric ulcer, and, on the other hand, haematemesis can occur with duodenal ulcer. In dealing briefly with gastric haemorrhage only copious haemorrhage will be considered. Occult blood in the stools has its value in the diagnosis of certain alimentary disorders, but is outside the subject of this occasion.

At the beginning of the century haematemesis, except in cases of cirrhosis of the liver, was thought to be a sure sign of gastric ulcer. By gastric ulcer was meant a large ulcerated area, visible and palpable in the exposed stomach. The advance in gastric surgery has proved many ideas about disorders of the stomach to be wrong, and gastric haemorrhage has been shown to be due to many conditions other than a gross ulcer of the stomach. It may be said that, although a gastric ulcer can be associated with copious haemorrhage, many large chronic ulcers persist for years without any noticeable bleeding, and many cases of copious haemorrhage are found among patients who have no sign of ulcer of any size.

CAUSES OF GASTRIC HAEMORRHAGE.

As a general principle it may be stated that when haemorrhage occurs there must have been loss of tissue —that is, ulceration. The ulceration may be minute and even microscopic. Gastric ulceration is due to the digestion of the stomach wall by the gastric juice. But before self-digestion takes place there is some damage to the stomach wall, for gastric juice does not digest healthy mucous membrane.

Gastric ulceration is due to the digestion of damaged tissue in the wall of the stomach. The wall of the stomach is well supplied with blood, and during digestion it has the appearance of soft red velvet, which looks as if it would bleed freely if scratched. The blood should, and does, remain in the blood vessels; but if there is any damaged tissue the gastric juice will digest it, and may open a blood vessel or vessels. Of course, trauma may directly produce haemorrhage. The act of violent vomiting, the passage of a tube into the stomach, a blow on the epigastrium, may produce haemorrhage from a stomach that is not ulcerated even minutely, and the damage done by severe trauma can produce subsequent ulceration. But haemorrhage from the stomach is usually a sequel to the digestion of the mucous membrane and deeper parts of the stomach wall by the action of the gastric juice.

It becomes necessary to examine the various processes by which the stomach can be damaged. Trauma has already been mentioned. It is conceivable—in fact it has happened —that trauma producing submucous haemorrhage has been followed by chronic ulceration.

Corrosive poisons, of course, will damage the stomach and produce haemorrhage by their own action; I can remember a case of repeated haemorrhage coming from a chronic gastric ulcer following attempted suicide by spirits of salt some years before. But such cases as these are few and not worth further consideration at the moment.

Apart from such traumatic causes, other possible causes of damage to the stomach have to be considered. First, interruption of the blood supply will undoubtedly lead to the death of tissue locally, and the gastric juice will do the rest.

In cases of mitral stenosis when, as a terminal event, auricular emboli are showered into the arterial stream some may block up vessels in the wall of the stomach. The neighbouring mucous membrane is starved of blood and in its damaged state can be digested. The digestion may go further than the block in the arteriole and haemorrhage can follow. This is a terminal event, and sometimes the stomach is found *post mortem* to be filled with blood. An example of this cause of gastric haemorrhage was afforded by the case of a man, aged 26, who died from mitral stenosis. *Post mortem* there were recent infarcts in the spleen and kidneys; the stomach was full of blood; there were numerous small ulcers throughout all parts of the stomach. Microscopic examination showed blocking of some arterioles and a thrombus in a branch of the coronary artery. In one section the artery was empty and its wall deficient at one point so that the lumen communicated with the cavity of the stomach.

In cases of progressive endocarditis gastric haemorrhage is sometimes seen. In these cases also emboli are the cause, but here the emboli may contain microbes and can produce the effects of acute local inflammation. A woman, aged 51, died from ulcerative endocarditis of the aortic and mitral valves. *Post mortem* in the stomach there were many small punched-out ulcers situated in greatest numbers in the fundus. There was some blood in the stomach. Arterial emboli can be spread throughout the stomach, but are usually most numerous in the fundus, which is not often the site of gastric ulcer.

Obstruction of veins can also be followed by similar results. In the case of a boy aged 12, who died of haematemesis, there was such proliferation of the intima of the veins that many sections showed complete blocking. Here there were numerous haemorrhagic points visible in the stomach.

In general miliary tuberculosis, when the blood is soaking the tissues with tubercle bacilli, tubercles may spring up in the gastric wall and are promptly digested. Occasionally, but rarely, slight haemorrhage may occur from the bases of the digested tubercles.

Cirrhosis of the liver and other conditions which produce portal congestion can cause haemorrhage. The explanation is that the bleeding comes from the bursting of a full vein. But in such cases the circulation in the portal area is slowed, and stagnation results. Conceivably this state of affairs would help the gastric juice to effect some superficial ulceration, leading very easily to haemorrhage. Also it should be remembered that chronic gastric ulceration is not uncommon in cases of alcoholic cirrhosis of the liver.

Gastric haemorrhage is sometimes seen in patients who have a raised blood pressure. In such subjects haemorrhage can occur from any region in which the arteries do not derive much support from the tissues through which they are travelling. Nose-bleeding, cerebral haemorrhage, and gastric haemorrhage may occur. In the early days of gastric surgery when gastro-jejunostomy was the treatment of most gastric conditions, a man of 30 was admitted for haematemesis. Later gastro-jejunostomy was performed. He was readmitted for haematuria. He had a systolic blood pressure of 210 mm. of mercury, retinal haemorrhages, and granular casts in the urine. *Post mortem* small fibrous kidneys were found.

Primary blood diseases frequently produce subcutaneous and other haemorrhage, and the stomach does not escape, but this form of haemorrhage need not be considered further.

The part that syphilis plays in the production of gastric ulceration and haemorrhage can be best illustrated by the recital of two cases. A man aged 35, a schoolmaster, was admitted to hospital pale and collapsed after haematemesis.

After he had recovered the abdomen was opened and several recent gummata were seen in the liver. The remainder of the liver appeared to be healthy. Certainly there was no great amount of fibrosis, and it could not be argued that portal congestion was an important factor. Possibly he had a syphilitic gastric ulcer which escaped notice. Another man was admitted in a similar state whose Wassermann reaction was found to be positive. He was given antisyphilitic treatment and did well. No abnormality was found radiologically. He went out and visited the seaside, where he died, on the pier, from haematemesis. Further there is McNee's classical case in which he found spirochaetes in the wall of a gastric ulcer.

The two cases I have quoted show that haematemesis can occur in the syphilitic, and McNee's case proves that syphilis can cause gastric ulceration. Possibly syphilitic ulceration is more frequent than is thought.

CHRONIC GASTRIC ULCER.

So far, with the exception of cirrhosis, only the less common causes of gastric haemorrhage have been considered.

In chronic gastric ulcer a vessel of some size in the base or wall may be eroded. There is no difficulty here in appreciating how haemorrhage arises. The exposed vessel is eroded by the action of the gastric juice. Such an event occurs commonly in ulcers of the lesser curvature that become adherent to the pancreas. The splenic vein may be in the floor of the ulcer, and haemorrhage from it may be very copious. Of the chronic gastric ulcers this form is the one most commonly associated with severe bleeding.

CANCER OF THE STOMACH.

It is also easy to see how haemorrhage can occur with cancer of the stomach. The growth, as it spreads, contains much semi-necrotic tissue which is readily digested and ulcerated. Bleeding can occur, and usually does, but infrequently in large amount. Blood is often seen in the recovered test meal in cases of gastric carcinoma, and if it is present in all specimens of a fractional test meal the diagnosis of growth receives strong support. Also the repeated discovery of occult blood in the stools is an important diagnostic point in a suspected case. But a haematemesis that blanches the patient is not as common in carcinoma of the stomach as in cases of simple chronic ulceration.

ACUTE ULCER.

These disorders, however, do not provide more than half of the cases admitted to hospital for haematemesis or melaena. We are all familiar with the pale, plump young woman who vomits blood, and is admitted in a collapsed condition. But it will be the experience of most doctors that young women suffer less from gastric haemorrhage than they did fifteen years ago. Perhaps the greater freedom of limb and increased activity, and the more hygienic dress of to-day, have improved the health of young women in this respect as in many others. Chlorosis is now a rare disease. Indigestion and chlorosis went hand in hand. The disappearance of chlorosis is contemporary with the smaller incidence of gastric haemorrhage in young women.

At one time, in the earlier days of gastric surgery, it was thought that these cases were surgical emergencies. The results were not satisfactory. As a rule nothing was found in the stomach except blood, and in many cases the operation was more than the patient could stand. Even at the *post-mortem* examination it was difficult to see where the haemorrhage had occurred. It is obvious that in such cases the bleeding must be from many small points. If we remember that there is a redundance of mucous membrane in the stomach it is easy to imagine how a minute ulcer can be covered over by the neighbouring mucous membrane.

When Matthes was attempting to produce artificial ulcers in the stomachs of dogs, he found great difficulty in doing so. If he removed a small area of mucous membrane the bare area was soon made invisible by the contraction of the smooth muscle and the covering made by the surrounding mucous membrane. He attempted to get over this difficulty by suturing the muscular coat to a glass ring placed on the peritoneal surface. Even so the bare area was no further ulcerated, and the mucous membrane grew over it. This shows that small ulcers are easily obliterated by the contraction of the underlying muscle and the new covering provided by the mucous membrane. Actually he was unable to produce a lasting ulcer until he had given large quantities of acid with the food.

GASTROSTAXIS.

The condition of gastric haemorrhage without any obvious ulceration or bleeding point has been called "gastrostaxis." There is a danger in coining new words to describe morbid conditions, unless the word gives some explanation of the condition. There is no harm in using such a word as "gastrostaxis" if the user is merely describing a phenomenon, and does not think that he has given an explanation of the cause of the phenomenon.

I have attempted to argue that stomachs bleed if they digest their own wall so as to open blood vessels, and that to allow this process to begin some part of the wall of the stomach has previously been damaged and rendered necrotic. If we keep the term ulcer, either gastric or duodenal, for something gross that can be seen and felt, we must have some other term for cases of microscopic or minute ulceration in which haemorrhage occurs. The haemorrhage may be the only clinical evidence of its presence, and *post mortem*, but for the haemorrhage, the stomach might pass as normal to the naked eye. The word "erosions" has been used to denote these minute and even microscopic ulcers. Even if they are just visible these small acute ulcers can be called erosions. It does not matter much to clinicians whether they are just visible or invisible, for it is to be hoped that they will never see during life the inside of a stomach in which there has been haemorrhage from "erosions."

These minute ulcers are best seen where lymphatic tissue is most thickly spread—that is, along the lesser curvature and in the distal part of the stomach. There are also smaller isolated lymphatic follicles scattered throughout the stomach. The lymphatic tissue of the stomach behaves in the same way as lymphatic tissue elsewhere. Infection of a nail-bed may cause enlargement of axillary glands and even an abscess. The lymphatic tissue of the stomach can behave in the same way, but there is the added factor of the digestive power of gastric juice, which will eat away any damaged tissue in the stomach and leave a hole. In the process the stomach may be perforated or blood vessels be eroded. Dr. Beaumont, in his historical description of the stomach of Alexis St. Martin, described what he saw through a gastric fistula. He sometimes saw raised red areas that were comparable to boils. Alexis was no total abstainer, nor was the popular press then in existence to direct his diet on hygienic lines. The result was that Dr. Beaumont was able to look inside the stomach of a man who frequently ill-treated it.

If the lymphatic tissue of the stomach becomes inflamed as the result of infection it is incumbent on us to discover how the infection arose, and by what path the stomach was invaded. Obviously the mouth is a possible focus of infection. The condition of the teeth and gums in many dyspeptics is beyond description, and insistence on oral hygiene may remove gastric symptoms.

The acid gastric juice has an antiseptic action on many organisms, but not on all, and it is possible for swallowed organisms to set up a gastric inflammation. Possibly also the lymphatics of the oesophagus may serve as a path for invading organisms. The following case illustrates the effect of oral sepsis.

An elderly man was treated by diathermy for cancer of the tongue. The tongue became very foul, and a large slough formed. About a week after the operation he had a large vomit of blood. There was no bleeding from the tongue, and there were no gastric symptoms in his past history. The inference was that he had an acute septic infection of his stomach. He made a good recovery.

EXTRAGASTRIC CAUSES OF HAEMORRHAGE.

But the source of infection may be in various situations. An inflamed gall bladder may be associated with haematemesis.

A woman, aged 22, was admitted with grave anaemia, following haematemesis. After going into her history and observing her, a diagnosis of cholecystitis was made. At the subsequent operation

the gall bladder was found to contain pus and stones. Nothing was found wrong by external examination of the stomach. She was cured of her gastric symptoms and had no further haemorrhage within two years.

Perhaps the most frequent extragastric cause of gastric haemorrhage is a fibrous deformed appendix, the result of past inflammation.

A boy of 10 had to get up one night with an urgent desire to defaecate. He was found outside the privy door, unconscious, with vomited blood issuing from his mouth. He was brought to hospital, and made a good recovery, without anyone being able to discover what was the matter with him. A year later he was readmitted blanched and pulseless, and he vomited blood after admission. When he had recovered, it was found that he was very tender on rectal examination high up to the right. On his previous stay in hospital it had been impossible to examine his rectum owing to his struggles. At the operation a thick constricted fibrous appendix was removed. The stomach and duodenum were pronounced to be healthy. There had been no repetition of his trouble two years after the operation.

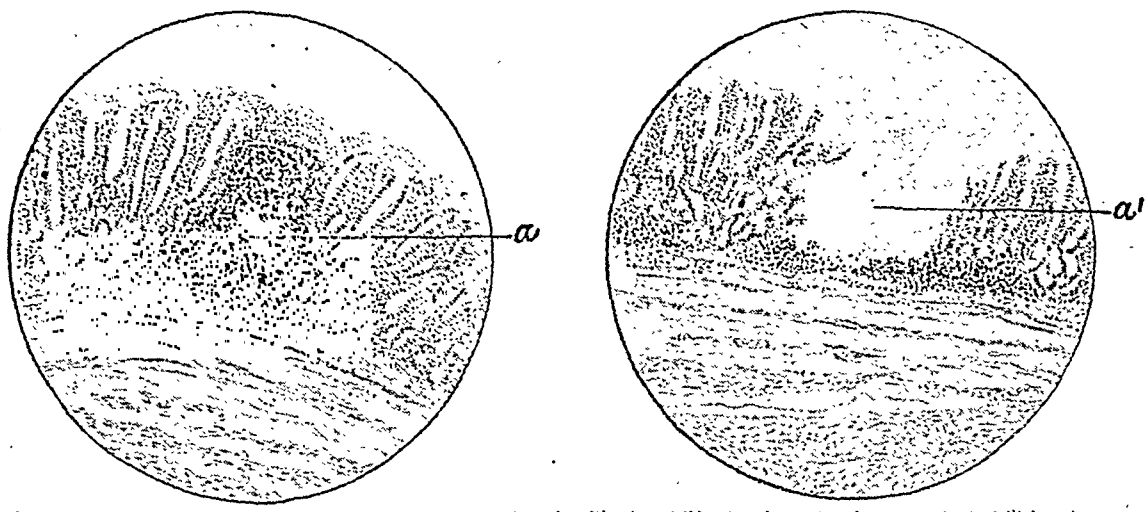
Other examples of similar cases could be quoted to illustrate the effect of extragastric disorders on the stomach. There are well known dyspeptic conditions that are dependent on the presence of an unhealthy gall bladder or appendix, of which examples have been quoted. But the occurrence of haemorrhage would suggest an anatomical connexion by which an inflammatory process could extend from an inflamed viscus to the stomach. Such a pathway is most readily provided by the lymphatics. An upward-going lymphatic tract can be demonstrated starting from the ileo-caecal angle and extending in the region of the pylorus. The spread of tubercles can sometimes be traced along this path, and the appearances of acute inflammation have been noticed by surgeons during life.

There may be similar lymphatic paths by which the stomach is connected to other viscera in the peritoneal cavity. It is well known that gastric symptoms are associated with disorders of other abdominal organs. When a definite organic change, such as leads to haemorrhage from the stomach, occurs in association with an inflamed appendix or gall bladder, it can be argued that there is not only a disordered function of the stomach set up by an extragastric disorder, but also a disordered structure which has been produced by an extension of the inflammatory process to the stomach. If such definite foci of infection as those of the appendix and gall bladder can be causes of gastric haemorrhage it is conceivable that such conditions as intestinal stasis with ptosis and other postural disorders can act in similar fashion. Very possibly such conditions as a "cesspool" colon can cause gastric ulceration and haemorrhage. Frequently gastric haemorrhage occurs in the subjects of enteroptosis, and in some of them chronic gastric ulcer develops.

It can be stated as a fact that a large number of cases of gastric haemorrhage are found among those whose primary trouble is outside the stomach. It is possible, and even probable, that the originating cause of a visible gastric ulcer lies outside the stomach, but this is a very difficult question which brings into consideration the degree of acidity of the gastric juice and other complicating factors. The following case is of interest and is suggestive.

A plump, constipated, dark young woman, aged 20, was admitted to hospital very pale and collapsed after haematemesis. She rallied satisfactorily, and was put through every form of examination. Nothing positive was found, except that the acid of the test meal was very high. She went out in good health, and three months later was sent for and another test meal done. On this occasion the acidity was normal and she was free from gastric symptoms. Six months later she was readmitted, blanched and pulseless, having vomited a lot of blood. She continued to vomit blood after admission. She made a good recovery and, in spite of the absence of any definite evidence, it was thought advisable to explore. A small duodenal ulcer was found. The ulcer was obviously recent and, as a matter of opinion, not older than a few weeks. Perhaps it would be safer to say that it was not a chronic ulcer.

It was thought that in this case haemorrhage had occurred as a result of an acute inflammation of the stomach, and that the small ulcers had healed, with the exception of the one found in the duodenum. One thing is certain—namely, the small ulcer found at operation was not the cause of her first haemorrhage.



Two sections from the stomach of a girl who died from haematemesis without a visible ulcer being found. *a*=lymphatic follicle; *a'*=space in the mucosa suggestive of a burst lymphatic follicle.

SUMMARY AS TO CAUSATION.

To sum up, gastric haemorrhage comes from gastric ulceration. The ulceration may be gross, or microscopic, or just visible—that is, it may be chronic or acute, and more frequently than is usually thought, it is acute and microscopic. In the majority of cases the ulceration follows infection and inflammation. Further, the origin of the trouble often lies outside the stomach.

DIAGNOSIS AND TREATMENT.

When we are faced by a patient who has recently vomited a large quantity of blood we have to treat the patient rather than the disease. It is one of the conditions in which we must treat first and diagnose later, if we can. Before we start treatment we have to consider what our aims are. We wish to improve the patient's condition, stop the haemorrhage, and prevent its recurrence. At the outset of treatment no surgical measure can be considered. First we want to ensure rest and quiet for the patient, and relief for his anxiety. The patient must be moved as little as possible; if he has to be moved to hospital, the journey should be delayed until he is well under morphine.

Morphine should be given at once, and the patient should be kept under morphine, to which atropine can be added. Perhaps after the initial dose of morphine, omnopon-scopolamine may seem advisable rather than repeated morphine. Collapse must not be too drastically treated. A certain amount of collapse is wanted so as to lower the chances of further haemorrhage. On no account

should transfusion be performed, unless a surgeon is opening the abdomen.

We have to make some sort of preliminary diagnosis. If the patient is young and well covered the condition of the stomach is probably not a chronic ulcer, and the treatment must be medical. If a history can be obtained which suggests chronic gastric or duodenal ulcer, then a surgeon should be consulted, not with a view of immediate operation, but so that he will be able to appreciate any subsequent change in the patient. If, in such a case, there is a recurrence of haemorrhage and it is thought that the haemorrhage is coming from some such vessel as the splenic vein, then transfusion of blood and exploration can take place together. But the majority of cases of gastric haemorrhage recover without the aid of the surgeon. Only in cases of repeated haemorrhage and when a chronic gastric ulcer is suspected should surgical measures be employed.

The most important question is the feeding of the patient. On this point there are various opinions. Certainly no one will object to rectal salines being given. If they are well tolerated they can be given every six hours, or the drip method can be employed. By this means thirst can be relieved. Some say that nothing, not even water, should be given by the mouth for forty-eight hours. Personally I believe this period is too long. After a haemorrhage the stomach is left in a slack state. If the blood is vomited the stomach will contract, which is a desirable state for it to be in. We cannot keep it contracted as we do the uterus after haemorrhage, but we must aim at not letting it be dilated. Dilatation is more dangerous than peristalsis. If we keep a certain amount of the digestive process going the interior of the stomach will be kept cleaner.

Further, the acidity of the gastric juice was probably too high before the haemorrhage. It may be lower after the haemorrhage, but it is probably an active juice, and it is better to give it something to digest rather than to allow it to eat its own wall. I have often given food within twenty-four hours to patients who have had haematemesis. In fact, if there has been no bleeding for twelve hours I see no reason for withholding food. The object of feeding is twofold: first, to nourish the patient so that his tissues will have a chance to heal; and secondly, to "fix" the acid gastric juice. Alkalis also should be given to neutralize the acidity of the gastric juice. While food and alkalis lower the acidity of the juice for a time, they have the faculty of stimulating a further secretion; so that treatment consists in alternately neutralizing and stimulating the secretion. This means that the patient is constantly taking something, either food or medicine.

Two names are associated with the special dietetic methods of treating gastric ulcer—Lenhartz and Sippy. As they are respectively German and American, some small modifications are desirable in their diets to make them more suitable for British tastes. But apart from these slight modifications the original diet should be closely followed. Too often one hears that the patient was treated on the lines of Lenhartz or Sippy, but without success. Failure cannot be laid at the doors of Lenhartz or Sippy, for the line of treatment will be found to have no relation to that laid down by either of them. The details of these two diets need not be given here, but the Lenhartz method is more suitable for early feeding after haemorrhage.

Drugs, in the treatment of gastric haemorrhage, have their uses in promoting rest and in lessening the activity of the gastric juice. First and most important is morphine. For peace of mind, for rest and stillness of the stomach, to allay the sensation of thirst, there is nothing to take the place of morphine. Belladonna or atropine, particularly by the mouth, lessen the secretion of gastric juice. Alkaline mixtures or powders should be given freely and regularly during treatment. The carbonates of magnesia, soda, and calcium can be used alternately with the feeds. Bismuth may be given at intervals of six hours.

Other measures have their advocates. On the analogy of the hypotonic uterus, washing out the stomach has been recommended. It is rather a trying ordeal for a collapsed patient, but possibly would do good to a patient whose stomach was distended with blood, which he was unable to vomit. However, unless a patient is dying, blood is usually vomited. Lavage then is not a method to be advised, as the passage of the tube is certain to cause tagging and straining, which will encourage further bleeding. Horse serum in various forms is recommended, but its efficacy is doubtful. Calcium has even less to recommend it. Opinions differ about opening the bowels. Some advise that no attempt be made for a week. Personally I recommend an enema or a glycerin suppository at the end of the second day, and repeating the treatment on alternate days.

After the patient has recovered from the haemorrhage full investigation has to be made into the gastric condition. In some cases there is difficulty in going further with the patient, as he may say that the haemorrhage has done him good. In some instances gastric acidity is lowered after haemorrhage, and, as many symptoms are dependent on this acidity, the patient feels better; rest in bed relieves the symptoms of many dyspeptics. But an energetic attempt should always be made to diagnose the condition which has led to gastric haemorrhage, for if the patient declines further treatment at the time he will almost certainly return at some future date on account of a recurrence of symptoms.

THE PHYSIOLOGY OF MONOTONY.

BY

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THE discussion at the Nottingham meeting of the Association on the subject of monotony was reported in the BRITISH MEDICAL JOURNAL on September 11th, 1926 (p 472). Many extremely interesting views were expressed regarding the emotions which cause monotony, but apparently no suggestion whatever was made as to how it produces its deleterious effects on the individual.

While it is true that our knowledge of the subject is as yet most imperfect, it appears desirable to put forward what information there is on the matter in order to assist in the experimental investigation of what is certainly an increasingly important industrial problem. Within recent years various workers in this department have carried out researches in relation to the integration of the circulation, and considerable evidence has accumulated which indicates that certain factors are clearly concerned.

Normally, whenever any physical effort is made the circulation at once adapts itself to the demands of the various parts of the body. During exercise a definite series of mechanisms is brought into play which causes the tissues in use to be supplied with more blood. In the first instance the metabolites of muscular activity, such as carbon dioxide and lactic acid, dilate the capillaries in the tissues being used. This has recently been made clear by the work of Hemingway and McDowall. In addition, impulses passing up the afferent nerves call into operation the Lovén reflexes by which the larger vessels to the part are also dilated. At the same time the blood supply to unused parts of the body is reduced by the increased activity of the vasomotor centre. This centre has been shown by Dale and Evans to be controlled largely by carbon dioxide, and the production of this is, we know, increased in muscular exercise. Further, as a result of compression of the valvular veins, increased respiration, and the action of carbon dioxide on the venous reservoir—both directly and indirectly through the vasomotor centre—the venous pressure is increased and the heart accelerated. The total result is that in exercise the blood pressure is markedly increased.

But the adaptation of the circulation may begin before the actual commencement of the exercise. It has long been known that the heart of a sprinter is accelerated before the race, and that the respiration may be increased. Recently evidence has been obtained by Aveling, McDowall, and Wells that the blood supply of the skin, which is not called upon until sweating commences, is appreciably

reduced. This reflex, which is brought into operation in anticipation of any effort, they purpose calling the "skin constrictor reflex." The vascular change is accompanied by a fall in the electrical resistance, and has been studied under the name of the "psychogalvanic reflex," but, as recently pointed out by McDowall and Wells, there is no doubt that the two reflexes are the same. Such a diminution of the circulation through an unused part was recorded volumetrically by Mosso many years ago, but was attributed to a passive rather than an active effort.

For our present consideration it is important to emphasize that the vascular reaction may be brought about by any form of stimulation or effort, actual or anticipated, provided the stimulus is not too often repeated.

We have definitely established that as soon as the stimulation or effort becomes monotonous the vascular reactions are no longer obtained. We have indeed found in the investigation of these problems that it might be practically impossible to get rid of the effects of psychical states after a holiday, when interest in the recommencement of experimentation itself caused a marked vascular change.

A similar condition may also be seen experimentally in animals, in which it can readily be demonstrated that the increased blood pressure which results from sensory stimulation ceases if the stimulation is often repeated, although subsequent recovery indicates that there has been no actual destruction of tissue. From the work of Sherrington it is known that in reflex arcs such conditions are brought about by an increased resistance of the synapses through which the impulses have to pass.

When a certain task is uninteresting and often repeated a similar state of affairs may result. If, in virtue of the metabolites produced and the Lovén reflexes, the active tissues still demand blood while there is inadequate closing down of the unused areas, the result must necessarily be an inadequacy of the circulation to the work done. Waste products will accumulate and a feeling of lassitude, if not actual fatigue, result. This, after all, is what we feel when we appreciate monotony. We may, then, consider monotony as the reverse of emotion, not only in the popular, but also in the physiological sense. We can, indeed, extend the well known James Lange theory of emotion, in which the experience of emotion is considered to be the sensations which arise as a result of the cardio-vascular response, to include the condition of monotony, in which the vascular response is inadequate to the needs of the body. Thus the popular saying, "The man's heart is not in his work," receives physiological corroboration.

The typical instance of such effect of monotony is the staleness of the athlete or musician. Here we may imagine that repetition of the situation no longer arouses the same interest and effort, that the circulation is inadequate to demands, and the physical best is no longer obtained. It is clear that excessive repetition, which might produce nervous if not muscular fatigue, is not itself responsible for the effect, since similar conditions of repetition of a task do not produce monotony in every person. Further, as pointed out at the discussion referred to, a potentially monotonous task, which to the individuals concerned is not so, may only become monotonous when the condition is suggested by one of themselves or a visitor.

This is exactly what would be expected according to the vascular explanation of the reflex, for the normal vascular response is itself dependent on interest, and this in turn is suggested by the conditions. Hence also it is that even a task which is apparently most monotonous will produce a normal reaction in an individual who has an interest in the task—for example, by a suggested pride in efficiency—or who performs his work mechanically, and by thinking of other things supplies the necessary interest. It is well known that certain individuals prefer monotonous tasks which permit them so to day-dream. The more rapid and efficient the sense perceptions of an individual, and the richer his associations, the more likely will he be to derive interest from any work.

While it is agreed that crude muscular fatigue is almost entirely dependent on fatigue of nerve endings, insufficient attention appears to have been given to the possibility that fatigue of much lesser degree may effect all nervous synapses, and may be dependent on an inadequacy of the circulation to the demands of the task. This is suggested by the fact that whereas Forbes and Ray have shown that the nerve fibres of mammals may survive for many days *in vitro*, and Hemingway and McDowall have shown the mammalian muscle may similarly last for several days if precautions are taken to counteract the effect of the cessation of oxidation, none of these workers have succeeded in obtaining the survival of mammalian nerve endings or spinal synapses for any appreciable period (as may be done in the frog). There is very definite evidence (Gillespie, Leonard Hill) of marked circulatory response to purely mental effort, which we find may vary appreciably according to the stimulation produced by the work, its associations and surroundings.

It should, however, be noted that it is not to be expected that the performance of a monotonous task will necessarily result in a fall of blood pressure; an inadequate rise of blood pressure would produce similar results. The subject is nevertheless clearly one which requires investigation from this point of view; but, unfortunately, the mere experimental procedure of taking the blood pressure would tend to relieve the monotony of an otherwise monotonous task. It will therefore be necessary to take vascular readings over a long period until the procedure produces no reaction whatever. The work will be continued with a view to ascertaining to what extent this is possible.

CARBON MONOXIDE POISONING:

ITS INCREASING MEDICO-LEGAL IMPORTANCE.

BY

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ONE of the gravest social problems of the present day is the increase in suicide. This is not a new development, for unfortunately statistics for every decennium show an increase in the suicide rate in this as well as in other countries.

In 1883 Dr. Ogle, speaking on the chances of a person committing suicide, writes:

> "The total chance of dying by suicide is much more considerable than would probably be supposed by anyone who had not examined the question. Few, for instance, would imagine that one out of every 119 young men who reach the age of 20 dies ultimately by his own hand. Yet such is the case."

Last year, of all males over 20 years of age dying in England and Wales, one out of every sixty-five was a suicide.

A recent study of the statistics of suicide in a large city has brought out many interesting facts, which no doubt will be found to coincide with those of other large centres of population. Amongst these I have been impressed by the changing methods adopted by the suicide. In former years the most frequent methods in this country were hanging, drowning, and cut-throat. To-day the same methods, while still very common, no longer hold the first place, having given way to poisoning. The most frequent poison employed is carbon monoxide or coal gas, and in Scotland not only is it the most frequent poison but the most common of all methods of suicide. Indeed, the frequency of suicidal coal-gas poisoning has become a question which demands very serious consideration.

Professor Littlejohn, in a paper published in 1899, investigated the statistics of suicides in Edinburgh for the thirteen years 1883 to 1895. The total number was 298, and did not include a single case of coal-gas poisoning. The suicides in Edinburgh for the last six years (1920 to 1925) number 353, of which 105, or 30 per cent., were due to inhalation of coal gas. In some other towns of Scotland, I am informed by the Registrar-General, the percentage is even higher. If we differentiate the sexes, we find that 42 per cent. of women employ coal gas as the lethal method, as compared with 25.2 per cent. of men.

This increase in coal-gas poisoning is well brought out by the Registrar-General's reports for Scotland. The

* Read before the Medico-Legal Society, December 2nd, 1926.

figures of suicide for the years 1913 to 1925 inclusive being:

Year.	Coal Gas.	Other Means.	Total.	Year.	Coal Gas.	Other Means.	Total.
1913	10	267	277	1920	29	207	236
1914	6	255	261	1921	31	242	273
1915	8	229	237	1922	62	214	276
1916	10	210	220	1923	70	257	327
1917	13	194	207	1924	91	269	360
1918	18	172	190	1925	88	284	372
1919	18	216	234				

The total number of accidental and suicidal deaths in Scotland from coal-gas poisoning was 10 in 1913, and 108 in 1924. In England a similar increase is found, the number of suicides by this means having more than trebled in the last six years, being 213 in 1919, and 762 in 1925—a striking contrast to the number of accidental deaths, which has remained almost constant.

Death from "Irrespirable Gases" (England and Wales).

Year.	Suicide.	Accident.	Year.	Suicide.	Accident.
1918	276	149	1922	503	176
1919	213	121	1923	688	152
1920	270	156	1924	585	133
1921	365	150	1925	762	163

This large increase in cases of coal-gas poisoning gives rise to numerous medico-legal questions, of which one of the most important is that of accident, suicide, or murder.

Accidental death from carbon monoxide occurs in connexion with lime kilns, bakers' ovens, use of explosives, motor-car exhausts, and in many trades as well as from the domestic gas supply. Deaths from this latter source are by far the most frequent, and it is with these that the present paper deals. The following are typical cases of how accidental poisoning may occur.

A student, going to bed, hung his coat on the gas bracket. Owing to the weight of the coat the bracket cracked during the night. The student was found unconscious next morning, and died later in the day from gas poisoning.

A woman who lived alone lay down on a couch in the kitchen waiting for the water to boil in the kettle. She fell asleep, and was found dead with the room full of gas. It appeared that the kettle boiled over and extinguished the gas ring.

Again, where the gas has been turned off at the meter, a person opens a gas tap to light a stove, and finding the gas turned off at the main, fails to close the tap fully. The gas is turned on later at the meter, with fatal results. The same type of accident may also occur with the penny-in-the-slot meter.

It is by no means infrequent to see reports in the press of deaths from coal gas in houses in which there are no gas pipes, the gas from a cracked main under a tar-bound or frozen road having found an outlet through the soft ground in the basement of the house. Accident can only be excluded by the circumstances, and in some cases the answer cannot be determined. In Edinburgh during the last six years there have been only seven unquestionable cases of accident.

Suicide is very frequent, and, as a rule, circumstances exclude accident. The victims in the great majority of cases are found with their heads covered with coats or blankets, and with the tube from a gas tap brought under the edge of the covering article. In several instances persons have been found sitting in a chair with the gas tube close to or in the mouth, and still held in position by the hand; or they have been found lying on the floor with the head in a gas oven. In one case a woman was found with a mask which she had made out of a tea cosy tied over her face, the gas tube having been introduced through a hole in the top of the cosy.

It is well to remember, however, that these conditions may be simulated by a murderer. The question of possible homicide is one of great importance, and six cases were reported under this heading in the Registrar-General's (England) returns for 1925.

What is to prevent a murderer turning on the gas when his victim is asleep? When unconsciousness has developed he may lead a tube from the gas to the victim's mouth and place a covering over the head, or make some other arrangement such as is described only too frequently in the newspapers. In this connexion a case which occurred this year is of interest.

A labourer employed in working down a well was found dead in bed. As in the case of all sudden deaths in Scotland, the matter was reported to the police for investigation. Professor Littlejohn, who examined the deceased on their behalf, was struck with the very pink colour of the *post-mortem* lividity. The Procurator Fiscal was informed, and ordered a *post-mortem* examination in view of a probable fatal accident inquiry being held. The examination showed that death was due to carbon monoxide poisoning. The man's wife stated that he had complained of a smell of gas in the well, and that his clothes smelt strongly of gas when he returned from work. On further investigation it was found that the man left his work at mid-day on Saturday, returned home for his dinner, and was seen walking about the town in the afternoon and evening. The family heard him return home about midnight, and move about the kitchen, where he slept alone. The kitchen contained a coal fire and also a gas ring, and he had apparently cooked himself some supper as was his usual custom. Next morning at 7 o'clock his wife entered the kitchen to prepare breakfast, but stated that she noticed no smell of gas, nor did she find the gas tap turned on. Thinking the deceased was asleep, she left him until 11 o'clock, when, on trying to wake him, she found that he was dead.

The question arose, Was this a case of accidental death from exposure to coal gas at his work; was it suicide, or a case of homicide; or, as we shall consider in a moment, was this a case not of coal-gas poisoning, but of *post-mortem* development of nitroxyhaemoglobin to which Haldane has drawn attention.[1]

An estimation of the percentage saturation of the blood was made by Hartridge's reversion spectroscope, which excluded the last-named possibility. The saturation was found to be over 70 per cent. We know that in cases of poisoning by carbon monoxide where the person is unconscious, the carbon monoxide is eliminated from the blood when the patient breathes fresh air, and after five or six hours only an infinitesimal amount is present; this man, therefore, who was seen and heard going about twelve hours after leaving his work, and who never complained of breathlessness or other symptoms, could not have contracted a saturation of 70 per cent. from the well, as this would have been eliminated many hours before, not to speak of the fact that a much lower saturation than 70 per cent. causes unconsciousness. We are therefore forced to the conclusion that the man became unconscious in the atmosphere that contained the carbon monoxide which poisoned him. There can be no doubt that he was gassed in the dwelling-house.

Whether this was a case of homicide or, as would appear more probable, one of suicide, is a matter of conjecture, since police and other inquiries could not get evidence to enable any criminal charge to be made. I believe a claim for compensation was made by the family and settled out of court, the employers preferring this to having any suspicion raised that their well was contaminated with coal gas.

This case illustrates most of the medico-legal questions arising from carbon monoxide poisoning—namely, (1) the possibility of mistaken diagnosis; (2) the toxicity and amount of saturation of the blood required to produce unconsciousness; (3) the time elapsing before a person becomes unconscious; (4) the rate of elimination.

With regard to the first of these questions, as to the possibility of any other condition being confused with carbon monoxide poisoning, Haldane reported a case in 1925 where the verdict at the inquest was given as "carbon monoxide poisoning contracted during employment." This when investigated proved to be due to a condition which had developed after death—namely, the formation of nitroxyhaemoglobin, a substance which gives the *post-mortem* appearances seen in carbon monoxide poisoning, and which gives similar reactions with the usual

tests, such as a pink colour on dilution, Kunkel's tannic acid test, and the spectroscopic test. Carbon monoxide poisoning and nitroxyhaemoglobin can, however, be distinguished by boiling a dilute solution of the blood, or by means of an instrument devised by Hartridge, known as the reversion spectroscope, which is used as one of the methods for estimating the percentage saturation of the blood with carbon monoxide.

This *post-mortem* condition of nitroxyhaemoglobin is rare, and the circumstances are sufficient to exclude it in most cases. In a very small percentage of instances, however, such as the case of the labourer working in the well referred to above, the possibility may arise, and in such circumstances care must be taken to exclude it.

Carbon monoxide gas unites with the blood much more readily than does the oxygen of the air, and causes death, not by any toxic action, but by depriving the tissues of the oxygen which it has displaced. Sometimes the patient survives for several days, and samples of the blood after a short time show no evidence of the presence of carbon monoxide. Death in such cases results from cerebral softening—an after-effect of the acute anoxaemia.

The symptoms caused by a given percentage saturation of the blood vary with the individual and the rapidity with which the saturation has been produced. Distinct symptoms of weakness and malaise are present with a saturation of 50 per cent.; between 50 and 55 per cent. any exertion such as walking is difficult, and above this unconsciousness is produced. When the accumulation in the blood is rapid, such as occurs when air containing a large amount of carbon monoxide is breathed, the saturation required to produce the above symptoms will be less.

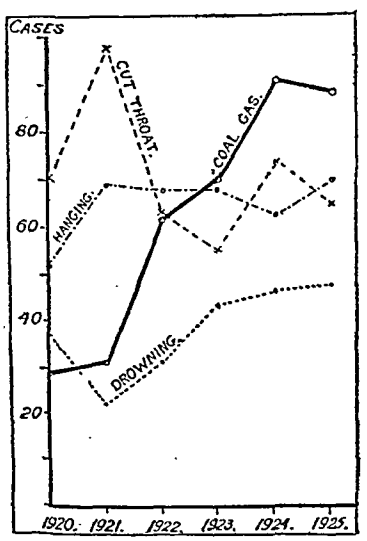


FIG. 1.—Chief causes of suicide, Scotland.

The rapidity with which carbon monoxide accumulates in the blood varies with the amount of the gas present in the air. An individual breathing an atmosphere containing 1 per cent. of carbon monoxide will have 50 per cent. of carbon monoxide in his blood in fifteen or sixteen minutes. Exposure for twenty minutes is thus approximately the time required for unconsciousness to develop with this percentage in the air. If a person puts his head in a gas oven he will be breathing almost pure coal gas, which in Edinburgh contains at present 22 per cent. of carbon monoxide. Under such conditions unconsciousness will theoretically occur in about thirty seconds.

The rate of elimination of the gas after the patient has been removed from the atmosphere of carbon monoxide is also of importance from the medico-legal standpoint. Henderson[2] has shown that for the first hour and a half the elimination is small, but after that becomes rapid, and, provided the patient lives, all the carbon monoxide should have been eliminated in from five to six hours.

In the case quoted by Haldane, to which reference has been made, the verdict of carbon monoxide poisoning at the inquest was founded on the bright pink colour of the blood seen at the *post-mortem* examination, and on the positive results obtained from the usual tests for carbon monoxide. Fourteen days had, however, elapsed before death occurred, so that in this case it is evident that the appearances and positive tests could not have been due to carbon monoxide gas. Had the above facts connected with gas poisoning been more widely known this mistake could not have occurred.

The increasing frequency and the various medico-legal problems associated with carbon monoxide poisoning have been briefly considered; it is now necessary to discuss whether anything can be done to limit its occurrence.

The poisonous element in coal gas is the carbon monoxide, most of which is added in the form of water gas for the purpose of increasing its heating properties. Yandell Henderson,[3] in an article on poisonous gases, stated:

> "It is well established that the number of deaths each year in any city due to its illuminating gas rises in direct proportion, or even in more than direct proportion, to the amount of carbon monoxide in the gas. In those cities where coal gas of low carbon monoxide content is supplied asphyxiations are few. In New York City at the other end of the scale, where the gas contains nearly 30 per cent. of carbon monoxide, the number of deaths from carbon monoxide asphyxiation runs up toward 500 a year."

In this country Dr. Stevenson, representing the Registrar-General's department, giving evidence before the Departmental Committee on Carbon Monoxide Poisoning in 1921, stated that "The death rate from accidental coal-gas poisoning for towns where water gas was added to the gas was two and a half times higher than for towns in which none was supplied." It is evident that the percentage of carbon monoxide in the gas affects the death rate from coal-gas poisoning.

In the last five years there have been two Government inquiries into deaths from coal gas—one in 1921, the other in 1924. Both these inquiries have, however, been limited to accidental deaths, the increase of which, they state, has only been slightly above the proportional increase in the number of premises supplied with gas.

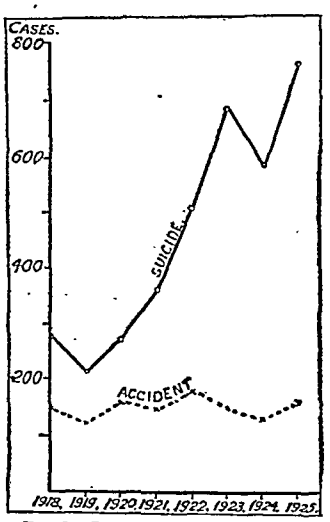


FIG. 2.—Coal-gas fatalities, England and Wales.

The 1924 committee reported that the question had been considered solely from the standpoint of the risk of accidental poisoning, and concluded that a limitation in the proportion of carbon monoxide in lighting gas would cause very little reduction in the number of accidental deaths, and would gravely disturb the economic factors which govern the price of gas, the reason for this opinion being apparently because the majority of accidental deaths occur in bedrooms during the night, and the victims are subjected to prolonged exposure. From the accidental point of view any alteration in the composition of the gas supplied does not appear to be a practical proposition, and, in any case, the rise in the number of accidental deaths is not very great.

In February of this year the Parliamentary Secretary of the Board of Trade referred to the 1924 report, in answer to a question in Parliament as to whether he would cause inquiry to be made into the deaths from carbon monoxide poisoning. He stated that the position was being watched, and that during 1925, in the area supplied by the three London gas companies, there were twenty-seven such deaths in which either an open verdict or a verdict of accidental death was returned. This is not an alarming number. We have, however, to add to this 153 suicidal deaths of which no mention was made.

It is to the prevention of suicidal poisoning that I desire more particularly to direct attention. It may be said that if one method is removed a suicide will find another. That this may be so is beyond dispute, but there are many cases in which suicide would not be attempted if some difficulty was placed in the way of employing a particular method. The temptation of an easy means at hand is often the deciding factor. As an instance of this, suicides were very

frequent some years ago from a well known bridge in Edinburgh which had a low parapet and might almost be said to invite suicide. The parapet was raised and crowned with sharp spikes, with the result that no suicide has occurred there since.

We have seen that carbon monoxide is a cumulative poison, and that fatal results will occur with even small amounts in the atmosphere provided the exposure continues for some time. Would a reduction in the amount of carbon monoxide in lighting gas, and thus a prolongation of the time necessary to produce a fatal result, be of any use? In a number of cases it would result in the person being found before it was too late. This is shown by the fact that of eighty-two admissions to the Royal Infirmary, Edinburgh, of lighting-gas poisoning in the last six years only six have died. On the other hand, a suicide frequently tries to make certain of a speedy result by covering his head with blankets, or putting his head inside the gas oven, etc., and so artificially raises the concentration in the atmosphere he breathes. In such circumstances, it must be admitted, reduction in the carbon monoxide content would not have much effect.

The question of limiting the amount of gas supplied by means of a penny-in-the-slot meter is likewise of little advantage, as I have seen fatal results in cases where such meters were in use. Approximately 25 cubic feet of gas are obtained for a penny, which, if it contained 20 per cent. carbon monoxide, would give 5 cubic feet of carbon monoxide—a quickly fatal concentration in an ordinary sized bedroom.

It seems a pity that the question of suicide should have been eliminated from the Government inquiries, especially in view of the statements of Yandell Henderson and Dr. Stevenson, and of the rapid increase in suicidal cases.

In considering the question of the limitation of suicide we must not confine ourselves to a discussion of the composition of gas, but must consider any other methods which are applicable. There is no doubt that a large number of cases of suicidal gas poisoning are due to the publicity given to this matter by newspapers. As I mentioned before, suicides are easily influenced by example and suggestion. A suicide occurs by some unusual means which is reported in the press, and is quickly followed by another in which the same means are employed. An example of this occurred recently in Edinburgh, where two men cut their throats, and then jumped from a viaduct into a river below, within a few days of each other.

Not infrequently the relatives state that the deceased had remarked on similar suicides which he had read about in newspapers. There can be no question that the publication of details and reports of inquests in cases of suicide does a great deal of harm. A few months ago these cases were broadcasted in the evening news bulletins, but fortunately the B.B.C. eliminated such items when their attention was directed to the grave results of such publicity.

Legislation has recently been proposed to suppress the publication of certain classes of divorce court proceedings. It is surely of greater importance to suppress reports of suicides, which constantly remind unfortunate individuals of the ease and certainty of death as a way out of their troubles. Whether the suppression of publication of suicides would have any beneficial effect on the number of cases of coal-gas poisoning cannot, of course, be definitely asserted, but that absence of such details would be an advantage to the community cannot well be doubted.

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BILHARZIA OVA AND THE TEST TUBE.

BY

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THE statement that antimony tartrate kills the ova deposited in the tissues during treatment for bilharzia disease has been assailed by Dr. Mohamed Khalil,[1] who states that the action of tartar emetic in curing bilharziasis is not due to its effects on the eggs, and that miracidia are not affected by tartar emetic in the dilution approximating to that used during treatment. Lately, Captain W. H. Dye[2] has said more specifically: "I cannot agree that the ova are killed by tartar emetic." In view of the fact that there is general agreement that antimony, both *in vitro* and *in vivo*, kills the parasite[3] which produces the ova—a fact contested for some time—the question of the effect of antimony on the ova might appear of no great importance; it is, however, important, for if the ova are *not* killed, they will leave the bladder or rectum and continue to infect the intermediate hosts, and the drug is not so great a prophylactic agent as is claimed; further, if antimony has no therapeutic effect on the ova we lose a reliable method of observing the results of the action of antimony during a course of treatment.

Certain facts with regard to the ova during the administration of antimony tartrate can be made out by anyone who has a microscope and a patient with bilharzia disease. They occur in rectal and in vesical infections; they are obviously more easily observed in the urine than in the faeces. A specimen of the urine of a moderately severe case of bilharzia disease is cloudy and contains blood—macroscopic or microscopic; if it be allowed to stand for half an hour in a conical glass the sediment at the bottom will be found to contain ova, most of which are more or less transparent, showing the miracidium usually with the anterior end at the extremity which is not spined. The outlines of primitive embryonic organs will be easily seen within the miracidia; these are live ova and comprise by far the greater portion.

There are a few which appear shrunken with double contour replaced by a single bounding membrane. The contents of such ova are granular, without shape or form, dead; some are calcified. If the urine containing the ova be diluted and the temperature of the solution raised to 110° or 120° F., most, but not all, of the living ova will hatch out within half an hour; none of the granular-looking ova will hatch. If fresh specimens of urine are examined day by day the same facts will be noticed with little change, the number of the ova varying, but always there will be dead and living, the living outnumbering the dead.

Now commence treating the same person with intravenous injections of antimony tartrate. After a few days the urine will clear perceptibly, the blood will diminish, and blood obvious before to the naked eye is now obvious only under the microscope. It will be noticed that the number of ova in the urine has sensibly diminished. A decisive action has taken place, which has affected the number of ova and has diminished the blood in the urine.

These facts can only be logically explained by assuming either that the antimony is acting on the ova, or that its action on the female worms causes them to lay fewer eggs.* Continuing the injections every other day, the improvement is maintained, the local symptoms are relieved, and there is less pain, less frequency, and less difficulty in micturition.

Still continuing the injections, the initial dose of half a grain is increased by half a grain each succeeding dose according to rule, to the maximum dose of 2 or 2½ grains, which is then continued. On the eighth or ninth day of regular treatment a definite and increasing change in the character of the ova can be observed. Many containing well formed miracidia hatch slowly or not at all on the addition of water, while increasing numbers of ova show granular and degenerated miracidia. In fact, from the

* Recently Fairley has revived the theory that the action is a specific one on the female worm (he admits a definite action on the ova). It is difficult to understand why the antimony should affect female rather than male parasites as Fairley suggests, or why, acting on the female, the latter should continue to lay dead or addled eggs. One can understand the female being affected by the antimony and laying no eggs at all. This Christopherson has suggested as a reason why ova are scanty during treatment.

ninth day onwards ova appear in the urine, which, owing to the action of the antimony tartrate, have become granular and black. By the end of a fortnight's treatment about half the ova discharged are obviously dead; many are quite opaque.

On about the twentieth day of treatment all the ova coming away will be dead; none will now hatch out on diluting and warming the urine, and if the adult worms are killed, as is probable, live ova will not reappear in the urine. The injections commenced early to affect the ova. The first action of the antimony *in vivo* is observed by testing the physiological function of hatching; as more injections are given the ova are increasingly affected and fewer living ova are found; lastly, the parent worms are killed and living ova no longer appear in any circumstances but reinfection. I think it is impossible to maintain that this sterilization change in the ova is not the direct result of the antimony injections. Other drugs also kill the ova, but no drug deals with bilharziasis so completely as antimony tartrate, because none have so great parasitotropic action and so little organotropic in comparison.*

These are changes which must be observed *in vivo* with the parasites in their natural media; they cannot be adequately studied in the test tube, nor can test-tube observations, however accurate and in many respects valuable, take the place of clinical experience. In support of this, if support be needed, we might contrast Dale and Dobell's[4] experience with *Entamœba histolytica* and emetine *in vitro* with the clinical results obtained with the same drug.

H. B. Day[5] investigated a series of 1,000 cases at the Kasr el Aini Hospital, Cairo, and published carefully drawn charts to show the effect of antimony on the ova. He found that the ova of bilharzia *in vivo* are very susceptible to antimony; a short course of four injections will kill them, the effect being seen after about nine days, and it is the same when the doses are continued; it is evident that it is the small dose acting over a prolonged period which kills when antimony is given in clinical practice. When only small doses are given for two or three days dead ova appear after the ninth day, and the effect reaches its maximum on the fifteenth day, after which living ova become more and more numerous Thus a very little antimony given kills the ova, but the worms revive and recommence laying. We have actual proof that antimony in a short course does not kill the worms till later, since Day found living worms at a *post-mortem* examination of a patient who died of an intercurrent disease after a short course.

It has been said by way of objection that granular ova occur in bilharzia cases not undergoing treatment. This is true, but the sudden diminution in the number of living ova coming through after a few days of antimony administration, and the cessation of pain and blood, and the clearing of the urine can only be explained satisfactorily by supposing that antimony has already attacked the ova and paralysed them, or that the worm is under the influence of the drug and therefore is not laying. The ova no longer penetrating the mucous membranes of the bladder in such numbers there is less cause for haemorrhage, and the urine becomes more acid and natural in appearance.

Further, if the dead ova in a case undergoing treatment are counted and the number compared with the number of live ova, it will be found to be out of proportion to the number of dead ova coming through in a case not receiving treatment. This points to the fact that it is the ova which are killed by the antimony. These shrivelled ova whose double contour is replaced by a single outline, the miracidia within replaced by a shapeless granular mass, always opaque, generally appearing black by transmitted light, are not capable of hatching in any circumstances. The foregoing facts may be verified by anyone with a patient and a microscope.

* One could understand a parasite laying one dead egg or two, which would correspond to abortion in a human being, but is it a biological fact that tartar emetic makes the parasite continue to lay dead ova? In other words, is not the action of the tartar emetic a direct one on the ova as they lie in the tissues?

Both Day and I, however, obtained in addition results with watery solutions of tartar emetic which showed that there was a distinct, though retarded, action by the antimony on the ova *in vitro*. In order to imitate natural conditions more closely the former also experimented with saline solutions. Day pointed out that work *in vitro* has its limitations. A time limit is imposed, since the ova are not in natural surroundings; they are, in fact, in contact with infected liquids, the ova being recovered from urine which is more or less contaminated with bacteria, whilst when living in the tissues they are bathed in serum—a benign medium from which the ovum derives its nutrition. By using serum for the medium the results of experiments on the ova *in vitro* might possibly have been still more striking.*

I submit, therefore, that *in vitro* experiments also prove the direct toxic effect of antimony on the ova. They further suggest that the phenomenon of hatching of the bilharzia ova is a vital process, not governed exclusively by physical laws, for whereas antimony appears to have a profound effect on the live ovum, it apparently has no effect on the dead ovum.

The action of antimony on the living ova is real, an early manifestation, and only second in importance to the action of the antimony on the adult worms, which it kills later. The action on the ova and on the adult parasite makes antimony the most valuable therapeutic agent we have in bilharziasis, and probably one of the most complete remedies in our therapeutic armoury.[10]

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THE OSCILLOMETRIC EXAMINATION OF ARTERIAL PERMEABILITY.

BY

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IT is often necessary in clinical work to determine the state of permeability of the arteries of the upper or lower limbs. In obliterating arteritis the need for determining the presence of an obliteration, its degree, its localization, and also the condition of the collateral circulation, is frequently felt. In arterial or arterio-venous aneurysms it is necessary to know if the limb is receiving a normal blood supply. In diabetes, in arterio-sclerosis, and in other morbid conditions the degree of permeability of the arteries of the limbs—especially of the lower limbs—is important from the points of view of diagnosis and prognosis. There are not many clinical methods which assist in answering these clinical problems. Digital examination of the radial or the femoral artery or the dorsalis pedis does not give very definite results. The Moschcowitz and Matas tests, which utilize the degree of the hyperaemic blush following artificial ischaemia caused by the application of an elastic bandage, also fail to give very definite results, and are not without danger in their application.

In 1912 I introduced the oscillometric method for the study of arterial permeability.[1] It is based on the use of Pachon's oscillometer, and has been developed in France by a great number of workers—principally by Heitz,[2]

* Tartar emetic was shown recently by Fairley[7] to be relatively innocuous to bilharzia cercaria in aqueous solutions, but it developed marked lethal properties in the presence of human serums derived from both normal and bilharzia patients

Guyot and Jeanneney,[3] Pagniez,[4] Gosset, Rénon, and others. An excellent review of this method has been given by Gallavardin[5] in his standard work on the arterial pressure, and by Pachon[6] in a paper on the oscillometry. If the work of Matas[7] be excepted, this method of examination is not used extensively in English-speaking countries. Buerger, in his review of the circulatory disturbances of the extremities, does not appear to have followed the literature on this subject, although for the diagnosis of the syndrome of arterial obturation and of thrombo-angiitis obliterans the oscillometric method is, in my opinion, very valuable.

The Method.

Pachon's oscillometer shows the oscillations of the arterial wall under progressive pressure with great accuracy. Fig. 1 shows the oscillations obtained after the armlet has been inflated until no oscillations are shown on the dial of the oscillometer. If the air is allowed to escape very gradually by the valve of the apparatus, and the index of the dial which indicates the oscillations is watched, at first a series of small and equal oscillations, which are called the supramaximal oscillations, are detected. Then comes an oscillation distinctly differing in its extent—the "differentiated oscillation." The oscillations continue to increase progressively and then diminish, and there may therefore be detected the maximum oscillation (MA) and immediately after this maximum oscillation the first descending oscillation (DF). By allowing the air to escape gradually small oscillations are reached once more, and the terminal oscillation (TE) may be determined.

Pachon, his pupils, and various other clinicians use the oscillometric method for the determination of blood pressure. The differentiated oscillation corresponds for Pachon to the systolic pressure, and the degree of this pressure is shown by reading the manometer of the apparatus. The first descending oscillation (DF) indicates the diastolic pressure.

For the application of the oscillometric method to the study of arterial permeability the two oscillations—DI and DF—necessary for the determination of the blood pressure need not be considered, but the three other oscillations—the initial oscillation, IN, the maximum oscillation, MA, and the terminal oscillation, TE—must be determined. More precisely we must try to determine: (1) the degree of pressure under which the initial (IN) and terminal oscillations appear; (2) the extent—in divisions of the dial of the oscillometer—of the maximum oscillation. This last determination, Pachon's oscillometric index, is the most important. This point should be thoroughly understood, and there must be no confusion between the application of the oscillometer for the determination of the blood pressure in general and its application for the determination of arterial permeability.

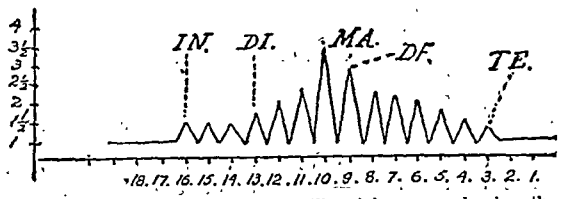


FIG. 1.—Diagrammatic clinical oscillometric curve, showing the oscillations as obtained in progressive decompression of the armlet of the oscillometer. The horizontal line indicates the pressure as read in the manometer. (For the corresponding English divisions a zero — must be added. Example: 18 is 180 mm. of mercury, 13 is 130 mm. of mercury.) The vertical line indicates the divisions of the dial measuring the extent of the oscillations. IN=Initial oscillation. DI=Differentiated oscillation. MA=Maximum oscillation. DF=First descending oscillation. TE=Terminal oscillation.

If the whole oscillometric curve be determined, or, more simply, if the numbers of the manometer corresponding to the three oscillations under consideration—the initial, the maximum, and the terminal—be noted, it will be found that under normal conditions in the upper limbs the initial is at about 15 or 16 (150 to 160 mm., using the mode of notation customary in England), the maximum extends to 2 or 3 degrees of the dial, and the terminal is found at about 6 or 7. The simple mode of notation 15—3°—7 is here adopted. In the lower limbs the initial is found at about 18, the maximum oscillation extends to 3 or 4 degrees, and the terminal oscillation is also found at about 7 or 6. Adopting the simple notation this may be stated for the lower limbs as 18—4°—6.

This is, of course, schematic because there are many individual variations, and in order to appreciate the differences in the oscillometric curves indicating arterial permeability, it is best to compare the oscillometric curves obtained in different arterial segments by applying the armlet of the oscillometer in various positions on the upper and lower limbs. A special "armlet" has been constructed by Boulitto for the thigh.

In cases of diminished arterial permeability of an artery of the limbs what may be called the oscillometric curve

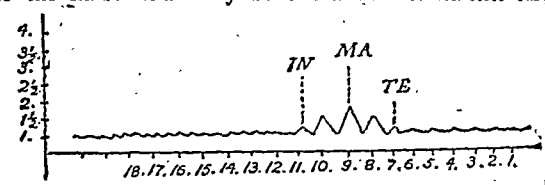


FIG. 2.—Oscillometric curve of arterial obstruction IN=Initial oscillation. MA=Maximum oscillation. TE=Terminal oscillation.

of arterial obstruction is found (Fig. 2), in which the initial oscillation appears at a lower pressure (say 7), the amplitude of the maximum oscillation is diminished (for example, to half a degree of the dial), and the terminal oscillation appears at a higher pressure than normally (say 6). This curve indicates that the oscillations of the arterial wall appear later, finish earlier, and are of less amplitude than normally. In other words, as Gallavardin puts it, the "pulsatility" of the artery is diminished.

Clinical Application.

1. The oscillometric examination of arterial permeability helps in determining whether obliteration exists, and thus in diagnosing whether a syndrome of intermittent claudication is due to an arterial obliteration or to a nervous cause (medullary intermittent claudication, a syndrome of the initial period of Erb's spastic paraplegia).

K. shows a definite symptom-complex of intermittent claudication. Oscillometric examination of the arterial permeability in the two lower limbs 12—1—6; in the two upper limbs 15—4—10. This patient had syphilis and certain difficulty on walking. The onset of a nervous spasmodic syphilitic paraplegia was suspected, but the oscillometric method allowed the diagnosis of the arterial origin of the disturbance to be made, and this diagnosis was confirmed at *post-mortem* examination, which showed the presence of big plaques of atheroma of the two external iliac arteries, almost completely obturating these vessels.

S., a diabetic, complains of numbness in the lower limbs and certain difficulty in walking. The oscillometric exploration shows low numbers for the left lower limb and less low for the right lower limb. This enabled the diagnosis of arterial origin of these disturbances to be made, a diagnosis which was confirmed by the appearance during the next year of early gangrene of the left toe.

When the collateral circulation is good, even although a main artery is obliterated, the oscillometric results are not abnormal findings. A negative result must not be considered, therefore, as absolute.

2. The oscillometric method allows the course of the disease and the effect of treatment to be followed.

K., aged 30, seen in Paris in 1910. Oscillometric mensurations: lower right limb 14—2—6, lower left limb 7—1/2—4; upper limbs 14—3—9. After a series of treatment in Royat he was examined two years later. He felt considerably better. Oscillometric mensurations of lower limbs: right 15—2—9, left 9—1/2—5. This satisfactory condition did not persist long, and after two years the readings for the upper limbs were 14—3—9; lower right 14—2—9, lower left 6—1/2—5. One year after no oscillation was detected in the left lower limb.

3. The oscillometric method enables a diagnosis to be made between arterial obliteration due to spasm and that due to definite organic obstacles. As Heitz has shown, when it is caused by spasm a hot local bath brings back normal oscillometric readings.

4. Oscillometric exploration allows the localization of the obliteration to be determined; the obturations curve being found precisely at the region of the obturation and under that region.

5. Oscillometric estimations have been applied to the examination of the arterial circulation in cases of arterial

and arterio-venous aneurysm by the author; as well as by Gosset, by Matas, and by Rénon.

M., Colonel in the Greek army, wounded at Kilkis, and showing an arterio-venous aneurysm in the right axilla. Oscillometric examination of the forearm: left 14–2–10, right 10–1–7. Two weeks after operation by Professor Gosset the initial oscillation was–12. Ten months after it was 13–2–8. The radial pulse could not be felt; oscillations were therefore due to collateral circulation.

This method also shows if a collateral circulation persists in a limb after extirpation of an arterial aneurysm. This is done by taking the oscillometric readings before and after compression of the artery under the aneurysm. If the oscillometric readings are good after compression, extirpation can be applied without danger.

6. Lastly, oscillometric examination will demonstrate the obliteration of a radial artery by an aortic aneurysm or by a tumour of the mediastinum. The involved artery will show the oscillometric curve of arterial obstruction.

Summary.

Pachon's oscillometer is a very simple clinical instrument and easy to apply. With a little practice anyone can determine the state of the permeability of the tibial artery, of the femoral artery, of the artery of the forearm, and of the brachial artery, and thus study an important element of the peripheral arterial circulation of the patient.

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THE TREATMENT OF BURNS.

BY

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THIS note is the outcome of fourteen months' experience as house-surgeon in burns wards. There every known method of dealing with the primary shock and in the aseptic and antiseptic treatment of the burns was tried.

During the last five years I have used as a routine Wright's hypertonic saline (NaCl), with its recognized valuable results[1]; this in association with more active measures is the keynote of the method.

The line of treatment advocated is active surgical intervention, and consists of the immediate removal of all dead tissues under a general anaesthetic—preferably ether. The appreciation of what may be termed the demarcation line is soon acquired. My approach towards this appreciation was the removal of the dead tissue in fourth and fifth degree burns on the seventh day, at which time natural separation is appreciable, and thereafter proceeding in subsequent cases to earlier and eventually earliest removal. The degree of appreciation is not important, provided the error, if any, is on the side of free removal. The aim is the formation of a surgical field, and free removal, both at the skin and deep margin, is indicated. The presence of dead tissues results in toxaemia from the absorption of the products of autolysis, and usually a degree of septicaemia at the sloughing stage. To avoid this is the chief purpose; complete removal leaves a surgical field with the subsequent healthy granulation tissue of aseptic surgery.

The instruments used in the removal of dead tissue are razors, amputation knives, Volkmann spoons, heavy curettes, different types of scissors, toothed dissecting forceps, haemostatic forceps, etc. Where bone is involved the appropriate instruments are added. The solution employed is hypertonic (NaCl). When demarcation has been exact there has been no danger of haemorrhage from oozing with applications of 5 per cent. hypertonic saline, or, where oozing is extensive, 2 to 3 per cent. In no case has there been haemorrhage. The gauze is wrung out of the hot saline and applied in close contact to the raw surface, layer on layer, and covered with wool. Jaconet is used as a covering where modification of the hypertonicity and the nature of the field might result in a painful adherent dressing. The gauze is removed by warm saline, irrigation, as distinct from soaking, being employed. At a later stage in the repair, the stage where physiological saline is replacing hypertonic, "V" flap perforated silk is interposed to guard the granulations if required. The question of dressing daily, or twice daily, is particular to the case. Within a few days parts of the field are in most cases ready for pinch-grafts, provision for which should be made at the operation. When dealing with the skin margin, shelving of the margin is adopted, but at different parts small portions of the skin are left jutting towards the raw area, and these portions, when required, are readily removed by scissors curved on the flat. General pinch-grafting is governed by absolute freedom from dead tissue or sepsis and by the degree of granulation desired to replace loss of tissue. Dead tissue which may have been missed at operation should be dealt with by sharp scalpel or razor; for smaller portions the virtue of hypertonic saline need not be enlarged upon. A bland ointment is used to protect the rapidly germinating epithelium, otherwise physiological or hypertonic solutions of NaCl are employed throughout.

The question of how early the operation should be performed has to be viewed in relation to the degree of primary shock and the degree of difficulty which may be met with in estimating the line of demarcation at the particular site of the burn. Undue delay, on the other hand, must be guarded against on the following grounds. The active measures taken in combating the shock—the electric cage, pituitrin, camphor, ether, brandy, etc.; intravenous saline, rectal injections of saline, glucose, essential oils, etc.; analgesics such as morphine, nepenthe, etc.; the various types of soothing applications, aluminium acetate, picric acid, protective wax preparations, etc.—were in part nullified by the rapid absorption of the autolytic products, this absorption from its toxaemia sustaining the shock.[1] There is also the possibility that the autolytic processes in burns modify locally the natural efforts of repair, with a resultant change in the characteristics of the fibroblastic tissue. The ground for such a belief is the modification of the scar tissue, so frequently met with in burns, ranging as it does from hypertrophic scar tissue, keloidal to keloid, which, although regarded as an individual idiosyncrasy, is nevertheless most common in burns. It must be remembered too that equally severe shock is met with in other circumstances where immediate operation is indicated. There is also the stimulating effect of ether administration, and during this intravenous saline and other shock-combating treatment may be carried out. Post-operative treatment is attended to as in other surgical cases. Lastly, there is the psychological effect on the patient when the nausea of scorched flesh is replaced by the sense of comfort from the soothing aseptic dressings, painlessly applied. The necessity to operate at a later stage, when the patient is exhausted from toxaemia, if not by septicaemia, is avoided. The convalescence, characterized by asepsis and a rapid rate of healing, is considerably shortened and is free from discomfort.

The flexible type of scar tissue resulting from this procedure, with its potentiality for plastic considerations and minimum of contractures, lessens disfigurement. The nature also of the repair process prevents the former bugbear of burns repair. This was the terminal patch usually found at the summit or centre of the field. It was due to the inequality of repair rate at the deep and superficial parts of the scar, the contraction of the deep tissue interfering with the blood supply of the patch. The result was that this area might resist all methods of healing, including grafting, and take on a malignant character. Such a malignant ulcer is not infrequently seen on an old burn scar when it has broken down from stress or trauma. Similarly the treatment lessens the possibility of hypertrophic scar tissue. The absence of keloidal or keloid tissue in the cases dealt with must at present be regarded on the score of the patients' freedom from such idiosyncrasy. The

particular value of flexible scar tissue at the flexures of the body and at tendinous areas need not be mentioned.

In large voluntarily supported institutions the economical aspect—the saving in time and material—is also a consideration.

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TREATMENT OF ENCEPHALITIS LETHARGICA ASSOCIATED WITH PARKINSONISM BY ULTRA-VIOLET RAYS.

BY

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MY object in publishing these few cases is to interest those members of our profession who are not yet acquainted with the possibilities of treatment of this unhappy condition by means of ultra-violet rays. I cannot claim that this line of treatment works miracles, but in some cases it appears to be definitely beneficial.

Some months ago I treated a case of chronic ulcerative tonsillitis by means of ultra-violet rays (mercury vapour lamp); as the tonsils healed quickly, and a persistent rhinitis cleared up also, I was led to think that the local application of ultra-violet rays to the mucous surfaces of the nose and throat might be beneficial in encephalitis lethargica. On June 8th I began to apply it to cases to which I was already giving general ultra-violet rays with what, I think, is a certain measure of success.

My technique, except in Case 5, consisted in stripping the patients in the usual way and application of the multiple carbon arc lamp, back and front, for gradually increasing periods up to half an hour, according to the patient's capacity, twice weekly. In addition to this, local treatment was given to the mucous surfaces of the nose and tonsillar area by a mercury vapour lamp with adaptor for a period of not exceeding two minutes to each area.

The points which seem most noticeable are: improvement in gait, feeling of well-being, diminution of salivation, and relaxation of the fixed expression of the face.

Case 1.—A schoolmaster, aged 33. The onset of the disease occurred two years before he was sent to me in April, 1926. Parkinsonism was well developed; he was unable to do anything for himself. The multiple carbon arc lamp was used twice weekly. After the third application he was able to turn over on the couch; after the fifth he walked much better; after the eighth he was able to help to dress himself; his facial expression also improved very much. On May 22nd he was sent to Birmingham to Dr. Eden for lavage of his sphenoidal sinus, etc.

Case 2.—A schoolboy, aged 14, contracted the disease a year previous to coming to me on April 16th, 1926. He was in a very poor condition—was extremely breathless on going upstairs, and the journey of eight miles in the car upset him very much; his heart was considerably dilated. He had three applications, but died suddenly in his own home four days after the last application.

Case 3.—A coppersmith, aged 42, had had the disease for two years before coming for treatment on April 16th. His improvement has been very marked from the commencement, particularly as to his expression, feeling of well-being, and locomotion. On June 8th, in addition to his general treatment by means of the multiple carbon arc lamp, I gave him short local applications to the nose and throat by means of an adaptor fitted to the mercury vapour lamp; this was continued twice weekly, and has appeared to be very beneficial. He is much straighter in posture, and can use his hands much better.

Case 4.—A joiner, aged 42. Onset of disease two years previous to coming for treatment on April 16th, 1926. The Parkinsonian syndrome was present, but not so well developed in this case; salivation was very troublesome. He also had very marked stiffness of the jaw. He ceased to come on July 27th, but was considerably improved; his jaw is still very stiff, and he is having difficulty in eating.

Case 5.—A married woman, aged 38, in whom the disease first appeared two years previously. She was delivered of a healthy female child (still alive and well) a week after the onset. Came for treatment on April 16th, 1926. She was treated throughout by means of the mercury vapour lamp, local and general, and her condition is much improved.

Case 6.—A labourer, aged 32. Duration of disease fifteen months. He had very marked tremors, and used to get up from bed to come for treatment. He showed some improvement, but not much. He ceased to come June 28th, and has since been confined to bed. I am inclined to think that this is a case of disseminated sclerosis. He came on April 16th, 1926. Same treatment as above.

Case 7.—A fruiterer, aged 19. Onset of attack two years previously. His gait and posture were very bad; there was much salivation. The posture and gait have much improved, and he is much freer from salivation. He was very mischievous when he first came, but his demeanour is much improved. He came on April 16th, 1926. Same treatment as above.

Case 8.—An insurance agent, aged 49. Date of attack indefinite, but he had been going downhill for six months, and had developed Parkinsonism. Treatment was started on July 14th, 1926, and the patient shows considerable improvement.

Case 9.—An engine-driver, aged 60. Duration of disease three years. He came once, but did not like the treatment, and would not come again.

BREATHING EXERCISES WITH MOVING ARMS.

BY

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SOME systems of physical training still advocate the movements of the arms during a breathing exercise.

Arm movements hamper the expansion of the thorax and the descent of the diaphragm. As soon as the arms are raised the movements of the thorax are lessened, in order that it may supply a steady base on which the arms can pivot; also to supply a fixed base for the muscles which arise from the chest and are attached to the arms to work from. In addition the shoulder girdle has to be moved. Besides the arm group other muscle groups are immediately contracted. The supporting groups of muscles, which keep the body in position while the heavy arms are moving, come into play. The muscles of the leg contract to steady the pelvis, in order that the spine and thorax may be supported on it, and not be swung off their balance by the heavy arms.

The fixation of the pelvis enables the abdominal muscles to contract and hold the thorax firm; this prevents the ribs from rising. If, in addition, the head is thrown back, as is usually recommended, the abdominal muscles can be seen and felt to be rigidly contracted. This effectually prevents the descent of the diaphragm. The spirometer and x rays confirm these statements. Keith, in a Hunterian Lecture, says that arm movements increase the pressure in the abdomen. This also impedes the diaphragm.

The mere fact that no gross movement in these abdominal muscles may be seen does not prove that no contraction is taking place. The thin muscle fibres of voluntary muscle supplied by the sympathetic non-medullated nerves may be very strongly contracted without gross evidence to a casual eye, but it can be felt. (Compare the rigidity of the rectus abdominis.)

Nobody would advise the performance of a breathing exercise with a half-pound dumb-bell in each hand. Yet the addition of half a pound to the many pounds weight of each arm would not add much to the total weight which the body has to manipulate. The weight of each arm can be realized by holding it out at right angles to the body for a moment or two. If the weights of dumb-bells are gradually increased to a maximum, the full effect of weights (such as the arms) pivoting on the chest can be observed.

The contraction of the arm muscles spreads not only to the supporting groups—those of the legs, back, and abdomen—but to the whole musculature of the body. Even the jaw and facial muscles are involved. So fixed does the thorax become that breathing is entirely suspended, the chest and diaphragm cease to act. The weight of the arms alone has this effect of hampering the respiration, the dumb-bells only intensify it. The weight of the arms is unbearable to anyone in a condition of respiratory distress. Such interference with respiration also impedes the circulation. Neither, when the arms are raised, can any pull occur on the ribs to elevate them, any muscles tending to oppose the raising of the arms being elongated and their tone inhibited (Sherrington's proprioceptive reflex and reciprocal action of antagonistic muscles).

Exercise of the thorax for normal breathing can best be brought about by graduated runs in the open air. After running, if the respiration is left to itself the movements of the thorax and diaphragm will be abundant and natural.

The arms should not be moved. The respiratory muscles and apparatus have been exercised day and night since birth and well know how to breathe. Breathing is entirely self-adjusted and requires nothing more than to be saved from interference.

No artificial exercises, unless a lesion is present, whether they cramp the chest or not, can possibly improve on this self-adjustment possessed by every human being, inherited through many ages. Also, artificial exercises designed to strengthen the muscles of the chest are not breathing exercises. We do not breathe by muscular strength.

Bankart, in his article on physiology of muscular action (*Proceedings* of the Royal Society of Medicine, November, 1925), says, "There is too much arm and leg wagging in the scheme of most gymnasts."

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

COINCIDENT HERPES AND VARICELLA.

THE two following cases, both occurring in the same family, of a definite herpes associated with chicken-pox, are of interest in view of a possible common origin of the two conditions.

The elder child, a boy aged 10 years, on December 21st, 1926, had shooting pains in the right side of the chest, and several raised red spots were noticed by the parents along the line of about the seventh rib. During the following two or three days other spots appeared at intervals over the chest, back, and forehead; there was no complaint of pain.

The younger child, a boy aged 4 years, on January 6th, 1927, had slight malaise, followed the next day by red papules on the chest and back. At intervals on succeeding days others appeared. On examination on the third day of illness there was a typical rash of varicella on the chest and back, showing the vesicles in various stages of development, while on the back of the right hand there was typical herpes over the distribution of the radial nerve to the thumb and first finger. The elder boy then showed the remains of the chicken-pox rash, and in addition several larger scabs along the line of the seventh dorsal nerve, which were the result of the herpes.

It is interesting to note that the herpes and varicella appeared almost at the same time in both cases.

E. E. OUSELEY-SMITH.
Birkenhead. G. WILLIAMSON.

HEREDITARY HAEMORRHAGIC TELANGIECTASIA.

THE following case is reported as one of an unusual hereditary condition of the venules and capillaries of the skin and mucous membranes.

A man, aged 38, came under treatment for advanced pulmonary tuberculosis of some five or six years' duration; he gave a much longer history of recurring epistaxis. He had numerous telangiectases on the lips, which he stated had existed since he was about 15 years of age; they appeared one at a time, but all, he thought, within two years of each other.

Some years later similar spots appeared on the nose and cheeks, and about the same time he noted the same condition on his tongue. Fifteen years ago he began for the first time to be troubled by occasional attacks of epistaxis, which have become much more frequent within the last few years, and were of almost daily recurrence. The spots from time to time became more prominent and more palpably raised, and looked bluer; he thought that this was most frequently observed in the morning, and more especially if he had been drinking the night before. Ordinarily if he cut himself he did not bleed much, but if one of the telangiectases was cut the haemorrhage might continue for hours. Within the last two years he had noted two or three spots on his penis, on the dorsum of the glans.

In addition to the spots noted on the lips and face the patient had a number on the nasal septum, on the anterior two-thirds of the tongue, on the inner aspect of the gums, and on the soft palate. The spots were bright red and, except at certain times, were not palpable. They consisted of a cluster of dilated venules or capillaries, which lay immediately under the surface layer of the epithelium.

The family history is interesting. The patient's grandfather had the same condition, as had also his father and two of his uncles. One sister was also affected, and it had appeared in three cousins; one of the affected cousins died at the age of 28 from a "ruptured vessel in the brain." The patient had seven children—the oldest being 15—but none of them nor any of his sister's children were, so far as he could tell, affected. In all the members of the family in which the condition has been present the onset of the disease was about the age of 15.

C. M. Williams[1] has collected thirty-two cases and added five of his own. The essential features of the cases mentioned by him are the same as in the case here reported—namely (1) the appearance of the telangiectatic spots at puberty; (2) the familial nature of the condition; (3) the marked tendency to haemorrhage; (4) the distribution of the spots especially about the nasal and buccal cavities.

I am indebted to Dr. Elder for allowing me to record this case.

Edinburgh. ERIC C. MEKIE, M.B., Ch.B.

PULMONARY EMBOLISM FOLLOWING CHILDBIRTH.

THE cases reported by Dr. McCulloch and Dr. Young under this title (November 6th, 1926, p. 835) induce me to record two cases in my own experience.

The first was that of a primipara, aged 22, in whom labour had been quite normal; she was attended by the district nurse; I saw the placenta, which was intact. All went well until the fourteenth day, when, as she was getting up (her husband being in the room), she suddenly felt a severe pain in her side and slid down to the floor gasping for breath; her husband said "her face turned blue," and he put her into bed and rushed out to get help. On my arrival I found that he had not exaggerated her condition; she was cyanosed, breathing with difficulty, and evidently in great pain. I could find no sign of disease in lungs, pleura, or heart, and I knew that her history was free from serious disease. I remembered that I had read in the late Dr. Galabin's book an account of pulmonary embolism as a cause of pain, and frequently death, in parturition and child-bed, also a lecture by Professor Briggs on the same subject, so I put a mustard plaster on her side and gave a hypodermic injection of morphine hydrochloride 1/4 grain; she shortly became easier. She was ill for two or three days, and then gradually got better; a thrombosed left femoral vein was found on the day after her sharp attack, which produced a white leg and was treated in the usual manner. She was allowed up at the end of seven weeks and has since had no ill effects. She had no rise of temperature the whole time.

The second case occurred five years ago. The patient was a primipara, aged 19; labour was protracted owing to the size of the child, which weighed 9½ lb. I had to use forceps, and the perineum was lacerated; it was sutured and healed by first intention. She was very restless, and used to shuffle herself about her bed even when I was in the room. The temperature was not raised and all went well up to the eighth day, when I found her normal at my morning visit. In the afternoon I was hurriedly sent for, the messenger saying "that her mother thought that the patient was dying." On arrival I found a similar picture of distress—a "blue patient," gasping for breath and giving instructions to her mother to "take care of the bairn." I had a vivid remembrance of the former case, and gave her a hypodermic injection at once; as soon as she seemed easier I felt for the femorals, but could find no trace of clot, nor did I find any clot on successive days. However, to be on the right side I kept her in bed and gave her citrates. She made an uneventful recovery and has had two more children since. The second child, only 6 lb. in weight, was born without the nurse or myself being called. The third child weighed 8 lb.; delivery was somewhat slow, but otherwise normal. She passed through her lying-in periods without incident.

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EXCISION OF PROTRUDING PORTIONS OF THE LIVER.

A YOUNG native man, while celebrating a harvest festival with numerous potations, made an amateur attempt at hari-kari by stabbing himself in the abdomen with a long knife. From this wound, which was directed from above downwards, that portion of the liver which lies towards the left, and beneath the left lower margin of the sternum, protruded to the extent of six inches in length by four inches in breadth.

As the patient had come a long way (three days' journey on foot) it was impossible to think of replacing the gland within the abdominal cavity; three ligatures were passed round the pedicle of the protruding portion of the gland, clip forceps were also fixed at this point, and the entire mass was cut away close to the parietal rent. The abdominal wound healed by first intention, and the patient made an uneventful recovery. The operation was bloodless.

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[1] *Arch. Derm. and Syph.*, July, 1926, p. 1.

Reports of Societies.

THE ANTITOXIN TREATMENT OF SCARLET FEVER.

AT a joint meeting of the Section for the Study of Disease in Children and the Section of Medicine of the Royal Society of Medicine on February 25th, with Dr. J. D. ROLLESTON (President of the former Section) in the chair, a discussion was held on the antitoxin treatment of scarlet fever.

Dr. E. W. GOODALL, opening the discussion, did not claim to speak authoritatively, but would assume that the haemolytic streptococcus described by the Dicks was the cause of scarlet fever. Clinicians were not so favourably placed with regard to the antitoxin for scarlet fever as were those who had been called upon to express an opinion on antidiphtherial serum thirty-two years previously, for the type of scarlet fever was very mild at the present day, and the case mortality rate had not been above 2 per cent. in London since 1910. There was not much scope for the saving of life by anti-scarlet fever serum, and in addition the septic complications of scarlet fever removed it at once from the pure toxaemias, such as diphtheria. Dr. Goodall said it was difficult to ascertain if antitoxin treatment caused any improvement in case mortality rates even in parts of the world with high rates. In Montreal, for example, a rate of 5 per cent. became lowered to 3.2 per cent. Then convalescent serum was used, and the rate was 2 per cent., and finally, with the introduction of antitoxin, it had become 1.2 per cent. Mostly, however, the efficacy of scarlet fever antitoxin was judged on other grounds. It was found to produce a rapid fall in temperature, disappearance of delirium, fading of rash, and more rapid improvement in the general condition of the patient. Just occasionally cases did not respond. The earlier the serum was given the better the results, and if not employed until the fifth day or later favourable effects were not obtained. Dr. Goodall then dealt with 56 cases in which he had personally employed antitoxin. He pointed out that he had selected his cases, the more severe types receiving serum, and that the number was too small for definite conclusions to be drawn. Four patients died: one from bronchitis, one from septic complications, one from endocarditis, and one from pyaemia occurring in the puerperium. In 35 cases considerable improvement resulted in a couple of days; the bulk of these patients had received antitoxin on the first or second day of the attack. Dr. Goodall had come to the conclusion that a prima facie case had been made out for the efficacy of the serum, and that better results were obtained the earlier it was given. The good results obtained with multivalent antistreptococcal serum in the past were probably due to the fact that such serum contained antitoxin from the scarlet fever organism. With regard to dosage, methods of standardization were uncertain. He usually gave about 50 c.cm. of unconcentrated serum, preferably intramuscularly in one dose. He had had 24 cases of serum sickness in his series.

Dr. R. A. O'BRIEN mentioned reports by fever hospital medical officers outside London. Concentrated serum in doses of 10 to 20 c.cm. had been stated to have a definite beneficial effect in the mild and moderate cases of scarlet fever, but did not seem to touch the septic type of the disease. Serum treatment was thought to be well worth while, and seemed to have an indirect effect on the septic element of the disease, reducing complications. Dr. Rundle of Liverpool had reported the use of serum in 100 toxic cases in which the patients would probably have succumbed without it. Five deaths occurred, all in a group of twenty-five of the septic type. Dr. O'Brien then described five methods of standardization. In the first toxin and antitoxin were mixed until no reaction was obtained in a Dick-positive subject; there was too wide a margin of error in this method. A second method involved the use of goats, but had not received much attention. The third method was to test the amount of antiserum required to blanch the rash of scarlet fever. The fourth method involved determining the quantity of serum necessary to turn a "Dick-positive" person into a "Dick-negative," and keep him so. The fifth method was the outcome of recent work by Parish and Okell, who found that a culture of the scarlet fever streptococcus injected into rabbits killed them in two to three days. Concentrated anti-scarlet fever serum protected these rabbits, and the action was probably specific, although polyvalent antistreptococcal serum protected in 50 per cent. of cases, probably owing to the amount of anti-scarlet fever serum it contained. Dr. O'Brien discussed the polyvalent serum, which many years ago gave good results in scarlet fever cases, and then appeared later on not to be so efficacious. This he believed was due to the fact that whole-broth cultures were at first used for injecting horses, while later washed cultures of streptococci grown on solid media were employed. The broth in the early cases would contain scarlet fever toxin. Lastly, Dr. O'Brien mentioned the close relation of all the haemolytic streptococci to each other. The toxins of the streptococcus responsible for tonsillitis, for puerperal sepsis, and for erysipelas would kill rabbits, but these could be protected by scarlet fever antiserum in percentages far outside any chance result. It was therefore to be hoped that other forms of streptococcal infection might be combated by scarlet fever antitoxin.

Dr. F. FOORD CAIGER said that with the low case mortality of scarlet fever at the present day there could not be much indication of saving of life. He referred to attempts made in the past by pathologists to produce a serum against scarlet fever, and thought that the results of the present day did not greatly exceed the success of the older workers. In particular some work in Warsaw in 1894 with multivalent serum was worth remembering, and it closely anticipated more modern researches. Dr. Caiger inquired if in septic cases there was no other organism responsible; he thought that it was not the Dick streptococcus which was found in the circulation in these cases. It would probably be wise to use multivalent serum in addition in these septic cases. Dr. Caiger finally referred to some serum supplied to him by Besredka thirty-two years previously, which he had used in cases of scarlet fever which he thought would prove fatal. In 44 such cases the mortality was 36 per cent., and he was convinced that the serum was valuable if used early.

The PRESIDENT emphasized the fact that scarlet fever had become progressively milder in type in this country of recent years. He referred to certain figures published in the *Bulletin Internationale d'Hygiène Publique*, which showed that scarlet fever still had a high mortality rate in south-eastern Europe. He agreed that antitoxin should not be given to mild cases, for in addition to the question of expense there was the danger of serum sickness and of a troublesome hypersensitiveness. He had used the serum in a few cases in doses of 10 to 30 or 40 c.cm. He thought that even if serum was used cases could not be discharged earlier without a bacteriological examination of the throat, since some observers had said that the organism persisted for even six weeks.

Sir FREDERICK ANDREWES had been much interested in the "overlap" of antitoxic serum prepared against scarlet fever and other streptococcal infections. It raised the question as to whether there really existed a sharply defined disease which was called scarlet fever. Cases occurring after burns and after operations aroused the gravest doubts as to where streptococcal infection began and scarlet fever left off. The bacteriological evidence presented similar difficulties, since there appeared, from serological evidence in this country, to be three varieties of streptococci found in the throats of scarlet fever patients. It was probable that different races of streptococci produced the same common toxin, as occurred in the case of the tetanus and diphtheria organisms.

Dr. A. JOE compared his experience in Edinburgh and in London, emphasizing the mild nature of the disease in the south. He had not seen one septic case in five months in London, and, on the other hand, serum sickness had been much more troublesome. He referred to the use of the older multivalent serums, and pointed out that blanching of the rash in scarlet fever had been obtained with such serums in pre-Dick days. He agreed as to the "overlapping" of the streptococcal serums.

Dr. J. McCARTNEY mentioned the difficulties associated with examining throats for organisms before discharge of scarlet fever patients. He also had observed the "overlapping" of the streptococci. He thought that much could be learnt by studying the organisms responsible for the cases in which anti-scarlet fever serum failed to produce any effect.

Dr. E. J. PARISH referred to his experiments with rabbits injected with scarlet fever toxin intravenously. Toxins from the organisms causing erysipelas and puerperal fever had not given such satisfactory results. After neutralization of the scarlet fever toxin by injections of antiserum the rabbits nearly all developed joint lesions with pus formation later. Haemolytic streptococci were obtained from this pus. In the rabbits injected with puerperal toxin joint lesions occurred earlier.

TREATMENT OF CANCER OF THE BLADDER.

MEETING of the Urological Section of the Royal Society f Medicine was held on February 24th, with the President, r. W. GIRLING BALL, in the chair; Mr. HENRY WADE Edinburgh) read a paper on the treatment of malignant isease of the bladder.

Mr. Wade, in a preliminary survey of the surgical treatent of carcinoma elsewhere in the body, deduced certain rinciples which he considered should be applied to the reatment of malignant disease occurring in the bladder. le deplored the failure of radium and deep *x*-ray therapy, nd insisted that at present the only rational line of attack as by means of the knife. The ideal was excision of the rowth with as much of the surrounding tissue as possible. t was not always possible to estimate with any degree f accuracy the size and extent of the growth during the reliminary examination of the patient. Frequently when bladder was opened carcinoma was found to extend urther than had been suspected by cystoscopic examinaion. Moreover, histological examination of excised papillomata often showed that what had appeared clinically to be n innocent growth contained an area of malignancy at its ase. This did not, however, necessarily mean that treatnent of such papillomata by diathermy would fail. The esson to be drawn from the observation was rather that n dealing with papillomata, whether by diathermy or by xcision, the treatment must be exceedingly thorough if recurrence was to be avoided. Mr. Jocelyn Swann had shown in his presidential address to the Section that no sharp line could be drawn between non-malignant and malignant growths of the bladder, and for this reason innocent growths should be treated by free excision where possible, as though they contained elements of malignancy. In this procedure resection of the ureter was a common necessity and presented no particular difficulties. It was indeed surprising how rapidly a mutilated bladder recovered, and how soon the remaining portion compensated for what had been lost. A more difficult question to decide was the treatment of malignant disease of the bladder of such an extent that removal required the transplantation of both ureters. Many surgeons thought that total cystectomy was unjustifiable; he, however, believed that this operation had a very definite place in genito-urinary surgery. Before removing the bladder it was necessary to make provision for removing the urine by transplantation of the ureters, either into the bowel or to the surface. Work at the Mayo Clinic had shown that if both ureters were transplanted into the bowel at the same operation there was some danger of suppression of urine caused by post-operative oedema at the site of operation. It was seldom possible, however, in the case of malignant disease of the bladder to carry out transplantation in two stages, since the patient was in a precarious condition and time an all-important consideration. In his own cases Mr. Wade had brought the ureters to the surface of the abdomen and had relied on various mechanical devices for keeping the patient dry. In achieving this the chief difficulty arose from the fact that an appliance which kept the patients dry when standing generally failed when the patient assumed a sitting or recumbent posture. Much ingenuity had been exercised in attempting to overcome this difficulty, but the ideal method of collecting urine from a ureter implanted on the surface of the body had yet to be found. The operation of total cystectomy presented very few technical difficulties once the ureters had been satisfactorily transplanted. In the four cases in which he had employed it he had removed the prostate and vesicles as well as the whole of the bladder, since he had found that it was easier to include these structures than to leave them behind. Moreover, it not infrequently happened that growths in the bladder extended into the prostate. Of the four patients treated by total cystectomy two were still alive, and two had lived for a period of two years. Even though the operation had not been curative in these two patients their end had been far more comfortable than if no operation had been performed. For this reason he believed that total cystectomy was justified even when the extent of the growth was such that a complete cure was unlikely or impossible. In conclusion, Mr. Wade said that he was aware that he might be accused of holding heroic views on the subject of total cystectomy when he urged that it should be employed, not only in cases in which there was a reasonable hope of extirpating the growth, but also in those in which this was clearly impossible. No one, however, could view the sufferings of a patient dying from malignant disease of the bladder and the failure of all palliative measures to mitigate these without being prepared to go to any length in his attempt to find a remedy. The technique of total cystectomy was capable of great improvement, and he could foresee the time when with improved methods surgeons would carry out total removal of the bladder as a routine measure. He could even imagine the operation being resorted to either as a palliative proceeding in inoperable cases or as a measure of security in those cases which at present were dealt with by subtotal excision.

In the ensuing discussion the following took part: Mr. GIRLING BALL, Mr. SWIFT JOLY, Mr. KENNETH WALKER, Mr. CYRIL NITCH, Mr. MORSON, Mr. MACALPINE, Mr. FOWLER WARD, and Mr. R. OGIER WARD.

ORAL SEPSIS AND SKIN DISEASE.

AT a meeting of the Section of Odontology of the Royal Society of Medicine on February 28th, Dr. H. W. BARBER read a paper on the relationship of dental infection to diseases of the skin, discussing the subject under two heads: (1) the coincident surface infection of the skin and of the oral and naso-pharyngeal mucous membranes, and (2) the secondary effects of such infection upon other organs of the body—that is, focal sepsis and its results.

Both the skin and the oral mucous membrane had, he said, what might be regarded as a natural flora of microbial organisms, but in health the various species of organisms occurred as isolated units, not in a state of active growth; they were, therefore, saprophytic, not parasitic. Under certain conditions they took on active growth, invaded the tissues of the host, thus becoming parasitic, and (to a varying degree, according to the species) pathogenic. In the skin the common organisms were the "bottle-bacillus" (probably a yeast), which grew in the horny layer, producing dandruff; the acne bacillus, which flourished in the pilo-sebaceous follicles; and staphylococci, particularly *Staphylococcus albus*. In the oral mucous membranes the most important were various strains of streptococcus. Dr. Barber suggested that the underlying conditions which favoured the active growth of these different species of organisms in the skin and mouth were metabolic or biochemical in origin. As regards the skin, seborrhoea—or rather the seborrhoeic state, of which seborrhoea was one of the manifestations—predisposed to the active growth of these three types of organisms. This state was an index of faulty metabolism, apparently associated with the excessive formation and inadequate excretion of acids of the fatty-acid series. It was presumably the excretion of these acids through the sebaceous and sweat glands, and probably through the skin as a whole, that favoured the active growth of organisms which were either not present, or existed as isolated units only on normal skin. The chief etiological factors considered to be responsible for the seborrhoeic state were: (*a*) heredity, (*b*) diet, (*c*) faulty

hygiene—for example, insufficient muscular exercise, lack of fresh air, excessive clothing, insufficient fluid intake—(*d*) the stresses of sexual evolution. Of these the most important were (*b*) and (*c*), particularly a want of correlation between diet and physical exercise. Excessive intake of carbohydrate, especially of soft fermentable starchy foods and concentrated sweetstuffs, and, to a less extent, of fats, was the chief dietetic error responsible, combined with an insufficient intake of fresh vegetables and fruit. The same dietetic faults were also held largely responsible for the active growth of micro-organisms in the mucous membranes of the mouth and naso-pharynx, and the invasion of the tissues by them, and clinically a liability to seborrhoeic infections of the skin was found to be associated with a similar low resistance to infection of these mucous membranes, resulting in dental caries, gingivitis, pyorrhoea, and naso-pharyngeal catarrh. Dr. Barber therefore suggested that measures ought to be taken, in the interests of national health, to reverse the present economic policy as regards foodstuffs, which, on the whole, rendered the most harmful articles of diet the cheapest, whereas fresh fruit and green vegetables were relatively among the dearest.

Once active microbial invasion of the tissues had taken place there resulted, not only the local, but also the remote, effects of such invasion, owing to the absorption of toxins or the escape of micro-organisms into the lymphatics and blood stream. The most important pathogenic organisms concerned in so-called focal infection or sepsis and its secondary complications belonged to the streptococcal group. With regard to oral sepsis, the effects of gingivitis, pyorrhoea alveolaris, and apical infection had to be considered. Of these probably the last was the most potent as a cause of systemic disease. The diseases of the skin which might be caused directly or indirectly by oral sepsis could be classified as follows:

1. Diseases due to direct spread of infection from the oral mucous membrane to the skin—for example, impetigo contagiosa, streptococcal fissure, perlèche, and relapsing streptococcal lymphangitis.
2. Diseases in which oral sepsis by its effect on the digestive processes, by setting up an infective gastritis and by causing a secondary infection of the intestinal tract with acid-producing organisms (such as streptococci), thus favouring fermentation, might play a causative part—for example, rosacea.
3. Diseases in which the presence of an infective focus in the mouth lowered the resistance of the patient to pyogenic infection of the skin—for example, boils.
4. Diseases in which the epidermis became sensitized to toxins absorbed from the mouth and teeth—for example, eczema.
5. Diseases which might be regarded as true anaphylactic reactions due to systemic sensitization to bacterial protein—for example, urticaria, angio-neurotic oedema, certain mixed erythemato-urticarial eruptions.
6. Diseases in which the toxins from an infective focus acted on the nervous or endocrine-sympathetic systems, the changes in the skin being secondary to such involvement—for example, herpes zoster, alopecia areata, vitiligo, scleroderma, Raynaud's disease, and some forms of prurigo.
7. Diseases due to inflammatory reactions produced in the skin as the result of bacterial embolism in the dermic or subcutaneous vessels, or by the action of bacterial toxins carried to the skin in the blood stream—for example, erythema multiforme, erythema nodosum, lupus erythematosus.

Professor J. W. EYRE said that seeing, as he did, the results of treatment instituted by Dr. Barber, where so much of the primary sensitization had been due to some bacterial source, he had been impressed by the close association between sepsis in the mouth and these skin lesions. Dr. Barber did not speak of sepsis attacking a live tooth and being a cause of skin disease; it was a kind of superstition that living teeth could not have apical suppuration associated with them, but many of the cases they had seen together showed this to be a fallacy. In most instances of skin affections the bacterial side could be divided into one of two groups: the patient had either oral sepsis or intestinal sepsis, and the latter might be secondary to the former. Thus the conclusion was enforced that the dental surgeon played the biggest part in preserving the nation as a whole from skin diseases. He agreed with practically all Dr. Barber said.

Mr. A. T. PITTS suggested that there was considerable doubt about the apical lesions of which Dr. Barber spoke so certainly; the dental profession was still much in the dark as to their nature. The *x* rays had shown that areas of apical rarefaction were very common, and it was usual for medical men to refer to them as abscesses. He asked whether it was safe to assume that all these apical conditions were such pathological constants as they were assumed to be. Sometimes the same appearances were observed in connexion with living teeth, but radiological technique might be defective. In some of those cases abscesses were found, in others masses of granulation. The granuloma might not be so much an evidence of infection as something in the nature of quarantine, thrown up by the body as a defence against infection in the tooth.

Mr. J. G. TURNER asked whether it was contended that a healthy person did not suffer from skin disease. He did not see the force of associating seborrhoea with dental disease, seeing that the latter might start in earliest childhood. The question of dental disease in Britain seemed to be summed up in the fact that we ate bread. With regard to the question of calcium deficiency, most people who were supposed to have this deficiency had ample quantity of tartar on their teeth. Decomposin food was always to be found in close association wi ordinary teeth, and this decomposing product must eith be swallowed or absorbed, and so was a possible source detriment to health. He also asked what was the value reflex irritation as a cause of skin manifestation.

Dr. E. W. FISH said one would imagine that sensitizati of the skin would take place as easily from a carious too as from an apical abscess. He saw no reason why t toxins from a carious cavity should not be absorbed the lymph stream from the dentine of a tooth which w normal except for the caries. He would be interested a further exploration of the association of dental cari with skin diseases. In both apical abscesses and dent caries it was a question of ulceration of epidermal tissue and when the ultimate pathology of skin disease and th of dental caries had been fully worked out it was like there would prove to be many points of similarity. present there was somewhat of an obsession that t causation of dental caries was purely saprophytic.

Mr. F. N. DOUBLEDAY spoke of the possibility of the bo being a source of skin and other troubles in patients w were edentulous. Sometimes if bone was cut down upo in the areas which *x* rays showed were rarefied it woul yield a pure growth of streptococcus.

Mr. W. A. BULLEID said he had seen many of the patien referred to in Dr. Barber's paper, and he was able to spea of the remarkable results which had ensued from a com bination of the efforts of the dental surgeon, the dermat logist, and the bacteriologist. The most satisfactory result seemed to have been achieved in cases in which the infe tion was of the closed type, rather than the open. Usuall one was quite safe in condemning apical sepsis as bein responsible for some systemic disturbance in the patien He mentioned a remarkable case of urticaria of ten years standing, the patient being a woman 45 years of age, with in addition, hypertrophic gingivitis. A pure culture o *Streptococcus viridans* was obtained. Following treat ment, the urticaria disappeared for four months. When i returned, cultures having been kept of the case, she wa vaccinated. That took place six years ago, and there ha never since been any return of the trouble.

Dr. BARBER, in reply, said that Professor Eyre and h had had many cases together in which not the teeth but th tonsils, the naso-pharynx, or the sinuses were the seats o the septic trouble. He had an objection to advisin removal of people's teeth if there was any means of con serving them, for, however skilful the dental surgeon migh be, there was something definitely lacking about a plate Even with all the aid now given by *x* rays the problem wa not always solved. In answer to Mr. Turner, he (th speaker) did not mean to contend that everybody who ha dental decay or dental sepsis was necessarily seborrhoeic what he meant was that the lowered resistance to infection in the mouth very often caused a lowered resistance i the skin too, and vice versa. He could scarcely recall patient with really bad chronic seborrhoea who had not als

a severe infection of the mouth, and dental decay from early years. With regard to the bearing of calcium deficiency on the problem, he remembered a remark made by one of the Mayo brothers when in this country, to the effect that it would be found that practically the whole of medicine would be found to be a question of calcium metabolism. He had himself been investigating a number of cases from that standpoint, and with very interesting results. The recent or mild cases of seborrhoea did not usually show any calcium deficiency. He thought it quite possible that absorption of toxins could take place from carious teeth, but he had no experimental evidence to support it. Infection from dental plates was probably a question of the person swallowing the material and setting up a focal infection in the intestine secondarily.

DISEASES CARRIED BY MILK.

AT a meeting of the Section of Comparative Medicine of the Royal Society of Medicine on February 23rd, with the President, Sir D'ARCY POWER, in the chair, Mr. G. P. MALE read a paper on cow's milk as a factor in the transmission of certain diseases to man (excluding tuberculosis).

Mr. Male said he did not propose dealing with all the diseases which might be contracted by man as a result of drinking cow's milk. The danger from tuberculosis was so thoroughly established that there was now no doubt of its seriousness, but many other diseases were not so well demonstrated, and there was still room for further investigations. Now that the Milk and Dairies Consolidation Act (1915) was in operation the subject was of importance to both medical and veterinary practitioners. The powers conferred on medical men to stop the supply of milk from suspected dairies was not confined to tuberculosis, but also included acute mastitis, anthrax, foot-and-mouth disease, actinomycosis of the udder, any comatose condition, and septic condition of the udder or teats which might cause disease. The Milk and Dairies Order of 1926 required notification of any infectious disease in persons engaged in handling milk. Veterinary surgeons were required also to examine cows to ascertain whether any disease liable to infect man was present. Unfortunately this inspection had not been made universal, and so some of the benefits of the Act were lost.

Anthrax was usually so fatal that the bacilli were as a rule not present in the milk before death. Sometimes, however, animals did not die from the disease, and so fever in cows should cause careful observation of such animals to be made. Very few deaths had been recorded from anthrax conveyed by milk, but dangers from this source did exist.

Actinomycosis of the udder was relatively rare, and could often cause infections.

Foot-and-mouth disease, though common in this country, had only rarely been reported as affecting man here. Many outbreaks had been reported from the Continent, however, from infected milk.

Acute mastitis and suppuration of the udder were conditions which should always cause the withdrawal of milk. There was, however, great difference of opinion as to the pathogenicity to man of many of the organisms found in less severe cases. Streptococci were the most frequent organisms found, although others were also implicated; and in this way septic sore throat, scarlet fever, and other conditions had been traced to disease in cattle. There seemed to be general agreement that it had yet to be proved that the common streptococci found in milk were the same as those causing septic sore throat. The causal organism, however, of this condition might be carried passively by the milk from one person to another.

Cow-pox was very common in Britain. This eruptive disease affected chiefly the teats and udder, the general health of the cow being usually unaffected. Eruptions formed locally, became elliptical vesicles, which about the tenth day matured and became pustules. These fell off in about three weeks and left a scar. These might become infected with secondary organisms, and the primary changes, not having been noticed, confusion with other conditions might result. The disease was easily transmitted to man, and Mr. Male had seen severe eruptions due to this cause, in some cases leading to septicaemia. Children were sometimes infected by drinking milk, but without serious results.

Contagious abortion was very common in this country, and after abortion the organisms appeared in the milk. The organism had recently been shown to be closely related to that causing Mediterranean fever, and it had been found in several human cases. It had also been suggested that it might cause abortion in women; personally, Mr. Male thought that the bacillus was not pathogenic for the human female.

Many different diseases of human origin were carried by milk, but he proposed only dealing with two—diphtheria and scarlet fever.

Diphtheria had in several cases been reported from milk in circumstances which (it had been suggested) implicated the cow as an actual carrier. The organism, however, was very common in healthy carriers, and Mr. Male thought that this fact had not been taken into consideration when those investigations had been made. In one outbreak investigated by him the cow had been suspected, and he found that she had been suffering from cow-pox, and that the organisms had come from a human carrier. Although it was possible that the organism could live in sores in cows' teats, there was no disease caused by the Klebs-Loeffler bacillus existing in cattle.

Scarlet fever was in a similar position. The disease was not uncommonly spread by milk, but proof was lacking that the organisms ever originated in the cow.

With the extra facilities given by the Milk and Dairies Acts and Orders, with the improvement in methods of sterilizing or pasteurizing milk which enabled the medical officer to stop or sterilize the supply at the first sign of disease, and with the rapid improvement in methods of handling and producing milk, Mr. Male believed that the menace to human health from that source would soon be considerably lessened and ultimately eliminated.

Professor WOOLDRIDGE recalled an instance of eight people drinking milk for several days from a cow which proved to be suffering from a streptococcal mastitis all the time. None showed any symptoms at all. Foot-and-mouth disease might, he thought, be conveyed by milk, especially in the early stages of the disease when the infection was present in the blood. Mr. PUGH said that a month ago he had drunk a glass of milk from a cow which a few hours later died from anthrax. He had antiserum administered and his stomach and rectum were irrigated with creosote solution within forty-eight hours. A week later he suffered from a rash due to the serum. He was only now recovering from the effects of an anaphylactic shock due to eating a beef sandwich.

Dr. H. H. SCOTT mentioned that several cases of undulant fever had been reported from districts in Italy where the caprine organism was absent.

Mr. DALLING pointed out that he had found the bacillus of diphtheria in sores on horses, and that it could live in similar sores on the udders and teats of cattle, and in this way enter the milk.

Dr. T. CAMERON stated that a peculiar set of outbreaks had recently been reported from France. Children had developed a series of symptoms of a gastro-intestinal nature, and in every case, within forty-eight hours, foot-and-mouth disease had occurred in the cow from which the milk had come. This had occurred so frequently and so regularly that there was little doubt that Professor Wooldridge's suggestion was correct—namely, that the milk was infective before the appearance of symptoms in the cow. Dr. Cameron suggested a possible explanation of the relative immunity of persons in this country to the disease. There were two strains of foot-and-mouth disease; (*a*) from Germany mainly (the region where most of the human outbreaks had occurred), and (*b*) from France. It had been shown that the latter was far more common in this country than the (*a*) strain, and he suggested that it might prove that only one strain—the (*a*) strain—was infective to man. There were, of course, a few human cases in Britain, but none had proved serious.

ORGANIZATION OF A FACTORY CLINIC.

AT a meeting of the Section of Epidemiology of the Royal Society of Medicine, on February 25th, a description of the ideal factory clinic was given by Dr. N. HOWARD MUMMERY. It was based upon a clinic actually in existence in the largest industrial establishment of its kind in this country.

The factory clinic, Dr. Mummery said, must be considered to be part of the "welfare" department, and its medical officer should be an expert adviser to the superintendent

of that department; he should not be an administrative or executive official. The premises for the clinic should be in the factory itself, preferably on the ground floor, and should include a waiting-room, first-aid surgery, and doctor's consulting-room equipped with the necessary appliances for a thorough examination. Other rooms which might conveniently be situated in the same block were a dental surgery, a rest and recovery room, and rooms for massage and manicure and pedicure. A house telephone system was essential, and in a large establishment a motor ambulance was very useful. The extent of the factory would determine the size of the clinic staff, and whether the medical officer and the dental officer should give whole-time or part-time service. A weekly visit from an ophthalmic surgeon enabled employees to be examined for errors of refraction, and another useful service was that of a trained masseuse with knowledge of the simpler forms of galvanic and high-frequency treatment, working under the factory doctor's supervision. A sufficient number of trained nurses should be employed to ensure that one at least was always on duty day and night during working hours. Dr. Mummery gave a long list of the uses of such a clinic: immediate treatment of minor injuries, and first-aid treatment in major accidents; diagnosis and treatment of minor illnesses and of medical emergencies; after-care and remedial treatment of operation cases and serious injuries with impaired function; recommendations as to change of occupation or light duty; medical examination of applicants for employment, including some vocational selection; examination of workers returning after illness or disablement; periodic re-examination of young or under-developed workers, and of those exposed to special occupational risks; domiciliary visiting of sick and injured employees; the establishment of co-operation with hospitals and private and insurance practitioners; general advice to the management and to individual workers on health questions and on the lighting and general sanitation of the premises, and, finally, the keeping of records concerning the health of the staff and the incidence of disease and accident. Great economy of time could be effected by treating at the factory all injuries not involving absence from work, and many of those causing temporary incapacity, as well as cases of skin disorders. He had found that the various skin eruptions common among industrial workers—seborrhoea, tinea, and the like—were slow in recovering under ordinary methods of treatment until a "skin corner" was started in the clinic surgery where patients could sit, under the nurse's observation, and for ten minutes at a time rub in simple preparations. The building and equipment of the clinic should be a capital charge on the firm, and maintenance costs and salaries of the clinic should be shown in the accounts of the whole "welfare" department of which it was a part. On the credit side must be entered the cash results of the saving of working time, lessened absenteeism, and other values not readily translatable into figures. Dr. Mummery gave some records from the clinic. One of these showed how the incidence of accidents corresponded with the speed of production; a speeding up of 10 per cent. resulted in an increase of accidents equivalent to from 50 to 100 per cent., an indication, of course, not of fatigue, but simply of increased and unaccustomed working activity; the accident rate varied inversely with the experience of the workers. He also quoted some statistics relating to the recent influenza epidemic. The staff at the factory numbered just upon 6,000, and of this number during January—the most severe period of the epidemic—329 employees were absent owing to this cause. Of these, 92 were away from one to six days, 171 from seven to fourteen days, and 66 for more than fourteen days, while 4 relapsed and had to take further leave. The attendances at the clinic during 1926 numbered 37,139, of which minor injuries accounted for 11,444, illness for 5,566, dental treatment for 3,376, massage treatment for 2,258, and medical examinations for prospective employment 2,689. He recalled Mr. Warren Low's recent presidential address to the Section of Surgery in which he had said, dealing with the subject of workmen's compensation, that another kind of hospital was needed, or, more properly, an after-care industrial centre, where, by constant personal supervision and encouragement, men who had suffered from injury or illness might be induced to overcome their diffidence with regard to their returning powers. That was exactly the work that he and others had for years past been trying to do in factory clinics.

VACCINE THERAPY.

AT a meeting of the Medico-Chirurgical Society of Edinburgh on February 2nd in the Scottish House of the British Medical Association, with Professor RUSSELL in the chair, a discussion on vaccine therapy was introduced by Dr. GLEN LISTON.

Dr. Liston said that, in spite of the fact that vaccines for the prevention and treatment of disease had been before the profession for more than a quarter of a century, there were still some who hesitated to use them. On the other hand, others treated all manner of ailments by vaccines. The cause of this divergence in practice was probably due to the absence of any systematic instruction in vaccine therapy. There was also generally a lack of co-operation between the clinician and the bacteriologist. The efficiency of vaccine therapy could be estimated in three ways, the first being examination of the immunological response produced by injecting a particular vaccine into a healthy man or animal. The second way was to inject the vaccine prophylactically into men and animals, and, in the case of men, after exposure to infection making a statistical inquiry comparing the progress of the disease among the inoculated and uninoculated respectively. In the case of animals resistance to infection was tested by injecting into them graduated doses of a virulent culture of the organism used in preparing the vaccine, and comparing the mortality among the vaccinated with the mortality among untreated animals injected with the same dose. Efficiency could also be estimated by employing a vaccine in the treatment of specific infections, and observing the rate of recovery in these cases when compared with untreated cases. Certain fundamental principles governed the practice of vaccine therapy. A vaccine must be made from a particular species of organism which had been ascertained to be the cause of the disease under consideration. It must be so prepared that when injected into an animal it would stimulate the tissues to produce substances and mechanisms antagonistic to the living microbe. The general principles of the dose of vaccine to be used for the prevention and the treatment of a disease must be thoroughly understood and mastered. In treating a disease by a vaccine the way in which micro-organisms protected themselves against destruction in the tissues, especially in an ecphylactic nidus, must be understood and suitably countered. It must be recognized that vaccine therapy had definite limitations, which could not be overcome by inventing new vaccines or special antigens. Vaccine therapy would always have its chief and most successful application in the treatment of disease, in the treatment of local infections, and in the earlier stages of acute infections. In the later stages of acute infections immuno-transfusion possibly afforded some prospect of success.

In the discussion which followed much emphasis was laid on the importance of care in the collection of specimens, and also on the value of co-operation between the clinician and the bacteriologist. Several speakers referred to the varying results in vaccine therapy. Prophylactic inoculation was generally considered the more satisfactory, but many disappointments were confessed in therapeutics.

Ague in Scotland in the Past.

Dr. JAMES RITCHIE (Royal Scottish Museum), in a communication on the former occurrence of ague in Scotland, said that while the distribution of ague in England had been investigated in detail, this was not so in Scotland. It could be shown that in early days, as late as the middle of the eighteenth century, ague was a common and widely spread disease, affecting most severely the agricultural section of the populace, and interfering with their activities. Examinations of old hospital records indicated that the disease was endemic. By the middle of the nineteenth century native ague was almost unknown. The diet which was available for man and beast in certain

districts of Scotland at that time was very restricted. Turnips and such foods were not grown, and so the winter food was very deficient. In the spring the farmers gathered at one farm and helped to move the cattle to the pasture. Some of the cattle might have to be lifted owing to their weak state. The conditions, therefore, for man were very poor, and infection by the mosquito was very likely. The mosquito found ideal conditions for hibernation in the heated farmhouses, and became active in the early months of the year. Thus it was found that ague occurred in the spring.

Dr. GLEN LISTON referred to another explanation of the peculiar seasonal prevalence of malaria in spring in this country. There were three types of anopheles—*maculipennis, bifurcatus,* and *plumbius*. *Anopheles maculipennis* passed the winter as an adult in places where animals lived, obtaining warmth and food by continually sucking blood. In the spring, therefore, they were ready to transmit malaria to the uninfected. Dr. ANGUS MACDONALD said that a temperature of 60° was necessary for plasmodial development and the passing of malaria to man. The temperature records showed that a period of high temperature was associated with an epidemic of malaria.

HISTORY OF MEDICINE IN EUROPE.

AT a meeting of the Devon and Exeter Medico-Chirurgical Society on February 17th, Dr. R. EAGER in the chair, Dr. WILLIAM GORDON read a paper entitled "The periods of European medicine: a study of the reaction of an intellectual industry to variations in its environment." In view of the general interest of the subject members of the Historical Society of Exeter were present by invitation.

Dr. Gordon defined three main periods—namely, (1) the rise, from the first recorded Greek medical discoveries about 600 B.C. to the death of Galen in 202 A.D.; (2) the pause, from the death of Galen to the beginning of the sixteenth century; and (3) the reascent, from the beginning of the sixteenth century to the present day. In each of these periods he distinguished three subperiods. The rise included a pan-Hellenic subperiod from about 600 B.C. to the establishment of the first recorded school of human anatomy at Alexandria about 300 B.C.; an Alexandrian subperiod from that date to the establishment of Greek medicine at Rome by Asclepiades about 91 B.C.; and a Roman subperiod from then to the death of Galen. The pause began with an interval of chaos following the murder of Commodus, and might be held to last, as far as medicine was concerned, for about a century and a half, until the writings of Oribasius, the first Byzantine writer. This was treated not as a subperiod but as a "gap." The first subperiod of the pause was the Byzantine and Persian subperiod, the Byzantine portion beginning with the foundation of Constantinople and closing in the eighth century, when its important writings ceased, while the Persian portion dated from the establishment by the exiled Nestorians in the fifth century of the school of Jondisabur, which in the eighth century became the starting point of Arabic medicine. The second subperiod of the pause was the "Arabic," beginning with the translators of the eighth century and maintaining its vigour until the middle of the thirteenth century, thus somewhat overlapping its successor. The third subperiod of the pause was "The age of pointed architecture," the only title which sufficiently defined the thirteenth, fourteenth, and fifteenth centuries, of which it was composed. The reascent period contained a north Italian subperiod lasting about a century, the workers living round Padua; a "trans-European" subperiod of about two and a half centuries, so named from the workers extending over an area comprising Italy, Switzerland, France, the Rhineland countries, and the British Isles; and a pancosmic subperiod from 1840 to the present day, in which the title was justified by the distribution of the workers. The points to which attention was chiefly directed were: the liberty of thought, to which medicine seemed to be even more sensitive than art and letters; the lateness of medicine to mature in each succeeding civilization as compared with art and letters; the curious movement polewards of the main seats of medical activity during the march of time—a movement shared by other evidences of human energy; and the influence of nationality.

Professor HART expressed the appreciation of the Historical Society, and noted with interest that many persons whose names were found in the science of medicine had also won honour in other fields, as for example, Aristotle and Rabelais. He had observed through the lecture that; whereas medical lore had been ripe along the Nile, sterility had seemed to have been the case along the Euphrates.

Dr. JONAS remarked that submission to authority had often proved a deterrent in medicine, and he gave as an example the era controlled by Galen. Conversely, progress in Great Britain had resulted from freedom of thought. Dr. Jonas added that at the time of Susrata India was far in advance of Greece, and in allusion to the skill of Susrata quoted his aphorism, "The best instrument is the hand of the surgeon."

Dr. GORDON, in his reply, said that the medical profession had indulgence and liberty in Egypt, and the science of medicine was treated with dignity and honour. On the other hand, in Babylonia medicine flourished empirically, and punishment followed failure in treatment on the lines of the code "an eye for an eye." Herodotus had stated that there were no physicians in Babylon, and that the sick were exhibited in the street with the hope that those passing by might be able to offer suggestions in diagnosis and treatment. With regard to the small part played by India in the diffusion of knowledge, Dr. Gordon said that the position held by India in the pioneer period of medicine must be acknowledged, but unfortunately that position had been isolated, and had been of negative value to the world at that time owing to lack of communications.

Mr. RUSSELL COOMBE, alluding to the discoveries in Mesopotamia, said that further investigation would show some day that medicine there had not fallen short of the high grade of civilization in that country in ancient times.

JAMES MACKENZIE INSTITUTE.

ON February 15th, at the James Mackenzie Institute for Clinical Research, St. Andrews, Dr. MCKERROW read a paper on skin hyperalgesia in abdominal disease. He pointed out that this symptom was almost entirely ignored in surgical textbooks, although Mackenzie, Head, Sherren, Hurst, Cope, Ligat, and others had demonstrated its importance. Mackenzie was among the first to realize the value of this viscero-sensory reflex in localizing abdominal disease, and to point out that if the reflex path was traced back to its origin it would lead us inevitably to the organ at fault, since the hyperalgesic skin received its nerve supply from the same segment of the cord as the diseased viscus causing it. Ligat's work was fully reviewed, and the lecturer quoted several cases supporting Ligat's findings. It was obvious, he said, that the circumscribed areas figured by Ligat would be enlarged in cases complicated by extension of inflammation to the subperitoneal tissue, which was richly endowed with cerebro-spinal nerves; this probably explained, in part at least, the difference in shape and size of hyperalgesic areas figured by Cope and Ligat. As regards the adequate stimulus required to induce pain and hyperalgesia, Mackenzie held that since mechanical stimuli such as heat, cutting, etc., produced no sensation when applied to viscera supplied from the sympathetic system, the adequate stimulus must be provided by a vital activity, and he considered that abnormal contraction of non-striped muscle was the source of this stimulus. Other authors suggested increased tension or imperfect drainage of the tissues as the cause, but the lecturer pointed out that tension and obstruction were just the conditions that led to overactivity of the muscular coat. Ligat's view that the mucosa contained the receptors for the viscero-sensory reflex was capable of a similar explanation, since stimulation of the mucosa resulted in peristaltic activity. He drew attention to the cases quoted by Ligat, which showed that the area of hyperalgesia was constant no matter what displacement of the related viscus was present. He concluded that Ligat's contention that "in a typical case the hyperalgesic area found accurately indicates the organ at fault" was true and of great diagnostic value.

Reviews.

PSYCHOLOGY AND ETHNOLOGY.

IT was the wish of the late Dr. RIVERS that certain of his memoirs on ethnological subjects which were scattered in volumes not readily accessible to students should be collected into a book. In fulfilment of a promise that this should be done, Professor ELLIOT SMITH has chosen a number of essays, including some hitherto unpublished, and has issued them together under the title of *Psychology and Ethnology*.[1] The result is a volume every page of which is of great interest, and although the subject-matter of the selected articles is very diverse, one fundamental idea, which was ever present with Dr. Rivers, is evident throughout—namely, that the essential aim of ethnology should be to ascertain the psychological motives which impelled men to develop customs in different ways. The book is prefaced with a useful introductory chapter in which Professor Elliot Smith describes the gradual development of Dr. Rivers's ideas in ethnology, their relation to current theories, and his contribution to the advance of the science.

An early conviction of Rivers that psychology and ethnology were better studied apart was due apparently to the comparative lack of concrete data afforded by the former science. It was probably the influence of this conviction which led him to accept, in the first instance, the doctrine of Tylor and Bastian that, when the conditions are similar, similar customs and institutions come into existence and develop on the same lines among peoples that may be widely separated both geographically and ethnologically. That this crude evolutionary doctrine was insufficient became obvious to Rivers during the preparation of his work on Melanesian society, in 1914, and his attention was thus drawn to the study of ethnological method. In this study he was struck by the fact that whereas in other sciences research, in whatever country it might be conducted, had identical principles and methods, in anthropology the divergence of method in different countries was so great that any common scheme was impossible. For instance, many transitional forms of design used in the artistic work of different races, which British anthropologists would have described as representing stages *in an evolutionary process*, were, by the modern German school, ascribed to a mixture of cultures and of peoples. Hence Rivers arrived at the belief that evolutionary speculations were valueless apart from a preliminary analysis of the cultures now spread over the earth's surface, such as would ensure the detection of elements of the more advanced cultures in the institutions of apparently primitive peoples. This change of view involved the admission of the reality of cultural diffusion, although Rivers's attention became focused rather upon the effects of the admixture of cultures. It was also evident that in tracing the source of cultural elements a knowledge of the different motives actuating different peoples would be of great value, and that the study of the psychology of motives was an essential part of ethnology. Thus the barrier between Rivers's psychological and *ethnological studies* was broken down and the two became intimately blended. As regards psycho-analysis, Rivers gave a qualified assent to its main principles, while dissenting from the Freudian speculations in ethnology.

The ultimate influence of Rivers's work will, in the opinion of Professor Elliot Smith, be to bring back anthropology into conformity with the sound principles enunciated by Sir Edward Tylor, by relighting the lamp of history. "To ingenious attempts at explaining by the light of reason things that want the light of history to show their meaning, much of the learned nonsense of the world has indeed been due."

[1] *Psychology and Ethnology.* By W. H. R. Rivers, M.A., M.D., D.Sc., LL.D., F.R.C.P., F.R.S. Edited with a preface and introduction by G. Elliot Smith, M.D., F.R.S. London: Kegan Paul, Trench, Trubner and Co., Ltd. 1926. (Demy 8vo, pp. xxviii + 324. 15s. net.)

AEROPHAGY.

DR. G. LEVEN'S book on *L'Aérophagie*,[2] first published about seven years ago, and then noticed in this JOURNAL (1920, ii, 794), is a clinical, radiological, and therapeutical study of air swallowing, a common condition which is of some importance because troublesome and even serious. It has now been revised and expanded in a well deserved second edition. If, when air is swallowed, the cardiac end of the oesophagus remains closed it is noisily returned; in contrast to this "*incomplete*" aerophagy is the silent form in which the swallowed air passes into the stomach, and from there, sometimes after more or less delay, reaches the intestines, where it produces various clinical manifestations. The chemical composition of the gas brought up by the mouth is that of air, for gastric fermentation is incapable of rapidly generating the enormous quantities of gas that are sometimes eructated. Examination by *x* rays clearly demonstrates the passage of air into the oesophagus with gradual distension of the stomach and elevation of the left leaflet of the diaphragm; often when the patient thinks that he is eructating he is really gulping down more air. In the aerophagies the stomach may be large or small, and from distension of the colon an appearance of an hour-glass stomach may result. The cause of aerophagy may be gastric, some irritation reflexly exciting salivation and so swallowing; or extragastric, dental and naso-pharyngitic irritation (which increases the salivary flow), and nasal obstruction. Acute dilatation of the stomach after operation and in childbirth is due to excessive salivation set up by chloroform and deglutition movements made by parturient women during labour. The secondary effects of aerophagy, such as dyspnoea, cardiac pain and palpitation, and colic, are minutely detailed, and the various treatments of the swallowing tic are discussed. Dr. Leven's book is a valuable guide about a familiar condition, which, however, is not generally understood; it should be widely read.

[2] *L'Aérophagie: syndromes gastriques, intestinaux, circulatoires et respiratoires.* Par le Dr. G. Leven. 2e édition, revue et augmentée. Paris: Gaston Doin et Cie. 1926. (Cr. 8vo, pp. x + 256; 28 figures. 19.60 fr.)

THE CHILD AT SCHOOL AND IN ADOLESCENCE.

"Is Saul also among the prophets?" School doctors and members of school committees are apt to look upon members of central Government boards of health as too often *brakes* upon the wheels of progress. But in a little book entitled *The Child at School*,[3] by Sir LESLIE MACKENZIE, a member of the Scottish Board of Health, there is a fine example of the fact that primary interest need not be destroyed by an official position. The book is one of the series of Modern Health Books, several of which we have had occasion to commend, and is instinct with life and insight into the problems of childhood. The school, as a special organ of the family, has, says the author, a triple function: to instil knowledge, to cultivate intelligence, and to develop character. The first it does by suiting the lesson to the mental age of the child; the second by equipping the child with the methods of acquisition; the third by placing the child in a community of its contemporaries. Success hangs on the capacity of the teacher to select the right knowledge, to assess *individual differences in faculty, and to* create the right atmosphere for the blossoming of personality. The problem would be simpler if every child went to school from a good social environment, having a good inheritance and a good record of personal health. To see that the best is done that can be done is the purpose of the medical administration. All this has to be accomplished in nine short years, with mixed material, and much of it too often damaged in pre-school days. There is one general inference—namely, that until the adverse influences of the pre-school period are adequately counteracted, the schools will continue to be loaded with much preventable disease and defect. One of the most interesting of the chapters is that which discusses the question "*When to go to school?*" The author endorses the conclusion of Mr. Winch that "no advantage appears to exist in early entry so far as subsequent attain-

[3] *The Child at School.* By Sir Leslie Mackenzie, M.D., etc. The Modern Health Books. London: Faber and Gwyer, Ltd. (The Scientific Press). 1926. (Fcap. 8vo, pp. 232. 2s. 6d. net.)

ment of good behaviour and the development of attentiveness are concerned," but he adds that in present conditions "The age of 3 is not too early to begin school, if the school provided is of the right order. Such a school, equipped in the ways now understood in all good nursery schools, kindergartens, and allied schools, offers to the child an environment more adequate for the organization of his impulses towards life in a community than the casual life of the streets or the unsuperintended life of the back-courts." The discussion on the effects of dietary is excellent. Sir Leslie Mackenzie says:

"The food factor tends to supersede every adverse influence. Bad air, over-work, interrupted sleep, diminished sleep, and all other environmental influences have a less destructive effect on the well-fed child. When sleeping time comes nothing will keep him awake. He has more vigour to combat the effects of bad air. He has more energy to neutralize over-work. With his growing energy he becomes more competent to alter his environment and adapt it to himself. He becomes more discontented with every adverse condition. He is more difficult to restrain; but he is readier to learn. A head master of a very poor school has stated that, after three weeks of soup kitchen food, where no scientific attention was given to diet, he always found his children more lively, more mischievous, more fit to react to school."

This little book is essentially one to read and think over; it will be a stimulus to enthusiasm and a holiday to the school worker who has stuck in the rut of routine.

WINIFRED RICHMOND, an American psychologist, in her book on *The Adolescent Girl*[4] traces the treatment of the girl in savage and ancient times, and the strange ceremonies that have initiated her into womanhood. The stories seem impossible to us. Yet it is astonishing what a vast body of ignorance and superstition still adheres to such a natural function as menstruation. There were so many prohibitions of necessary daily work that the reader begins to wonder if the whole system were not really a subtle form of protection for the woman, to secure her a rest where otherwise she might get none! But mothers to-day give their daughters strange directions. The first thing, the writer states, is to induce belief in the naturalness of the period, and then to recognize the great variation among girls in regard to the function. All girls, she thinks, should bathe during their periods, at least as frequently as usual, and a local bath with a change of napkins morning and evening, and once at least during the day if possible, is no more than ordinary cleanliness. Some girls continue their cold tub, even sea-bathing, with no noticeable effects, others are more comfortable after a warm sponge bath. Each girl must find out what is best suited to her. Puberty is not only marked with the beginning of this function; there is evidence of accelerated growth and of increased vitality and power to resist disease. In successive chapters the author develops her picture of varied types, including the abnormal girl and the delinquent girl. Then follows a chapter on the normal girl which is admirably written and full of common sense. Training and education are discussed, and the need for selection according to ability is insisted on. Dr. Winifred Richmond is to be congratulated on her book. We have read few which show better balance, better observation, and a finer judgement of her youthful sisters.

There is a school of research at Harvard University to which subventions from the Commonwealth Fund of the Harvard Graduate School of Education have been made for the investigation of the mental and physical development of school children by means of repeated measurement of the same children over a period of years. Dr. MARY WENTWORTH has collected the results of her own work in the examination of 1,000 children, and published them under the title *Individual Differences in the Intelligence of School Children*.[5] She did not observe any sex differences which she considered important. The medians for girls both in the group and in the individual distributions were about one point higher than for boys, but boys showed a greater range. There were a few more boys than girls among the very superior children, and more boys than girls maintaining high scores in successive tests. A definite relationship was found between mental and anatomical development; retardation in anatomical development accompanied mental retardation, and acceleration in anatomical development accompanied mental superiority in about two-thirds of the cases. This relationship is significant, and indicates the necessity of complete examination before any decision is given. Of twins it was found no two were exactly alike, but some were so similar that a monozygotic origin was assumed; in other cases much doubt was felt in classification. "The marvellous fact of the uniqueness of each human personality is illustrated by the twins in our study, where the resemblance never amounts to exact identity, but is always specialized." In general it was found that superior intelligence did not always bring with it superior emotional or moral attitudes, nor that inferior intelligence necessarily resulted in emotional maladjustment. Any marked deviation from the average was unconsciously sensed, even by young children, and compensatory reactions of all kinds were the result. The book will be of interest to educationists who are just now much absorbed in these psychological tests and in the determination of their ultimate values.

[4] *The Adolescent Girl: A Book for Parents and Teachers.* By Winifred Richmond, Ph.D., Psychologist to the Government Hospital for the Insane, and Lecturer to the University, Washington, D.C. New York: The Macmillan Company; London: Macmillan and Co., Ltd. 1925. (Cr. 8vo, pp. xiv + 212. 5s. net.)

[5] *... in the Intelligence of School Children.* By ..., Ed.D. Cambridge: Harvard University Press; ... University Press. 1926. (Med. 8vo, pp. 162; ... tables. 8s. 6d. net.)

HUTCHISON'S DIETETICS.

Food and the Principles of Dietetics,[6] by Dr. ROBERT HUTCHISON, the sixth edition of which has just appeared, is such a well established and well known textbook that there is little need to point out to our readers its chief merits. This is more especially the case because no extensive alterations have been made in the form of the book since the last edition, which appeared in 1922. The author mentions, however, that the sections dealing with the protein optimum, the vitamins, and the principles of infant feeding have been altered in accordance with the advances in knowledge in these subjects. We were, however, rather surprised to note the statement on page 118 that "Pasteurization, properly carried out, does not interfere with the flavour, digestibility, or vitamin content of the milk." The author doubtless has sound reasons for this statement, but many good authorities are emphatic that the process destroys a large proportion of the antiscorbutic vitamin content of the milk, and since this point is of great practical importance it would have been more satisfactory if the author had given reasons for his conclusion.

Everyone is aware that the preparation of successive editions of a large textbook is a particularly laborious task, and there is a limit to the amount of work that can reasonably be demanded of an author. We cannot help feeling, however, that this book would have been improved by the weeding out of certain phrases that read rather strangely in 1927; for example, in a footnote on page 367 the author says: "Since the above was written an epidemic of arsenical poisoning has occurred from the consumption of 'substitute' beer prepared from impure glucose." This appears to refer to the Manchester epidemic of 1900. Similarly in other places the word "recently" is used of events that occurred rather a long time ago. The retention also of the pre-war prices for foods in certain sections lends an air of unreality to the discussions on the economy of food.

The points we have mentioned are all of minor importance, but there is a danger of phrases such as we have quoted attracting the attention of the reader, and producing a wholly wrong impression of the general quality of this excellent and most useful book.

[6] *Food and the Principles of Dietetics.* By Robert Hutchison, M.D.Edin., F.R.C.P. Sixth edition. London: E. Arnold. 1927. (Demy 8vo, pp. xvii + 610; 33 figures, 3 plates. 21s. net.)

THE LAW RELATING TO DENTISTS.

THE first Dentists Act (1878) prevented unregistered persons from recovering fees for dental work, and stopped the improper use of dental titles, but did not prohibit such persons from practising dentistry. The Dentists Act of 1921 prohibited the practice of dentistry by unregistered persons,

whether for payment or not. The provisions of both Acts, and a further Act passed in 1923, and the regulations of the Dental Board, are set out in full in *The Law and Practice Relating to Dentists and Dentistry*,[7] by Mr. ALBERT CREW, barrister, together with explanatory notes and case references. The Dentists Act of 1921 gives dentists struck off the *Dentists Register* a right of appeal to the High Court. Mr. Crew believes that this right of appeal has been given to the dentist because unless registered he cannot practise at all, whereas the Medical Act of 1858 does not prohibit the practice of medicine and surgery, but provides *inter alia* that none but registered practitioners may recover any charges in any court of law for advice or treatment. The book contains chapters on professional ethics, conduct, and negligence.

NOTES ON BOOKS.

WE have read with appreciation *A Student's Manual of Organic Chemical Analysis*,[8] produced under the joint authorship of J. F. THORPE and M. A. WHITELEY. Many of the analytical operations of organic chemistry will fail of satisfactory accomplishment unless they are performed according to certain empirical rules, which may, indeed, be harmonized with scientific facts. Accordingly there exists for almost every analytical purpose a variety of schemes, each having peculiar merits and defects, arising out of the decisiveness of the reaction employed, the accuracy of the indication, or the convenience of the appliances. Without a knowledge of these the novice must suffer much discouragement from failure to accomplish the practical demonstrations expected from theoretical teaching. This book is, therefore, particularly welcome as the work of experienced teachers, and as one emanating from a laboratory where the methods of organic analysis have been cultivated to a high standard of efficiency. There is, as the authors state in their preface, no science which approaches organic chemistry as a vehicle for facts, and there is, in consequence, no science worse than organic chemistry as a means of mental training if it is wrongly taught. This is strictly true. It means that while the student is learning organic chemistry he must learn also the conditions, determinable by choice of method and manipulation, which favour the peculiar molecular transformation desired. Such methods ultimately become the chief of the organic chemist's sources of inspiration when engaged upon original work. For these reasons, and because the book offers the student a most advantageous opportunity of progress on the lines indicated, we recommend it unreservedly to the student and worker engaged in this branch of chemistry.

The medical administrator faced with an emergency in the form of an outbreak of infectious disease will find Dr. S. H. DAUKES's *Barrier Charts for Health Officers*[9] a compendious and reliable guide. The charts divide the infectious diseases into four groups: (1) the alimentary group, transmitted by the alimentary tract; (2) the inoculation group, carried by insects, etc.; (3) the respiratory group, including pneumonia and measles; and (4) the contact group, comprising syphilis, anthrax, and some other diseases. On each chart the measures for control are set forth under four heads, called barriers, which deal with (1) the sick person, contacts, and carriers, (2) zoological precautions, (3) general hygiene, and (4) specific immunization. The general arrangement of the charts is sound. Bubonic plague, for example, appears under the inoculation group, while pneumonic plague, administratively a different disease, is classed under the respiratory group. Japanese river fever, tularaemia, and other foreign diseases are noted, as well as those common in this country. These charts will not greatly inform the ignorant, but to those who possess the requisite groundwork of knowledge they will serve as a useful stand-by, recalling to the mind appropriate remedies and suggesting the right thing to do.

The recreations of a physiologist are various. Only a short time ago we mentioned that Dr. LEONARD HILL, F.R.S., Director of the Department of Applied Physiology in the National Laboratory for Medical Research, Hampstead, had been holding a one-man show of his pictures and sketches. Now we have received a copy of a set of fairy tales published under the title *The Scarecrow*.[10] It appears that Dr. Hill wrote them for his children, and that he has made his own black-and-white illustrations; some of these, especially those which have anything to do with movement, are excellent in their rather blotchy way. Of a few we must admit that we can make neither head nor tail, though we like the heads and tails of some of the beasts. One story of an elfin which got shut up in the coal measures has a charming picture of a hairy elephant. The book has been issued as a birthday present by a number of his friends and pupils, including everyone now living who has served under him as demonstrator or research assistant. It is offered to him as a token of their affection and respect, and there are, therefore, compensations in reaching the age of 60.

A list of questions on nursing, with model answers, has been compiled by Dr. J. A. FOOTE, and published under the title of *State Board Questions and Answers for Nurses*,[11] the questions being those set at examinations in thirty-one of the United States of America. The subjects include materia medica and therapeutics; anatomy; physiology; hygiene and bacteriology; general, surgical, gynaecological, and obstetrical nursing; feeding and diseases of children; dietetics; chemistry; physics; *nursing ethics; and psychiatric and neurological nursing.*

[7] *The Law and Practice Relating to Dentists and Dentistry.* By Albert Crew, Barrister-at-Law. London: John Bale, Sons and Danielsson, Ltd. 1926. (Cr. 8vo, pp. xiii + 228. 10s. 6d. net.)

[8] *A Student's Manual of Organic Chemical Analysis.* By Jocelyn Field Thorpe, C.B.E., D.Sc., Ph.D., F.R.S., F.I.C., and Martha Annie Whiteley, O.B.E., D.Sc., A.R.C.S., F.I.C. London and New York: Longmans, Green and Co., Ltd. 1926. (Roy. 8vo, pp. x + 250; 55 figures. 9s. net.)

[9] *Barrier Charts for Health Officers.* By S. H. Daukes, O.B.E., M.B., D.P.H., D.T.M. and H. Second edition. London: Baillière, Tindall and Cox. 1927. (Wallet containing four charts. 2s. 6d. net.)

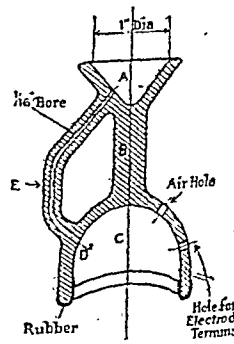
[10] London: The Actinic Press, Ltd. Price 3s. 6d. There is also a special presentation edition signed by the author, price 10s. 6d.

[11] *State Board Questions and Answers for Nurses.* Compiled and edited by John A. Foote, M.D. Lippincott's Nursing Manuals: Fourth edition. London: J. B. Lippincott Company. 1926. (5½ × 8½, pp. xii + 431. 15s. net.)

PREPARATIONS AND APPLIANCES.

A Diathermic Applicator for the Eye.

MR. PHILIP FIGDOR (Physician in charge of the Electro-therapeutic Department, St. John's Hospital, Lewisham) has designed an applicator to simplify the use of the diathermy current in eye diseases. The diathermy current, he writes, has hitherto been applied to the eye by an ordinary glass eye-bath, pierced by a metal terminal. The cup was filled with saline and applied to the eye with the patient in a forward stooping position. With a great deal of manœuvring on the part of the patient and the assistance of the operator, the patient gradually assumed a recumbent position with the eyeball pressed closely to the socket to prevent the escape of the saline solution. A source of discomfort was the pain of pressure of the glass rim. Leakage was both a source of worry and danger, and to refill the applicator the whole procedure of getting the patient to sit up and again to balance the applicator into position had to be repeated. The figure is a cross-section; B is a bar of solid glass connecting a hollow funnel (A) with C, which is a hollow, elliptical eye-bath. Also connecting A and C is a glass arm (E) with a 1/16-inch bore. The cup C has a detachable rubber cap, and is pierced in two places—one an air-hole and the other for the metal electrode terminal.



The applicator is used in the following way. The patient lies on a table with one pillow and the applicator is placed in position on the eye to be treated, with the rubber fitting as closely and evenly as possible into the eye socket, with the electrode terminal already connected up with one pole of the diathermy machine (the other pole is connected with a handle electrode which the patient grasps in one hand). Saline is poured into the funnel A and falls evenly into the cup and covers the patient's eye. When the air-hole is reached the current can be turned on.

Iredell and Meadows Ryley, so far as my search of the literature extends, were the first to apply the diathermy current in eye diseases, and they published their results in a number of cases, which seem to have done remarkably well, in the *Proceedings* of the Royal Society of Medicine, 1919. Since then diathermy in eye diseases seems to have been in abeyance, probably owing to the difficulty of applying it. Although still requiring extreme care and caution on the part of the operator, the new applicator is safer and easier to manipulate. It has been made for me by Watson and Sons (Electro-Medical), Ltd., Sunic House, Kingsway, W.C.2.

Insulin.

With the approval of the Medical Research Council, Burroughs Wellcome and Co. are now prepared to supply insulin 200 units in 5 c.cm. in addition to the regular strength of 100 units in 5 c.cm. This increased concentration will, it is thought, be found convenient by medical men who have patients requiring a high unit dosage. The stronger preparation is carefully labelled and distributed in a carton of distinctive colour.

MEDICAL RESEARCH COUNCIL.

ANNUAL REPORT.

(*Concluded from page 388.*)

TUBERCULOSIS.

HE Tuberculin Subcommittee has carried out further udies confirming the value of the double intradermal test r the detection of tuberculosis in dairy cattle, and its eat superiority to the subcutaneous test. This test is ow being increasingly used by veterinary surgeons roughout the country. The subcommittee considers that ie ophthalmic test should now be used only as a con rmatory test; it has reason to believe that with certain rands of tuberculin a non-specific ophthalmic reaction ay be obtained after repeated tests, a fact which affords n additional reason for not diagnosing tuberculosis on the sult of the ophthalmic reaction alone. Various investiga ons on the value of sanocrysin in the treatment of tuber ulosis in animals are recorded. Professor S. L. Cummins, orking with rabbits, showed that milder infections could e practically eliminated by the use of this drug, but that osage and virulence of the strain were factors of great mportance; sanocrysin was without avail where the dose as big or the strain relatively virulent. Captain Douglas's results indicate that sanocrysin has no specific ction on the tubercle bacillus, but that it affects the cells o as to give indirect damage to the infecting organisms.

TISSUE GROWTH.

Mrs. B. E. Holmes and Miss Watchorn, working in Sir Frederick Hopkins's laboratory, have studied the produc ion of ammonia and urea by tissues in culture, and have letermined the amount of the chemical changes due to ictual growth. Surviving kidney tissue of the rat embryo roduces neither urea nor ammonia; growing kidney tissue roduces ammonia certainly and probably urea also. Surviving brain tissue of the rat embryo produces no urea, ut converts a large amount of the existing urea into mmonia; this does not occur to the same extent in growing tissue. Rat carcinoma and sarcoma tissue contain abnormally small amounts of glutathione, and they are also deficient in the respiratory pigment cytochrome. These findings are all in agreement with Warburg's contention that cancerous tissue as compared with normal tissue lives under anaerobic conditions rather than aerobic; moreover, cancerous tissues can only reduce very small amounts of glutathione. These observations are being extended, and it is hoped to investigate the glutathione content and the reducing power of aged tissue and of tissues in the pre-cancerous state.

FILTERABLE VIRUSES.

The Council draws renewed attention to the importance of investigations on the filterable viruses. Research into the nature of the infection in measles, encephalitis, polio-myelitis, vaccinia, variola, and herpes is being prosecuted all over the world, and nowhere with greater vigour than at the National Institute for Medical Research at Hampstead; inability to grow the viruses outside the body by any means yet discovered hampers the work in many directions, and prevents any marked progress so far; but, as is observed, information is being gradually accumulated, and any ingenuity that gives a new experimental method of approach at one point may well mean an advance all along the line.

Rous Chicken Sarcoma.

Dr. Gye and Mr. Barnard have continued their study of the filterable virus obtained from the Rous chicken sarcoma. Mr. Barnard's work has been interrupted by transference from Hampstead to the new installation at Mill Hill, where improved facilities have been provided and work is now being pushed steadily forward. A short restatement of Dr. Gye's position is given; the two chief lines of criticism that have been made on his work have been considered. Dr. Gye has so far found no reason to modify his position.

Lethargic Encephalitis.

Dr. Perdrau has made considerable progress with his work on encephalitis lethargica, and into the related problems of the virus of herpes and the immunity reactions to it. Dr. Da Fano has collaborated with him in the micro-pathological investigation, and these workers now find it possible to state definitely that the virus of herpes can cause in rabbits a chronic form of meningo-encephalitis with characteristic microscopical features.

Vaccinia.

Reference has already been made to the difficulty in growing the viruses outside the body, and it is encouraging to note that Captain Douglas records that good progress has been made in this respect with vaccinia virus, using a strain supplied by the courtesy of M. Levaditi from the Pasteur Institute, Paris.

Distemper.

Dr. P. P. Laidlaw and Mr. G. W. Dunkin have carried their attack on distemper in dogs to a further stage. They have already amply confirmed Carré's view that this disease is in fact due to a filterable virus, and that it is not due to bacteria visible by ordinary methods; they have shown also that the disease is transmissible to ferrets and then back again to dogs at will. They have now attempted to produce immunity against the virus by inoculation with a formalin-treated virus. In ferrets, for which the disease is almost invariably fatal, a substantial success has been obtained, and treated animals have, as rule, been able to withstand successfully massive doses of the virus which would otherwise certainly have proved fatal. With dogs the treatment has so far proved much less satisfactory; but there is clear evidence that the disease in them is modified, and experiments are in hand to show whether the desired end cannot be obtained by inducing a mild infection in an animal partially protected by previous treatment with a weakened virus. This work is carried out in collaboration with the Distemper Research Council, which is financially supported by voluntary contributions collected by the *Field* newspaper.

GENERAL BIOCHEMICAL RESEARCHES.

Bacterial Chemistry.

Miss Stephenson and Dr. Quastel are investigating the requirements of strictly anaerobic bacteria. Working with *B. sporogenes*, they find that three constituents of a tryptic digest of casein are necessary for normal growth and reproduction of the organism. One of these is a compound like cystein, thioglycollic acid, or reduced glutathione, and the suggestion is made that the function of this substance is to maintain the medium at a limited reduction potential above which the organism is unable to grow. These studies have led to a re-examination of the current view that the toxic action of oxygen on anaerobes is due to the production of hydrogen peroxide.

The extension of the work of Dr. Gordon and Miss B. Wheatley at Leeds on the effects of amino-acids on bacterial growth has led to results which appear to have practical value. By growing a variety of pathogenic bacteria on samples of peptone broth media to which various amino-acids have been added, Dr. Gordon finds that these acids may be divided into three groups: those which favour growth, those which hinder it, and those which are indifferent. Miss Wheatley, working with the gonococcus in broth reinforced with traces of heated blood, obtained corroborating results, and acting on these observations Dr. Gordon tried growing the gonococcus on medium to which small quantities of taurine had been added; as a result he found a great increase in the size and number of the colonies obtained and in the length of their survival.

Colloids.

Dr. C. G. L. Wolf and Dr. E. K. Rideal, in their studies on the chemical and physical nature of the reactions involved in the Wassermann test, find that the active agent in a specific serum is contained in the euglobulin fraction and is not essentially bound up with the lipoids attached to the

euglobulin. In the precipitation test there is a sensitization of the antigen by a fraction of the proteins of the serum, and the precipitation is caused by the salts of the test fluid acting on the sensitized antigen.

Mr. A. Wormall and his collaborators suggest that "complement" contains a second relatively heat-stable constituent; complement is inactivated by alkaline ammonia salts, and it is shown that the ammonia inactivates a heat-stable constituent present in the end-piece fraction. They also adduce evidence that non-dialysable calcium plays some part in the complement reaction.

Anaesthetics.

The anaesthetic committee has continued the investigations into the impurities in nitrous oxide, and still finds that the most common is an undue percentage of nitrogen. It is hoped to publish a schedule of simple tests for general adoption this year. There has been difficulty in obtaining propylene sufficiently pure; apparently there is some irritating by-product present as yet unidentified. The objectionable odour of ethylene is now believed to be that of ethylene itself and not due to the presence of an impurity as had been suspected. Professor Dixon has been working for the committee on the ignition points of various anaesthetic agents in air and oxygen; he showed that mixtures of ether vapour and oxygen ignite readily at a temperature much lower than the visible red heat of any metals. This fact was at once published, as ignorance of it had been responsible for at least one fatality.

General Physiology, Bacteriology, and Protistology.

Physiology of the Heart.

Dr. G. Anrep has worked on the regulation of the blood circulation and the blood supply to the cardiac muscle under normal and pathological conditions. A new method devised by Dr. H. N. Segall made it possible to separate the thoracic from the cerebral circulation and so to study them independently under controlled conditions. He has been able to show the presence of a rich supply of both vaso-constrictor and vaso-dilator fibres to the heart blood vessels, the tone of the vasomotor nerves being regulated both centrally and reflexly. The coronary circulation was shown to be dependent upon the blood pressure in the brain and upon the composition of the blood circulating in the brain.

Studies in Immunity.

Dr. L. Colebrook, in his work on the pathology and treatment of puerperal infection, has made further experiments bearing on the treatment of generalized infections with haemolytic streptococci. These have thrown new light on the chemotherapy of these infections by arsenical compounds; it has been found possible to extend considerably the period during which the blood can be endowed with an enhanced power to kill streptococci. This has been done by using arsenical compounds of such low toxicity for human white corpuscles and other vital tissues that they can be injected at frequent intervals.

Intestinal Protozoa.

Mr. Dobell and Dr. Laidlaw, using their improved methods of cultivating the intestinal amoebae of man and monkeys, have succeeded in obtaining encystation and excystation of the amoebae outside the body, and have been able to obtain all the stages of the life-history of *Entamoeba histolytica* and several other entozoic amoebae. They have found that the bacteria present in cultures of these amoebae have an important bearing on their growth and development. Prolonged cultivation in starch-containing media may alter the characteristic infective power of *E. histolytica*. The same workers have also investigated the action of emetine and other drugs upon cultures of *E. histolytica* and other entozoic amoebae; as compared with other ipecacuanha alkaloids, emetine and cephaeline are specifically poisonous to *E. histolytica*. Very small quantities of emetine, if continuously maintained in culture of *E. histolytica*, inhibit its development and ultimately lead to its death; on the other hand, comparatively strong concentrations are needed to produce immediate death. Particular attention is drawn to this time factor in the slow poisoning by small amounts of alkaloid, as it suggests a principle of wide chemotherapeutic application.

Mr. Dobell is making a detailed comparative study of the life-histories of different species of amoebae of man and monkeys as they occur in their hosts and in culture; his work in this direction already makes it appear highly probable that the species of endolimax occurring in macacques is identical with that commonly found in man.

Experimental Epidemiology.

Professor W. W. C. Topley and Dr. Greenwood have published further studies in experimental epidemiology; they have attempted to evaluate the relative importance of selection and active immunization as factors in bringing about the increased average resistance shown by mice which have passed through a period of epidemic prevalence. It is concluded that pure selection alone cannot account for the results obtained, and that active immunity plays *some part, and possibly a large one, in* raising the average level of herd-resistance. Further experiments are in progress; two herds are receiving immigrants—one of normal uninfected mice, the other of mice that have been exposed to infection in another herd; the fluctuations in the death rate of the two herds are being recorded.

The phenomena of epidemics amongst wild rodents are being studied by a group of workers at Oxford. Wild rodents have been shown to be subject to periodic fluctuation in numbers; there is a period of increase from minimum numbers up to a maximum, and then an epidemic destroys most of the animals in the population affected, so that they begin again to increase from a minimum. These fluctuations are frequently very regular, and epidemics can be predicted with some certainty; work was begun in 1925 preparatory to an investigation of an epidemic among English mice predicted for the early part of this year.

Concluding Notes.

The work of the Industrial Fatigue Research Board is described in the Board's annual report, which is published separately. There is a short section in the Council's report dealing with the Travelling Fellowships of the Rockefeller Foundation of New York, the arrangements for which have been generously renewed by the Foundation, the awards being again entrusted to the Council. The report ends with a statement of the alterations in the composition of the Council, and a warm and affectionate tribute is paid to the services, both scientific and administrative, rendered by the late Sir William Leishman throughout the whole period of the Council's existence.

ROYAL MEDICAL BENEVOLENT FUND.

At the last meeting of the Committee thirty-four cases were considered and £440 voted to twenty-nine applicants. The following is a summary of some of the cases relieved.

Widow, aged 76, of L.R.C.S.Edin. who died in 1893. Her only income is the old age pension. She lives with two sons; the younger is unemployed and the elder finds it hard to keep three persons. Voted £26 in twelve monthly instalments.

Widow, aged 44, of *M.R.C.S. who died in July last from* septicaemia after an operation on a patient. She has two sons; the elder, aged 20, earns £65 a year, and the younger is aged 8. When late husband's estate is settled the estimated income will be about £110 a year. Voted £20.

Widow, aged 55, of *M.B. who died in 1923. She has no* children, and supplements her income of £35 per annum by taking *paying guests.* She lives in her own house, rates on which amount to £25 per annum. She asks for help as she has had no paying guests for the past three months. Voted £18 in twelve monthly instalments.

L.R.C.P. has been unable to obtain work owing to age (70) and recently had a stroke. He is now in a home, and, as his savings are exhausted, is dependent upon charity. Previous help given by the Fund amounted to £68; further £15 voted at this meeting.

Subscriptions may be sent to the Treasurer, Sir Charters Symonds, at 11, Chandos Street, Cavendish Square, London, W.1.

The Royal Medical Benevolent Fund Guild still receives many applications for clothing, especially for coats and skirts for ladies and girls holding secretarial posts, and suits for working boys. The Guild appeals for second-hand clothes and household articles. The gifts should be sent to the Secretary of the Guild, 58, Great Marlborough Street, W.1.

British Medical Journal.

SATURDAY, MARCH 5TH, 1927.

OPHTHALMIA NEONATORUM IN MATERNITY WARDS.

ONE of the greatest achievements of preventive medicine has been the reduction in the incidence of ophthalmia neonatorum and the toll of blindness resulting therefrom. But as long as the conditions of birth are what they must be, and as long as virulent organisms obtain access to maternal passages, so long will there be an ever-present danger of the occurrence of this fell disease; and when there are many mothers and infants at close quarters in the same ward that danger is much intensified. In lying-in hospitals a generation ago ophthalmia of the newborn was as often seen as puerperal fever. Now such cases occur in a mere fraction of the patients. This rarity of a once frequent disease is only attained by constant unremitting vigilance; yet in spite of every care there may be cases or even a run of cases. Such an incident has lately occurred in Lancashire.

Five babies were born in the Moorlands Maternity Home at Accrington, and were there at the same time; these babies suffered from the disease; four lost the sight of one eye, and one the sight of both eyes. An action for damages was brought against the board of guardians which maintained the home. The evidence showed that one of the infants developed signs of inflammation of the eyes in a very mild form on the third day after birth, and thereafter the other infants showed the disease. The newspaper reports are indefinite in several important particulars, but from the general description of the symptoms and course of the inflammations it may be inferred that the attacks were those usual to the presence of the micrococcus of Neisser. The evidence showed that every effort had been made by the medical and nursing staff of the home to prevent disease and to check the attacks that appeared. Two separate inquiries were made into the methods of the home—one by a medical officer of the Ministry of Health and another by the M.O.H. for the district. Both officers agreed that there had been no lack of care in the arrangements. The judge, in his summing up, said: "It is a great mistake to suppose there is any duty to provide an ideal state of affairs . . . you can expect no more from persons who undertake this kind of duty than that a reasonable standard of care, skill, competency, and prudence shall be maintained." The jury found a verdict for the defendants.

How best can such standards be attained? What is the most prudent course to follow in the care of these infants? The first principle that must be kept in mind is this: the prevention of ophthalmia neonatorum does not begin with the birth of the infant; it is a matter of ante-natal care. As Gibson of Manchester pointed out so clearly a hundred years ago—when none knew of and some denied the possibility of a *materies morbi*—the disease could be prevented by removing the noxious matter from the maternal passages before childbirth, and if this had not or could not be done then it should be done during delivery, and from the child's eyes immediately after birth. The managers of maternity homes are in a particular difficulty in this matter. They do not know the state of the expectant mothers, and have not the care of them; so that, failing some satisfactory arrangement between the medical officers of these homes and the family doctors of the patients, the home starts under a heavy handicap. The private practitioner has learned the lesson Gibson taught; he knows now that the disease is, in all but the rarest cases, due to the micrococcus of Neisser; ante-natal examinations are becoming the rule, and these, with the knowledge that he has of his patients, give him ample warning of danger. He need not wait for the danger to materialize, for it is now known that even a mild course of treatment—one that is insufficient to eradicate the disease of the passages—will yet be effective in reducing the virulence of the micro-organisms so much that they will be little able to infect the infant's eyes.

The first rule of safety for the managers of maternity homes would be, therefore, that they should only admit expectant mothers who had been examined and were recommended by their home doctors or by the medical officers of an ante-natal clinic. With the mother in the home the next step may be through some system of douching prior to the onset of labour or in its early stages. Many have commended this procedure, others have held it an undesirable interference that may disturb the woman or check labour. But after the birth there are definite steps that must be taken in every case. The first of these is that indicated by Gibson—the removal of the noxious matter from the infant's eyes. In every infant born the face and eyelids are smeared with mucus, and there is often contamination with faecal material. Many employ "first aid" immediately the face of the child is born by wiping each eye as dry as possible with separate pieces of dry cotton-wool. When the mother is settled, then will come the real process of making safe the infant's eyes. The baby is washed, and all agree that the water used for the body should not be used for the face of the infant; that should be washed in fresh clean water, and for obvious reasons. Finally, the eyes themselves may be washed with some antiseptic as a final precaution. What this should be has been a matter of discussion. That some kind of antiseptic should be used in all cases all are agreed, for there is not an infant that may not get some noxious matter into its eyes, if only it be the colon bacillus. The destruction of this with a mild unirrifating lotion may serve to reduce the liability to that slight irritation of eyes so commonly observed and is such a source of anxiety to the doctor, who has to determine whether or not this slight symptom is the onset of a serious inflammation or no more than is seen. There the bacteriologist will be the resource of the cautious clinician. Most, however, are agreed that, whereas in private the doctor has a wide latitude in his practice, in lying-in homes it is safer to assume that the gravest risk has been incurred, and to use some silver solution as the final application to the eyes of all infants born in institutions. In such places Credé's method, when used with knowledge, has been an unqualified success.

But the risks are not ended with the birth and the toilet of the infant. There is an ever-present risk of subsequent contamination of the eyes if by any carelessness napery used for the mother should also be used for the infant. There must be a strict separation of all appliances, and the nurse must be most scrupulously precise in washing and disinfecting her hands after each time of tending to the mother and before the baby is touched. This separateness of attention must extend to all the mothers and infants in the same ward. The ideal would be separate rooms—one

for each mother and child; next to that, cubicles sufficiently divided to prevent cross-communication. Short of some such arrangement a kindly but ignorant mother may undo all the care of the medical officer and the nurses by lending some of her napery to her next-door neighbour, not knowing that her kindliness is fraught with danger. Ante-natal care and supervision is first and foremost as the safeguard against ophthalmia of the newborn. Thereafter scrupulous care and an isolation as clean cut as human nature will allow, as rigorous as the ancient laws of the Levitical code, is the desideratum.

SCIENCE AND THE PREPARED MIND.

THOUGH there are many monuments to Pasteur there is none more appropriate than the fine edition of his collected works now being issued under the direction of his grandson, Dr. Pasteur Vallery-Radot. The fourth volume[1] has recently been published, and is a most fascinating record of investigations into the silkworm disease by one who was probably the most famous master of research which the world has yet seen.

The subject is graphically portrayed, because we have presented to us Pasteur's original papers and reports, together with the various documents and notes which passed between him and J. B. Dumas and the Minister of Agriculture, and his replies to numerous opponents, in particular the cultivators, who resented his being delegated to undertake the work, on the ground that he was a "mere chemist," and neither a silkworm cultivator nor a zoologist. The whole story, which reads like a romance, is well summarized by the editor in his introduction. The mulberry, as the food for silkworms, whose cocoons at one time brought in the enormous revenue of 100 million francs in a single year, had been appropriately designated "the Tree of Gold." Owing to disease among the worms, however, the silk industry had fallen away almost to nothing, and the cultivation of the mulberry had become a thing of naught because all efforts to rear healthy silkworms appeared hopeless.

In 1865 Pasteur had completed his researches on fermentation, had saved the wine and vinegar industry, as told in Volume III. of this series, and incidentally dealt a mortal blow to the advocates of spontaneous generation. It was his intention and ardent desire to apply his energies to the study of contagious diseases and their causation, relying on the methods he had elaborated for the isolation of "germs," the employment of sterile culture media, and his surmise that these diseases were due fundamentally to fermentative processes. This intention, however, he reluctantly postponed, and, yielding to the solicitation of J. B. Dumas, who had witnessed his saving of one important industry, and prompted by his sense of patriotism, he put away for the time his ambition, in order to come to the rescue of France and try to save another important industry, which at this time was bankrupt if not moribund—the silk industry. At first he felt great diffidence in undertaking the investigation, telling Dumas that the subject was one of which he was completely ignorant, and that he had "never even touched a silkworm"; he was persuaded to take the matter in hand, and, by systematic study and the application of sound scientific principles, he succeeded in solving a problem which had baffled his predecessors, who had worked more or less haphazard.

This investigation occupied Pasteur for five years, and just when he had, as he believed, solved this obscure problem he found that the silkworms were subject to two diseases. That which was best known, to which he first gave attention, was *pébrine* (a name derived from the patois *pébré*, owing to the presence of disease spots like pepper-sprinklings in the worm), or "corpuscle disease" (from the little brownish-black spots indicative of the affection), or, yet again, *gattine* (derived from the Italian *gattino*, because the infected worms were said to raise their heads and thrust forward their feet after the manner of a cat in the act of scratching). He showed that *pébrine* was due to certain "corpuscles," and that the disease was transmitted through the larval stages from the egg to the imago, and that the healthy moth might acquire it by feeding on infected leaves. He crowned this part of his work by demonstrating how the disease could be eradicated by isolating the females so as to obtain unmixed broods of eggs and by retaining for breeding purposes only those which were healthy. Having arrived at this stage, and confident that his labours in this respect were finished, he met with a sore disappointment, which, however, he was able to turn to further advantage by renewed research, and which in the end redounded to his further credit. A box of healthy eggs turned black and died on reaching the cocoon stage, leading him to proclaim despondently, "Il y a deux maladies." To be brief, he demonstrated that this other infection, *flacherie*, which caused the deaths of many larvae, was due to a vibrio reproducing by means of "spores" and developing in the alimentary tract of the insect, and itself contagious.

The whole fascinating story affords an example, and an outstanding one, of science and the prepared mind; for Pasteur, though at first "roaming about in realms unrealized," intuitively hit upon the chief cause in quite the early stages of his investigation, and spent the following years in testing and re-testing his surmises, leaving nothing to chance and no point unproved, until he could present the whole subject vividly before the world. To prove the soundness of his reasoning, when the commission at Lyons requested him to send some guaranteed healthy seed (eggs), he forwarded, not only the healthy, which he predicted would thrive, but also three other lots for control—namely, "seed" infected by *pébrine*, others infected by *flacherie*, and a mixed lot of both; these last three he predicted would fail, and all turned out exactly in accordance with his prognostications.

Full credit must be given to Pasteur's able and enthusiastic assistants and collaborators — Gernez, Duclaux, Raulin, and Maillot—and to the unremitting encouragement and support he obtained from Dumas and from Béhic, the Minister of Agriculture, during the years when he had to meet and overcome considerable opposition, not only from the obstinate and ignorant, but also, unfortunately, from certain scientists envious of his success.

> "Such is the fate of place and the rough brake
> That virtue must go through."

The re-establishment of the industry, however, proved the soundness of his work, and the outstanding merit of this and his previously published researches on fermentation gained him the Copley Medal of the Royal Society in 1875, a fitting recognition of unselfish labour.

[1] *Œuvres de Pasteur* Réunies par Pasteur Vallery-Radot. Tome IV. Études sur la maladie des vers à soie. Paris: Masson et Cie. 1925. (Imp. 8vo, pp. viii + 761; illustrated. £1 3s. 4d.) The first volume dealt with his work on crystallography, the second with *fermentations* and so-called spontaneous generation, and the third with the *diseases* of wine and vinegar.

LISTER CENTENARY IN LONDON.

We are now able to give some additional details with regard to the provisional arrangements for the Lister centenary celebrations in London next month. On the morning of Tuesday, April 5th, delegates will be received at 11.30 in the Great Hall of the British Medical Association, Tavistock Square, by the Prime Minister. Three delegates from abroad will give short discourses dealing with the effect of Lister's work on surgical and pathological science and practice in their countries. Delegates from other countries will present addresses, but will not be expected to read them. At 4 p.m. there will be a conversazione at the Royal College of Surgeons of England, and in the evening the Merchant Taylors Company will give a dinner in its hall, 30, Threadneedle Street. On the morning of the previous day (Monday, April 4th) the King will receive the delegates at Buckingham Palace, and in the evening (8.30) the Royal Society of Medicine will hold a reception at its house, 1, Wimpole Street, when Sir StClair Thomson will give an address. The memorial service in Westminster Abbey on Wednesday, April 6th, will begin at 11.15 a.m., and an address will be given by the Bishop of Birmingham (Dr. E. W. Barnes, F.R.S.). Delegates who may wish to do so will have an opportunity of placing wreaths at the memorial tablet to Lord Lister in Westminster Abbey. The hour at which the three discourses will be delivered at the house of the Royal Society of Medicine on that afternoon is 3 o'clock: the first will be by Sir Charles Sherrington, O.M., F.R.S., on Lister as a physiologist; the second by Professor W. Bulloch, F.R.S., on Lister as a pathologist; and the third by Sir Berkeley Moynihan, Bt., P.R.C.S., on Lister as a surgeon. The Royal Society will give a conversazione at its rooms in Burlington House at 9 o'clock that evening. Ladies accompanying delegates will be admitted to all the ceremonies, with the exception of that at Buckingham Palace and of the dinner at Merchant Taylors' Hall, to which personal invitations will be issued. An information bureau will be opened in the rooms of the Royal Society, Burlington House, on Saturday, April 2nd, and Sunday, April 3rd, from 10 a.m. to 5 p.m., and tickets for the various receptions and ceremonies will there be issued to the official delegates. The bureau will also be open from 9 a.m. on Monday, April 4th, but it is hoped that the majority of delegates will not defer application until that day. The Lister exhibition in the Wellcome Historical Medical Museum (54A, Wigmore Street) will be opened for inspection by the delegates from 9.30 a.m. to 6 p.m. on and after Monday, April 4th. All communications should be addressed to the Secretaries of the Royal Society, Burlington House, Piccadilly, London, W.1.

THE HISTORY OF INSULIN AND ITS MANUFACTURE

DR. H. H. DALE, director of the Department of Biochemistry and Pharmacology of the Medical Research Council, presided at the Royal Society of Arts on February 23rd, when a paper was read on the manufacture of insulin. Dr. Dale said that the manufacture of insulin was a very important achievement of British industry. When the discovery of insulin was first made known he was a member of a small deputation sent out to Canada by the Medical Research Council to report on the subject. He and his colleagues felt that there could be no question as to the genuineness and importance of the discovery, but had a certain doubt as to the steps to be taken to provide insulin in this country. Some were inclined to the view that the manufacture here would be hopelessly handicapped, chiefly because one large and justly honoured American firm had been closely concerned in the counsels of the institution in which insulin was worked out, and so was already a year ahead, and also because the slaughtering industry in America was on a vast scale and magnificently organized, whereas in this country it was on a small scale and comparatively unorganized. Thus there was a great deal to be said for the view that this matter was better left to the Americans. But the British manufacturing industry was not inclined to agree, and the result had been an achievement which was justifiably a matter of national pride. Within eighteen months of the return of the deputation manufacture was started by several firms in this country, and now, not only had British firms caught up with American in respect of quality and output, but had an excess production enabling them to export to countries which had not been able to get to work so quickly. Moreover, the price of insulin had been reduced to a level which would at first have seemed incredible; at the beginning insulin had been a rich man's remedy, but to-day that position had completely changed, and even if the poor man had to pay for it himself it represented not much more than he would afford for tobacco. Dr. Dale added that he was glad to have the personal friendship of the devoted and ingenious young workers who had brought this thing to a final solution in one of the great Dominions. He would not diminish by a breath the credit that was rightly due to them, but at the same time they had forerunners who were also deserving of thanks, especially Professor Minkowski, who had just retired, and whose experiments as far back as 1889 laid the foundation of the knowledge which was bound in due course, once the right method was discovered, to lead to the production of such a substance. He wished also to say this, that this work had resulted from experiments on animals, chiefly and inevitably on dogs. At that moment there was a bill before Parliament which, if carried, would make the continuance of this work impossible in this country—in this country alone among the civilized nations of the world. He had the greatest respect for our legislators, but he was bound to say that on such a matter he would have preferred that the decision could have rested on the vote of those who knew by personal experience the difference between the life they lived in the pre-insulin era and the life they lived now. Mr. Francis H. Carr, president of the Society of Chemical Industry, then read his paper, in the course of which he exhibited what he called a "flow sheet" of insulin manufacture, from the collection of pancreas at the slaughterhouse, through more than twenty processes of extraction and purification, to the actual production of insulin. In brief, the process consisted of dissecting the pancreas glands, grinding or mincing, rendering the material acid to *p*H 2.5 or alkaline to *p*H 7.0, in order to set free the insulin from the tissue on which it was adsorbed, extracting it with alcohol of such a strength that but little of the enzyme was dissolved and as much as possible of the insulin, clarifying the extract, concentrating at a low temperature, precipitating the proteins, and, finally, formation of picrate and regeneration as a hydrochloride. Purification was thus effected by combining the use of precipitants, such as picric acid and ammonium sulphate, with iso-electric point precipitation. Mr. Carr said that when first the manufacture was started the yields obtained were very low, being but 50 units to the kilogram of pancreas. There was also at first a great loss of alcohol. As knowledge extended and the plant was perfected, it had been possible to increase the yield twentyfold and to reduce the loss of alcohol to a very low figure. The selling price of insulin was thereby reduced by successive stages within the first year of its manufacture from 25s. to 2s. 8d. for a bottle of ten doses. At the same time, it had been possible gradually to improve the purity of the insulin as issued for use. Mr. Carr also referred to the fact we mentioned last week, that quite recently three German workers—Frank, Nothmann,

and Wagner—had discovered a derivative of guanidine which produced effects similar to those of insulin, though much less intense. Guanidine itself had been shown to be too toxic for use in the treatment of diabetes, as had another guanidine derivative, agmatine, which was prepared from herring sperm, but this new guanidine derivative was said to exercise on diabetic patients the same effects as insulin, though more slowly, and it had the advantage that it could be administered by the mouth. Unfortunately, it was not devoid of toxic effects, and an overdose caused loss of appetite, nausea, and vomiting. Nevertheless, it was the opinion of the German workers that it might usefully be employed to supplement insulin treatment, or might be used by itself in mild cases. Perhaps its greatest interest was that it might prove a step in the direction which, through the study of other derivatives of this nature, would lead to a true substitute for insulin. The elucidation of the chemical nature of insulin itself was a step to be most profoundly desired; it might involve the destruction of £1,000 worth of insulin, but the priceless contribution to human happiness which the discovery of insulin represented made even that expense no more than a grain of sand on the seashore. Once the chemical nature of insulin was understood, it was not too much to expect that the history of adrenaline and thyroxine would be repeated, and the manufacture of artificial insulin, indistinguishable from the natural product, be possible. Mr. Carr's paper was all the more appropriate in view of the fact that one of the most impressive exhibits in the very greatly enlarged chemical section of the British Industries Fair at Shepherd's Bush was an insulin-manufacturing plant working as a continuous process.

A CENTURY OF PHYSIOLOGY.

UNIVERSITY COLLEGE is including in its centenary celebrations a series of addresses. The first was delivered by Professor E. H. Starling, F.R.S., on February 28th, and was entitled "A century of physiology." Professor Starling noted that the celebrations coincided with the centenary of the birth of Lister, with the jubilee of the Physiological Society, and almost with the three hundredth anniversary of Harvey's book on the circulation, which marked the birth of modern physiology. The resuscitation of observation by the anatomists was followed by the resuscitation of experiment by Harvey, whose method was experiment and induction. The investigation of the functions of other organs than the heart had to wait a long time, so that a hundred years ago physiology was still backward, though progress had been made by Malpighi, Stephen Hales, and others. When the exact sciences of chemistry and physics were called in to aid, physiology began to advance. Lavoisier's researches on the conservation of matter, and Helmholtz's on the conservation of energy, helped in the advancement, but physiology was not freed from its fetters until 1871. From 1850 to 1870 Claude Bernard investigated the vasomotor system and the sugar functions of the liver. From 1863 to 1875 Marey examined the mechanics of the circulation. At the end of fifty years physiology had become an exact science. There had been an awakening of the human spirit, due largely to the fact that men of wide sympathies were employed to impart old knowledge and new learning. Such a man was Sharpey. His works were anatomical in nature, but he was a great teacher; and his pupils were destined to initiate modern physiology. Professor Starling sketched briefly the careers of Michael Foster and his pupils Gaskell, Langley, Sherrington, Balfour, and Vines; of Martin, who went to Baltimore; of Burdon-Sanderson; and of Ringer. He showed that Sharpey was thus the originator of physiology in London, Oxford, Cambridge, Liverpool, and the United States. Co-operation of physiologists with one another, however separate their places of residence, was shown in the foundation of the Physiological Society, since the science could not be kept within the four walls of any building. The lecturer then mentioned the work of Lewis on the electro-cardiograph; Ringer's investigations of the action of salt solutions on the heart; and his own work with Bayliss on internal secretions. He concluded by saying that the past history of the college in physiology was full of hope; that the golden age was supposed to be an epoch of great achievement; but that the work of physiology in medicine had only just begun. At the conclusion of the address a vote of thanks to Professor Starling was adopted, on the motion of the chairman, Sir John Rose Bradford, President of the Royal College of Physicians, London, and consulting physician to University College Hospital, who next May will himself give another of the centenary series of addresses, when his subject will be "University College, London, and medical education."

FOOT-AND-MOUTH DISEASE.

THE committee appointed in 1924 to investigate foot-and-mouth disease has just published its second progress report,[1] which reviews the work carried out during the past year. The committee points out that research into this disease is peculiarly tedious and necessarily slow, and consequently the work is still far from completed. Guinea-pigs are being extensively used for experimental work, and by this means lines of research can be more quickly investigated than if the large farm animals were employed. Attempts to cultivate the virus have consistently failed, and the view is expressed that the Frosch-Dahmen discoveries were susceptible of another interpretation. Until the virus can be cultivated animals must be used as reservoirs from which the material may be drawn, and it has been found that by successive passages through guinea-pigs a virus of high potency can be obtained, and this may be kept for some time without any great loss in virulence; in some instances it was maintained for over a year before becoming impotent. Virus obtained from the blood is not so strong as that recovered from the vesicles. It was found that although rapid drying quickly destroyed the virus, it survived slow drying provided that it was maintained in a dry condition; but it is not suggested that in ordinary circumstances virus dried on inanimate objects would survive for long as a source of infection. Virus dried on hay, woven fabrics, and so on, remained active for some considerable time; the time varied with the nature of the substance—on woollen fabric for between two and three weeks, on hay eight to fifteen weeks, on bran up to twenty weeks, and so on. A calf contracted the disease from hay a month after this had been infected, demonstrating that fodder might be a natural source of infection. The virus was also found to remain alive for considerable periods in blood and bone marrow, and was in this way recovered from imported pig carcasses. Light, and 0.1 per cent. formalin, as well as various other chemical disinfectants, were found to destroy the virus in fluid from the vesicles. The committee has confirmed the plurality of types (to which we have previously referred), and it has shown that in the vast majority of cases the O type was present in Britain; only on one occasion (from an outbreak in Sussex) was the A type recovered. These types are fixed, and do not change their characters after repeated subinoculations. Investigations on small mammals showed that rodents other than guinea-pigs could be infected by direct inoculation, but the disease is hardly ever passed from one to another by natural means. Neither dogs nor cats are easily infected, but young animals are more susceptible than adults and cats than dogs. Birds appear to be refractory. Artificial

[1] Ministry of Agriculture. 1927. H.M. Stationery Office. 3s. net.

immunity has also been studied. Guinea-pigs appear to be immune for about three months after having passed through an attack, but after that the immunity gradually disappears, the local immunity ceasing before the general immunity. Inoculation with the serum of a hyperimmune animal stops generalization of the disease from intradermal inoculation, and may prevent all symptoms from intramuscular injections. A small dose of active virus may also produce a partial active immunity, while a virus (vaccine) treated with formalin regularly produces a partial immunity in guinea-pigs, and sometimes complete immunity results. There is as yet no evidence that a virus so treated will in small quantities protect cattle, but a sufficient dose will protect a majority of the animals. Attempts have also been made to use a combined serum and vaccine in cattle, and although only a few animals have been treated the results are promising. The report contains a mass of detailed evidence, of which what is here written is only a partial summary. Although no definite decision is immediately possible the results are distinctly promising, and augur well for, we hope, a not too distant future when our method of eradicating foot-and-mouth disease with a pole-axe will be replaced by the more scientific and more accurate one of the hypodermic syringe.

TOTAL CYSTECTOMY.

IN another part of the JOURNAL (p. 425) will be found a report of the paper read before the Urological Section of the Royal Society of Medicine by Mr. Henry Wade on the treatment of malignant disease of the bladder. In it Mr. Wade expresses the view that palliative measures, including the use of radium and of deep x-ray therapy, have failed, and that the only hope of effectually dealing with the condition lies in surgical extirpation. He advocates the more frequent employment of the operation of total cystectomy, which, he thinks, should be regarded, not only as a means of dealing with operable cases in which there is a hope of entirely removing the growth, but also as palliative treatment for the relief of the pain and extreme discomfort that is the fate of every patient dying of malignant disease of the bladder. He envisages the time when, with improvement in technique, especially with regard to the preliminary transplantation of the ureters, total cystectomy will become a routine operation, and urges those who deal with these difficult cases to spare no effort in doing the preliminary work that will be necessary before this ideal is reached. Mr. Wade's views will not be readily accepted by a great many surgeons. Total cystectomy is a mutilating operation, and it is only the failure of all other methods to mitigate the sufferings of a patient dying of malignant disease of the bladder that can render it justifiable. When, however, we remember how great are those sufferings we cannot fail to welcome any effort, however heroic it may be, to combat them. At some future date, when the vast amount of research that is being conducted on the subject of malignant disease has borne fruit, such mutilating operations as total cystectomy will probably be looked upon as relics of a bygone age. Medical men will refer to the heroic efforts of the old surgeons to deal with malignant disease by means of the knife in the same terms that we at the present moment employ when we discuss the efforts of pre-Listerian surgeons to deal with hospital gangrene. But alas! those days are not yet come, and at the present time the only weapon in the fight against most forms of malignant disease is the knife. In the case of some other organs, such as the breast, there has been a reaction against the extensive operations practised ten years ago, but it would appear from Mr. Wade's remarks that in dealing with carcinoma of the bladder our best hope lies in methods that are still more sweeping. If this be so, and if a desperate remedy must be adopted for a desperate disease, we can only hope that those who are called upon to undertake such a mutilation as total cystectomy will succeed in so improving the technique that the operation will be freed from some of the difficulties that at present attend it, and the comfort and the safety of the patient be thereby increased.

PROGNOSIS IN INSANITY.

THERE is a widespread popular belief that diseases of the mind are incurable, and that "once a madman, always a madman," is a correct representation of general experience. Every now and then effect is given to this view by juries in cases of alleged wrongful certification, when the jurymen, seeing the patient now sane, refuse to believe that he was once out of his mind, and may punish the certifying medical man for taking those very measures which restored the patient to health. In the new number of the *Journal of Neurology and Psychopathology*, which, as our readers know, is now published by the British Medical Association,[1] this pessimistic view of psychotherapy is combated in an editorial article. Some striking statistics are quoted from an article by Dr. Earl D. Bond, whence it appears that out of a total of over a thousand consecutive mental cases admitted to the Pennsylvania Hospital, over 26 per cent. remained well for at least five years, and were not known to have suffered relapse afterwards. As most of these patients were suffering from the more severe types of mental disease, these figures are sufficiently striking, especially when looked at in conjunction with the fact that only one-third of the remaining cases did not improve. To those unfamiliar with the treatment of mental disease it may come as a surprise to learn that a certain number of patients seem in the long run actually to be benefited by an attack of acute mental derangement, which, as the writer of the editorial article in our contemporary says, appears "to have a cathartic effect—it clears the air, as it were, and affords a release of pent-up emotional tension." In a similar way, according to some observers, an acute illness such as pneumonia or carbuncle is sometimes followed by the disappearance of symptoms of mental derangement, and it is possible that these two events may stand in the relation of cause and effect. There seems no reason to suppose that an attack of malaria has a specific effect on general paralysis of the insane, and it is therefore thought probable that its curative properties lie in the pyrexia and the profound disturbance, the shaking up, of the whole nervous and circulatory systems. It is not possible to compare Dr. Bond's figures with those relating to physical disease, for there is little information as to what happens to patients who come consecutively to any surgical, medical, or special hospital, or to the consulting rooms of general practitioners or specialists. There are plenty of statistics about many diseases, but none about the general run of patients. The editorial writer suggests that the surgeon, physician, or general practitioner would be satisfied with the return to full function in 25 per cent. of his consecutive cases, judgement being made five to ten years after the beginning of treatment. As even when patients are seen late by the psychiatrist consecutive cases may be expected to show a full return to health in 25 per cent., and amelioration in 15 per cent. more, it is argued that the general practitioner first, and the psychiatrist later, may feel justified in taking as hopeful an attitude as for surgical cases. Although specific remedies for the cure of psychoses are not known, spontaneous cures occur which have no parallel in purely physical diseases of a chronic type. Since some such patients recover there can have been no irreparable structural change. The editorial article thus ends on

[1] To be obtained from the British Medical Association, Tavistock Square, London, W.C.1. Annual subscription 30s.; single numbers 8s. 6d. post free.

a note of confidence and hope for the future, which we venture to think is well justified by the considerations set forth, and in this connexion we would commend to notice the admirable speech on present-day lunacy administration by Earl Russell in the House of Lords, reported at page 446. The same issue of the *Journal of Neurology and Psychopathology* contains a number of original articles of particular interest to specialists, as well as a series of abstracts occupying thirty pages, and many reviews and notes on books.

INFLUENZA.

IN the week ended February 26th there was a decrease in the number of deaths from influenza in London, but taking London and the 105 great towns of England and Wales together there was an increase, the number being 1,023, as compared with 990 in the previous week, and 759 in the week before that. In London proper the total deaths fell from 128 to 81, and in outer London from 112 to 67. The highest number in any town in the country last week was at Manchester, where the deaths rose from 36 to 88. The reports received by the Scottish Board of Health suggest that there were more persons suffering from influenza last week than in any other week this year. There was a large increase in the number of cases in Dundee, following on the rise in absences from school reported in the previous week. The medical officer of health estimates that there were between 4,000 and 5,000 new cases, but says that the type is mild, and is not regarded by medical practitioners as true influenza. A much heavier incidence is also reported from Motherwell and Wishaw and from Dunfermline (though Kirkcaldy had fewer cases), while less marked increases occurred in Hamilton and Ayr and the counties of Lanark and Fife. In the north of Scotland influenza has been prevalent for some weeks in most districts. There have been many absences from school, and in a few cases schools have been closed. The symptoms seem to have been much the same as elsewhere in Scotland, a sore throat often being the first sign, and there have been comparatively few cases of complications, but an attack often leaves behind it a persistent cough. Aberdeen burgh is one of the few places in the north able to report a lower incidence. In Edinburgh the slight epidemic seems definitely on the decline. There is little change from the normal in Glasgow. There are no cases in Clydebank, but elsewhere in Scotland no considerable fall in the number of cases has been observed.

RABIES.

THIS country shares with Australia and New Zealand, and a few other countries, including, according to Mr. Frederick Hobday, F.R.C.V.S., Norway and Sweden, the distinction of being free from rabies, a disease which is present in every other country of the world. Great Britain has been kept free by a rigidly enforced quarantine on all canine animals entering the country. A letter in the *Times* last week pleaded for a reduction of the present six months' period of quarantine, and suggested that this was fixed as the result of panic legislation. Those who signed that letter entirely miss the point of our antirabies legislation. They state that a dog which has been infected with the disease "normally" develops symptoms within three months of having been bitten. In this they are quite correct; but they overlook the point that longer periods are known, and it is against the abnormal cases that we must take preventive measures. The Minister of Agriculture, in a reasoned reply to this letter, showed that not only was the period of six months fixed as the result of experience, but that within the last few years it has actually been necessary to prevent the entry of several cases where the infective period was well over the three months suggested. Mr. Hobday has recorded in the *Times* the case of a dog in quarantine which was about to be released after the usual six months' detention, but was retained at the request of the owner, who happened to be abroad, and died after showing all the symptoms of rabies (confirmed by *post-mortem* examination) a fortnight later. It is imperative that rabies should be kept out of the country, and until biological means are available which can be thoroughly depended upon to do this we must needs rely on adequate and stringently applied quarantine. Recently a single-injection vaccine has been extensively used abroad in countries where the disease has become a menace—in the United States, for example—and in these countries it has proved its value. It has been used entirely as a preventive, and has been almost exclusively employed to protect dogs against future bites. Its value, if any, as a curative vaccine for animals which have been previously bitten by a rabid dog has yet to be proved; indeed, such evidence as is available suggests that it is not effective in this respect, and accordingly it cannot be used to replace an effective quarantine in such countries as Great Britain, which are free from the disease, although it is proving invaluable in those places where the disease is endemic. It is a truism that when rabies is eliminated in the dog it will also be eliminated in man; but until this has been done throughout the world, or until there has been discovered a vaccine which can be relied upon to prevent the disease from developing in animals which have already been bitten, we cannot afford to sacrifice the security of the country to the interests of a very small minority.

R.S.P.C.A.

IN a leading article published last week on the experimental method in the healing art (p. 390), and also in a note on page 394, it was mentioned that the Royal Society for the Prevention of Cruelty to Animals was using its position and influence to obtain signatures to a petition to Parliament to forbid all experiments on dogs. It is now announced that the society has reconsidered its position, and that the council has informed the branches of the society that its support of the bill has been withdrawn. The petition of the National Canine Defence League is, however, being persevered with. We quoted last week (p. 390) the second paragraph of the league's petition, which insinuated that it was on account of the docility of the dog that it had "of late years been specially selected by vivisectors for extensive and peculiarly revolting and painful experimentation, and also for demonstrations of a prolonged and agonizing nature before classes of students." As we said last week, the substance of this statement is false. The Science Committee of the British Medical Association is meeting this week (March 4th), but too late for us to announce any decision it may come to.

SIR ARTHUR KEITH began a course of six Hunterian lectures on the peoples of the East, past and present, at the Royal College of Surgeons of England on Wednesday last. The third lecture, on Monday next, will contain an account of the earliest Sumerians so far discovered; it will be based on a study of human remains found at and near Ur of the Chaldees. The fourth lecture, on March 9th, will deal with the racial characters of Sumerians and Babylonians, and their relation to other peoples. The lecture on March 11th will be on the people of Egypt, past and present; and the last lecture, which will be given on March 14th, will discuss the distribution of racial types in southern and western Asia in past times. The hour of the lecture is 5 o'clock on each day.

New Zealand.

[FROM OUR CORRESPONDENT.]

HOSPITAL FINANCE.

THE hospital boards in New Zealand have a dual function—that is, not only the administration of public hospitals, but also of charitable aid by way of indoor and outdoor relief. For the past year the expenditure for these purposes has been: Hospital maintenance, £925,000; charitable relief, £371,000; administration, £49,000; interest on loans, £52,000; district nursing, £18,000; capital expenditure, £578,000; total, £1,993,000. The total income of the boards for the year was £1,473,000, of which sum £580,000 was a direct grant from the Government, and £526,000 was obtained from rates levied by local bodies. To the Government contribution there must be added a further sum of £107,000 expended on thirteen hospitals administered directly by the Government, but towards the maintenance of which it received £68,000 in payment by patients. The Minister of Health states that New Zealand has more hospital accommodation per head of population than any other country in the world, and that no other country has a lower general death rate, tuberculosis death rate, or infantile mortality rate. The main reason for the great amount of hospital accommodation in this Dominion is the scattered population. There is a tendency for the smaller hospitals to undertake too much because they are in comparatively isolated positions, but with improved means of transport they must become increasingly subordinate to the hospitals in the larger centres of population. The hospital rate in Dunedin is 4½d. in the £ on the property of the ratepayers living in the city and surrounding district, and this rate at the present time is barely sufficient.

WESTERN SAMOA.

Western Samoa is a mandated territory under the control of the New Zealand Government. The report on the public health of the islands for the year ending March, 1926, shows steady progress. The Samoans are not a dying race, and gained in the year, by natural increase, 1,176, the total population being about 38,000. Infantile mortality was unusually high owing to the prevalence of whooping-cough. As 16 per cent. of the native population are under the age of 4 years, child welfare work has been of prime importance. The medical service in Western Samoa has done much towards the eradication of hookworm and yaws. The latter disease is almost eradicated in its infectious stage. The Samoans, recognizing that at least three injections of novarsenobillon are necessary for a reasonable chance of cure, have passed a law in their native parliament to compel persons suffering from yaws to undergo the necessary treatment. The medical officers of the Health Department in Samoa, as the result of their experience, are convinced that one attack of yaws produces an immunity against subsequent attacks of either yaws or syphilis. They are producing a juvenile non-immune population, but they hold that the non-immune population that is gradually growing up will not be liable to spread syphilis through the islands for at least ten to fifteen years. With a highly efficient medical service in this mandated territory there is reason to believe that syphilis can be as easily controlled as yaws.

England and Wales.

DISTRICT NURSING IN LONDON.

SIR WILLIAM COLLINS, presiding over the annual meeting of the Central Council for District Nursing in London on February 24th, said that during the twelve years of its existence the council had distributed £44,797 to its federated associations. In the annual report it was stated that the main work of the council during the year 1926 had been the further consolidation of district nursing in London and extension of the service on the outer borders of the county and in Middlesex. A new association had been established on provident lines at Eltham Hill; two Ranyard nurses had also taken up work there, and additional nurses would shortly be required for the new estate at Roehampton. Good progress had been made by the new association formed at Twickenham at the end of 1925, and there had been considerable increase in the work undertaken by that for Osterley, Hounslow, and Heston. A nursing association at Ealing had been federated with the council, and at Mill Hill an association affiliated to the Queen's Institute had been re-formed. The Willesden association began to operate in September, and in Hornsey efforts were being made to co-ordinate the associations already at work, and to extend district nursing to the whole borough. Although it had not yet been possible to make permanent arrangements for Tottenham, the co-operation of the North London and Hackney District Nursing Associations with the Sisters of St. Vincent de Paul had borne fruit in very valuable work. It is hoped that a district nursing association may be established in Tottenham when the present temporary arrangements come to an end next May. In view of the prolonged period of midwifery training now required, and the increased fees, the midwifery bursaries have each been raised to £30; three were awarded last year. The council reported also that its invested funds were practically exhausted, and that unless fresh sources of income could be found shortly the annual allocation of grants would have to be reduced. A distribution of £1,000 from invested funds was made during 1926. The trustees of the London Parochial Charities entrusted the council with £2,800 for distribution, £300 for administrative work, and £100 for midwifery bursaries, and £766 was received from the Ministry of Health in respect of the midwifery and nursing carried on by certain associations. The representatives of the British Medical Association on the Central Council in 1926 were Dr. T. W. H. Garstang, Dr. William Paterson, and Mr. E. B. Turner.

HEALTH PROPAGANDA BY THE LONDON COUNTY COUNCIL.

At the meeting of the London County Council this week the Public Health Committee submitted a report on the publication of information on health questions. The Council's powers in regard to health propaganda were previously limited to the subject of venereal diseases (work which was undertaken on the Council's behalf by a voluntary association), but under the London County Council (General Powers) Act, 1926, extended powers have been obtained to enable the Council to undertake or assist such work on the preventive side of public health as appeared desirable. The Public Health Committee is of opinion, however, that in view of the activities of voluntary bodies and the interest now taken in the public press in all matters concerning the health of the individual and the community, it is unlikely that there will be any scarcity of useful information available to the public on health questions, and that the Council should confine itself for the present to the circulation from time to time among medical officers of health of the metropolitan boroughs and medical practitioners of such medical information in the possession of the Council as it would be difficult for them to obtain in a comprehensive form without considerable study and research. The matter would be restricted to information which could not readily be obtained from any other source, and discrimination would in each case be exercised in its distribution. It might also be desirable to issue to the press on special occasions statements as to any epidemic diseases. The Council does not propose for the present to make any arrangements for the delivery of lectures or the display of pictures.

COMPLETION OF THE SCHOOL MEDICAL SERVICE.

The Board of Education has issued a circular (1388) with reference to the standardization of expenditure by local authorities, which is now being gradually accomplished. The concluding paragraph deals with the School Medical Service, and is as follows.

6. *Special Services.*—Under this head the Board feel that the first aim of national policy should be the completion of the School Medical Service. It will be understood that the Board do not underrate the value of special schools, but while no rule can be laid down which is universally applicable to all areas and to all types of physical defect, the completion of the School Medical

Service would appear to be of primary importance, and the Board suggest that authorities should concentrate on this definite aim. With regard to provision for mentally defective children, authorities will be aware that this very difficult problem is now being explored by a special committee, and, save in exceptional circumstances, it would not seem prudent to incur heavy expenditure at the present moment on new schools for such children or on enlargements of existing schools. The adoption of such a policy may make it necessary for authorities to reconsider their programmes under this head, and in some cases to substitute proposals in regard to the School Medical Service for proposals involving additional special school accommodation.

DORSET COUNTY HOSPITAL: AN OPHTHALMIC DEPARTMENT.

A new ophthalmic department was presented to the Dorset County Hospital on February 17th by the Society of Dorset Men in London, in memory of its first honorary secretary, the late Mr. William Watkins. The new department includes a dark-room for refraction, with special lighting and equipment for the examination of patients of all ages. Lord Ellenborough, chairman of the hospital committee, explained that the original suggestion for establishing an ophthalmic department came from the late senior honorary surgeon to the hospital, Dr. W. B. Cosens, but was not then carried out, for financial reasons. Sir William Lister, consulting ophthalmic surgeon to the London Hospital, gave an address on the place of the ophthalmological department in a general hospital, emphasizing the importance of team work. In many general diseases diagnosis depended upon an ophthalmological examination by an expert, while in general surgery an ophthalmic surgeon could give much assistance in certain cerebral conditions with regard to diagnosis, prognosis, and treatment.

POST-GRADUATE LECTURES IN THE PROVINCES.

It has been brought to the notice of the Fellowship of Medicine that certain provincial schools and medical societies are desirous of supplementing their ordinary courses of instruction by inviting teachers connected with the Fellowship to give special lectures from time to time at their school or society. We are asked to say that the Fellowship is prepared to accede to any such request, and would be glad to hear from those provincial schools which are desirous of procuring such lecturers in order that definite arrangements may be made. Its address is 1, Wimpole Street, London, W.1.

Scotland.

MEN'S HOSTEL AT EDINBURGH UNIVERSITY.

At a meeting of Edinburgh University Court it was announced that Mr. Thomas Cowan, retired shipowner, Leith, had offered a sum of £15,000 to enable the University to carry out a scheme for providing a residential house for men students. Mr. Cowan previously gave £10,000 to the University in appreciation of the work done by students during the general strike. The Court gratefully accepted the offer and decided to use the amount to provide a residential hall, to be called Cowan Hall, by adapting a row of houses on the south side of George Square, with necessary additions in the gardens behind. The house should accommodate about 125 students. Although small residential halls have already been instituted for certain definite groups of students, this is the first important step towards removing what has often been regarded as a reproach to the Scottish university system—the absence of provision for communal life among students.

VITAL STATISTICS.

The Registrar-General for Scotland has issued a short preliminary statement on the vital statistics of 1926, which will in due course be published in full in his seventy-second annual report. The births during the year numbered 102,450, equivalent to a birth rate of 20.9 per thousand, which is the lowest since 1918. The marriages were 31,241, a rate of 6.4 per thousand, which is the lowest since 1917. The deaths registered during the year were 63,775, corresponding to a death rate of 13 per thousand, the lowest on record with one exception. The proportion of illegitimate births, 6.9 per cent., is less than the mean of the last ten years. Deaths of children under 1 year numbered 8,515, giving an infantile mortality rate of 83 per thousand births, the lowest recorded with one exception. The death rate from pulmonary tuberculosis was 69 per 100,000, from all forms 99. Both these rates are the lowest yet recorded. Deaths from malignant tumours numbered 6,641, 34 below the previous year, but 690 above the mean of the last ten years. Among the larger burghs high birth rates were recorded in Coatbridge, Hamilton, and Greenock, 26.1, 25.8, and 23.9 respectively, and high death rates in Glasgow, Dundee, and Paisley, 15.1, 14.8, and 14.2 respectively. There were high death rates from epidemic diseases in Paisley, Glasgow, and Hamilton, and from pulmonary tuberculosis in Greenock, Falkirk, and Glasgow. In 1926, compared with the previous year, there were, over all, fewer deaths from enteric fever and pneumonia, but more from measles, influenza, encephalitis lethargica, and cerebro-spinal meningitis.

GIFFORD LECTURES IN GLASGOW.

In his last two lectures in the Gifford course in the University of Glasgow Dr. J. S. Haldane discussed psychology as an independent science. It must, he said, be regarded as a branch of knowledge dealing with the full experience of personality and the interest and values expressed in it. Since interest and values concerned questions of time as well as of space, psychology must be regarded as independent of biology. The view to which his course of lectures had led was that knowledge represented in psychological sciences was differentiated clearly from other kinds of scientific knowledge and was the most fundamental variety of scientific knowledge. He could not accept the view that physical science was the most fundamental variety of knowledge. In the concluding lecture Dr. Haldane said that the survey of the sciences had shown the difficulties and contradictions to which mere scientific interpretations of our experience led. These difficulties and contradictions concerned all that was of most moment and value. We might be materialists for whom, theoretically speaking, there was nothing but mechanical chaos in the universe, which involved experience as well as material happenings, so that such things as spiritual values could not exist. At the other extreme we might, he said, be religious mystics to whom the chaos of the visible universe was theoretically of no account. When we examined the body of knowledge presented to us by each science we found that it only corresponded partially or imperfectly with actual experience. Science brought us to a point at which we required more than science, and he hoped to pursue this subject further in his lectures next year.

GLASGOW ROYAL INFIRMARY.

At the annual meeting of contributors to Glasgow Royal Infirmary, the Lord Provost, who was in the chair, said that during the past twelve months a greater amount of work had been done in the infirmary than at any previous period in its existence, both as regarded indoor and outdoor patients. The average daily number of patients in the wards had been well over 700, although the reconstructed infirmary had been planned for a normal number of 664. He also referred to the celebration in April of the centenary of the birth of Lord Lister, who had been closely associated with the infirmary from 1861 to 1869. Authority was given to spend £65,000 on extensions, including the completion of the gatehouse block, which will contain casualty wards, a large hall for visitors, and a lecture theatre, which will be commemorative of Lister and will stand virtually on the site of the ward, recently demolished, in which Lister did his work during his Glasgow period. Mr. James Macfarlane, LL.D., chairman of the managers, said that before beginning to build the auxiliary hospital at Canniesburn, where a site of 31½ acres had been presented to the infirmary, it was decided to have from £50,000 to £60,000 in hand, and of this fully half had been already received by voluntary subscription. The out-patient department and the ophthalmic institution were both at present inadequate to cope with the demands which were made upon them, and plans were under consideration for housing both departments in one building, to be erected on a site recently acquired by the infirmary in Collins Street and Cathedral Street.

MENTAL STRAIN AMONG SCHOOL CHILDREN.

The Scottish Education Department has issued a circular about the leaving certificate examination, in which it is stated that the undoubted prevalence of overpressure among candidates presented for the examination has for some time been giving serious concern to the department. The results of excessive mental fatigue may become immediately evident by conspicuous failure to pass, or, on the other hand, the damage done to health may not reveal itself until permanent impairment of vitality is found in later years. Only a relatively small number of pupils have a real gift for the linguistic and mathematical subjects which form the backbone of school and university study. To reduce the time for physical training in the later stages of study is a mistaken policy, which defeats its own end. In adolescence the demands on the vital resources are peculiarly heavy. Mental strain actually hinders the satisfactory growth of body and mind; it may have a bad influence on conduct, and certainly reduces the effective power of resistance to diseases such as tuberculosis. Everything possible should be done to lighten the burden of those children whose home circumstances are difficult or who have to undertake a long journey to and from school. The department considers that the general situation can be met most satisfactorily by close co-operation between school medical officers and teachers, and the vigilance of the school medical officer should be redoubled during the last two years of the secondary school course. Teachers should always be on the watch for signs of overstrain and should direct the medical officer's special attention to pupils whose work shows unexpected deterioration. The need for such attention is said to be particularly great in the case of girls, who do not so readily as boys strike a happy mean between idleness and overwork. Among the symptoms of overstrain mentioned are a tendency to unusual sleepiness during the day, over-anxiety with regard to lessons, and a distaste for games and physical exercises.

Correspondence.

SUBSCRIPTIONS TO THE ASSOCIATION.

SIR,—The application for payment of the 1927 subscription to the British Medical Association met with a very good response in the first two or three days of this year. More than 10,000 cheques, representing about one-third of the members, were received within the first week, and for this response the Finance Department desires to express its sincere thanks, but there are still many members of the Association who have not yet forwarded their subscriptions for the current year, and the additional cost of preparing and posting reminders to those whose subscriptions are outstanding involves each year a large sum which could be better employed in the Association's interest.

An earnest appeal is therefore made to those who have not already remitted to send their subscription for 1927 immediately, adding thereto such sums for the charities or the other funds mentioned on the application form as their instincts prompt and their means will allow.—I am, etc.,

L. FERRIS-SCOTT,
Financial Secretary and Business Manager.

British Medical Association House,
Tavistock Square, W.C.1, Feb. 25th.

THE MENTAL DEFICIENCY BILL OF 1926.

SIR,—While recording my admiration of Dr. Tredgold's faithful advocacy of this unfortunate bill, may I be permitted to comment on two of its suggestions.

The Definitions.

The weakest clause in the Act of 1913 time has shown to be that containing the definitions; it is easy now for some to maintain that this clause should never have been admitted; yet, if the framers of 1913 altogether could not have foreseen the consequences of their Act, what subtler justification have the advocates of 1926 in desiring to tinker with and not to delete this clause? One is curious, also, to ask why this fervid endeavour to define a pathological condition, admittedly difficult of definition, in a legal document? Is it really necessary for the inexpert layman dealing with these cases to consider, in every instance, whether or not the condition present existed "from birth or from an early age," as required by the Act, or is "innate or induced after birth by disease, injury, or other cause," as proposed by this bill?

Let us consider this principle from another point of view. Does the law require, for example, that a lay magistrate shall be convinced that an alleged case, say, of small-pox, is small-pox before the public health authority may take steps to isolate it? Is even the term "infectious diseases" defined in any of the Acts that deal so successfully with these conditions? Had it been defined, would these Acts have worked as easily and as efficiently as they do? Should we not have seen extraordinary exhibitions of forensic skill, paid for at hundreds of pounds per day, triumphantly demonstrating that that particular case of small-pox was not small-pox, but simply German measles? Errors in diagnosis, of course, occur in the world of the exanthemata, but how many isolation hospitals have been arraigned for the unlawful detention of the innocent?

A time there was when many maintained that to drive unfortunate men and women and little children from their happy homes to the dreary isolation hospitals, there to contract a multitude of evils, to prosecute and fine them if they refused to go, was an unjustifiable interference with the liberty of the subject, when honest men contemplated with genuine horror "this growing power of the doctors." That time, happily, has passed, and to-day the public health authority enjoys the confidence it deserves, because it has expected nothing less and rightly resented even the remotest reflection on its integrity or its intelligence, because in all things pertaining to the public health the law has learned to mind its own business, and does so contentedly and without undue affectation. Has not the time come when psychiatrists should demand a corresponding courtesy?

There is, of course, a distressing difference. Doctors long have been trained in the detection of infectious disease, but the systematic study of amentia is still unknown in our medical schools—and, naturally, the public is suspicious. Yet the remedy, I fear, is not in the making of many definitions.

The addition of the words "or not under proper care or control."

Writing elsewhere,[1] as one of sixteen signatories, Dr. Tredgold points out that

"under Section 2 (*b*) (1) a mental defective can only receive the protection of the Act if he be neglected, abandoned, or without visible means of support or cruelly treated. Experience has revealed the fact that these restrictions tell very hardly on, for example, a mother of a mentally defective boy or girl (under 7, or over 16, and not notified by the education authority), for whom she is anxious to secure the treatment and training that can only be obtained in a properly equipped and staffed institution. Unless she is able to pay the whole cost of maintenance, the case can only be dealt with on the plea of 'neglect.' This is a hard word, and has occasioned much grief and sorrow. In one sense he (or she) is neglected—he is not receiving the care, training, and control for which his condition calls—but his mother is giving him all the attention possible for a working woman to give and naturally resents having to plead 'neglect.' The addition of the words 'not under proper care and control' would meet the case."

But—and this is important—that devoted mother may not obtain the benefit she desires for her child unless and until she consents that he (or she) is first subjected to, what many mothers would consider, the indignity of certification. In other words, and to put it crudely: no certification, no benefit.

But why? Is not the modern trend in dealing with mental conditions to avoid certification, or, in any case, to delay it to a date as far off as possible? Did not the recent Royal Commission recommend that certification should be resorted to only as a last measure, and in the most extreme cases? That was for "lunatics"; but if for lunatics, why not for the feeble-minded? Certification certainly is a protection for the neglected, the abandoned, and the cruelly treated; it is an excellent means of compelling the unwilling; but that the child of the devoted and

[1] *Times*, January 22nd, 1927.

intelligent parent, only too anxious for its welfare, shall be similarly dealt with, that that child shall not be trained unless it is first certified, is this desirable? What is wrong with the principle of the *aided* "voluntary boarder"? If this principle is considered to be of definite value in dealing with the insane, why should it not prove to be of equal, or greater, merit in training the feeble-minded?—I am, etc.,

Epsom, Feb. 23rd. H. FREIZE STEPHENS.

WIRELESS CALLS FOR MEDICAL HELP AT SEA.

SIR,—In the BRITISH MEDICAL JOURNAL of February 12th (p. 307) Dr. F. F. Bond calls attention to the fact that there exists no method of codification of calls for medical help at sea. A practical way out of the difficulty lies in the supplying of every wireless-carrying vessel and lighthouse with printed forms worded as below.

Case Report Form.

1. Report No. (A, B, C, etc.).
2. Patient No. (1, 2, 3, etc.).
3. Date and time of sending (or receiving) message.
4. Rating (or position, occupation, etc.) of patient.
5. Age of patient.
6. Sex.
7. Type.
8. Habits (if normal signal "Nor.").
9. Time of onset of illness, and date.
10. Onset sudden or gradual? (signal "S" or "G").
11. Complaining of—(if pain signal "P," if unconscious state most obvious symptoms).
12. Previous health (if healthy signal "H," if previously ill recently state what illness, if unknown signal "U").
13. If previously in tropics (signal "Y" or "N" for "Yes" or "No").
14. Pulse rate per minute.
15. Respiration rate per minute.
16. Temperature.
17. Shivering?
18. Vomiting (if contents unusual, state).
19. Bowels (if open signal "O"; if not open in past eighteen hours signal "C"; if diarrhoea signal "D").
20. Urine passed (if unusual character, state).
21. Cough (if unusual character, state).
22. Any unusual swelling (if so, position).
23. Any skin erupt on?
24. Exact site of pain (e.g., right lower abdomen, left upper abdomen, back of chest, etc.).
25. Any known cause for condition (if unknown signal "C. U.").
26. Treatment already given.
27. Further information or comment.
28. Sender.
29. Location.

Reply from medical officer.....

Time and date of receiving (or sending) reply.....

Messages relating to sickness or accident on board could then be sent out, and received, with reference to one of these forms—the number of each question on the form preceding, in the message, the answer to that question. Thus a case of acute appendicitis in a seaman might be reported in this way:

"1, A. 2, 1. 3, 11.2 p.m., 4th. 4, AB. 5, 35. 6, M. 7, Robust. 8, Nor. 9, 4 p.m., 4th. 10, S. 11, P. abdomen. 12, H. 13, Y. 14, 100. 15, 20. 16, 100 point 6. 17, N. 18, Y. 19, O. 20, Y. 21, N. 22, N. 23, N. 24, R. L. abd., severe. 25, N. 26, Poultices, Epsom. 27, Appears v. ill, advice re treatment required; if thought necessary, please send surgeon. 28, Captain, SS ——. 29, (Position)."

The printed form would thus act as a key to the message and as a permanent record. A system such as this would, I think, provide a ship surgeon with sufficiently exact and sufficiently full information about any distant case upon which his advice might be sought. The foreign language difficulty could be overcome by the use of esperanto.—I am, etc.,

VERNON NEWTON, M.R.C.S.,
Corps Surgeon (St. John Ambulance Brigade),
Bridgend and District.

February 13th.

THROMBO-ANGIITIS OBLITERANS.

SIR,—We have had at the London Jewish Hospital during the last two years five cases (all Jews) of thrombo-angiitis obliterans and senile gangrene, and in none have we had to resort to high or even low amputation. In all of them we performed Leriche's operation (periarterial sympathectomy), and followed it up with various therapeutic measures, aiming at the encouragement of the capillary circulation, which is supposed to be in a healthy state.

Two of the patients have done very well and returned to active life; one man had to be readmitted for removal of gangrenous toes, and so far he has not responded to any treatment, and it is to be feared more radical measures will have to be taken; the fourth had improved considerably after the operation, but had a recurrence of pain, and committed suicide; the fifth could not be traced.

It appears to me that Sir William Wheeler's condemnation of Leriche's operation (February 5th, p. 226) is rather too harsh. Most surgeons will agree that the operation has the striking and immediate effect of relieving pain, though doubt may be expressed by some as to how far it inhibits the forward march of the gangrene. If Leriche's operation is performed in the early stages, before gangrene is definitely established, the prognosis is much better; it is of doubtful benefit in late cases.

Once amputation is decided on, I think low amputation should be resorted to. A Russian Jew, 55 years of age, had both his legs amputated about twenty-five years ago—one by the late Professor Israel of Berlin above the knee, and the other by Sir Berkeley Moynihan below the knee. The patient never had any more trouble since the operation, and leads a very effective business life. Intermittently he has pain and cyanosis in his fingers, but he manages to keep these attacks down to an inconsiderable minimum by frequently resorting to hot-air baths, radiant heat, etc.

May I add that one can hardly ascribe the cause of the disease to cigarette smoking? While it is true that in the past Jewish women abstained from tobacco, they hardly do so now. The advancement of civilization has penetrated the East End, and Jewish women help now considerably to the paying of the huge dividends by the tobacco companies. Besides, two patients of our series were mild smokers.—I am, etc.,

London, W.1, Feb. 26th. M. SOURASKY.

MIGRAINE.

SIR,—With reference to Dr. C. P. Symonds's remarks on migraine, at the Royal Society of Medicine on February 26th (p. 376), the following case seems to be worthy of record. A married woman, in the middle thirties, suffered from typical attacks of migraine on which various drugs had had little or no effect. A diet, as far as possible purin-free, was arranged for her, and the attacks became less frequent and less severe. She was in the habit of accompanying her husband when, as frequently, he made a journey from Manchester to Bristol, as she had friends in the latter place, and it was noted that she usually had an attack after the return journey. On cross-examination she confessed that she was tempted by and had taken soup when lunching on the train; soup was prohibited, with the result that subsequent journeys were taken without any return of migraine as a consequence.—I am, etc.,

London, Feb. 27th. O. H. WOODCOCK, M.D.

PUERPERAL SEPSIS.

SIR,—I have before me the report for 1925 of the East End Lying-in Home mentioned by Dr. Fairbairn in the BRITISH MEDICAL JOURNAL of January 8th (p. 50). It is amazing reading. Indoor, 1,087 mothers were delivered, with 2 cases of sepsis; outdoor, 1,092, with no sepsis. Since 1884, 18,647 in-patients have been delivered—sepsis, 3 cases; outdoor, 24,683—no sepsis.

Glasgow Maternity Hospital figures for 1925 are: Indoor, 2,897—sepsis 49; outdoor, 3,840—sepsis 43. At this rate, since 1884 there have been 2,009 cases of sepsis in the maternity against 3 in London, and 1,720 in the outdoor, against none in this London home. The East End Lying-in Home, I understand, is run by general practitioners and nurses.

Professor Munro Kerr, I believe, never did general practitioner work, but has adorned the Glasgow Maternity Hospital all his medical life. He uses his great position, not to deplore this sepsis, for which he is jointly responsible, but to condemn that of the general practitioner,

which is no worse than his own. What does he think of the London home?

Might I ask Dr. Fairbairn if he ever worked as a general practitioner? If so, how long? and what was his sepsis rate? It is worse than useless being a critic if one is not also an example.—I am, etc.,

Dennistoun, Feb. 17th. JAMES COOK, M.B., Ch.B.

Obituary.

EDWARD SWAN SIMPSON, *M.C.*, M.D.,

Medical Superintendent, East Riding Mental Hospital.

WE regret to record the death of Dr. E. S. Simpson, medical superintendent of the East Riding Mental Hospital, which occurred at Beverley, after a short illness, on February 2nd.

He was born in Edinburgh in 1882, and was educated at George Watson's School. He received his medical education in the University of Edinburgh; he graduated M.B., Ch.B. in 1905, and proceeded M.D. in 1910. He held also the certificate in tropical medicine of that university. In 1905 he was appointed assistant medical officer to the East Riding Mental Hospital, and in 1919 succeeded Dr. Archdale as superintendent. He served the hospital for twenty-two years—exactly half his life.

He was a member of the British Medical Association, and an active member of the council of the Medico-Psychological Association. He was an able psychologist, a sound general physician, a man of considerable mental culture, and a good administrator; his hospital was very efficiently conducted.

During the war he served overseas with the 1st/3rd Northumbrian Field Ambulance, and was then posted, at his own request, to the 4th Green Howards as regimental medical officer. He was a gallant and efficient officer, and was awarded the Military Cross for his service during the great retreat in the spring of 1918.

His was a very full life. He was at once a scholar and a sportsman; for many years he was secretary to the Beverley and East Riding Golf Club, and was captain in 1926; he was a keen fisherman, a noted raconteur, a hospitable host, and a welcome guest wherever he went. He was an ardent Freemason, and three weeks before his death was installed Worshipful Master of the Constitution Lodge of Beverley. Simpson was beloved by all who came in contact with him; his geniality endeared him to his friends, and his unfailing kindness and consideration for his staff and his patients will not be soon forgotten. His loss is deplored, and great sympathy is felt for his widow at his early death.

A service was held in the hospital chapel on February 5th which was largely attended by his friends and colleagues, and his remains were interred at Edinburgh on February 6th.

After a long and trying illness Dr. JOHN ROBERT MITCHELL died on February 9th at Chester-le-Street, where he was born in 1875. He received his medical education at the University of Durham College of Medicine, Newcastle-on-Tyne, and graduated M.B.Durh. in 1900. After preliminary experience with older practitioners, he settled, in 1902, in the East End of Newcastle-on-Tyne, where he built up a large general practice, and held also the position of Poor Law medical officer and public vaccinator for the parish of Walker. Painstaking and conscientious in the performance of his duties, he was highly respected and loved by all who knew him—by his colleagues for his probity and the soundness of his views, and by his patients, particularly the poorer ones, for his unfailing kindness and the unremitting care which he devoted to all, without distinction. Dr. Mitchell was a man of very strong opinions, which he never hesitated to voice when necessary. In spite of the numerous calls of a large practice in an industrial area he kept himself well abreast of current medical thought and teaching, and for some years was one of the assistant physicians to the Newcastle-on-Tyne Hospital for Diseases of the Skin. During the war Dr. Mitchell joined the staff of the Northumberland War Hospital as an assistant surgeon; early in 1916 he was accepted for general service, with a commission in the R.A.M.C. The unsettled conditions of army life undermined his constitution, and in April, 1918, he was invalided out. He retired to Chester-le-Street, and never recovered sufficiently to resume practice, although he did occasional duty at the Newcastle-on-Tyne Skin Hospital. His patience, cheerfulness, and fortitude throughout his illness were a constant source of admiration to his friends and acquaintances. Dr. Mitchell was a member of the British Medical Association, the Newcastle-on-Tyne Clinical Society, and the Heaton Medical Society. He was buried in Chester-le-Street Cemetery on February 12th, and the funeral was attended by a large number of his friends from Northumberland, Durham, and Yorkshire.

Dr. GEORGE EDWIN PEARCEY, who died at Sunderland on January 6th, was born in 1859. He was the son of James Pearcey of Southwick, and was educated at the University of Durham, graduating M.B., B.S. in 1894. After a term as house-surgeon at the Newcastle Infirmary he went into general practice in Sunderland. He was for many years physician to the Sunderland Provident Dispensary, and also in an honorary capacity to St. Joseph's Home for aged poor. Dr. Pearcey was a keen member of the British Medical Association, and had served on the executive committee of the Sunderland Division. He was also an original and much esteemed member of the Sunderland West End Medical Society. During the war he was commandant of the St. Gabriel's Voluntary Hospital. He was warden of St. Peter's Church, Bishopwearmouth, a representative on the Ruridecanal Conference, and a member of the National Assembly of the Church of England as a representative of the Durham Diocese. Dr. Pearcey's loss will be much felt by his brother practitioners, to whom he was a most loyal colleague. He married Anne, daughter of Joseph Williams, shipbuilder, of Monkwearmouth, and is survived by three daughters.

The Services.

MEDICAL DIRECTOR-GENERAL, R.N.

SURGEON REAR-ADMIRAL ARTHUR GASKELL, C.B., O.B.E., F.R.C.S.Eng., D.P.H., has been appointed to succeed Surgeon Vice-Admiral Sir Joseph Chambers, K.C.B., C.M.G., M.D., F.R.C.P.I., K.H.P., as Director-General of the Medical Department of the Navy, to date July 1st, 1927.

Admiral Gaskell was born in 1871, and after studying medicine at University College Hospital, London, joined the Royal Navy in 1893. He was promoted staff surgeon in 1902, fleet surgeon in 1906, surgeon commander in 1920, and three years later surgeon rear-admiral on being appointed to the charge of R.N. Hospital, Plymouth. He has held many appointments afloat and ashore, and has published various papers connected with the Royal Naval Medical Service. For his services during the war he was created C.B. in 1916, and O.B.E. in 1919.

ROYAL ARMY MEDICAL CORPS.

Temporary Commissions for Home Service.

THE War Office announces that there are a number of vacancies in the Royal Army Medical Corps for temporary officers for service at home stations.

Candidates for these commissions must be registered medical practitioners, under 55 years of age, and they will be required to give an undertaking to serve for at least six months. After that period appointments will be terminable by a month's notice on either side. But if they so desire, accepted candidates who fulfil the necessary conditions as to age, etc., will be considered for *permanent commissions*. Pay *for those who have not previously* served in the Royal Army Medical Corps will be at the rate of £600 per annum; but the initial rate for those who have served for not less than twelve months as officers of the corps will be £650 per annum. In each case there will be an outfit allowance up to £40. Applications should be sent to the Under Secretary of State, the War Office, Whitehall, S.W.1, from whom full particulars may be obtained.

VOLUNTEER DECORATION

THE Volunteer Officers' Decoration has been awarded to Surgeon Commander H. J. W. Brennand, R.N.V.R.

Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

THE House of Commons on Monday discussed the Government's delay in ratifying the Washington Convention on hours of labour. On Tuesday the Poor Law Emergency Provisions (Scotland) Bill was read a third time, and the House discussed the appeal from the "necessitous" areas for aid in relief of rates. The other business of the week was not of direct medical interest. In the House of Lords the Committee stage of the Diseases of Animals Bill was set down for Thursday.

On Monday Dr. Haden Guest, the member for Southwark, North, informed Mr. Ramsay MacDonald that he did not propose to remain a member of the Parliamentary Labour Party. Next day that party called upon Dr. Haden Guest to vacate his seat in Parliament without delay. Dr. Haden Guest has been an active member of the Parliamentary Medical Committee, and was one of its officers while the Labour Government was in power.

The Parliamentary Medical Committee met at the House of Commons on February 23rd, but decided to postpone the election of officers for 1927. Dr. Watts has secured the right to draw attention to vaccination and small-pox when the House goes into Committee on the Civil Service Estimates about the end of May; the Medical Committee is considering whether all members of Parliament should previously be invited to an open meeting to hear a statement of the medical view. The Medical Committee also considered the Dogs Bill, which is down for second reading on April 29th, and it is probable that there will be a deputation of medical members of Parliament to the Government on the subject. The Committee was of opinion that when the Party Whips are nominating members to serve on committees for bills which raise medical questions they should include some medical members, and representations will be made to this effect.

Lunacy Administration.

In the House of Lords, on February 24th, Earl Russell called attention to the report of the Royal Commission on Lunacy and Mental Disorder, and asked whether the Government proposed to introduce legislation. It was, he said, important that the idea of lunatics being violent and dangerous people for whom the primary treatment was detention should be removed from the minds of the public, and that from the minds of the patients should be removed the impression that they were being wrongfully detained and wrongfully treated. In the quarter of a century since he was engaged in inspecting asylums the old apparatus of locks, bars, and prison-like surroundings had very largely gone. He had in mind a private institution where 30 per cent. of the patients were allowed to go freely into the town on parole. He called the attention of the House to the misunderstood class of paranoiacs—persons subject to a fixed delusion, but who otherwise might be reasonable, clean, and intelligent. Women not infrequently had the delusion that some distinguished public man was their lover or husband and was being wrongfully kept from them; when that did not lead to action, it was not for the law to interfere, but when molestation followed the woman had to be restrained. Earl Russell detailed the case of a man who, having the delusion that he had been wrongfully convicted for stealing meat from a stores, broke windows there whenever released from the asylum, though when detained he showed no signs of insanity or delusion. In such a case visitors to the asylum might report that a sane person was detained. The Royal Commission on Lunacy had made special inquiries into all allegations of wrongful detention, but had not traced in the asylums of this country a single case where a man was wrongfully detained. Nor did it come across a case in which it could say that a man had been wrongly certified, though there were cases of a process which ought to be very serious and responsible being a little too much of a routine. A curious thing about certification and the early stages of mental disease was that the most obstreperous and obviously insane of the persons to be certified were generally those soonest cured and discharged. The well behaved lunatic with one obsession was the man for whom hope was generally absent; his fixed delusion was associated with an idea of persecution which grew till he developed homicidal tendencies towards the person he believed to be the persecutor. The Royal Commission was much struck by the enormous number of mental cases which it was possible to discharge, and had considered whether some provisional treatment could not be provided without the stigma of certification, which was apt to cling for life, because the public thought "once a madman, always a madman." If there were to be a provisional stage, should it be on the doctor's certificate alone, or on the doctor's certificate backed by an order of the justices? As the violent cases gave the most hope for cure, restraint would be necessary during this provisional treatment. An allied question was that of classification in the early stages. He believed there was some truth in the allegation that in the receiving ward of a workhouse for the mentally defective every class of mental disorder was herded together. Doctors were not so sure as laymen that such association had the worst possible effect, it being minimized by the fact that many mental cases lived in a world of their own. Still such association was extremely undesirable, as the sights and sounds must distress people suffering from less advanced stages of mental disease. Closer classification would mean more medical officers and attendants, smaller wards, and in many cases new buildings, involving expenditure of public money for which at present it was difficult to ask. But such expenditure would give a return in the smaller number of lunatics to be maintained. In most of the rate-aided asylums an increase was desirable in the number of medical officers and in that of attendants. Wards were too large and individual attention too difficult. Watchfulness, care, and individual observation of those for whom there was any hope of preparing for discharge was the only way of getting maximum discharges from asylums. The chief pride of the superintendent of an asylum was the number of inmates he managed to restore to their friends. The advances made in the last twenty-five years had not been due to the Legislature nor to the county councils, but primarily to the initiative of the medical men themselves. No drug or specific treatment would cure mental disease. The only course was to do what doctors now recognized that they did with physical diseases—put the patient into the best condition to fight the disease himself. He hoped that in any legislation the Ministry of Health would consider whether, in provisional treatment, it was necessary to invoke the justices. This was done because of the old and utterly fallacious idea that the doctor, as an enemy of the human race, was trying to put an innocent man into prison. The justice could only satisfy himself by conversation with the doctor or in a few cases by seeing the patient. Such safeguards were not needed in ninety-nine cases out of a hundred. The expectation Parliament held in 1890 that licensed houses for the reception of lunatics would die out had not been fulfilled. Parliament should decide whether it was fit that licensed houses should exist. If they should, then there should be free trade in them, one effect of which would be a better geographical distribution. If the licensed houses were to be abolished, what accommodation should be provided for persons who could afford to make their choice of institution? Standardized accommodation would be resented by that class. The Board of Control was understaffed. Even if the Government could do nothing else with regard to the report of the Royal Commission, the number of the Board should be increased. Earl Russell, in concluding, suggested that the postponement of the Poor Law Reform Bill gave an opportunity to present a bill this session on the reform of the Lunacy Laws, if only for first reading and public study.

Lord Sandhurst, one of the Lord Chancellor's visitors, said there was no controversy over the necessity of early treatment. The law should be reformed so that voluntary boarders could be received into rate-aided institutions. The Mental After-Care Association did invaluable work, but the care of patients leaving asylums should not be left to, and could not be adequately performed by, any charitable institution. A difficulty in carrying out the present law arose in the natural hesitation of the medical profession in certifying patients. Recent cases had alarmed them, and they felt they were not adequately protected against subsequent litigation. There were clear cases where the interest of the patient and the public made supervision desirable, but where it was difficult to find medical men who would certify. He doubted whether the safeguard proposed by the Royal Commission would suffice to inspire confidence in the medical profession, and suggested that damages recoverable in an action for wrongful certification should be limited to one month, at the end of which a special report had to be made to the Board of Control, limiting the period during which detention could be attributed to the certificate. The whole matter was ripe for legislation, and it would be an advantage if reform of the Poor Law and that of the Lunacy Law were considered together.

Viscount Gage, replying for the Government, said that legislation would give rise to controversy on grounds quite apart from the medical and scientific aspects, and the Harnett case had shown the necessity of avoiding obscurities in the new proposals. The Royal Commission had not made unanimous proposals about licensed houses. The report had only been presented last July, and as close consideration of scientific, legal, financial, and administrative aspects was required, the Government must claim more time for investigation. Until the Government's proposals for the reform of the Poor Law were crystallized discussion of the administrative side of the Lunacy Commission's report would be almost useless. The Government regarded the report as most valuable.

Lord Haldane said it would be much better if the Government proceeded with the drafting of the bill and introduced it into the House of Lords this session for public information. The Earl of Balfour promised that the Minister of Health would consider the speech of Earl Russell, which would be particularly valuable in altering the attitude of the uninstructed public.

BILLS.

Mental Deficiency Bill.

Mr. Chamberlain informed Sir John Marriott that the Government did not propose to reintroduce the Mental Deficiency Bill this session. He understood Mr. Crompton Wood's bill would incorporate some provisions from the Government bill of last session.

The Lead Paint Bill.

In the House of Lords, on February 23rd, Lord Arnold opened a debate on the resignation of Sir Thomas Legge from the position of Senior Medical Inspector of Factories and to the Draft Regulations under the Lead Paint (Protection against Poisoning) Act. He reminded the House that in 1921 the representatives of thirty countries, including Great Britain, agreed to a draft convention whereby the use of lead paint for interior work was to be prohibited after 1927. The Lead Paint Act passed last year merely enacted that the use of lead paint for interior work should be regulated. Sir Thomas Legge, as one of the delegates of the

British Government, voted for the draft convention in 1921, and, looking upon what had been done by the Government as a breach of honour, he had resigned his position. For a civil servant to resign on a point of disagreement with the Government was unusual and serious. The vested interest of the white lead manufacturers had caused the Government to break faith. Sir Montagu Barlow had described the convention of 1921 as a settlement. Lord Arnold said that the harm done by lead paint in interior work mainly arose when old paint was rubbed down and particles of it got into the system through the lungs. Waterproof sandpaper was supposed to meet the danger, but so many things had to be done if waterproof sandpaper was to be a preventive that in practice all these things would scarcely ever be done. The Home Secretary had said in the House of Commons that Sir Thomas Legge did not wish to be concerned in the administration of the Lead Paint Act. That was not so. His main reason was that he could not recede from the position he had taken up in Geneva. Lord Arnold traversed the assertion of the Home Office that the draft regulations had been approved by various bodies, including the Operative Painters' Society. The regulations were nearly all drafted to apply to external painting, and were approved by the various bodies in 1922, when they understood that the Geneva Convention was to be ratified. The Government ought to make plain to the white lead manufacturers that it was to their interest to begin as soon as possible the manufacture of zinc paint and other substitutes for lead paint.

Lord Burnham said that, as chairman of the Drafting Committee, he was in part responsible for the convention. He regretted that the Government had been unable to recommend Parliament to ratify it. The contest at Geneva had not been between humanity and callousness, but between lead-producing and zinc-producing countries. It was quite open for any Government to recommend or not to recommend the adoption of a draft convention. He believed that the Act passed last session would have some effect for good, but that after it had been tried a draft convention would again have to be proposed for the consideration of Parliament. To try to make partisan capital out of the resignation of Sir Thomas Legge was monstrous: nobody who knew his work could feel anything but the highest respect for him.

Lord Haldane condemned the attitude of the Government. Lord Desborough, replying for the Home Office, joined in expressing the appreciation of that department, and of employers and employed, in the inestimable services of Sir Thomas Legge over a long period. His resignation could not have been postponed, but it was none the less to be regretted. There had been conferences with employers and employed about the regulations, and the Home Office was going carefully into the question of protection by, for instance, prohibiting the use of any lead paint in the form of spray. He thought the regulations would shortly be issued. After further discussion, Lord Arnold withdrew his motion for papers on the subject.

Research into Diseases of Animals.

In moving the second reading of the Diseases of Animals Bill in the House of Lords, on February 24th, Lord Bledisloe said one clause in the bill was to permit the use of an immunizing agent on contact animals in the event of an outbreak of rinderpest. This country had not had any such outbreak since 1887, but in South Africa, Japan, and Palestine an immunizing agent had proved effective. The work of the veterinary staff of the Ministry of Agriculture had achieved results of great value against foot-and-mouth disease. In 1923, the peak year, 1,929 outbreaks of that disease in this country involved a public expenditure of £2,205,000. In 1926 the number had shrunk to 204 outbreaks, with an expenditure of £1,389,000. This year there had been 19 outbreaks. The tracing of the Lanarkshire outbreak of last May to pig carcasses from the Continent had established a previously unknown source of infection. Meanwhile, outbreaks on the Continent had increased in number. The Foot-and-Mouth Disease Research Committee, over which Professor Martin now presided, had established that the claim of Drs. Frosch and Dahmen in 1924 to have isolated the micro-organism of the disease was not well founded. So far, the Committee had found it impossible to cultivate the virus and prepare an immunizing serum. They had experimented on the susceptibility of the virus to disinfectants, including vinegar, but by far their most important discovery was the vitality of the germ of the disease. In animal flesh the virus became inert within twenty-four hours; in the blood it remained active for thirty to forty days; and in bone marrow for seventy-six days after slaughter. An Order was about to be issued compelling the boiling of slaughterhouse offal before it was used for the feeding of pigs. The bill was read a second time.

Hours of Labour.

On February 28th the House of Commons discussed in Committee a vote of £11,653,564 for the Ministry of Labour. Mr. Hayday moved a reduction of £100, and called attention to the failure of the Government to ratify the Washington (Hours) Convention. Sir A. Steel-Maitland (Minister of Labour) said that the matter was under the consideration of the cabinet. Dr. Vernon Davies said he was a confirmed and convinced believer in the necessity, in the interests of efficiency, for a forty-eight hours' week. He suggested that the Minister might ratify the Convention provisionally, and that if, after a certain time, other nations did not ratify, Great Britain should repeal it. The Government front bench showed a lack of understanding of industrial psychology, and the very fact of ratifying the agreement would cause such a feeling of thankfulness and relief among the working people that there would be peace in industry. The amendment was rejected.

Vaccination and Small-pox.—In a reply to Mr. Groves, Mr. Chamberlain said severe reactions following vaccination had been reported at Sheffield and other towns. A medical officer of the Ministry of Health recently made inquiries into the results of vaccination at Sheffield on behalf of the Vaccination Committee which was now sitting. In another reply to Mr. Groves, Mr. Chamberlain said 10,158 cases of small-pox were notified in England and Wales during 1926; this total was subject to revision. In the year 19 deaths were registered in respect of which small-pox appeared on the certificates as the cause or one of the causes of death. The words "vaccination" or "vaccinia" appeared upon four medical certificates, but in three was subsequently withdrawn by the certifying practitioner.

Epidemic Diseases in Sheffield.—In figures supplied to Mr. A. V. Alexander the Ministry of Health shows that in Sheffield 58 cases of small-pox were notified during December, 297 during January, and 124 from February 1st to 19th. No deaths were notified. From November 28th to January 19th in Sheffield 398 cases of scarlet fever were registered with 5 deaths, and 296 of diphtheria with 13 deaths. No deaths were registered from measles.

Scarlet Fever.—Mr. Chamberlain told Mr. Bennett that the serum treatment of scarlet fever and the Schick test and von Behring's method of immunization against diphtheria were being used increasingly throughout the country and with encouraging results. He was advised that the serum treatment of scarlet fever was of value particularly in severe cases and in preventing complications. A fair number of local authorities now provided active immunization against diphtheria for those who wished to avail themselves of it.

Medical Examination of Boys in Coal Mines.—Dr. Vernon Davies asked whether boys were allowed to work underground in coal mines without previous medical examination, and whether the Ministry of Labour would take steps to see that they underwent a medical examination similar to that which children underwent under the Factory Acts. Mr. A. M. Samuel, replying for the Minister, undertook that the suggestion would be put before the right department.

Nurses' Salaries.—The Minister of Health, answering Mr. G. Hurst, said that the salaries paid to nurses in some of the public health services were not commensurate with the duties performed. In cases which came under his jurisdiction representations were made to the local authorities concerned. An association of nurses was consulted before the issue of the regulations of February, 1925, on the position of health visitors employed by local authorities. It was not at present proposed to revise these regulations.

Pension Procedure.—Major Tryon told Dr. Drummond Shiels that the duty of the Deputy Commissioner of Medical Services was to prescribe whatever treatment he considered necessary. When attention from a general medical practitioner was all that was required, the pensioner was advised to consult his panel doctor. Major Tryon did not feel justified in requiring, as Dr. Shiels suggested, the hospital treatment of all cases of deterioration. A certificate from the pensioner's own doctor was taken in support of a need claim, but if this was insufficient to enable the Ministry of Pensions to decide the claim, an examination was made by a medical officer of the Ministry.

Indian Medical Service.—On February 28th Earl Winterton (Under Secretary for India), replying to Mr. Pethick-Lawrence, who asked if a decision had been reached about granting passage concessions to Indian officers who entered the Indian Medical Service by competitive examination in London, said the Secretary for India expected that details of the scheme recently sanctioned would be announced shortly.

Notes in Brief.

From the armistice till March, 1927, £647,000,000 has been spent by Great Britain on war pensions, including medical treatment but excluding administration.

The Minister of Health is considering representations regarding the admission of road casualties into Poor Law institutions.

The Home Secretary does not contemplate amending legislation relating to compensation for silicosis.

On the ground that traffic considerations must come first, the Home Secretary maintains the prohibition against the processions organized by the West London Amalgamated Hospital Society.

The cost of medical inspection and treatment of children attending public elementary schools under the London County Council in 1926-27 is estimated at £201,555.

Fourteen schools in the Wigan area have been placed on the "black list," and the Minister of Education has received proposals for improving eleven of them. A report by Dr. Henry Whitehead has condemned the heating, ventilation, and sanitation of the majority of Wigan schools.

The Scottish Board of Health is communicating with the Parish Council of Uig about a rearrangement of medical practices in the parish.

A bill to prohibit the building over of London squares has been introduced by Mr. Scurr and read a first time.

Mr. Chamberlain is not aware that insurance practitioners generally charge fees to patients for dental services, though isolated cases may occur. Complaints should be referred to the local Insurance Committee.

On January 1st 116,748 persons certified under the Lunacy Acts were resident in England and Wales, and also 22,739 mental defectives in homes or under guardianship.

Universities and Colleges.

UNIVERSITY OF OXFORD.

AT a congregation held on February 19th the following medical degrees were conferred:

D.M.—V. S. Hodson.
B.M.—D. A. Robertson, C. S. Broadbent, M. D. Bower.

UNIVERSITY OF LONDON.

THE SENATE.

The Coming Election.

SIR WILLIAM COLLINS has informed the London County Council that he does not wish to be reappointed its representative on the Senate when his term of office expires next May. Sir William Collins has explained his reason in the following statement to the Education Department of the L.C.C.:

"The University of London Act, 1926, which, by appointing commissioners to effect, during the current year, the reconstitution of the University in general accordance with the report of the recent Departmental Committee, has, as you are aware, altered the relation of the L.C.C. to the University. The L.C.C. is no longer to be represented on the Senate, but on a Finance Council, and the Senate is no longer to be, as it has always hitherto been, the supreme governing and executive authority of the University, and is to be otherwise modified in its constitution and powers. This being the case, the L.C.C. may well desire to consider the advisability of finding a new representative for this entirely new position. As you may have gathered from the very pleasant interview which I had with your Higher Education Committee last summer, I view with mistrust and misgiving some of the changes which are about to be imposed upon the University. I do not desire to seek nomination to the new position."

Sir William Collins has represented the London County Council on the Senate for twenty-seven years, and for seven years before that was a representative elected by Convocation. It is reported that Lord Justice Atkin and Sir Robert McCall, K.C., will also cease to be members of the Senate.

At the forthcoming election of a medical member of Convocation to a seat on the Senate, Mr. W. McAdam Eccles, M.S., M.B.Lond., F.R.C.S.Eng., has consented to stand. He has, we are informed, strong support, and his long experience as a member of the Council of the Royal College of Surgeons of England, and as a member of the Council of the British Medical Association, should make him a suitable candidate. The vacancy is created by the expiration of the term of office of Dr. R. A. Young, who does not intend to offer himself for re-election. Members of Convocation must vote before or on Tuesday, May 10th.

Matriculation.

At the January matriculation examination 147 candidates passed in the first division and 779 in the second division; 63 took the supplementary certificate for Latin.

Appointments.

Professor G. Elliot Smith has been appointed the representative in respect of University College at the celebration in London of the centenary of the birth of Lord Lister on April 5th. Sir William J. R. Simpson will represent the University at the thirty-eighth congress of the Royal Sanitary Institute at Hastings in July, and Sir Holburt Waring has been appointed one of the representatives at the second International Congress of Byzantine Studies, to take place in Belgrade in April.

Sir StClair Thomson has been appointed a Fellow of King's College.

Two lectures on the history of medicine, illustrated by lantern slides, will be given at University College Hospital Medical School by Dr. Charles Singer, on March 11th and 18th, at 4.15 p.m.; they will deal respectively with the hygienic idea in world history and the history of yellow fever.

The Cancer Hospital (Free), Fulham Road, has been admitted as a school of the University under Statute 74 for three years from March 1st, 1927.

UNIVERSITY OF ABERDEEN.

AT a meeting of the Senatus on February 22nd it was agreed to confer honorary degree of LL.D. upon the following members of the medical profession on March 23rd: Professor Matthew Hay, M.D., Sir Frederick Gowland Hopkins, D.Sc., F.R.S., F.R.C.P., Sir William Milligan, M.D., and Mr. Charles Howard Usher, F.R.C.S.

UNIVERSITY OF MANCHESTER.

THE resignation of Professor W. W. C. Topley from the chair of bacteriology and the directorship of the Public Health Laboratory has been accepted by the Council as from September next, when Professor Topley will take up his duties as professor of bacteriology and immunology in the new London School of Hygiene and Tropical Medicine.

The Council has expressed its congratulations to Professor J. S. B. Stopford, professor of anatomy and dean of the Medical School, Professor T. Graham Brown, formerly lecturer in experimental physiology in the University, and to Dr. J. W. Mellor, a graduate of the University, on their nomination for election as Fellows of the Royal Society.

SOCIETY OF APOTHECARIES OF LONDON.

THE following candidates have passed in the subjects indicated:

SURGERY.—L. G. Briggs, J. D. Evans, L. J. Lawrie, A. W. Marsden, J. H. Mulvany, W. D. Neill, L. W. Rose, R. S. S. Smith S. le R. Switzer, H. N Walker.

MEDICINE.—L. Ashkenza, B. Best, I. G. Briggs, J. de Rosa, J. A. Fernandez, S. Jenkinson, R. Kahn, J. H. Mulvany, H. Rundstrom, H. N. Walker.

FORENSIC MEDICINE.—P. V. Bamford, I. G. Briggs, J. de Rosa, R. Kahn, J. H. Mulvany, S. Wray.

MIDWIFERY.—I. G. Briggs, J. D. Evans, K. E. Gallacher, R. Kahn, J. H. Mulvany, S. Siotar, H N. Walker, R. W. Wood, S. Wray.

The diploma of the Society has been granted to Messrs. B. Best, I. G. Briggs, J. H. Mulvany, L. W. Rose, H. Rundstrom, R. S. S. Smith, S. Wray.

Medico-Legal.

AN OSTEOPATH'S CLAIM FOR FEES.

UNDER the Medical Act, 1858, Section 32, "no person shall be entitled to recover any charge in any court of law for any medical or surgical advice, attendance, or for the performance of any operation, or for any medicine which he shall have both prescribed and supplied, unless he shall prove upon the trial that he is registered under this Act." Notwithstanding the clear terms of this section, an osteopath sought last week to recover £30 9s. from a boxing referee and timber merchant, for professional services as osteopath to the defendant's wife. The case was heard in the Bloomsbury County Court by Deputy Judge Stoker, and was reported in the *Times* of February 25th.

According to the plaintiff, the defendant's wife came to him on March 10th last, stating that she desired osteopathic treatment. He observed that she was suffering from nervous debility and facial neuralgia, and found that one of her legs was longer than the other and contributed to the debility. His fees were 3 guineas for each consultation and 2 guineas for each subsequent visit. He obtained his osteopathic degree in America; he made no claim to be legally recognized in this country.

For the defendant it was argued that there had been improper treatment, and that the plaintiff was not qualified.

The Deputy Judge expressed the view that the plaintiff was prevented by the Medical Act of 1858 from recovering payment for medical or surgical treatment. Upon the plaintiff interposing that he did not claim to be giving medical or surgical treatment, the Judge rejoined: "The question is whether you do so. You are not registered under the Medical Act, which states that you must have a special qualification in order to entitle you to recover fees." He thought the plaintiff's case failed, and that he was precluded under the Act from recovering his fees in a court of law.

Judgement was accordingly entered for the defendant, with costs, with leave to appeal if desired.

Medical News.

IT is announced that the Canton Government has now taken over the John Kerr Hospital for the Insane from the charge of Dr. Selden, who has been working in Canton for thirty years. We referred last week (p. 392) to the recent difficulties experienced by this institution in carrying on its very important work.

PROFESSOR VITTORIO PUTTI, director of the Rizzoli Orthopaedic Institute, Bologna, will deliver the Lady Jones lecture in the medical school of the University of Liverpool on Thursday, March 10th, at 4 p.m. The subject of the lecture is "New conceptions in the pathogenesis and treatment of sciatica."

THE second of two Chadwick public lectures on rheumatism, its causes and prevention, will be given by Dr. Carey F. Coombs, physician to the General Hospital, in the Barnes Hall, Royal Society of Medicine, 1, Wimpole Street, W., on Thursday, March 10th, at 5.15 p.m., with Sir James Crichton-Browne, M.D., F.R.S., in the chair.

THE annual meeting and conference of the British Hospitals Association will be held at Norwich on Thursday and Friday, June 23rd and 24th. The honorary secretary of the association is Mr. J. Courtney Buchanan, C.B.E., Stapley House, 33, Bloomsbury Square, W.C.1.

THE microscopy of the living eye will be the subject of a paper to be read to the Optical Society on Thursday next by Mr. Basil Graves, M.A., M.R.C.S. The meeting will be held at the Imperial College of Science, South Kensington, at 7.30 p.m. Messrs. Clement Clarke will show an ophthalmoscope attachment to the Fincham slit lamp and the Cambridge Scientific Instrument Company its photographic ophthalmoscope.

DR. KENNETH BRUCE ALLAN, senior medical officer, West Africa Medical Staff, Gambia, has been appointed a member of the Executive Council of the Gambia and an official member of the Legislative Council of that colony.

MR. JOCELYN SWAN will lecture for the Fellowship of Medicine on the suppression and retention of urine at the Medical Society, 11, Chandos Street, W., on March 10th, at 5 p.m. On March 8th Mr. Gabriel will give a demonstration in clinical surgery at St. Mark's Hospital, City Road, at 4.30 p.m. The lecture and demonstration are free to members of the medical profession. The Hospital for Consumption and Diseases of the Chest, Brompton, will hold an all-day course of demonstrations for one week, starting on March 7th. A special course in orthopaedics will be given at the Royal National Orthopaedic Hospital from March 21st to April 2nd, with a visit to the Brockley Hill Country Hospital. From March 14th to 26th the Chelsea Hospital for Women will hold a course in gynaecology. A course in general medicine and surgery, primarily intended for general practitioners, will be held at the London Temperance Hospital from March 21st to April 2nd in the late afternoons. At the Queen's Hospital for Children, Bethnal Green, there will be an all-day course in diseases of children from March 28th to April 9th. In the afternoons only, for two weeks, from March 28th the Royal Eye Hospital will give a series of demonstrations on the diagnosis and treatment of eye diseases. Copies of all syllabuses and of the *Post-Graduate Medical Journal* may be obtained from the Secretary of the Fellowship, 1, Wimpole Street, W.1.

A VACATION course in pediatrics will be held at the Hôpital des Enfants-Malades in Paris from April 20th to 30th, the fee being 200 francs. Recent researches and methods will be dealt with, including those relating to cerebro-spinal meningitis, scarlet fever, infantile asthma, the prevention of infantile tuberculosis, congenital syphilis, and the thyroid syndromes. Further details may be obtained from the Secretary of the Faculty of Medicine, 149, Rue de Sèvres, Paris (XVe).

UNDER the auspices of the Society of Hydrology and Climatology of Nancy and the Vittel Society of Medicine a congress on the gouty diathesis will be held at Vittel on June 5th and 6th, over which Professor P. Carnot of Paris will preside. Further information may be obtained from M. Renard, Société générale des Eaux, Vittel, Vosges.

AT a council meeting of the Society of Members of the Royal College of Surgeons of England a resolution was passed unanimously deploring the great loss sustained by the death of Mr. C. Edward Wallis, M.R.C.S., L.D.S., and placing on record its appreciation of his untiring zeal and self-sacrificing service on behalf of the society and all the Members of the College.

THE Council of Epsom College is about to award a St. Anne's Home Scholarship of £52 a year to the orphan daughter of a medical man who had been in independent practice in England or Wales for not less than five years. Candidates must be fully 7 years of age and not over 12 years on May 1st next. The Council is also about to award a Henry Duncalfe Annuity of £30 a year to the unmarried daughter of a medical man. Candidates must not be under 50 years of age. Forms of application can be obtained from the Secretary, at the Office of the College, 49, Bedford Square, W.C.1, and must be returned not later than the morning of March 16th.

DR. R. A. MILLIGAN, who recently retired from the position of surgeon to the Northampton General Hospital after more than forty years' service, has been presented with a cheque for £453 and an album containing the names of the subscribers to the testimonial fund.

A BAS-RELIEF bronze bust has been placed in the main hall of Leeds General Infirmary as a memorial to the late Mr. Walter Thompson, for many years honorary surgeon to the institution.

THE Ministry of Health has published a report (No. 39) on the determination of benzoic acid in foodstuffs, which has been prepared by Dr. G. W. Monier-Williams. In addition to a review of the literature on the subject and discussion of the difficulties associated with the methods of analysis, various laboratory investigations are considered. The report, which is intended especially for public analysts and chemical advisers to industrial concerns, may be obtained from H.M. Stationery Office, or through any bookseller, price 1s. net.

THE Rockefeller Foundation has made a further grant of 75,000 dollars to the German Research Institute for Psychiatry at Munich, to which it contributed 250,000 dollars last year.

THE issue of *Hospitalstidende* for January 20th contains a memoir, by Dr. Carl Sonne, of the late Danish surgeon Professor Thorkild Rovsing, with a bibliography of his scientific writings.

THE Bureau of the Far East at Singapore reports that during the week ending January 22nd there were 33 cases of plague with 16 deaths, 66 cases of cholera with 65 deaths, and 306 cases of small-pox with 91 deaths.

FOR the purpose of binding in two parts the *Proceedings of the Royal Society of Medicine* for 1925–26 (vol. xix) there is now available a main title-page for each of the two sub-volumes; a special title-page and list of contents for the reports of general and joint discussions; a title-page and contents for the reports of each of the Sections, in case it is desired to bind these separately; and a general index. Binding cases may be obtained, post free, from Messrs. John Bale, Sons and Danielsson, Ltd., for the whole year's *Proceedings* in two parts 6s., and for separate Sections 3s., each. These publishers are also prepared to bind any single Section for 4s. 6d., or the whole *Proceedings* in two parts for 10s. 6d.

ON page 445 of this issue appears an announcement by the War Office regarding temporary commissions in the R.A.M.C. for home service. As we go to press we are informed by the Army Medical Department that the response to this notification has been so satisfactory that enough applications have already been received to fill all existing vacancies.

Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to ***The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.***

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the BRITISH MEDICAL JOURNAL alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the BRITISH MEDICAL JOURNAL must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the JOURNAL, should be addressed to the Financial Secretary and Business Manager.

The ***TELEPHONE NUMBERS*** of the British Medical Association and the BRITISH MEDICAL JOURNAL are *MUSEUM 9861, 9862, 9863,* and *9864* (internal exchange, four lines).

The ***TELEGRAPHIC ADDRESSES*** are:

EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology Westcent, London.*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westcent, London.*

MEDICAL SECRETARY, *Mediseera Westcent, London.*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 4737 Dublin), and of the Scottish Office, 6, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 4361 Central).

QUERIES AND ANSWERS.

MR. W. F. HAMILTON (St. Leonards-on-Sea) asks whether unsatisfactory results have been found to follow the use, in the preparation of the skin for surgical operations, of a solution containing 1 per cent. each of crystal violet and brilliant green in a mixture of rectified spirit and water. He states that he has known blistering to occur and also some delay in skin union, even in aseptic wounds.

CHRONIC URTICARIA.

"PRURITUS" would be glad of suggestions in the treatment of a case of chronic urticaria in a woman aged 50. The condition has lasted several months, in spite of careful dieting, administration of intestinal antiseptics, and calcium chloride and lactate; externally, soothing lotions and exposures to *x* rays and artificial sunlight—all with no beneficial effect. The patient looks healthy, though suffering from disturbed sleep, and the urine is free from sugar and albumin.

INFECTION IN BAKERIES.

A MEDICAL CORRESPONDENT (Scotland) relates that he has been concerned in the following case: A working baker employs several workpeople; two of them were removed to hospital suffering from diphtheria, and within a week a third developed a sore throat. Our correspondent asks what section of the Public Health Act covers the matter.

*** The baker would not, as such, under the Public Health (Scotland) Act, 1897, be required to intimate the occurrence of sore throat in his third employee to the medical officer of health. If, however, the working baker happened to stand to his third employee in one of the relations specified in Section 3 (1) (*a*) of the Infectious Disease (Notification) Act, 1889, and if at the same time he was aware that his third employee was, in fact, suffering from diphtheria, he would, in these circumstances, but not otherwise, be required to send a notice to the medical officer of health. Action might possibly be contemplated against the employer under Section 16 (6) of the Public Health (Scotland) Act, 1897, which says that any trade or business so conducted as

to be injurious or dangerous to health shall be deemed to be a nuisance; or against the employee under Section 58 of the same Act and the amending Act of 1907 for engaging in an occupation connected with food, provided he knew that he was, in fact, suffering from diphtheria and did not take proper precautions. But a local authority proposing to go to court under any of the sections cited would probably be expected to prove, not merely negligence on the part of those concerned, but deliberate suppression of the facts, and also to show that its own officers, by visit, inquiry, and otherwise, had exercised due diligence to keep in touch with the progress of events at the bakery.

THE ACTION OF UROTROPINE.

DR. ROBERT ANDERSON (Erdington, Birmingham) writes: I would ask two questions with regard to the action of urotropine. (1) How can it act as an antiseptic in one part of the body only in an acid medium and in another in an alkaline one? (2) If its action in the first instance depends on its decomposition by an acid, how does it escape decomposition by the hydrochloric acid of the stomach? In the BRITISH MEDICAL JOURNAL, October 16th, 1926, Dr. Hurst states that urotropine has been proved to act as an antiseptic in alkaline bile. It is not generally known that urotropine is a cause of dermatitis in rubber workers. Such cases nearly always occur during hot weather, when the workers perspire freely. The acids of the perspiration are supposed to decompose the urotropine.

*** The action of urotropine is rather a puzzle at present. It is a definitely ascertained chemical fact that urotropine only undergoes decomposition into formaldehyde in an acid medium; for example, only 1 per cent. is split up into formaldehyde in an hour in a feebly acid solution (pH^6). At an acidity corresponding to that of the stomach contents (pH^2) about 30 per cent. of urotropine is split up in an hour. It is generally agreed that urotropine has no disinfectant action until it liberates formaldehyde. The action of urotropine in producing disinfection in an acid medium—for example, acid urine—is well established and understandable from the above facts. It is known, however, that the amount of action produced varies considerably in different persons, and this is believed to be due to the varying quantity of the dose administered which is split in the stomach contents. Any portion of the drug which was split up in the stomach contents would be rapidly neutralized by reaction with the neighbouring tissues. Pharmacologists have generally declined to believe that urotropine acts as a disinfectant in neutral or alkaline media, such as the bile or cerebro-spinal fluid. In recent years, however, evidence has accumulated that urotropine can act as a disinfectant in the bile. The evidence for this is strong, although perhaps not quite conclusive. The only explanation of this phenomenon that we have come across is that the bacteria living in alkaline media may produce small amounts of acid and so the immediate surroundings of each bacterium may be faintly acid. According to this theory urotropine would be split up when it met the bacteria, and the liberated formaldehyde would kill the bacteria. It is very difficult to prove or disprove this hypothesis, but it seems to be the only one at present that at all meets the facts.

EPIPHORA.

DR. A. C. [illegible] verness-shire) writes: In answer to Dr. A [illegible] bruary 26th, p. 410) I understand that Pa [illegible] ly have one solution—that is, 1 in 1,00 [illegible] iven for 1 in 10,000 are 1 fluid drachm [illegible] chloride and 9 fluid drachms of physiological salt solution, so that the one drop in 16.6 oz. of water is not necessary for the correct dilution.

LETTERS, NOTES, ETC.

TREATMENT OF TETANUS BY INTRATHECAL INJECTION.

DR. M. ALLAN (Patricroft) writes: I read with much interest Dr. Bertram Muir's communication (JOURNAL, January 29th, p. 186) on the treatment of tetanus by intrathecal injection of antitoxin. As clinically and experimentally (as shown by Bruce) it can be demonstrated that intrathecal injections are of undoubted benefit, we need pay little attention to the failure of the laboratory to explain the fact. I have seen two cases of tetanus: one was in a carpenter who had received a lacerated wound by a flying splinter of wood to his right thenar eminence. He was treated by intramuscular injections, but death resulted three and a half days after admission to hospital. The other case was in a hide worker, the origin of the injection being in a septic wound of the left thumb. Profiting by my former experience, I gave on the first day 20,000 units intrathecally, together with a similar dose into the body of the vastus externus muscle. On the following day, under general anaesthesia, a similar dose was given, and thereafter the blood stream kept saturated with antitoxin by means of intramuscular injections. Recovery was rapid and uneventful. I do not agree with Dr. Muir that there was anything to be gained in his case by intrathecal injection at the anatomical site of the anterior horn cells of the spinal cord. Even when an early diagnosis is made the toxin has spread far and wide, and after the intrathecal injection I prefer to elevate the foot of the patient's bed and remove the pillow for two hours in order to flood the higher and more important centres with antitoxin.

THE DANGEROUS JUNKER.

DR. H. G. DODD (Hove), referring to Mr. W. J. Foster's condemnation of the use of valveless Junker's inhalers (JOURNAL, February 5th, p. 261), mentions a description by himself in the *British Journal of Anaesthesia* for October, 1926, of a modification of Junker's inhaler, in which the inlet tube is straight and extends nearly to the bottom of Buxton's bottle, its lower extremity being tipped with bone, as in the older models. A ball valve is fixed to the afferent tube outside the bottle, close to the attachment of the rubber tubing from the hand bellows, as suggested by Rigby. It is claimed that this modification, while being free from danger, is without certain disadvantages found in the Rigby type of inhaler.

FOG FLARES FOR MOTORISTS.

AS the result of experiments in the use of flares at road junctions during dense fogs, the Automobile Association has recently established a service of fog flares at some fifty roadside points. When a dangerous fog occurs, obscuring these road junctions, the patrols light the flares and keep them alight during the day, and, if necessary, after dark until ordinary traffic ceases. It is stated that this new service was much appreciated during the recent fogs.

THE IDEAL HOME EXHIBITION.

THE popular annual event, the *Daily Mail* Ideal Home Exhibition, was opened on Tuesday by the Hon. Mrs. Esmond Harmsworth. Within the walls of Olympia many new ideas for making the life of the housewife easy and healthy have been collected. It is possible that labour-saving devices bring with them their own troubles; on the path of progress the human mind does not always keep step with human invention, and the female domestic is quite capable of upsetting the calculations of the most ingenious inventor. Nevertheless, the completeness of equipment of the houses in the "Village of New Ideas" in the New Hall Extension, with its range of buildings from a Tudor manor house to a £850 cottage, will impress the visitor. An exhibition of healthy homes does not, of course, contain many objects that are purely medical. The Scholl Manufacturing Company exhibits some of its appliances for foot ailments, while the Dowsing Radiant Heat Company shows many methods of application of light and heat, including equipment for the dubious purpose of home use. The use of ultra-violet rays is illustrated by a working model of the new monkey house shown by the Zoological Society. The air is not directly heated, the monkeys being kept warm by sitting on floors heated by electric heaters. The roof of the house is entirely glazed with "Vitaglass," while in dull weather the supply of ultra-violet rays is [illegible] descent electric lamps made of "[illegible]" products exhibited are numerous, and cookery is included. Concentrated foods, such as Horlick's Malted Milk, Wander's Ovaltine, and Glax-Ovo are available for the [illegible] drinker can investigate the advantage [illegible] Softeners Company's "Permutit"; soils [illegible] can be wrung and mangled in the home by Messrs. Gamage's "Referee" wringer; water-closets can be cleaned and deodorized by the Lewbart Automatic Cleanser; and the housewife need only polish her stove once a year, according to the Mond Staffordshire Refining Company, if she uses "Melanoid."

COAT LININGS.

THE lining of coats, particularly of overcoats which may have to be taken on and off frequently during a round of visits, is a matter of some consequence to medical men. An advertisement of Courtaulds' linings appears this week. The artificial silk of which these materials are made has, as is well known, most of the qualities of silk, and has in particular the slippery surface desired in linings. Further particulars can be obtained from Messrs. Courtaulds Limited, Department 139M, 16, St. Martin's-le-Grand, London, E.C.1.

SIR JAMES MACKENZIE'S LATER VIEWS ON THE NATURE OF CARDIAC ACTION: CORRECTION.

WE regret that, owing to a printer's error, the word "node" was substituted for "muscle" in line 29 of the report of the meeting of the James Mackenzie Institute on February 1st (BRITISH MEDICAL JOURNAL, February 19th, p. 333, col. 2). The sentence, which begins in line 25, should read as follows: "As regards the spread of the excitation wave through the auricle, the balance of evidence, having regard to direction and spread and rate of transmission, was greatly in favour of a spread through the auricular muscle." This was one of the main points of Dr. Orr's address.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 42, 43, 44, 45, 48, and 49 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 46 and 47.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 83.

Milroy Lectures

ON

HEALTH HAZARDS IN THE COTTON INDUSTRY.*

BY

WILLIAM FRANCIS DEARDEN, M.R.C.S., L.R.C.P., D.P.H.,

MEDICAL OFFICER OF HEALTH, PORT OF MANCHESTER; CERTIFYING SURGEON.

(Abridged.)

[In some preliminary observations Dr. Dearden quoted figures from the Registrar-General's occupational mortality tables, also mortality figures relating to Blackburn weavers, compiled by Dr. A. Greenwood and published in 1907, and Dr. W. A. Daley, published in 1923, to show the diminution in mortality among cotton operatives over certain periods, the relatively higher incidence of certain diseases (bronchitis and diseases of the circulatory system) among them, and the improvement in the health of the weavers, particularly during the last thirty years. He further quoted some morbidity figures which he had himself compiled from the records of the Card and Blowing-room Operatives' Society, based on more than 10,000 cases of sickness causing absence from work during 1922-24; these showed an excessive sickness incidence from bronchitis, pneumonia and pleurisy, rheumatism, influenza and colds, tonsillitis, and digestive troubles. His conclusion was that the health of all classes of cotton operatives was steadily improving, but that the various branches of the industry still exhibited a definite partiality for particular diseases and ailments.]

Atmospheric Conditions in Cotton Factories.

Having arrived at certain conclusions regarding the diseases and ailments to which operatives in the cotton industry are particularly liable, we have to consider the various factors which can be shown to account for the excessive and selective susceptibility. The successive processes to which cotton is submitted in the course of conversion from vegetable down to plain cotton cloth demand certain definite atmospheric conditions. As the processes are operated under control by, and with certain assistance from, the human element, man and machine working together in the same confined space, it would appear essential that these atmospheric conditions should be so arranged as to be equally satisfactory to both the factors concerned. Considerable headway has been made in this direction since the close of the last century, but there are still difficulties to overcome before the ideal relationship is reached. I am satisfied, however, that the proposition is practicable, and I hope in what I have to say fully to support this optimistic statement.

In dealing with the influence exercised by temperature and humidity in cotton manufacturing processes, I propose to treat the subject, in the first place, from the cotton point of view, and afterwards from the human aspect. I will then endeavour to show where the two interests conflict, and what can be done to bring them into line.

The Requirements of the Process.

Geographically our cotton towns and their surroundings occupy a dished-out area in the south-east of Lancashire, sheltered by the Pennine chain to the east and north, and by the Derbyshire hills to the south; only the west is open, and in that direction the land extends as a level plain to the sandy shores of the Irish Sea. There is thus ample protection from cold dry winds, and an open door to the temperate, moisture-laden breezes from over the water. The climate of this particular district is temperate, equable, and moist. The high percentage of moisture is due to the cooling influence of the hills on the warmer air of the plain, the relative humidity automatically increasing in proportion to temperature lost. The temperature of Blackburn is ordinarily about 2 degrees less than that of Liverpool, but the humidity averages rather more than 8 per cent. higher. The same conditions which produce a higher humidity percentage bring about an increase of the rainfall, but there is no closer relationship between the two.

Both spinning and weaving processes flourish best where there is little variation in atmospheric conditions, but weaving requires a higher relative humidity.

(a) *Spinning and Associated Processes.*

Under modern conditions the process of spinning requires a high temperature, which must be maintained as nearly as possible at one level throughout the year. This is due to the fact that by means of heat the individual fibres are rendered more pliable, and thus easier to spin, owing to the softening of their waxy content. The wax melts at about 80° F. Actually the temperature of a spinning room should be ruled by the class of "counts" going through at the time, but the effective temperatures range from 70-80° to 85-90° from the coarse to the fine counts. A certain amount of humidity is also required, and must be kept at an even percentage. Dry air makes the fibres brittle, interferes with their twisting properties, and produces a less uniform and weaker yarn. There is a limit, however, to effective moisture. In fine-spinning rooms it is found that a higher relative humidity than 50 per cent. interferes with the drawing out of the roving, though for coarse "counts," spun from cotton of lower quality and shorter staple, a humidity of 60 to 65 per cent. may be regarded as the limit.

In the preliminary processes of opening, scutching, and carding the natural atmosphere as modified by frictional heat is usually sufficient in Lancashire, except during cold weather, when the rooms are heated before beginning work. Card-rooms, where the process of carding, drawing, combing, and roving take place, have an ordinary working temperature of 70° to 75°, though some mills start work at much less than this without detriment, and even in July the temperature rarely exceeds 80°. The doubling of yarn is carried on under similar conditions of high temperature to those which obtain in spinning, and the heat may be very trying in the summer-time. As the practice has now become very general to drive the frames directly by electric motors, an additional source of heat comes into play, and at the same time air movement from running straps and pulleys is diminished. This means a greater call on ventilation. The common practice is to run the threads through water before twisting so that no question of artificial humidification arises. The natural atmosphere, with steam pipes for warming when necessary, and windows to open, meet the requirements for winding, reeling, beaming, and warping.

(b) *Weaving.*

In the early days of weaving cotton cloth by hand loom, high temperature was unobtainable, owing to the segregation of looms and the slow speed at which the process was carried on. Humidity, however, was an important condition, and a damp out-building or half-cellar was considered a good asset to the weaver. The advent of the mechanical loom, with the concentration of large numbers of these machines under one roof, and the increased speed at which they were driven, brought about the first change in the requirements for efficient weaving. A higher temperature in the weaving space was a natural consequence, and this was found to be beneficial by preventing breakages. The humidity percentage was lowered, but, with the aid of evaporation from the workers and the nature of the site usually selected, was found to be sufficient. Next came a demand from Eastern markets for a very cheap type of cotton cloth. To provide this at a profit meant high-speed production, and the loading up of the yarn with foreign material. The friction of the shuttle and reed against the warp at high speeds has a tendency to produce electrical trouble with the warp threads, and therefore an increase of humidity is called for to neutralize electrification and increase the tensile strength of the yarn. The earliest method of increasing the natural humidity was by the use of raw steam, and the factories in which this method was employed were known as "wet" sheds, in contradistinction to factories where artificial humidity was not required, which were known as "dry" sheds. The latter are said to number 61 per cent. of the sheds in

* Delivered before the Royal College of Physicians of London on March 1st, 3rd, and 8th.

this country, and there the better quality and more elaborate varieties of cotton cloths are produced.

Lander states that 70° F. is the most suitable temperature for weaving purposes. From numerous shed records I have examined it would appear that this need not be exceeded. In practice, however, high temperatures are the result to a large extent of demands for a high percentage of humidity and the utilization of steam, and this was particularly exemplified in the days when raw steam issuing from unlagged pipes was the sole method of providing this humidity. It is now generally agreed, according to Lander, that an average humidity of 78 per cent. is a reasonable amount for materials commonly woven in humid sheds. The popular view that the efficiency of the process in humid sheds, within certain limits, increases with the temperature or relative humidity is supported by Wyatt (1923), who considers that "under existing regulations the best conditions for productive efficiency in weaving in humid sheds of the type under investigation seem to be obtained with a dry-bulb temperature of 70° to 75° F., and a relative humidity of 80 to 85 per cent." In view of the divergence of opinion among manufacturers it would be the proper course, from the standpoint of weaving efficiency, to establish an experimental shed and make an exhaustive series of tests with a view to ascertaining the most suitable temperatures and humidities for warps of different tensile strengths and with varying percentages of size.

PHYSIOLOGICAL AND PHYSICAL CONSIDERATIONS.

[Dr. Dearden then recapitulated the known facts regarding the generation of body heat, the regulation of body temperature, and the reaction of the regulating mechanism to atmospheric and other external factors. He mentioned the observation of Haldane, who, experimenting with men stripped to the waist, found that the limit of wet-bulb temperature which could be endured in still air was 88° F. when resting and 78° F. when ascending steps; and of Vernon, who pointed out the influence of acclimatization in increasing the endurance. Air movement counteracted both the ill effects of rising atmospheric temperature on convection and the bad influence of humidity on evaporation. He then continued with a description of the kata-thermometer (for short the "kata"), an instrument designed by Professor Leonard Hill primarily for the measurement of its own rate of cooling when its temperature approximates to that of the human body.]

At an early period of his investigations Professor Hill recognized the importance of being able to obtain some definite indication of the extent to which the external atmosphere could carry out its function of removing the excessive heat generated by the living body. He therefore sought out a means of measuring atmospheric cooling power. The theory of the kata-thermometer appears to be that the rate and amount of heat lost from a given surface of a body at the same temperature as the human body should indicate fairly accurately the loss from an equivalent surface of the latter when exposed to the same atmospheric conditions. When the uncovered instrument is used the resulting figure shows the amount of heat dealt with by radiation and convection, and is known as dry kata cooling power; when the bulb is covered with a wet silk stall the calculated figure indicates in addition the heat lost by evaporation, and is known as the wet kata cooling power. The difference between the two results, when both methods are being used, indicates the cooling power exercised by evaporation only. This was followed up by ascertaining what dry and wet kata figures under fixed conditions of heat production correspond to atmospheric conditions yielding the greatest feeling of comfort to the individual. Hill has come to the conclusion that a dry cooling power of 6 and a wet cooling power of 18 may be taken as indicating the most suitable conditions when light work only is carried on. I do not insist that as standards these represent finality, and that they will not be subjected to some modification as the result of larger and more varied experiences; but I do recognize their present utility as standards, and the consequent facility they give for comparison of results; if the upsetting factors are known allowances can be made for them when gauging the atmospheric conditions. The clothing factor, for instance, is exceedingly variable. Hill found that a nake kata at 64.8° atmospheric temperature cooled two and half times faster in a mild breeze than in still air ; 61.3°, but that this rate was reduced to only 85 per cen increase when the thermometer was covered with a sil stall, and to only 46 per cent. increase when covered wit a woollen stall.

[Dr. Dearden also described an American system of assessin atmospheric conditions by the "effective temperature," b while appreciating its suitability to American systems ventilation, he was not convinced that it could substitute for t kata-thermometer under the conditions which had to be dea with elsewhere.]

THE MECHANICAL AND HUMAN INTERESTS IN ASSOCIATION.

(a) *Spinning and Associated Processes.*

I have now to show to what extent efforts have bee made to reconcile the apparently conflicting interests of th mechanical and the human element, the faults still needin rectification, and the further accommodating measure which must be devised. The Report of the Home Offic Committee on Ventilation of Factories and Workshop (1902) shows how much the manufacturing conditions an how little the human needs were studied not many year ago. The small number of mills that were reasonabl ventilated and the still fewer mills that had combine ventilating and humidity systems had even then satisfactor temperatures and humidities, but the large number—nearl all spinning fine "counts"—which were not ventilate at all had, without doubt, unnecessarily high temperature and humidities. Conditions have altered materially, an fine-spinning mills are now excellently provided wit mechanical methods for filtering the air and for regulatin the supply of air and the temperature and humidity. Dr and wet bulb thermometers are fixed up in the spinnin rooms, and thus the indications for any necessary adjust ments are provided. It is the custom to take regula readings twice a day, so that there are plenty of systematic records available for inspection and study. It has bee my privilege to analyse a ten years' complete record taken at a group of four mills.

[Dr. Dearden here showed charts giving the curves obtained in respect of temperature and humidity in several rooms over a period of one year.]

The graphs as a whole show how closely the temperature and humidity conditions are confined within the limits I have previously given. The afternoon temperatures are higher than the morning ones, and the humidity percentages are kept at a fairly even level throughout both the day and the year. In two rooms the daily variation is between 1 and 2 degrees, and the monthly variation is kept well within the same range in spite of seasonal changes. The other rooms, though also showing equable results over the greater part of the year, appears to have been readily influenced by outside temperature during the summer. Where this occurred it was discovered that the humidifying plant could be regulated from inside the rooms, while, in the rooms in which the temperature remained even, this interference was not possible. Spinners will try to regulate the water sprays in hot weather if they have the opportunity, and each spinner in the room has different views on the subject, though all of them appear to be fond of a high temperature.

The humidity question requires more consideration than appears at first sight. It is true that, for the sake of the cotton, the percentage is kept low, but the fact must not be overlooked that the maintenance of the desired proportion means the provision of a considerable amount of moisture over and above that of the outside air at the high temperature required for successful spinning, and that it is the quantity and not the percentage which concerns the operative. The charts show how exactly the wet-bulb temperature rises and falls with the dry-bulb temperature; in well conducted mills the former is always above 70°, and frequently above 75°.

Air movement receives little encouragement in spinning rooms where fine counts are being dealt with. The conditions are often such that there is no appreciable air

movement a few feet away from the duct openings through which the outside air, driven along one or more tubes running the length of the room, emerges at regular intervals; the air exits are the doorways, of which there are generally two to a room. To ensure no air entering by unauthorized routes a slight plenum is aimed at, and when this is exceeded the swing-doors are pushed outwards, the escape of air relieves the pressure, and the doors coming together again are ready for the next puff. The deficiency in sensible movement at high temperature is reflected in some typical examples of wet kata-thermometer readings taken in August, 1926, which also show that diminution in cooling power follows elevation of wet-bulb temperature when there is no undue interference by air currents:

D.B. temperature.	W.B. temperature.	Wet kata.
94°	78°	9°
89°	76°	10°
88°	76°	10°
89°	74°	10.3°

Standing four feet from a doorway with one of the swing-doors two-thirds open a wet kata cooling power of 10 advanced to 18.8, and the dry kata showed an air velocity of 75 feet a minute.

The clothing of spinning-room operatives is also a consideration. The male workers in the spinning rooms are quite suitably attired for the work in cotton shirt or singlet and cotton trousers or blue overalls, but the females are not always clothed so suitably. The latter may simply take off the outdoor dress and don an overall, and whatever is under the dress, whether little or much, on the worker arriving at the mill, remains under the overall. Where "welfare" is in vogue, however, supervisors have made strides in establishing a more rational dress. Both sexes have bare legs and feet.

The spinner has to put up with high temperature and humidity, and, in fine-spinning mills, with a low air velocity, all the year round. For a short period in summer these conditions, more particularly in coarse-spinning mills, are intensified. He is, however, well acclimatized to this atmospheric state, and unless the temperature is excessive or he indulges in extraordinary muscular effort, he usually keeps his own temperature equilibrium. In the colder months of the year the change to a much lower temperature on leaving work, particularly to the overclothed, explains the special susceptibility to colds and influenza. On the other hand, Dr. E. M. Brockbank of Manchester has noted that cotton operatives under 50 years of age enjoy a somewhat remarkable freedom from the ill effects of high blood pressure, possibly owing to the removal of waste products of metabolism by perspiration.

What are the methods to be adopted to prevent the ill effects I have described? In the first place, the temperature necessary for the particular "counts" being spun should not be exceeded, and in no case should be allowed to rise above 90°. It is generally recognized that sweating should be avoided. That the temperature can be satisfactorily regulated, even in fine-spinning rooms which require the higher range, is amply demonstrated. Mills spinning at the lower counts have a lower range of temperature, and are satisfied with the outside air unaltered. In summer, however, they are more affected by extreme heat and solar radiation than are the exactly regulated fine-spinning rooms, and the temperature may rise to 100°. This necessitates artificial humidity, and where humidifiers are installed these are started when breakages become too frequent. The remedy is an increased air movement, and this type of mill could be most conveniently supplied with propulsion fans and ducts to assist the windows; water vaporizers acting in conjunction would be a distinct advantage.

Every effort should be made to instruct females particularly as to the most suitable attire. With the uniform high temperature in the fine-spinning rooms, bloomers, singlet or blouse, and overall are quite enough to wear, and this applies to other varieties of spinning during the summer months, though a skirt and blouse may be added in the lower temperature rooms during the colder months.

With regard to the preliminary and subsidiary processes, in none of these is artificial humidity really required in Lancashire, nor, except in the doubling rooms, is the summer temperature excessive. As moderate air currents are not conducive to breakages or bad work, efficient ventilation by extraction fans with or without ducts can be safely utilized. Though some gassing rooms are still objectionably hot and stuffy, the modern variety are so efficiently provided with mechanical ventilation that the workers no longer suffer discomfort.

(b) *Weaving.*

Dry weaving sheds are not difficult to deal with, but wet sheds provide by no means an easy problem—a problem, by the way, which would not exist if manufacturers would so compound their warp size that artificial humidity would not be required. The cost of softeners and deliquescents in sufficient quantities is held to be prohibitive, and as moisture is not only effective as a softener but reasonably cheap to produce it seems unlikely that it will be superseded. Several sets of regulations have been produced with regard to excessive humidity in weaving sheds, and each set has marked a stage of improvement, each has placed a good "brick" in the protective wall around the worker, but I have formed the strong opinion that the most far-reaching effect is that produced by the compulsory standard of ventilation. The fact that this opinion was formed before the physical theory superseded the old chemical theory of ventilation does not affect my point. Quite a number of appliances for ventilation follow up-to-date precepts, and can deal with air either from inside or from outside the shed as desired.

An undue elevation of temperature invariably brings about adverse conditions affecting the individual. Legge found that weavers are subject to a rise in mouth temperature when the wet-bulb temperature exceeds 75°. Pembrey and Collis found elevation of temperature, quickened pulse and respiration, and lowered blood pressure when the wet-bulb temperature was much over 70°, and, like Legge, they noticed that the mouth temperature in women was consistently higher than in men, and this is ascribed to the greater amount of clothing worn. On the other hand, as the result of over 16,000 observations of body temperature in Indian mills, Maloney is of opinion that it is not possible to say that this begins to be adversely affected at a given wet-bulb temperature. Again, in addition to the chronic strain on the circulation from excessive peripheral blood supply during the eight hours of each working day having a tendency to diminish resistance, there is a susceptibility to chills on leaving work through the humid air at mill temperature having percolated shawls and coats hung up in the shed, as well as the clothes being worn.

The general principles, therefore, regulating the prevention of these ill effects are: reasonable temperature, suitable clothing, clothing kept dry whilst in the mill, and effective air movement.

[Here the lecturer summarized the 1911 Regulations (now approaching the out-of-date stage) in these respects. Whilst these had assisted prevention in many ways, the question of clothing was apparently out of their purview, and what was really wanted to effect a general hygienic practice in dress was a system of instruction by welfare workers or by leaflets. He also summarized Wyatt's report for the Industrial Fatigue Research Board (BRITISH MEDICAL JOURNAL, March 3rd, 1923, p. 389).]

The reports of both Wyatt and Maloney clearly indicate that, apart from other requirements, there should be means available for securing better air movement. In my opinion much could be done in this direction by fixing separate kata cooling standards for wet weaving sheds, though I am not prepared to say that Hill's standard for sedentary work would quite meet the case, but rather that the figures should be varied according to temperature. Something in the nature of 6 dry and 16 wet for temperatures below 70°, and 5 dry and 14 wet when above 70°, might prove reasonable.

DUST.

(a) *Sources and Nature of Dust.*

Just as high temperature and humidity constitute the principal menace to the health of the worker in spinning and weaving rooms, so in the preliminary processes of preparing the raw cotton for further manufacture the *principal militating factor is the* generation of dust. Whilst all processes in cotton manufacture are more or less dusty, those of mixing, opening up, and carding are subject to a specially objectionable variety which renders the workers liable to develop diseases dangerous to life. The amount of dirt contained in the raw cotton, which has to be removed, varies with the quality of the staple. Where *bale-breaking is still a hand process the worker has to put* up with a considerable quantity, but where the modern mechanical method is in vogue dust is not nearly so much in evidence. Although modern cards are enclosed, there are several points where dust escapes, so that in most card-rooms there is a tendency towards a hazy atmosphere. A considerable amount of noxious dust arises from the brushing of the flats, but the most intense clouds are produced by the stripping of dirt and waste from the carding and doffer cylinders. Up to quite recent times the process of stripping was carried out in the open, but owing to the modern provision of a closely fitting tin cover with an exhaust attachment this evil condition no longer obtains in Lancashire. The newer method of stripping is worked on the lines of the ordinary vacuum cleaner. The clearing of the waste and dirt from the receptacles beneath the cards, openers, and scutchers is also a very dusty proceeding.

The dust arising in cotton manufacture, though mainly "vegetable," contains, in the preliminary processes of preparation, during weaving, and in the manipulation of the finished cloth, a considerable proportion of mineral matter. In breaking up the bales the dusty product consists mainly of short fibres. The opening and scutching processes bring away a considerable quantity of seeds, husks, and sand. Carding produces a dust made up of short and knotted pieces, seeds, broken husks, and, again, much fine sand.

Mill operatives in the carding and blowing departments are particularly liable to bronchitis. Cleaning out the dirt boxes beneath the machines, and, to a lesser degree, leaky brush covers, are in my experience the factors mainly responsible for this susceptibility. The symptoms one notices in strippers at work are undoubtedly those of asthma. There is pronounced dyspnoea, which is distinctly asthmatical in character and of a thoracic type, also a dry irritative cough, and a small but very sticky expectoration. A very noticeable feature of the complaint is the complete disappearance of the symptoms during the week-end at home. In imperfectly ventilated gassing rooms the atmosphere is quite hazy from the charred particles floating about, and the odour of burnt cotton is disagreeably pronounced. The dust is very irritating, and I find that girls suffering from blepharitis or subject to conjunctivitis or catarrhal conditions of the respiratory mucous membrane are markedly affected. Workers in ordinary health, however, soon get acclimatized, though among some I notice a distinct tendency to anaemia and a liability to headache, dizziness, and lassitude—symptoms which in my view are the result of imperfect removal of the unburnt products of the Bunsen gas flame.

(b) *Preventive Measures.*

In the preliminary breaking up and decompressing of the raw cotton, dust is very successfully prevented from polluting the atmosphere by the unbroken bales being placed directly into the hopper of the bale-breaker in the first instance, and subsequently conveying the cotton to the openers by exhaust ducts. In most Lancashire card-rooms the dust problem is being satisfactorily dealt with, though the coarser varieties of cotton still make considerable trouble. The more free use of humidifiers is effective in bad cases, but operatives do not favour this method, and personally I agree with them. If properly taken in hand, ventilation should do all that is necessary. The methods of cleaning away the dust and fluff deposited on the machines in card and blowing rooms are deserving of attention. I think vacuum cleaners will in the future universally adopted for cleaning cotton machinery, becau they clean without throwing the dust into the air. Cas of asthma among men emptying dirt boxes can be sat factorily prevented by the use of a suitable respirato I have adopted a perforated aluminium and rubber one cover mouth and nose. A strip of surgeon's lint plac inside this, which can be readily changed as desire collects an enormous amount of dust. In gassing rooms t dust and fumes can be kept out of the surrounding a space and conducted outside the building by attaching exhaust duct to each burner or series of burners.

FATIGUE.

In former days the continuous exposure to excessive high temperatures in hermetically sealed spinning roon or to the hot and almost saturated air of the wet weavi sheds, must have produced a definite and lasting impai ment of constitution. The cotton operative generally a much healthier individual to-day. Though the gener improvement has been mainly due to circumstances e plained elsewhere, I cannot ignore the important bearin which the reduction of hours of work must have on t whole subject. Granted the existence of fatigue in particular industry, such a measure is the most direct a probably the most effective means which can be taken bring about its reduction. Unfortunately, we have nothi in this country in the way of comparative statistics to sho the direct effect of this important reform on the cott operative.

The Industrial Fatigue Research Board published 1920 what is apparently meant to be a preliminary treati on individual differences in output to be found in vario processes of the cotton industry and the extent to whi production in each process depends upon human as oppos to mechanical efficiency. In mule-spinning and rin spinning the chief feature was the comparative smallne of the mean variation and the slight differences betwe maximum and minimum values. Here the part played the operative is very minor in comparison to that unde taken by the machine, so that there is little opportunity f the manifestation of individual differences in efficiency. drawing, slubbing, and roving the human factor was mo pronounced than in spinning, and less than in weavin On the whole, the investigations show the extreme difficul of trying to gauge fatigue in the spinning industry output.

When temperatures are excessive—that is, over 90° F.- one does come across spinning-room operatives who sho definite signs of fatigue, mainly, of course, towards t end of the day's work. It would also appear that mul spinners suffer to an abnormal extent from varicose vein varicocele, and flat-foot. In the matter of static fatigu due to prolonged fixation of certain muscles through havin to work in a strained position, the inquiry into bobbin winding showed that any strained position taken up w only temporary, and that the ill effects were quickly rect fied. The lifting and dragging of heavy skips and ti still requires some alteration. Provision should be mad for this work to be done in all cases by men or well grow youths, and the most successful practice is to move t skips from point to point on low bogies running on tran lines. It is also wrong for growing girls to carry eve 27-lb. laps from scutchers to cards. They rarely attem to get into the way of using each shoulder alternately, an are consequently liable to show some degree of later curvature of the spine.

The only systematic investigation of any definite val which the Industrial Fatigue Research Board has so f been able to carry out on the incidence and extent fatigue in the cotton industry is described in the Repo on Variation of Efficiency in Cotton Weaving (1923 Efficiency is shown to depend on two factors—namely, t number of loom stoppages and the ability of the operati to attend to them. Yarn breakages are the princip cause of stoppages, and the more numerous these becom through physical defects in the yarn or adverse atmospher conditions, the greater is the loss in efficiency. The fatig is measured by an ingenious method [described and illu trated by the lecturer] which takes cognizance of t

human as distinct from the mechanical efficiency, and it is shown that the highest efficiency is manifested on Tuesday mornings, after low efficiency Mondays; then there is a progressive decrease during the remaining mornings of the week. The efficiency is much less during the afternoon spells, and steadily diminishes in the afternoons from Monday to Friday. I think it is reasonable to suggest that this daily decrease is due to cumulative fatigue caused by incomplete recovery from daily fatigue, except on Monday mornings, when the low efficiency is due to the process of getting into the stride. The efficiency peak, in hourly variations, is in evidence from 8.15 to 10.15 a.m., and decreases each subsequent hour, except for the hour immediately after the dinner stoppage, but the drop commences sooner in the afternoon than in the morning.

Twister's Cramp.

In the report of the Chief Inspector of Factories for 1919 Dr. Bridge describes a disability among twisters, loomers, or twisters-in, as they are called, whose work it is to join the ends of a new warp to the warp ends of a woven piece. The overworking of a particular set of muscles produces a permanent condition of the hand which either prevents the worker from continuing his employment or precludes him from earning his former wage. The muscles of the left forearm as well as of the thumb and index finger are involved in a complex series of movements. The subjective symptoms are pain, tenderness, weakness, and loss of power. The principal physical sign is an unusual flattening of the thenar eminence of the palm. Bridge believes the cause to be a central nervous lesion, and in addition a local fibromyositis of the thumb muscles. As a considerable amount of this particular work is now done mechanically the disability should tend to disappear.

LIGHTING.

The modern spinning mill is well provided with window space, but owing to the length of the mule the rooms have to be of a width which in many cases prevents direct light reaching the centre. In weaving sheds, universally of one story, roof lights facing north are invariably adopted, but there is sometimes diminution of light from obstructive buildings. Prismatic glass might be an advantage for cotton factory windows. Artificial illumination is mainly provided by electricity. In the Third Report of the Departmental Committee on Lighting (1922) it is shown that there is a very general inadequacy in cotton factories. Weaving processes were found on the whole to be better lighted than spinning processes. Owing to the universal ignoring of the provision for effective shading of lights, glare is a very pronounced factor in all factory lighting systems.

INFECTIONS.

"Shuttle-kissing."

The practice of "shuttle-kissing" has to do with the threading of the shuttle-eye each time a fresh cop is placed in the shuttle. The weaver places the outside of the shuttle-eye to his lips, and with a strong inspiratory effort draws the thread through. This action may be performed by a four-loom weaver four or five hundred times a day, and although each weaver has his own set of shuttles, they may receive an additional kiss from the tenter, tackler, or overlooker. The diseases likely to be caused by this objectionable practice, according to the replies sent by fifty-eight Lancashire medical officers of health to questions circulated by the county medical officer, are syphilis, phthisis, diphtheria, caries of the teeth, skin diseases, septic throat, scarlet fever, and infective conditions of the mouth; but only five specific instances were given of actual transmission of disease, and even in these cases, though every one was carefully investigated, no justification was found for making the shuttle responsible for causation. Though "shuttle-kissing" may not have brought about all the ill of which it is suspected, there is no doubt that it is potentially dangerous to health. The newspaper campaign of 1911 stimulated invention, and a number of devices for shuttle threading without kissing came on the market. The Northrop loom, which has a mechanical shuttle-threading arrangement, causes no trouble during weaving, and supports the view that practical methods are available for doing away with the need for this exceedingly bad habit.

Weaver's Cough.

In certain dry sheds the operatives have had an unusual type of cough and dyspnœa. An investigation by Dr. E. L. Collis, on behalf of the Home Office, showed that the warps used in these instances contained less than the ordinary amount of size, and that the usual antiseptic, zinc chloride, had been omitted. The warps had also not gone through the complete process of drying after sizing, and had developed mildew on being placed in the looms. A reversion to "dry taping" for all the warps cured the disease.

Infected Cotton.

In certain outbreaks of small-pox in the cotton districts in recent years it has been suggested that cotton may have conveyed the infection. The theory is that undetected mild cases exist among the negro cotton-pickers, and that, as all the tufts are handled in the picking, some of them may become infected. Two outbreaks certainly present some prima facie evidence inculpating the cotton. In one outbreak, in which there were eleven cases in one mill, the cases were distributed among the workers in the different processes, suggesting that the infection travelled with the cotton.

SANITARY ACCOMMODATION.

To the best of my knowledge, every Lancashire cotton district is provided with a good high-pressure public water supply, and practically all are served by well designed drains and sewers. Yet the closet accommodation is of a very insanitary type in quite a large number of factories. The water-closet system is the proper one for cotton factories, and in spinning mills accommodation should be provided for each sex on each floor. The absence of a public sewer is no deterrent in these days of the septic tank and filter bed.

Clean, well ventilated cloak-rooms, with hygienic metal lockers, perforated at the top, bottom, and in front, and capable of being sufficiently heated to dry wet clothing, are a necessity for cotton mills. The present practice of changing clothes behind mule creels is objectionable from the hygienic point of view, and, where the two sexes work together, from the moral aspect as well. All Lancashire cotton towns are fairly well provided with public baths. Workers in the spinning and doubling rooms, who necessarily perspire a great deal, have the greatest need to bathe frequently.

MULE-SPINNER'S CANCER.

In cleaning their machines most operatives get exposed parts of the body soiled with lubricating oil. Mule-spinners and piecers have a specially dirty task when cleaning the headlock gears, and also they are subjected twice each day to a definite impregnation of certain parts of their clothing with this material. The cotton trade was first made aware of the fact that mule-spinners were particularly susceptible to a form of skin cancer by an article in the BRITISH MEDICAL JOURNAL (November 18th, 1922) by Southam and Wilson, in which it was stated that out of 141 patients attending the Manchester Infirmary with epithelioma of the scrotum during a period of twenty years, 69 were mule-spinners. In a report published by a Special Committee of the Home Office (1926) [BRITISH MEDICAL JOURNAL, April 24th, 1926, p. 746] it was stated that 539 cases had been traced. The region involved was not invariably the scrotum, as first suggested, for 89 cases had other parts affected. Recent mortality figures show 23.5 per cent. in which the affection was elsewhere than at the scrotum. The growth is usually preceded by a warty formation which may exist for several years before becoming cancerous. When the mule is started the oil comes in contact with the spindles and is thrown off as a fine spray for about two minutes, the spinner getting the full benefit of this spray as he moves backwards from the advancing carriage, the result being that a distinct oily patch is to be seen on his trousers at the level of the pubes.

The remedy for this disease lies either in the provision of innocuous oils (not attainable until the actual carcinogenic

factor is known and a method of removal discovered) or in preventing contamination (a practicable solution). I cannot conceive that engineers famous for their conceptions of the most intricate self-acting motions ever adapted to any mechanical contrivance can be nonplussed by a spindle-bearing. Cleanliness must also be urged, and employers should arrange suitable washing facilities. Whatever is done, however, there must be a body of men already infected from whom a stream of fresh cases will be drawn, and that these should receive prompt treatment is an axiom in dealing with epithelioma. The Home Office Committee, with a view to detection of cases, very properly recommends medical examination every four months for all spinners over 30 years of age.

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ACUTE ABDOMINAL EMERGENCIES COMPLICATING PREGNANCY AND THE PUERPERIUM.*

BY

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THOUGH, owing to the lamented death of Mr. J. E. Adams, I have no surgical partner in opening this discussion, I intend to keep to the part I had agreed to take and to speak only from the standpoint of the obstetrician and gynaecologist. My chief object will be to point out to the surgeons how symptoms arising from pregnancy and its complications may make diagnosis and treatment more difficult in abdominal emergencies.

It would seem to be a reasonable supposition that the liability of women to acute mechanical disturbance of the bowel and to the spread of inflammation in the peritoneum would be greater during child-bearing owing to the increase in, and displacement of, the abdominal contents, followed by their rapid diminution after labour, and gradual return to the non-pregnant state.

Diagnosis is clearly the outstanding problem, because it is materially affected by pregnancy, which may introduce additional symptoms, such as vomiting, abdominal pain and distension, and jaundice. These symptoms are also those which are outstanding ones in acute abdominal emergencies. Further, the pregnant uterus becomes an abdominal tumour after the third month, and in its later stages so large that it interferes with the appreciation of abdominal physical signs.

* The introductory paper to a discussion by the Medical Society of London, February 28th, 1927.

Abdominal symptoms may arise either as part of a disorder of metabolism—the toxaemia of pregnancy—or from mechanical effects or abnormalities of the pregnancy or reproductive tract.

Vomiting.

Severe vomiting is not unusual in pregnancy, and great caution must always be exercised before accepting pregnancy, *per se*, as the explanation of this symptom unless there is definite evidence to that effect. The vomiting of pregnancy usually begins as soon as the patient knows she is pregnant—that is, about the time of the first missed menstruation—and continues and may become aggravated from then onwards over a period of two or three months. It is usually more severe in primigravidae, but tends to recur in subsequent pregnancies in lessening degree. The vomited material is commonly food recently taken and little altered, but later of bile-stained fluid. Coffee-ground vomit is only seen in long-continued and in definitely toxic cases. Constipation almost always accompanies it, but an action of the bowels is generally obtained by enemata. The abdomen is usually sunken and not distended. Vomiting beginning after the fifth month without evidence of toxic origin is unusual and should suggest an organic cause; still more any vomiting that rapidly progresses towards a faecal type.

The cases, therefore, that particularly require investigation as to some cause other than pregnancy are those in which vomiting arises late in pregnancy (and not as a simple aggravation and persistence of the early morning sickness), in which vomiting has not occurred in previous pregnancies, and when there is no evidence of impairment of the renal and hepatic functions on clinical and biochemical examination. In cases of doubt treatment on the ordinary lines, usually by isolation away from home under capable nurses, should be tried for as long as the patient's condition permits, and if successful will settle the diagnosis. If there is definite evidence of renal or hepatic insufficiency, or if no improvement results from treatment, the pregnancy should be terminated. Early in my career I took over a case from a surgical colleague, an acute clinical observer, because he had discovered no other reason than the pregnancy for continued vomiting. The vomiting differed in type from the ordinary vomiting of pregnancy and there was no albuminuria or jaundice. Shortly after the termination of a seven and a half months' pregnancy an urgent operation was performed for obstruction from a carcinoma of the colon that became obvious very soon after the uterus was emptied. Many similar cases of gastro-intestinal disease are recorded in which vomiting was wrongly ascribed to the pregnancy.

JAUNDICE.

Another type of the toxicosis of pregnancy that may cause difficulty in diagnosis is that characterized by jaundice, vomiting, and epigastric pain, suggesting gall stones or cholecystitis. Petersen,[1] in an analysis of 35 cases of gall stones during pregnancy and the puerperium, found jaundice present in 60 per cent. of 25 that occurred during pregnancy, whilst one case only out of 10 arising in the puerperal period had jaundice. Usually, in the toxaemic cases, vomiting is a marked feature and may become coffee-ground in character and albuminuria is usually present. In a case recorded by Banister and Stevens[2] from Queen Charlotte's Hospital as a "*fatal case of acute* haemorrhagic hepatitis following toxaemia of pregnancy" the patient had jaundice with severe epigastric pain and tenderness in the umbilical area and to the right side. The temperature was 100° F. and the pulse rate 100. There was also referred pain in the left shoulder and haematemesis, and the authors of this paper considered these last two features as unlike a case of gall stones.

My colleague Mr. Maybury has kindly given me particulars and allowed me to quote a case of his illustrating the difficulty in differentiating gall stones from the toxic hepatitis of pregnancy.

The patient was aged 26 and about two months advanced in her second pregnancy. There was a history of her having had an attack of jaundice of a few days' duration about five years before; it began with pain in the left scapula, which soon passed off but

was followed by epigastric pain and slight jaundice, and was then ascribed to gall stones. When first seen symptoms similar to those of the earlier attack had been present for a fortnight, the stools were clay-coloured, the liver enlarged and a little tender, but the gall bladder could not be felt. Medical treatment was continued for another fortnight, but the jaundice and epigastric pain persisted with troublesome general pruritus. Exploration of the gall bladder was undertaken, but it was found empty with not a trace of bile in the common duct. Probes and a spoon were passed into the right and left hepatic ducts and a little "mud" removed. A tube was inserted into the common bile duct and a drain to the transverse fissure, and next day bile began to flow both by tube and drain. A fragment of liver tissue, taken for histological examination, showed undilated bile ducts, no fat, and but slight degeneration of the liver cells. Albuminuria and some casts were found in the urine. The blood urea was 30 mg. per 100 c.cm.—that is, slightly above the normal for a pregnant woman—and the van den Bergh and Fouchet tests indicated merely a catarrhal jaundice. The patient became more drowsy and her condition worse; abortion occurred spontaneously a few days after the operation, and fourteen days later the patient died. There was no *post-mortem* examination.

Like other forms of toxic hepatitis, that due to pregnancy may cause difficulty in its differentiation from acute conditions arising in the gall bladder and its ducts, so having mentioned them it may be well to call attention now to the uraemic states which, in pregnancy as apart from it, may give rise to anomalous symptoms of abdominal disorder, particularly vomiting, ileus, and rapid pulse rate.

I may quote a case of this kind admitted for severe vomiting, but of a type unlike the vomiting of pregnancy, as it occurred but once or twice a day and consisted of a large quantity of brown and somewhat offensive fluid. Epigastric pain and distension were present, and the case appeared to be one of acute dilatation of the stomach. The patient was acutely ill; she had slight albuminuria, but a blood urea content of nearly 200 mg. per 100 c.cm. She passed into coma, thus settling the diagnosis, but recovered rapidly after evacuation of the uterus.

Abdominal Pain.

The commoner causes of acute abdominal pain arising from conditions more or less directly connected with pregnancy may be mentioned. Pain severe enough to cause great distress, faintness, and collapse may occur with an intrauterine pregnancy if bleeding takes place into the uterus and the blood is retained there. Its most typical form is seen in concealed accidental haemorrhage, when the sudden onset and collapse produce an abdominal catastrophe of a most striking character. The patient may be about her ordinary duties and be seized in a moment with alarming faintness and agonizing pain. It, however, rarely occurs until the patient is in the later months of pregnancy, when the tender and board-like uterus, together with the cessation of all signs of foetal life and the inability to recognize any foetal parts, make the diagnosis clear. Occasionally, however, similar retained haemorrhage with increased tension in the uterus may arise much earlier in pregnancy, especially in vesicular moles, and suggest an ectopic pregnancy with intraperitoneal bleeding.

The rare cases of spontaneous rupture of the pregnant uterus, usually through the scar of a Caesarean section, are also characterized by severe *abdominal pain, collapse,* and signs of internal haemorrhage, but without evidence of intrauterine tension.

A marked abdominal crisis arises from rupture of, or leakage of blood from, a tubal gestation. These cases, however, differ somewhat from the group comprised in the title of our discussion, because the vast majority of them occur at so early a stage of pregnancy that the question as to whether the woman is pregnant or not must first be decided. Hence the history is all-important in diagnosis. The commonest, and happily the least serious, termination of a tubal gestation is the formation of a tubal mole, and that rarely gives rise to severe symptoms. The pain, however, is sudden in onset and may be accompanied by faintness, vomiting, and some degree of shock, and as it tends to recur may suggest a more serious abdominal cause. The bleeding is not usually severe enough to produce evidence of internal haemorrhage, but the tenderness of the hypochondriac area, together with the history and the uterine bleeding which is its most constant accompaniment, usually makes the diagnosis lie between an intrauterine abortion and a tubal abortion or mole. If seen later, when a tubal or pelvic swelling is recognizable bimanually, the diagnosis may rest between a tubal gestation, a tubal inflammatory swelling, or appendicitis, if on the right side.

The rarer cases of intraperitoneal flooding from a tubal rupture are usually fairly characteristic. The blanching and collapse are immediate and obvious, the abdominal tenderness is widespread, and there may be dullness in the iliac fossae. There can rarely be any hesitation in these cases as to the immediate necessity for abdominal exploration.

Severe abdominal pain may be caused by acute necrobiosis of a uterine fibromyoma, and may sometimes be accompanied by other symptoms sufficiently serious to suggest immediate operation. In a paper[3] of mine on this necrotic change in fibroids (vulgarly termed "red degeneration") two cases are mentioned that were operated on as urgent cases, one by Sir John Bland-Sutton at the Chelsea Hospital for Women, and the other by Mr. Battle at St. Thomas's Hospital, and reference is made to another recorded in medical literature. The disturbance caused by these necrotic tumours, however, rarely reaches a degree that would enable them to be classed as emergencies. The diagnosis depends on the discovery of a nodular enlargement of the uterus tender on palpation.

Strangulation of an ovarian cyst by torsion of its pedicle is particularly liable to occur during pregnancy and lying-in, and is a more frequent cause of urgent symptoms. Most often the symptoms are of a subacute type, but occasionally they are sudden in onset, and so severe as to simulate internal strangulation of bowel, and every now and then cases are admitted to hospital and operated on as emergencies owing to their being considered as possible cases of acute obstruction. Torsion is commoner in medium-sized and small than in large cysts, and those in the abdomen rather than those in the pelvis. Hence a cyst accommodated in the pelvis before pregnancy may later be drawn up into the abdomen with the uterus, and may remain unrecognized until torsion of its pedicle occurs. In pregnancy, and to a less degree during the puerperium, its presence may escape detection till the onset of pain, possibly with vomiting and distension. Owing to the haemorrhage into the cyst wall and increased tension, the cyst is more easily detected by palpation after torsion has occurred, and when recognized apart from the uterus the diagnosis is usually obvious.

Torsion of the pedicle of a pedunculated subperitoneal fibroid is a much rarer event, and I have never met with it. Torsion of a fibroid uterus at the cervix has also been described. A case causing urgent symptoms is described by Connell.[4] Infection of a myoma with local peritonitis is another unusual way in which these tumours may cause urgent symptoms.

Peritonitis, local or general, arising from infected tubes or ovaries is rare during pregnancy, because sterility usually results from inflammatory disease of the uterine appendages. Occasional instances do occur, some of them possibly cases in which one side only is involved or in which a gonococcal infection has been acquired at the same time as the pregnancy. In others the infection is not the usual ascending infection by the mucous tract, but a descending infection from the appendix or elsewhere, or possibly a blood-borne infection of a corpus luteum in the ovary from a septic focus elsewhere in the body. Cases of this kind with double suppurative disease have been recorded by Donald,[5] Elbrecht,[6] and Schmid.[7] The only point here that need be emphasized is that the rare possibility of an acute spread of infection from the uterine appendages is not excluded by the patient being pregnant.

The pyelitis or pyelonephritis of pregnancy is often a puzzling condition which may simulate an acute abdominal emergency, and has been the cause of many an innocent appendix suffering unjustly the extreme penalty of the law. It may arise with suddenness, and is most common on the right side, next bilateral, and least common on the left side. It is associated with tenderness and rigidity over the appendix area, and, as pointed out by Napier Burnett[8] and C. B. Lockwood[9] (in *B. coli* cystitis), with abdominal distension and flatulence. It may begin with a rigor and sudden rise of temperature and pulse rate, usually after the fourth month of gestation and most frequently about the sixth month. It is more common in primigravidae. It may or may not be associated with cystitis. The diagnosis depends largely on the recognition of the pyuria

and bacilluria, usually due to *B. coli*, and the tenderness in the loin and costo-vertebral angle. Similar tenderness in the loin may also be present with a retrocaecal appendix, but the higher degree of fever with a relatively good pulse and general condition helps to distinguish it from appendicitis or other cause of local peritonitis.

Abdominal Distension.

Constipation and flatulence are frequently complained of by pregnant women. Abdominal enlargement is often noticed in early pregnancy before the uterus has become an abdominal organ. Thus women will say that abdominal enlargement, of a degree that has necessitated the loosening of their garments, has been present for some weeks before the uterine fundus is palpable above the pubes. Tympanites or obstinacy of the bowels of a degree sufficient to give rise to acute symptoms, or even to simulate obstruction, is very unusual. There are, however, in the Continental and American medical journals[10 11 12] records of cases of "ileus in pregnancy," which include both instances of intestinal obstruction due to mechanical causes and of intestinal paresis ascribed to the pregnancy itself, either as a mechanical effect or as a toxaemic manifestation.

Stork[13] describes six cases, of which four were due to intussusception of small intestine, to volvulus of mesocolon, to adhesions, and to strangulation by a band, but for the two remaining no cause was discovered apart from pregnancy, and in both the evacuation of the uterus was followed by the passage of flatus and disappearance of the distension. Stork, therefore, advocates laparotomy to discover the cause of obstruction, and, in the event of no other cause being found, that the uterus should also be opened and emptied. Excepting the cases of intussusception and volvulus, the other two mechanical obstructions recorded by Stork had previously had abdominal sections—one for gastric ulcer and the other for ovariotomy. In looking through the literature I have been struck by the fact that a notable proportion of the cases of intestinal obstruction during pregnancy and labour have been previously subjected to abdominal operations. Though it may be rash to generalize from such secondhand impressions, I venture to call attention to this point. Two such cases were recorded at the Section of Obstetrics and Gynaecology of the Royal Society of Medicine as having occurred during labour. In one (Williamson's)[14] there was a large tract of intussuscepted intestine that had passed into the stomach through a gastro-enterostomy wound. In another (Clifford White)[15] a volvulus of the caecum and ascending colon had occurred in the sac of a hernia resulting from an operation for the drainage of an appendix abscess four years previously. It certainly would not be surprising if the changes in the abdominal contents that are associated with pregnancy and labour should be specially liable to produce intestinal obstruction in patients with adhesions, operative herniae, and other conditions of the kind.

The only case of ileus during pregnancy I have had in my own practice[16] was in a woman with an extrauterine abdominal pregnancy, unrecognized as in any way abnormal till she was about eight months pregnant, when severe vomiting led to her admission to hospital. I saw her because the question of operation for intestinal obstruction had become urgent, and in making a pelvic examination found the foetus outside the uterus. The removal of the foetus and extrauterine sac relieved the obstruction. It may be as well to draw attention to the analysis of 100 cases of advanced extrauterine pregnancy by Gordon Ley,[17] in which attention is drawn to the pregnancy being apparently normal in one-third of the cases. This means that such symptoms as arose in the case just quoted may occur without the abnormal situation of the pregnancy being suspected.

The period in pregnancy in which mechanical trouble from it is likely to arise is after the uterus has become abdominal in position, when displacement of the intestinal contents is most marked. Labour, with its marked change in the intra-abdominal pressure and content, is a time when disturbance is most to be expected. Urgent symptoms of such disturbance may arise then or a few days later.

The puerperium is, in addition, a time when the effects of septic infection during labour become obvious, and rightly the mind of the attendant turns to infection fr the genital tract as by far the most probable explanatic Though this is a fair assumption, the ordinary rule practice must hold good, and that is, to operate in a case in which there is a possibility of the presence of a acute intra-abdominal condition that may be relieved operation, whether arising from the genital tract elsewhere.

Appendicitis.

So far I have based my remarks chiefly on the sympto that may arise out of the pregnancy and make accur diagnosis difficult; I will now take one or two of the mc common abdominal emergencies as examples, and will beg with appendicitis as being the commonest, and one which we must all have seen a few cases during pregnan and labour. Appendicitis in relation to obstetrics a gynaecology was fully discussed by Fraenkel[18] in 1898, b I will chiefly depend on a recent and very useful artic by Jerlov[19] on 456 cases collected from the maternity a general hospitals of Sweden over twenty years. Two-thir of the women were under 30, and nearly half were in the first pregnancy. Jerlov considers that pregnancy has tendency to increase the incidence of appendicitis, for t proportion of cases was no greater than in the corr sponding non-pregnant Swedish population. On the oth hand, appendicitis in later pregnancy is more serio because of the greater liability to the upper part of t abdomen being affected, and the lessened chance of p gravitating towards the pelvis. Also abortion and labo tend to a spread of the infection. An incorrect or la diagnosis was frequently made owing to symptoms bei ascribed to some disorder of the pregnancy and, in t later months of pregnancy, the abdominal pain was som times taken for the pains of labour. He lays some stre on painful foetal movements as of diagnostic value, a notes that in many severe cases the temperature w unusually low and the pulse rate disproportionately raise He discusses the differential diagnosis from pyelitis, acu salpingitis, tubal gestation, twisted ovarian cyst, a cholecystitis. Inflammation about the gall bladder particularly liable to be confused with appendicitis the later months of pregnancy, when the appendix occupi a higher position in the abdomen.

Other observers also have emphasized the danger of t spread of infection in cases which arise during labo or in which premature labour is started by an attac Warnings are frequently issued against such manipulatio as the expression of the placenta for fear of causing sprea

Treatment.

Once the diagnosis is made, the obvious rule is that t treatment should be the same as it would be if there we no pregnancy, save that the presence of a pregnanc weights the scales against expectant treatment. Jerlov, fact, urges that in slight or suspicious cases of appendicit the pregnancy should be regarded as an influence in favou of operation rather than against, because pregnancy do not affect the mortality in the mild cases, whereas in t severe and in all those with local exudation the outlook made more serious. Petersen[1] says much the same regard to gall-bladder infections. When the diagnosis uncertain it is also safer to perform an exploratory lapar tomy than to interfere with a normal pregnancy in t hope that accurate diagnosis will then be possible.

Interference with a pregnancy is justifiable only if som operative procedure is contemplated which the pregnan uterus would make more difficult of performance. As rule, too, the really acute cases would rarely permit this being done. The type of case in which it would worth while first to terminate the pregnancy would be, say a carcinoma of the bowel causing obstruction and yet in a operable stage. In such a case, recently under my car I induced abortion at the sixth month after consultatio with a surgical colleague, though it was difficult to deter mine whether a radical operation was possible or not. Th woman had to be operated on urgently because of th development of acute obstructive symptoms a few day after the emptying of the uterus, when it was found tha colotomy was the only possible procedure. Except in suc subacute cases it is impossible to empty the uterus sav

by Caesarean section at the same time as the main operation is done. In infective cases hysterectomy would be substituted because of the risk of infection of the puerperal uterus and general septicaemia, and thus would add materially to the time taken in the operation and to the shock entailed.

Generally speaking, the rule should be that the minimum operative procedure that will meet the needs of the case, and the one that can be performed in the shortest time, should, so far as possible, be selected. There should be as little disturbance of the uterus as possible.

In addition to reasons already given, the prognosis in pregnant women is rendered graver by the possibility of abortion or premature labour following the acute abdominal condition or the operation done for its relief. Abortion or premature labour is liable to result in a generalized infection in septic cases or cases with a septic focus. Manipulations for retained placenta or other procedures involving pressure on the abdomen also add to the risk of spread of infection.

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THE THYROID AND MANGANESE TREATMENT IN ACUTE PNEUMONIA.

BY

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HAVING been much interested in the account given by Dr. H. W. Nott[1] of his treatment for acute pneumonia by rectal injections of a solution of potassium permanganate, I decided to try it when occasion arose.

An outbreak of measles in Southsea during the end of last summer allowed me to test the method sooner than I expected, and with such satisfactory results that the following notes of five cases will, I think, be read with interest.

CASE I.

A girl, aged 5½ years, had been ill with measles five days when first seen; the rash was vivid on the trunk and legs but was fading on the face and arms. The respirations were rapid and shallow, cough was severe, the lips were blue, and the complexion cyanosed; the temperature was 103°. Well developed signs of

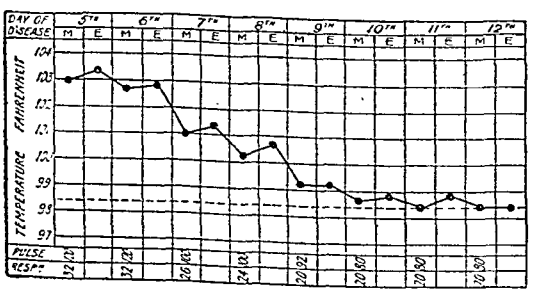


FIG. 1.—Case I.

bronchopneumonia were found in both lungs. A fresh solution of potassium permanganate was prepared of the strength of two grains to one and a half pints of hot water, and three ounces were injected three times during the ensuing twelve hours. Sixteen hours after the first injection was given I found the child decidedly relieved. Her colour was better. I was told she had been quieter during the night, having slept uninterruptedly for two hours. After similar injections had been given every four hours throughout the next twenty-four hours I found her greatly improved. She had had six hours of continuous sleep during the night, cough was less frequent, easier and loose, and her expression and complexion were better. The respiration and pulse rates had slowed considerably, whilst her temperature was falling satisfactorily. Injections were continued at six-hourly intervals for three days more and every twelve hours for another four days, when they were stopped. Convalescence was rapid and uneventful. (See Fig. 1.)

CASE II.

An infant, aged 15 months, was in its seventh day of measles. Both lungs were affected with bronchopneumonia, more marked on the left side. The general condition was serious, as the child, worn down by a week's illness and considerable diarrhoea during the previous twenty-four hours, was restless, refusing feeds, and markedly cyanosed; the temperature was 103.4°. After washing out the rectum with sterile hot water, injections of two ounces of the solution were given three times in twelve hours. The harsh

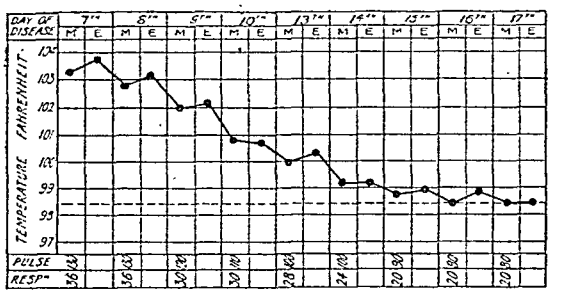


FIG. 2.—Case II.

and incessant cough became easier when the third injection had been given and there was an improvement in the child's appearance. During the next three days injections of the same quantity were given every four hours. Rapid improvement took place, the restlessness, cough, and temperature all lessened, and feeds were taken willingly. Injections were now reduced to two a day for a few days longer, and convalescence was rapid with no complications other than the retention of a little urine, which was easily relieved by seating the child in a basin of hot water. (See Fig. 2.)

CASE III.

A girl, aged 4 years, was seen on the sixth day of measles. Both lungs were extensively affected with bronchopneumonia, and owing to the extreme cyanosis and her general low condition it was impossible not to give a very bad prognosis. Permanganate injections were administered at once, three ounces being ordered every four hours. The following day her condition was much the same, though the cyanosis was not quite so marked. Injections were now ordered to be given at three-hourly intervals, and

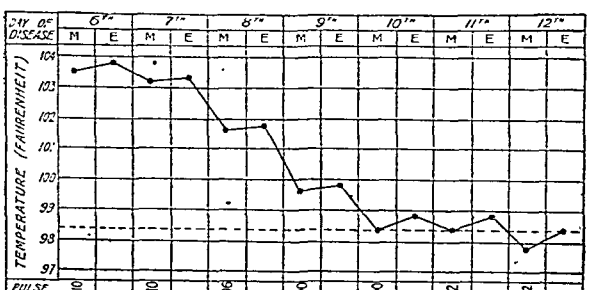


FIG. 3.—Case III.

sixteen hours later—at 4 o'clock in the morning—the child was reported "to have taken a change." Seeing her at 9 a.m. I found the change remarkable indeed. In place of the almost violet-coloured complexion her face was a rosy pink colour, the cough was easy, the expectoration was being raised, whilst her temperature, pulse, and respirations were all declining rapidly. Further treatment was carried on in the manner described in the first two cases; improvement quickly took place and convalescence was again rapid and uneventful. (See Fig. 3.)

CASE IV.

A boy, aged 7 years—brother to the preceding case—was found with a measles rash during my first visit to his sister. He looked ill, and fine crepitations were to be heard at the bases of both lungs. Four-ounce injections were ordered every four hours. Eighteen hours later the condition was unaltered, but twelve hours later still he broke out into profuse perspiration and his

temperature dropped suddenly to nearly normal. A few hours later I found him quite happy and playing with his toys. His convalescence was also uneventful. (See Fig. 4.)

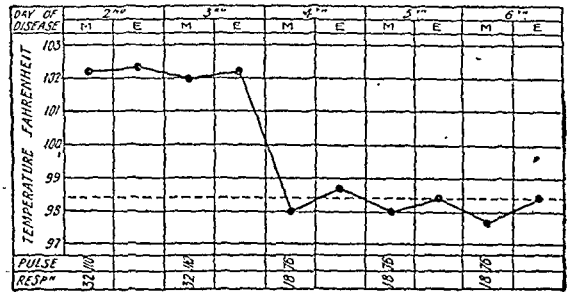


FIG. 4.—Case IV.

CASE V.

A youth, aged 17, very well developed and engaged as an errand boy, was taken ill in the evening with a rigor and with pain in the right side of his chest. Examined thirty-six hours after the onset he showed well marked signs of acute lobar pneumonia, with dullness, crepitations, and rusty sputum. Injections of four ounces of permanganate solution were given at four-hourly intervals for twenty-four hours. As these were easily retained the dose was doubled throughout the following twenty-four hours. Forty-eight hours after beginning treatment I found a remarkable change in his condition. His look of distress had changed to an expression of content. He no longer complained of pain. His respiration rate had dropped from 28 to 18, his pulse from 110 to 93, whilst his temperature had fallen from 103.5° to 101.8°. His cough was less troublesome, and he was able to lift profuse expectoration with comfort and ease, which rapidly lost its rusty colour. He made a quick and uninterrupted recovery, and with the exception of doses of compound ipecacuanha powder in combination with aspirin, in the early stages, he had no other drug treatment throughout his illness. (See Fig. 5.)

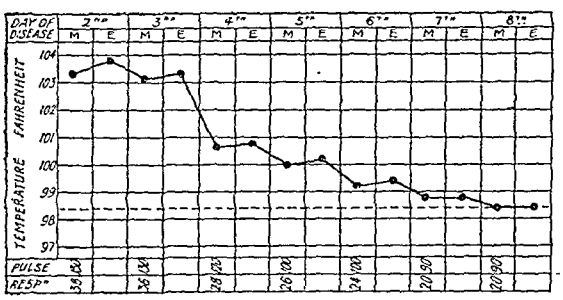


FIG. 5.—Case V.

Although it may be unusual to report so small a number of cases in support of a new line of treatment, the circumstances surrounding these cases seem to make it desirable to do so. I undertook the treatment with some misgiving, but, to my surprise, case after case confirmed what the co-workers at the Ellesmere Port Cottage Hospital had seen, and the temperature charts in my cases seem to follow closely those which illustrated Dr. Nott's paper.

As most practitioners have experienced a disappointment caused by the failure of this or that treatment for pneumonia, it was pleasing to me to find a remedy doing exactly what it had been described it would do; the value of this set of cases is enhanced by the fact that my patients were all treated in their own homes, with ordinary home nursing, with no other medicine, in the case of the children, than a light diaphoretic mixture.

The ease and certainty with which these rapid results were brought about has determined me not in future to allow a human being, and for that matter any animal I cared for, to perish from the toxaemias of pneumonia without attempting to help them by this method.

Believing, too, that we are likely to learn more as to the limitations of this treatment from numbers of short reports coming from general practitioners, working under different conditions, than from a long report drawn up under institutional conditions, I present this for what it is worth; if it should be the first I hope it will soon be followed by others, for by this means we may hear how other complications (otorrhoea, empyema, and meningitis) dependent upon the pneumococcus fare under the permanganate treatment.

REFERENCE

1 BRITISH MEDICAL JOURNAL, July 17th, 1926, p. 109.

THE EARLY TREATMENT OF POLIOMYELITIS.

BY

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POLIOMYELITIS is an endemic disease which occurs in this country periodically in epidemic form. Its importance justified a discussion at the International Congress in 1913 which was opened by the late Dr. F. E. Batten, whose teaching at the Hospital for Sick Children, Great Ormond Street, in 1912 and 1913 is the accepted doctrine to-day.

In 1921 there was a discussion on the early diagnosis and treatment of acute poliomyelitis at the annual meeting of the British Medical Association (JOURNAL, 1921, vol. ii, p. 225). The discussion was opened by Dr. Farquhar Buzzard, who said that at necropsies which he had attended the cord and membranes in the affected areas had been found to be intensely inflamed and congested. I mention this because it has an important bearing on treatment. In the course of the discussion it was stated that there was no specific drug in the treatment of the disease, and that electrotherapy was harmful in the acute stage, being of use later only as an adjunct to orthopaedic treatment. Treatment on general principles during the febrile stage was advocated, particular attention being paid to warmth and quiet. When the febrile condition had subsided splinting was advised to prevent contractural deformities, to be followed by massage, remedial exercises, and electrotherapy. Where the recovery was incomplete various surgical procedures, such as stabilization of joints and transplantation of tendons, were advocated.

It will be remembered that in 1922 Sir Robert Jones gave an authoritative address on the treatment of paralysis in children to the Section of Diseases of Children of the Royal Society of Medicine (BRITISH MEDICAL JOURNAL, 1922, vol. i, p. 705). My present purpose is to deal only with the early treatment of the disease.

Some three years ago the first early case of poliomyelitis was admitted to the Hartshill Orthopaedic Hospital for treatment. Up to July of last year eight early cases had been referred. Since July, 1926, fourteen early cases have been treated here, all on the same lines, and the results are good.

During the last six years I have seen several hundreds of practically untreated patients who have attended this hospital with deformities of the most disabling type, yet presenting the same initial history as the early cases. On comparing the end-results the conclusion reached is that *co-operation between the physician and the orthopaedic* surgeon is essential from the very onset of the disease. By this means alone will the prevention of most of the deformities in each case be achieved.

The first indication for treatment in an early case of poliomyelitis is immobilization of the inflamed part. This can best be done by fixing the patient on a Thomas's straight frame with head-piece, thereby immobilizing the head and spine. This may seem a drastic measure, but the results, as detailed in my notes of the cases, justify the procedure. Fixation on a frame is our routine method of treatment in all early cases, even if the initial paralysis or paresis is slight. Pain is often a very distressing symptom in the early stages, and has been regarded as intractable. Our experience is that pain rapidly subsides as soon as the patient is immobilized on a frame.

The second indication for treatment is the prevention of contractural deformities. These are caused by unequal muscle balance, and are prevented by fixing the paralysed muscles in relaxation, the fixation being maintained until they are sufficiently recovered to hold their own against their antagonists. The Thomas frame is an ideal splint for fixing the head, trunk, and lower limbs in the position of selection. It leaves the arms and feet to be dealt with if necessary. This is done by moulding a plaster-of-Paris splint to the affected part, and fixing it to the metalwork of the frame. The patient is kept immobilized on the frame until the inflammatory condition of the cord has subsided and the amount of damage to the musculature can be ascertained. The frame is then gradually discarded, and

the paretic or paralysed limbs splinted in the position of selection. We have found that this can be commenced in approximately four to six weeks from the onset, and the frame finally discarded in a further two to three months.

Notes of six early cases treated on these lines are appended.

Case 1.—A boy, aged 3½ years, was first seen three days after onset. He had complete paralysis of both legs, but was able to contract the flexors of the hips slightly with assistance. Back weak. High temperature. Cerebral cry. He was immobilized on a frame, with club-foot shoes holding the feet. Two days later removal of the frame was suggested as the child was thought to be dying, but it was retained, and the acute stage subsided two days later. The frame was discarded in two months. Three months later the boy began to walk, and two years later was leading a normal life.

Case 2.—A boy, aged 3 years, was first seen five days after onset. There was complete paralysis of both legs, thighs, and glutei, and very marked weakness of the back and the abdominal muscles. He was immobilized on a frame with two light plaster cases holding the legs in the desired position. He began to discard splints eight weeks later, and four months after the onset all muscles were acting voluntarily. Back and abdomen good.

Case 3.—A boy, aged 5½ years, was first seen five days after onset with the left leg and foot flail-like. The right leg quadriceps and glutei were normal, but the back and abdomen were weak. He was immobilized on a frame, with a plaster case for the left leg. He first began to discard splints five weeks later, and eighteen months from onset had regained full control of the limbs and was leading a normal life.

Case 4.—A boy, aged 5 years, was first seen four days after onset; the left leg was flail-like, the right quadriceps weak, the back and abdomen very weak, and the left arm weak. He had a high temperature, with periods of unconsciousness. He was immobilized on a frame, with plaster casing of the left leg and arm. He first began to discard splints three months later, and two years afterwards was walking with calliper splint, his arm being apparently normal.

Case 5.—A girl, aged 8 years, was first seen seven days after onset with complete paralysis of the right leg and shoulder. She began to discard splints six weeks later, and two and a half years afterwards had full control of the leg and shoulder, but the grip of the right hand was slightly weaker than that of the left.

Case 6.—A girl, aged 6½ years, was first seen eight days after onset. The left leg and right arm were flail-like, and the right leg weak. The temperature was 100° to 101°, and she was very irritable. She was immobilized on a frame with plaster cases on both legs, and her arm was tied to the top of the splint. One week after fixation the temperature and irritability were much diminished. She first discarded splints six weeks later, and a year afterwards was an apparently normal child.

Of the fourteen cases since July, 1926, in nine both lower limbs, the back, and abdominal muscles were affected. Of these, six are now gradually discarding their splints. In three cases one leg was affected; of these, two are now walking in callipers, and one is free of all splints. In the two remaining cases both upper arms and shoulder girdles were affected. These two children are wearing plaster cases, which are being discarded while in the prone position.

I am indebted to Dr. Mitchell Smith, under whose care these patients were, for permission to publish these notes.

THE ELECTRICAL TREATMENT OF THE PARALYSIS OF POLIOMYELITIS.

BY

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HARROGATE.

In a paper published in the *Archives d'Electricite Médicale* in February, 1912, Professor Bergonié appealed against the discouraging prognosis given of infantile paralysis in spite of the efforts made by medical electricians to show that this need not be so, and that it is only so when, through lack of courage or through scepticism, treatment is omitted or given as a matter of form, or is badly applied by incompetent persons, or is insufficient as regards intensity, duration, or instrumentation. Electrotherapeutic treatment, more than other methods, requires clinical experience and practical knowledge which it is impossible to acquire through books; and this applies very particularly in cases of infantile paralysis. The part of the medical electrician will begin at the end of the acute stage by making a precise and complete electrodiagnosis as a basis for everything which shall be done afterwards. To examine the leg, for example, a compress soaked in warm weak saline solution is wrapped around the foot and ankle, and a flexible metallic electrode bandaged to it; the patient may be seated or recline on a similar electrode of large size placed about the buttocks. These electrodes are then connected to the poles of a source of faradic current of low tension (coil with coarse winding); this current is passed through a metronome which rhythmically interrupts and reverses it about forty times a second. The intensity of the current is regulated by a progressive rheostat; if the intensity is very gradually increased, the coil being of the proper coarse winding, and the electrodes large, the process will be painless. It is possible to see and feel the muscles which respond, and those which have lost their faradic excitability. To ascertain which muscles show signs of degeneration it is only necessary to move the commutator of the apparatus and send the galvanic current by the same electrodes to be rhythmically interrupted and reversed by the same metronome at the rate of twice a second. By this means the muscles can be divided into two classes: (1) those which have preserved their faradic excitability; (2) those which have lost it and show the slow contraction of degeneration. Having completed the electrodiagnosis the treatment can be continued with the same apparatus.

It will be necessary to commence with the galvanic current rhythmically interrupted and reversed and to follow with the faradic current; the instrumentation is simple, and consists of a source of supply of galvanic current (24 to 36 volts), a metronome to interrupt and reverse the current rhythmically, and a finely graduated rheostat; the milliamperemeter may be dispensed with. This electrization of all the muscles of the limb has the advantage that by sight and touch we can be certain that the affected muscles are well acted on, and we can see the progress and modify the technique. There is no objection to this electrization *en masse* on the theory that the healthy antagonists should not be stimulated at the same time as the partially paralysed muscles. The results are more favourable than in cases subjected to local electrization. The duration and intensity of the electrization are very important. It has been proved by experience and numerous observations carried on over a long period that the condition of the patient improved more and more as the treatment was increased in duration and intensity; it can therefore be laid down as a principle that the intensive treatment of the paralysis of infantile paralysis can be repeated with a duration and intensity not formerly used. Bergonié states that he was driven to this conclusion little by little by ever better results. He quotes, from a large number of cases similarly treated, one of infantile paralysis of the hemiplegic kind. After two months the muscles of the leg responded to faradic stimulation, while in the arms, on the contrary, the biceps, triceps, and deltoid muscles did not respond. Treatment was commenced with an electrode of 300 sq. cm. at the level of the shoulder, and the hand was enveloped in the other electrode. Electrization commenced with half an hour a day at one sitting, then three-quarters of an hour, then one and a quarter hours, always at a sitting, finally one and a half hours at two sittings, then two hours—one hour in the morning and one in the evening; this was continued for two months. The child played and slept during the electrizations; his arm, roused by extensive rhythmic movements, did not make him suffer at all; he did not even wake when the current was intensified. The muscles made such progress that the biceps alone was a little backward, but it contracted at will.

The practice of long electrizations *en masse* by galvanic currents rhythmically interrupted and reversed automatically is the best treatment in these cases. Bergonié frequently stated that, from his experience of over twenty-five years, even in the most serious cases of infantile paralysis a good prognosis can be given if the electrical treatment is intensive, well regulated, and assisted by the adjuvant treatments—muscular relaxation, massage, passive and resistance movements, exercises, and, in particular, warmth to the limbs, as discussed by him at the Congress of Physiotherapeutics in 1910.

FULMINATING MYELOGENOUS LEUKAEMIA.

BY

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LONDON.

THE case here reported is remarkable chiefly for the uncommon commencement and history of such a case, and also on account of the extreme rapidity of its progress.

The patient was a young man of 28, who had previously enjoyed quite average health with no particular history except of influenza (which his wife and child also had) at Easter. When I saw him on June 11th he said that his friends told him he spoke so softly that they could hardly hear him, while it seemed to him that he was speaking loudly. At the same time he had found on testing that he was "rather" deaf. I found that he was almost equally deaf on both sides and could only hear my watch, which has a loud tick, two inches away. He could, however, hear on the telephone fairly well. He had some wax in the right ear, but the hearing was no better after its removal. The tonsils were large and flabby but not inflamed, and the pharynx was granular. He complained of having catarrh in the nasopharynx, but said that otherwise he felt as fit as ever. I prescribed nasal douching, and saw him again on June 16th. His hearing was the same, and he still said he was quite as fit as usual but annoyed at the deafness. As he thought he was a little better I told him to continue the douching and return in a week. On June 23rd he was rather more deaf but felt the same. I arranged then for him to see Mr. F. J. Cleminson, who told me that the whole of the lymphoid tissue of the nasopharynx was in a state of hyperplasia, that the deafness was mechanical, due to the blocking of the Eustachian tubes by this, and that vigorous local treatment was indicated. He asked me to see if any lymphatic glands elsewhere were swollen, as he suspected lymphadenoma or some general lymphatic condition.

I examined the patient on June 24th, but beyond a small gland in the left axilla could find nothing abnormal. The spleen was not palpable. I visited him on June 27th; he was thoroughly annoyed at being kept at home doing the nasal drill, etc., "as he felt so well." On June 30th he had a swollen submaxillary gland and the gums looked a little red. That evening for the first time his temperature was raised (99.6°). On July 1st the gums were more swollen and looked a little bluish, the submaxillary glands were larger, and he had some swelling beneath his tongue. The temperature was normal in the morning and 101° at night. On July 2nd the gums began to bleed and he also had some haematuria, and the temperature rose to 102.4° at night. I had ordered him arsenic that morning, and he had kept to his bed since the morning of July 1st, which was the first time he began to feel that he was "not well."

On July 3rd his condition was similar but he was weaker. The spleen was just palpable. A blood count showed 5,250,000 red cells and 200,000 whites; one-eleventh of these were polymorphs and there were numerous myelocytes. The condition now became rapidly worse. His deafness increased, he became pale and more swollen in the face, and the evening temperature was generally above 102°. On July 5th the spleen was two fingerbreadths below the costal margin. On this day he began to take capsules of benzol. The gums ceased to bleed on July 7th and the haematuria also stopped. The mouth was intensely uncomfortable; he rinsed it frequently day and night, but was unable to sleep for more than ten minutes at a time, chiefly on this account. He lost ground generally each day. A blood count on July 12th showed 1,900,000 red cells, 206,000 whites, 30 per cent. haemoglobin. Of the white cells 94 per cent. were myelocytes, 1 per cent. lymphocytes. On July 13th he was in a critical condition, but because his brother was arriving from America strenuous efforts were made to keep him alive with strychnine, camphor and ether, digitalis, and oxygen. He was delirious most of the day and died late that night. His spleen was never more than four fingerbreadths below the costal margin. The glands of his neck became larger each day. He certainly had the look more of a lymphatic leukaemia than a spleno-medullary. The two counts were done by different pathologists.

The only mouthwash which relieved him at all, among several which were tried, was carbolic and liquor potassae. He died thirty-four days after he was first seen, twenty days after he was last at business feeling quite fit, thirteen days after first going to bed—that is, after he first began to feel ill. I am much impressed by Mr. Cleminson's suspicions, which turned out to be quite near the mark, though at that time there was little enough to go on. I have not been able to hear of a similar commencement of this disease or a more rapid termination.

A METHOD OF FIXING HOOKS TO ADHESIVE STRAPPING.

BY

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PROFESSOR OF SURGERY IN THE UNIVERSITY OF LIVERPOOL; SENIOR SURGEON, LIVERPOOL ROYAL INFIRMARY.

ALEXIS CARREL, in his book on the treatment of infected wounds, described a method of closure of a granulating wound by elastic traction. To the edge of a piece of adhesive strapping he fastened a series of shoe hooks by the instrument commonly used by shoemakers. Around these hooks he passed in a criss-cross fashion an elastic ligature. When this was pulled tight the edges of the wound approximated. The great advantage of this method

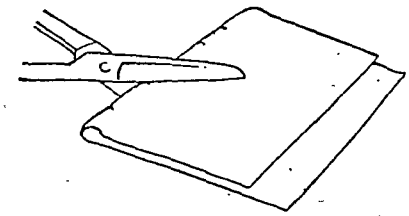


FIG. 1.

over the usual "strapping" of a wound is that the adhesive material need not be removed each time the wound is dressed. The only disadvantage is that the shoemaker's hooks and the instrument for inserting them are rarely available.

Recently I have been using the hooks of the domestic hook-and-eye variety. To sew the hooks on to adhesive strapping is a laborious and annoying business, but by the method here figured any number of hooks may be firmly fastened in a few moments.

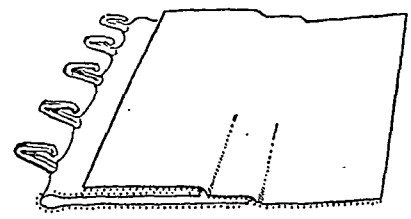


FIG. 2.

A strip of strapping is folded longitudinally but not quite in the middle line, leaving the sticky side out. A tiny nick with the scissors is made in the fold, but only just large enough to allow the hook, but not the flattened circles, to be pulled through. A second piece of strapping is placed over the first, as in Fig. 2, sticky side downwards. The dotted lines indicate the adhesive sides in both pieces of strapping.

When enough hooks have been inserted, the armed strapping is fixed to the skin parallel with, and about

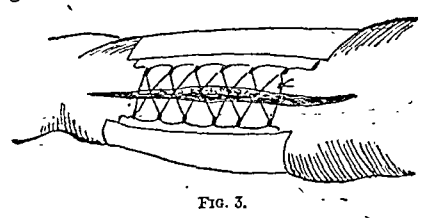


FIG. 3.

one and a half inches from, the edges of the wound. The hooks are then laced, as in Fig. 3. It is not necessary to use an elastic ligature. A piece of silk serves admirably, and slides smoothly through the hooks.

It is possible that this handy method may have been described before, but I have not come across it in surgical literature.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

DIAPHRAGMATIC HERNIA IN A WOMAN.

DIAPHRAGMATIC hernia is sufficiently rare to make it an object of interest, and when it occurs in its rarest form, through the oesophageal opening, it is worthy of report.

The condition was found in a well nourished female body, aged 53 years, examined in the dissecting rooms of Belfast University, and no clinical history could be obtained. The stomach lay in a hernial sac of peritoneum, which communicated freely with the general peritoneal cavity through the diaphragm by a hiatus which measured 6 cm. in diameter. Surrounding the peritoneal sac was a distinct layer of what appeared to be thin fascia, which was continuous with the margins of the opening in the diaphragm. The posterior wall of the pericardium lay in front of the hernial protrusion, and the descending thoracic aorta and the bodies of the ninth to the twelfth thoracic vertebrae (inclusive) behind it. Above the level of the stomach the oesophagus showed a well marked curve to the right side, and at the level of the seventh thoracic vertebra it bent suddenly across to the left of the middle line, where it turned sharply downwards to open by a constricted cardiac opening into the stomach. In the transverse part of its course the oesophagus was markedly dilated.

In Boursier's work on herniae only three cases of this form of hernia are quoted; in a series of thirty-four cases of diaphragmatic herniae reported by Sir Arthur Keith in the BRITISH MEDICAL JOURNAL in 1910 there is only one through the oesophageal opening.

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UTERINE MYOMA COMPLICATING PREGNANCY.

I WAS interested to read (*Epitome*, November 20th, 1926, para. 485) of P. Firket's two cases of uterine myoma complicating pregnancy, which tolerated intervention. The two following cases, which recently came under my care, may prove of equal interest, especially as one of them closely resembles Firket's first case.

CASE I.

A primipara, aged 30, stated that she usually menstruated for two days only and lost very little blood; menstruation was usually accompanied by slight pain. She last menstruated on May 7th, 1926, and lost the usual quantity of blood. She remained in good health until September, when she began to complain of pain in the left side of her abdomen low down; her temperature was then slightly elevated. A tender lump was felt at the left side, and the uterus was found to be pushed over to the right side. The "tumour" was freely movable away from the uterus. When I first saw her, on September 29th, there had been retching, but no vomiting, the evening before; she had lost no blood per vaginam and had no vaginal discharge. Her doctor told me that the swelling appeared to have got larger within a week, and that he had examined her early in pregnancy without finding any tumour. The fundus of the uterus was a little above the level of the umbilicus, although the menstrual history showed that pregnancy had only lasted four and a half months. No foetal movements were felt and no foetal heart sounds heard.

The patient was admitted to the private block at the Colony Hospital the same day for operation. It was found that the relative positions of uterus and tumour varied from time to time, such variation coinciding with attacks of pain and increased tenderness. The tumour also appeared to vary in consistence. Operating on October 2nd I removed a fair-sized subserous fibroid growing from the left antero-lateral aspect of the uterus. The fibroid was attached by a broad base, and was shelled out fairly easily. There was another small flat fibroid, about the size of a shilling, which I left alone. The patient stood the operation well, and left hospital within a fortnight. She is now having a normal pregnancy.

CASE II.

A 5-para black woman, aged 38, at full term, was admitted to the maternity ward on October 14th, 1926, with a history of a foot having come down following the discharge of waters. The district nurse was alleged to have "put the foot back." The patient had recently been badly beaten by her husband. On admission the temperature was 100° F. and the pulse 90, and there was a foul smelling vaginal discharge. As the patient had no pains, though the discharge and temperature persisted, and there was one rigor, I examined her under chloroform, and diagnosed provisionally a twin pregnancy, though I could hear no foetal heart sounds. The patient was very large, and two swellings, like foetal heads, could be felt. I found the cervix dilated sufficiently to admit three fingers, and I pulled down two macerated legs. I attempted to empty the uterus, but found it quite impossible to get my hand in. Two hours later Nature delivered the body by decapitation; I gave pituitrin, and awaited results. Early next morning the head was delivered in a foul state of maceration. I examined again under chloroform, and with the utmost difficulty the placenta was removed. It was then found that what had been taken to be a second child was in reality a large fibroid. The patient died that night of shock and septicaemia. Laparotomy was from the start absolutely contraindicated.

At the necropsy I found no evidence of internal injury. A very large fibroid occupied the entire left wall of the uterus, the fibrous tissue element greatly preponderating. The tumour was the size of a full-time pregnant uterus; hence my inability to get my hand into the uterus. Neither the patient nor her relatives gave any history of an abdominal tumour previous to pregnancy, and it must be concluded that the fibroid increased in size enormously during pregnancy. On the surface of the fibroid were areas of necrosis, possibly due to pressure.

The following points appear noteworthy.

1. The rapidity of growth of a fibroid during pregnancy, even in a case where the potentialities of pregnancy have been reasonably fulfilled (as in Case II, a 5-para). The palpable presence of a tumour in early pregnancy was excluded in each case.

2. The pressure symptoms which can arise: in Case I temperature, retching, and abdominal pains, simulating an early acute abdomen; and the *post-mortem* appearance of the fibroid in Case II.

3. The difficulty at labour and tragic result in Case II, as compared with the excellent result in Case I.

Conclusion.

It is safest and best in cases of uterine myoma complicating pregnancy to perform myomectomy at least, and, if necessary, hysterectomy. In the case of multiparae the second appears to be the operation of choice, as I feel certain that Case I will later have to undergo it. This conclusion, being based on only two cases, is not, of course, of great weight.

I shall be glad to hear what is the correct treatment in such cases, having regard to popular conservatism in obstetrics, to which I also plead guilty. This subject is of special interest to those practising in the tropics, where fibroids, like keloids, flourish and abound.

Grenada, B.W.I. V. L. FERGUSON.

STRANGULATED HERNIA IN A PSEUDO-HERMAPHRODITE: OPERATION: RECOVERY.

CASES like that reported below are so rare that no apology is necessary for placing it on record.

An infant, 1 month old, had been well until three days before admission to the Booth Hall Infirmary, Manchester. He had then become fretful and had not taken the breast well. Thirty-six hours later he began to vomit; the vomit was not related to food, and just before admission it was brownish; he was not constipated, but the stools had become progressively smaller, the last consisting of only a little slime.

The infant was born at full term but was very small (4 lb.) and in poor condition. He was a pseudo-hermaphrodite; the scrotum was bipartite, each half resembling a swollen labium majus; a deep dimple in the perineum simulated the vagina, and the penis looked like a hypertrophied clitoris. The abdomen was rigid; on each side there was an inguinal hernia and hydrocele. The right hernia was readily reducible. The left hernia was irreducible; the region was hot and tense. The diagnosis was strangulated inguinal hernia.

Operation.—The anaesthetic used was ether (Pinson's bomb). Owing to the condition of the infant it was imperative that as little as possible should be done. I made an incision 1½ inches long over the inguinal canal. The hydrocele, which had surprisingly thick walls, was aspirated. The sac was opened and the neck incised. The condition was found to be a Richter's hernia of the small intestine. The cord and testis were normal, the latter being well down in the scrotum. The gut was viable, and was returned to the abdominal cavity, the neck of the sac was ligated and the external wound closed. A light gauze dressing and strapping were applied.

The infant was given saline with glucose and brandy subcutaneously, and radiant heat was applied. Next day breast-feeding was resumed. The wound healed satisfactorily. For a week after the operation the stools were green.

The infant was discharged on the twentieth day after admission. The general condition was good and he had gained about 14 ounces. The wound was healed and the hernia appeared to be completely cured.

I saw the infant at the age of 4 months, when he weighed 11¼ lb.

I am indebted to Dr. J. D'Ewart, the medical superintendent, for permission to publish this case, and to Dr. A. V. Magee, for permission to use his notes.

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British Medical Association.

CLINICAL AND SCIENTIFIC PROCEEDINGS.

CITY DIVISION.

Neuro-syphilis.

A MEETING of the City Division was held on February 1st at the Metropolitan Hospital, when Dr. HAROLD LATHAM was in the chair. Dr. ANTHONY FEILING read a paper on the clinical aspects of syphilis of the nervous system.

Dr. Feiling distinguished four gross pathological changes produced by syphilis in the nervous system—namely, gummata, which were rare but were sometimes large enough to simulate tumours; syphilitic meningitis, which was common; a specific form of endarteritis which caused great narrowing of the arteries and led to thrombosis; and degeneration of the cells and fibres in the nervous system—a later effect of the syphilitic toxin. These were not met as pure forms, and might be divided roughly into two types—the meningo-vascular form, causing meningitis and arteritis obliterans; and secondly, the parenchymatous or degenerative form, sometimes called syphilis centralis, with degeneration in cells and nerve fibres. Meningo-vascular forms appeared in the first months or years of life, while the parenchymatous forms usually occurred at a much later period, seldom before the age of 10 or 20. If treated early the prognosis in the meningo-vascular form was good; but this was not the case with the parenchymatous type. Nervous symptoms appeared occasionally, but rarely, in the primary stage of the disease. Such symptoms and changes in the cerebro-spinal fluid were common in the secondary stage. Pains similar to the lightning pains of tabes might be present in any other types of syphilitic disease of the central nervous system. Occurring in bouts they might last for a few hours, one day, or even a few days. The pain attack might only occur for a few minutes at a time, and was comparable with the stab of a knife. Curious areas of hyperaesthesia of the skin were frequently associated with the pains. In the earlier stages the form of the disease was either meningeal or arterial or both; it was apt to occur soon after infection, in six months, or at any time up to five years. The first clinical condition was headache, which was apt to be paroxysmal and induced by exertion, such as stooping. It might be the only manifestation of the disease. Syphilis of the brain might occur early after infection and be mistaken for neurasthenia. Epileptiform fits in a patient over 25 were often syphilitic, as were many cases of Jacksonian epilepsy. Lesions of the cranial nerves were frequently syphilitic, and when the ocular nerves were affected the pupils might be unequal in size, irregular in shape, eccentric, very tiny, widely dilated, or of the Argyll Robertson type. Such changes in a doubtful case might give valuable help in diagnosis. The next most common sign in the early period was ordinary hemiplegia in young adults aged between 20 and 40; a sudden stroke with hemiplegia and without cardiac disease was usually syphilitic: it was a softening due purely to an endarteritis with consequent thrombosis. In acute transverse-myelitis acute paralysis came on within a few days. The pathological process was endarteritis of the vessels of the spinal cord leading to thrombosis and meningitis. The parenchymatous forms occurred late after infection, and included the spastic paraplegias, most of which were due to a mixture of pathological processes—a chronic meningo-myelitis. The thickening of the leptomeninges and degeneration in the lateral columns caused spastic symptoms. More chronic types were described as Erb's syphilitic spinal paraplegia. In nearly all meningo-vascular cases, and in half of the parenchymatous forms, the Wassermann reaction was positive. The cerebro-spinal fluid showed an increase of cells from 10 per cubic millimetre up to 200, or even more; also an increase in the amount of protein, mostly globulin, as well as a positive Wassermann reaction. Every case of syphilis of the nervous system required great care in treatment. Meningo-vascular patients could take salvarsan freely. For headaches mercury iodide was most useful. Salvarsanized serum might be very effective in cases of tabes which did not respond to ordinary treatment. Very severe and intractable cases of tabetic pains might be benefited by partial division of the spinal cord. Treatment of early stages of general paralysis by malaria, though of great value, was risky in advanced cases. The intravenous injection of a particular form of relapsing fever—the African tick fever—with reaction in two to four days was not so dangerous as malaria therapy. Inunction of mercury was the very effective, rapid, and well tried way of giving mercury properly, but required a skilled masseur.

Reports of Societies.

SURGICAL TREATMENT OF CHRONIC NON-TUBERCULOUS ARTHRITIS.

IN the Section of Surgery of the Royal Society of Medicine on March 2nd a discussion took place on the surgical treatment of chronic non-tuberculous arthritis. Mr. WARREN LOW *presided.*

DR. A. P. BEDDARD, *in opening from the medical side,* said that it was generally admitted that rheumatoid arthritis and polyarticular osteoarthritis were low-grade septicaemias, comparable with gonorrhoeal rheumatism—that is to say, the joint changes were primarily infective—but he doubted whether the same was true of monarticular osteoarthritis, in which, although there was generally an infective element, there were other factors also. As for bacteriology, he believed the micro-organism concerned to be the *Streptococcus longus*, more often of the viridans than of the haemolytic type. Years ago he saw cases which were undoubtedly pneumococcic in origin, but for some years in England, until recently, the pneumococcus had been more conspicuous by its absence. He looked upon rheumatoid arthritis as certainly septicaemic. The primary sites of infection were the teeth, tonsils, sinuses, alimentary canal, including gall bladder, the male urethra, and the uterus. He had occasionally seen fairly acute cases in which no site of infection could be found, and it might be noted how symptomless chronic infection of teeth, tonsils, and sinuses might be, and how small a local trouble could keep up joint changes once the process had been started. There were two sites of infection the treatment of which was very unsatisfactory. One was the uterus, and for a chronically infected endometrium there were but two treatments: curetting, which in his experience was perfectly useless, and removal of the organ, which was a confession of failure. The other unsatisfactory site was the alimentary canal, and here neither vaccines nor drugs nor diet nor Plombières treatment could be guaranteed to put an end to the infection. Surgery was very occasionally of value for this purpose, but was not infrequently applied without discrimination. On rare occasions he had seen a chronically infected gall bladder which had resisted medical treatment removed with advantage. He imagined it was true of any tube in the body that if it was infected and there was delay in the passage of material along it, there would never be an end to the joint condition so long as the delay existed. Speaking generally, he thought the medical treatment of early cases of rheumatoid arthritis and polyarticular osteoarthritis was fairly satisfactory, and that the progress of the disease could often be arrested and the patient be left with a fairly useful if slightly deformed joint. The signs of failure were persistent pain and deformity. Speaking as a physician, he had certain cases in mind which were medical failures—namely, cases of rheumatoid arthritis in which infection had not been controlled, the joints being liable to periodic acute outbreaks of inflammation, and cases of rheumatoid arthritis or polyarticular osteoarthritis in which infection had been controlled, and the joint was partially movable, but in which any except the most limited movement gave much pain.

MR. C. MAX PAGE said that, satisfactory as it would be to base treatment on a sound pathology, this was impossible, for they were singularly in the dark up to the

present with regard to these joint affections. In rheumatoid arthritis, an infective condition, he did not think that during the period of activity the surgeon had much scope, except in so far as he directed measures calculated to prevent the development of deformity. Occasionally a single joint was affected, and then surgical intervention was undoubtedly justified. In osteoarthritis it was generally agreed that the joint changes were produced as a reaction to circulating toxins rather than to the presence of micro-organisms in the joint membrane. The source of the toxins, of course, was a matter of great importance, and the removal of the focus which produced them should always be dealt with before surgery of the joint was undertaken. He had been interested in Dr. Beddard's remarks about the unsatisfactory results of surgical treatment of uterine infections. He had noticed in the series of osteoarthritic hips he had operated on in females that there was a tendency towards the presence of fibroids, and in three cases hysterectomy was carried out on that account. With regard to the technical possibilities in dealing with chronically infected joints, the excision of the joint surface or synovial membrane was not very difficult; it was only a question of deciding whether the infection had become generalized. The reasons for operating in the osteoarthritic group were (1) derangement of joint action; (2) joint pain; (3) progressive deformity. In the first of these conditions manipulative treatment might be tried sometimes with success. If pain and deformity were permanent features more extensive procedures must be carried out. The operations undertaken might be classified as follows: (1) complete excision of synovial membrane; (2) arthrodesis; (3) arthroplasty, rather a formal operation calculated to reproduce a working movable joint; (4) simple excision of the joint. Choice of operation depended less on the anatomical condition of the joint and the assumed etiology than on the age and general condition of the patient. In the young and middle-aged the aim should be not only to remove pain but to produce a supple joint, and stability could best be effected by establishing arthrodesis, and in the knee or hip he had a strong leaning towards this procedure. In the elderly and enfeebled the procedure should have preference which would guarantee relief from pain, entailing the shortest operation and the simplest after-treatment. His experience of arthroplasty as a formal operation at the hip was limited to five cases, it was carried out because the condition of osteoarthritis of the joint was bilateral; the results were not very good; in no case was full range of movement obtained, and in all cases the patient complained of a certain amount of pain in the groin, though not the old articular pain. Partial excision of the head of the femur he had practised in eight cases, and thought it a sound measure to adopt for elderly people or where both joints were infected. In operation on the hip satisfactory exposure was difficult; he thought the supero-external approach based on Murphy's method the most satisfactory.

Mr. R. C. ELMSLIE said that the cure of most forms of chronic arthritis remained chiefly the function of the physician, but the surgical principle of rest for inflamed structures required emphasis. There was fear that rest and immobilization of a joint would give rise to stiffness, but it was not the immobilization that produced stiffness, it was the inflammatory changes themselves. The principles guiding the best position for resting the individual joints had been clearly laid down by Sir Robert Jones, but the speaker thought there was one point in which splinting often went wrong. No joint should be fixed in an extreme position; the knee should be 5 degrees short of full extension, the wrist should be dorsiflexed without being forced back, and the fingers and thumb should be rested in the position that they assumed when grasping an orange or a large egg. Aspiration of the joint as a mode of treatment was perhaps neglected. Excessive tension within a joint might be dangerous; in certain joints a pathological dislocation might occur. He had seen three instances of dislocation resulting from pneumococcal arthritis of the hip within a year, and it would seem that such results could be prevented if the condition were recognized and the joint either aspirated or incised. When difficulty in splinting was found from the presence of severe muscular spasm, a plaster-of-Paris case, extending widely above and below the joint, applied while the patient was anaesthetized, was in his experience the only safe way of preventing contracture. The relief of pain was often the most important object in the treatment of arthritis. With long persisting pain and slowly progressing deformity, fixation of the joint by operation (arthrodesis) might be called for. The efficacy of this operation in the case of the hip was now very generally recognized, but patients were still seen too often with a painful, stiff, and adducted hip, or a flexed and stiff knee, in which all movement had been lost, going from one form of medical or physical treatment to another in the hope of cure, when an arthrodesing operation would render them comfortable in three months. Monarticular arthritis without much pain or bone change, but with certain restricted movements, was the most favourable condition for manipulation of the affected joints under an anaesthetic. When there was greater restriction of movement manipulation also would often help, but care must be taken that the active inflammatory stage was over, and the manipulation must not be too forceful. Another item in the surgery of restoration of function was the removal of such mechanical obstructions as loose bodies. Such removal, besides helping to restore normal use, assisted in curing the arthritis. Arthroplasty for arthritis must be considered as in the experimental stage; the great objection to it was that it might leave a fibrous ankylosis with a range of movement insufficient to serve any useful purpose but sufficient to cause pain.

Mr. WHITCHURCH HOWELL spoke of three stages in arthritis: the pre-infective stage, the ankylosing stage, and the ankylosed stage. There were certain signs and symptoms which preceded the actual onset of an arthritis. The majority of arthritics were very thin, with little subcutaneous tissue, and suffered from poor circulation. They had acid saliva and acid sweat, and when these were got alkaline their physique improved and their arthritis, if it had begun, diminished, and in some cases disappeared. He also suggested that a number of advanced cases could be tackled surgically by a method of coaxing the joints one by one. The most difficult cases were those in which there was painful arthritis of the shoulder-joint. The lower limb could be stabilized, and so could the wrist, and arthroplasty could be done at the elbow-joint, but with regard to the shoulder-joint, were they to stabilize it, or manipulate it, or what were they to do? He described one case in which, in a young woman, after three years of lying in bed, function was restored to the hip and the wrist.

Mr. ZACHARY COPE related two cases, both women, one of whom had not eaten with her hands for, he thought, seven years, and the other had not moved out of bed for the same time. The knees were flexed to about 45 degrees, and the arms were ankylosed at the elbow. In both cases, when the knees were straightened, the patients improved wonderfully in their general health, one of them greatly increasing in weight. When operating on such patients, at the knee for example, no true bone was found. The bone was like a shell of celluloid with butter in the middle.

The PRESIDENT (Mr. Warren Low) said that twenty-seven years ago, in a very acute attack of dysentery (probably bacillary) in South Africa, he himself got a multiple arthritis. With the exception of the fingers of one hand, all the joints of the extremities were involved, and for seven or eight months he was practically helpless. He remembered that he had a feeling that all the joint surfaces were extraordinarily soft and pulpy, and his instinct of self-preservation told him that he must not put any pressure on those surfaces. Further, he was anxious not to have them splinted or in any way confined, as he felt that there was danger of their becoming stiffened. In spite of temptations to do other things, he stuck to this line of treatment, and at the end of eighteen months he was able to walk about with a certain amount of comfort. Surgeon General Keogh told him at the time that in the dysenteric cases in the South African war about 3 per cent. had this multiple arthritis. Another officer who had a similar, but not quite such an extensive, involvement at the same time as himself, in the middle of an attack of dysentery, had his joints put into plaster-of-Paris, with

the result that they became very stiff, and when the speaker, then himself quite fit, saw this colleague some years later he found him with stalactite masses at the elbow, and he had the melancholy satisfaction of excising one of his elbow-joints. His own working hypothesis as to the pathology of these cases was that there were two factors at work—infection and mechanical injury—in very different proportions in different cases. In what might be called the rheumatoid condition it was mainly infection, in the monarticular variety probably the mechanical factor was a very large one, though he always felt that where there was marked infection there was apt to be an increased mechanical factor, for the joint surfaces, being softened, were susceptible to injury from pressure, which explained why these gross changes were found in the lower more often than in the upper extremities.

Mr. ELMSLIE, who was the only one of the openers to make any detailed reply, said that no doubt in the President's case fixation and immobilization would have led to a less satisfactory result than that which he had achieved by following out his own form of rest. But in another patient, less careful to protect his joints, there might be advantage from putting the limb in plaster-of-Paris, and he cited one case in which mobility had been regained in a badly flexed knee-joint after this procedure. But in splinting, as in every other form of treatment, discrimination had to be used in the individual case.

PLASMOCHIN AND MALARIA.

AT a meeting of the Section of Tropical Diseases and Parasitology of the Royal Society of Medicine on March 2nd, with the President of the Section, Professor R. T. LEIPER, F.R.S., in the chair, Dr. P. MANSON-BAHR read a paper on the action of plasmochin on malaria.

Dr. Manson-Bahr said that for nearly three centuries quinine had been regarded as a specific for malaria. Analysis had shown that its main effect on the malaria parasite was due to the alkaloid quinidine. The complete chemical synthesis of the quinine molecule had not yet been accomplished, but for some years German chemists had been focusing their attention on the synthetic production of some combination of the quinoline ring of the quinine molecule which would be more specific and less toxic than the natural drug. The Bayer company had succeeded in producing a complicated compound of this ring called "plasmochin." Preliminary experiments on canaries infected with bird malaria showed that injections of this drug rapidly banished the parasites from the circulation. Roehl found that with quinine injections given daily for six days, parasites appeared in the blood after ten to twelve days; while in untreated birds they appeared on the fifth day after infection. He had thus formed a "scale" of standards, and against this had tested a large number of different drugs. In this way he had found that plasmochin had a parasitotrophic action sixty times greater than that of quinine. One peculiar result was that the sexual stage of the parasite was most readily attacked—the exact opposite to the case with quinine. Shortly after this Sioli tested the action of this drug in therapeutic malaria caused by the benign tertian parasite in cases of general paralysis. Doses ranged from 0.05 to 0.25 gram daily; the latter proved too large, and caused a serious cyanosis with blue lividity of the skin and nails. The parasites disappeared from the blood in all the 60 patients treated. At first given in capsules, the drug was later administered in tablet form in daily doses of 0.1 gram. Finally, however, a dose of 0.02 gram in tablet form five times daily was shown to be best. The action of the drug on benign and quartian malaria proved to be rapid and satisfactory; relapses occurred in some subtertian infections. The drug was found to exercise a lethal effect on the "crescents," which entirely disappeared within a week. Better results were obtained in subtertian malaria by the combination of the drug with quinine (plasmochin compound—0.01 gram plasmochin with 0.125 gram quinine sulphate). Six tablets were given daily. Larger doses caused cyanosis, but more recently it had been found that cyanosis rapidly disappeared on subsequent quinine treatment; plasmochin and quinine seemed to be mutually antagonistic. During the past year Dr. Manson-Bahr had treated 18 cases with plasmochin and 10 with the compound. Although not yet a very large series, records had been kept with great care, and the cases had been followed in detail for nine months to a year after treatment. He found that in doses up to 0.08 to 0.1 gram daily benign tertian parasites rapidly disappeared from the blood within twenty-four hours, and when the treatment was continued for a week this disappearance seemed to be permanent; in the same dose it was not so effective against the subtertian parasite. In both cases the schizonts were first affected, and in the latter case the "crescents" disappeared within four days. The size of the spleen was reduced with extraordinary rapidity. Urobilinogen in the urine appeared coincidently with the administration of the drug, and persisted for several days. A deep cyanosis had been noted in some cases when doses of over 0.08 gram had been given daily; the cyanosis was due to a methaemoglobinaemia, which, if too intense, might develop methaemoglobinuria. Dr. Manson-Bahr then detailed the cases which he had treated with plasmochin (6 benign tertian, 4 subtertian, and 4 mixed infections). It was seen that the action of this drug on the subtertian parasite was not satisfactory and had to be reinforced with quinine. Cyanosis developed in 3 out of the 8 cases; this was undoubtedly a toxic symptom, apparently analogous with the methaemoglobinaemia of potassium chlorate poisoning, and seeming to occur in susceptible individuals after even a very small dose. The drug was free from bitter taste, and was not disagreeable to take. He then referred to cases of benign and of subtertian malaria which he had treated with the compound. The parasites did not disappear so quickly from the blood, but the improvement in clinical condition was striking. No unpleasant sequels were observed. So far as his experience went, the compound was more efficacious in subtertian infections than the pure drug. From his success in these cases Dr. Manson-Bahr thought that a definite addition had been made to the therapeutics of malaria. Some of the original disadvantages of plasmochin had been removed by the addition of minute quantities of quinine, and he was sure that finality had not yet been reached. This drug was probably only the first of a series of synthetic drugs which might destroy the parasite without causing any toxic symptoms; it must be regarded as the beginning, not the climax, of a new series of antimalarial drugs.

Dr. J. GORDON THOMSON drew attention to the fact that both natural and acquired immunity to malaria existed. The latter was a tolerance which developed after repeated infections over a long period, and occurred where the disease was hyperendemic. If such persons were removed they lost this. In avian malaria the bird had an acute disease for about nine days; after that the disease decreased, and a partial tolerance was developed which might remain for nearly two years. The blood, however, was still infective for other birds and for mosquitos. The bird was not cured, and if its resistance fell the disease might again become acute. Dr. Thomson asked whether plasmochin really cured the disease or merely caused a tolerance. Natural immunity in malaria also existed, and some patients recovered without any specific treatment. These facts would have to be taken into consideration before plasmochin could be said to have any advantages over quinine. Plasmochin seemed to be of little use for malignant tertian malaria, which, however, was more amenable to treatment with quinine than benign tertian. The factor of safety of the drug appeared to be very low—a fact which was a definite disadvantage.

Sir WILLIAM PROUT stated that it was very rare indeed to find a true quinine idiosyncrasy, although many people thought that they were unable to take quinine. He had treated thousands of cases of malaria, and he had found that the inability to take quinine was so rare as to be negligible.

Dr. MANSON-BAHR, replying to the discussion, stated that this was the first time that a synthetic drug had been prepared which had a specific action on malaria. Although

it was not yet entirely satisfactory, he had little doubt that ultimately some similar drug, without the disadvantages of this one, would be found.

This discussion was followed by an essay on onchocerciasis (worm nodules in man in Africa) by Dr. DYCE SHARP, and a note by Professor LEIPER on the discovery in the Belgian Congo of the species of *Physaloptera* previously recorded by himself in other parts of Africa.

GENERAL ANAESTHESIA IN DENTAL OPERATIONS.

AT a meeting of the Anaesthetic Section of the Royal Society of Medicine on March 4th Dr. BELLAMY GARDNER opened a discussion on general anaesthetics in dental operations.

Dr. Gardner said that the dental surgeon needed an anaesthetic which would enable him to perform any dental operation in his own surgery. The nursing home was to be used only as a place in which the patient could recover from the effects of the operation and anaesthetic under the care of a skilled nurse. The nurse should be present at the operation and accompany the patient to the home afterwards. Operations in a nursing home were inconvenient, as most dental surgeons were not accustomed to operating upon patients in the horizontal position. Few nursing homes possessed dental chairs, and it was difficult for a dentist to use portable hired dental chairs with which he was unfamiliar. It was therefore necessary to secure an anaesthesia sufficiently deep and prolonged to perform any dental operation, and to allow the patient to return either to his own home or a nursing home within a reasonable time, such as an hour from the commencement of the induction. The anaesthetic employed would vary according to the length of time needed for the operation. For an operation lasting up to fifteen minutes nitrous oxide and oxygen sufficed; in any longer operation the addition of ether and chloroform was required. It was safe to give chloroform in the upright position so long as this anaesthetic was started with the patient sitting up, but a danger was introduced by changing the position to the upright after commencing with the horizontal. Before induction with nitrous oxide the patient should be asked to blow his nose to free it from mucus; he should then be seated in the dental chair with his back well up against the back of the chair. His feet should be placed on the floor, one on each side of the foot-extension of the chair, and a stout leather band should be passed over his thighs and secured to the pedestal of the chair so as to maintain this position even if he made a few spasmodic movements during the induction. The headpiece of the chair should be arranged so as to support the occiput, and then the patient's heart should be auscultated through his clothes. The surgeon should be asked to begin on the patient's left side with the prop inserted on the right side. In this way it was often possible to slip the prop over to the opposite side without the use of a Mason's gag, and, as the anaesthetist was standing to the left of the patient, this manœuvre was easier than if the prop was inserted on the left at first. Many sponges about the size of a small orange should be available, and as soon as the patient was under the anaesthetic one should be passed into the mouth to act as a velum at the back of the tongue and prevent blood or fragments of tooth or filling entering the throat. As soon as the left side of the mouth had been dealt with a second sponge should be placed on the left to mop up the blood. On completion of the operation the sponges should be removed, the head pushed forward, and finally the gag or prop removed. If ether or chloroform had been used the chair should be flattened out so as to allow the patient to recover in the horizontal position. The use of artificial daylight or a searchlight was not to be recommended, as thereby valuable information as to the colour of the patient was lost. After-effects were least marked in patients who were free from all cyanosis. In the case of an alcoholic patient it was often possible to give a smooth anaesthesia with nitrous oxide and oxygen if a preliminary fairly large dose of morphine were given. This form of anaesthesia was contraindicated in paralytic patients and in anginal cases, both of which were best anaesthetized with chloroform in the horizontal position.

MR. IVAN SPAIN, speaking from the point of view of the dental surgeon, said that for patients between the ages of 10 and 65 in operations lasting from three to five minutes he preferred nitrous oxide and oxygen to be given, but for those older than 65 he hesitated to advise nasal administration. In the case of children under 10 years of age he endeavoured to operate in their home under a mixture of ether and chloroform. He did not like ethyl chloride. For long operations he preferred the nursing home. A dental chair, if of suitable design, was useful, but he found the theatre table quite satisfactory if the mouth were packed with suitable sponges to prevent the swallowing of foreign bodies. The chief drawback to nasal administration was the frequent complaints of patients that they felt suffocated; he believed that this was usually due to the gas being administered under pressure at too early a stage of the anaesthetic. If the mouthpiece was not used and the pressure in the bag was kept low until the patient was practically unconscious, a satisfactory anaesthesia could be obtained in 80 per cent. of cases by the nasal method. He believed that the gag should be operated by the dental surgeon, who could see what he was doing, and the same held good with regard to sponges.

Dr. Z. MENNELL (President of the Section) believed that the natural light lamp exaggerated cyanosis. In his experience the necessity of a clear airway was not always recognized by the dental surgeon. Morphine prolonged the anaesthesia, but also was likely to make the patient sick. Dentists should take care to teach the public that not every doctor was also a skilled anaesthetist. Chloroform was not a safe anaesthetic to give in the sitting posture. The feeling of suffocation could be modified if the nosepiece were not pressed into place at the beginning, but held over the nose until the patient was beginning to get under the influence of the gas.

Dr. I. MAGILL expressed the opinion that the ideal anaesthetic for a long dental case was intratracheal anaesthesia by means of a catheter through the nose. A double tube should be used to allow for expiration.

Mr. H. P. BAYLIS recommended ethyl chloride on an open mask as a suitable anaesthetic for children. He found a theatre table quite ideal for dental operations as the surgeon could move round the patient. The anaesthetist should leave the lower jaw alone. If gas were given by the nasal method the patient need not be deeply under for short cases, as it was always possible to deepen the anaesthesia if required.

Dr. S. R. WILSON believed that dental anaesthesia was far behind the level of the anaesthesia in general surgery. Patients expected the anaesthetist to give a safe, comfortable, and cheap anaesthetic when the operation was a dental one no matter how difficult that operation might be.

Mr. J. G. TURNER thought that the nursing home was the best place for a dental patient. Sometimes a dental chair could be found there, but the theatre table was quite as good as the chair, if not better. He doubted if the intratracheal tube was ever really necessary. He wondered why it was considered necessary to use oxygen when air was freely available, and why ethyl chloride was banned. Was it really unsafe for children? He objected to chloroform being given in the upright position. He preferred general to local anaesthesia when dealing with long operations on the lower jaw, as the patient was saved much of the after-pain due to prolonged tension on the muscles of the lower jaw. Patients seldom complained of this after-pain following a general anaesthetic.

Mr. H. E. G. BOYLE preferred to give anaesthetics for long cases in nursing homes. He condemned the use of straps as being a confession of failure; such treatment was apt to scare patients. He did not like sponges; the mouth could be kept quite dry by the intelligent use of a sucker. Ether and chloroform were usually quite unnecessary, but ethyl chloride was useful for small children. Except in a few cases of massive extraction, endotracheal anaesthesia was unnecessary. He wondered why dentists did not make more use of anaesthetists for the purpose of procuring analgesia for painful drilling.

Mr. S. STEADMAN questioned the use of oxygen, as there was more movement of the patient when it was used, and the after-effects were more pronounced. He emphasized the necessity for the proper preparation of the patient before an anaesthetic; a meal should be taken about two hours before it. Analgesia for teeth-filling by nitrous oxide had been superseded by local injection. Ethyl chloride was excellent for children, but the bag should be applied to the face before the drug was put in, to avoid excessive dosage at first should the child struggle.

Dr. F. E. SHIPWAY believed that ethyl chloride given by the open method was quite safe; at Guy's Hospital it had been given in 15,000 cases without a fatality. He condemned operation in the dental chair.

Mr. FRANK COLEMAN drew attention to the possibility of administering gas and ether by the nasal route. The intratracheal method was certainly good at times. Sponges were most useful. Analgesia by gas had been superseded by local anaesthesia.

Dr. C. J. LOOSELY explained his idea of administering gas and ether by the nasal route, his apparatus being a modification of the Clover inhaler. He did not believe that nausea following nitrous oxide was in any way related to food or to overdosage, but was due to idiosyncrasy on the part of the patient. Sponges were certainly most useful, but should not be pushed too far back; the placing of sponges should be the work of the dentist.

Dr. J. F. TREWBY had found that morphine made the breathing of the patient more difficult, and had obtained better results with large doses of bromides, especially in the case of the highly strung. In anginal cases the operation should be performed at the patient's home in the presence of the patient's doctor, ether being more suitable than chloroform. Care must be taken that sponges were free from mucus and blood, as when slimy they were easily swallowed; he therefore always had sponges slung together with tape or string. Sterilizers should be kept well away from the scene of the operation, as otherwise they might be overturned by a refractory patient; an action for damages might then lie against the dentist and doctor if the patient were scalded or otherwise injured. Care should be taken not to stretch the cheek unduly when using the Mason's gag. Teeth were apt to be smashed by the operator not having sufficient room to work in. Dr. Trewby mentioned a case of keloid scar following bruising of the lip during a dental operation, and thought that in this case an action for damages might have lain against the operator or the anaesthetist. He also quoted a case illustrative of the curious mental condition which might follow nitrous oxide anaesthesia. The patient, while not losing her memory completely, could not remember her name. She tried to walk under a taxicab on leaving the surgery, and, when knocked down and put in the cab to be taken home, could not give her name or her address, though she was able to give that of a relative, in whose house she eventually came to her senses.

THE BREAKDOWNS OF MIDDLE LIFE.

THE Section of Balneology and Climatology of the Royal Society of Medicine held a discussion on the breakdowns of middle life, on March 3rd, Dr. R. ACKERLEY presiding.

Dr. J. CAMPBELL MCCLURE said that they were all familiar with the hustling young man who tended to slow down very noticeably in early middle age, and might be unresponsive to new impressions by the early forties; also with the fact that sudden death or nervous breakdown occurred in the apparently physically robust in early middle life. In contrast there was the steady maintenance of capability—or even its increase—on the part of some who in early life had not been remarkable for their powers of achievement. Middle age was for most a time of failing power in one direction or another, and when a man went on running a fifty-year-old brain and body as if it were only a thirty-year-old the time would come when a good average mechanism would break or show signs of premature wear simply because the period of full activity, mental, bodily, and emotional, had been carried beyond the normal point of safety. Breakdowns in middle age were due to two main causes: a local vulnerability of tissues, which varied in different individuals, and a general failure in the vitality of the organism as a whole. Failure of vitality laid the organism open to attack. The normal diminution of power in middle age was largely due to the failure of certain endocrine glands, and when to this normal failure was added the disturbance produced by the continuance into middle age of indiscreet habits of diet and the like, breakdowns more or less serious occurred, affecting one or other somatic system according to the personal vulnerability of the patient. He thought that this vulnerability of various tissues was determined by biochemical faults, either of deprivation or excess, which could be corrected by treatment on chemical lines, such treatment, of course, being combined with careful dieting. It was important to see that elimination was adequate to tissue change, and to estimate the capacity of the kidneys, skin, and liver, and adapt the patient's life, dietetic, occupational, and climatic, to suit that capacity. Breakdowns in middle life due to overstrain of a normal body were beyond the power of the physician to prevent, but those occurring without such abnormal strain were preventable in very many cases by the recognition in early life of constitutional tendencies, which indicated either a biochemical or an endocrine abnormality. The systems attacked might be the lungs, the heart and blood vessels, the nervous system (especially the vagus), the gastro-intestinal tract, the liver or kidneys, the joints, or the interstitial fibrous tissue, and beyond all these declared lesions was either a congenital fault of chemistry or internal secretion or a severe acute disease which had weakened endocrine capacity or disordered the glandular system. Breakdowns, therefore, were complicated things, involving questions of general resistance and local vulnerability; they were capable of prevention rather than of cure, while at the same time the conditions co-operating in their production were more often than not capable of satisfactory modification if the cases were not allowed to drift for too long.

Dr. R. WYBAUW (Spa, Belgium) spoke of the systolic activity of the arteries and its influence on the circulation. He said that one of the most common troubles of middle age was high blood pressure, and the best treatment, except diet, was spa treatment, but the present knowledge as to the action of baths and cures on the circulation was not adequate. The present theory of the circulation, which considered the heart as the only motor for the movement of the blood, and the arteries as elastic tubes whose muscles had no other task than to regulate the diameter of the vessel, did not give an exact explanation of high blood pressure. A new theory, which he had tested by experiment, was that the arterial wall, immediately after the pulse wave had reached the artery, gave an active constricting response, and his conclusion was that hyperpiesia was a disease in which the sensibility of the artery was greatly increased and its muscular response exaggerated. This exaggeration was also the reason why in hypertension the blood pressure was very often higher in the legs than in the arms. Balneological treatment certainly calmed the hyperaesthesia of the arteries, since after the cure the difference between systolic and diastolic pressures was diminished. It was possible that the reflexes of the arterial wall were under the control of nervous systems acting as the vagus did on the heart.

Dr. R. FORTESCUE FOX said that his view was that the variable and curious conditions found in middle life were not separate diseases at all, but a general disturbance. Moreover, the evidence went to show that they originated not in any particular organ, but in some change in the fluids of the body. The most severe cases were found in the decade from 45 to 55 years, a period of physical involution and adjustment both in men and women, and on this well prepared field of lost immunities there came the invasion of the micro-organism. A general disturbance of the equilibrium of health, with disorders of many functions, due to epoch, strain, injurious habits, and micro-organisms, led on naturally to more serious and permanent disorders and tissue change in the most susceptible patients. There was a very large and perhaps increasing number of cases in which the simple remedy of change of habit, regulated rest and exercise, fasting, elimination of alcohol, saline

and Turkish baths, was insufficient, and from this class of cases the health resorts drew large numbers of their more serious visitors. At many resorts a tonic or sedative climate was itself a remedy of no mean importance, especially when combined with regulation of diet, rest, and exercise in the open air. The spas, however, offered far more than this in their internal and external treatment with a variety of waters. The adjustment of the remedies of the spa and the health resort to the diseases of middle life was a very fine art, and if the spa practitioner could study the circulatory and nervous reactions effected by baths, the treatment could sometimes be modified from day to day with much advantage. Baths and waters—like strychnine, bromides, and arsenic—were edged tools, and their choice and dosage must be guided in every case by the reactions observed.

Dr. W. J. TYSON was doubtful about the elaborations which previous speakers had brought to this subject. His view was that middle-aged people might be divided into three classes: those who were never young, those who had forgotten that they were ever young, and those who were still young. The middle-aged man, if he had not got by his time of life sense enough to know how to live, had better throw up the job. The man of 45 ought to know how to order his habits in view of his limitations, and to take the food, exercise, and work which he knew was suited to him. One important thing was to have a hobby in early life, otherwise middle age became stupid, useless, and provoking. Middle age was a time in which the physical powers were going off, but the mental powers went on developing until 70 or later, and as for character, that was never finished.

Dr. H. A. ELLIS said that the normal person was the one who grew old in step with his years, and there were two abnormals—one the person who was never young, and the other the person who never grew old. The normal person had a balanced intake and output at the start of life. His functions of assimilation and elimination were perfect. The abnormals had an error in one or other of these respects. Life was "an acid phenomenon in an alkaline medium," and the business of the medium was to keep the acid in control. The person with elimination difficulties was a person of the acid type. The urine of these different types was quite distinctive. Acid was eliminated in the urine in two ways—as free acid and in combination with ammonia as a salt. In the normal person, who grew old judiciously, the ratio of ammonia acid to free acid was 2:1; in the person with acid accumulation and metabolic stress, who started life too old and ended in middle life, it was 1:1, and in the person who started life with assimilation errors, and remained abnormally young in old age, the ratio was 3:1. Most of the physician's work lay with people of the acid type—people who had a difficulty in getting rid of the acid which produced certain definite constitutional effects, hence rise in blood pressure, higher differential pulse rate, and the ordinary symptoms of cardio-renal trouble. The kidney function was controlled by acid elimination. A man was said to be as old as his arteries, but it was more true to say that he was as old as his kidneys, because it was the kidneys which controlled the arteries. The speaker showed charts illustrating the acid relations in the morning urine—the sample taken on rising and the "tide" urine taken two hours later, and added that as for the second class of abnormals, who had assimilation errors, they usually had low blood pressure, they did not suffer from night micturition, as the persons of the acid type frequently did, and their differential rate was below 44. But they got fatigued, tired, and incapable. It was their endocrines which were at fault, and a balance was as necessary in the endocrine system as in acid elimination.

Dr. LEONARD WILLIAMS said that nature intended man to be a hunter and fighter, but the conditions of civilized life were such that the surprising thing was, not that breakdowns occurred, but that they occurred relatively so seldom. It was difficult enough in any case for a man to keep himself in physical fitness, and after the age of 25 it was made more difficult by the entrance of the "villain of the piece," the woman that God gave him! Then a man had to reduce his pace to the pace of pregnancy or the perambulator or both. Worse still was that tendency in woman which impelled her to "feed the brute," so that the sedentary man who ought to keep himself in a condition of physical fitness became fat and puffy, and developed high blood pressure and various horrors because he could not redress the balance. In the end he went to a spa, which would do him an enormous amount of good, if his wife did not go with him. At the spa he had a chance to increase his elimination, but there was no use in that if he did not manage at the same time to reduce his intake. The first thing the spa physician should do was to starve the patient for a week and purge him thoroughly. Breakdown in middle age came sooner or later, and the only way to delay it was to reduce intake and increase output.

Dr. W. P. KENNEDY thought Dr. Leonard Williams had gone a little too far in his indictment of women. Monotony of diet, from which bachelors especially suffered, was a bad thing, and he had seen good results from putting such men on more varied food.

Two visitors from abroad took part in the discussion. Dr. MOUGEOT of Royat supported Dr. Wybauw's hypothesis with regard to pressure and the arteries, and also suggested that balneological treatment acted by calming the sympathetic system in every part of its large area and reducing high blood pressure. Dr. FERREYROLLES described some recent work done at Vichy in the way of experiments upon mineral waters as an antidote to toxins. It appeared that they had a certain capacity for destroying organic poisons.

Mr. H. L. A. ATTWATER said that the urinary passages in health were extraordinarily immune from the invasion of bacteria, but if there was stagnation in the tract the passage was liable to bacterial attack, and stagnation was favoured by slackness of muscles of the abdominal wall and back which became infiltrated with fat. Some cases of stagnation could be dealt with by surgical means, but it was for the spas to deal with cases of sedentary slackness.

Dr. ACKERLEY, from the chair, said that the explanation of many breakdowns was not far to seek. The modern day was prolonged by artificial light, modern life was full of a multiplicity of interests without sufficient rest. The very fact that a large proportion of people had to be "called" in the morning—hardly one in ten was capable of rising without this stimulus—showed that their period of sleep had not had its proper recuperative effect, and by the time these persons got to 40 or 50 they were really old because of the amount of rest they had forfeited. One of the virtues of the spas was the element of rest which they induced.

Dr. MCCLURE, in replying, said that one great factor in the success in balneological treatment was the effect on the skin brought about by waters of various temperatures so that, on the one hand, a very active sympathetic system was calmed, and, on the other, a jaded and exhausted vagus system recovered. In high blood pressure a good effect could be obtained by using fairly hot water, and in low blood pressure the skin would respond best to water of a moderate temperature.

CORTICAL NECROSIS OF THE KIDNEY.

AT a meeting of the Section of Obstetrics and Gynaecology of the Royal Society of Medicine, on February 18th, with Mr. EARDLEY HOLLAND in the chair, Dr. ARTHUR CROOK read a paper on cortical renal necrosis.

Dr. Crook described a case in which cortical necrosis of the kidney followed labour. The condition had been associated with suppression of the urine; this was successfully treated by decapsulation of the right kidney, and the patient recovered. Portions of the kidney were removed during the operation, and, on microscopical examination, areas of focal necrosis were detected in the cortex.

Mr. CLIFFORD WHITE, discussing the condition, said that he had incised the renal capsule on two occasions for anuria in eclampsia, with good results. In two other cases no operation on the kidney was undertaken, and both patients had died. He described a case of incision of the capsule of the kidney for suppression of urine following eclampsia.

Dr. J. BAMFORTH discussed the microscopical and pathological findings which were associated with this condition, and gave an account of the changes in the kidney preceding the onset of necrosis.

Professor MUNRO KERR thought that the cortical necrosis was superimposed on an old chronic lesion of the kidney.

Clinical Demonstrations.

Mr. GORDON LUKER showed a specimen of an ovarian pregnancy with the gestation sac and foetus lying in the middle of an ovary which was the size of a hen's egg. It had been removed from a woman, aged 35, the mother of two children, the younger being 17 months old. The clinical history included eleven weeks' amenorrhoea, towards the end of which abdominal pain and intermittent haemorrhage supervened. Mr. Luker also showed two specimens of sarcoma of the uterus arising in fibromyomata. One had occurred in a married woman, aged 53, who had two children; the other in a single woman, 40 years old.

Dr. ALICE BLOOMFIELD reported a case of cyst of the urachus in a single woman, aged 35. It was about the size of a sixteen weeks pregnant uterus, and ruptured during abdominal examination. After removal the patient made an uninterrupted recovery. From the history it appeared likely that some time previously another rupture had occurred. Dr. Bloomfield also described the occurrence of a patent Wolffian duct in a parous middle-aged woman, who complained of vulval irritation. An opening was found between the vaginal and urethral orifices, and the duct was patent for four inches.

TREATMENT OF BILIARY INFECTION WITH HEXAMINE.

AT a meeting of the Section of Therapeutics and Pharmacology of the Royal Society of Medicine on March 8th the subject of the treatment of biliary infection with hexamine was brought forward by Dr. A. F. Hurst and Dr. F. A. Knott—the one from the clinical and the other from the experimental point of view.

Dr. HURST said that hexamine had been used for many years as a urinary antiseptic, in which respect it was well known that it acted only in acid urine. It was always supposed that acid urine split the hexamine and set up free formaldehyde. About twenty years ago it was noted that hexamine was excreted in the bile, and as a result of that observation hexamine began to be given as a biliary antiseptic, in spite of the fact that bile was alkaline. Only small doses, however, could be given because of the irritating action on the bladder. In his own clinical experience he found that even these small doses were of use in cholecystitis or biliary infection, but six or seven years ago it was suggested to him by Dr. Ryffel that large doses of alkali might be given with the hexamine so as to make the urine alkaline and thus neutralize the bladder effect, and in that way large doses of hexamine could be given because no formaldehyde was set free in the bladder. He therefore gradually increased the doses of hexamine from 10 or 15 grains up to, finally, 100 grains three times a day, giving sufficient alkali to keep the urine alkaline, and doses of this range had been given for weeks or even months. He gave a patient 100 grains of hexamine dissolved in 1 oz. of water, and in another ounce of water a drachm of sodium bicarbonate and a drachm of potassium citrate. The first dose was given after breakfast, the second after tea, and the third the last thing at night. The purpose of the bicarbonate was to prevent the splitting up of hexamine by the acid in the stomach. For safety's sake he generally began by giving the whole dose of alkali, and but half the dose of hexamine. Actually as much as 600 grains a day had been given, in an attempt to discover how far the hexamine could be pushed without bladder irritation. Many cases, in his hands and in those of his colleagues, of undoubted cholecystitis got well with this treatment, but the mystery remained as to how hexamine, which would not act in the alkaline urine, acted in the alkaline bile. Dr. Knott, who had confirmed the excretion of hexamine in the bile, had shown that *B. coli* or some aberrant form of that organism was responsible for the common infection of the gall bladder. Streptococcic infections were exceedingly rare, in spite of what had been said on this subject in America. Fortunately it was on the coliform bacilli that hexamine, or rather formaldehyde, was an active antiseptic. The average case of chronic cholecystitis in which there were no gall stones responded well. Even when gall stones were present and were causing symptoms, should there still be an infection of the biliary passage—generally the gall bladder had become sterile by this time—a preliminary treatment with hexamine before operation disinfected the gall bladder and made the operation more safe. After operation also the treatment should be continued, for it was not uncommon for biliary infection to involve all the biliary passages and not merely the gall bladder.

Dr. KNOTT said that urotropine was a particularly easily dissociated substance. A hydrogen concentration of *p*H 6 would produce 1:4,000 formaldehyde, which was a definitely antiseptic solution. Formaldehyde was one of the slow-acting antiseptics. If one subjected it immediately to the Rideal-Walker test it might appear to be not particularly powerful, but if allowed to continue for a considerable time it attained a strength as high as or higher than phenol. If broth culture containing a certain amount of urotropine were infected with *B. coli* the organisms would go on steadily growing and producing acidity, and the acidity would rise to *p*H 5, which meant that a considerable amount of free formaldehyde must be present and, of course, exerting an antiseptic action. In bile the antiseptic action was exerted rather better and more quickly and by a lower strength of hexamine than in broth culture or any alkaline medium in which organisms would grow. The greater effectiveness of formaldehyde in the presence of bile salts was probably due to the lowering of the surface tension, which allowed the formaldehyde to act upon or come in contact more efficiently with the bacteria and so destroy them. Practically all his experiments had been on coliform infections, though he had also obtained with streptococci quite definite evidence of inhibition. The production of local acidity, the fact of a lowered surface tension, and possibly the mechanical situation of the bile in the gall bladder and its mucous content, were the reasons why hexamine was able to dissociate and exert its antiseptic power in bile, whereas it was not so efficient in fluids not containing bile, or in mild alkaline media of any kind.

Dr. GEORGE GRAHAM (President of the Section) was sceptical as to the value of hexamine, whether in urinary or gall-bladder infections, and quoted Peyton Rous to the effect that the function of the gall bladder was to concentrate bile, that there might be as great a concentration as ten times, that the bile itself as secreted from the hepatic ducts remained alkaline, and that the gall bladder itself made the bile acid. Peyton Rous had said that he did not think hexamine would have any action in the gall bladder except in health. Dr. E. P. POULTON had shared Dr. Graham's scepticism until some Copenhagen experience had led him to think there might be efficacy in hexamine. Dr. KINGSTON BARTON had found hexamine of value in old people with gall-bladder trouble, whose cases were unsuitable for operation.

Dr. HURST said that with regard to the power of the gall bladder to concentrate bile in these cases of cholecystitis, as a routine in all suspected cases cholecystography was done and a good shadow of the gall bladder was obtained, showing that the gall bladder was still able to concentrate the bile. He thought that inability to concentrate bile was shown only in a very advanced stage of cholecystitis and in conditions obviously calling for surgical measures. With regard to small doses of hexamine, clinically it was his experience many years ago that these had a good effect in some cases of cholecystitis, but certainly his impression was that with the larger doses, given with alkali, the results obtained were still better, and it would naturally be assumed that if 300 grains could be given a larger proportion would reach the gall bladder than if the amount were 30 grains.

ACUTE ABDOMINAL CONDITIONS IN PREGNANCY.

At a meeting of the Medical Society of London on February 28th a discussion on acute abdominal emergencies complicating pregnancy and the puerperium was introduced by Dr. J. S. FAIRBAIRN, whose paper is printed at page 456 of this issue. Dr. Fairbairn was to have been followed from the surgical side by the late Mr. Joseph E. Adams, who died on December 21st last.

Dr. J. M. WYATT dealt with acute abdominal conditions during the puerperium. He quoted figures from the Metropolitan Asylums Board's scheme for treating puerperal sepsis in fever hospitals. Out of 240 cases 40 had peritonitis. He emphasized the importance of the pulse rate, advising laparotomy when the pulse was over 120 and indications of general peritonitis were present. He considered intrauterine instrumentation to be contraindicated. The difficulty in the early puerperium of distinguishing between acute appendicitis and a septic condition in the generative tract favoured an expectant attitude unless urgent surgical intervention was imperative. In the treatment of general peritonitis Dr. Wyatt advised drainage of the peritoneum without swabbing or lavage. He laid stress on the advantages gained by the use of anti-*B. welchii* serum in these cases.

Dr. J. P. HEDLEY mentioned cases of fibroids and ovarian cysts which had been damaged during labour, causing acute symptoms. One particularly puzzling case of constipation during pregnancy almost exactly simulated an acute abdominal condition.

Dr. ETHERIDGE discussed the origin of pyelitis in pregnancy. He thought it probable that it was a bowel infection, or that some septic focus in the mouth or sinuses might be responsible. High temperature and rigors distinguished pyelitis from retro-caecal appendicitis. If alkalis were not effective he advocated washing out the pelvis of the kidney with a solution of 1 in 1,000 silver nitrate through a ureteric catheter. One or two washings almost always brought the temperature to normal.

Dr. F. J. MCCANN described a case of complete volvulus of the small intestine in a patient five months pregnant. He considered drainage in the flank of first importance in appendix abscess, and advocated jejunostomy with caecostomy for toxaemia in severe puerperal septicaemia.

Mr. ZACHARY COPE described a case of early pregnancy with subperitoneal fibroid causing pain and vomiting and bulging in the inguinal region, which had been mistaken for a strangulated hernia. He mentioned that the intense abdominal pain following a septic criminal abortion, combined with the misleading history the patient often gave in these cases, was a pitfall for the unwary. He commented favourably on the benefits he had seen resulting from the use of anti-*B. welchii* serum, introduced by B. W. Williams.

VISUAL IMAGERY.

At a meeting of the Royal Medico-Psychological Association on February 16th, at the Cheshire County Mental Hospital, Macclesfield, with the President, Dr. J. R. LORD, in the chair, Professor T. H. PEAR read a paper entitled "Recent investigations of visual imagery, with special reference to hallucinations."

The contribution was in two parts, the first dealing with modern experimental normal psychology, the second with modern psycho-pathology, and Professor Pear said he was not aware of any writings which attempted to bridge the gap between the two. German investigators had been very busy on this subject since the war, and some of their results were now becoming known in this country. Some people were able to visualize vividly things seen, such as pictures, maps, and diagrams, and were seldom conscious of having mistaken the images so conjured up for the realities. The popular view was that the man who mistook images for realities was insane, and he who did not was not insane, but this did not suffice for a psychological definition, for dreaming was within the experience of most people. Not only in dreams, but in other borderline cases the imagery was very real, and the images in a dream might be quite different from the images perceived in the day-time. In ordinary everyday life, though a very clear distinction was made between percepts—experience of the outer world—and what were termed images, they were interdependent. In the case of a motorist passing another motor in the night when the lights of the other car were not switched off, it was not an illusion that the driver of the first car saw the lights after he had passed them; he actually continued to see them, for the visual mechanism was still active. There were many problems concerning a form of visual memory which was neither an after-sensation nor an ordinary visual image, and this visual memory was termed the ideatic image. It was a special memory of an object seen which some people experienced after the object itself had been removed. It was not ordinary memory because details came out in the ideatic image which were not consciously observed in the direct examination. This merged into the region of pseudo-hallucination. To produce an after-sensation it was necessary to fix the eyes carefully on one spot in a picture for about half a minute, and then continue to fix on the same spot for about twenty seconds after the picture had been removed. The after-image had not the same colours as the original. No one perceived the ideatic image just as in the picture; those who saw it said that it fluctuated, sometimes being clear, at other times less clear. People who got the ideatic image were often those who were devoted to art; some were classed as "unusual" people. In Germany it was found that after the fourteenth year the tendency to experience these images decreased with the passage of the years, unless the adult had the childish type of mind. With regard to the relation of this phenomenon to pseudo-hallucination, Professor Pear reported a remarkable experience in a man who worried about his hallucinations following the war. These ideatic images might occur when the mind regressed to a more childish state, and it was an interesting question how far the modern system of education and culture had educated people out of this habit.

Dr. SHAW asked whether this ideatic memory was not the same as was spoken of as the artist's memory, and Dr. DONALD ROSS inquired whether Professor Pear had thought of investigating the auditory sphere in the same way as the visual, since auditory hallucinations were the more serious of the two.

Professor PEAR replied that the ideatic image was not the same as the artist's memory, and many artists did not have a visual imagery while they were drawing. A man who had satisfying visual images did not have the desire to draw at all. It seemed that the investigation of auditory pseudo-hallucination was an almost untilled field; these manifestations were usually regarded as grave.

Ultra-violet Radiation in Mental Therapeutics.

Dr. K. K. DRURY, in a paper entitled "Ultra-violet radiation in mental hospital practice," said that the Board of Control reported in 1925 that there were, at that time, only five installations of artificial heliotherapy apparatus in mental hospitals. In the first part of his paper Dr. Drury reviewed the history of the use of the photochemical action of light. The maximum power of the light was exerted when the rays fell at right angles to the surface receiving them, its intensity decreasing with the acuteness of the angle of incidence. For this reason in the latitude of this country only a partial effect was obtained, and hence artificial means of production of more or less equivalent rays was needed. The three main types in use to-day were the carbon, the tungsten, and the mercury vapour arcs. The first of these was used almost exclusively in the Finsen Institute, Copenhagen; it enabled large areas to be irradiated, and several patients could be treated at once. Water cooling was necessary. The tungsten arc was apt to splutter, and required much attention; it did not seem to be a good type for work in a mental hospital. Of mercury vapour lamps, the vacuum type had several disadvantages, but the atmospheric air-cooled type was the simplest and cheapest, as well as the best adapted for local applications. It was very well suited to the needs of a mental hospital. There was no spluttering nor great heat, and no noxious fumes were given off. In the Chester County Mental Hospital bathrooms and dressing-

rooms were in close contiguity, and it was found that bathing facilitated the treatment. Crookes glasses were worn to afford protection to the eyes from indirect rays. Patients subjected to this treatment were benefited in their general health; the bactericidal power of the blood was increased, and there followed an increased intellectual output. The rays were found to recreate the vitamin content in sterilized milk, and seeds so exposed showed increased fertility. Dr. Drury considered that the whole subject of dosage and skin reaction was paradoxical. It was, however, found that the best results followed when the rays caused a mild skin erythema. Eidinow had shown that the most economical way to use the radiation was to expose different parts of the body in turn, and then allow a period of rest to enable the skin to regain its normal sensitivity. Females usually reacted more than did males, blondes more than dark-complexioned people, and clear-skinned folk more than those with a greasy skin. Before subjecting patients to radiation their physical condition must be investigated. Mental patients had a better chance of recovery if their physical condition was good. There were three contraindicating states: agitated melancholics, acute maniacs, and epileptics; these patients not only did not benefit under the treatment, but they actually became worse. Simple melancholias, manic-depressives, and confused cases seemed to derive definite benefit from the treatment. Dr. Drury mentioned an interesting case of pellagra in a woman with mania. Severe terminal diarrhoea had set in, and there was very pronounced debility and wasting. The epidermis was brittle and shrunken, and the patient was nearly comatose. After four exposures to the radiation the diarrhoea had ceased, the skin was more supple, and the lesions less marked. A few days later she could stand unsupported and answered questions, but she suffered from heart disease, and died from this a few weeks later. Macroscopically there was seen to be some sclerosis of the white matter of the brain. Pellagra was a deficiency disease, and radiation had a definite power in restoring the deficiency. Dr. Drury referred to vitaglass, which allowed ultra-violet rays to pass freely, ordinary window glass cutting off most of these rays. He urged that careful records should be kept of all patients submitted to light treatments; these should include the weight, pulse, blood pressure, haemoglobin content, and the white cell differential count.

The PRESIDENT hoped the paper would provide a stimulus to other mental hospitals to set up similar installations. Horton Mental Hospital, Epsom, had the distinction of having been the first institution of the kind to adopt the treatment. Nearly all cases with chronic skin diseases and ulcers in the institution had been cured, and the large amount of time which had been spent in dressing these cases could now be devoted to other purposes. In the case of a nurse with a large tuberculous growth in the neck, an operation had been contemplated, but the light treatment in a short time had effected complete cure.

Dr. MUMFORD agreed as to the extraordinary improvement brought about in tuberculous conditions by artificial sunlight; it was also very useful in extensive lupus. Dr. DOVE CORMAC showed some patients who had derived benefit from the treatment, and one or two types in which it was not desirable to apply it. Dr. HASLAM FOX referred to the much better results obtained in young people as compared with adults.

RUPTURE AND INVERSION OF THE UTERUS.

AT a meeting of the Edinburgh Obstetrical Society on February 9th, the President, Professor R. W. JOHNSTONE, in the chair, Dr. FARQUHAR MURRAY (Newcastle) read a paper based on his own experiences of rupture and inversion of the uterus.

Dr. Murray objected to the terms "complete" and "incomplete" as applied to rupture, and suggested that they should be replaced by "intra-" and "extra-peritoneal" rupture. He thought that the chance of rupture of an old Caesarean section scar was greatly exaggerated, but this possibility should be kept in mind and the uterus in such a case be spared all possible stress at a subsequent confinement. During the last five years he had performed or had records of fifty repeat sections; in none was there evidence of imminent rupture, and though on occasions the scar area was thinner than the surrounding tissue, it was in all cases tough and firm. If a scar ruptured or became thinned out at a subsequent labour it was advised that the wound edges should be excised before resuture so that healthy muscle might be reached on both sides of the wound. The worst traumatic ruptures were considered to occur after versions performed when the uterus was tightly contracted and Bandl's ring greatly in evidence. To avoid such a risk perforation of the head followed by compression with the hand was recommended before a careful version was performed, so as to prevent the lower uterine segment being subjected to such a great strain. After a difficult version manual removal of the placenta was also preferable to diminish the risk of post-partum haemorrhage, but principally in order to explore the uterus thoroughly and so detect any rent in its wall. Dr. Murray was surprised at the degree of trauma of the cervix which was caused by spontaneous deliveries even when so premature as at the seventh month. Some of these lacerations spread up to the body of the uterus, causing repeated abortions and premature labours. As the extent of the tear could not be definitely determined from below, and dissection from the vagina was apt to imperil the ureter and might tear the uterine vessels, Dr. Murray described an abdominal operation for the efficient suture of the tear, which had proved satisfactory. Several cases of inversion of the uterus were described. Dr. Murray had difficulty in accepting the usual explanations of its etiology, as he had noted how difficult it was to cause inversion of the uterus directly with the hands in a Caesarean section and also how often a vigorous Credé method was practised without any untoward result. He thought that the arrangement of the uterine muscle played a definite part in the process, as in several Caesarean sections he had noticed that the thick part of the uterus was the centre, whereas the upper part of the uterus was nearly as thin as the lower uterine segment. It would be therefore quite easy for the thin portion to be pushed, pulled, or even be spontaneously invaginated and gripped by the thicker zone of muscle.

Hydatidiform Mole.

Dr. RALPH LODGE gave an account of thirty-seven cases of hydatidiform mole treated in the Royal Maternity Hospital or Royal Infirmary since 1922. A very large percentage of cases (70) occurred in the third decade of life, and only 8 per cent. after 40 years; 30 per cent. of the patients were primigravidae. The clinical features were principally those usually described, though a "brownish discharge" was frequently reported. Severe vomiting was common, and it was interesting to note that 50 per cent. of the patients had albumin in the urine. The Wassermann reaction was negative in all cases. As regards the after-history, nineteen patients had been followed up, and only one of these developed chorion-epithelioma. Dr. Lodge had investigated the records of the various pathological laboratories [illegible] had found that in this city and the [illegible] this disease was very rare, only six cases having been reported in nearly ten years. This being so, he thought that immediate curetting after expulsion of a mole should not be practised, since his statistics on treatment indicated that this operation was most frequently followed by a morbid convalescence. If any symptoms warranted curetting, and this were performed at a later date, the morbidity was not nearly so great. Statistics were given of the various methods of treatment, and the results of each were compared. It was found that the complications which were most common after expulsion were, first, sepsis (46 per cent. patients having a morbid convalescence); then haemorrhage (8 per cent. having severe loss of blood); and, next, development of chorion-epithelioma (one case), perforation of the uterus not occurring in the series. Vaginal hysterotomy proved to be a satisfactory operation, and abdominal hysterotomy was also very useful on occasions, especially when the uterus was as large as a full-time pregnancy.

PRIMARY CARCINOMA OF THE LUNG.

At a meeting of the Section of Pathology of the Royal Academy of Medicine in Ireland on February 11th, the President, Professor J. W. BIGGER, in the chair, Sir JAMES CRAIG reported a case of primary carcinoma of the lung in a man aged 51, and gave the following clinical details.

A pleural effusion had been tapped and about a pint of sanguineous fluid drawn off, which suggested an intrathoracic neoplasm. The face and ears were cyanosed, the upper thoracic region was oedematous with distended venules, and the arms and hands were swollen from oedema. There was no enlargement of liver, no ascites, and no oedema of feet or legs. A right pleural effusion was present. The patient had a dry cough, but no expectoration. The chest was tapped again, and 15 oz. of sanguineous fluid withdrawn. The dyspnoea increased and the patient died; two days before death he coughed up a quantity of foul-smelling pus, evidently from an abscess in the lung, although there had been no pyrexia at any time and no previous expectoration.

Dr. C. L. MCDONAGH exhibited lantern slides of skiagrams of the case which showed the pleural effusion, and, after aspiration, the lung abscess and tumour.

Dr. J. LAIT gave the following details of the necropsy findings.

Oedema of the upper part of the body was present; the pleural cavities contained much fluid and the pleura over the right lung was thickened. In the right lung was a large abscess, and a tumour was found involving the root of the lung. The pericardium was adherent and thickened; it contained numerous pea-shaped metastases, which did not involve the heart muscle. The tumour at the root of the lung surrounded and practically occluded the superior vena cava, where it entered the right auricle. The spleen contained a small secondary deposit in its anterior border. There were many retroperitoneal glands involved by the tumour spread, which had also invaded both suprarenals. No metastases were found in the bones nor in the other organs and viscera. The primary tumour in the lung and its metastases were found to be composed of solid masses of spheroidal carcinoma cells, supported by a fairly dense but variable stroma. Many cells showed vacuolation, apparently an attempt at secretion, and in places there was an appearance of glandular formation.

Dr. Lait said that in an advanced malignant tumour of this sort it was almost impossible to discover whether the origin of the cancer was from bronchial or alveolar epithelium. Microscopically he had identified the tumour growing in the lining of the bronchi, though the bronchi contained no tumour visible to the naked eye. The limitation of the tumour to the hilus of the lung, with but little diffuse invasion of the lung parenchyme, suggested a bronchial carcinoma, and he thought it had originated in the mucous glands of the bronchus. He discussed the tendency to classify all mediastinal tumours and lung tumours as either sarcoma or endothelioma, and mentioned the recent investigation made by J. B. Duguid of Manchester, who had re-examined a large number of mediastinal and lung tumours, and found that many labelled as sarcoma or endothelioma were really carcinomatous.

Diffuse Carcinoma of the Breast.

Dr. W. D. O'KELLY exhibited a specimen of diffuse mammary carcinoma removed from a young woman whose child was 18 months old. Nursing had been discontinued for over a year. The patient first felt a nodule in the breast, and soon after a clear, watery fluid was noticed coming from the nipple; this fluid later became milky, and was removed by the breast pump. The swelling was at first confined to one nodule of the breast, but later several distinct nodules were detectable. No glandular enlargement was observed in the axilla nor was any nodule found in the breast on the opposite side. On incising the breast the appearances resembled somewhat chronic interstitial mastitis, there being distinct fibrosis. In addition the organ was spotted over with creamy-white, rather cheesy-looking areas about one to three millimetres in diameter, the contents of which suggested caseation, but were rather too uniformly distributed for a tuberculous process. There was definite chronic interstitial mastitis, and cells filled the ducts and acini, many of which had broken down in places, thus producing pseudo-lumina. In some sections a rather cellular stroma, made up mainly of spindle cells, was a prominent feature. The basement membrane in general was intact, but mitotic figures were numerous, there being no difficulty in detecting at least one in every high-power field. The varying features found microscopically were suggestive of benign and of malignant processes, and fields could be readily found which were almost exactly like four or five plates in Ewing's *Neoplastic Diseases* illustrating the pre-cancerous stage in breast cancer. Dr. O'Kelly was satisfied, after a careful scrutiny of the breast, that the process was malignant, that malignancy was early and diffuse, and that the condition was one of diffuse carcinoma of the breast which he had not previously met with. Whether the diffusion was caused or accelerated by the pumping which took place it was impossible to say. The patient was under observation, and so far no recurrence had been recorded.

Appendicitis simulating Acute Yellow Atrophy.

Dr. A. R. PARSONS described a case which he believed at first to be one of acute yellow atrophy, but which at the necropsy proved to have been a case of appendicitis.

A man who had had influenza, and had almost recovered, became jaundiced a week later and mentally confused. The urine was dark and contained bile pigment. The patient did not complain of any definite pain, and the knee-jerks were absent; there was no history of syphilis. On admission his temperature was 99°, his pulse was fairly frequent, and he was wandering a little; during the night he became very restless. The next day his urine contained bile pigment, a little albumin, and the ammonium salts were greatly increased. He was very violent in the afternoon, and during the night became collapsed; he died the next morning, two days after admission, having only been ill for ten days. He had never vomited, and Dr. Parsons had considered that the diagnosis lay between uraemia and acute yellow atrophy.

Professor JOSEPH T. WIGHAM, demonstrating the specimens, said that the patient had died of appendicitis. There was fluid on the left side of the abdomen, and apparently a subphrenic abscess. It was interesting to note that the pus in the abdomen was on the left side, while the abscess was on the right. There was no abscess in the kidneys or spleen. He did not know the cause of the jaundice, but thought it was probably due to an almost complete necrosis of the kidney, somewhat similar to that found in acute yellow atrophy.

Cystic Growth in the Groin.

Dr. W. D. O'KELLY exhibited a tumour removed from the right inguinal region of a boy. A small, hard swelling had been noticed by the patient for about a year; it had begun to increase in size about a fortnight before admission. The swelling felt hard and elastic, and was considered to be a fibroma becoming malignant. At the operation it appeared to have a pedicle extending down towards the femoral sheath. On incision the mass proved to be cystic, with a thick, fibrous capsule in one side of which ran a fibrous cord somewhat suggestive of a vas deferens. The contents of the cyst were mainly a greenish, colloid substance, but one quadrant of the cavity was filled with a mass of fatty tissue suggestive of an epiplocele. Some haemorrhage had apparently occurred recently in this neighbourhood. The actual nature of the condition was not clear, but it seemed possible that it was a femoral hernia of which the neck had become occluded.

ULSTER MEDICAL SOCIETY.

At a meeting of the Ulster Medical Society held in the Pathology Laboratories of the Queen's University, Belfast, on February 24th, Dr. M. J. NOLAN, the President, in the chair, Professor FULLERTON exhibited a large collection of vesical and renal calculi, and of foreign bodies removed from the bladder. Dr. HICKEY showed microscopic slides of cocci obtained from the spinal fluid of a case of septic meningitis in a patient who recovered, and Sir THOMAS HOUSTON demonstrated the varieties of enterococci, explaining their clinical effects. Dr. R. HUNTER described some developmental anomalies. Mr. IRWIN showed a specimen of sarcoma of the collar-bone, a megalocolon, a hepatoma, etc. Dr. LEWIS demonstrated the stippling of red cells found in the administration of lead. Professor MACILWAINE described various electro-cardiograms. Dr. RANKIN, by means of diagrams, slides, and physical experiments, illustrated the histology of cancer. Dr. J. A. SMYTH showed sections of thyroid glands, indicating the difference between true exophthalmic goitre and toxic adenoma of the gland. Professor THOMSON exhibited the kidneys from a case of renal infantilism in a boy aged 14 years, and

specimens from a case of subacute bacterial endocarditis with infarcts in spleen and kidneys. Professor WILSON described a new medium for the isolation of typhoid bacilli and showed specimens. Professor SYMMERS discussed various specimens, including a hepatoma and an acute gastritis with much thickened and pus-infiltrated submucous coat. The PRESIDENT showed specimens of cor bovinum, a dissecting aneurysm, a matted ball found in the stomach, an aneurysm of the internal carotid in cavernous sinus, of hydronephrosis, a patent foramen ovale, and a rupture of the wall of the left ventricle.

DIAGNOSIS AND LOCALIZATION OF SPINAL TUMOURS.

AT a meeting of the Liverpool Medical Institution, on February 17th, Dr. HENRY COHEN read a paper on the diagnosis and localization of spinal tumours, based on sixteen observed cases.

Dr. Cohen discussed the diagnosis under three headings: the gradually increasing compression of the spinal nerves and cord, the site, and the nature of the compression. After a general survey of the clinical features he made special reference to their modifications according to the site of origin of the tumour and its relation to the cord, emphasizing the nature and mode of production of false localizing signs. The value of examining the cerebro-spinal fluid, and particularly of the combined cisternal and spinal puncture of Ayer, and the Queckenstedt phenomena, were discussed in detail. After dismissing the air replacement method of myelography as being of no practical value, Dr. Cohen related his experiences with heavy lipiodol introduced by the cisternal route. This was not without danger because of the irritation and comparative non-absorbability of the drug, which he had found present more than two years after injection. He considered that lipiodol should not be used until a definite diagnosis of compression of the cord had been made by careful clinical and cerebro-spinal fluid examination, or when exact localization was possible by clinical methods alone, or unless an operation was to be undertaken subsequently. Lantern slides were shown to illustrate the possibility of distinguishing extramedullary growths by lipiodol. The value of light lipiodol (ascendant) was questioned. After discussing the nature, pathology, and differential diagnosis of spinal tumours, Dr. Cohen indicated the general prognosis with regard to operative mortality, and the likelihood of recovery of function after complete removal of the tumour. He pleaded for the earlier recognition of these cases in order to improve the results in a disease which, when treated early, was one of surgery's greatest triumphs, but which, if left too late, resulted in the tragedy of a bedridden paraplegic.

The Blood Pressure in the Psychoneuroses.

Dr. S. BARTON HALL read a paper on the blood pressure in the psychoneuroses. After reviewing the literature concerned, he mentioned the importance of the part played by emotional physiology in psychopathology and psychotherapy. The precautions taken to exclude organic factors and the technique of the investigation were described. Blood-pressure records of 53 patients with neurasthenia and psychasthenia—30 males and 23 females—were shown. In 84.9 per cent. of the cases the blood pressure was found to be subnormal, as calculated according to Halls Dally's formula, while in 15.1 per cent. the systolic pressure was abnormally high. Cases from the series were described to illustrate the circulatory symptomatology in neurasthenia. Thirteen cases in which there was an abnormally high blood pressure were found to be associated with anxiety neurosis in some form, a distressing worry or fear continually dominating the patient's mind, and provoking continued anxiety and suppressed excitement. Tables and charts were shown demonstrating the return of the blood pressure to normal as the emotional condition responded to psychotherapy. It was suggested that the association between abnormally high blood pressure and states of increased emotional tone might throw some light on the etiology and treatment of hypertonus. Investigations had been made of 50 patients with a view to determining how far the first blood-pressure reading had been erroneous owing to emotional factors. Although every precaution had been taken to exclude emotional factors, in 43 of the 50 cases there had been shown to be a first reading higher than the actual blood pressure as ascertained a few minutes later; 35 cases showed a rise of 10 mm. of Hg or over, and 13 a rise of pressure beyond normal limits. The importance of error in highly strung individuals due to the emotional factor was emphasized, and the work of Cannon was referred to in the explanation of these phenomena. It would appear that the rise of pressure followed a sudden extraneous emotional stimulus acting directly through the sympathetic system, or indirectly by the sympathetic system on the suprarenal glands and thence transmitted to vasomotor nerves. In this way continued emotional strain might lead to frequent vaso-constriction and consequent thickening of the vessel walls.

AT a meeting of the Newport Medical Society, held at the Royal Gwent Hospital on February 23rd, with the President, Dr. P. C. P. INGRAM, in the chair, Dr. BEAMAN read a paper on the value of the fractional test meal in the diagnosis and treatment of gastric disorders. He said that the fractional test meal was now quite out of the experimental stage, and had become practically a routine procedure in the investigation of difficult gastric cases. He advocated it, not to replace the examination by x ray and bismuth meal, but as a valuable adjunct to this investigation. At times it gave help where x ray had failed to do so, and at others the confirmation of the x-ray indications clinched the diagnosis. Dr. Beaman described in detail the technique of the test, laying stress on the fact that the procedure involved very little distress to the patient. Immediate or early examination of the specimens was essential, for no reliance could be placed on an analysis of specimens left to stand for any length of time. Charts were shown of the normal type of curve and of the types of curve found in cases of duodenal and juxta-pyloric ulcer, in carcinoma and in achylia gastrica, and these were supplemented by a series of charts with short clinical notes of cases which Dr. Beaman had investigated, including examples of duodenal and juxta-pyloric ulcers, carcinoma, and hypochlorhydria. He strongly advocated the more frequent use of this method of diagnosis in all cases of difficulty where a gastric disorder was suspected.

AT a meeting of the West Kent Medico-Chirurgical Society on February 11th Mr. ZACHARY COPE gave an address on surgical emergencies in general practice, treating the subject under the four heads of: injuries; acute infections; stopped tubes; and rupture, ulceration, or displacement of viscera. He recommended for scalp wounds the application of gauze soaked in a solution of 1 in 1,000 acriflavine, after the removal of hair and cutting out the edges of the wound. If the case was seen within two hours it was possible to sew up the wound with fair prospect of healing. Eusol was also valuable in the treatment of such injuries. Doubtful sprains of the ankle frequently proved to be fractures, especially of the Pott's type; they should be treated by eversion and pressure over the painful spot. If the capsule of the shoulder was injured, gradual exercise and massage should be employed. Fracture of the scaphoid was always diagnosed wrongly as a sprain. In the case of cuts in the neighbourhood of the wrist, search should be made for any anaesthesia of the hand, since the median nerve was often severed. Fracture of the clavicle in a child should be treated by a simple sling, which was sufficient also for fracture of the surgical neck of the humerus when impacted. Dental plaster made good splints; it could be moulded by warm water, gave rigidity, and retained its shape. In the case of haemorrhage from the stomach, blood transfusion enabled life and strength to be preserved until an operation could be performed. Abscesses were often overlooked; it was inadvisable to wait for fluctuation, since the occurrence of a brawny oedema was sufficient indication. In retention of the urine due to enlarged prostate an enema should be given first; senile patients should not have hot baths. A soft rubber catheter should be tried first; if this failed a silk web catheter should be used.

Reviews.

THE SHIP SURGEON.

WE welcome the appearance of the third edition of the *Ship-Surgeon's Handbook*,[1] an eminently sane and practical work. Its author, Dr. VAVASOUR ELDER, can claim the widest experience of the subject of which he treats, and all medical men who are contemplating service on board ship as surgeons would do well to take this book as a guide to pilot them through the many difficulties which beset the doctor when engaged in medical practice on the high seas. Dr. Elder knows as well as anybody the limitations which surround the surgeon on board ship, and when he feels compelled to criticize existing conditions, he does it temperately and with a full knowledge that matters medical in a ship cannot always be adjusted with the ease that obtains on shore. Thus, much has been written of late concerning the space to be set aside for medical accommodation on board ship, and too often the mistake has been made of regarding what has been done on land as easy of accomplishment in a ship where limitation of space is the important governing factor. We have seen some suggestions concerning medical accommodation at sea which, if carried into effect, would go far to render the ship a non-paying proposition. A ship is the result of innumerable compromises, and if one department has to be enlarged it can only, owing to the limitation of space, be accomplished by encroaching on all other departments in the vessel. This Dr. Elder knows full well, and that is why his recommendations are so worthy of attention.

During the last twenty-five years a profound change for the better has come over medical work at sea. Ships are now so much better found in medical requirements, and the prospects of making a reasonable living have so improved, especially in large shipping companies, that life as a surgeon attached to a ship attracts an ever-increasing number of suitable men, and to-day there are many who have elected to follow the sea permanently. The value to a company of an able and experienced medical man cannot well be over-estimated; it takes some considerable time before the surgeon in a ship has mastered all the difficulties and can be accounted thoroughly experienced. Permanent service on the sea, of course, applies more particularly to the large mail lines, but even in smaller concerns, where surgeons serve for a voyage or two, the standard is now much higher, and while many apply, few are chosen. But to all who contemplate the service at sea as a surgeon, whether for a vogaye or two or permanently, this book of Dr. Elder's will be found to be an excellent guide to the life and duties of a medical man on board ship, and as such we commend it.

"BIRTH CONTROL."

THERE are few subjects to pronouncements on which temperament and the point of view seem to make more difference than that which is somewhat erroneously known as "birth control." Scientific calm has hitherto been conspicuously lacking in almost all such pronouncements, and those who advocate this control and the widespread knowledge of its details, and many of those who oppose them, are alike distinguished more by their zeal as crusaders or anticrusaders than by their accuracy as observers or logicians. At last, however, there has been published a collection of essays entitled *Medical Views on Birth Control*[2] by a number of medical men and women whose names carry weight not only with certain sections of the public but with the profession also.

The book is a symposium timely in its publication, interesting in its arrangement, level-headed in its statements, and helpful in its conclusions. The word "symposium" is used advisedly. By its etymology and its earlier usage it should connote a refreshing intellectual entertainment, the contributions to which, however serious their purpose, are of the nature of conversational exercises rather than of profound and exhaustive lectures. This is the character of the book, and it will thus be the more readily influential with the interested public and the less laborious to the busy medical practitioner. Though there is a certain unity in the general conclusion, the book yet represents, as is characteristic of its subject, different points of view. There are ten of them; for Sir THOMAS HORDER'S introduction or summing up may be held to present a definite aspect, and though the editor, Sir JAMES MARCHANT, secretary of the National Birth-rate Commission, himself writes nothing but the note, "Each contributor is alone responsible for his or her own contribution," his very assembling and presentation of this material may legitimately be held to constitute a point of view.

The main contributors are Dame Mary Scharlieb, Professor Leonard Hill, Sir Arthur Newsholme, Sir John Robertson, and Drs. H. Crichton Miller, Arthur E. Giles, R. C. Buist, and Letitia Fairfield. Perhaps the most suggestive of the eight essays are those by Dr. Crichton Miller, Professor Hill, Dr. Letitia Fairfield, and Sir Arthur Newsholme, but all contribute effectively. The mosaic of their argument may be briefly indicated. In a considerable number of cases there are definite medical indications for the prevention or control of conception, but each of these should be dealt with on its merits by doctor and patient in the consulting-room. Beyond this it is at least extremely doubtful whether a more general practice of control can be justified on any grounds, whether national, social, ethical, psychological, physiological, or any other. Most, if not all, such alleged grounds will be found to be based upon fallacies or on imperfect knowledge of facts, and to pay no regard to grave possibilities of injurious effects which the practice would admittedly entail. There are severe limitations to further marked reductions in the death rate; and there are conditions in Western civilized life which of themselves limit fertility and tend to its progressive reduction. With a lower birth rate it seems likely that within some twenty years the population of these islands may become stationary and then tend to decrease. There is, therefore, no danger of an accumulative over-population. There is no real evidence that generally in all the families in which no birth control by artificial means is practised there is an excessive proportion of children with undesirable or inferior qualities. In any state of life normality of inheritance is the rule. It is impracticable, except with a small proportion of mentally deficient individuals, to distinguish between inherent unfitness and unfitness acquired as the result of social and economic evils. There is therefore no reason for unduly pessimistic views as to the present differential birth rate, such as it is. There is no valid evidence that the average woman is worn out by having a large family. Such families have, in decent homes, many advantages, and benefit not only the individual children but the parents in later life. No sympathy is needed for them, except in the case of the thriftless, and the remedy for this last class is clearly something other than conceptual control. Normal sex relations between husband and wife are not merely the gratification of animal appetite, but are, or should be, a perfectly definite factor contributing to adjustment on every plane—physical, mental, and emotional. The urge for parenthood can, with many, be replaced easily enough, but only in youth: in most people it refuses to be repressed later. It outlasts procreative power and is too potent a biological force to be lightly thwarted. Physiologically and psychologically such thwarting leads to dire results. Freedom for sex relations without fear of undesired consequences, like some other so-called freedoms, leads directly to a loosening of moral behaviour, not only in the married but in the unmarried. Finally, in analogy with the case of the mayor of a French provincial town who, summoned before his king to account for the bells not having been rung on the occasion of the royal visit, gave as his twenty-seventh reason that there were no bells, not one of the prescribed means of "birth control,"

[1] *The Ship-Surgeon's Handbook.* By A. Vavasour Elder, D.S.C., M.R.C.S.Eng., L.R.C.P.Lond. Third edition. London: Baillière, Tindall and Cox. (Cr. 8vo, pp. xiv + 523. 10s. 6d. net.)

[2] *Medical Views on Birth Control.* Edited by Sir James Marchant, K.B.E., LL.D. With an introduction by Sir Thomas Horder, Bart., K.C.V.O., M.D. London: M. Hopkinson and Co., Ltd. 1926. (Post 8vo, pp. xix + 175. 6s. net.)

other than reasonable abstinence, can be relied upon to effect even its immediate object.

The book under review can confidently be recommended to all those, medical or lay, who wish to be acquainted with the facts on which these arguments are based, and to be helped to form a reasonable opinion upon a very difficult and important subject.

MENTAL DISORDERS.

THE fifth edition of Dr. STODDART's well known textbook on *Mind and its Disorders*,[3] whilst retaining all the features characteristic of its predecessors, includes a good deal of new matter relating to recent modes of treatment and research. In the section devoted to general paralysis an account is given of the malarial treatment of this disease, and mention is also made of tryparsamide therapy. The description of the methods of intrathecal medication which appeared in former editions has been omitted from this edition as this form of treatment has now been generally abandoned. In a short chapter on encephalitis lethargica and its mental sequelae, Dr. Stoddart recommends the administration of hexamine, not only in the acute stage, but also during the sequelae when presumably infection still persists. For the Parkinsonian rigidity he advises hyoscine *in full doses*.

Dr. Stoddart is an enthusiastic disciple of Freud, and his chapters abound in explanations of symptoms in the terms of Freudian psychology. His partiality to this school of thought has not, however, caused him to neglect to mention other methods of research into mental processes or to give them their due value. His approach to the study of psychiatry from so many different directions may at first lead to some bewilderment, but to the experienced student and to the practitioner it affords a breadth of view not otherwise obtainable, and may so lead to further study and research.

The descriptions of the various psychoses under their respective headings is wellnigh complete. The consideration of pellagra, however, is relegated to the chapter on cutaneous affections. It would seem desirable that in future editions the author should devote more space to this now increasingly recognized disease. Dr. Stoddart is again to be congratulated on a comprehensive and challenging textbook.

IONIZATION IN EYE DISEASES.

DR. A. CANTONNET, the ophthalmologist of l'Hôpital Beaujon, has written a little book[4] giving the result of his experiences of ionization in the treatment of eye diseases. After noting the work of others, and giving an account of his methods, he describes his cases. His mode of application was by a tube electrode. This tube carried at one end an eye-bath, at the other a carbon electrode connected with the battery; the interior of the tube was filled with the electrolyte; the circuit was completed by a plate on the nape. A variety of drugs was used, but chiefly iodides and salicylates. In all he treated 412 cases. At the conclusion he asks himself whether this mode of treatment is a step in advance or whether it may be an illusion. His conclusion is that it is a most interesting form of treatment, and that to neglect it is to suffer loss. He is very frank in relating his results. Each case is recorded separately and in detail, and there is a summary of the whole according to condition. Scars of the cornea which are superficial show more amelioration than interstitial scars. Scars of the skin of the lids give "very beautiful results," but pterygion and symblepharon none. Episcleritis and scleritis were rapidly relieved. Iritis was benefited to some extent. Cataractous opacities of the lenses and vitreous changes showed no benefit, nor did glaucoma when absolute, but there were reactions of interest in acute, subacute, and chronic; retinal and choroidal lesions were unaffected. Ulcers of the cornea, with and without hypopyon, gave variable effects, phlyctens for the most part none. He has as yet not treated cases of conjunctivitis by the method.

[3] *Mind and its Disorders.* By W. H. B. Stoddart, M.D., F.R.C.P. Fifth edition. London: H. K. Lewis and Co., Ltd. 1926. (Demy 8vo, pp. xx + 593; 87 figures; 6 plates. 21s. net.)

[4] *L'Ionisation de l'Oeil.* By A. Cantonnet. Paris: Norbert Maloine. 1927. (Imp. 16mo, pp. 94; 7 figures. 10 fr.)

RADIOGRAPHY OF THE HEART.

MUCH the best recent work on the radiology of the heart and the vessels at the base of the heart has come from the French. The latest essay on this very interesting subject, by Dr. MANOEL DE ABREU, is entitled *Essai sur une Nouvelle Radiologie Vasculaire*[5]; it follows upon, and adds to, the valuable work done by Cerné, Mougeot, Thoyer-Rozet, Delherm, Chaperon, Vaquez and Bordet. We have nothing but praise for it, and no radiologist can afford to be unacquainted with it.

The volume is beautifully printed and illustrated; it is altogether a somewhat remarkable publication—one of those books which it is a joy to read and a joy to look at. In the introduction the author says that the affections of the mediastinum, owing to their situation and *inaccessibility*, belong almost entirely to the radiologist. This is quite true, but—and it is a very big but—the radiologist must at the same time be an anatomist and a cardiac specialist, and it is only when he combines these three qualities that he can successfully interpret the radiological shadows. Photographs, drawings, radiographs, all go to illustrate this exceptional monograph, and the author has so arranged them than in most instances the three go together and illustrate and explain one another. A great number of the radiographs are long-distance ones, "teleradiographs," and all the exact measurements are made from these. A very interesting point is thus brought out, for it is clearly demonstrated that a very small alteration of angle in the position of the patient under examination—that is, whether in an oblique position the angle is, *say*, 15 or 40 degrees—will make an enormous difference in the measurements of the aortic shadow—indeed, practically double it. It follows from this that extreme accuracy in angulation of the patient is of essential importance in the measurement and the interpretation of the breadth of the shadow cast by the aorta or the aortic arch.

Apart from Knox's work on the heart, this subject has received very little attention from British radiologists. Groedel of Germany, in the early days, did a considerable amount of pioneer work, especially from the point of view of the orthodiagraph. To the French school is to be assigned pre-eminence as regards elucidation of radiological appearances in this special branch of work; this newest monograph on the subject is by no means the least interesting and valuable of the many communications on the subject emanating from Paris.

MASSAGE AND REMEDIAL EXERCISES.

THE second volume of Dr. KIRCHBERG's manual on massage,[6] the first volume of which was reviewed in our issue of September 25th last, deals with massage and remedial manipulations and exercises in the treatment of diseases of individual organs and systems, and covers a wide field. The first part is concerned with massage in the treatment of affections of the circulatory, the digestive, and the respiratory systems, massage in cases of obesity, and mechano-therapy in gouty subjects. Massage in diseases of the genito-urinary organs is the subject of the second part; the third deals with diseases of the nervous system; the fourth with affections and injuries of the limbs; the fifth with the importance of massage and exercises for women in health, during pregnancy, and in childbirth, and in the treatment of affections of the female organs of generation; the sixth with affections of the auditory apparatus; and the seventh and final part with massage of the mucous membrane of the upper air passages. The

[5] *Essai sur une Nouvelle Radiologie Vasculaire.* Par Manoel de Abreu. Paris: Masson et Cie. 1926. (Med. 8vo, pp. 215; 58 figures, 27 plates, 38 fr. sans majoration.)

[6] *Handbuch der Massage und Heilgymnastik.* Band II. Von Dr. med. Franz Kirchberg. Leipzig: Georg Thieme. 1926. (Sup. roy. 8vo, pp. viii + 334; 23 figures. M.15; bound M.17.)

first three parts, and the greater part of the fourth, are written by Dr. Kirchberg. himself. In a section dealing with the treatment of fractures and dislocations Dr. Koch of Bochum collaborates, as also does Dr. W. Seele in a section on medico-mechanical treatment of fractures. The part on female affections and disorders is by Professor Koblank of Berlin; that on massage of the auditory apparatus by Professor Grossmann; and on massage of the upper air passages by Dr. Echtermeyer.

The volume as a whole constitutes a manual of great value and importance. It is clearly written, does not push massage and remedial exercises to the exclusion of other therapeutic agents, and gives notes of warning of injuries that may be caused by ignorant or careless uses of massage, especially in the case of young women. As compared with the first volume there are very few illustrations, seventeen out of the twenty-three being skiagrams of fractures or dislocations. The first volume must consequently be consulted for information regarding the technique of the various manipulations. In other respects this second volume is a compendium of information on the subjects with which it deals, and reaches a high level of medical literature. There is a good index of subjects and authorities at the end of the volume, and a bibliography at the end of each of the parts.

NOTES ON BOOKS.

X-Ray Apparatus, its Arrangement and Use,[7] is the title of a small book by Mr. P. K. BOWES, M.A., B.Sc., honorary radiographer to the Kent and Canterbury Hospital. It has been written to help those studying for the various examinations for radiographers, and deals, very simply, with electricity, transformers and induction coils, the x-ray tube, the nature of x rays, photography, and so on. On the whole it is practical and useful within its limitations. The author sets out to say a thing simply, and gives much information of a very practical kind in language which can be easily understood. There are some ninety illustrations, all of which are well chosen, and help to make the text more easily understood. The book should be useful to lay radiographers and to nurses and assistants in the x-ray department.

A small book of some fifty pages by Dr. W. ANNANDALE TROUP deals with the *Ultra-Violet Rays in General Practice*.[8] The author writes with an experience of about eighteen months, and is rather boisterous in his enthusiasm. He outlines first the history of the subject from Herodotus, Cicero, and Pliny to the more scientific advocates of to-day; then follows a short general survey of the action of light on the living organism, and some general considerations for eight pages. Technique is dealt with in a chapter of eighteen pages, and is illustrated by photographs of various types of lamps. The remaining twenty-one pages are devoted to a consideration of the therapeutic application of ultra-violet rays upon the tissues, with reports of successes. Various skin conditions, such as eczema, herpes, alopecia, lupus, acne, and psoriasis, are mentioned in short, terse sentences; cure is to be expected apparently in all, or at any rate in the great majority. This is followed by paragraphs on the blood, on the cardio-vascular effects, disorders of nutrition and of the alimentary system, neurasthenia, paralysis agitans, the respiratory system, chronic nephritis, and sprains—a truly striking variety of pathological conditions amenable to this treatment. It is claimed that alopecia is readily cured in from twelve to eighteen treatments, that three or four exposures terminate early cases of ringworm, that psoriasis invariably yields to the rays, that in herpes zoster the vesicles dry up in a week without intercostal neuralgia, that in pertussis the whoop stops after three or four applications, and that in eczema the itching is always removed, cure resulting in the majority of cases. According to the author, "the above are only a few of the conditions which can be relieved by this and not by other forms of treatment," but he finds it necessary to add that "the treatment is not a cure-all."

The sixth edition of *Lessons on Massage*,[9] by MARGARET D. PALMER, has been revised by Dr. DOROTHY WOOD, who has found it necessary to rewrite the massage section owing to the changes and advance in massage methods since the war. The first two chapters now deal with the history and theory of massage, and these are followed by eleven chapters in which the morbid conditions of the various organs and systems are considered separately, special attention being given to the indications for massage and to the explanation of its specific effects in each case. The chapters in the previous editions which dealt with bandaging, Swedish remedial gymnastics, and the tables of gymnastic exercises have been omitted as being inadequate for modern requirements. The anatomy section, consisting of eight chapters, is now placed at the end of the book for reference. This revision has considerably improved a deservedly popular handbook.

[7] *X-Ray Apparatus, its Arrangement and Use.* By P. K. Bowes, M.A., B.Sc. London: H. K. Lewis and Co., Ltd. 1926. (Cr. 8vo, pp. viii + 196; 89 figures. 7s. 6d. net.)

[8] *Ultra-Violet Rays in General Practice.* By W. Annandale Troup, M.C., M.B., Ch.B.St. Andrews. London: H. K. Lewis and Co., Ltd. 1926. (Demy 8vo, pp. xii + 59; 12 figures. 4s. 6d. net.)

[9] *Lessons on Massage.* By Margaret D. Palmer. Sixth edition, revised and the massage section rewritten by Dorothy Wood, M.R.C.S., L.R.C.P. London: Baillière, Tindall and Cox. 1927. (Demy 8vo, pp. viii + 320; 71 figures, 2 plates. 10s. 6d. net.)

PREPARATIONS AND APPLIANCES.

Eustachian Sound.

MR. F. PEARCE STURM, M.Ch., aural surgeon, Leigh Infirmary, Lancashire, has devised a graduated carrier and flexible Eustachian sound of stainless steel. The stem of the carrier, divided into three divisions of 12 mm. each, is the length of the adult Eustachian tube. The position of the graduation marks with regard to the Eustachian catheter indicates the depth to which the sound has penetrated the Eustachian tube. When introduced, for example, as far as the second division (24 mm.) the bulbous end of the sound is at the isthmus tubae, the commonest position of a stricture. These metal sounds will open Eustachian tubes in cases where the more flexible gum-elastic bougie bends back and reappears in the pharynx. They make it possible to introduce a Weber Leil's inner catheter beyond obstructions otherwise impassable, and have proved very satisfactory during the several months in which they have been in daily use. They are made by Messrs. A. Charles King, Ltd., 34, Devonshire Street, London, W.1.

SCHOLARSHIPS AND GRANTS IN AID OF SCIENTIFIC RESEARCH.

SCHOLARSHIPS.

THE Council of the British Medical Association is prepared to receive applications for Research Scholarships, as follows:

A Scholarship, known as the ERNEST HART MEMORIAL SCHOLARSHIP, of the annual value of not more than £200, and three other RESEARCH SCHOLARSHIPS, each of the annual value of not more than £150, for research in any subject (including State Medicine) relating to the Causation, Prevention, or Treatment of Disease.

Each Scholarship is tenable for one year, commencing on October 1st, 1927. A Scholar may be reappointed for not more than two additional terms. *A Scholar may hold a junior appointment at a University, Medical School, or Hospital* provided the duties of such appointment do not interfere with his work as a Scholar.

The conditions of the award of Scholarships are stated in the Regulations, a copy of which will be supplied on application to the Medical Secretary of the Association, British Medical Association House, Tavistock Square, London, W.C.1.

GRANTS.

The Council of the British Medical Association is also prepared to receive applications for Grants for the assistance of research into the Causation, Treatment, or Prevention of Disease. Preference will be given, other things being equal, to members of the medical profession and to applicants who propose as subjects of investigation problems directly related to practical medicine.

The conditions of the award of Grants are stated in the Regulations, a copy of which will be supplied on application to the Medical Secretary of the Association, British Medical Association House, Tavistock Square, London, W.C.1.

Applications.

Applications for Scholarships and Grants for the year 1927–28 *must be made not later than Saturday, June 4th, 1927*, on the prescribed form, a copy of which will be supplied by the Medical Secretary on application. Applicants are required to furnish the names of three referees who are competent to speak as to their capacity for the research contemplated to whom reference may be made.

ALFRED COX, *Medical Secretary.*

March 5th, 1927.

Nova et Vetera.

PETER GOLDMAN'S DESCRIPTION OF THE DESOLATION OF DUNDEE.

Inficiunt maculae pectus, sensusque labescunt,
Mens animi languet, tingit rubor igneus ora.

[Spots stain his breast, the giddy senses slip,
His mind grows weak, the face all red with heat.]

THESE lines, in which Peter Goldman describes the illness of his brother John, victim of the pest in 1607, contain a vivid picture of a case of typhus, as distinct from bubonic plague. Recognition of the importance of the spots, which is still emphasized in the German term *Flecktyphus*, seems to have begun here in the seventeenth century. An early instance of the term "spotted fever" is found in a letter of 1624, where the writer says:

"We had 328 died this week, a greater number than hath been these fifteen or sixteen years, and yet no mention of plague. . . . But this spotted fever is cousin-german to it at least, and makes as quick a riddance almost."—BIRCH, *The Court and Times of James I.*

Fracastorius in Italy had described a petechial fever a century earlier, but the description includes intestinal symptoms suggestive of the enteric group.

A chart published in the BRITISH MEDICAL JOURNAL in 1895 (vol. ii, p. 254) shows that in the nineteenth century typhus fever was constantly present in Dundee, and that it only began to lessen after the clearance of congested areas had been started in 1870. Before that date it was subject to epidemic prevalence, and so late as 1865-66 the cases treated in Dundee Royal Infirmary rose to 1,084, the population being about 100,000. Under modern sanitary methods typhus has now disappeared, but while it was prevalent the history in Dundee was congruent with the general state of our knowledge of the disease. At one time prior to the recognition of the enteric fevers as specific the medical staff made a report, not entirely harmonious, on the question whether fever cases should be treated in the ordinary wards. Evidence had been collected from all over the country, and this, read in the light of subsequent knowledge, shows that different towns had to deal mostly with one or other of the two specific groups, and that those in the enteric areas thought that cases could be treated in the ordinary wards, while those in typhus areas knew that they should not. The civil desolation produced by epidemics is delineated in the *Delitiae Poetarum Scotorum* (1637) by two of the writers—Hercules Rollok, elder brother of the first principal of Edinburgh University, describes the plague in Edinburgh in 1585, and Peter Goldman that in Dundee in 1607.

Peter Goldman, a junior among the seven sons of James Goldman, merchant, was born in 1587, and entered St. Salvador's College, St. Andrews, in 1601. On his father's tombstone of 1605 he, alone of the seven sons, was termed "Mr.," so that he probably graduated. On December 7th, 1609, he entered Leyden University, where he graduated M.D. on July 26th, 1610. In 1617 he presented complimentary Latin verses on the occasion of King James's visit to Dundee, and an entry of date November 7th, 1621, in the Compt Buik (Scot. Hist. Soc.) of David Wedderburn, merchant, which reads, "Lent Doctor Goldman 4 buikis Iliades Homeri ane uther Greik buik," is the latest item in the personal tale of Mr. Peter so far as it has been accessible to me. In Leyden his name is the first of the series of Scottish medical students who, especially in the time of Boerhaave nearly a century later, frequented and graduated in that university.

Within eight years after the death of James Goldman four of the older sons met with more or less sudden death. Patrick was drowned off the coast of Holland; John died of pest; Robert was thrown from his horse and, falling on his sword, "omnes abrupit renum violento vulnere venas," and William, aged 43, died apparently from apoplexy at the height of his civil activities. Peter wrote a long Latin poem with the title "Margaretae Iacchae matris suae . . . Lachrymae," from which is translated this account of the plague.

"A plague, by fault of air or sprung from earth,
Lay on the walls to which Tay gives a name. [Taodunum.]
Here for two years the loathsome thing ran wild,
Wasting the homes, scanting the town of folk:
Promiscuous funerals crowded, old and young;
All round were grief and signs of horrid death.
Youth breathed its soul before the parent's eye,
And at Life's threshold childhood laid its life.
Medicine gave way beneath the weight of ill;
Apollo-taught Kinloch[1] could only sit
And pray the Fates to bring the better time.
Vain, flame to purge the house, water the frame;
Vain to use wine against disease's bane;
Vain to drum prayers upon unhearing ear,
Contagion spread still more on spreading more.
Now Ramsay died, now just and ever true
Lovell and Lindsay fell, whose care was aye
To make the people's weal their highest law.
Now tombs ran short, the cemet'ry o'erflowed;
Handbell unrung, the funeral order failed
To keep the customed way's sad company.
One way alone seemed counsel in despair,
Abandoning home to flee the baleful air:
Dwellers were few, rare guardian at the gate,
Thistles were found at crosses once foot-smoothed
And thorny burdocks mid in pavèd streets.
A piteous crowd, staking in neighbouring fields,
Fixed roofs or peltclad fled the painful shower.
Some villas sought or widespread neighbour towns,
And John of ours with his too faithful wife
For shelter fled to Winton's castled tower;
But weird of pressing ill and future grief
Its door gaped blue with gold all bordered round
And, wound itself, foreshowed wound to its lord.
What profits man to leave his sweet abode;
Fate follows faster than the wind or cloud.
Spots stain his breast, the giddy senses slip,
His mind grows weak, the face all red with heat.
Quick came his wife, delight of life, unstayed
By prayer of friend or her protesting kin;
Embracing still the racked frame of her spouse,
She, raising eyes, cried 'Fate will try in vain
To take me from my love. With him I'll die;
Without him I'ld not live; Nor fire nor flood,
Nor tyrant Jove himself shall part us now.'"

The poor lady had her wish, and their tombstone reads: "Heir lyes john goldman, mairchand, and elisabeth Traill his spous, quha both depairtit in september 1607, of his age 34, hirs 29." The less picturesque verses of Rollok add the gruesome detail that the sexton by night dragged the dead away with a hook and threw them in a fetid trench. The special hooks for this are still to be seen in museums—for example, at Marseilles.

R. C. B.

DANGEROUS DRUGS REGULATIONS, 1926.

MEDICAL TRIBUNALS.

THE Home Secretary gives notice that, in pursuance of the Dangerous Drugs Regulations, 1926, he has appointed two medical tribunals—one for England and Wales, and one for Scotland—to which, as occasion arises, may be referred for examination and consideration any case in which there is, in his opinion, reason to think that a medical practitioner may be supplying, administering, or prescribing any of the drugs to which the Dangerous Drugs Regulations apply, either to or for himself or to or for other persons, otherwise than as required for purposes of medical treatment.

The appointment of these tribunals was recommended by the Departmental Committee on Morphine and Heroin Addiction, presided over by Sir Humphry Rolleston, which reported in January, 1926. The tribunals are constituted as follows:

England and Wales.

Sir Humphry Rolleston, Bt., K.C.B., M.D., F.R.C.P. (Chairman), nominated by the General Medical Council; Sir William Hale-White, K.B.E., M.D., F.R.C.P., nominated by the Royal College of Physicians of London; and Dr. John Wardle Bone, M.B., C.M., B.Sc., nominated by the British Medical Association, with Mr. E. W. Hansell, M.A., Recorder of Maidstone, as legal assessor.

Scotland.

Sir Robert Philip, M.D., F.R.C.P.Ed. (Chairman), nominated by the Royal College of Physicians of Edinburgh; Dr. Ashley Watson Mackintosh, M.D., F.R.C.P.Ed., nominated by the General Medical Council; and Professor Thomas Kirkpatrick Monro, M.D., F.R.F.P.S.Glasg., nominated by the British Medical Association, with Mr. John Cowan, K.C., as legal assessor.

Substitute members have also been appointed for each tribunal to act in the event of the original members being unable to do so.

[1] See BRITISH MEDICAL JOURNAL, 1926, i, 795

British Medical Journal.

SATURDAY, MARCH 12TH, 1927.

PATENTED RESEARCH.

IT was with no little surprise that we learnt that a body calling itself the Scarlet Fever Committee is taking out a patent covering the results of the researches made by Dr. George Dick and his wife into the prevention and treatment of scarlet fever, which have been frequently referred to in this JOURNAL. The step is so unusual in medical science that it naturally calls for comment. If our readers will refer to the report of a lecture by Dr. Gardner Robb in our issue of January 2nd, 1926 (p. 11), they will find an account of the work that has been done in recent years in connexion with scarlet fever. The first significant observation seems to have been made in 1917 by Schultz and Charlton; they discovered that when the serum of patients convalescent from scarlet fever was injected into the skin of acute cases showing a well marked rash, a bleaching of the rash occurred in a small area around the site of injection. This reaction is now known as Schultz's test. Somewhat later a method of differentiating the biological types of haemolytic streptococci was worked out by Dochez, Avery, and Lancefield. In 1923 Dr. Dick succeeded in obtaining a pure culture of a haemolytic streptococcus from a case of scarlet fever, reproduced the disease in a volunteer by applying a swab of the culture to the throat, and concluded that this streptococcus was the specific agent in scarlet fever. In 1924 the same observer demonstrated that a Berkefeld filtrate of the media in which the specific streptococcus had been grown contained a toxin which, when injected intradermically in cases of scarlet fever, produced a reaction (now known as the Dick test) similar to the Schick reaction in diphtheria. In the same year Dochez of New York prepared, by a special method, an antitoxic serum in the horse, which, in the hands of Blake, Frask, and Lynch, gave very good results in treatment; and Dr. Dick reported that he had, by a different method, prepared an effective antitoxic horse serum. Recently Messrs. Parke, Davis and Co. have put on the market a serum which is claimed to be both antitoxic and antibacterial. Such are the important results that science has gleaned from the labours of this band of workers.

It appears that, so far as his share of the work is concerned, Dr. Dick proposes to take out a patent, both in America and in this country, for the process of isolating haemolytic streptococci specific for scarlet fever; growing them, obtaining toxin therefrom, and antitoxin specific to scarlet fever; for the process of identifying and standardizing the antitoxin; for the method of using the human skin for tests; and for other connected processes. What motives have actuated Dr. Dick and his friends to take this step it is not our business to inquire; we confine our remarks to what we conceive to be the opinion of the medical profession upon the general question. Perhaps the principal objection that can be raised against the practice of patenting is that it will commercialize research. Naturally, this observation does not apply to all medical discoveries; most of the steps that lead up to a directly profitable discovery would be rejected as commercially unworkable by the financial agent. The usual course is as follows: A disease is on general grounds suspected to be of microbial origin; a number of micro-organisms are incriminated; defensive bodies are shown to be produced; the offending microbe is run to earth, but the existence of biological varieties confuses the issue; these have to be differentiated, and so forth. None of these essential discoveries would be touched by the financial agent; he waits for the observer who places the coping-stone to the edifice, and then helps to patent the whole, hoping to make a substantial profit; it would be difficult to estimate the market value of a patent of the antiseptic method. Now there can be no question that a man is entitled to be paid for work done, even if it is merely placing the coping-stone; and money making is one of the most harmless of occupations, as Dr. Johnson has told us. But we are here dealing with a special type of work—work which displays the quality of originality. Ordinary work, in which originality has no part, rightly demands full payment, with one exception—namely, work done for charity; in the latter case the satisfaction experienced by the doer and the gratitude (if any) of the recipient constitute a sufficient reward. We imagine that with many, if not most, of the original workers in medical science an attitude somewhat similar to the latter is taken with regard to their discoveries. They make a distinction between the perfectly legitimate protection of an original literary work of art by copyright and the patenting of a discovery which lends itself directly to the alleviation of human suffering. To restrain by any means the free currency of such a discovery, to hinder in the smallest degree the application of it in helping to lift the burden of human suffering, or in the promotion of further research, would be impossible to them; to ask money for it would be revolting in the extreme. They have, in fact, their full and sufficient reward. We may recall here the sentiment expressed by the late Lord Lister shortly before his death, on the occasion of the presentation of a casket to him: he needed no other reward than the consciousness of having benefited humanity, or words to that effect.

There is another numerous class of research workers who, while fully alive to the sentiments we have described, are more directly actuated by curiosity and the interest they feel in discovery for its own sake. They regard themselves and the rest of the world's scientific workers as belonging to the same team and, as it were, playing the same game. To them any co-worker who is seeking his own profit, keeping any of his work in the background for his own advantage, hindering others from taking full advantage of his work—in short, not working loyally with the team or playing the game—to them such a character has an unsavoury aspect. The reward which this true type of worker obtains is the satisfaction that the anticipation and making of a discovery afford, and the honour he receives from his fellows.

There remain the small—but, it is said, increasing—minority of research workers who regard money making as an essential part of their work. Some of them doubtless consider that no justification is required for that attitude. We do not believe they

have the approbation of the best spirits in the profession. Others may argue that the taking out of a patent is desirable in certain circumstances, in order to restrain the injudicious use of an agent imperfectly prepared. It would seem, however, that if the processes are fully and accurately described there can be no more danger from their employment in the hands of other competent workers than in those of the discoverer. Again, it may be said that patenting is justifiable in order to raise funds sufficient to carry out the costly methods of modern research. It is difficult to believe that there is much point in this argument, for it is notorious that in recent years the outpouring of dollars in aid of research has been phenomenal—so much so that some authorities have gone so far as to suggest that these praiseworthy efforts have been overdone, and that the results have been less visible in the furtherance of science than in the multiplication of posts.

To many it may seem that, considering the infrequency of the practice of patenting medical discoveries, the matter may be safely ignored. Apart from the fact that the frequency is showing decided signs of increase, there is a serious fallacy in this argument. That the cases are at present few is of no importance; if the practice is adopted at all, and if it is recognized as legitimate by the profession, it will be apt to become general. Research workers would need to take out patents for their own protection; otherwise, if they were to publish their results in the course of their observations, some trifling modification of method could be used to justify the taking out of a patent against them. The practice, once allowed on the part of a few, would, like poison-gas, have to be adopted by all in spite of themselves. Finally, it may be argued that, even if allowed, the practice of patenting could not be detrimental in any way to the progress of science. As to this we have the means of judging by inquiring what has happened in cases where it has been adopted.

It is not always easy to stamp out objectionable practices, but in the present case it is probable that an unreserved expression on the part of the medical profession of its opinion on the ethical aspect of the question would prove sufficient.

THE RHEUMATIC CHILD.

THE toll of premature deaths from rheumatic heart disease has led to the institution of campaigns in this country and America to diminish the incidence of rheumatic infection. In England and Wales 30,000 unfimely deaths annually are estimated to be due to this cause, and whereas the death rate from tuberculosis has fallen since 1918, that of rheumatic heart disease has risen. In 1924 the Ministry of Health investigated the incidence of the rheumatic diseases, including rheumatic fever as well as rheumatoid disease,[1] and in July last a special subcommittee of the Science Committee of the British Medical Association published a report (to which the SUPPLEMENT for July 3rd, 1926, was devoted) on rheumatic heart disease in children, dealing with its environmental and other predisposing causes, the effect of tonsillectomy, and the organized after-care of rheumatic children in Great Britain. This report recognized the etiological importance of damp buildings, the beneficial effect of tonsillectomy, and the need for institutional treatment of rheumatic infection in every large city. The Medical Research Council has now published a report by its London Committee on Ante-Natal and Post-Natal Problems of Child Life on "Social Conditions and Acute Rheumatism,"[2] which, indeed, contains more than its title might lead the reader to expect. This committee's report begins with an introduction by the chairman, Dr. G. F. Still, who also provides a final summary of the conclusions. The chief object of the investigations was to throw light on the etiology, apart from the nature of the specific agent, of the special incidence of acute rheumatism among children of the hospital class; a noteworthy feature is the trouble that has been taken to obtain controls, and in this connexion the inclusion of Dr. John Brownlee in the committee is a guarantee of sure guidance in the difficulties and fallacies inherent in statistical inquiries. The data obtained were in the first place the medical and social histories of 721 families containing one or more rheumatic children, obtained at the Hospital for Sick Children, Great Ormond Street, and St. Thomas's Hospital, London, and the Royal Hospital for Sick Children, Glasgow; allowance was thus made for variations in the local conditions, such as the nature of the soil and dampness. As controls with these "rheumatic families" the histories were taken of 200 families each containing a non-rheumatic child under hospital treatment, divided equally between London and Glasgow. In addition, the histories of 1,872 children resident in the various Poor Law institutions were analysed.

A comparison of 700 consecutive well-to-do children seen in private practice, giving an incidence of 0.7 per cent. of rheumatism, with 1,000 consecutive children seen in the out-patient department of King's College Hospital, with rheumatism in 13 per cent., confirmed the general impression, of which previously there did not appear to be any statistical proof, that acute rheumatic infection is much commoner in the hospital group. It is, however, clearly shown that the incidence of rheumatism among the hospital class is not in direct relation to the degree of poverty, for if the hospital patients are divided into three grades according to their financial position the poorest of the three shows a lower incidence of rheumatism than the other two. Hence the influence of poverty would appear to depend rather on some associated condition, and of the various possibilities explored maternal care with regard to clothing and exposure to cold and damp seemed to be a conceivable factor. Exhaustive consideration of the question of heredity, accompanied by eight pages of the family trees for three generations, shows that the general picture of the family histories is that of rheumatism attacking several members of one generation rather than of its transmission from one generation to another. From analysis of the data referring to the incidence of rheumatism in relation to the colour of the hair and eyes, it appears that the darker types tend to show a greater predisposition to rheumatism—a conclusion directly opposite to Dr. Shrubsall's results in 1903.

The possibility of transmission of infection from cases of rheumatism is fully discussed; the instances of the disease arising in children sharing the same bed as rheumatic patients are carefully analysed; and the comparative immunity of children resident in Poor Law institutions is mentioned as having a possible bearing on the transmission of rheumatism. On the whole the data collected do not justify any conclusive evidence of contagion, though many of them are consistent

[1] Report on Public Health and Medical Subjects, No. 23.

[2] *Child Life Investigations: Social Conditions and Acute Rheumatism.* Special Report Series No. 114, Privy Council, Medical Research Council. London: H.M. Stationery Office. 1927. (Pp. 103. 2s. 6d.)

with this view. The relation of the state of the tonsils to rheumatism and the influence of tonsillectomy in preventing its occurrence and recurrence have been much discussed in recent years, and it is interesting to gather the deductions from this open-minded analysis of carefully collected data. Statistical evidence confirms the association between tonsillar and rheumatic disease; but an unhealthy state of the tonsils is clearly not an essential factor, for in 25 per cent. of rheumatic children the tonsils are apparently healthy. Neither cutting nor enucleation of the tonsils guaranteed immunity from rheumatism, for out of 295 rheumatic children whose tonsils had been surgically treated 129, or 43.7 per cent., had their first rheumatic attack subsequently. Dampness of the dwelling-house has generally been regarded as playing an important part in the production of acute rheumatism, and it may come as a surprise to some observers to be told that this investigation lends little support to that view.

The philosophical and entirely unbiased manner in which these investigations have been carried out must impress the reader, and perhaps shake some convictions which have been formed as the result of current impressions and expressed opinions. In particular there may be some disappointment at Dr. Still's conclusion that the inquiry has not given any decisive indication as to the means which should be adopted for the prevention of rheumatism. The most hopeful line is improvement of the environmental conditions of the poor so that they approximate to those in institutions where rheumatism is less common. Some help in elucidating the way in which rheumatism spreads might result from notification of the disease, for its prevalence and distribution could thus be more accurately estimated and plotted out; but compulsory notification would probably present administrative difficulties. Even if it were established, the diagnosis of the more characteristic manifestations of acute rheumatism—namely, cardiac lesions and chorea—is by no means free from the risk of possible mistakes, and in its less definite forms rheumatism may be difficult to diagnose. It is uncertain what proportion of rheumatic children are left with damaged hearts: some hospital figures have placed it as high as 50 per cent., but as hospitals naturally deal with the more severe cases this estimate may be too high. Undoubtedly a large proportion of rheumatic children become affected by some form of cardiac disability; and apart from economic loss inflicted by rheumatism there can, of course, be no doubt that the sufferings of children with advanced cardiac disease make any effort to discover prophylactic methods against rheumatism well worth any trouble and expense.

THE EDINBURGH MEETING: HOTEL ACCOMMODATION

THE Hotels and Lodgings Committee has practically completed its arrangements for coping with the large numbers who are expected to visit Edinburgh in July for the Annual Meeting of the British Medical Association. In order to secure the accommodation which is believed to be necessary, the Committee has definitely engaged all the available rooms in the city, and will allocate these to applicants in rotation. The Scottish Medical Secretary (Dr. Dreyer) has undertaken to do this work for the Committee, and applications for rooms should be sent to him at 6, Drumsheugh Gardens. A form for the purpose has been prepared for the convenience of members, and will be found on advertisement page 8 of this issue. It will be repeated in subsequent issues. The accommodation is grouped in three classes—namely: (1) Hotels, whose tariff for bed and breakfast ranges between 8s. 6d. and 14s.; the number who can be accommodated in these is comparatively limited. (2) Private hotels and boarding houses, at prices from 5s. 6d. to 8s. 6d. for bed and breakfast; of these there is a large number, all of them comfortable. (3) Hostels where the tariff is 8s. for bed and breakfast; not many of these are available, but those that are can be recommended. Garage accommodation has also been secured, and lodgings for chauffeurs. It will facilitate other arrangements if members who intend to be present at the Annual Meeting will notify their intention, whether they have already secured rooms or not. Early application for rooms is earnestly desired.

ILLICIT TRAFFIC IN DANGEROUS DRUGS.

THE revelations respecting the extent of the illicit traffic in opium, morphine, and cocaine, which have appalled and alarmed the Advisory Committee of the League of Nations dealing with these drugs of addiction, will not greatly surprise readers of the JOURNAL. On September 23rd, 1922, we wrote: "In these columns for the last decade we have uniformly urged the need for international control, not only of the distribution, but of the production of these perilous habit-forming drugs. So long as the actual growth of the *Papaver somniferum* and the *Erythroxolon coca* is unlimited and unsupervised the market will be liable to be flooded with their alkaloids and preparations and the excess of supply over legitimate demand will find its way into unlawful hands and be prostituted to vicious uses." The recent exposures of wholesale smuggling and illicit commerce, by post and otherwise, amply corroborate the view we then expressed. The League of Nations Advisory Committee, in a formidable document of sixty-one pages, cites case after case of hundreds of pounds of morphine and heroin which have been seized in transit. Large quantities of cocaine have similarly been confiscated, and in India alone it is probable that the illicit traffic in that alkaloid amounts to forty times the legitimate imports. A syndicate operating chiefly through Copenhagen was discovered which conducted a contraband trade in these drugs with the Far East "to an almost unbelievable extent." Another syndicate at Hong-Kong is chiefly engaged in the smuggling of Chinese opium. An alarming report from the chief of the Cairo police shows that Egypt is being drenched with heroin and cocaine, all of exotic production. "Egyptians," it is said, "are rapidly becoming a race of drug addicts, with disaster staring them in the face." More than 5,000 prosecutions in the year have been of little avail, as the enormous profits induce fresh traffickers to engage in this degrading commerce. It may well be asked, What has the League of Nations been doing with the convention signed at Geneva in February, 1925, from which, according to Mr. Zahle, the president of the second conference, such beneficent results were to be anticipated? The fact is this convention, which was to supersede and improve upon the Hague Opium Convention of 1912, cannot come into operation until ratified by at least seven of the States represented on the Council of the League, of which two must be States having permanent seats. Up to the present time only one permanent and one non-permanent member States have deposited ratifications. Moreover, the Geneva convention and protocol did not place any limitation on the production of opium, as was strongly urged by the American delegation. The Secretary of State for Foreign Affairs recently informed the House of Commons that "the Hague Convention of 1912 continues in operation as between the States parties to it," of which there are fifty-four. It is possible that the presumption that the Hague Convention of 1912 was to be superseded by that of Geneva of 1925 may have relaxed international efforts under the former treaty, which was binding and should be operative, in favour of the later treaty, which remains unratified and inoperative.

SPA TREATMENT IN BRITAIN.

THE current issue of *The Prescriber* is devoted to the subject of hydrotherapy. The editor, Dr. T. Stephenson, contributes an account of a visit he paid last July to eighteen British spas, and gives short descriptions of each, illustrated by reproductions of modern photographs and old engravings. An interesting account of spa treatment in the Middle Ages is supplied by Mr. John Hatton, director of the baths at Bath, the charm of which is considerably increased by Dürer's woodcut of "The men's bath," 1496, the fifteenth century drawing of "A ladies' bath," and views of the baths at Plombières in 1558 and 1747. Leamington, Malvern, and Torquay are singled out for consideration in special articles, details being given about facilities for treatment and the climatic and health conditions. Dr. Fortescue Fox, in a brief foreword, outlines spa treatment from the point of view of defence against disease, and pleads for the better co-ordination and scientific organization of medical hydrology. The numerous illustrations and the mass of useful information collected in this issue will be appreciated by those who desire to know more about available possibilities in this country for spa treatment, as compared with the well advertised foreign resorts. A guide to the British spas and climatic health resorts for 1927 has been compiled by Dr. Fortescue Fox, editor of the Health Resort Section of the *Medical Directory*, and is published by Messrs. J. and A. Churchill at the price of 1s. The general and specific indications to be considered in selecting a spa are enumerated, and short accounts are given of the federated and non-federated spas of Great Britain and New Zealand. Brief descriptions are supplied of the various marine and inland climatic resorts in Great Britain and Ireland. While on this subject we may mention that arrangements are being made by the Post Office authorities, through the British Spas Federation, whereby postmen and certain other members of the Post Office staffs will be able to obtain a course of spa treatment at any of the British spas at special inclusive terms. Owing to the nature of their work postmen are, perhaps, especially subject to rheumatism, and in future any who have been medically recommended for spa treatment will no longer be prevented from obtaining that benefit on account of the cost. The spa authorities have also offered to give every assistance in their power in helping to find suitable accommodation. This provision is of interest in view of the attention now being given to the question of making spa treatment available for insured persons suffering from rheumatic diseases—a subject discussed last week at a conference called by the British Medical Association, and reported in the SUPPLEMENT at page 85.

MEDICAL SOCIETY OF LONDON.

THE *154th anniversary dinner* of the Medical Society of London was held at the Grand Hotel on Monday, March 7th, with the President, Sir Humphry Rolleston, Bt., K.C.B., in the chair. The company included, besides those who spoke after dinner, the medical heads of the Royal Navy, Royal Air Force, and the Army Medical Service, the Chief Medical Officer of the Ministry of Health, and the Presidents of the Royal Society of Medicine, the Harveian Society, and the Chelsea Clinical Society. The toast of "Prosperity to the Medical Society of London" was proposed by Sir John Rose Bradford, President of the Royal College of Physicians, who complimented the society on its age and past services, its flourishing state to-day, and the pleasant house in which its varied work is done, and paid a warm tribute to the personal charm and diversified career of its President. Sir Humphry Rolleston, in replying, said that the present session had already proved most successful; fifty-one new members had joined, all the meetings were well attended, and, in short, the society, though old in days, was very young in its activities. In submitting the health of the visitors Dr. J. Walter Carr gave an amusing elaboration of the difficulties and possibilities of his task, and ended by calling upon Dr. John R. Lord, President of the Royal Medico-Psychological Association, to respond. Dr. Lord, while determined to tell no tales of lunacy, put in a claim for psychiatry as the chief branch of medicine, and speculated on some possible links between it and Lettsom, founder of the Medical Society of London. Mr. J. E. H. Roberts proposed the health of "all the distinguished people at this moment occupying the chair" in the person of the many-sided President, who, though now living in Cambridge, had attended every meeting of the society and of its council during the session. Sir Humphry Rolleston, in a brief acknowledgement, asked the company to toast the two energetic honorary secretaries, to whom the society owed so much, and the proceedings ended with replies by Dr. F. G. Chandler and Mr. Zachary Cope.

ADAPTATION TO ENVIRONMENT.

DR. A. K. CHALMERS, lately medical officer of health for Glasgow, in a lecture delivered not long ago at Greenock, dealt, among other topics, with the effects of acclimatization, understood in a broad sense, upon that portion of the population of Great Britain which, as industrialism developed, began to migrate from the country into the towns, producing gradually a disproportionate increase of persons of town parentage, so that three out of every four of the general mass of the people are now town dwellers. These industrial immigrants, when they made their way into the towns, met with new conditions. They found, it might be, a change of soil, or a change of climate such as, for example, increased humidity. Especially they encountered, in most cases, a new type of domestic environment, attended with crowding which favoured the spread among them of tuberculosis, specific fevers, and diarrhoeal disease, and an ensuing high mortality. These results were reflected in the general death returns. In 1849 the recorded death rate for England was 25 per 1,000; for Scotland in 1867 it was little short of 24 per 1,000. But acclimatization was at work, and began to tell. About 1875 the turning point was reached. The death rate in that year revealed a downward tendency, which proved to be persistent. By 1924 the death rate for England had fallen to 12.2 per 1,000, for Scotland to 14.4. It is not intended to maintain that this acclimatization, or adaptation to circumstance, took place on the human side only. Environment too was undergoing modifications of a far-reaching character. The reduction of crowding, both of people in dwellings and of dwellings on site, the abundance of pure water, the introduction of efficient scavenging, and the betterment of working conditions in factories—these and kindred improvements all played their part in bringing about changes, for man may not only adapt himself to his environment as occasion requires, he may also adapt his environment to himself to suit his special needs. The advance which has been made along these lines since the date of the turning point is well brought out for an industrial city by the life tables recently issued in Glasgow. They show that of every 100,000 boys born in Glasgow in 1871, 40,000 reached their fifty-fifth year; of an equal number born in 1921, 60,000 may expect to reach that term. The increased expectation of life enjoyed by the present generation is largely due to reduced death rates in the earlier years. These observations by Dr. Chalmers, like all his work, are a stimulus to reflection. Adaptation, however, is still regrettably incomplete, for the different organs or systems of man, whether circulatory, respiratory, digestive, or nervous, show varying powers of

resistance to the assaults of environment. Man's life does not cease through a simultaneous collapse of his whole bodily fabric: it is a lesion in one system, like the rift within the lute, which will slowly silence all. If the great general infections like small-pox and typhus have lost some of their terrors, their places are being taken by a new cohort of diseases which strike at particular organs. Cancer, pneumonia, and heart disease, for example, appear to be increasing in prevalence. Nor should we plume ourselves overmuch upon our falling general death rate: our blind, our defectives, and the certified inmates of our asylums must be counted in if we would complete our list of casualties. Like untimely deaths, they are the result of the imperfect adaptation of an organ or system to the conditions of modern life, and they equally call for prevention. Dr. Chalmers and his contemporaries quelled the great fevers and raised the standards of living. The medical officers who are following in their footsteps may find in mental deficiency and cancer and its allies not less challenging problems.

EYE-STRAIN IN INDUSTRY.

A VALUABLE piece of research work[1] on the effects of eye-strain on the output of linkers in the hosiery industry has been done by Mr. H. C. Weston, M.J.Inst.E., and Mr. S. Adams, M.Sc. In the examination of the eyes of the workers engaged in the industrial part of the experiment they were assisted by Mr. W. B. Laws, F.R.C.S., of Nottingham. Many industrial processes demand for their effective performance the clear perception of fine detail, and some evidence already exists that continuous work of this nature tends to have a deleterious effect upon eyesight. Harman's investigation of the history of 480 myopic subjects is cited; it revealed the fact that of those who had not been engaged in fine processes 9.4 per cent. had failed owing to visual troubles at some time during their occupations, and that of those 7 per cent. sustained definite damage to their eyes; of those who were so engaged the corresponding numbers rose to 53 per cent. and 15 per cent. The perception of fine detail depends upon the operation within limits of two factors—the size of the retinal image and the illumination on the object viewed. When the light is too low, then the only resource is to get close to the object and secure a larger image, with resultant extra strain from excessive accommodation. In certain extreme operations the details are so exceptionally fine that illumination, however high, does not wholly eliminate the need for very close vision with its excessive strain. "Linking" is such a process. The work is part of stocking making. The hose comes from the knitting machine with the toe unfinished; it is left in some 220 fine loops, and these have to be linked together on a special machine. A slowly revolving disc is furnished with needles, which measure five-sixteenths of an inch in length, and some twenty to twenty-two go to the inch in lateral measure. The operative sits on a low stool with eyes some five to eight inches from the fabric. The work takes some 75 to 80 per cent. of the time of their employment. The highest average of the quickest operative was four and a half dozen pairs of hose every hour. Such work as this must demand a high degree of accommodation and convergence of the eye, which must be maintained over long periods; moreover, the eyes are fixed upon a very narrow area, so that staring is compulsory. It is known that squint is not uncommon amongst the workers, and Italian observers have noted diminution of field of vision and of visual acuity, and other signs of eye-strain. A considerable number of linkers find it necessary to wear glasses, and probably many more ought to do so. Mr. Laws's investigation shows that for emmetropic eyes the assistance of glasses with lenses of +1.5 D. sphere is of most general use. The lighting conditions under which the work in these experiments was conducted were excellent; the daylight average at the site of the work in December varied from 16 to 34 foot-candles, with an average of 24.5. The artificial lighting was well arranged, and gave from 29.5 to 16.5 foot-candles at different parts of the field of work. The output of three operatives was recorded, first without glasses for one week, and secondly, with glasses for another week. The records of the experiments are given in detail, with curves of output from day to day, and in the morning, midday, and afternoon. The data show that the use of the glasses has been followed by two important results: First, the general rate of output was increased, for a saving was effected during each period of the day glasses were worn. Secondly, the shape of the output curve was improved; the usual fall in the afternoon spell was frequently reversed when glasses were worn. That is clear evidence of a reduction of fatigue. The spectacles relieved only the strain of extreme accommodation; it is possible that prisms to aid convergence might secure even better results. The operatives appreciated the value of the glasses, for they continued to use them after the experiment was ended. Notes of their own observations were made; it is sufficient to quote one of these: "I have had the glasses you gave me about a month now, and I get several benefits from them. They are very comfortable to wear and ease the eyes. I can also see my work clearer, and my eyes never ache now at night. I am able to get more work off with them." The experiment shows the need for the systematic examination of the eyes of operatives engaged upon fine work, the correction of such errors of refraction as may be present, and the advantage of making special provision of glasses for the performance of excessively fine work.

[1] *The Effect of Eyestrain on the Output of Linkers in the Hosiery Industry.* By H. C. Weston, M.J.Inst.E., and S. Adams, M.Sc., Industrial Fatigue Research Board of the Medical Research Council. London: H.M. Stationery Office. 1927. (Pp. 21. 1s. net.)

THE THERAPEUTICS OF MANGANESE.

DURING the past two years Dr. H. W. Nott has published in this JOURNAL[1] reports on the effects he has observed following the rectal injection of solutions of potassium permanganate accompanied by oral administration of dried thyroid. He has found the beneficial results especially striking in pneumonia. An article by Dr. N. J. Roche, published in this issue, tends to confirm Dr. Nott's conclusion. The local effects cannot be ignored, for the permanganate has a considerable action on the mucosa of the colon, as is shown by the fact that the patients often subsequently pass strings of mucus, or even mucous casts of the bowel. The nature of the results observed suggests, however, that some general effect is produced, and it is therefore interesting briefly to consider the known pharmacological actions of manganese. Information as to the action of manganese on animals in non-toxic doses is comparatively limited, although traces of this metal are well known to produce a marked stimulant action on the growth of plants. Bertrand has also drawn attention to the fact that an artificial oxidase can be produced by precipitating gum arabic containing a small amount of manganese.[2] Later workers have, however, stated that similar oxidases can be made in the absence of metals. The most remarkable pharmacological action of manganese is that discovered by Walbum,[3] who found that intravenous injections of manganese chloride caused a rise in the antitoxin titres of goats and horses that had previously been immunized to diphtheria toxin. This has been confirmed by other workers,[4] who found, however, that the increase in antitoxic titre was only temporary, and that none occurred when

[1] BRITISH MEDICAL JOURNAL, March 7th, 1925; December 26th, 1925; July 17th, 1926.
[2] Bayliss, *Principles of General Physiology*, 1924, 585.
[3] *Biol. Meddels.*, 3, 1921, 1; *C.R. Soc. de Biol.*, 85, 1921, 761.
[4] Walbum and Mörch, *Ann. de l'Inst. Pasteur*, 37, 1923, 396; Pico, *C.R. Soc. de Biol.*, 91, 1924, 1049; Schmidt, *Zentralbl. f. Bakt.*, 95, 1925, 74.

the salt was given by the mouth. The results of these experiments, however, suggest a possible explanation of the remarkable results recorded by Dr. Nott. Mention may also be made of the observations of Levine and Solm,[5] who found that small amounts of manganese added to the food of young rats appeared to improve their general health.

HOW INFLUENZA KILLS.

DURING the epidemic of influenza in France, where it has been widespread, Drs. Maurice Renaud and Charles Juge had the opportunity at the hospital at Brévannes of making some interesting observations, which they recently communicated to the Académie de Médecine, Paris. They divided the cases according as they occurred in healthy adults, in patients with chronic disease, and in the aged. In healthy adults the attacks began with malaise, a sudden rise of temperature, and a nasopharyngeal catarrh which tended to extend to the bronchi; in the more severe cases the inflammation spread to the smaller bronchial tubes or to the lung, producing bronchopneumonic patches or even lobar hepatization. All the patients recovered in a fortnight, defervescence taking from forty-eight hours to four or five days. Of 600 persons ranked as chronic invalids, 10 per cent. were attacked; in half these cases the disease was mild, and recovery was rapid in spite of arteriosclerosis, cardiac insufficiency, and renal or even pulmonary trouble. In the other half the influenzal attack became serious in consequence of pulmonary lesions, with abundant purulent expectoration and evidences of myocardial fatigue. Ten per cent. of the chronic invalids attacked died with grey hepatization of lobar pneumonia and massive bronchopneumonic patches. In the aged the disease was very grave, and about 30 per cent. of those attacked died; while another 30 per cent. were so exhausted that it seemed unlikely that they would live long. The aged patients who died had comparatively mild attacks, with defervescence about the third day; but death followed in seven to ten days from progressive weakness. Nevertheless, *post-mortem* examination showed extensive grey hepatization of the lungs. The observers considered that these results confirmed their view that influenza was only serious by reason of pulmonary lesions, which were secondary complications due to streptococci and pneumococci, and often arose in mild cases of influenza when the patients exposed themselves to chill, fatigue, and other debilitating influences. They produced death through asphyxia. Treatment by the intravenous injection of adrenaline-serum was generally efficacious. Drs. Renaud and Juge summarized their faith as follows: Influenza treated early and in a suitable manner is only dangerous in exceptional cases. The treatment should be purgation, tonic treatment for the heart, and cold hydrotherapy. There are no grave forms of influenza; serious attacks are those aggravated by complications, which are favoured by senile weakness, organic defects, and accidental external influences. In fact, influenza is only serious in the absence of wisdom and prudence.

THE TREATMENT OF MALARIA.

THIS is an age of synthesis, and some years ago tropical medicine had to welcome the German preparation called "Bayer 205," which has proved to be of great value in the treatment of sleeping sickness both in man and animals. Elsewhere in this issue we report (p. 466) a paper by Dr. Manson-Bahr on his experiences with another Bayer synthetic drug called plasmochin, which it was hoped would give similar results with malaria. Dr. Manson-Bahr's analysis of his cases shows that apparently the pure drug is fairly effective in the treatment of benign tertian malaria, and, in combination with minute quantities of quinine, in the treatment of subtertian malaria. It has a low factor of safety, however, and a slight overdose causes cyanosis, sometimes accompanied by methaemoglobinuria. The advance made by the production of this drug is its apparently selective action on the malarial "crescents" or subtertian gametocytes. Finality has not yet been reached and the drug is still in the experimental stages, but the results are distinctly hopeful. In Dr. Manson-Bahr's words, plasmochin "must be regarded as the beginning, not the climax, of a new series of antimalarial drugs."

[5] *Journ. Biol. Chem.*, 59, 1924, 48.

HERBS OF HEALING.

MR. EDWARD STEP, F.L.S., who has written some deservedly popular books on British plants and flowers, has produced a treatise on some of the best known of the many indigenous plants which once were of good repute for their healing qualities.[1] He deals with some 170 species, but has had to leave out a large number whose virtues, once vaunted, are now forgotten. For has not Mr. Rudyard Kipling told us that

> Anything green that grew out of the mould
> Was an excellent herb to our fathers of old;

and did not Dr. Nicholas Culpeper, that prolific writer on medical astrology, therapeutics, and herbalism, publish in 1653 a work on 369 medicines made of English herbs? Mr. Step's present collection cuts but a poor figure beside such an imposing botanical array, but nevertheless he has included all those of which the potency is nowadays admitted, and probably all or most of those which our modern herbalists still collect and sell. What with plants under planetary patronage, which were reckoned to work cures in diseases caused by stellar influence, and those whose functions were marked out by the doctrine of signatures, there were plentiful indications for the prescriber of the seventeenth and previous centuries. Culpeper, of whom Mr. Kipling has drawn an attractive sketch in *Rewards and Fairies*, was not singular in his therapeutic beliefs, and his quarrel with the College of Physicians was not provoked by any unorthodox views of his, but by his poaching on their preserves in translating their pharmacopoeia into his London dispensatory. Among the herbs described by Mr. Step are those which produce some of the most powerful vegetable poisons known to us, and it is puzzling to find that the same natural order may contain many innocent as well as some most noxious herbs, sometimes resembling one another so closely that the superficial observer may easily make fatal mistakes, as the records of toxicologists tell us has too often happened. Such resemblances are to be found in the Umbelliferous Order in particular, in which the deadly hemlock-water-dropwort (*Oenanthe crocata*) much resembles the wholesome celery, and the fool's parsley has been eaten in the place of the familiar parsley of the garden. Other natural orders are less mixed in their properties, for the Ranunculaceae and the Solanaceae are almost wholly noxious, in their raw state at least, while the Cruciferae are all wholesome or harmless. We do not know how it comes about that from the same non-organic constituents substances of such varying potency are constructed in the laboratories of plants which have so many common characteristics. Imagination boggles at the thought of the task of remembering the therapeutic qualities ascribed to each of Culpeper's plants, or even of the modest 170 of Mr. Step, but the herbalist physician could console himself with the knowledge that every one of these herbs—deadly ones excepted—had so many qualities that often one would do in place of half a dozen others. Indeed, there were a few plants which seem to have been equivalent to a whole medicine chest. Mr. Step tells us that "an

[1] *Herbs of Healing.* By Edward Step, F.L.S. London: Hutchinson and Co. (Publishers) Ltd. 1926. (Demy 8vo, pp. xiii + 206. 10s. 6d. net.)

Italian proverb counselled you to sell your coat and buy betony," which was highly recommended as a panacea by Antony Musa, the physician to Augustus Caesar; and vervain, the *herba sacra* of the Romans, had at least an equally good reputation. It is a comfort to a lover of the English countryside to reflect that such powerful herbs as are really in demand by the wholesale druggists are specially cultivated in gardens, and that, despite an attempt during the war to revive the use of other indigenous herbs, their collectors are few. Were it otherwise, and were all the simples known to Gerarde and to Culpeper sought for diligently, our native flora must have long since disappeared almost entirely instead of partially—but all too disastrously—in the neighbourhood of our towns, where nature students and hawkers and school children have wrought such havoc. In a high-banked shady lane twenty miles from Charing Cross twenty-three species of ferns were to be found a generation earlier; a few years ago there was no wild fern but bracken to be found in the district.

AN AUSTRALIAN DIPLOMA IN TROPICAL MEDICINE.

AUSTRALIAN medical graduates desiring to fit themselves for practice in tropical Australia or in British New Guinea, which is committed by mandate to the Commonwealth, have hitherto looked to England as the least inaccessible school open to them for the study of tropical medicine, but have been debarred in many cases by considerations of time and expense from seeking the diplomas there obtainable. To meet their requirements in a more convenient manner an Australian Diploma in Tropical Medicine has been established. The course, which lasts for three months, is held at the Australian Institute of Tropical Medicine at Townsville in tropical Queensland. At the close of the training a twelve days' examination on a lower grade takes place, and successful candidates receive a certificate. Following this comes a higher grade examination, also of twelve days' duration, for the D.T.M., which is granted by the Universities of Melbourne, Sydney, and Adelaide. The higher examination is more exacting than that for the certificate, and demands a much wider range of knowledge. Candidates must be qualified medical practitioners registered in a State or in the Commonwealth. A period of not less than twelve months must have elapsed since the date of their obtaining their registrable qualification. They must have passed Part I of the examination for the D.P.H. of their university, or, alternatively, must have pursued a prescribed preliminary course of laboratory instruction of at least one month's duration. The first course of training at Townsville has recently been completed. The whole class suffered from dengue fever. This was a touch of realism and gave the tropical setting, but practical experience carried to these lengths is not a guaranteed feature of the course. The convalescence of one student was unfortunately so prolonged that he fell out of the running; the rest obtained the certificate. Dr. R. L. Bellamy, who passed the higher examination, won for himself and for the University of Sydney the distinction attaching to the first Diploma in Tropical Medicine granted in Australia.

THE ANTIRACHITIC VITAMIN.

ROSENHEIM AND WEBSTER showed two years ago that cholesterol which was then believed to be pure was rendered antirachitic by exposure to ultra-violet light. This fact seems to have been discovered independently about the same time by Steenbock and by Hess. It was next discovered that cholesterol purified by certain processes could not be activated. Windaus found that a common impurity of cholesterol called ergosterol was destroyed by these same processes of purification. Ergosterol is a sterol first isolated by Tanret from ergot, but which occurs in a wide range of lower plants. More recently Rosenheim and Webster found that ergosterol showed intense absorption of ultra-violet light at 2,800 A.U., and that exposure to ultra-violet light produced in ergosterol a much more potent antirachitic action than had ever been obtained in any other substance. They have cured and prevented rickets in rats with a daily dose of 0.004 mg. of irradiated ergosterol, and they believe that the limit of activity will prove to be less than 0.001 mg. The British Drug Houses inform us that they are making ergosterol, and that they are in a position to supply to any medical man who wishes to make a clinical test a solution of 0.1 per cent. of crystalline ergosterol which has been activated by irradiation under carefully controlled conditions. So far as can be foretold, this solution may be expected to possess twenty to fifty times the antirachitic action of cod-liver oil, and therefore the effective dose should be from 1/4 to 1 c.cm. The British Drug Houses offer to send a sample of this solution without charge to any registered medical practitioner who may apply to them for it.

INFLUENZA.

ALL the information points to a subsidence of the influenza epidemic throughout the country. The total number of deaths from this cause reported in the great towns of England and Wales during the week ended March 5th was 898, compared with 1,025 in the previous week. In London 69 deaths were notified, as compared with 81, and in the outer ring of the metropolis 44 as against 67. From Manchester 70 deaths were reported, from Birmingham 51, from Liverpool 46, from Sheffield, Blackburn, and Bolton 35 each, and from Burnley 29. Influenza, of a mild type, is still very prevalent in Scotland, and reports for the same period furnished to the Scottish Board of Health show a heavier incidence in a number of districts; but though there are still many cases in Dundee the epidemic there seems to be on the decline, and there is a definite improvement in Aberdeen. In Glasgow mild influenza is prevalent, with few severe cases, while in Edinburgh there is no evidence of an epidemic, though the number of deaths associated with influenza was exceptionally high last week. In the north of Scotland the crest of the wave seems to have passed, except in outlying districts which the infection has but recently reached.

LISTER CENTENARY CELEBRATIONS IN LONDON.

AT the reception of delegates by the Prime Minister, which will take place at 11.30 a.m. on Tuesday, April 5th, in the Great Hall of the British Medical Association's House, after making provision for the official delegates and the members of the Lister family there will be some 500 seats available for members of the profession and of the general public. It is hoped that there will be a large and representative gathering. Members desiring tickets for themselves and friends are requested to make application by letter to the Financial Secretary, British Medical Association House, Tavistock Square, W.C.1.

BY the instructions of the Council the Science Committee of the British Medical Association is convening a conference in opposition to the Dogs' Protection Bill. It will be held in the Association's House on Monday, April 4th, at 4.30 p.m. Invitations are being issued to universities, medical schools, and other medical and scientific societies; also to representatives of the veterinary and dental professions. Fuller details will be published in the next issue of the JOURNAL.

THE REPORT OF THE ROYAL COMMISSION ON LUNACY.

SCOTTISH EXPERIENCE.

DR. GEORGE M. ROBERTSON, physician-superintendent of the Royal Edinburgh Hospital, Morningside, like his predecessor, Sir Thomas Clouston, has accustomed us to look in his annual report for something more than a bare record of facts relating to the hospital; we have been taught to expect an expression of opinion on some of the most important events of the year affecting the work of psychiatry and the administration of lunacy laws. This year we are not disappointed, for Dr. Robertson has some observations on the report of the Royal Commission on Lunacy and Mental Disorder. As he is not only physician-superintendent of a famous asylum, but also professor of psychiatry in the University of Edinburgh, and physician-consultant in psychiatry to the Royal Infirmary, Edinburgh, his opinion will command attention. It is very outspoken, and the best thing to do seems to be to quote it in full:

The most important event in the medico-psychological world last year was the drawing up of the Report of the Royal Commission on Lunacy and Mental Disorder, which is admitted by experts to be a wonderful achievement. The most striking departure from established principle that it contains is the frank acknowledgement, made for the first time, that the treatment of mental disorder is essentially a medical question; that the cure or alleviation of the symptoms from which the patient suffers must be the primary and paramount consideration.

Strange as it may appear, the existing lunacy laws, particularly those of England, seem to have been devised with the perverse object of obstructing anyone desiring to obtain medical relief. In other forms of ill health the patient can go voluntarily to a hospital to seek advice and treatment, and, naturally, he goes as early as he possibly can. In the case of mental illness, however, the laws of England enact that patients applying for treatment voluntarily must be refused admission to mental hospitals that have been erected by the ratepayers for the express purpose of treating this form of illness. To treat patients in these hospitals in this way is illegal; it is a misdemeanour for which the physician renders himself liable to a heavy fine.

Further, no one can be admitted to a public mental hospital until his disease has become thoroughly established or his conduct has become a public nuisance or a scandal. Even then he is not permitted to receive treatment till his application for admission has been dealt with after the manner of the detention of a criminal—namely, by a legal order or authority. Such a method of treating a sick person and of handling a question of public health is cruel, and an abomination to anyone inspired by medical sentiments and ideals.

One result of these evil methods is that hospitals for the treatment of mental disease have not unnaturally fallen into disrepute. Although specially designed for the treatment of mental disease, although equipped at great cost with all the resources that science demands, they are the very last places in the world to which the public will send patients for treatment. Yet there is no form of hospital in which more devoted or more self-denying work is done—work, however, that receives scant public recognition, and is patiently undertaken often under unmerited abuse.

The lunacy laws were framed with an intention that was not the outcome of a knowledge of disease, or of sympathy with the sick, but of something very foreign to the spirit of healing. A short practical test discloses the weakness of these Acts, but such is the difficulty of getting medical views accepted, so great is parliamentary inertia, that, though often promised redress, we have waited for it in vain. The appointment of a Royal Commission was therefore hailed as a godsend, and we all look forward to the initiation at last of a happier era.

I desire to utter a note of warning: after the lunacy laws of England have been remodelled, the laws of Scotland will next require to be dealt with. It is not to be assumed that the recommendations of the Royal Commission apply to Scotland, or are the last words on the subject. Whatever may be the reason, the medical character of the laws of Scotland are far in advance of those of England, and to apply to Scotland some of the recommendations, applicable only to England, would be to set back the hands of the clock fifty years.

In England the magistrate, who signs the order of admission to a mental hospital, sees the patient, and has to form an independent judgement as to his soundness of mind. In Scotland the sheriff accepts the written testimony of medical men, given on oath, in the form of certificates. In other words, in England a layman decides, while in Scotland the problem is regarded as a medical one, and this principle has worked most satisfactorily.

Many years ago a patient of mine, who, under treatment, ultimately made a good recovery, was seen by the Lord Mayor of London, acting in his capacity as a magistrate. His lordship refused to incur the responsibility of signing the order of admission. I did not blame him, for I question if he had any knowledge whatever of mental disease. He lacked confidence in his medical judgement, and, like the cautious man he was, he played for safety—his own. It must not be overlooked, too, either in explanation or in extenuation, that his interview with the patient is said to have lasted only a minute, and to have taken place within the precincts of a taxi-cab! This unmedical form of procedure is approved by the Royal Commission, but it is hoped that nothing so alien and retrograde will ever be introduced into Scotland.

In the second place, the responsibility for the treatment and discharge of patients in Scotland rests entirely in the hands of medical men. In England, on the other hand, it rests entirely with the visiting committee, which consists of laymen. They, almost invariably, have the good sense to act in accordance with the medical advice given to them—though not always. This unmedical form of procedure is also perpetuated in the recommendations of the report, although it is qualified by the proviso that the committee must be unanimous if it acts contrary to medical advice.

As the Commission attaches such weight to the advice of the medical superintendent—his opinion *plus* that of one member outweighing the opinion of the whole visiting committee *minus* one member—it would have been more logical and direct to have adopted the sound medical practice of Scotland, instead of contemplating what amounts almost to a psychological miracle.

In concluding this part of his report Dr. Robertson expresses the hope that when the time comes to frame new lunacy laws for Scotland an advisory council will be appointed to co-operate with the General Board of Control. He suggests that such a council might be formed from the medical superintendents of mental hospitals in Scotland, and recalls that owing to the absence of such co-operation when the last lunacy bill was framed provisions relating to the Royal Asylums were introduced which had to be withdrawn in committee, thus leading to unnecessary expenditure of time and money.

ADMINISTRATION AT MORNINGSIDE.

In the earlier part of his report Professor Robertson states that the two departments into which the Mental Hospital is divided, Craig House with its villas, and the West House, were both fully occupied during the year. Every class of private patient is provided for—from those paying low rates of board to those who are able to pay high rates for special accommodation and attendance. The number of persons admitted was 249, the great majority being voluntary patients. In this way the "objectionable features of the obsolescent and universally detested method of certification" were avoided. In Scotland from 60 to 80 per cent. of private patients of the richer classes enter mental hospitals as voluntary patients, and certification, Professor Robertson says, is looked upon as the very last resort. He expresses regret that parochial patients are not encouraged to enter mental hospitals voluntarily. It appears that parochial authorities have been under the false impression that if they allowed this they would lose the Government grant, whereas if the patient enters voluntarily the expense of certification is saved, if he receives an old age pension he is not deprived of it, and the Government grant is not affected one way or the other.

A new nursing home, which is the sixth taken over by the managers of the hospital, was opened last year; it is a fine mansion house standing in an old park within half an hour's run from Edinburgh. The managers are now giving attention to the provision at Morningside of a psychopathic hospital in a separate block with its own entrance. The hospital will have the same legal status as the Royal Infirmary, and has been established because that great institution has no space to provide for the mentally sick. It will be known as the Jordanburn Hospital, and will eventually have an out-patient department, but a new wing, consisting of a waiting-room, medical examination rooms, and consulting-rooms, will have to be built at a

cost of £10,000. An appeal for this amount, and for the erection of a lecture theatre also, is made to the public.

Among recent additions to the equipment of Morningside Hospital are an occupational therapy department, cinematographs, and a wireless installation.

The report gives a short account of the first year's work of the mental out-patient clinic at the Royal Infirmary. Only 180 patients have attended, but many have acted upon the recommendation to seek advice in every difficulty which confronts them.

England and Wales.

ST. BARTHOLOMEW'S HOSPITAL: PROPOSED NEW SURGICAL BLOCK.

THE Lord Mayor of London on March 1st inaugurated an appeal for £200,000 for the building and equipment of a new surgical block at St. Bartholomew's Hospital, London, and additional accommodation for nurses. Lord Stanmore, treasurer of the hospital, mentioned that the present ward blocks were more than two hundred years old, and were unsuitable for the scientific requirements of the present time. Some of the operation theatres had been built as temporary erections twenty years ago; they had no direct connexion with the wards, and patients had to be transferred across the square whatever the weather conditions might be. It was now proposed to erect a building five stories high with two wards, each of twenty-five beds, and an operation theatre on each floor. An electro-therapeutic department would be installed in the basement, and on the roof there would be new laboratories. Sir Berkeley Moynihan, Bt., President of the Royal College of Surgeons, supported the appeal with a laudatory account of the achievements and high ideals of the hospital. Although the staffing of the surgical side met all demands the operative department was, he said, structurally below the standard of provincial hospitals. Sir John Rose Bradford, President of the Royal College of Physicians, also commended the appeal.

MAUDSLEY HOSPITAL COURSES.

The following afternoon lectures and courses of practical instruction for the diploma in psychological medicine have been arranged at the Maudsley Hospital during the spring. On Mondays, commencing March 14th, four demonstrations with practical instruction in laboratory methods will be given by Mr. S. A. Mann, and twelve clinical demonstrations in neurology on Thursdays will start on March 17th, the first six being given by Dr. F. L. Golla at the Hospital for Paralysis and Epilepsy, Maida Vale, and the second six by Dr. F. M. R. Walshe at the National Hospital for Paralysis, Queen Square. Dr. F. C. Shrubsall will give six lectures on the practical aspect of mental deficiency on Tuesdays, commencing March 15th; and Dr. A. A. W. Petrie will give three lectures on therapeutics on Fridays, commencing March 18th. Eight lectures on morbid psychology will be delivered by Dr. Edward Mapother on Wednesdays, commencing March 30th; and two lectures on abnormalities of the fundus oculi will be given by Mr. R. Foster Moore on April 25th and May 2nd. Dr. Edward Mapother will also hold six demonstrations in clinical psychiatry on Wednesdays, commencing April 27th. The legal relation of insanity and its treatment will be dealt with by Dr. Norwood East on Tuesdays, commencing May 3rd. On Fridays, commencing May 6th, four lectures on the pathology of mental diseases will be given by Dr. Golla, each of which will be followed by a demonstration in pathological anatomy by Mr. Charles Geary. Dr. Bernard Hart will deliver eight lectures on the psychoneuroses on Mondays, commencing May 9th. Further information about these lectures and demonstrations may be obtained from the director of the Central Pathological Laboratory, Maudsley Hospital, Denmark Hill, S.E.5, and the Fellowship of Medicine, 1, Wimpole Street, W.1, will collect fees from the medical practitioners introduced by the Fellowship. A limited number of clinical assistantships are available at the hospital, either whole-time or part-time. These are recognized as constituting the clinical experience required for the diploma, and inquiries regarding them should be made to the medical superintendent of the Maudsley Hospital.

KING EDWARD VII SANATORIUM, MIDHURST.

During the twelve months ending June 30th, 1926, 268 patients were admitted to King Edward VII Sanatorium at Midhurst, including 35 re-admissions, and 196 patients were discharged, as compared with 213 who left the sanatorium in the previous year. The medical superintendent, Dr. R. R. Trail, in the twentieth annual report of this institution, ascribes the decline in the discharge rate to the greater number of artificial pneumothorax cases now being treated; the length of stay for these patients is necessarily greater than for those otherwise treated. The average waiting list has slightly increased. A statistical report on the treatment of 185 patients shows that in 63 the disease was arrested, in 33 the condition was much improved; 62 patients were definitely benefited, 26 remained stationary or became worse, and one died. As in the previous report comment is made that Midhurst still draws about half its patients from London and the home counties, and attention is again directed to the fact that members of the professional classes, for whom it was originally intended, do not make enough use of the sanatorium.

CORONERS' INQUESTS IN LONDON.

The number of deaths reported to the coroners in London during 1926 was 6,934, and the number of inquests held was 5,143, an increase of 103 upon the previous year. *Post-mortem* examinations were necessary in 88 per cent. of the inquests, and in 118 cases the examination was conducted by a special pathologist. A verdict of murder was returned in 22 cases, and of manslaughter in 18. The total number of suicides was 600, as against 515 in the previous year. Want and exposure accounted for 18 deaths, excessive drinking for 28, want of attention at birth for 57. In all, 1,760 people met their death by accident, as against 1,761 in 1925, and 1,607 in 1924. A verdict of "death from natural causes" was returned in 2,447 cases. The total cost to the London County Council of the inquests held in 1926 was £25,732. Only 230 of the inquests were held with juries. The fees paid to special pathologists amounted to £381, and to toxicologists, in connexion with fifteen inquests, £78.

ARTIFICIAL LIGHT TREATMENT SCHEME FOR LONDON.

The London County Council a year ago made a grant of £600 towards the provision, in connexion with metropolitan borough councils' dispensary schemes, of artificial light treatment for tuberculous patients at certain hospitals and other approved centres in London. Up to the present only ten borough councils have taken advantage of the scheme, at a total cost of £463, which, on the basis of an average of thirty exposures a patient, represents the cost of treatment of about 300 patients. It is proposed to extend for another year the experimental period, which was originally arranged for only twelve months, as sufficient experience has not yet been gained to form an opinion as to the value of the arrangement.

VENEREAL DISEASES IN LONDON.

It was reported to the London County Council this week that under the scheme for the diagnosis and treatment of venereal diseases the total number of new cases attending the London hospitals which receive grants-in-aid from the Council was 26,712 in 1926. Of this number, 8,988 were found to be not infected, and of the remainder the cases of syphilis numbered 5,738, of gonorrhœa 11,683, and of soft chancre 303. It is explained that these figures are not the full measure of the extent to which venereal diseases come under treatment in London, as a not inconsiderable number of cases receive treatment by general practitioners. The number of attendances of patients at hospitals was 687,075. The corresponding figures for 1925 were 26,182 cases (of which 8,680 were found to be non-venereal), and 646,131 attendances. The bacteriological specimens examined at hospitals at the request of and free of cost to practitioners numbered 27,565, an increase on any previous

year, and 439 practitioners are on the approved list for the supply free of cost of salvarsan or its substitutes. Provisional grants amounting to £103,085 are to be made for treatment and pathological work at hospitals in 1927-28, £5,350 for hostels, and £20,000 as a contingency provision to cover possible expenditure in respect of developments. Six adjoining counties and three county boroughs join with London in the scheme.

Scotland.

LISTER CENTENARY IN GLASGOW.

A COMMITTEE has been formed in Glasgow, composed of representatives of public bodies and scientific societies, to celebrate the centenary of the birth of Lord Lister. This is most appropriate, for it was in Glasgow that he laid the foundations and gave to the world the firstfruits of his investigations into the use of antiseptics. April 1st has been chosen as the date of the celebrations in Glasgow; they will begin with an official religious service in the cathedral at 11 a.m.

CARE OF CRIPPLED CHILDREN.

A public conference was held in the City Chambers, Edinburgh, on February 25th, at which Lord Provost Stevenson presided, to initiate a scheme for promoting the treatment and care of crippled children in the south-eastern area of Scotland. A committee appointed nearly a year ago by a similar conference recommended the establishment of a new central orthopaedic hospital on the outskirts of Edinburgh; the formation of major clinics in important centres of population in the south-eastern area of the country; the formation of minor clinics as might be necessary, linked up with the major clinics; and the establishment of co-operation between the existing hospitals and the new orthopaedic hospital. The committee stated that the Scottish Board of Health would be prepared to approve of grants by local authorities for maintenance of patients in such a hospital. The patients the hospital would admit were children suffering from tuberculosis, under schemes for treatment of this disease; children under 5 years of age, under child welfare schemes; and physical defectives from 5 to 16 years of age who were necessitous and came under the education authorities. The provision at present existing was inadequate, and many patients who might have been restored to good health were at the present time becoming permanently crippled. Though the scheme might at first be restricted to children under the age of 16 years, it was hoped that ultimately it would embrace the treatment of cripples at any age. The committee recommended a hospital of 75 beds, for which the probable cost would be £10,000 for site, £25,000 for administration block with operating theatre, and £15,000 for the hospital itself. The committee recommended, however, that the charitable public should be asked to subscribe not less than £75,000. Sheriff Crole, K.C., chairman of the committee, in moving the adoption of the report, stated that investigations had been confined to the area between the Tay and the Tweed, and Sir David Wallace, F.R.C.S., in seconding, said that the scheme was imperatively needed on the evidence brought before the committee. Lord Mackenzie, in commending the scheme, which was adopted, said that the estimated cost was not excessive, but there was a need for a central co-ordinating authority.

HEALTH IN INDUSTRY.

The first annual meeting of the Industrial Health Education Society, an organization which last year succeeded the Industrial Health Education Council, a purely Scottish body, was presided over by Sir William S. Haldane, who said that the purpose of the society was to combat the evils of ill health among the industrial classes by the spread of knowledge as to how health was to be maintained. The work came to be undertaken because of the realization of the immense extent of preventable sickness, largely of occupational nature. It had been reckoned that among insured persons at least 26 million weeks a year were lost through sickness, for which benefit was payable. Educational methods had seemed the surest means of enabling the workers to defend themselves against the prevailing evils of ill health affecting particular occupations. During 1925 meetings of workers had been organized throughout Scotland, mainly in mining and industrial areas. In this initial effort the society had had great help from the medical profession, and had been still further encouraged by the wonderful appreciation of the workers themselves. Before the end of 1925 the work had been extended to Newcastle-on-Tyne, where Sir Thomas Oliver had given invaluable help with his knowledge of occupational disease. The organization had subsequently been extended so that five area councils, covering the whole country, had now been established. Last year the work had increased 50 per cent. on that of 1925, and for the first three months of the present year 50 per cent. more engagements than for the whole of 1926 had already been fixed. Mr. Robert Smillie, M.P., said that he was glad that the great work undertaken had the approval both of the employing classes and of the working classes, for nowadays it was almost impossible to get these two to agree on anything. He recognized that medical men, while carrying out their work, could not enter into explanations as to the necessity for doing everything for the preservation of health, and something was required in the shape of lectures to help people to realize that to some extent they had their health in their own hands. He could speak on behalf of the mining folks when he said that men and women were delighted with the lectures delivered under the auspices of the society, and on behalf of the British Trade Union Congress he wished great success to the work. Sir John R. Findlay, in moving the adoption of the report, referred to the habit in illness of waiting till the mischief was done before calling in the doctor. One of the achievements of this society was, he thought, the extent to which it had enlisted the ready and willing services of the medical profession in its great endeavour. Lord Salvesen said that it should be emphasized that the objects for which the society had been instituted were non-controversial and non-political. It had the goodwill, not only of the Trade Union Congress, but of the employers. Sir Thomas Oliver said that while there were still too many accidents and too many workers made ill through causes connected with employment, recent changes in conditions of labour and in hours of work had tended greatly to the betterment of health among the working classes.

PROPOSAL FOR A GAELIC UNIVERSITY.

Considerable interest has recently been aroused in the Highlands of Scotland by proposals made by the lately founded American Iona Society to raise a sum of £2,000,000 for the establishment of a Gaelic University somewhere in the Highland area. It should be explained that there is no proposal to build this university on the island of Iona, the name being used simply to distinguish the American society. A considerable amount of criticism has been called forth. Provision is already made by the Education Act of 1918 for the teaching of Gaelic in all Gaelic-speaking areas, while in three of the four existing Scottish universities Gaelic is taught as a subject for graduation. No doubt these opportunities would be greatly helped if considerably supplemented by enlarging staffs in the department of Celtic languages, literature, and history, by scholarships and grants for the publication of textbooks and general literature bearing on the Highlands, and also for the better study of agriculture. On the other hand, it is pointed out that the establishment of such a university as is proposed would probably be a considerable embarrassment to the four existing universities. Attention is also drawn to the failure some years ago of the scheme proposed by Lord Leverhulme for the benefit of Lewis and Harris; on it over £1,000,000 was spent, but it failed because of the difficulty in recognizing the importance of certain peculiar local conditions and prejudices.

VICTORIA INFIRMARY, GLASGOW.

A new wing recently added to the Victoria Infirmary, Glasgow, and an extension of the nurses' home were opened, on February 26th, by the Right Hon. Sir John Gilmour, Secretary of State for Scotland. Mr. Robert Stewart,

convener of the buildings committee, who presided, said that the cost of the work would be £100,000, and the occupancy of the new wing would involve an additional £1,400 annual expenditure. Sir John Gilmour said that in Glasgow much more money was being spent upon remedial services than in English cities such as Birmingham. The reason appeared to be the conditions under which a great part of the population lived. One of the most appalling problems which the Government or municipalities had to face was the problem of improving the housing conditions of the country. When they got to the bottom of that root evil and improved it, the great pressure upon the hospitals was bound to grow less. In Glasgow 13 per cent. of the population occupied one-apartment houses, as compared with 5 per cent. in Edinburgh, 3 per cent. in Liverpool, and 1 per cent. in Manchester and Birmingham. In Glasgow 50 per cent. of the population lived in two-apartment houses, compared with 33 per cent. in Edinburgh, 7.5 per cent. in Liverpool, and 4 per cent. in Manchester and Birmingham. Glasgow's proportion of houses of five apartments and upwards, on the other hand, was only 8 per cent., whereas it was 20 per cent. in Edinburgh and over 50 per cent. in the English cities. Another condition in Glasgow was that 27 per cent. of the population were living in houses with more than three persons per room, while in Edinburgh this proportion was 12 per cent., in Liverpool 2 per cent., and in Manchester and Birmingham 1 per cent. Such conditions were bound to affect the health of the population of Glasgow, and must be steadily combated and improved. In Glasgow almost £3,500,000 per annum was being spent upon the health of the population. It called for the deepest reflection on the part of all those concerned, both nationally and municipally, to ascertain whether they were getting out of that immense sum the last word in efficiency and results. He believed there was room for further co-operation, co-ordination, and economy. He hesitated to speak dogmatically of the future, but he earnestly trusted that the voluntary principle and human interest in hospital administration would long be retained. It was most important that employers of labour and associations of workmen should be contributing to these institutions and taking an interest in this difficult matter. Only by co-operation and goodwill could the world progress. Sir John Gilmour then formally declared the new extension open. Mr. William Gray, Chairman of the Governors, said that with the new extension the hospital would have 360 beds. He referred to the new auxiliary hospital at Thorntonhall, of which the first portion, now in course of erection, would provide eighty beds, but the hospital was designed ultimately to accommodate 200 patients. Such auxiliary hospitals seemed to be the natural course to adopt in connexion with all infirmaries situated in cities.

EDINBURGH DENTAL SCHOOL.

The Edinburgh Dental Students' Society held its thirty-ninth annual dinner in Edinburgh on February 25th. Dr. John Orr, honorary president of the society, presided. Dr. Drinkwater, *in proposing* "The Dental Hospital and School," said that many of those present had known the school in its very early childhood, when it had been a very small institution. To-day, the Dental Hospital was full of vigour and energy, and known throughout the kingdom and the colonies. The great change in the hospital had practically taken place in one generation, largely owing to the enterprise of the present dean, Dr. Guy. In his reply, Dr. Guy remarked that it had early been perceived that the standard of examination should be raised, and when he became dean of the hospital and school he had realized that the staff should be thoroughly competent to teach both general and special subjects of the curriculum. This had now been provided, and worthy premises were just approaching completion.

GLASGOW STUDENTS AND CHARITIES.

The sum of £14,730, which became available as a result of the students' day held in Glasgow on January 15th, has been allocated as follows. The Lord Provost's Relief Fund receives £3,682, or 25 per cent. of the total; the Royal, Western, and Victoria Infirmaries and the Royal Hospital for Sick Children each receives £1,600, and the Royal Maternity Hospital £1,250, while the Royal and Western Infirmaries each receives £250 for installation of wireless apparatus. Other hospitals and medical institutions which benefit in sums between £150 and £600 are the Royal Samaritan Hospital for Women, Ear, Nose and Throat Hospital, Eye Infirmary, Royal Cancer Hospital, Elder Cottage Hospital (Govan), St. Andrew's Ambulance Association, the Lock Hospital, Glasgow District Nursing Association, and Incorporated Glasgow Dental Hospital. Smaller sums are also allocated to various homes and clinics.

EDINBURGH FOOT CLINIC.

The committee of the Edinburgh Foot Clinic has obtained St. Columba's School, Newington Road, Edinburgh, at a cost of £1,800. The clinic was opened a few years ago to provide treatment for minor disease and deformity of the feet at a moderate cost, and has been so largely used that its premises became inadequate. The new premises are expected to provide adequate facilities both for the practical work of the clinic and for teaching.

Ireland.

FREE STATE DEPARTMENT OF PUBLIC HEALTH.

THE first report of the Department of Local Government and Public Health, Irish Free State (1922-25), has been issued. Following the signing of the treaty with Southern Ireland on December 6th, 1921, the Local Government Board for Ireland and the Local Government Department of Dáil Eireann were co-ordinated by the Provisional Government, which later, on April 1st, 1922, established the Ministry known as the Ministry of Local Government. The Department of Local Government and Public Health, referred to above, was constituted under the Ministers and Secretaries Act, passed by the Oireachtas in April, 1924. It took over the powers of the Local Government Board for Ireland, the Inspectors of Lunatic Asylums in Ireland, the National Health Insurance Commission in Ireland, the Registrar-General for Ireland, the General Nursing Council, the Central Midwives Board, and other authorities. Its first report, now issued, which covers the period from April 1st, 1922, to March 31st, 1925, deals, among other topics, with public health, poor relief, and housing.

Progress has been made in restoring the conditions of normal health control. Typhus fever has almost disappeared as an incident of urban life. In urban districts in 1923-24 there were 3 cases only, and in 1924-25 one. In rural districts the corresponding figures were 59 and 49. The endemic area includes portions of the Atlantic seaboard where poverty and congestion persist. In a mountainous region to the north-west of Lismore a reported case was found to lead back, through a chain of cases either medically unattended or treated as enteric fever, to a fatal case of typhus six months previously. Of enteric fever in urban districts there were 43 cases in 1923-24 and 111 in 1924-25: the figures for rural districts in the two periods were 177 and 343. Outside of Galway, Kerry, and Tirconaill the disease did not assume prominence. Scavenging deficiencies, contaminated milk or ice-cream, and the use of shallow unprotected wells were demonstrated or suspected as sources of infection in various outbreaks. The incidence of diphtheria was higher in rural than in urban districts. Its prevalence in Newcastle West coincided with a defective water supply; in the city of Cork with overcrowding and faulty drainage. Scarlet fever, like diphtheria, was more frequent in the rural districts. There was one case of imported small-pox in November, 1923. The patient, who had travelled from London to Cobh, sought medical advice on arrival, and was found to be suffering from mild discrete small-pox. He was isolated in the local intercepting hospital, and persons who had been in contact with him were revaccinated. The disease did not spread. Local authorities, with few exceptions, are carrying out the Vaccination Acts, but the returns indicate that in certain areas

there has been a falling off in the number of children vaccinated.

The milk supply is supervised under powers conferred by the Dairies, Cowsheds, and Milkshops (Ireland) Order, 1908. The systematic bacteriological examination of milk samples is recommended in urban districts. The supervision of midwives is carried out by county and county borough councils under the Midwives (Ireland) Act, 1918. For maternity and child welfare work health visitors are provided.

The school medical service is in an early stage. In view of contemplated reforms in sanitary administration, which include the appointment of county medical officers for school and other purposes, county councils have not, in the meantime, been pressed to inaugurate school medical arrangements. County boroughs, on the other hand, have been urged to proceed. The school medical officer of Cork has inspected 11,296 children, of whom 8,166 were tested with Snellen's types. Of the children examined, 22.5 per cent. had defective eyes; 69.9 per cent. had defective teeth; 11.8 per cent. were classed as unclean, and 8 per cent. as ill nourished. Under the Education (Provision of Meals) Acts, 1914 to 1917, urban district councils are empowered to make arrangements for the provision of meals for school children.

Prior to 1925 the notification of tuberculosis was adoptive in Ireland in terms of Part I of the Tuberculosis Prevention (Ireland) Act, 1908, but with the coming into operation of the Local Government Act of 1925 it became compulsory throughout the Free State. Schemes for the prevention and treatment of tuberculosis under the Act mentioned and the National Insurance Act, 1911, have been approved in twenty-two counties and in Dublin and Waterford cities. Meath and Wicklow counties have partial schemes, dealing with insured persons and their dependants only. The approved sanatoriums are nine in number, with 815 beds. Part of the accommodation in 52 other institutions is available for surgical tuberculosis. At Cappagh, Finglas, county Dublin, there is an establishment of the Irish Sisters of Charity of 70 beds for the open-air treatment of surgical tuberculosis in children. Domiciliary treatment of tuberculosis is given in suitable cases, where home conditions permit.

By order of the Local Government Board in 1917, county borough councils in Ireland were declared to be authorities for the diagnosis and treatment of venereal disease. By the Public Health (Prevention and Treatment of Disease) (Ireland) Act, 1917, county councils, if they so desired, might also be declared to be authorities for the purpose. During the troubles which began in 1920, existing approved schemes under these provisions were centralized, and grants made direct to institutions and laboratories. In 1922 local authorities were urged to resume control of the work, special financial inducements being offered, but only Dublin and four counties sought for recognition. The normal State grant is 75 per cent. of the net annual cost to the rates. In 1924-25 the number of persons dealt with at treatment centres was 3,174; there were 25,991 out-patient attendances, and 7,951 days of residential treatment.

The report contains an interesting review of the history of poor relief in Ireland from 1634 onwards. Till 1921 the Irish Poor Law methods were based on the English model, in which the workhouse was the dominant feature, outdoor relief being given only under exceptional and exacting conditions. The respectable poor abhorred the workhouse as the haunt of the detrimental, and in 1921 steps began to be taken to introduce a system more conforming to the sentiments of the people. The small union areas, where the poor of every type were inevitably herded in one building, were done away with and replaced by the county unit. The county authorities promulgated schemes which were ratified under the Local Government (Temporary Provisions) Act of 1923. The principal points in these schemes were the abolition of relief in the Poor Law union workhouse, the centralization of management under the county authority, the provision of central county institutions, and the extension of outdoor relief. The cases of institutional relief, which were 26,791 in 1913-14, had fallen in 1924-25 to 18,113, while home assistance cases over the same period had risen from 14,663 to 21,650.

Up to 1919 the number of houses provided under the Housing of the Working Classes (Ireland) Acts was 8,700. In 1919 a survey of municipal housing needs was made, and it was estimated that the number of houses required was at least 46,416, of which one-half were for Dublin City. For three years little progress was made, but in 1922 the new Government set aside £1,000,000 for municipal housing, to be issued to municipal authorities under prescribed conditions in grants bearing the proportion of 2 to 1 to the total amount raised locally by housing rates and loans. Of the 94 local authorities concerned 71 adopted housing schemes, and over 2,000 houses have been erected. From the Housing (Ireland) Act, 1919, owing to disturbed conditions, only 74 dwellings had resulted, and from the Housing (Additional Powers) Acts (1919 and 1921) 348. The Housing (Building Facilities) Act, 1924, which was intended to revive the activities of private builders, appears to have attained this object, the sum of £300,000 available for grants under the Act being now on the point of exhaustion. For rural areas the Labourers (Ireland) Acts, 1883 to 1919, had produced 42,023 cottages. In Dublin the Commissioners, at the close of the period covered by this report, had preparations in hand for over 1,000 new houses.

The Roinn Rialtais Aitiúla Agus Sláinte Puibli, as its first report shows, is engaging the difficult problem of public health in Ireland in a courageous manner.

Correspondence.

TUBERCULIN IN THE PROPHYLAXIS AND TREATMENT OF TUBERCULOSIS.

SIR,—With reference to your article on this subject in the BRITISH MEDICAL JOURNAL of February 19th (p. 340), it is to be hoped that action on the lines you suggest will be taken. Having used tuberculin according to Dr. Camac Wilkinson's method since 1910, I am convinced that tuberculin given as he directs—namely, in gradually increasing doses till 1 c.cm. or over is reached, is at once the best and most economical method we possess at the moment in the treatment of tuberculous disease in the working classes. Repeated small doses of tuberculin, certainly in pulmonary cases, are in my experience a waste of time.

It is necessary to emphasize the social class, as comparisons of results obtained by other methods in the wealthier ranks of the population introduce a totally different set of circumstances well known to every hospital physician. As Dr. Camac Wilkinson tritely says,[1] "Tuberculin is not a cure for starvation."

Tuberculin in its present forms has undoubtedly its limitations. Unfortunately it is unsuitable for use in cases where no other known method of treatment, except perhaps occasionally artificial pneumothorax, is of any value.

We have a great deal to learn about it. The need for standardization of tuberculins as shown by Professor Dreyer[2] is one of the first essentials to any scientific investigation.

In my opinion the possible danger of tuberculin administration has been much exaggerated. Accidents happen in lung tuberculosis with or without treatment. I am by no means convinced that these accidents are more frequent after the use of tuberculin either in diagnosis or treatment.

I have published elsewhere[3] an article showing the marked difference in mortality rates between the tuberculin and the non-tuberculin treated cases of open pulmonary tuberculosis in dispensary practice at the end of seven to twelve years.

These figures were criticized[4] owing to the fact that the number of cases (83) treated with tuberculin was only about a quarter of the number of those not so treated. There was a very good reason for this,[5] as my work as medical officer of the Oxfordshire Association for the Prevention of Tuberculosis (1910-15) lay both in the city and county of Oxford. This fact presented an excellent control

[1] *The Tuberculin Dispensary for the Poor* (London: Nisbet and Co., Ltd.), p. 29.
[2] Dreyer and others: *Lancet*, 1924, ii, 1003; *ibid.*, 1926, i, 434.
[3] BRITISH MEDICAL JOURNAL, 1922, ii, 473.
[4] *Lancet*, 1923, ii, 524.
[5] *Ibid.*, 1923, ii, 853.

series (as far as this ever can be possible in lung tuberculosis) in populations of a ratio of about 1 to 4.

In the city of Oxford, with the lesser population, tuberculin treatment was possible, whereas in the country districts, miles from any dispensary, it was impracticable. The most important factor was the presence of tubercle bacilli in the sputum of every case. However desirable it may be to make the diagnosis of lung tuberculosis before the bacilli appear in the sputum, for scientific investigations as to the value of any line of treatment, only undoubted cases of the disease should be accepted.

Many statistics where the diagnosis has been made by, for example, "one medical man (the tuberculosis officer) after-taking into consideration the pathological and radiographic examination and the skilled opinion of his professional colleagues,"[6] are really useless as a guide to the value of any particular line of treatment, in the absence of the demonstration of the bacillus of Koch in the sputum. The general physician and, even more, the pathologist know how often the physical signs of lung tuberculosis can be simulated by other pulmonary conditions. Incidentally, whether notifications should not be restricted to cases yielding the tubercle bacillus is a matter worthy of discussion.

If the Medical Research Council or the Ministry of Health will devote the next five years to an investigation of the results of tuberculin dispensary treatment with Dr. Camac Wilkinson's ideas as a basis, I feel certain that a method will be evolved which will contribute to a large extent towards "relieving the country of some of its burdensome expenditure on tuberculosis."

At the same time, it would do something to ameliorate the tremendous pressure on sanatorium beds, which pressure, by the resultant delay, causes reasonably early cases to pass into stage two or even stage three, and this in its turn gives rise to the impression so common in the minds of the general practitioner of the markedly poor permanent results of institutional treatment in this country.—I am, etc.,

WILLIAM STOBIE,
Honorary Assistant Physician, Osler Pavilion for Tuberculosis, Radcliffe Infirmary, Oxford.

March 5th.

SIR,—Your interesting article on tuberculin in the treatment of tuberculosis (February 19th, p. 340) prompts me to write one more appeal to the medical profession to use tuberculin in massive doses in the one manner which Dr. Camac Wilkinson has so ably described in his well known book. This is not the place to go into details, but I am anxious to make the point that only by the administration of big doses can salvation be found. As one who for many years has given these big doses—that is to say, doses up to 1 c.cm. or 1.5 c.cm. of old tuberculin, etc.—I affirm that I have never seen any reaction which gave rise to a minute's anxiety, nor have I heard of such cases under the care of my colleagues.

For some years I was in charge of the tuberculin department of All Saints' Hospital for Genito-Urinary Diseases, and among the hundreds of cases there treated on the massive dose system I have never seen any ill result. These genito-urinary infections seem to be particularly suitable cases for tuberculin treatment. The marked improvement, even in advanced cases, is most gratifying. The Committee of the Ministry of Health, in its report on Dr. Camac Wilkinson's work, quoted him as saying that tuberculin was of little use in genito-urinary tuberculosis. Dr. Camac Wilkinson, on the contrary, urges its use, and agrees with me on its great value in such cases. The above mentioned report should be read along with Dr. Camac Wilkinson's rejoinder. No fair-minded reader could fail to be impressed with the triumphant vindication of the use of tuberculin in tuberculosis.

I would like to repeat once more the absolute necessity of attaining to the administration of the full doses of tuberculin. Timid doses in timid hands are futile.—I am, etc.,

ROLF CREASY.

London, W.1, March 5th.

[6] Medical Research Council Reports, 76, Tuberculosis in Bradford.

CANCER AND TRAUMA.

SIR,—In your issue of January 29th (p. 216) Sir George Lenthal Cheatle asks "if anyone has met with the development of a tumour in a wound inflicted upon a combatant during the late war." He adds: "If mere traumatism can induce carcinoma or sarcoma it would be natural to expect examples from so great a wealth of material."

In a paper on "Local injury as a causative factor in bone sarcoma, with especial reference to the medico-legal aspects," published in the *International Journal of Medicine and Surgery* (vol. xxxix, Nos. 7 and 8, July and August, 1926), and also in the *Transactions* of the Southern Surgical Association, 1925, I reported a series of 360 cases of sarcoma of the long bones personally observed from 1890 to 1926. An analysis of this series showed a history of antecedent local injury in 181 cases; in 133, or about 70 per cent. of the cases, the tumour developed within the first six months of the injury, and in 38 per cent. of the cases it developed within the first month of the injury. In my conclusions I stated that, in sarcoma, especially in sarcoma of the long bones, there can no longer be the slightest question that a single local trauma, in the form of a bruise, a sprain, or a fracture, may be the direct exciting cause of the sarcoma.

Coming to the specific question raised by Sir George Lenthal Cheatle, I would say that in the paper just mentioned I quoted in abstract two cases of sarcoma developing at the site of local trauma as a result of injuries received during the late war, which cases had been under the care of Major Vitrac, and were reported by Dr. Faure at the meeting of the Society of Surgery of Paris, May 1st, 1918. In the first case a swelling developed in the thigh at the site of an injury sustained three months previously, caused by a fragment of shell. In the second case an artilleryman, while riding his horse, received a violent blow upon the anterior portion of the thigh by coming in sudden contact with a limb of a tree. About a year and a half later a swelling developed at the site of the injury. Faure regarded these two cases as proof that neoplasms can develop under the influence of local trauma. He states that while the mechanism may be obscure, it seems certain that the histological elements associated with reparation of tissue are susceptible, on exaggeration of their plasmatic role, of developing into a neoplasm. He does not believe it possible to deny the influence of trauma upon the development of tumours, as the number of definite examples is too high to admit any doubt.

Fortunately, I have further and more complete data, hitherto unpublished, kindly furnished me by Dr. John B. Walker, colonel in the American Expeditionary Force in France, in the world war. Since the war Dr. Walker has been engaged in a careful follow-up of cases of fracture observed in the soldiers of the American army. While his study is not yet complete, he has furnished me with the following information: Of 46 cases of sarcoma developing after recent fractures or gunshot wounds, and treated by amputation, 39 occurred in the femur or tibia (23 dead), 5 occurred in the humerus (2 dead), and 2 occurred in the radius or ulna (1 dead).

It would be interesting to know if any similar study has been made of the results of trauma received by the soldiers of the other armies engaged in the late war.—I am, etc.,

WILLIAM B. COLEY.

New York, Feb. 25th.

THE MODERN TREATMENT OF HERNIA.

SIR,—Mr. Geoffrey Keynes's paper on this subject (BRITISH MEDICAL JOURNAL, January 29th, 1927, p. 173) moves me to communicate two methods, differing in some essentials from those he advocates, which were described by me in a paper read before the Brighton and Sussex Medico-Chirurgical Society on June 3rd, 1926.

The method I have used for umbilical hernia is a combination of Mayo's and Gallie's technique. Mayo's operation is carried out to the point of overlapping the aponeurosis; the overlapping is done with living sutures. The upper stitch is a continuous mattress suture taking a single bite of the lower margin; the only point in

putting it in is to take care that each stitch is at a different level, so that a line of cleavage does not open up between the stitch-holes. When this is completed the same suture is continued back along the free margin, anchoring it to the aponeurosis beneath, and further stitches placed over the whole in zigzag fashion as in the operation for ventral hernia. The method of putting in the first stitches is indicated in the diagrams (Figs. 1 and 2).

I think the operation Mr. Geoffrey Keynes describes for femoral hernia is open to serious theoretical objection, if one accepts Gallie and le Mesurier's experimental results. They showed that, where two pieces of fibrous tissue were stitched together, union only occurred by weak areolar tissue, and that a permanent weak spot resulted; that observation, in fact, was the starting-point of their work. It seems hard to believe, in the face of their results, that the union achieved between the flap of rectus sheath and Cooper's ligament can be strong enough to withstand a severe strain.

The alternative method I have suggested, and used so far in three cases, is to block the opening of the crural canal with a living suture derived from the external oblique aponeurosis, much as Mr. Morrison describes in his operation for inguinal hernia (BRITISH MEDICAL JOURNAL,

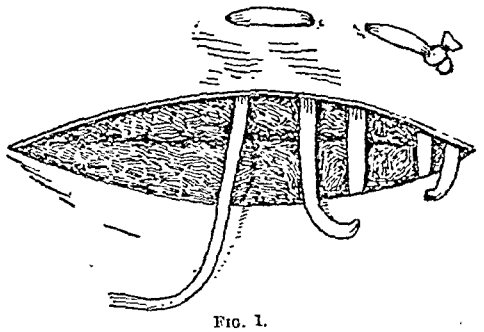


FIG. 1.

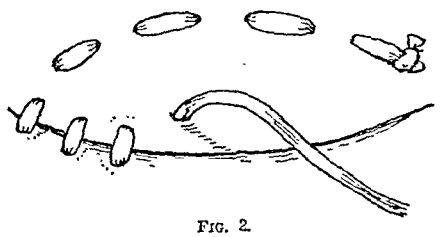


FIG. 2.

February 19th, p. 353). The inguinal approach is used; and may I say in passing that I have never found it necessary to clear the sac from below, as Mr. Keynes describes, there being no difficulty in dealing with the contents of the sac and pulling it up from above? When the sac is tied off, a strip of the external oblique aponeurosis about 1/4 in. wide is detached from the lower margin of the incision in it, and freed right down to the pubic spine. With a pair of Cleveland forceps this is brought through Poupart's ligament from without inwards, close to its attachment to the pubic spine, and is then woven across between Poupart's and Cooper's ligaments, completely closing the crural canal from above. If the skin incision is originally made extending to the level of the anterior superior spine, a strip 6 in. long can be got, which is ample to close the opening right out to the femoral vessels.

The method has not been in use long enough for any definite claim to be made for it, but it seems to close the canal thoroughly and permanently, and does not take much longer to perform than the Lotheisen operation as described in the textbooks.

May I, in conclusion, express my sense of our great indebtedness to Professor Gallie for the very important addition he has made to our methods of repair?—I am, etc.

Brighton, Feb. 19th. M. FITZMAURICE-KELLY.

WIRELESS MEDICAL CONSULTATIONS AT SEA.

SIR,—The letter from Dr. F. F. Bond on this subject, published in the JOURNAL for February 12th, raises many important questions and is most opportune at this moment. Why is it that, in Dr. Bond's words, "medical help at sea by wireless . . . has not at the present time the value it ought to and might have"? In attempting to answer this question, it is necessary to deal with three closely allied problems—the wireless consultation itself, the ship's medicine chest, and the medical manual which ships without a doctor on the high seas are supposed to carry. With regard to the wireless consultation, it is true that, as Dr. Bond writes, "if medical relief by wireless is to be of any real value it will have to be carefully considered and codified." This is not the case at present. Yet it is the opinion of experienced wireless operators that there would be no difficulty in arranging a simple international code. In a recent report to the League of Red Cross Societies, Lieutenant-Commander E. Anderberg of the Swedish Navy has stated that comparative little use has been made of the arrangement for wireless consultations between the Gothenburg General Hospital and ships at sea, and that the neglect of this service is to some extent due to the difficulty captains find in explaining the case to the hospital. To appreciate this difficulty, we have only to remember how inarticulate even well educated laymen often are when attempting to explain their symptoms in the undisturbed atmosphere of a consulting-room ashore. There is also the difficulty of the foreign languages—of a Portuguese captain trying to tell a Dutch doctor what his mate is suffering from. A standard questionary, which would give the captain hints as to the wording of his first message, and international standardization of certain medical phrases, would do much to simplify the task of all concerned. It is fortunate in this connexion that the present code of wireless signals is to be revised at an international conference in Washington next October.

As for the medicine chests carried by the ships of different nationalities, the same lack of international standardization is deplorably conspicuous; also the medicine chests of some countries betray many serious omissions and are far from up to date. It is obvious that if the aforementioned Dutch doctor is to recommend a drug he should know whether the Portuguese captain possesses it. Otherwise much time may be wasted, and much unnecessary exasperation generated. The medical manuals of the different countries show an even greater incongruity. Some are fairly complete, others are rather sketchy, while a few are little better than handbills. Clearly, it would facilitate the work of the doctor if he could refer, when giving advice by wireless, to chapter and verse in an international medical manual, or to a certain number which would be the same for the same subject in every national medical manual. Here, therefore, there is again a clear case for reform, for international co-operation.

I have discussed these defects in some detail in order to emphasize the importance of the work which has recently been started to remedy them. Thanks to the initiative and driving force of Dr. Harald Engelsen of the Norwegian Navy and medical adviser to the Norwegian Red Cross Society, the health and general welfare of the seaman was added in 1924 to the peace-time programme of the League of Red Cross Societies, of which the British Red Cross Society is a member. To solve the problem of the medley of medicine chests in the merchant fleets of the different countries, he secured the appointment of a committee of Norwegian experts to devise a medicine chest which might serve as a model for a standard international medicine chest. Further, with the co-operation of several of his colleagues, he published a large, freely illustrated medical manual which has already been authorized by the Norwegian Government for use on board Norwegian merchant ships. Another step has been the appointment by the League of Red Cross Societies of a standing committee on which, in addition to the League of Red Cross Societies, certain of the maritime national Red Cross Societies, the League of Nations, and the International Labour Office are represented. This committee, which met

for the first time on February 11th, is engaged on the three problems I have already discussed, and at its next session in October it will have before it, for examination as to its suitability for international use, a skeleton medical manual, based on Dr. Engelsen's manual, the whole of which has not yet been translated into English. It is so complete that there is little doubt as to its suitability to serve as a model for an international work. The same committee will investigate the problems of an international medicine chest and wireless code, and if it can frame a series of definite proposals to the powers that be, we may hope soon to see remedied some of those sins of omission which Dr. Bond has exposed.—I am, etc.,

CLAUDE LILLINGSTON.

League of Red Cross Societies,
Paris, March 4th.

SIR,—The questions raised by Dr. Bond in his letter (February 12th, p. 307) regarding "wireless calls for medical help at sea" have for some time been receiving consideration in official quarters, and in the new edition of the *Ship Captain's Medical Guide*, which will shortly be issued, a prominent place has been given to this subject. As the text of this book has not yet been sent to the printers, there is still time to incorporate any practicable suggestions, which will be given every consideration.—I am, etc.,

D. D. F. MACINTYRE, M.B., Ch.B., V.D.

Board of Trade Office, Southampton,
March 4th.

ARTIFICIAL PNEUMOTHORAX.

SIR,—The case of artificial pneumothorax described by Dr. Hudson in your issue of February 19th (p. 323) is a very interesting one, and shows that remarkable and immediate improvement may be obtained in apparently hopeless cases. Unfortunately, however, the ultimate result is not always satisfactory. When the lung is bound down by a broad adhesion (as shown in Fig. 4 of Dr. Hudson's case) there is always the possibility of a catastrophe.

I have in mind a case rather similar to that described by Dr. Hudson. When pneumothorax was begun the patient was more or less moribund, and had certainly seemed to have no more than two or three weeks to live. Within three months she was up and about and doing well. She kept well for over a year; and then, suddenly (a day or two *before* she was due to have a refill), she became very ill, and I found that she had developed a spontaneous pneumothorax, which eventually proved fatal.

This complication is comparatively rare. But I suggest that it is much more likely to occur when the base of the lung is affected, and when the adhesions are low down in the axillary line.—I am, etc.,

Kingussie, March 5th. FELIX SAVY.

A VACCINE FOR INFLUENZA.

SIR,—Dr. Carl Spengler is convinced that during the grippe pandemic of 1918 he detected in human sputum, blood, and excreta a micro-organism that during the previous thirty years he had never found in his continuous routine examinations of these substances. And with this new organism he noted new pathological symptoms in his patients. As his published writings concerning this micro-organism are practically unknown to English-speaking physicians, I would summarize as follows the more important facts he records.

This micro-organism is of variable morphology, but in the human body is most conspicuous as a somewhat ovoid, bipolar-staining bacillus. It is often found in the blood, and also inside body cells. It is pathogenic to animals. It is resistant to heat, being uninjured by a short exposure to 95° C., yet grows freely at room temperatures as low as 24° C., and can survive prolonged freezing. It grows on ordinary media, and in peptone water; it also proliferates freely in slightly alkaline human urine, especially if a trace of albumin is present. It proliferates in sewage-polluted water at as low a temperature as 12° C. In sputum and urine it tends to kill out other bacilli (in sputum the tubercle bacilli). To get a pure culture from urine Dr. Spengler heats the urine for a moment to 90° C., adds 5 to 10 per cent. peptone, and incubates. To isolate it from blood or sputum he inoculates into peptone water.

In the winter of 1918-19, out of 100 consecutive patients from all parts of Europe, coming to him for various complaints, he detected this organism in the freshly voided urine of 96. In 27 the urine was alkaline, and in 45 it contained albumin. He looks upon the alkalinity of the reaction and the presence of albumin as due to this organism. He finds that the afebrile carriers are cured by a few injections of the vaccine made from this organism. When fever is present it is rapidly reduced by treatment with the antibodies obtained from the blood of animals immunized with this vaccine. The vaccine treatment is also prophylactic.

Dr. Spengler does not discuss the probability of animals also being carriers. Nor does he deal with the possibilities of extensive air-borne infection from desiccation of contaminated excreta and sewage effluent. The following are some references to his publications on the subject:

Ueber die Spanische Grippe, von Dr. Carl Spengler (Ernst Bircher, Bern, 1919). *Die "Spanische Grippe" und ihre Bekämpfung*, von Dr. Carl Spengler (Ernst Bircher, Bern, 1919). "Uber die Darstellbarkeit polgefärbter (pestbazillenähnlicher) Stäbchen bei verschiedenen Bakterienarten," von Dr. Emil Epstein, *Archiv für Hygiene*, Bd. 90, München.

—I am, etc.,

Davos, Feb. 25th. J. BARCROFT ANDERSON, M.D.

GASTRIC HAEMORRHAGE.

SIR,—Dr. Charles Miller, in his lecture on gastric haemorrhage, makes one statement which I feel should not be allowed to pass without criticism. Under the heading of treatment (p. 413) he says: "On no account should transfusion be performed, unless a surgeon is opening the abdomen." I do not wish to go to the other extreme by implying that every patient should be transfused after a gastric haemorrhage, but I wish to state my belief, based on experience, that many patients will be exposed to a serious and unnecessary risk if Dr. Miller's advice be always followed. He himself states a few lines above that "we wish to improve the patient's condition, stop the haemorrhage, and prevent its recurrence." It will be found in practice that all these desirable objects tend to be attained by a fairly free use of transfusion apart from the question of surgical treatment. Dr. Miller's view is perhaps based on the idea that transfusion will encourage haemorrhage by producing too great a rise in the blood pressure. This is not found to occur in practice, whereas many a patient will come very near to death, and some will die, if transfusion is withheld until a second or third haemorrhage has taken place. The question was fully considered at the Annual Meeting of the British Medical Association in Nottingham last year (BRITISH MEDICAL JOURNAL, November 27th, 1926), so that I need not repeat the arguments here.—I am, etc.,

London, W.1, March 5th. GEOFFREY KEYNES.

AFTER-TREATMENT OF MASTOID OPERATIONS.

SIR,—May I, after several years' experience, endorse all Mr. A. J. Wright, in the JOURNAL of February 26th (p. 375), has said as to the advantages of paraffin in the after-treatment of mastoid operations, whether the ordinary or "conservative" radical? They are: painless introduction and removal of the paraffin, rapid diminution of discharge, rapid and even epithelialization. The resulting cavity is excellent. The paraffin can be scraped into a teaspoon, warmed over a spirit lamp, and, after being tested as to temperature and when near solidifying point, poured into the ear. There is no need of any special "basket" dressing such as suggested by Mosher; any difficulty on removal is overcome by a warm probe. A great aid in healing is the momentary insertion of a needle-shaped electro-cautery point down the Eustachian tube as far as the isthmus. This sterilizes and seals the tube in almost every case; properly applied it is without risk. It is done after the bone operation is finished, and before the plastic. —I am, etc.,

Glasgow, March 1st. JAMES ADAM, M.A., M.D.

PRESCRIPTIONS UNDER THE DANGEROUS DRUGS ACT.

SIR,—The Dangerous Drugs Act may have its advantages; it certainly has its disadvantages.

Having sent a patient to a South Coast town for a rest, I received a request from her for some help for insomnia. I gave a prescription with all the precautions rendered necessary under the Act.

On my patient's return home I inquired as to the success of the prescription. I was told that the chemist could not make it up as he could not prove that the signature was mine. He suggested—as a friend—that my patient should get the prescription countersigned by a local practitioner.

Further inquiry on my part from the chemist elicited the fact that a chemist had been fined £100 for making up a prescription which turned out to be a forgery, and the Retail Pharmacists' Union has issued a warning against dispensing any D.D.A. prescription unless the chemist can swear to the signature!

I am afraid that if the law compelled us, like the bookmakers, to have our likenesses stuck on our prescriptions it would not meet the case! The position is farcical.—I am, etc.,

Crawley, Sussex, Feb. 20th. SIDNEY MATTHEWS, J.P.

*** In response to an inquiry we are informed that the Retail Pharmacists' Union and Chemists' Defence Association, Ltd., has not issued any such general warning as Dr. Matthews quotes. "We have, however," the secretary states, "from time to time informed correspondents that as chemists are committing offences under the D.D.A. if they dispense forged prescriptions, they should not accept such prescriptions if they do not know the doctor's writing and are unable, for any reason, to verify the genuineness of the prescription."

PUERPERAL SEPSIS.

SIR,—I wish the East End Mothers' Lying-in Home could claim the immunity from sepsis which Dr. Cook (March 5th, p. 444) kindly puts to its credit, but as so far no clinical report has been issued, his figures must have been taken from the general report, which only deals with births and deaths.

A clinical report giving details of the work for the last two years is now in the printer's hands, and when it is published it will be seen that the ideal, for which we are all striving, has not yet been attained by this hospital.—I am, etc.,

W. H. F. OXLEY, M.R.C.S., L.R.C.P.,
Honorary Medical Officer, East End Mothers' Lying-in Home.

March 7th.

Obituary.

FRANCIS SHILLINGTON SCALES, M.A., M.D.,

Lecturer in Medical Radiology and Electrology, University of Cambridge.

WE regret to announce the death, on February 28th, of Dr. F. Shillington Scales, after a long illness, at the age of 61. He received his education at Jesus College, Cambridge, and the Middlesex Hospital. He graduated M.B., B.Ch.Camb. in 1909, and proceeded M.D. in 1912, being awarded the University Raymond Horton-Smith prize for his thesis. He early became distinguished for his contributions to microscopy, writing papers in various journals, publishing a book entitled *Elementary Microscopy* in 1905, and another on *Practical Microscopy* in 1909; a third edition of this last was issued in 1926. He was a Fellow of the Royal Microscopical Society, in which he had held office as curator, honorary secretary, and vice-president. Another post which he held was that of lecturer in microscopy at the Westminster Hospital. In 1912 he published an account of the electro-cardiogram as an aid to diagnosis, and afterwards turned his attention to radiology and medical electrology. He took a very active part in instituting the diploma in medical radiology and electrology at Cambridge in 1919; he was secretary to the University Committee concerned, and was examiner for the diploma until his death. He was lecturer in medical radiology and electrology in the University, and physician-in-charge of the *x*-ray and electrical department at Addenbrooke's Hospital. He was a member of the council of the British Association of Radiology and Physiotherapy and of the British Institute of Radiology.

Dr. Shillington Scales had long been a member of the British Medical Association. He was Honorary Secretary of the Section of Electro-Therapeutics at the Annual Meeting at Cambridge in 1920, and had been appointed vice-president of the Section of Radiology for the forthcoming *Edinburgh Meeting of 1927.*

Dr. S. GILBERT SCOTT, radiologist to the London Hospital, has in response to our request sent us the following tribute to Dr. Scales's work.

Radiologists in London instinctively connect the late Dr. F. Shillington Scales's name with the Cambridge diploma in radiology. His unbounded enthusiasm in all educational matters affecting radiology and kindred subjects was one of the outstanding features of his life. This enthusiasm played an important part in the establishment of the diploma in radiology and electrology at Cambridge. The intense earnestness he threw into the teaching of candidates for this diploma had without doubt put a considerable strain for some years on his physical powers, leaving him with little or no reserve when it was required to fight his last illness. The fact that he continued his teaching during his illness, with his men grouped around his bed, illustrates this trait in his character. To those who did not know him well his manner may have appeared somewhat dogmatic and brusque when discussing radiological subjects. This was but an outward evidence of his keenness; his work came before everything. His loss will be especially felt by the teaching radiologists in London. Even those who did not see eye to eye with him appreciated his loyalty, enthusiasm, and valuable work in connexion with Cambridge.

To "W. E. D." we are indebted for the following:

Dr. Shillington Scales, whose early loss we deplore, was well known in Cambridge. His professional life came to be devoted to radiology. He early recognized the dangers of allowing this new and important branch of medicine to pass into the hands of practitioners without special training; and he, with other pioneers of the subject, determined to start a diploma. Dr. Scales certainly took a great part in placing the teaching of the science of radiology on its present sure footing by the interest he showed in inaugurating the Cambridge diploma. His teaching, both at the medical school and at Addenbrooke's Hospital, was popular: no trouble was too great to take in explaining a difficult point. He showed much ingenuity also in using home-made apparatus, which he applied to the needs of the laboratory. In his own department he was widely read, and kept a complete list of abstracts of all important papers published in England and abroad. Dr. Scales had an extensive private practice in radiology, and endeared himself to hospital and private patients alike. He had a vigorous and energetic temperament which carried him through many difficulties; laziness was a condition unknown to him, and this was shown in his last illness when he insisted on conducting his classes to within a day or two of his death. Dr. Shillington Scales has left a permanent mark on Cambridge, in that he had much to do with the initiation of the radiology diploma: his post of university lecturer was the first of its kind, and he was the first honorary physician in charge of a radiology department at the hospital. He must always be remembered by his pioneer work in raising the status of radiology. He leaves a wife and two daughters.

Dr. ROBERT JOHN HILLIER died at his house in Sheffield on February 22nd. He was the eldest son of Dr. James Thomas Hillier, who practised at Ramsgate. He was born in 1869, was educated at Epsom College and St. Bartholomew's Hospital, and took the diplomas of M.R.C.S.Eng. and L.R.C.P.Lond. in 1891. From 1891 to 1895 he was house-surgeon at the West Ham Hospital. Afterwards he practised at St. Albans, Halifax, Stoke-on-Trent, and finally settled in Sheffield in 1910. Though

engaged in general practice he gave special attention to the administration of anaesthetics. His characteristic thoroughness, care, and accuracy led to his becoming so safe and reliable an anaesthetist that his services were much sought after, especially in difficult cases. He was a perfect exponent of the Shipway method of giving ether, which, in his hands, appeared to banish shock even after prolonged and difficult abdominal operations. From 1920 he was senior anaesthetist to the Jessop Hospital for Women, and it was in the operating theatre there that, on January 4th, he showed signs of cerebral thrombosis which gradually spread during the following six weeks. Dr. Hillier's unselfish loyalty and great capability were highly valued, and he will be greatly missed by his fellow members of the Sheffield Division of the British Medical Association. His outside interests were reading, especially history, and photography; he was an honorary member of the East Herts Archaeological Society, and a life member of the St. Albans and Herts Architectural and Archaeological Society.

We regret to record the death, on March 1st, from pneumonia, at the age of 56, of Dr. HERBERT MAYRIS SYLVESTER, who had practised for many years at Leiston in Suffolk. He was the seventh son of the late Samuel Augustus Sylvester of Tonbridge, and from Tonbridge School went, in 1888, to St. Bartholomew's Hospital, where two of his elder brothers—Lieut.-Colonel G. H. Sylvester, F.R.C.S., R.A.M.C.(ret.), and another who died early—had been students. He obtained the M.R.C.S. and L.R.C.P. diplomas in 1892, and country general practice almost at once claimed him. He settled in Leiston, a few miles from Saxmundham, and soon became the trusted friend and adviser in many homes throughout the town and the scattered villages around it. He was medical officer of health for the Leiston Urban District, and medical officer and public vaccinator for the Blything Union, and his duties as certifying factory surgeon brought him into close touch with the men engaged in the local ironworks, where agricultural machinery and implements are made. Dr. Sylvester had been a member of the British Medical Association for thirty-five years, and although he took little part in professional affairs beyond his own area, his sterling character and devotion to duty won him the regard of all his colleagues in the South Suffolk Division.

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

AT a congregation held on March 5th Dr. G. S. Graham-Smith, F.R.S., was appointed a manager of the Nita King Research Fund, in succession to the late Mr. T. S. P. Strangeways, and Mr. J. Duncan White was appointed to carry on for the remainder of the term the teaching work of the late Dr. Shillington Scales in medical radiology and electrology.

The following medical degrees were conferred:

M.D.—W. N. Goldsmith.
M.B., B.CHIR.—B. E. Ahrens, D. G. Shields, W. A. Bourne, H. E. Nourse.
B.CHIR.—R. W. B. Ellis, H. L. Wilson.

UNIVERSITY OF LONDON.

SENATORIAL ELECTION.

MR. WALTER G. SPENCER, consulting surgeon to Westminster Hospital, has offered himself for election to the Senate as a medical member of Convocation; he has the support of the University of London Graduates' Association. He was, until last year, a member of the Council of the Royal College of Surgeons of England, and one of its vice-presidents; he is Honorary Librarian to the British Medical Association. As mentioned last week, Mr. W. McAdam Eccles, surgeon to St. Bartholomew's Hospital, is also a candidate for the vacancy, which is created by the expiration of the term of office of Dr. R. A. Young, who does not intend to offer himself for re-election. The election will take place on May 10th, but voting papers will be circulated to members of Convocation before that date.

UNIVERSITY OF CAPETOWN.

THE following candidates have been admitted to the degree of M.B., Ch.B.:

M. Abel, A. G. Bester, C. C. Brown, E. L. Dirmeik, Phyllis A. Don, Emily C. Greenfield, S. A. Lange, G. M. Malan, I. D. Miller, I. V. Rogoff, J. Siebert, J. G. Siebert, Dorothy G. Vadas, I. J. M. van Niekerk, A. G. W. von During, Rose Weinberg.

Medico-Legal.

HUME-SPRY *v.* SMITH AND WATSON.

Alleged Wrongful Certification under the Lunacy Act.

IN the King's Bench Division, on March 1st, Mr. Justice McCardie and a special jury began the hearing of an action in which a civil servant, Mr. Frederick Hume-Spry, claimed damages against Dr. Robert Percy Smith of Queen Anne Street, London, and Dr. A. H. Watson of Salisbury, for alleged negligence in certifying him insane.

Mr. Hume-Spry was certified in March, 1923, and was detained in an asylum until December, 1923, when he was certified by other medical men as sane. The defendants pleaded the protection of Section 330 of the Lunacy Act, 1890, having acted in good faith and with reasonable care.

Sir Henry Maddocks, K.C., in the course of his opening speech for the plaintiff, said Mr. Hume-Spry was now employed in the Probate Registry at Somerset House. In March, 1923, a petition was presented by his wife for an order for his reception, as being a person of unsound mind, at the Old Manor House, Salisbury. On March 13th, 1923, the plaintiff was examined at an officers' hospital at Latchmere, Ham Common, by Dr. Percy Smith, one of the defendants, who gave a certificate that he was of unsound mind and a proper person to be detained under care and treatment. In that certificate Dr. Smith stated that Mr. Hume-Spry had a fixed delusion that Dr. Woods, who was in charge of the Palace Green Hospital, Kensington (a hospital for neurasthenic and shell-shock patients under the Ministry of Pensions in which Mr. Hume-Spry had been a patient in 1920 and 1921), was taking his wife out to dinner and visiting her flat; further, that Mrs. Hume-Spry "tells me that he has had a fixed delusion about the medical officer and herself for about two years. He thinks all doctors are mad. One night a few weeks ago she found that he had turned on the gas over her head, and refused to let her out of the room. Last night he said it was a plot of the Ministry of Pensions and put a carving knife to his neck." On March 17th, 1923, after Mr. Hume-Spry had been detained in the asylum, Dr. Watson, the other defendant, was called in, and he gave a certificate that Mr. Hume-Spry was of unsound mind, in the course of which he wrote: "He states that he has had some silly ideas and also that he has been 'swinging the lead' for the purpose of getting a permanent pension. He declares that his wife backed him up in persuading people he was peculiar, and denies altogether that he attempted to take his life." On these certificates a reception order was made by a magistrate, and Mr. Hume-Spry remained at the Old Manor House until December, 1923, when he was certified by other doctors (Sir James Purves-Stewart, Dr. Risien Russell, and Dr. Hughes) as being perfectly sane. In consequence he outstayed his leave, went to a solicitor, and refused to go back to the asylum. Counsel urged that it was not entirely unknown that a wife should be unfaithful to her husband, nor that such a wife might wish to get rid of her husband so that he should no longer interfere with what she wished to do. When, in these cases, the wife was the person who was moving to get her husband put away the very greatest care was necessary before sending him to a lunatic asylum. There was, in fact, no delusion at all, for it was true that his wife had been unfaithful to him. He never tried to murder her, or to commit suicide, and these facts would have appeared if the doctors had made proper inquiries.

The plaintiff, in evidence, amplified in great detail the opening statement of his counsel, and was cross-examined at equal length by Mr. A. Neilson, K.C., for the defendants. In the course of this cross-examination Mr. Hume-Spry agreed that while at Palace Green Hospital his wife visited him every day, and that he told Dr. Macnamara, the visiting neurologist from the Ministry of Pensions, that he had nightmares. He denied, however, that he also said he had promptings toward suicide, or that he felt that the right thing to do was to die. He denied that he suggested to his wife that she should get Dr. Woods to compromise himself with her. He denied that his outbursts at a convalescent home at Dolgelly were such that Dr. Stevens formed the view that he was not a fit patient for his hospital, which was staffed by V.A.D. nurses. He denied that a letter of apology he wrote to Dr. Woods while at Palace Green Hospital was written of his own accord. Questioned about breaking into his wife's flat in Marylebone at 1.30 one morning, the plaintiff admitted breaking the glass because he could not make his wife hear the bell. His wife's mother was there, but he did not raise his arm to strike her, nor shout "Where is that man?" He had been told by an orderly at Palace Green Hospital that a man was visiting his wife's flat. Plaintiff denied saying to his wife's mother that he thought of furnishing a flat in Oxford Street for his wife, who could "easily get some man to pay the rent." After answering this question the plaintiff asked the judge how long had he got to stand these damned insults. To this Mr. Justice McCardie replied: "You have made many accusations yourself, and counsel is quite entitled to cross-examine you fully." Plaintiff said it was at Malmesbury that his wife confessed to him that Dr. Woods had seduced her. He was not particularly shocked as he had known it subconsciously; it was more like a relief. He continued to live with her afterwards. She wrote the confession later. The confession was afterwards read by Dr. Macnamara, Mr. Francis, a Mrs. Holland (since dead), a Mrs. Brennan, her daughter, and another person he could not now remember. Dr. Macnamara looked at it three or four minutes, and then said he could not read it. When he (plaintiff) took it to Mr. Francis (his wife's solicitor) the chief clerk (Mr. Collins), in the absence of

Mr. Francis, read it carefully. Later Mr. Francis read it and said that he believed it all, and that it was very sad, but that he could not advise any action being taken. He (plaintiff) said he did not want to take any action, but it was in case of any future trouble about certification. His wife and himself were on excellent terms at that time. He denied that he gave a sealed envelope to Mr. Collins to hand to Mr. Francis, or that he again went to the office before Mr. Francis returned and opened the envelope in Mr. Collins's presence. Answering the judge, the plaintiff said that Mrs. Brennan was in America and that he was not calling anyone to say he or she had seen the confession. The plaintiff admitted going to see a Dr. O'Donovan in 1921 and that Dr. O'Donovan turned him out of the room because he made accusations against Mrs. Hume-Spry and Dr. Woods. He declared that whilst some of the many doctors he saw might have acted honestly, some did not. He admitted writing on a piece of paper *attached to his diary*: "*In view of the insufferable state of* affairs in my home I am proceeding to London to-morrow, January 1st, with the intent and determination of committing adultery with a woman, the particulars of which will be given to my wife in order that a divorce may be granted to her." That was dated December 30th, 1922. Counsel said it was obviously written on December 31st, and asked plaintiff whether he was sitting at the foot of his wife's bed when she woke up during the night on December 31st. Plaintiff denied that he was, or that the gas was turned on, or that he refused to allow his wife to leave the room. Asked why the Ministry of Pensions headquarters should conspire to put him away, plaintiff replied, "Because I had made a charge against one of their doctors." He denied that on March 12th, 1923, he came behind his wife and put a bread knife to her throat, or that he was found soon after on one knee with the same knife at his own throat. His wife did not knock the knife out of his hand.

Counsel: Your case is that your wife was trying to secure your certification?—Yes, under Dr. Woods's influence.

Counsel: Do you suggest that Dr. Woods was influencing the other doctors who saw you?—I do not say that.

Counsel: Do you suggest that Dr. Woods influenced Dr. Smith?—I do not say that.

Do you think so?—Possibly.

He admitted he had probably written to the Ministry a letter in which he accused his wife of living under someone else's protection. He had in mind at the time either Dr. Woods, or Dr. Chetham-Strode, or Dr. Stodart-Walker.

Do you now say that these accusations which you have made against various persons are true?—I have already told you that I am here because I believe that they are true.

He admitted writing to Dr. Woods on April 23rd, 1923, a letter in which he said he had been entirely misled as to Dr. Woods's relations with his wife and withdrew his other accusations. Plaintiff said he believed what he wrote to be true at the time, but he wrote it in the foulest surroundings a man could be in, and he did not think it fair to question him on it.

If you believed that letter why do you now maintain these allegations against Dr. Woods?—I base my allegations against Dr. Woods on what my wife told me.

Has any evidence come to you since April 23rd, 1923, which makes you recant what you said in the letter?—No.

At a later stage in his cross-examination plaintiff agreed that in April, 1924, two writs were issued, one of which was the writ in this action, while in the other damages were claimed against Dr. Stodart-Walker, Dr. Woods, Mrs. Hume-Spry, and Dr. Martin for conspiring to secure his certification as insane and to deprive him of his liberty.

Sir Henry Maddocks: That action is still alive.

Mr. Neilson (to plaintiff): You do not hesitate to make charges with regard to these matters against anybody you can?—I do not. I have had to.

After short re-examination the plaintiff left the witness-box on the fourth day of the trial.

Dr. T. S. A. Orr of Welbeck Street, London, in evidence, said that Mr. Hume-Spry came to him in January, 1924, and, after five or six interviews, witness gave the plaintiff a certificate that he could find no evidence of delusion or hallucination. The plaintiff was not unduly depressed or elated, and in his opinion was sane. Mr. Hume-Spry had been certified mainly because of an alleged delusion that his wife was unfaithful to him—the plaintiff had noticed a change of his wife's affections while he was at Palace Green Hospital and had come to the conclusion that she was too friendly with Dr. Woods. Witness said he saw Mr. Hume-Spry's solicitor, Mr. Peters, and asked him if he had seen any letters shown him by Mr. Hume-Spry that might support the opinion of the plaintiff that his wife had been unfaithful to him. Mr. Peters told him he had. Witness added that these letters impressed him at the time as being such as might make the plaintiff think his wife had been too friendly with a man, or men. In reply to counsel's question, "If they were delusions then is it obvious that they are still delusions?" Dr. Orr replied, "They are as much delusions to-day as they were then." Witness thought Mr. Hume-Spry a particularly astute and intelligent man. The fact that the plaintiff said he still loved his wife, but that he would do his best to damn her, would not necessarily mean insanity.

Cross-examined, Dr. Orr said he was at the Ministry of Pensions up to December, 1924, but he was practising all the time. He agreed that Dr. Percy Smith had a high reputation as a specialist in mental diseases.

Mr. Neilson: Do you accuse Dr. Smith of bad faith in this case?—I thought there was a difficulty in getting a definition of bad faith.

Mr. Justice McCardie: Answer the question on your view of the meaning of the phrase. Do you suggest, on what you have seen, heard, and know, that in this case there was bad faith by Dr. Smith?—Yes.

Mr. Neilson: With full se[illegible] lved in your answer as a professional man [illegible] man?—Yes.

What do you mean by bad [illegible] matter where one should be fair.

Do you mean intentional unfairness on Dr. Smith's part towards the patient whom he was *examining*?—*No. I would not go so far as to* say that.

Mr. Justice McCardie: What you say is unconscious prejudice and nothing more?—That is so.

In reply to further questions Dr. Orr agreed that he did not see Mr. Hume-Spry for over ten months after Dr. Percy Smith had seen him, and took no pains to verify the statements he made. He did not go to see Mrs. Hume-Spry or Dr. Smith and Dr. Oliver, nor did he make any inquiry from Dr. Woods or the Ministry of Pensions.

Mr. Hume-Spry, recalled, was further cross-examined and was still in the witness-box when the court adjourned on Tuesday afternoon, March 8th.

The defendants, Dr. Percy Smith and Dr. A. H. Watson, are both members of the Medical Defence Union, and Mr. Neilson and Mr. Dickens are the counsel appearing for them on the instructions of Messrs. Hempsons, acting as solicitors to the Union.

HARNETT *v.* FISHER IN THE HOUSE OF LORDS.

THE House of Lords, on February 28th, March 1st and 3rd, heard the arguments in the appeal of Mr. William Smart Harnett, farmer and fruit grower of *Springfield*, Newington, near Sittingbourne, Kent, against an order of the Court of Appeal dismissing his appeal from the judgement of Mr. Justice Horridge in an action in which Mr. Harnett sued Dr. Holdrich Fisher of Sittingbourne, a duly qualified medical man, for negligence in signing a medical certificate under the Lunacy Act, 1890, to the effect that the appellant was a lunatic and a proper person to be detained in an asylum.

The facts in the action against Dr. Fisher were the same as those in the action against Dr. Adam and Dr. Bond, the hearings and the appeals consequent thereon being fully reported in previous issues of the BRITISH MEDICAL JOURNAL.

The certificate was signed on November 10th, 1912, and the writ in the action Harnett *v.* Fisher was issued on May 31st, 1922, the appellant pleading that he was unable to bring his action earlier because he was detained in asylums as the result of the respondent's negligence until October 15th, 1921. The respondent pleaded the protection of Section 330 of the Lunacy Act, having acted in good faith and with reasonable care; and, further, pleaded that the action was barred by the Statute of Limitations (21 Jac. I, c. 6). The special jury's answers to the questions *of the trial jury were as follows*:

(1) Was Mr. Harnett of unsound mind on November 10th, 1912, when he was certified by Dr. Fisher?—No.
(2) Did Dr. Fisher act with reasonable care in certifying him?—No.
(3) Damages?—£500.

Mr. Justice Horridge, however, accepted the argument of the respondent that the jury having found that Mr. Harnett was a sane man on November 10th, 1912, his right of action was barred by the Statute of Limitations, and entered judgement for the respondent accordingly, this decision on the law being affirmed by the Court of Appeal, consisting of the Master of the Rolls, Lord Justice Warrington, and Lord Justice Scrutton.

The appeal to the House of Lords was heard by Lords Sumner, Atkinson, Wrenbury, Carson, and Blanesburgh.

The appellant, who argued his case in person, contended that the plea that his action was barred by the Statute of Limitations failed on several grounds. First, the question of *non compos mentis* being one of status, was a matter of law rather than one of fact. In fact he was sane, but in law he was a lunatic, and it followed that as he sufferec [illegible] g to lunacy so he was entitled to all th[illegible] is the respondent had certified him (the [illegible] respondent was surely estopped from alleging now that he was sane. Thirdly, restraint as a lunatic prevented him from bringing his action during the period from November 10th, 1912, to October 15th, 1921. Section 82 of the Lunacy Act, 1890, showed that the Legislature did not contemplate that a person detained as a lunatic could bring an action during detention. *Time would not run* against him until he knew the facts, and he never saw the certificate drawn up by the respondent until he was free. The House would be slow to apply the statute to defeat an honest claim (Boatwright *v.* Boatwright, L.R. 17 Eq., 71, 74).

Mr. A. Neilson, K.C. (with him Mr. T. Carthew), for the respondent, said that the question turned on the construction of the Statute of Limitations.

Lord Blanesburgh intimated that the Statute had nothing to do with the case, and that the real question was whether the respondent was protected by the Public Authorities Protection Act, 1893. Section 331 of the Lunacy Act, 1890, prescribed a special period of limitation in the case of an action brought under Section 330, and that period was one year after release. On that hypothesis, the appellant's action was not out of time, as it was brought seven months after he regained his liberty. Then, though Section 331 was repealed by the Public Authorities Protection Act, 1893, there was a question raised in *Halsbury's Laws of England*, vol. xix, para. 365, as to the extent of that repeal—whether, despite the later Act, Section 331 would stand in an action brought

against a private person. Was Dr. Fisher a private person within the meaning of that section?

Mr. Neilson, continuing his argument on the footing that leave would be given to amend the pleadings—the Public Authorities Protection Act having to be specially pleaded to be relied upon—urged that Dr. Fisher was precisely within the ambit of the Public Authorities Protection Act, the act of certification being done in pursuance of an Act of Parliament. Accordingly Mr. Harnett, in bringing his action seven months after his release, was a month out of time.

Mr. Harnett having replied, the House reserved judgement.

Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

THE House of Commons this week discussed the Army and Air Estimates, the dispatch of troops to China, unemployment, and several small bills.

The Parliamentary Medical Committee arranged that at its meeting on March 9th it would confer with representatives of the British Medical Association regarding the Dogs' Protection Bill.

The text of the Midwives and Maternity Homes Bill was published on March 8th. Introduced by Mr. Barclay Harvey, and supported by Sir George Berry and Dr. Fremantle among others, this bill is designed to extend to Scotland the chief provisions of the legislation recently passed for the control of midwives and maternity homes in England. The bill has the goodwill of the Scottish Board of Health.

The group of members which, under Sir Leslie Scott, has been revising the Mental Deficiency Bill completed its work on March 8th, and the bill has been printed. The definition of mental deficiency and some administrative proposals have been so revised that the friends of the bill believe Parliament will treat it practically as an agreed measure after its second reading, which is down for March 18th.

In consequence of his retirement from the Labour party, which was announced last week, Dr. Haden Guest has decided to vacate his seat for North Southwark, which he has held since 1923. He will offer himself for re-election as an independent candidate.

Experiments on Animals.

On March 8th Dr. Fremantle asked the Home Secretary whether he had received from his inspectors under the Cruelty to Animals Acts any reports during the last five years indicating either demonstrations before classes of students or painful experiments of a prolonged and agonizing nature on dogs or other animals; and, if so, what action had been taken, and with what result. Captain Hacking (Under Secretary to the Home Office) replied that no such experiments would be permitted, and there was no evidence whatever that any had been made. All experiments before students were required to be performed under anaesthetics, and the animal must be killed before it recovered consciousness. As regards other experiments, all holders of licences who had certificates either dispensing with the requirements to use anaesthetics or permitting the animals to recover from the preliminary operation under anaesthetics were subject in respect of every experiment to a special condition known as the "pain condition." The terms of this condition were printed in the report which was laid yearly before the House of Commons, and were such as to render "experiments of a prolonged and agonizing nature" impossible. For many years past the inspectors under the Act had not found any instance of an infringement of this condition. If an inspector did observe any animal to be suffering considerable pain he would at once order it to be killed.

Dr. Fremantle asked whether Captain Hacking was aware that these specific statements, which he had just declared to be untrue, were being publicly circulated by the National Canine Defence League, and were said to have resulted in a very large number of subscriptions. He asked whether Captain Hacking could do anything to prevent such misleading statements. Captain Hacking said he knew that many things were said by many organizations that were not true, and he hoped that his answer would get as wide a circulation. Mr. Bromley asked whether some of the inspectors who were put to watch these operations had not themselves been vivisectors, and were therefore in sympathy with them. Captain Hacking replied that that was a very unfair thing to say. The inspectors carried out their duties very creditably to themselves, to the House, and to the State. Mr. Bromley asked if there had not been such inspectors. The Speaker: The honourable member ought not to make such suggestions.

The Royal Army Medical Corps.

The Army Estimates, moved by the War Minister on March 7th, asked for a total sum of £41,465,000, which was £935,000 less than last year. Vote 3, relating to the Medical Service, showed an increase of £60,000. This was in part due to improvements in pay and conditions of service of army medical officers. For some years past the army medical service had not attracted sufficient numbers of young men. Complaints had been made by the medical profession, vigorously supported by the British Medical Association, of the inadequacy of pay, of the frequency of moves, and of the length of foreign service tours. Many of these complaints were well founded, and though steps were taken immediately it was some time before the new conditions could be put into force. The Cabinet appointed a committee to inquire into the pay and conditions of service in the medical branches of the three fighting services, as it was impossible to deal with one without the others. Following the report of the committee, the Royal Warrant of July, 1926, was issued, under which improved terms and conditions of service had been granted, and the British Medical Association was now recommending service in the Royal Army Medical Corps as a career for young qualified practitioners. More candidates were still wanted, and the Secretary of State wished to draw the attention of newly qualified medical men to two features of the new conditions. The time spent in a house appointment in a hospital would count as service in the army. The other innovation was that, after seven years' service, an officer could retire with a gratuity of £1,000. The army owed much to its medical officers, and he hoped that the reforms now operating would ensure a service as contented as it was efficient.

In the discussion which followed, Mr. Macpherson said that praise was due to the Secretary for War because he had considered the position of the Royal Army Medical Corps. He was delighted to hear that the British Medical Association was now recommending young men to join that service. Those who had followed the work of the service during the war knew how magnificent it was.

The motion to go into Committee was agreed to.

Major Glyn called attention to the fact that the working expenses of seven military hospitals, exclusive of salaries and maintenance, amounted to no less than £1,112,000. The Estimates Committee had recommended that there should be closer liaison between the services in hospital treatment. That had been carried out, and no doubt great economies had been effected, but £1,112,000 exclusive of salaries was too high a figure.

On the vote for men Dr. Vernon Davies urged that pensions should be more frequently awarded to men who were discharged from the army suffering from consumption. It was impossible for the Medical Board at Chelsea really to decide the question whether the disease was attributable to the conditions of service. No one could say when the tubercle bacillus might gain entrance into the human system. If a man had malaria, dysentery, or contracted a bad cold after exposure, or got pneumonia and then developed consumption, the Medical Board might hold his case to be attributable. And yet another man who had not had any of these diseases and was working at the same time might also develop consumption. The attitude of the War Office had caused dissatisfaction in the country. The War Office might take one of three courses. It might say that it was impossible to prove in any case that consumption was due to conditions of service. That might be harsh, but it would be logical. Secondly, the War Office might schedule a number of conditions or diseases which could be held to be producing causes of consumption. Thirdly—and this was the course which he would prefer—the War Office might institute a system of insurance under which every man in the service could be compulsorily insured against the possibility of contracting consumption. He urged upon the Secretary of State for War that this was a question that required consideration.

Dr. Fremantle congratulated the Secretary of State on the action he proposed towards the Royal Army Medical Corps. As a result of the recommendations of a committee which sat on this subject improvements had been made. Before the war the establishment of the Royal Army Medical Corps in officers was something like 1,000; since the war it was cut down to 900, and there were under 800 officers on the strength last year. This year only fifteen candidates had come forward to fill twenty-five vacancies, so that they were still in a backward position. The Secretary of State was appealing for short-service officers. When these men had become useful officers they would be entitled to return to civil life with a gratuity. The Army Council was carrying on with an elderly service increasing always in seniority. That made for great dissatisfaction among the officers. It was too early to judge the result of the new terms which had been offered. But young medical men would not take commissions in the fighting services unless those services took direct and vigorous measures to attract them. The Secretary of State had mentioned that day that there had been a reduction in the medical services of the Territorial Force in respect of casualty clearing stations. This was most serious. Great difficulty was caused in the late war because casualty clearing stations had to be improvised. The first shock of battle meant a large number of casualties, and if the clearing stations did not know their work great difficulties would arise. While the framework might be cut down, he hoped the Secretary of State would make arrangements whereby the personnel would continue to be trained to form a nucleus which would be available on the outbreak of war.

Sir L. Worthington-Evans, in reply, said that the point put by Dr. Vernon Davies was one of the most difficult medical questions that could be raised. Dr. Davies had said that it would be logical, though harsh, to refuse pension in all such cases, but it was better to be wrong in some cases than to take up such a position. It was not the fault of the administration that mistakes were made; it was due rather to the incomplete knowledge of the medical profession in regard to the causes of consumption. He assured Dr. Fremantle that the War Office was doing its best to follow the course that he had suggested. They intended to visit the medical schools in order to induce young medical men to enter the Army Medical Service.

Small-pox.

In a series of answers to Mr. Groves, Mr. Chamberlain said that in 1925 and 1926 "vaccination" or "vaccinia" appeared as the cause or one of the causes of death on the death certificates of nine persons, whose ages were respectively 5½ months, 8½ months, 3 months, 5 months, 5 months, 9 weeks, 17 days, 1 month, 6 months. A similar attribution of death was subsequently withdrawn from the certificates relating to four persons, aged respectively 4 months, 4 months, 7 weeks, 1 month. The latter certificates were withdrawn as the outcome of correspondence undertaken by the Registrar-General, but consisting solely of a routine inquiry asking the certifying practitioner whether he was of opinion that the cause of death was in any way associated with vaccination. It had been for many years the practice to question certifying practitioners about any indefinitely certified causes of death. In two of these reconsidered cases death occurred seven days after vaccination, in the third nine days, and in the fourth seventeen days. Mr. Groves also asked whether, in November, 1926, the medical officer for Moxborough, stating that a Mrs. Roberts, who had been confined six days previously, was suffering from small-pox, ordered her removal to hospital; that at her request the baby was taken to hospital with her, and was vaccinated two days later, and that it died at the age of 2 months. Mr. Chamberlain said he understood the facts were generally as Mr. Groves stated them. The death of the child was certified as due to (1) small-pox, (2) cellulitis of right leg.

Answering Mr. Wi[illegible], Mr. Chamberlain said the results obtained from the [illegible] vaccine lymph issued by the Governmen[illegible] had been uniformly successful. No case [illegible] of vaccinations with this lymph had been reported to the Ministry of Health in which a severe reaction had been attributed to the lymph. He had no control at present over proprietary lymphs, but regulations for standardizing all vaccine lymphs used in this country would come into force when the Therapeutic Substances Act, 1925, became operative.

Mr. Chamberlain added that during the thirteen weeks ended February 19th, 5,465 cases of small-pox were notified in England and Wales. He gave figures showing that in the Sunderland Poor Law Union in 1925, out of 5,326 births 379 died unvaccinated, 4,191 were successfully vaccinated, and statutory declarations of objection were made in respect of 577. Of 1,513 born in the Darlington Union in 1925, 78 died unvaccinated, 358 were successfully vaccinated, and there were 1,009 statutory declarations of objection.

Disinfection of Animals.—Mr. Guinness informed Dr. Fremantle that the test for disinfectants which the Ministry of Agriculture had adopted for use under the Diseases of Animals Acts was framed after full consideration and scientific advice, as being a test conducted under conditions which resembled as closely as possible the actual circumstances in which the disinfectants were used in practice. Dr. Fremantle asked if this had been agreed upon in consultation with other Government departments which were equally concerned in getting a reliable test. Mr. Guinness said that the requirements of the other offices were very different from those of agriculture. He did not think it necessary to have the matter reconsidered. In reply to a further question by Dr. Fremantle, Mr. Guinness said that he was not aware that brands of disinfectants approved by the Ministry were being freely sold to agriculturists in inferior strengths and not labelled in accordance with the Diseases of Animals Disinfection Order, 1926. Agriculturists and others required to use approved disinfectants by any Order issued under the Diseases of Animals Acts should be careful to see that the preparation they were obtaining for that purpose was labelled clearly as prescribed in the Disinfection Order of 1926.

The School Medical Service.—Lord Eustace Percy (President of the Board of Education) told Mr. Harris that a complete school medical service for children in public elementary schools should provide for medical inspection, for following up cases of defect found in the course of inspection, and for medical treatment of defects. Local authorities were required to provide for the inspection of all children on admission to school, on attaining the age of 8, and on attaining the age of 12 provision should also be made for the inspection of special cases and the re-examination of children previously inspected.

Ultra-violet Light.—On March 8th Sir *P. Cunliffe-Lister* (President of the Board of Trade) told Sir G. Berry that he understood the Miners' Welfare Committee had under consideration the question of establishing experimental installations for the production of ultra-violet rays in association with pithead baths provided under the Mining Industry Act, 1926. The matter was not free from difficulty.

Motor Lights.—Colonel Ashley (Minister of Transport), on March 8th, informed Brigadier-General Charteris that he was not aware of any motor headlight which provided an adequate driving light without some degree of dazzle. He was considering the question of seeking additional powers to deal with the lighting of road vehicles in a bill which he hoped to introduce.

Education of Fathers.—Mr. Chamberlain (Minister of Health) said, on March 8th, that his attention had been drawn to the "father-hood" class instituted by the authorities of St. Thomas's Hospital infant welfare centre. He was informed that the fathers did not attend lectures with the mothers, but came for informal talks with the medical officer. The procedure at St. Thomas's Hospital had obtained wide publicity, and he did not consider that there was any necessity for him to recommend the inauguration of these classes by other hospitals and by institutions under his control.

Pensions.—On February 1st the Ministry of Pensions had under its entire control twenty hospitals with 4,328 beds, and seventeen other hospitals with 2,158 beds were wholly reserved for pensioners. In sanatoriums and civil hospitals 8,152 beds were occupied by pensioners under treatment at the charge of the Ministry. The Ministry has not yet arranged to close any hospital during 1927-28. It was not yet possible to determine the ultimate requirements of the Ministry in hospital treatment. Claims made for pensions of all classes in 1926 numbered 21,750; of these about 14,500 were refused. The deaths of 19,550 pensioners were notified during the year.

Medical Inspection of Schools.—Answering Dr. V. Davies, Lord Eustace Percy said school medical officers of the Lancashire education authority were, when they examined children at a school, each accompanied by a nurse and a secretary. This arrangement appeared to be exceptional, and he was unaware of any special reason for its adoption in Lancashire. In that county the medical officer of health was also the senior school medical officer. The statement that the average cost throughout the county was £1 a head for each examination, as asserted by Colonel Woodcock, was wholly inaccurate.

Influenza.—In 105 great towns of England and Wales there were 249 deaths from influenza in the four weeks ended December 25th, 1926; 1,055 in the four weeks ended January 22nd, 1927; and 3,232 in the four weeks ended February 19th. During the last period the deaths from influenza in London numbered 754, in Birmingham 42, in Bristol 146, in West Ham 60, in Nottingham 91, in Leicester 46, and in Cardiff 52.

Prevention of Tropical Diseases.—Mr. W. Baker asked what sums were spent annually out of imperial funds or the funds of Crown Colonies, protectorates, or mandated territories for expert advice on medical subjects, excluding expenditure on regular medical services. Mr. Amery provided a table showing the following payments: Chief Medical Adviser to the Secretary for the Colonies, £1,500; expenses of Colonial Advisory and Sanitary Committee, £904; expended annually on advice of the Committee of the Tropical Diseases Research Fund, £2,400; Bureau of Hygiene and Tropical Diseases, £8,925; Imperial Bureau of Entomology, total revenue £8,100—proportion expended on medical objects unknown; British Social Hygiene Council, £1,000; hookworm eradication, Jamaica, £3,750.

Notes in Brief.

The Home Secretary is issuing to chief constables a memorandum reminding them of their powers to prevent the emission of smoke, steam, and sparks by steam tractors.

Since the issue of the draft regulations under the Lead Paint Act a conference with representatives of the industry has resulted in general agreement.

From the armistice to December, 1926, £50,270,000 has been paid in England and Wales in out-relief to able-bodied persons and their dependants.

The Minister of Health has no scientific evidence showing that bovine tuberculosis or other diseases are spread by the consumption of imported butter and cheese.

The report of the Committee on Juvenile Delinquency will be presented towards the end of this month.

Provisional notifications for diphtheria in England and Wales during 1926 were 51,067, and deaths 2,923. Provisional notifications for scarlet fever were 81,670, and deaths 667.

The Admiralty does not consider it necessary to appoint medical staffs to ships in reserve at the home ports, other than ships of the senior officers of the reserve.

Sir John Gilmour, answering a question about dental benefi[t] said approved societies were under no obligation to provide i[t]. The Scottish Board of Health had not negotiated a scale of charg[es] with the dentists. This had been agreed to by a Joint Dent[al] Committee, consisting of representatives of dentists and of th[e] interests of approved societies. He had no power to suspend th[e] scale.

The Minister of Agriculture has stated that 388 dogs were imported from abroad under licences issued by the Ministry durin[g] the six months ended February 28th last. One case of rabies wa[s] discovered among these animals, in a dog brought from India.

In the House of Lords the Diseases of Animals Bill passe[d] through Committee without discussion. On March 8th it was rea[d] a third time and sent to the Commons.

The Services.

DEATHS IN THE SERVICES.

SURGEON COMMANDER ALEXANDER GORDON ANDREWS, R.N. (ret.), died at Emsworth, Hants, on January 16th. He was the son of th[e] late Stephen Wilson Andrews of Bourne, Lincolnshire, and afte[r] taking the M.R.C.S. and L.R.C.P.Lond. in 1884, entered the nav[y] in the same year, and in the following year joined H.M.S. *Monarch* in the Channel Squadron. He was staff surgeon o[f] H.M.S. *Terrible* during the South African war and the Boxe[r] rising, and was present with the Naval Brigade at Tientsin. I[n] 1903 he became senior medical officer of the St. Vincent boys' training ship at Portsmouth, and in 1904 was appointed to th[e] charge of the Royal Naval Hospital at Yarmouth. On th[e] mobilization for war he joined the battleship *Prince George*, bu[t] in 1915 was appointed for special service at Chatham. He retire[d] in 1916.

Medical News.

ABOUT 150 members of the Inter-State Post-Graduate Assembly of North America, accompanied by Dr. Charles Mayo, will be in London on June 1st, 2nd, and 3rd for a post-graduate tour of northern Europe. While in London a programme of lectures will be arranged for them at Dartmouth House, the new building of the English-speaking Union. The following hospitals will arrange special programmes during the afternoons: St. Bartholomew's, Westminster, St. Thomas's, Middlesex, Charing Cross, the London Hospital, King's College Hospital, Prince of Wales's Hospital, Brompton Hospital for Consumption, the Infants Hospital, Vincent Square, the Cancer Hospital, the National Hospital for Diseases of the Heart, and the Chelsea Hospital for Women. Sir James Berry will give a reception for the members at the Royal Society of Medicine on the evening of Friday, June 3rd.

MR. ZACHARY COPE will lecture for the Fellowship of Medicine on common mistakes in the diagnosis and treatment of acute abscess on March 17th, at 5 p.m., at the Medical Society, 11, Chandos Street, W.1. On March 16th, at 4 p.m., Mr. Davenport will give a demonstration at the Central London Ophthalmic Hospital, Judd Street, and on March 18th Mr. Bourne will give a demonstration in gynaecology at the Samaritan Hospital, Marylebone Road. The lecture and both demonstrations are free to members of the medical profession. From March 14th to 25th the Chelsea Hospital for Women will hold a special course in gynaecology, and the Royal National Orthopaedic Hospital will hold a two weeks' course from March 21st. The London Temperance Hospital will commence a two weeks' course on March 21st primarily for general practitioners; from 4.30 to 6 p.m. there will be a lecture for half an hour and an hour's demonstration. The Queen's Hospital for Children starts a two weeks' course on March 28th, a special feature being demonstration of cases rather than lectures. From March 28th, for two weeks, the Royal Eye Hospital will give a series of afternoon demonstrations on the diagnosis and treatment of the eye. The Fellowship arranges for practical courses in anaesthetics and obstetrics and for clinical assistantships in gynaecology. Copies of all syllabuses and of the *Post-Graduate Medical Journal* are obtainable from the Secretary of the Fellowship, 1, Wimpole Street, W.1.

A THREE months' course of lectures and demonstrations on clinical practice and hospital administration for candidates for the D.P.H. will be given at the North-Eastern Hospital, St. Ann's Road, Tottenham, N.15, by Dr. F. H. Thomson, medical superintendent, on Mondays and Wednesdays at 4.45 p.m., and alternate Saturdays at 11 a.m., commencing Monday, April 11th. The fee for the course, which complies with the requirements of the revised regulations of the General Medical Council, is £4 4s. Further particulars may be obtained from the Clerk to the Metropolitan Asylums Board, Victoria Embankment, E.C.4.

THE annual dinner of the Irish Medical Schools' and Graduates' Association will be held in the Abraham Lincoln Room, Savoy Hotel, on Thursday, March 17th, at 7.30 p.m., with the President, Sir W. I. de C. Wheeler, in the chair. The guest of the Association will be Vice-Admiral Sir Frederick Field, K.C.B., K.C.M.G.

WE have already mentioned on more than one occasion that on the evening of Monday, April 4th—the day before the reception in the Great Hall of the British Medical Association of the official delegates to the Lister centenary—Sir StClair Thomson will give an address at the social evening of the Royal Society of Medicine on "The Centenary of Lister—recollections by one of his house-surgeons." So much interest has already been shown in this announcement that the society has found it necessary to notify that Fellows, Associates, or members of the society, as well as others wishing to attend, must apply to the Secretary (1, Wimpole Street, London, W.1) for cards of admission.

A CONFERENCE of the Royal Microscopical Society will be held at Liverpool, from March 29th to 31st, under the presidency of Dr. James A. Murray, F.R.S. The subjects to be treated include: recent advances in medical microscopy, by Mr. J. E. Barnard; pneumokoniosis due to asbestos dust, by Dr. W. B. Cooke and Mr. C. F. Hill; experiments in stereo-photomicrography, by Dr. J. A. Murray; the diameter of the red cells of man before and after exercise, by Dr. Eric Ponder; and demonstration on surface tension, by Professor W. Ramsden. A discussion will be held on filterable viruses and the limits of microscopic visibility, and a popular lecture will be given by Professor J. Arthur Thomson on the microscopy of everyday life. Further information may be obtained from Mr. C. J. Lock, secretary of the society, 20, Hanover Square, W.1.

DR. W. ESSEX WYNTER will deliver an Emeritus lecture at the Middlesex Hospital Medical School on Friday, March 18th, at 3 p.m., on "The study of local diseases and remedies."

HOSPITALS situated within eleven miles of St. Paul's desiring to participate in the grants made by King Edward's Hospital Fund for London for the year 1927 must make application before March 31st to the honorary secretaries of the Fund, 7, Walbrook, E.C.4. Applications will also be considered from convalescent homes which are situated within the above area or which, being situated outside, take a large proportion of patients from London.

THE President of the Society of Public Analysts in his address to the annual general meeting commended the recent regulations as to preservatives in food. They placed both the public analyst and the manufacturer, he said, in a much happier position than before because they prevented an unreasonable analyst from extremes of unreasonableness, and confined each and every manufacturer within limits by going beyond which his competitors could not reap an unfair advantage without risk of punishment. He quoted statistics to show that the adulteration of food was steadily decreasing; this he attributed partly to the activity of the authorities, and partly to the efficiency of the public analysts. He urged manufacturers to avail themselves of the services of a chemist to maintain the purity of their products and to advise them in avoiding any contravention of the law. In his opinion the food of the country was never in a purer state than at the present time.

THE Institute of Industrial Welfare Workers is an association of men and women engaged in welfare work in industrial and commercial undertakings. It aims at obtaining a uniform standard of training and qualification for those undertaking such work, and also provides for the interchange of experience and information amongst its members. In the organ of the association, entitled *Welfare Work*, a series of articles is now appearing on industrial health and disease. To the current issue Dr. T. Pearse Williams contributes an article on rheumatism and allied disorders; and in April Sir Thomas Legge will write on industrial lead poisoning. Articles in previous issues have been contributed by Sir Thomas Oliver, Professor Collis, and other experts.

THE treatment at Bad Kissingen for the current year commenced on March 1st with the opening of the new Luitpold spring. The main season is considered to begin on May 1st. Details of the cure are published in our advertisement columns this week.

THE Cambridge University Press announces the preparation of a new series, the Cambridge Comparative Physiology, edited by Mr. J. Barcroft, F.R.S., Professor of Physiology at Cambridge, and Mr. J. T. Saunders, University Demonstrator of Animal Morphology. It will consist of a series of small volumes containing a comprehensive study of comparative physiology. The first three volumes, which will be ready this spring, will be: *The Comparative Physiology of the Heart*, by Dr. A. J. Clark, Professor of Pharmacology in the University of Edinburgh; *The Genetics of Sexuality in Animals*, by Dr. F. A. E. Crew, Director of the Animal Breeding Research Institute in the University of Edinburgh; and *The Comparative Physiology of Internal Secretion*, by Mr. L. T. Hogben, Assistant Professor of Zoology, McGill University.

MESSRS. ADAM HILGER, LTD., of 24, Rochester Place, Camden Road, N.W.1, who are manufacturers of scientific instruments for research, have published a bulletin of the development of their work during the twelve months ending June 30th, 1926, together with a list of recent references in scientific journals to instruments made by the firm.

THE issue of the *London Weekly* for March 5th contains an article recommending the provision of open-air schools wherever possible, and suggesting that so far as it can be arranged new schools should be built outside such towns as Leeds and Bradford where the tramway service provides easy access to country surroundings. This periodical is edited by Dr. L. Haden Guest, M.P., and other articles in the current issue deal with the disarmament problem, the Church of England in the Dominions, reform of the House of Lords, and Islam and the British Empire.

THE German Society of Urology has elected as honorary members Professors Alessandri of Rome, Fedoroff of Leningrad, Ferra of Turin, Young of Baltimore, Brenner of Linz, Völcher of Halle, and Wildbolz of Berne.

A MEETING of the British Institute of Philosophical Studies will be held at the Royal Society of Arts, 18, John Street, Adelphi, W.C.2, on Tuesday, March 15th, when Professor S. Alexander, M.A., will speak on naturalism and value. The chair will be taken by Professor A. Wolf, at 8.15 p.m. Applications for seats reserved for the general public should be addressed to Mr. Sydney E. Hooper, British Institute of Philosophical Studies, 88, Kingsway, W.C.2.

Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to ***The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.***

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the BRITISH MEDICAL JOURNAL alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the BRITISH MEDICAL JOURNAL must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the JOURNAL, should be addressed to the Financial Secretary and Business Manager.

The ***TELEPHONE NUMBERS*** of the British Medical Association and the BRITISH MEDICAL JOURNAL are *MUSEUM 9861, 9862, 9863,* and *9864* (internal exchange, four lines).

The ***TELEGRAPHIC ADDRESSES*** are:

EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology Westcent, London.*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westcent, London.*

MEDICAL SECRETARY, *Mediscera Westcent, London.*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 4737 Dublin), and of the Scottish Office, 6, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 4361 Central).

QUERIES AND ANSWERS.

IONIZATION IN CATARACT.

"G. T. B." will find in this issue a review of a book by Dr. Cantounet of Paris on the treatment of eye disorders by ionization. Cantounet did not find that it had any effect in cataract, but reports have been published by others which suggest that the method may be of some value when the lens changes are in their very *earliest* state, but all are agreed that when there are actual lens striae present the treatment has no effect. But as good results can be obtained in the same class of case by much simpler methods—for example, the use of a solution of sodium iodide with calcium chloride (of each 1 per cent.) instilled within the conjunctiva night and morning, and (where the patient is willing to put up with a certain amount of discomfort) the additional measure of injecting under the conjunctiva of 10 minims of a 1 in 6,000 solution of mercury cyanide to which has been added 3 minims of 1 per cent. acoin solution. The whole amount is injected deeply. The reaction promotes vascular flow in the ciliary region and so improves the health of the lens. Cataract is essentially due to failure of nutrition due to age changes in the ciliary vessels.

INCOME TAX.

Colonial Investments.

"S. A. E. L." left England in 1911 and practised in a colony until 1921, since when he has been living in the Riviera for reasons of health, visiting England for one or two months only each year. The income of himself and his wife is derived from investments in the colony. His health has now improved, and he intends to return temporarily to the United Kingdom and will probably do duty as a ship surgeon while his wife visits a distant colony.

*** In our opinion, as from the date of his return "S. A. E. L." will become resident, but not "ordinarily resident," in this country, and his maximum liability will be in respect of his (cash) earnings *plus* the amount of the colonial income which is remitted to him. He will, of course, be entitled to the usual personal allowance, *in our opinion, as a married man living with* his wife, and reduced rate relief. If, for example, his earnings are £300 and £300 is remitted to him, his liability for 1927–28 will be, assuming no change in the rate, etc., of the tax:

Earnings £300–£50 allowance...		£250
Income from abroad		300
		£550
Deduct personal allowance		225
		£325
Liability, £225 at 2s.	£22	10 0
£100 at 4s.	20	0 0
	£42	10 0

His liability for years prior to his return to England for something more than the mere temporary purposes of the past will not be affected.

Return of Expenses.

"ANXIOUS" has been asked by the authorities to state his expenses in detail and encloses a list (amounts not shown) for *comment.*

*** Some of the proportions seem rather high—for example, two-thirds for the electricity and gas accounts, whole cost of telephone, two-thirds insurances (presumably fire and burglary)—and "Anxious" will be fortunate if they are passed. The rent of the house should be based on the amount of the net assessment to income tax. The cost of the servant (food, etc., to be allowed for, as well as wages) should be divided roughly in the ratio in which her time is divided between domestic and practice work. The motor car insurance *should be separated from other* insurances. We presume that no dispenser is kept.

LETTERS, NOTES, ETC.

PAROXYSMAL PERIPHRASIA.

"N.3" sends us the following protest against what he terms the increasing spread of "paroxysmal periphrasia."

In the eighteenth century, he says, English people mostly used plain words when they had occasion to speak of bodily functions. These coarse expressions shocked polite Victorian ears, and indelicate facts like pregnancy or privies or bellyache came to be mentioned only by discreet circumlocutions. In course of time, as Charles Mercier once remarked, a nice word for a nasty thing would lose some of its niceness and drop out of fashion. Thus water-closet became w.c., and w.c. in turn became lavatory, scarcely recognizing itself as first cousin to the common soldier's latrine; and in refined America lavatory became toilet. All this verbal delicacy would rather surprise our rude great-grandfathers, who were not abashed to speak of a woman with child or to write "lying-in hospital" over a public building and dedicate it to their Queen. I sometimes wonder what they would think of a generation which allows vaginal syringes and suchlike wares to be flaunted in shop windows for all who pass to see . . . . . offended with the word urinal. An . . . . . grandmothers think of the "home . . . . . pages about sexual scandals, but draw the line at the word pregnant, replacing it with "in a certain condition?"

THE MACROPOLYCYTE.

DR. A. DEL CAMPO writes to us from the School of Hygiene and Public Health, *Johns Hopkins University, Baltimore, to say* that he has read with particular interest the paper by Dr. W. E. Cooke on the macropolycyte published in the first number of the JOURNAL for this year (p. 12). Dr. Cooke's results, Dr. del Campo says, confirm those stated in his article published in *Archivos de Cardiologia y Hematologia* (Madrid) in September, 1925. His researches, made in the laboratory of Professor Pittaluga in the School of Medcine, Madrid, afforded clinical confirmation of the observations as to the pleocaryocyte published by Pittaluga in the homage book presented to Ramon y Cajal in 1923. Dr. del Campo considers that the pleocaryocyte is a cell which occurs in *cachectic diseases,* as shown by his own observations in cancer and tuberculosis, in which diseases it is bigger than in pernicious anaemia.

STY TREATED BY ULTRA-VIOLET LIGHT.

DR. CHRISTINA BARROWMAN (Newcastle-on-Tyne) sends us two photographs to show the effect of treating the acute *stage of* a sty in the eye by application of compression doses with the air-cooled K.B.B. quartz lamp. The patient was a man, first seen on February 5th, when he presented, in addition to the sty, an oedematous area below it, and was *suffering considerable* pain. The applicator was applied for six seconds over the closed eye and for five seconds over the oedematous area. *The treatment* was repeated next day, and on the third *day the local* condition is shown by the photograph to have cleared away. The pain was immediately relieved after the first treatment, and this, Dr. Barrowman says, has been observed in the treatment of other inflammatory eye conditions, *but the dose must be correct.*

MIGRAINE.

DR. THOMAS LINDSAY (Tooting Bec Hospital, S.W.) writes: As an old victim of migraine I think the letter of Dr. Fraser-Harris (JOURNAL, *February 5th, p. 260) calls for some* comment. *In my* case the aura was a peculiar sensation on the tongue, *along with* all the classical visual symptoms. There was no headache for some time (one-half to three-quarters of an hour), and I was able to get home from school and into bed, then followed nausea and vomiting, and after that the terrible headache, *which* lasted about twelve hours. *I knew when I would have the headache,* but only after the aura had manifested itself, and *the periodicity* was most irregular, often months intervening between attacks. I had my second last *attack in my first year of* medicine at the age of 17, and my last attack at the age of 35. This last attack took me completely by surprise, but I knew at once what was going to happen, and got home from my *tennis club to bed* before the vomiting and subsequent headache. The sequence was exactly the same.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 45, 46, 47, 50, 51, and 52 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 48 and 49.

A short summary of vacant posts notified *in the* advertisement columns appears in the *Supplement* at page 67.

A British Medical Association Lecture

ON

IE POINTS IN THE SURGERY OF GASTRIC AND DUODENAL ULCERS.

LIVERED BEFORE THE LEICESTER AND RUTLAND DIVISION ON JANUARY 21ST, 1927,

BY

H. S. SOUTTAR, D.M., M.CH., F.R.C.S.,
SURGEON, LONDON HOSPITAL.

all the advances which have been made in surgery in the twenty years none are more remarkable than those the diagnosis and treatment of chronic ulcers of the nach and duodenum. Not only has surgery provided omplete cure for one of the most crippling conditions ch can affect a man in the full vigour of life, but geons have actually supplied physicians with a precise tem of diagnosis in a field which was formerly most cure. Routine explorations of the stomach and constant tact with the physical facts of its diseases have enabled geons to reveal its living pathology, and to build up a ical picture remarkable for its precision.

Before discussing the purely clinical aspects of the ject it will be well to note its extent, and to form a ar idea of the pathological entity we are discussing. extent can be fairly gauged by the admissions to a eral hospital. In the three years 1923-25 close upon 000 patients were admitted to the surgical wards of the ndon Hospital, and of these no fewer than 1,275 were mitted for gastric and duodenal ulcers. It would appear, refore, that over 4 per cent. of the cases admitted to surgical beds of a large general hospital are suffering m this condition. Remembering that the hospital missions form only a small fraction of the actual cases, will be seen that the disease is one of considerable quency, and must result in a large amount of ill health l incapacity. Moreover, the average individual who sults a surgeon for chronic gastric ulcer probably only s so after years of intermittent pain which has made almost intolerable. He is in the most active period of and many patients undoubtedly owe their trouble to strenuous lives they have led, and the irregular meals h these have involved. Perhaps this is an explanation he greater incidence in men. Of the 1,275 London pital cases above referred to 660 were gastric ulcers a male incidence of 70 per cent., and 615 were duo- l ulcers with a male incidence of no less than 86 per .—figures which agree closely with those found elsere by both English and American surgeons.

PATHOLOGY.

here is no more concrete pathological entity in surgery a chronic gastric ulcer, and its discovery at operation never be a matter of doubt. These ulcers occur most quently upon the lesser curvature near the pylorus, and the posterior wall. At the cardiac end of the stomach are rare, and on the greater curvature they are ctically never seen. Their actual cause is unknown, they probably commence as small acute lesions which dually develop into chronic ulcers. Indeed, there are e grounds for supposing that the extension of a chronic er is due to the formation of acute ulcers on its margin, this would account for the very marked periodicity ch is so characteristic of the symptoms of the disease. the early stages the mucous membrane alone is involved, the exposed submucous and muscular coats are rapidly acked by the gastric juices and a funnel-shaped ulcer produced which gradually penetrates the entire wall. ere the ulcer occurs on the lesser curvature the in- mmatory process extends into the lesser omentum, which omes thickened and distorted, a huge sheaf of lympha- s surrounding the coronary vessels. If the ulcer is on posterior wall it may become adherent to the pancreas the liver, and finally burrow deeply into its substance. posterior ulcer will often involve the transverse meso- on, and this is a matter of extreme practical importance since it exposes the middle colic artery to considerable risk of injury in the course of an operation.

It is characteristic of these ulcers that the tissues around should become densely infiltrated, and as contraction is thus interfered with the natural healing of the ulcer which might otherwise occur is prevented. Occasionally, however, healing does occur, and it may then be accompanied by gross constriction at the site of the ulcer, as is most strikingly seen in the hour-glass stomach produced by the contraction of a saddle ulcer. In a similar manner the healing of a pyloric ulcer may be accompanied by such contraction as to produce severe organic obstruction of the pylorus.

The pathology of duodenal ulcers is very similar to that of gastric ulcers, but they never reach such large dimensions and are never accompanied by the same degree of induration. They are most common on the posterior surface, and at the junction of the first and second parts of the duodenum. It is quite common to find two ulcers opposing one another, one on the anterior and one on the posterior wall; the latter, from its relationship to the gastro-duodenal artery, is liable to produce severe haemorrhage, whilst the former may readily perforate. When an ulcer on the anterior wall is healed its site may often be recognized as a thin, white, radiating scar, whilst in the active state the peritoneal surface becomes stippled with red points in a characteristic manner if it is gently rubbed with a swab.

The relation of gastric ulcer to cancer is still a matter of acute controversy, but it would seem that although carcinoma may develop on the basis of a chronic ulcer this is by no means a common event. The fact that in every chronic ulcer considerable displacements of the epithelium are liable to occur probably led to the idea that these displacements were malignant downgrowths. From the practical point of view, however, it is sometimes difficult to determine clinically whether an ulcer is or is not malignant, so that where there is any doubt its resection in a suitable case would always seem to be a wise precaution.

The actual causation of chronic gastric ulcers is quite unknown. In animals they are only produced with difficulty, and the most successful method has been that of feeding with food grossly contaminated with *B. coli*. On the one hand, it seems certain that infection plays some part in their production, but on the other it is obvious that, once the mucous membrane has been destroyed, the gastric juice can exert a very destructive action upon the exposed tissues. The fibrosis which naturally results prevents that contraction which is an essential process in the healing of any ulcer, and the continued action of the gastric juice is a constant irritant favouring its extension. The fact that gastric ulcers are so commonly associated with hyperchlorhydria, and that in duodenal ulcers this is almost invariable, suggests that the acidity of the gastric juice has an important bearing on the etiology of both conditions.

SYMPTOMS.

A chronic gastric ulcer usually presents a group of symptoms so characteristic that the diagnosis can be made upon the history alone. It occurs most often in men, and usually between the ages of 40 and 50, although no period of life is entirely free. The most characteristic feature of the symptoms is their periodicity, for they tend to come in attacks lasting, perhaps, for a few weeks, with longer intervals of complete freedom. The cause of this periodicity is unknown, for in general the ulcer does not heal between the attacks. It has been suggested that during attacks an extension of the ulcer is occurring, and in certain cases small acute ulcers have been noted on the margins of the chronic ulcer itself. As time goes on, however, and the ulcer becomes adherent to the surrounding structures, the interval of freedom becomes shorter, until finally the symptoms may become continuous.

The primary symptom is pain in the epigastrium, coming on at a definite interval after a meal. The interval may be anything from ten to ninety minutes, but it is usually constant for a given patient. The pain may be very severe, and it has the characteristics of a colic varying in intensity from moment to moment. It can be entirely relieved by emptying the stomach or by neutralizing its contents with alkali. The pain appears to be due either

to spasm or tension of the muscle wall of the stomach, the spasm of the muscle wall being in some way due to the presence of the ulcer. The acidity of the gastric contents would seem to play an important part in its production, since it is often most severe when the acidity is at its height and is immediately relieved by the ingestion of alkalis or other substances which neutralize the acid.

The pain is, however, seen in its most typical form in cases of duodenal ulcer, and here its mechanism is more easily understood. Here it comes on an hour and a half after food, when the acidity of the gastric contents is at its height, and it is evidently due to a violent spasm of the pylorus, which endeavours to protect the ulcerated surface of the duodenum from contact with the acid chyme. The relationship between the acidity and the pain is here clearly marked, for although small portions of the liquid stomach contents are being passed into the duodenum as a rule from an early stage, their degree of acidity is insufficient to excite the characteristic spasm.

As time goes on pain of an entirely different character may appear—a fixed burning pain in the back. This pain always indicates that the ulcer has penetrated the posterior wall of the stomach, and has eaten its way into the structures on the posterior abdominal wall, of which the pancreas is the one most often affected. It is apparently due to the direct irritation of nerve endings, and although it varies with the acidity it bears no relation to muscular spasm.

Vomiting is sometimes a prominent feature, and it may be welcomed by the patient for the sake of the relief which it brings; many of these patients, indeed, induce vomiting as the surest way of abolishing their pain. The vomiting may be intensely acid, and this is more likely to be the case if it occurs at a late period of digestion. It never has the persistent character by which it is marked in cases of carcinoma.

Haematemesis is seen in cases of gastric ulcer in two forms. In the one the bleeding occurs from small vessels of the mucosa, and although it may be severe it will always respond to treatment and is never fatal. The other form occurs at a late stage and is due to the erosion of a large artery by the ulcer. Its treatment forms as difficult a problem as any in surgery, and it is often fatal.

The story of a typical case of chronic gastric ulcer will thus be as follows. For many months the patient has suffered from attacks, which lasted for a few weeks, in which he has had epigastric pain, coming on an hour or so after meals, and relieved by vomiting. As time has gone by the attacks have become more severe and the interval of freedom shorter, till for some months he has not known what it was to be free from pain after meals. A constant boring pain in his back may have added to his troubles. He has been losing weight, and on one or two occasions he may have vomited blood.

The symptoms of a duodenal ulcer strongly resemble those of a gastric ulcer, but they present certain important differences. The pain appears at a later period—from one and a half to two hours after a meal. It often wakens the patient in the early hours of the morning when his stomach is actually empty of food, and it is often relieved by taking more food. This hunger pain, as it has been called, is the most characteristic feature of a duodenal ulcer. The periodicity of the attacks is very marked, and although it is not always the case the patient often presents a thin, drawn appearance, which is very characteristic. If haemorrhage occurs it is likely to be very severe, but as a rule blood is passed by the bowel and is not vomited. At the moment when the bleeding occurs the patient may become very pale and faint, but it may be only two days later that he passes the black tarry stool which indicates the presence of altered blood.

In cases both of gastric and duodenal ulceration we are unlikely to gain much information from a direct examination of the patient. Where the history is prolonged and the symptoms have been severe there may be marked loss of weight; where haemorrhage has occurred there may be definite anaemia, and sometimes the patient presents a marked pallor from a continuous loss of small quantities of blood, although no obvious haemorrhage has occurred. Examination of the abdomen may show a definite point of tenderness in the epigastrium, possibly accompanied slight rigidity, and where the latter chiefly affects the rig rectus it is suggestive of pyloric or duodenal ulceration.

Examination of the stomach contents by means of a t meal will enable us to discover the degree of acidity. The are two standard methods, those of Ewald and Rehf In the former the patient is given, on an empty stomac a slice of dry toast and a pint of weak tea, the contents the stomach being withdrawn at the end of an hour. the second, or fractional method, he first swallows a sm tube, and then takes a basin of thin gruel, samples bei withdrawn by means of the tube every fifteen minut The advantage of the second method is that the gradu rise of the acidity in the stomach contents can be note but it is doubtful whether the information obtained is more practical value than in the simpler method of Ewal Although the information obtained is not absolutely co clusive, it is certain that a high acidity of the gastr contents is almost unknown in carcinoma of the stomac and from this point of view it may be of diagnostic val in a doubtful case of suspected ulceration.

Radiographic examination has in recent years become increasing value, and in expert hands is capable of givi results of great reliability. The patient takes a meal co taining three ounces of barium sulphate suspended in sor thick medium so as to form a viscous emulsion. T shadow of the stomach contents is observed on a scree and the contents are displaced by the hands of the radi



FIG. I.—Small ulcer of lesser curve; interval of twenty minutes. Note persistence of niche and opposing indentation from spasm of muscle.

grapher so as to see if any of the opaque material remai behind in the crater of an ulcer. Should an ulcer present some of the barium emulsion will be caught in crater, and the persistence of this little fleck of barium the stomach is moved about is the characteristic featu (see Fig. 1). Opposite this small niche there is often a indentation due to spasm of the stomach wall at this poin and the combination of the niche with the indentation conclusive evidence of the presence of an ulcer. Rapi emptying of the stomach, distortion of its wall, and disto tion of the duodenal cap, are all suggestive of ulceration the stomach or of the duodenum, but their interpretatio must be left to the expert.

COMPLICATIONS.

The clinical picture of uncomplicated gastric ulceratio is thus exceedingly well defined, but it is liable to conside able modification if certain complications occur. Of thes the most important are:

1. Involvement of the surrounding organs, especially th liver and pancreas.
2. Pyloric obstruction.
3. Hour-glass contraction.
4. Carcinoma.

All these complications are accompanied by gross inte ference with the mechanism of the stomach, and it is striking fact that they are all associated with loss periodicity in the symptoms.

Take the first of these cases, where the ulcer penetrat into the liver or pancreas, or, more rarely, into th anterior abdominal wall. Not only will the patient hav no periods of relief, but the pain itself, though rendere worse by food, will never disappear. It acquires a burning

penetrative character, and in those cases where the pancreas is involved it characteristically radiates to the left shoulder. It is evident that such ulcers may open up large arteries, such as the splenic, or pancreatico-duodenal, and lead to immediately fatal haemorrhage.

Where the contraction of an ulcer has led to pyloric stenosis the periodicity of the symptoms will again disappear. The pain will become more constant, but will be due rather to the chronic gastritis which is present than to the ulceration, and it will therefore lose its acute

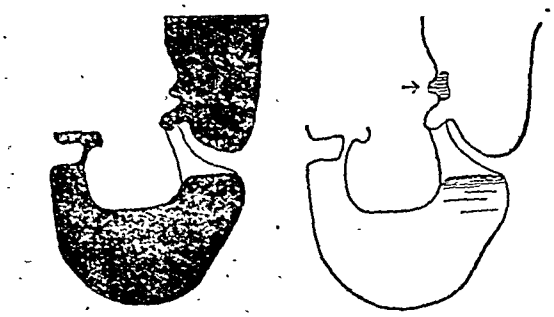


FIG. II.—Hour-glass stomach. Note small active ulcer, and level of fluid in distal sac.

character. The most striking feature, however, of pyloric stenosis is the vomiting of large amounts of food, possibly the contents of several meals. Often the stomach is enormously dilated, and active fermentation may add to the distension and discomfort of the patient.

Hour-glass contraction is almost limited to women, its production being probably conditioned by some degree of visceroptosis. It occurs most commonly in women of middle age, with a history, extending over ten years or more, of chronic dyspepsia. The pain is always severe, and vomiting may suggest obstruction. As there is, however, a marked degree of chronic gastritis the appetite will be less, and there is always gross loss of weight. The fragility of these women is often extreme. They have suffered years of misery as chronic dyspeptics, and one would imagine that their gastric mucosa could never recover its vitality. There are, however, no cases which may astonish the surgeon, and perhaps still more his medical colleague, with more brilliant recoveries. (See Figs. II and III.)

The relation of carcinoma to chronic ulcers is still a matter of dispute, but there can be little doubt that it is an uncommon occurrence. It should be suspected where the pain becomes more continuous, although usually less severe, where vomiting results in the evacuation of foul material with little relief, and where rapid loss of weight occurs. Gross loss of appetite and a positive distaste for food are common, but again the most striking feature is the loss of periodicity in the symptoms.

TREATMENT.

It was for a long time held that chronic ulcers of the stomach and duodenum would yield to medical treatment, and that complete healing of the ulcer would in time occur. Surgical explorations have, however, shown that this view can no longer be maintained. It is true that if the patient is placed in bed on a restricted diet all his symptoms will disappear, but if an abdominal exploration is undertaken it will often be found that the ulcer itself is still present, apparently entirely unaffected by the treatment which has been so successful in abolishing symptoms.

It would appear, indeed, that a chronic ulcer gives rise of itself to no symptoms at all, and it has been suggested that the periodic attacks which are so characteristic a feature of the disease are due to the formation of acute ulcers on its margin, probably as a septic process. However that may be, it is certain that a fully formed chronic ulcer can only be cured by surgical means, and it is on the face of it unreasonable to expect that a deeply excavated ulcer, fixed in indurated tissues, and bathed by active gastric juice, should be affected by any alterations in diet.

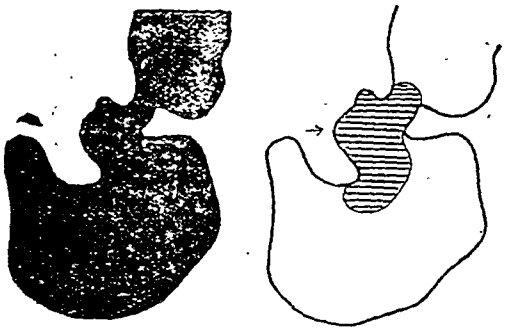


FIG. III.—Hour-glass stomach, complicated by extensive active ulceration involving pancreas and liver.

Of all surgical procedures for the treatment of these ulcers, gastro-enterostomy stands out as the first, and indeed there are few operations in any field of surgery which have met with such success. Introduced in Billroth's clinic forty-five years ago, and only modified in detail by succeeding surgeons, it can still claim absolute success in an overwhelming majority of properly selected cases.

The mechanism by which it acts is still a matter of doubt, but the most important change which it produces is neutralization of the gastric contents by the bile and pancreatic secretions which are thus brought into the stomach. When this neutralization is obtained gastro-enterostomy is completely successful in dealing with ulcers of the duodenum and of the pylorus, whilst it even succeeds in those ulcers of the lesser curve which lie in the neighbourhood of the pyloric antrum. It succeeds, in fact, wherever an opening can be made to the left of the ulcer, and only fails in those ulcers of the lesser curve which lie so far to the left that this condition cannot be complied with.

In a small percentage of cases, however, for causes which are quite obscure, neutralization is never completely effected, and the patient is then exposed to the possibility of a jejunal ulcer starting from the line of anastomosis. Moreover, gastro-enterostomy fails to give relief when the ulcer is so far towards the cardiac end of the lesser curve that it is impossible to place the opening to the left of it, whilst its success is uncertain in those cases where the ulcer has involved the liver or pancreas, and its application is often difficult in those cases where the contraction of a chronic ulcer has given rise to the gross deformity of hour-glass contraction.

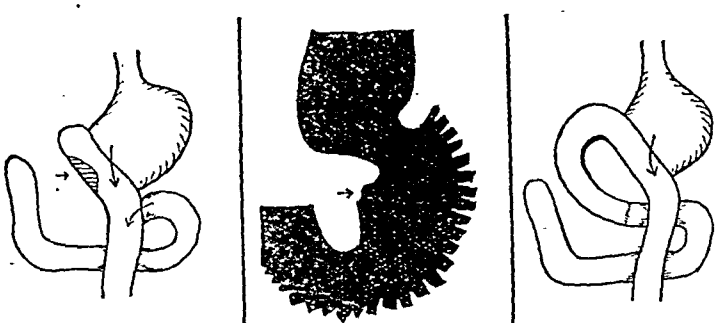


FIG. IV.—Huge jejunal ulcer, following Y gastrectomy. Cured by Polya's operation.

In the last two conditions, where the surrounding organs are involved or the stomach itself is grossly deformed, there is no question that the most satisfactory solution is partial gastrectomy. The method of Polya, as so largely developed by Moynihan and Sherren, has met with a success in these complex cases which rivals that of gastro-enterostomy for the simpler conditions. A Y anastomosis should not be performed, for the largest jejunal ulcer we have ever seen occurred after this operation. (See Fig. IV.)

The small ulcers occurring high up on the lesser curve still, however, present an unsettled problem. The patient can be cured, it is true, by partial gastrectomy, but the



FIG. V.—Schoumaker gastrectomy. Result after six months.

large section of stomach sacrificed seems scarcely justifiable. In the ingenious method of Schoumaker the portion of stomach excised can be greatly reduced, and the operation is so performed that a stomach is left which is almost normal in appearance and function. (See Fig. V.) The operation, however, is technically difficult, and an equally good result is more easily obtained if the stump of the

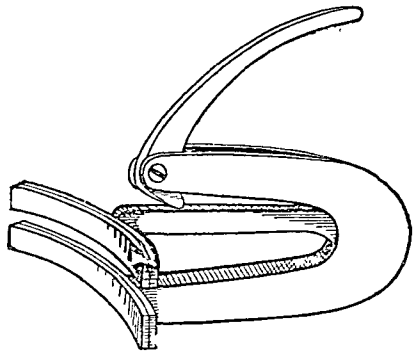


FIG. VI.—Gastrectomy clamp.

stomach is anastomosed to the jejunum, as in Polya's operation.

To facilitate this procedure I have devised a clamp based on that of Schoumaker, but of simpler construction. (Fig. VI.) It consists of two members joined to one another, which can be forced together with great power by a toggle lever. On the front of each member is a

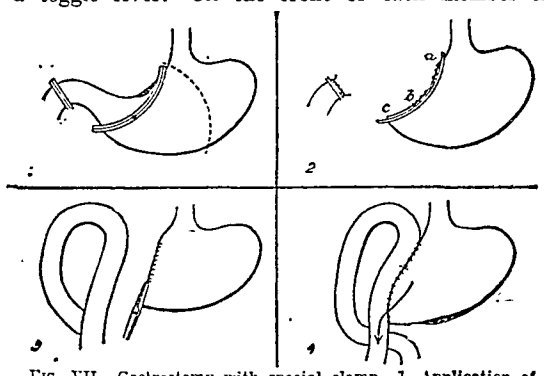


FIG. VII.—Gastrectomy with special clamp. 1, Application of clamp. 2, Stomach excised, front members of clamps removed, crushed edges sutured. 3, Clamp removed, Lembert sutures inserted, forceps applied to stoma. 4, Operation completed. New lesser curve protected by jejunal loop, which is itself protected from angulation.

detachable face. After crushing the stomach, amputating, and removing these faces, a fringe of crushed tissue projects which can be sutured with great facility, and in almost perfect asepsis. The clamp is used as follows.

After dividing the duodenum and freeing the stomach the clamp is so applied as to allow of the removal of the ulcer with a minimum of stomach. The rejected tissue is now cut away, and the fringe of tissue in the clamp is touched with pure carbolic. The front plates of the clamp are removed, the upper two-thirds of the crushed tissue edge is sutured, and the lower third is caught in forceps. The clamp is removed and the suture line is invaginated. A loop of the jejunum is now brought up to the stomach and attached all along the suture line, whilst an anastomotic opening is formed in the usual way between the jejunum and the portion of the stomach stump held in the forceps. (See Fig. VII.)

The operation has the advantages that it is very tidy and clean, that very little stomach need be removed, that the alignment of the jejunum along the suture line prevents this from leakage, and protects the jejunum from kinking, and that the outlet from the stomach is reduced to dimensions approaching the normal. On the other hand, the dotted line shows how the same method can be applied to the most extensive gastrectomy for carcinoma. The operation is followed by a convalescence remarkable for its smoothness, and so far the after-results have been unexceptionable.

HEREDITARY FAMILIAL CONGENITAL HAEMORRHAGIC NEPHRITIS.

BY

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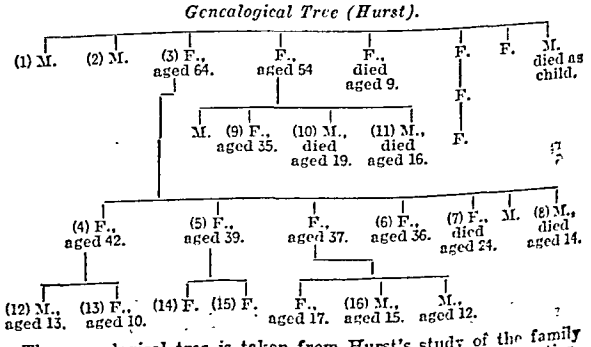
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THE question of heredity as an etiological factor in nephritis has been studied and reported upon from time to time. Fortunately the condition is rare, and the literature shows only half a dozen families affected in this way. As far back as 1875 Dickinson[1] published a family tree showing eleven cases of albuminuria in a total of sixteen persons in three generations Attlee,[2] Guthrie,[3] and later Hurst,[4] Pel,[5] and Kidd,[6] and Eason, Malcolm Smith, and Buchanan[7] have also described the disease and noted its familial and hereditary tendency.

The cases which have come to my notice belong to a later generation of the series studied by Leonard Guthrie and Hurst, and it is with this family I propose to deal. Guthrie designated the condition "idiopathic or congenital hereditary family haematuria," and used the word "haematuria" rather than nephritis. He gave as his reasons for this that it is "persistent for many years, but may vary in extent; liable to paroxysmal exacerbations with influenzal-like symptoms; not marked by oedema, ascites, or cardio-vascular disturbances; not due to uric acid or oxalates, and is not accompanied by urine of low specific gravity."

The part of the same family described by Hurst showed definite nephritis with low specific gravity of urine and the presence of albumin, some blood, and granular and hyaline casts; the blood pressure was increased, and towards the end anaemia, cardio-vascular changes, and oedema were marked features; these cases terminated in death from uraemia. Hurst thus named the condition "hereditary familial congenital haemorrhagic nephritis," and this terminology is accurate for most of the affected members of the later generations of the family.

Genealogical Tree (Hurst).



The genealogical tree is taken from Hurst's study of the family records, with the addition of the children of the third generation, born since his original communication appeared.

On January 4th, 1924, I was asked to see a boy belonging to the third generation of this family—No. 16 in Hurst's genealogical tree and the second child of the third daughter of No. 3. This boy's great-grandmother, not shown on the genealogical tree, lived to the age of 90 years and was extremely deaf. Her daughter (No. 3) had a severe attack of haematuria after the birth of her first child, and similar, but less severe, attacks after the births of her younger children and also after eating black currants and drinking claret. She is very deaf, but her general health is excellent. Her two elder brothers, both suffered from haematuria and died in childhood. One sister is deaf and another slightly so, but they do not suffer from disease of the kidneys.

All her children, with the exception of one male child, developed haematuria. In three cases (Nos. 5, 6, and 7) the condition followed the consumption of black currants. In one case (No. 8) black currants did not affect the patient, but strawberries, asparagus, and catching cold or influenza brought on attacks. A female child (No. 7) was deaf, and died in her twenty-fifth year; a male (No. 8), who died at the age of 14, was also very deaf. Another female (No. 6) is not dead as stated in Hurst's genealogical tree. She is alive and quite well except for her attacks of haematuria, but is stone deaf. Case No. 4 is slightly deaf. Two nephews (Nos. 10 and 11), deceased, suffered from nephritis and deafness. Her third daughter, unnumbered, the mother of my patient, denies having had haematemesis as stated in Eason, Malcolm Smith, and Buchanan's article, but suffers from backache and attacks of blood and albumin in the urine. She has only had one "bad attack," when she passed "pure blood." Her eldest child, a daughter, is quite free from the disease, and her younger son has shown no definite signs. The second child, a boy (No. 16), has nephritis and some nerve deafness. His case is fully described below. Her eldest sister (No. 4) has two children; both of these (Nos. 12 and 13) are well grown and in good health, but suffer from the complaint. Their cases are also described below. The children (Nos. 14 and 15) of her second sister (No. 5) are not affected.

It will be seen from this that nearly all the children of three generations of one family suffer from haematuria or nephritis associated with deafness. The deafness, which has not been stressed in the literature on the subject, is one of the most distressing features of this extraordinary disease.

Mr. J. Gay French has kindly supplied me with the following information on the deafness of two of the cases belonging to the first generation of the family, as shown in Hurst's genealogical tree. In 1916 he examined both of these patients and found them to be suffering from nerve deafness; the hearing in one of them has become slightly worse since then.

This nerve deafness is apparently the type of defective hearing to which members of this family are subject. It occurs not only in the individuals who have nephritis or haematuria, but also in those who are otherwise perfectly healthy.

When I first saw Case No. 16, in 1924, he was 14 years of age, tall for his age, intelligent, and keen on sport of all kinds. The apex beat was well within the mid-clavicular line, the heart sounds were normal, and there were no bruits. The vessels were not thickened, systolic blood pressure 118 mm. Hg, diastolic 55 mm. Hg. The urine, specific gravity 1015, was acid with a fair amount of albumin and some blood. Microscopically numerous red blood corpuscles, a few granular casts, and a large number of uric acid crystals were seen. The culture of a catheter specimen of urine was negative. Urea concentration test (Maclean) 2.5 per cent. of urea. Blood count: red blood corpuscles 5,120,000, haemoglobin 80 per cent., colour index 0.88—a slight secondary anaemia. Leucocytes were diminished in number. Differential count: polymorphonuclears 27.5 per cent., small lymphocytes 59 per cent., large lymphocytes 9 per cent., hyalines 2.5 per cent., eosinophils 1.5 per cent., and transitionals 0.5 per cent. The patient also suffered from nerve deafness to a considerable degree in both ears. The treatment was to reduce the food proteins and to give sufficient potassium citrate to render the urine neutral in reaction and allay the possible kidney irritation, due to the presence of uric acid crystals.

In May, 1924, the general vascular and urinary conditions showed no appreciable change. The blood urea was 12 mg. per 100 c.cm., albumin 0.075 per cent. Because of the definite family history of attacks of haematuria occurring after eating black currants, strawberries, and asparagus, I tested his skin reaction to various protein groups with a view to desensitizing him, should he prove sensitive to any given protein. The results were comparatively disappointing. He showed a ++ reaction to fish, fowl, and leaf vegetables—cabbage, lettuce, etc.—but the elimination of these from his diet and treatment with medicinal peptone, 1 grain one hour before breakfast, daily for a month, failed to diminish the albumin and blood in his urine to any extent.

In July, 1924, he developed furuncles in the external meatus of each ear and on one cheek. They cleared up after a course of *injections of an autogenous staphylococcal vaccine*. The urine still contained albumin 0.05 per cent. and blood corpuscles microscopically. He played football throughout the following winter, and in April, 1925, showed considerable improvement—heart normal; systolic blood pressure 108 mm. Hg, diastolic 65 mm. Hg; blood urea 27 mg. per 100 c.cm.

In September, 1925, he had an attack of influenza, and this was followed by a large increase of blood and albumin in the urine. The coagulation time of his blood was found to be five minutes—showing a delay. Treatment with calcium lactate 15 grains twice a day for three months had little or no effect upon the coagulation time or upon the urinary condition. Although I was anxious not to interfere unduly with the general routine of his life at school, I refused to allow him to play football last winter, because of the possibility of an onset of uraemia following a chill.

On April 7th, 1926, I saw him again and tried the effect of intravenous injections of 1 grain of calcium chloride, followed by further injections on April 14th and 21th. After each of these the urine showed decided improvement, there being considerably less albumin and blood in it and no casts. The coagulation time of the blood was reduced to three and three-quarter minutes. Further attempts to find a cause for the condition have proved unavailing. The Wassermann reaction and the complement fixation test for tubercle are both negative. An examination of the pharynx and nose by Mr. Cecil Graham proved negative; the tonsils had been removed some years ago and there were no adenoids. On transillumination of the right antrum of Highmore, however, a dark shadow was found below the right eye and light was less appreciated by the patient in that eye than in the left. An exploratory operation, the washing out of the antrum with sterile water and the culture of this fluid, failed to yield an organism of any kind. An *x*-ray photograph taken a week after the operation shows the right antrum still very opaque; there is no apparent explanation of this.

A further effort to find some focus of infection resulted in the cultivation of a non-haemolytic streptococcus (*S. viridans*) from the stools.

Buchanan, in his investigation of the blood and urine of two of Eason's cases, found pure growths of non-haemolytic streptococci. These were biochemically identical with those obtained from the teeth, tonsils, and tonsillar regions of the patients. Buchanan states that "a feature of note in primary cultures was the delay and feeble nature of the growth, which only appeared between the third and sixth days of incubation." He also produces experimental evidence of the production of symptoms of acute nephritis in rabbits as the result of intravenous injections of non-haemolytic streptococci (*S. faccalis*) obtained from two cases of subacute nephritis. Albumin in considerable quantity appeared in the urine within the first week of inoculation. In some cases it increased daily in amount and persisted until the animals died, in others it gradually decreased and almost disappeared. Microscopically the urine of these animals showed hyaline, granular, epithelial, and blood casts and blood epithelial cells were very numerous. In some animals which succumbed shortly after inoculation an accumulation of fluid in the pericardial sac and abdominal cavity was a marked feature, and the kidneys presented the typical microscopical changes associated with acute diffuse nephritis.

In view of these observations I injected into the veins of two rabbits a large dose of a first subculture of the non-haemolytic streptococcus (*S. viridans*) obtained from the stools of my patient by Dr. Fleming of the Pathological Institute of St. Mary's Hospital. The results were negative; the rabbits showed no symptoms of any kind, the temperature remained normal, and an examination of the urine ten days and a fortnight after the injections showed no signs of albumin, blood, or casts. The animals were still perfectly fit a month later. Another culture made recently from the stools of this case showed an abnormal number of *S. faccalis* and a few colonies of haemolytic streptococci.

Towards the end of last summer two cousins of this patient were brought to me. They were over on holiday from California, where they had been advised to live because they are suffering from the family disease.

The boy (No. 12), according to the mother's statement, developed haematuria when he was 2 years old. On examination he was found to be well grown; his systolic blood pressure was 122 mm. Hg, and the diastolic 78 mm. Hg, with slight thickening of the arteries. The heart was not enlarged and there were no bruits. The urine contained 0.23 per cent. of albumin and a trace of blood. Microscopically it showed an occasional blood and epithelial cell, but

no casts. The blood urea was 26 mg. per 100 c.cm., and the urea concentration was 1.95 per cent. Cultures from faeces yielded colonies of *S. viridans* only: 1 c.cm. of a first subculture of the living organism was injected into the veins of a rabbit; the urine collected and tested three weeks later was normal. Microscopical examination of the kidneys showed nothing pathological.

The girl (No. 13) had a history of haematuria, commencing three weeks after birth. Her systolic blood pressure was 118 mm. Hg, diastolic 75 mm. Hg. The heart was not enlarged, there were no bruits, and the arteries were normal. There was only a trace of albumin in the urine, which was faintly positive to chemical tests for blood. Microscopically a few red corpuscles, some uric acid crystals, and one hyaline cast were seen. The blood urea was 17 mg. per 100 c.cm.; urea concentration test 2.1 per cent. Culture from faeces yielded numerous *S. viridans*, and a few colonies of a haemolytic streptococcus appeared on the plate; 1 c.cm. of a living subculture of the above was injected into the veins of a rabbit and the urine collected and examined three weeks later. It showed a faint trace of albumin on boiling, and microscopically a few red corpuscles, numerous pus cells, but no definite casts. Culture of a fresh specimen of the urine failed to produce any streptococcal colonies. The rabbit was then killed by chloroform, and the kidneys examined by Dr. Newcombe, who reported as follows: "Glomeruli rather swollen and some of them contain a small amount of albuminous exudate. No sign of leucocytic infiltration. Tubules show some early fatty degeneration."

The small dose of streptococci given, and the shortness of time intervening between the injections and the microscopical examinations, may account for the relatively slight changes found in the kidneys.

Other cases of nephritis occurring in a family may be of interest.

At the beginning of May, 1924, two brothers, Charles J., aged 17, and Harry J., aged 14, were admitted to the Medical Unit wards of St. Mary's Hospital suffering from general oedema, blood and albumin in the urine, and an increase of blood pressure. They had been delivering milk early one morning; both got wet through and cold, both developed symptoms of nephritis, and they were admitted on the same day. There was no evidence of any infection immediately preceding the onset in either case. They both had scarlet fever five years before admission, and the elder brother had had measles, diphtheria, and chicken-pox as well. There was no history of oedema or albuminuria following these attacks.

The mother states that her father, an uncle, and her grandmother died of cancer, while her grandfather, two uncles, and an aunt died of consumption. There was, however, no family history of kidney disease. The elder boy proved to be a case of acute nephritis. On admission his renal efficiency was impaired —blood urea 0.056 per cent.; urea concentration test 1.6 per cent. After treatment the blood urea fell to 0.041 per cent.; urea concentration test 2.75 per cent. of urea. He has been discharged, and has been in the best of health ever since.

The condition of the younger boy on admission was more severe. He had considerable oedema, with albumin, blood, and casts in the urine. The apex beat was in the mid-clavicular line, but there was no bruit. The systolic blood pressure was 160, diastolic 100. The fundi were normal. Blood urea 0.146 per cent., urea concentration 1.7 per cent. The picture was one of chronic parenchymatous nephritis with considerable interstitial changes, progressing towards small white kidney. He was discharged relieved some weeks later.

On readmission in October, 1924, his condition had deteriorated considerably. Oedema, drowsiness, headache, and nausea were marked features. The breath smelt urinous. The apex beat was 1½ inches to the left of the mid-clavicular line, extra-systoles were present, but no bruits. The urine was scanty, and contained 0.8 per cent. albumin, granular and hyaline casts, but no blood. Urea concentration 1.35 per cent., blood urea 0.240 per cent. In the end he developed pericarditis and died on February 16th, 1925. *Post mortem* small white kidney was found.

COMMENTS.

1. Hereditary familial or congenital nephritis is a definite entity, and the kidneys in these patients are more susceptible to damage by the toxin of an unknown organism than is the case in the normal person.

2. The organism probably belongs to the streptococcal group.

3. In the first case investigated (No. 16) the coagulation time of the blood was delayed; intravenous injections of 1 grain of calcium chloride reduced the coagulation time and caused a reduction in the amount of blood and albumin in the urine. Calcium lactate given by the mouth is useless, as it is not absorbed by the intestines.

4. Cultures of *Streptococcus viridans* found in the stools of this patient, and of his cousin (No. 12), failed to produce the disease when introduced into the veins of a rabbit. Cultures of the stools of another case (No. 13), which showed both *S. viridans* and haemolytic streptococci, caused changes in the urine and kidneys of a rabbit after intravenous injections.

5. Deafness is a marked feature in nearly all these cases.

6. The male members of a family tend to develop nephritis and deafness and do not as a rule survive. The females have deafness and haematuria and live to old age.

7. The last couple of cases are interesting evidence of the variations in the course of nephritis. The kidneys of two members of the same family were attacked, apparently by the same organism, at the same time, and under exactly the same conditions. The elder brother contracted acute nephritis, which cleared up completely, the younger developed parenchymatous nephritis, passing into small white kidney, and ending in death.

I am indebted to Professor Langmead of the Medical Unit, St. Mary's Hospital, for leave to publish the notes on the last two cases.

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THE SCHICK TEST:

ITS APPLICATION IN AN INSTITUTION FOR MENTAL DEFECTIVES.

BY

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THE intradermal reaction in guinea-pigs was first used by Romer in 1907 for carrying out virulence tests in diphtheria. His technique was supplemented in 1913 by Schick, who introduced a test known by his name. It is possible by means of this test to determine whether or not an individual is susceptible to an attack of diphtheria. I have carried it out by injecting into the substance of the skin 0.2 c.cm. of standardized diphtheria toxin into the left arm. The most favourable site is the flexor aspect. The best results are obtained by using an "Agla" all-glass syringe (Burroughs Wellcome) fitted with a No. 214 rustless needle. The needle is inserted intracutaneously for a distance of an eighth of an inch. If the injection has been accurately effected considerable force is necessary to move the plunger onwards. After the injection has been done a wheal about half an inch in diameter is visible which is caused by the pitting of the hair follicles. A corresponding dose of heated toxin is injected into the opposite forearm. A separate syringe is used for this control dose.

Four types of reaction may be observed, and in 90 per cent. of cases in healthy subjects the results may be read after twenty-four hours, though after thirty-six to forty-eight hours the reactions are clearer.

1. *Negative.*—After twenty-four hours both arms show no local reaction except a puncture where the needle was inserted. There may be slight transient redness due to trauma. This coloration fades in the course of twelve to twenty-four hours.

2. *Positive.*—At the end of twenty-four hours there is seen at the site of the injection a circumscribed area of redness which varies from a quarter of an inch to one inch in diameter. It attains its maximum intensity by the fourth day, and thereafter gradually fades, leaving a brownish pigmentation. Persons who show this reaction are susceptible to diphtheria if exposed to infection.

3. *Negative and Pseudo-reaction.*—There is a red flush with a dark centre; the characteristic is that the area of redness is equal or approximately equal on both forearms. The patient who shows this reaction is immune to diphtheria if exposed to infection. It is due to some unknown constituent in the toxin broth.

4. *Positive and Pseudo-reaction.*—In this case a pseudo-reaction is observed in addition to the positive reaction. A red flush appears on both arms. The flush, which is much larger on the test arm than on the control, lasts for a longer time. The reading of this arm is best seen on the fourth to sixth day. The reaction is rather rare.

The patient is immune if the reaction is negative or pseudo-negative, but is susceptible if the reaction is positive or pseudo-positive. It is advisable to examine the sites of the injection daily for five days, and it is very important that careful "readings" should be done, especially on the second and fourth days.

It is advisable to use the diluted toxin for the tests as soon as it is received from the laboratory, as otherwise it is liable to lose its potency, and should a dozen successive healthy adults give a negative result, provided the test has been carefully and properly applied, the conclusion should be that the toxin may not be absolutely reliable. The undiluted toxin is less expensive than the diluted; and it remains sterile and reliable for several weeks, provided reasonable care is taken in storing it.

Individuals who prove susceptible to diphtheria, as determined by the Schick test, may be rendered immune by the injection of toxin-antitoxin. The injection of diphtheria prophylactic causes immunity to develop a few weeks later, and this immunity may probably last during life. Diphtheria prophylactic consists of diphtheria toxin and diphtheria antitoxin prepared according to the standard adopted by the American Government. Babies up to 6 months old seem to be immune, and do not need immunization. The large majority of children between the ages of 6 months and 5 years give a positive reaction, and therefore it is possible to dispense with the Schick test between these ages. All these children may safely be injected with the toxin-antitoxin mixture without any preliminary testing. Between these ages it would seem advisable, as a routine measure, to immunize all children against diphtheria. It will be found that if children between the ages of 6 months and 5 years are tested the percentage of positive reactions will be about 60 to 70. Above the age of 5 years only those patients who exhibit a positive Schick reaction should receive the injections.

Active artificial antidiphtheria immunization is carried out by the injection of toxin-antitoxin mixture. It is usual to give three doses of 1 c.cm. subcutaneously at intervals of seven days. It may be considered preferable to begin with a smaller dose—for example, 0.2 c.cm.—and to follow it up with 0.4 c.cm., 0.8 c.cm., and 1.5 c.cm. at intervals of five to seven days. This is advisable in the case of those who give a positive and pseudo-reaction. The toxin-antitoxin mixture remains quite potent for several months if kept in a cool place.

The injections of toxin-antitoxin are attended by a certain amount of danger, and several unfortunate incidents have occurred. In an institution near Vienna forty children recently received prophylactic injections against diphtheria, and six died with symptoms of general diphtheria intoxication. Several of the others exhibited skin necroses of varying degrees. The fatalities were possibly due to a dissociation of the toxin-antitoxin mixture. As a result of several unfortunate occurrences an important modification has been described by Glennie in which the toxin is rendered non-toxic by the agency of formaldehyde. The resulting toxoid-antitoxin mixture acts as a very quick, reliable, and safe immunizing agent, and is generally free from unpleasant effects. Ramon has employed formalized toxin for conferring immunity on Schick-positive cases. He gives three injections, with an interval of three weeks between the first and second injections, and two weeks between the second and third injections. The doses employed are 0.5 c.cm., 1 c.cm., and 1.5 c.cm. He claims that by this method he is able to render 98 per cent. of his subjects immune in eight weeks. Certain observers have prepared a mixture of antitoxin and anatoxin. The resulting preparation has been called "ananti." It is a protein-free vaccine against diphtheria, and the time required to secure immunity would appear to be about the same as that taken by toxin-antitoxin. It does not seem advisable to attempt to confer immunity by toxin-antitoxin injections on patients who suffer from advanced heart and kidney affections, or in those recovering from acute infectious diseases.

Many adults after receiving the first dose of 1 c.cm. of toxin-antitoxin do not suffer from any local or general disturbance, except perhaps slight lassitude, and soreness of the arm at the site of the injection. In many cases it is advisable to give a commencing dose of 0.5 c.cm., and follow up with two doses of 1 c.cm. at seven-day intervals. Patients who suffer from asthma, migraine, and debility should receive a small initial dose of 0.05 c.cm., and then 0.5 c.cm., followed by two doses of 1 c.cm. The frequency of local and general reactions increases with age. Severe reactions are rare before the age of 8 years.

The Schick test and antidiphtheria immunization were resorted to at the Royal Eastern Counties Institution, Colchester, because repeated small outbreaks of diphtheria had occurred during the last few years; twenty cases in fifteen apparently separate outbreaks occurred during 1924, and seventeen patients were attacked in the early part of 1925.

The test was commenced in 1925, and was applied only to patients whose relations or friends gave consent. The total number of patients tested was 1,037. The results were as follows:

Age.	Number Tested.	Positive.	Percentage of Positive Reactions.
Under 5 years	7	3	42.8
5 to under 10 years ...	48	16	33.0
10 to under 15 years ...	157	42	26.7
Over 15 years	825	187	22.6
Total	1037	248	23.9

The number of patients tested below the age of 5 years is too small to be of any practical value. It has been noted that between the ages of 2 and 5 there is a distinct loss of immunity, which increases again in children of school age. The latter increase is possibly due to these children acquiring from their neighbours slight infections, not sufficient to cause disease, but nevertheless allowing them to acquire the necessary antitoxin to combat infection. Interesting observations have been made which show that children who prove to be susceptible to diphtheria on admission to hospitals may gradually develop resistance to the disease. The longer the residence of these patients in hospitals the more likely is this immunity to result. It would appear that in diphtheria, to which our susceptibility is not very high, a spontaneous process of immunization can eventually occur by the inhalation of small and subinfective doses of bacteria.

It will readily be understood that in certain cases it is rather difficult to apply the Schick test accurately to mental defectives. Great care must also be exercised during the administration of the toxin-antitoxin mixture.

The number of members of the staff tested was forty-seven, and eighteen of these gave a positive reaction. This percentage (38 per cent.) is high, but may to a large extent be accounted for by the fact that the members of the staff who were subjected to the test, and encouraged to have it done, were those who were readily liable to sore throats, tonsillitis, and general minor maladies. The usual proportion of positive cases over the age of 20 with the Schick test is from 15 to 20 per cent.

I injected the 248 patients who gave positive reactions with toxin-antitoxin mixture obtained from Messrs. Burroughs Wellcome and Co., London. Calcium lactate was administered before and after the injections. The patients were then kept in bed for eighteen to twenty-four hours, the temperature taken, and the general condition carefully noted. Only one reaction occurred, and it was transient. It consisted of pyrexia, headache, and slight local reaction resulting from the injection of 1 c.cm. of toxin-antitoxin mixture; eighteen members of the staff also received the "injections." Unfortunately two mild reactions occurred which necessitated their confinement to bed for a few days. The initial dose employed was 0.5 c.cm., followed by two doses of 1 c.cm. The interval between the injections was seven days.

No case of diphtheria has occurred in the institution since the test was commenced and artificial antidiphtheria immunization carried out. I hope later to test the Schick-positive cases again, and, if necessary, to re-inoculate.

This may readily be effected from three to six months after the injections. It is claimed that after three injections with toxin-antitoxin 70 to 90 per cent. of those treated are found to be immune after eight weeks.

Interesting figures have been published showing that in America of 90,000 Schick-tested, immunized, and treated school children, 14 got diphtheria, while of a similar number not tested or treated 56 acquired the disease. An extensive campaign has recently been started in New York to popularize antidiphtheria immunization. It would seem advisable to apply the system whenever a careful study of the epidemiological situation convinces us that it may be resorted to with advantage.

Another application of the Schick test is in the clinical diagnosis of diphtheria. A true case of faucial diphtheria will give a positive Schick reaction, but a carrier of virulent diphtheria bacilli will give a negative reaction. One observer recently noted twelve cases of diphtheria in children with a negative Schick reaction, but in the majority of the patients the disease proved to be nasal diphtheria. The test is of the greatest value in school epidemics. Children can be tested, and within twenty-four hours may be divided into two groups—the immune and the susceptible.

One of the chief difficulties in the use of the Schick test is the pseudo-reaction, which is due to the presence in the toxic filtrates of some substance which is more stable than the specific one, and which causes rise of temperature and other reactions. It is important that the toxin-antitoxin mixture should not be used after exposure to a temperature below 0° C.

The most favourable age for the administration of diphtheria prophylactic is from 1 to 5 years.

I am much indebted to Dr. F. Douglas Turner, medical superintendent of the Royal Eastern Counties Institution, Colchester, for allowing me to publish this article and for his valuable advice regarding the work. My thanks are due also to Dr. R. A. O'Brien, director of the Wellcome Research Laboratories, for giving me suggestions in the necessary technique.

THE MORTALITY OF ACUTE APPENDICITIS.

BY

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I PUBLISH the following figures in the belief that they indicate that the safest plan to adopt in treating acute appendicitis is to operate at once irrespective of the duration of the disease and of the local conditions obtaining.

All authorities are agreed that there is a steady increase in the incidence of appendicitis.

Deaths from Appendicitis in England and Wales (Registrar-General).

	Male.	Female.	Total.
1915	1441	1062	2503
1916	1474	1129	2603
1917	1390	1053	2443
1918	1298	1118	2516
1919	1278	1151	2429
1920	1389	1142	2531
1921	1474	1237	2711
1922	1524	1211	2735
1923	1608	1218	2826
1924	1545	1211	2756
1925	1624	1238	2862

These figures show an increase in mortality, but do not indicate the percentage mortality of the disease.

Adams[1] recently brought forward figures that had been collected from St. Thomas's Hospital, together with others already published by Love[2] from the London Hospital. They showed that the percentage rate of mortality in appendicitis is by no means as low as the general impression would indicate. In both these hospitals two methods are adopted in the treatment of the disease—one in which immediate operation is undertaken, and the other where delay is advocated if the patient is in the third to sixth day of the disease. The patient is watched, and if the condition is progressive, operation is undertaken.

The percentage case mortality is weighted by the cases of general peritonitis; Adams remarks that, if we omit these cases, "the St. Thomas's mortality comes down to 2.7 per cent. and that of the London to 3.5. These are very respectable figures, and seem to me to justify the gospel of immediate surgical treatment."

Further improvement in these figures can only be obtained by the early recognition of the disease, and especially is this the case in children, in whom the interval between the disease being limited to the appendix region and general peritonitis is frequently short. The advantage of delay in operation seems very doubtful; all its advocates appear to be agreed that it can only be followed under hospital conditions. This teaching must have its repercussion first on the general practitioner and later on the general public, and does not appear to me to be safe.

When an analysis of the cases treated on delayed lines is made it appears that at the London Hospital 109 cases out of a total of 341 were "unsuccessfully delayed," and at St. Thomas's Hospital 71 out of 214—in each case approximately one in three. It seems probable that the cases "unsuccessfully delayed" must be in a worse condition to withstand operative intervention than if they had been operated on when first diagnosed; the mortality in these cases is in fact higher than that of cases of local abscess which underwent immediate operation—at the London Hospital 6.4 per cent. compared with 4.6 per cent., and at St. Thomas's Hospital 14 per cent. compared with 4.2 per cent.

The figures at University College Hospital are taken for five years—from 1921 to 1925. The practice at this hospital has been to treat all cases diagnosed appendicitis by an emergency operation, irrespective of the day of the disease or the presence or absence of an abscess. Further, all cases diagnosed appendicitis are admitted to the surgical side, and are therefore under "one man control"—a point of considerable importance, as Adams has pointed out.

We therefore get in these figures the result on the case mortality of one quite definite line of treatment—namely, immediate operation. The cases have been divided into those that were drained and those cases in which the abdominal wall was sutured and no drainage employed. This gives a rough idea of the character of the disease, allowing for slight variations in the treatment of different operators; those cases that were drained either had general peritonitis or considerable collections of localized pus. The total number of cases was 602; of these, 274 were closed and 328 drained; 21 died (3.5 per cent.).

The number of cases of general peritonitis amongst these was 62, or about one-tenth, and the case mortality was 11—a percentage of 17.7. The mortality in the remaining 540 cases was 10 (1.8 per cent.). Two died of obstruction other than paralytic ileus, five with localized abscess, one of abscess of the lung, one from pneumonia, and one from spreading cellulitis of the abdominal wall. Among the cases dealt with, 95 were children under the age of 14; the mortality in these cases was 6—a percentage of 6.3 as compared with the above average of 3.5; of these 6 cases 5 died of general peritonitis. These figures bear out the seriousness of the disease in children, and the necessity of early diagnosis and immediate operation.

This fact is further brought out in the Registrar-General's figures for appendicitis and typhlitis for 1925, in which the deaths are arranged according to ages.

Years.	Males.	Females.	Total.
0–15	415	341	756
15–25	307	180	487
25–45	351	263	614
45–65	383	323	706
65–75	126	96	222
75 and over	42	35	77

It is stated by most authorities that the third to the sixth day is the dangerous stage at which to operate. It would appear probable that this statement rests on false premisses. Where immediate operation has not been advocated the cases are treated medically, and a number of

these successfully respond to this treatment. But the others, owing to extension of the disease, require surgical intervention, as is shown above, in approximately one in three of this type of case; and these being the worst cases, the mortality is higher, and gives the impression that this period is a peculiarly dangerous one. It does not appear to be so if immediate operation is undertaken.

Although it is a little difficult accurately to determine the day of the disease, I have done so as far as possible with these 21 fatal cases, and give for comparison the figures for all cases. The duration of the disease at the time of operation is shown in the following table.

Duration of Disease.	Deaths.	All Cases.
24 hours	2	175
48 ,, ...	7	142
3 days	1	91
4 ,, ...	2	57
5 days and over	6	137
Unknown	3	3

Of the six fatal cases shown of five days and over, one was wrongly diagnosed salpingitis and operation was delayed, and one was admitted and treated medically for ten days.

If we take the case mortality up to three days, we see that it is 9 in 315, and from three days up to five days and over it is 9 in 285; further, four of these deaths occurred in patients over the seventh day of the disease. This does not appear to be an undue preponderance in the case fatality between the third and sixth day.

If the relative figures of cases drained or sutured are taken as an index, the severity of the disease certainly appears to increase with the duration.

Table showing that the Number of Cases drained increases with the duration of the Disease.

Duration of Disease.	Closed.	Drained.
24 hours	125	48
48 ,, ...	60	82
3 days	33	58
4 ,, ...	20	36
5 days and over	35	101
Unknown	—	3

The presence of pus, however, is the indication for drainage, and we should expect to find it on the third day and over rather than in the earlier period. These figures, then, represent a pathological process rather than the severity of the disease, as it is well known that numbers of cases with abscess formation recover without surgical intervention.

In discussing the influence of immediate operative treatment on the mortality of appendicitis any other factor that is likely to influence that mortality should be taken into account, and in my opinion the method of approach is of considerable importance.

In the greater number of the cases quoted above the muscle-splitting incision was employed. The advantage of this appears to be that the diseased area is directly exposed, frequently the whole operation is conducted in a small compartment completely shut off from the general peritoneal cavity, and the natural extension of the disease, if pus be present, can be followed into the pelvis, very often without grossly soiling the rest of the peritoneum. Naturally this point is not of great importance if general peritonitis is already present, but in a number of cases this fact cannot be accurately determined before the abdomen is opened. I therefore think that McBurney's incision plays an important part in the successful treatment of acute appendicitis.

The figures I have given, showing 1.8 per cent. case mortality, excluding the general peritonitis cases, and 3.5 per cent. for all cases, appear to me to be further evidence in favour of immediate operation in acute appendicitis.

I am indebted to the surgeons at University College Hospital for permission to use these statistics.

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ANAPHYLAXIS AND ULTRA-VIOLET LIGHT TREATMENT.

BY

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ANAPHYLAXIS has been defined as hypersensitiveness to foreign proteins—either direct protein extracts or the products of various micro-organisms not necessarily pathogenic, and not in themselves toxic. The alarming symptoms and depression are said to be explained by the formation of an antibody, probably a very insoluble precipitate in the blood serum of the patient, profoundly interfering, like histamine, with the capillary circulation and producing an asphyxia in the tissues themselves.

The following diseases have been attributed to its operation: asthma, bronchitis, hay fever, certain skin affections, angioneurotic oedema, cyclic vomiting, periodic diarrhoea, and the migraine-epilepsy syndrome.

Many specific methods have been used in the treatment of these disorders, but the only one common to the whole group is the use of peptone in small gradually increasing doses, never large enough to produce any pronounced reaction. The resultant immunizing action is said to be due to the detachment from the cells of antibodies which destroy the antigen in the blood. Auld, on the other hand, regards the antigen-antibody product as the cause of the anaphylactic shock. What is perhaps of more significance than either suggestion is the fact that leucocytosis is certainly produced by the reaction to peptone and other definite chemical substances, the bone marrow being stimulated to produce with great rapidity at least a double quantity of leucocytes. Though we have no very clear picture of the way in which the curative results are brought about, yet as similar results accrue from the use of ultra-violet rays in many of the maladies mentioned, and as we have some knowledge of the method whereby they do their work, it occurred to me that consideration of the facts might in some degree illumine the subject. It must be premised that by no means all cases of asthma or allied maladies are due to protein sensitization. Some may be due to nervous reflexes, some to hereditary diathesis, whilst others may require the combination of all three factors. I propose, therefore, to give the results of ultra-violet therapy in a typical case of spasmodic asthma and bronchitis of the most severe character, in a typical case of protein sensitization, and in a typical case of asthma alternating with eczema.

Miss B., aged 45, had been subject to the most violent attacks of asthma for over twenty years, each attack confining her to bed for many days and sometimes weeks, where she would lie with cyanosed countenance, struggling for breath, wheezing râles with slight expectoration being heard two or three rooms away. Sometimes slight relief was obtained by pitrenalin, sometimes by adrenaline, and sometimes by morphine, but her life was a burden, and the last few attacks looked as if they might be fatal. Early in 1924 I commenced irradiation of the back and chest with the quartz mercury vapour lamp on the one and the carbon arc lamp on the other, alternating after a few minutes. From the first treatment she began to experience relief, although it was many months ere the wheezing quite disappeared. For the succeeding year a weekly treatment has enabled her to live without any discomfort or even suggestion of asthma and bronchitis.

Miss E. S. for many years had sudden violent attacks of a suffocative feeling in the throat, with a sensation as if pepper had been sprinkled over it, followed by intense wheezing inspiratory and expiratory efforts, mucous râles, and a sense of impending death. Many kinds of treatment were tried by laryngologists and physicians, including pollantine and peptone; finally adrenaline in three-drop doses subcutaneously produced relief in three minutes or less, although it left the patient in a most exhausted condition. Skin testing elicited the fact that acid fruits, and especially raw apples, appeared to engender these attacks, and care in dieting reduced the attacks considerably but not completely. For close upon twenty months this patient has been acting as my assistant in the treatment of cases by ultra-violet light rays, besides which she has had many direct irradiations over the chest and back. For over a year she has been quite free from attacks despite occasional dietetic trespass.

Miss N. L., aged 23, has been an asthmatic from birth. The asthmatic attacks were suddenly replaced by universalized eczema, for which many kinds of treatment, both external and internal, were tried for a year without success. She then consented to try ultra-violet light, with the result that six treatments in three weeks completely cured the eczema, and she is persevering with the irradiations in the hope of completely eradicating the asthma.

I have seen many cases of neuritis and lumbago cured by the use of ultra-violet light. I believe such cases are due to a specific anaphylaxis excited by proteins absorbed from the bowel while it is in a state of catarrhal inflammation. The sudden incidence is probably due to exercise creating a local acidosis from the lactic acid produced in the muscles, which tends to make the cells more sensitive to the proteins.

At least one of the three cases I have cited was a pure example of anaphylaxis, and, in her, peptone failed completely, whilst ultra-violet irradiation was a complete success, as it was in the other cases. Now it has been demonstrated that exposure to the sun's rays causes a general hyperleucocytosis with a relative neutropenia and a strong relative lymphocytosis. I frankly admit that this is comparable with the leucocytosis produced by the injection of peptone, and it is quite possible that this helps to account for the anti-anaphylactic action of ultra-violet light rays. But it is only one of the remedial results of ultra-violet light, and probably the least effective; this doubtless accounts for the frequent failure of peptone, and in any case for the short period of protection it affords. Another valuable therapeutic effect of ultra-violet rays is their directly germicidal action on the body, increasing the bactericidal powers of the blood, thus reducing the formation of bacterial toxins.

Probably the most useful function of ultra-violet rays is their power to increase the absorption of calcium and phosphorus, which, with the formation of vitamin D from the cholesterol in the skin, is doubtless the main factor in the cure of rickets. This also leads not only to the better nutrition of the bones and nervous system, but also to the alleviation of spasm and the induction of a calmative effect on the nervous system. Nor must it be forgotten that there is an increase of iron in the blood and a decided rise of haemoglobin in the erythrocytes, diminishing the risk of dyspnoea and asphyxia, so potent a factor in asthmatic conditions.

Finally, the internal secretions of the thyroid and adrenal glands are increased, and they are both valuable in the treatment of asthma and allied conditions.

It will be observed that the ultra-violet light treatment of asthma counters the varied factors in its causation, and is valuable, not only for cure, but also for prophylaxis.

A METHOD OF ESTIMATING CARDIAC OUTPUT.

BY

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THE problem of the correct treatment of heart disease reduces itself largely to cardiac output. The common type of heart failure means diminished cardiac output, and we shall never be able to tackle the problem of heart failure properly unless we have a reliable method for determining the output of the heart.

The following is a description of a method for estimating cardiac output. The underlying principle is simple. The venous pressure is measured by inserting a needle, preferably in the cephalic vein of the arm. A given number of heart beats are admitted. Then the pressure is taken again, and from the increased venous pressure we calculate the output per beat, or, if desired, per minute. It will be seen that the principle underlying this method is the determination of the single output by variation of the venous pressure. Particulars are as follows.

The pneumatic tourniquet of a sphygmomanometer is placed on the arm; a needle with as wide a bore as possible is inserted in the cephalic vein and connected with a manometer containing a solution of 0.7 per cent. sodium chloride and 0.5 per cent. citric acid. The venous pressure is now taken. Then the artery is compressed very rapidly by means of the airbag so as to obliterate completely the brachial artery. The venous pressure is taken again, after which the arterial blood is allowed to enter the limb for the space of 5, 10, or 15 beats by relaxing the airbag. At the same time the pressure must remain high enough to prevent the venous circulation from being re-established.



A record of the number of beats which were allowed to pass into the lower part of the upper extremity. It will be seen from this chart that one is able to recognize those beats which do not completely pass through and to account for them in calculation.

The pressure in the veins is now taken again. It will be seen that it is necessary to take the venous pressure three times: first, when the circulation in the veins as well as in the arteries is free; secondly, when the circulation is cut off in the veins as well as in the arteries; thirdly, after a known number of beats have been admitted, the venous circulation still being cut off. The first and the third measurements are essential for our purpose, the second serving as control only.

The following readings are typical:

Venous Pressure Experiment.

V.P.=4 inches.
After compression=9 inches
After eight beats (see chart)=23 inches.

$$\therefore \frac{\text{Rise}=14 \text{ inches.}}{=1.75 \text{ inches per beat rise.}}$$

Case of specific carditis. Wassermann reaction ++; blood pressure 145/105; pulse rate at time of experiment=120 per minute.

It remains to say a word in regard to the counting of the beats, which is not so simple as might be imagined. The only satisfactory method of getting a reliable count is to place the pad of a Mackenzie's polygraph on the radial artery and record the beat by means of the needle on a photographic slide, such as is available in the electrocardiograph.

I am indebted to Dr. Crawford, assistant physician, Liverpool Heart Hospital, for valuable assistance in carrying out the experiment.

THE PROGNOSIS IN FRACTURES OF THE OS CALCIS.

BY

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IN any case of fracture two questions must be answered: How long will the patient be incapacitated for work and require compensation? and To what extent will he be permanently crippled?

The investigation here reported was undertaken to determine the duration of the disability, and the degree of final impairment of function in cases of fracture of the os calcis. Twenty-five such cases were treated at the Northern Hospital, Liverpool, in the period 1921 to 1924. Of these, only fourteen reported for re-examination after completion of treatment; they were all men, and their average age was 45 years. In every case the fracture was caused by a direct fall on the heel.

For comparative purposes the period of disability was taken as the time between the date of the accident and of the man's resumption of a permanent occupation; in most cases this was determined by proceedings under the Workmen's Compensation Act. The average was eleven months. In seven cases the period was between eight months and a year; the shortest period was three months, and the longest twenty months.

The final results were difficult to assess. All the patients were ultimately able to resume moderately heavy work. None became industrial cripples. All complained of pain in the heel when running, or walking fast on uneven surfaces, such as cobble-stones, or in damp weather. In

one patient these symptoms had persisted for seven years after the fracture.

To elucidate the factors determining the disability, I compared the clinical and radiological appearances in those patients who did well and returned to work within six months, with those of the patients in whom the disability persisted for more than twelve months. Certain factors seem to have no bearing on the prognosis; all cases showed varying degrees of callus excess below the malleoli; a slight valgoid deformity was present in two cases only. The presence of a plantar spur was common, but in one case only did it seem to cause part of the pain and require the use of an excavated heel, which partially relieved symptoms.

Comparison, however, of the range of movements of the foot and the radiological appearances led to certain definite conclusions.

In the group of cases with a short period of disability the movements of inversion and eversion of the foot were, with one exception, grossly limited, but free from pain. Radiological examination showed extensive comminution of the os calcis and osseous ankylosis of the astragalo-calcaneal joints. In the one exception the joint surfaces were intact, and only the lower part of the bone had suffered compression.

In the second group, of inveterate cases, the movements of the foot had a freer range, but were attended with pain on full eversion. The radiological appearances showed relatively slight amount of bony damage. In one case, indeed, the lamellar structure of the bone was completely restored five months after the accident, though with no corresponding clinical improvement. A constant feature of all the inveterate cases was the irregularity of the articular surfaces for the astragalus. In no case was bony ankylosis present.

The radiological findings and the pain on movement point to the condition of the subastragaloid joints as being the determining factor in prognosis. At these joints occurs the second half of the movement from full inversion to full eversion of the foot, a movement elicited only by exertion, and effected by a vertical rotation of leg and astragalus on the os calcis. An osseous ankylosis of these joints produces a permanent but painless limitation of this movement, a loss which is by no means crippling; one man, indeed, returned to his work as a window cleaner in four months. On the other hand, a traumatic arthritis of these joints is perpetuated by any movements requiring eversion of the foot. As is always the case, fibrous ankylosis is more painful than osseous.

Conclusions.

From this confessedly small series the following conclusions arise:

The average period of disability after fractures of the os calcis is eleven months. The length of the period depends on the condition of the subastragaloid joints, and not directly on the amount of bone damage.

When these joints are ankylosed as a result of the fracture the foot improves in six months to an optimum stationary condition, with a limited but painless range of eversion of the foot.

Should the joints escape entirely the prognosis is so much the better, but when an incomplete fibrous ankylosis results from the fracture, improvement is slow and eversion is often permanently attended by pain.

The principle attributing most of the residual disabilities of fractures to implication of neighbouring joints is well exemplified by this series of cases.

My thanks are due to Mr. McMurray, honorary orthopaedic surgeon of the Northern Hospital, for his help, and permission to examine many of his cases, and to Dr. Oram for the use of the radiograms.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

A FATAL CASE OF ACUTE PULMONARY OEDEMA.

A NUMBER of cases of acute pulmonary oedema, most of which have fortunately responded to the recognized treatment, have recently been reported. The following fatal case seems worthy of note.

A factory girl, aged 16, was brought to the East London Hospital for Children in the early morning of January 14th, 1926, in a collapsed and breathless condition. She had done an ordinary day's work, had been out for a walk after supper, and went to bed at 11 p.m. perfectly well. At midnight her sister, who was sleeping in the same room, was awakened by her vomiting and gasping for breath. She was hurried to the hospital, and I saw her immediately on her arrival.

She was a well-nourished girl; she was very restless, rolling from side to side, and clutching at her throat. She was cyanosed, and her expression very anxious. Frothy, straw-coloured fluid was streaming from her mouth and nose. The heart was somewhat enlarged, and a systolic and presystolic murmur was heard at the apex; the heart rhythm was regular, and the pulse 80. The bases of the lungs were full of bubbling râles. The liver was not enlarged, and the spleen not palpable. There was no oedema of the ankles. A hypodermic injection of atropine 1/100 grain and morphine 1/4 grain allayed her restlessness, but she complained of intense thirst, although frothy fluid was streaming from her mouth. Two hours after the onset of her symptoms she died.

I ascertained from her mother that three years previously she had been in an infirmary for "heart trouble," but had led a normal and healthy life since then without any symptoms at all.

At the *post-mortem* examination, conducted the next day by Dr. Temple Gray, pathologist to the hospital, the heart was found to be enlarged and fatty, and there was definite mitral stenosis. The lungs were sodden, and large quantities of fluid exuded from them. Frothy fluid was also found in the bronchi.

The point worthy of particular note is that the rhythm of the heart was regular throughout the attack. The question arises as to what was the cause of the sudden onset of the alarming and fatal symptoms.

I am obliged to the resident medical officer, Dr. A. G. Ogilvie, for permission to publish this case.

M. M. POSEL, M.R.C.S., L.R.C.P.,
Resident Casualty Officer, East London Hospital for Children, Shadwell, E.

EXTENSIVE NECROSIS IN CHICKEN-POX.

THE following case of necrosis complicating varicella presents some unusual features which make it worthy of record.

On December 24th last I saw a female child, aged 2 years and 9 months, who had contracted chicken-pox from her sister, aged 8. The temperature was 103°, the pulse 132, and the tongue was coated, but the throat was normal. She objected to being moved. There was a slightly reddened, tender patch over the lower part of the right shoulder-blade alongside a vesicle. There were not more than twenty vesicles in all on the body and head. The heart and respiratory sounds were normal. Ichthyol ointment (20 per cent.) was applied on lint covering a wide area; the bowels were moved, and antipyrin prescribed in small doses every four hours. The following day the temperature had fallen a degree, but the general condition had not improved. The area of redness over the right shoulder-blade had increased and there was a wide margin of tenderness beyond.

During the succeeding forty-eight hours the condition grew worse. *The affected area became discoloured and the patient more* toxic. No further vesicles appeared. The temperature varied from 100.5° to 102°. The child was very fretful, restless, and rambling in her talk, and slept badly. On the fourth day she did not appear to see distinctly. She was, however, taking Benger's food and fluids in abundance. On this day I asked Dr. A. Whyte Cassie to see her in consultation. A small necrosed patch, rather smaller than a shilling, was then present at the original site of the inflammation, and below this the skin was discoloured. Tenderness and muscular spasm extended to the vertebral column posteriorly and to the middle line of the chest and abdomen anteriorly. There was tympanites and constipation. Dr. Cassie advised that the treatment should be continued, and small doses of brandy given.

The necrosed patch increased in size daily. There was no suppuration, but the body became dusky and mottled. Wet boric dressings, changed twice daily, were applied. By the morning of December 30th the patch, *roughly oval in outline, measured about* 1½ by 3 inches. On December 31st I asked Dr. Seiller, the medical officer of health of the district, to see her. The necrosed patch was then double the size of the preceding day and was beginning to separate at its upper margin. He advised continuance of the boric soaks, but felt, with me, that the prognosis was very bad. As a last resort I injected 7½ c.cm. of antistreptococcal serum about 10 p.m., but the child died between 2 and 3 a.m. on January 1st.

The points of interest manifest in the case are: (1) The virulent, though not widespread, infection conveyed to the patient by her sister, a mild case seen sixteen days previously, who was never a day in bed. (2) The house and children were spotlessly clean; necrosis complicating

chicken-pox is generally associated with uncleanliness. (3) Only one vesicle showed necrotic change. (4) The child's health previously had been good.

S. NORMAN DYKES, M.B., Ch.B.Glasg.

Ibrox, Glasgow.

ESTIMATION OF THE CURE OF BILHARZIASIS.

THE decision whether a patient has been cured of bilharziasis depends mainly upon the microscopical examination of the urine. The last few drops that are passed are the most likely to contain the ova, and the best plan is to let the patient express the last portion of urine into a test tube, so that it can be centrifugalized and examined without delay.

When a child is experiencing slight cardiac depression during the third and fourth week of the emetine treatment, as evidenced by a quickened pulse and fretfulness, the ova may disappear temporarily from the urine. Absence of ova during treatment may also be caused by local reaction from unskilful injections or from any general indisposition, so that it cannot be depended upon as evidence of cure; this can be judged as certain only when frequent examination of the urine shows a complete absence of ova, either alive or degenerated, and only an occasional leucocyte. If treatment has been unsuccessful, careful examination of the urine will reveal live ova within a month or six weeks. By that time the antimony or emetine will have been excreted, and the comparatively small parasitic worms will have recovered from the effects of the drug.

A fresh infection may cause a strong eosinophilia, but it will not cause ova in the urine for at least three or four months. A large proportion of patients with bilharziasis are indigent school children, Indians, and natives whose constitution is undermined by irregular and insufficient feeding; special attention must be paid to the earliest signs of cardiac depression. A warning is needed against the oral treatment of patients who cannot be kept under constant medical supervision. Children are not readily persuaded to continue treatment after their obvious symptoms have disappeared; under the emetine treatment this disinclination may indicate early cardiac depression, which may demand a temporary suspension of treatment.[1]

In a boy, aged 4 years, 6 grains (0.36 gram) of emetine hydrochloride, given intramuscularly over a period of forty-nine days in doses ranging from one-sixth to one-third of a grain, appeared to have been successful, the patient showing general improvement in health and no toxic effect from the drug; but numerous living ova, with a slight recurrence of haematuria five weeks later, made it necessary to give a further course of 6 grains in twenty-nine days, in doses of from one-third to two-thirds of a grain. Toxic effects were seen only during the last few days of treatment, when there was slight drowsiness and vomiting after the two injections of two-thirds of a grain of emetine. Six weeks later living ova were again present in the urine, rendering a further course of treatment necessary.

The use of emetine periodide[2] has shown that it compares favourably with intramuscular injections of emetine hydrochloride; but it has yet to be proved that the results are permanent, or how far oral treatment may not be of limited service in view of the cost of the drug and the difficulty of supervising patients with bilharziasis. The emetine treatment becomes effective only when slight toxic effects begin to appear as a result of the accumulation of the drug during the third and fourth weeks; if treatment is not continued further it results in a probable cure of not more than 25 per cent. of the cases. In this respect it corresponds with the antimony treatment, which is to be preferred in all possible cases.

Durban. F. G. CAWSTON, M.D.Cantab.

UNUSUAL HERNIA IN INGUINAL REGION.

THE following case is recorded on account of the unusual position of the hernia, which resembled those found in the epigastric region.

A man, aged 41, was raising a stone at his work on December 20th, 1926, when he felt a sudden pain in the left groin. He was taken home and examined by his doctor, who found an inguinal hernia the size of a hen's egg extending slightly into the scrotum. It was easily reduced.

The man was admitted to hospital, and an operation was performed on January 3rd. Examination prior to operation failed to detect a hernia, but an indefinite swelling was noted in the region of the external ring.

At the operation the external oblique aponeurosis was slit up and the canal displayed. No hernial sac was discovered, but a considerable quantity of extraperitoneal fat was present; this was removed. On retracting the upper lip of the external oblique aponeurosis upwards and inwards a mass of extraperitoneal fat was seen. It came out of an opening in the abdominal wall, the size of a cedar-wood pencil. It was just lateral to the rectus sheath, and half an inch above the pubis. There was a process of peritoneum in the fat, but no abdominal contents. The sac was ligatured and the opening closed with a mattress suture.

Aberdare. HARRY BANKS, M.B., F.R.C.S.Ed.

[1] F. G. Cawston: *Journ. Royal Army Med. Corps*, January, 1926, pp. 57-60.

[2] R. M. Gordon: *Ann. Trop. Med. and Parasitol.*, August 13th, 1926, pp. 229-37.

British Medical Association.

CLINICAL AND SCIENTIFIC PROCEEDINGS.

GLOUCESTERSHIRE BRANCH.

Gastric Carcinoma.

AT a meeting of the Gloucestershire Branch on February 10th, Dr. J. RUPERT COLLINS in the chair, Mr. ARNOLD ALCOCK opened a discussion on the diagnosis and treatment of carcinoma of the stomach.

Mr. Alcock emphasized the difficulty of diagnosis. He pointed out that the chief seats of malignant growth were the breast, uterus, and stomach. Though in the first two the signs were discernible, yet the results of treatment were very poor. The stomach presented a much more difficult problem. Three types of gastric carcinoma could be distinguished: (1) The indurated ulcer, found as a rule in the lesser curvature, and of much the same type as simple gastric ulcer. Probably carcinoma did not develop from a simple ulcer so frequently as might be expected. Nine-tenths of cancers of the stomach were not preceded by ulcer. (2) The spreading type, encircling the stomach and giving rise to the leather-bottle stomach in its late stages. This was really an advanced example of the first type. (3) The fungating ulcer, which, spreading in the submucosa to start with, invaded the lymphatics, and soon passed out of reach in the portal area. The mediastinum was often infected, and hard glands might be found above the clavicles. Loss of appetite was very suspicious in a patient previously healthy. Sour eructations were complained of, and were frequently offensive. As a rule vomiting was slight in amount and it was rare to see blood. Loss of weight was often rapid, and was an important symptom. Blood might be demonstrated in the stools. Exploration should be undertaken when these symptoms were present. Abdominal tenderness was present before any lump could be felt. Moynihan was quoted as giving three indications for operation: (1) All cases with chronic ulcer over 40 years old, (2) if gastric stasis was present (delay of ten to twelve hours), (3) all cases of tumour. The surgeon was frequently disappointed when he opened the abdomen. Even when an early case had been expected there might be nothing to do but to shut up the abdomen again. In cases with a history of only a few months at the operation the condition might be found to be beyond treatment. The actual surgical procedure consisted in excising as much of the stomach as possible, with the lymphatic glands in the lesser curvature. Early diagnosis was of supreme importance, and at the same time presented much difficulty.

Dr. D. E. FINLAY said that as regards getting cases earlier he was sure there had been a great advance since twenty-five years ago, when diagnosis was so often delayed till there was a palpable growth. One source of error in coming to an early and correct diagnosis was the question of age. Malignant growth was possible even at an early age; his youngest patient had been a woman aged 22. In reviewing his cases the symptom on which he would put most stress was failure of appetite or even an actual distaste for food; in some cases this amounted to nausea. This was present for a considerable time before loss of weight. Indeed, many patients had not lost weight when the symptoms had aroused suspicion of malignant growth. Definite vomiting was a later symptom; many cases did not present it. Anaemia and other such signs were found to be really late when the history was carefully taken. In his

cases there had been no long history of indigestion; most patients had very short histories. He mentioned one notable exception—a man who had a long history of indigestion and vomiting. He was thoroughly overhauled in hospital with a negative result, but eighteen months later he was readmitted, and on the abdomen being opened an inoperable carcinoma was found. Dr. Finlay had been very disappointed by *x*-ray and chemical investigations. Dogmatic statements emanated from the *x*-ray department, but when the abdomen was opened great divergences were found from what had been expected. Trouble in the region of the stomach, leading to filling defects shown by *x*-rays, explained some of the fallacies. Chemical investigations had produced similar disappointments. The absence of hydrochloric acid was not worth much, nor the demonstration of occult blood. For really early diagnosis he laid most stress on loss of appetite, nausea, and possibly loss of weight. It was necessary to think carefully before jumping to the conclusion that the stomach was at fault. He had seen mistakes arise from missed tubercle, diabetes, and syphilis. It had been suggested that venous thrombosis occurring in the body might be an early symptom of malignant growth. He had recently had a case which might bear that interpretation. No medical treatment could cure, but in inoperable cases symptoms were diminished by pepsin preparations and hydrochloric acid. Washing out the stomach was often useful.

Dr. E. N. DAVEY, dealing with the chemical tests, admitted the difficulty of the laboratory worker, and the most claimed was that if the chemical findings were properly correlated with the clinical findings they were of some value. The two tests on which reliance was often placed were the test meal and the discovery of occult blood; both were of problematical value. Even when a growth was present only a very small proportion of the total mucous membrane might be damaged and a normal finding might result. The fractional test meal was the only one of practical value, but the patient must be properly prepared. He should be on light diet for one day. In the evening he had a glass of milk with two drachms of charcoal, and the test was performed next morning. The stomach must be completely emptied and the total volume of the fasting juice ascertained. In the fasting juice a great deal of evidence was to be found; obstruction might be diagnosed at once, and absence of HCl with a great increase in the acids of putrefaction was in favour of carcinoma. The presence of blood was an indication for intervention. The stomach was long in emptying in carcinoma. In one and a half hours there should be loss of acidity, but this was not found in carcinoma of the pylorus. Dr. Davey pointed out that the hyperacidity found in ulcer cases was due to the ulcer condition—a result and not a cause. As regards occult blood in the stools, its value was lessened because as a rule the patient was not properly prepared. He ought to be kept on a purely milk diet for at least three days, the diet must be free from meat and chlorophyll. Then charcoal should be administered, and when that had appeared in the stools the next specimen should be taken for examination. The presence of occult blood after these precautions, and in the absence of any bowel condition, indicated either simple ulcer or carcinoma of the stomach, but gave no help in distinguishing between the two.

The discussion was adjourned to the next meeting.

Clinical Cases.

Dr. JOHN GREENE described two cases of adiposo-genitalis which he had under treatment, and demonstrated one—a boy aged 8 years and 7 months. The case showed all the classical symptoms, including enlargement of the sella turcica, revealed by *x*-ray examination. One of the patients had a slipped epiphysis at the head of the femur, and this condition was discussed in detail by Mr. STALLMAN. Dr. GREENE reported that administration of pituitary anterior lobe tablets had apparently produced improvement, the boy of 8 years showing a loss in weight from 7 st. 10 lb. to 7 st. 7 lb.; the abdominal girth had been reduced two inches. Dr. Greene expressed some surprise at the improvement, as he had not really expected it.

Reports of Societies.

DIVERTICULA OF THE ALIMENTARY CANAL.

AT a meeting of the Harveian Society, held at Paddington Town Hall on March 10th, with Dr. E. LE FEVRE PAYNE, the President, in the chair, the Harveian Lecture was delivered by Sir BERKELEY MOYNIHAN, Bt., who took for his subject "Diverticula of the alimentary canal."

Harveian Lecture.

Sir Berkeley Moynihan described a diverticulum as a wayside track from a main path. In the alimentary canal a diverticulum was due to a protrusion of the mucous membrane from the lumen of the bowel, and in this protrusion other coats might take part or might not. The extrusion of the wall of the intestine was an essential step in the formation of several organs whose functions were associated essentially with the work carried on in the digestive tract. Thus the liver and the pancreas arose as buds from the wall of the intestine. But not all the little pouches springing from the mucosa came to this full development. The lecturer then spoke of three different degrees in development. In the first place, the diverticulum might develop in foetal life and proceed on its normal career, leading to the growth of the liver and pancreas (whose connexion was maintained with the alimentary canal through their ducts), or of the appendix (whose connexion throughout its length was fully maintained, with no differentiation into a duct), or of the thyroid gland. The lumen of the protrusion from which a large part of the thyroid gland developed did not go deeply into the solid bud which consisted of cells forming the thyroglossal tract; the foramen caecum on the dorsum of the tongue was the only patent part of the diverticulum. In the second place, the diverticulum might develop normally in foetal life, but its connexion with the mucosa in the adult might remain only in a curtailed condition, or it might finally disappear. He mentioned the diverticulum of Meckel found in the lower part of the ileum; this was the unclosed part of the omphalo-mesenteric duct. Again, the pouch of Rathke, seen in early infancy, vanished as a rule completely in the course of a few years. Finally, the diverticulum might develop and in normal circumstances disappear in foetal life, though in a few instances this normal atrophy and disappearance might not take place, and the diverticulum be found in the adult. Lewis and Thyng in the United States had found that diverticula from the stomach, duodenum, and jejunum were frequently found in foetal life, and at their tip little solid masses of cells were seen identical with the cells from which the pancreas grew. These cells normally withered and were absorbed, and it would seem as though a whole series of efforts were made to develop the pancreas, only those connected with the ducts of Wirsung and Santorini surviving. The others were there in case of mischance. In a few such cases the normal disappearance did not occur, and gastric, duodenal, or jejunal buds, with an accessory pancreas attached to each, might persist into adult life.

The various forms of diverticulum which occurred might be classified in three groups: (1) A diverticulum which arose as a bud from the wall of the intestine during development would contain all the coats of the bowel at that point; it was said to be "congenital" in origin and "true" in structure. (2) A diverticulum which occurred after development was complete, and was due to some abnormal process, would be found to contain, as a rule, only the mucous coat, with or without an adventitious fibrous layer, and in no case did it display all the intestinal coats; this was "acquired" in origin, and "false" in structure. (3) An acquired diverticulum might be caused either by the pushing out of the mucosa from the lumen owing to increased intestinal pressure, or it might be dragged out from the wall by the adhesion of some firm structure to the outer side of the bowel; in the former case it was a "pulsion diverticulum," and in the latter a "traction diverticulum." A diverticulum caused by the traction of an adherent structure to the outer side of the

alimentary canal, as, for example, in the oesophagus, might enlarge because of the pressure of increasing quantities of retained substances within its cavity. Beginning as a traction diverticulum, its enlargement was due to conditions similar to those which created and enlarged a pulsion diverticulum. Another form of diverticulum, the "traction-pulsion diverticulum," might therefore be described.

The lecturer next described and illustrated the changes which might occur. These included: inflammation in and around the sac—that is, diverticulitis and peridiverticulitis; suppuration; sloughing and gangrene; perforation to the surface, to a serous cavity, pleural or peritoneal, or to another viscus; adhesions which led to the compression and withering of the sac, or, in the case of Meckel's diverticulum, leading in one way or another to intestinal obstruction; development of carcinoma, and, finally, rotation of the sac when it had grown to such a size as to develop a neck or pedicle, this rotation, together with the pressure of the distended sac, causing obstruction. Pharyngeal diverticula were frequently described as oesophageal. On careful examination, however, and dissection of *post-mortem* specimens, it would be seen that the point of formation was the middle part of the inferior constrictor and the area known as the cricopharyngeus. Such pouches he did not regard as uncommon. They caused difficulty in swallowing on account of the swelling in the neck, and, when speaking, such people projected puffs of air between the syllables. Diagnosis by *x* rays was usually easy. He thought it was always best to remove these pouches by operation, and he illustrated with lantern slides the procedure he favoured. Diverticula occurred mostly at parts of the bowel where the wall was pierced by a blood vessel, weakening occurring in consequence of this piercing. He was quite clear that diverticula might exist without reducing the lumen of the bowel. For people with intestinal diverticula he recommended the taking of plentiful supplies of paraffin and a weekly dose of a stiff aperient.

Replying later to a vote of thanks, which Sir D'ARCY POWER proposed and Sir WILLIAM WILLCOX seconded, Sir BERKELEY MOYNIHAN spoke of the cancer campaign which had had such a good send-off in Yorkshire. His ambition was to enlist every medical man as an ambassador for this cause.

ECTOPIC PREGNANCY.

AT a meeting of the North of England Obstetrical and Gynaecological Society, at Sheffield, on February 25th, with the President, Professor FLETCHER SHAW, in the chair, Professor DOUGAL (Manchester) gave a review of 100 cases of ectopic pregnancy.

Professor Dougal said that he had operated on 100 patients for ectopic pregnancy during the last seven and a half years; in 5 instances a second operation for a similar condition was required. The pregnancy was situated in the Fallopian tube in 103 cases. In 2 cases of infected haematocele only the posterior fornix was opened. In the vast majority pregnancy was early; in only 2 cases had the foetus reached two months' development. In 94 cases tubal mole was present (76.5 per cent.), and the pregnancy was on the right side in 59 per cent. The terminations observed at the time of operation were: tubal abortion (52 per cent.), tubal rupture (37 per cent.), unruptured (12 per cent.). In four cases it was impossible to give an opinion, and both rupture and abortion were noted in one case. In 66 per cent. the condition arose between the ages of 26 and 35; the youngest patient was 21 and the oldest 43. The greatest number of cases occurred during the first five years of married life, but a large proportion occurred during the second five years. In 8 cases the patients had been married one year or less, and in all of these the ectopic was the first pregnancy. Evidence of pelvic infection was noted in only one of these cases. Nearly one-third of the patients had never had a previous uterine pregnancy. Taking the normal interval between successive pregnancies as not more than three years, the interval was unduly long in 55 per cent., and exceeding five years in 31 per cent. The shortest interval was seven months in one case. The chief predisposing cause of extrauterine pregnancy was undoubtedly a previous pelvic infection which so damaged the Fallopian tubes as to obstruct or delay the passage of the fertilized ovum to the uterine cavity. Developmental abnormalities and distortion of the tubes might have a similar result, but occurred less frequently. In certain cases, as in gonococcal conditions, evidence of old infection could only be seen microscopically in the mucosa of the tubes. In this series old-standing adhesions were present in 50 per cent. of cases. The opposite tube was converted into a hydrosalpinx in 7 cases, and a pyosalpinx in one case. The only developmental abnormality met within this series was a bicornuate uterus; the pregnancy was situated in the right tube, and terminated by abortion. Fibroids were seen in 2 cases. The diagnosis rested on a symptom complex which included one or more of three cardinal symptoms: amenorrhoea (72 per cent.), irregular uterine haemorrhage (92 per cent.), and abdominal pain (97 per cent.); pain on defaecation was also an important symptom. Shoulder pain was usually associated with ruptured tubes where the peritoneal cavity was suddenly flooded with blood. Irregular uterine haemorrhage was associated with the separation of uterine decidua, but not invariably, since it might persist after the complete expulsion of decidua or curetting, and might then be due to presence of living chorionic villi. Abdominal pain, generally sufficient to indicate to the patient that something was wrong, might be lancinating, colicky, or diffuse. The site of pain usually indicated the site of the pregnancy. Amenorrhoea, uterine haemorrhage, and abdominal pain were present together in 64 per cent. of cases; bleeding and abdominal pain together in 24 per cent. Amenorrhoea and abdominal pain were found in about 4 per cent., amenorrhoea and bleeding in 3 per cent., and pain alone in 3 per cent. The cases might be divided into three groups or clinical types. (1) The ovum remained in the tube, and there had been little or no haemorrhage into the abdomen. There had been 14 cases in this group, or 13 per cent. (2) Rupture or abortion occurred with diffuse intraperitoneal haemorrhage. There had been 29 cases of this type, or 27.6 per cent. (3) Rupture or abortion had been associated with gradual or repeated haemorrhage into the abdomen. This was found in 62 cases, or 60 per cent. Treatment was surgical, and the sooner it was started the better the outlook. It was impossible to foretell when another, and possibly fatal, haemorrhage would occur. In the very severe cases, where the patient was pulseless and in profound shock, the operation might be delayed for a time while treatment was directed to the shock, but after relieving it the operation should be undertaken immediately. There was no disease of like severity where the response to prompt surgical treatment was so rapid and so satisfactory. There were no deaths in his series. Of the patients traced who had been operated on more than six months previously the results were: subsequent uterine pregnancies, 46 per cent; subsequent ectopic pregnancies, 13 per cent.; no subsequent pregnancy, 41 per cent. The prognosis as regards subsequent uterine pregnancy was fairly good, but there was a serious risk of the patient having a second ectopic pregnancy. In this series 7 patients had two ectopic pregnancies, 5 of the patients having had both operations performed by the speaker.

Dr. LACEY asked if there was any history of infection in the puerperium in these cases; he thought that shoulder pain was usual. Dr. KING considered that rectal pain was more common than shoulder pain. He strongly advised waiting in the very severe cases till the accompanying shock had been treated. He did not regard the other cases as urgent at all.

Dr. LEITH MURRAY had recently studied his series of cases, numbering 112. He found them more common on the right side (67) than on the left (45). He did not agree with Professor Dougal as to the terminations; in his own series the intratubal ruptures greatly exceeded the tubal ruptures, the figures being: intratubal rupture, including mole abortion, 105, primary peritoneal rupture 1, secondary peritoneal rupture 4, intraligamentary rupture 2. He agreed that in the majority of cases there was evidence of pelvic disease or a history of antecedent infection. He was of the opinion that disease of the appendix might be

a common predisposing factor, accounting in the first place for the preponderance of cases of pregnancy on the right side. In these cases he had removed numbers of apparently normal appendixes, and on microscopical examination had found them diseased. In his series a history of amenorrhœa was less often elicited, and pain was not so marked a feature.

Dr. CROFT said that in his experience amenorrhœa was not so marked a symptom, and the pain was generally in the abdomen, in some cases being situated elsewhere than over the lesion. Dr. A. A. GEMMELL asked if there was any evidence of an increased number of abortions preceding these ectopic pregnancies, as in Germany it had been thought that ectopic pregnancies had increased with the increase in criminal abortion during the war. Mr. ST. GEORGE WILSON had used transfusion with the patient's own blood in a case of uterine rupture, with satisfactory results. Mr. W. GOUGH agreed as to early operation. Professor MILES PHILLIPS had recently collected 150 cases, with 3 deaths, and thought that in a number of cases ovarian disease or disfunction was a factor. The PRESIDENT remarked on the supposed preponderance of ruptures over tubal abortions, and, like Dr. LEITH MURRAY, had found the reverse to be true. He had operated on patients with normal tubes but cystic ovaries, and considered ovarian disease as a factor in the etiology.

Professor DOUGAL said that he had no complete details of previous puerperal infection, but he had notes of cases with previous abortions. He did not agree with delay in operation in any type of case, and added that the symptoms in unruptured cases were quite definite. He agreed as to the large number of cases of ectopic pregnancy on the right side. He had operated on patients from whom the appendix had been removed previously. In some cases it was difficult to decide whether there was rupture of a tube or an abortion. He had not tried transfusing the patient with her own blood. He thought that the ovaries might sometimes be at fault.

Intraligamentary Fibromyoma.

Dr. LEITH MURRAY (Liverpool) described a case in which an intraligamentary fibromyoma had been removed from a patient aged 60.

The patient was married and had had three children, the last twenty-three years previously; she had ceased to menstruate at the age of 45. She had complained of pain and swelling in the abdomen for a year, and pain radiating down the right leg for four months. She had been confined to bed for five weeks when first seen. Laparotomy revealed a simple oedematous fibroid within the right broad ligament, lifting up the uterus. There was bullous oedema in the capsule, but no difficulty was experienced in enucleating the growth. The cavity was closed by sutures, and uninterrupted recovery followed. The specimen shown weighed 7 lb. 8 oz.

Dr. Leith Murray said that in his experience fibroids rarely caused symptoms in the menopause. In 540 consecutive operations for fibroids fourteen had caused symptoms in the menopause—that is, 2.6 per cent. Oedema of the fibroid was the usual cause of post-menopausal symptoms.

The PRESIDENT remarked on the small number of post-menopausal fibroids in Dr. Leith Murray's series. He had seen many cases of fibroids which had caused symptoms after the menopause. Mr. W. GOUGH remembered a case in which a fibroid in the menopause gave rise to symptoms, owing to shrinkage. It had previously rested in the abdomen, and when it shrank it fell into the pelvis, causing retention of urine.

Congenital Absence of Vagina and Cervix.

Dr. LEITH MURRAY also reported a case of congenital absence of the vagina and cervix.

"A girl, aged 15, was sent to hospital with a history of abdominal pain lasting two years. The pain was colicky in character; it occurred every four to five weeks and lasted, on each occasion, about five days. She had a feeling of much weight in the pelvis at those times and frequently vomited. There had been no menstruation. Examination under an anæsthetic showed a vulvar depression, which just admitted the top of the index finger; this was all that could be found to represent a vagina. The vulva and the site of the urethral orifice were normal, and the breasts and pubic hair well developed—the former unusually so for her age. On bimanual rectal examination no thickening such as would suggest a vagina could be found. The uterus appeared to be normal in size and position; the right ovary was readily palpated. At a perineal exploratory operation the pelvic connective tissue between the urethra and the bladder in front and the bowel behind was easily opened by a finger, after incision at the apex of the vulvar depression. The lower pole of the uterus could just be reached, but was not brought down by volsellum lest injury to the bladder or bowel resulted. No suggestion of any vagina was found. The girl was kept in hospital for observation during her next periodic pain. The attack was an obvious colic, associated with abdominal pain, tenderness, and backache; it lasted four days and the patient was then very languid and tired. The uterus was removed, together with the left appendage. The fundus of the uterus was adherent to the bladder and there was a small quantity of black, uncoagulated blood in the pelvis. Both appendages were lightly adherent, particularly around the tubal ostia. It seemed likely that blood had on occasions been regurgitating into the peritoneum. Each ovary appeared normal and neither was enlarged; the uterine body was firm and not appreciably abnormal. On cutting across the broad ligaments, as soon as the uterine arteries had been divided, the uterus was completely released by finger pressure. The lower pole bore no resemblance to a cervix and was uncovered by epithelium. The sudden release of the uterus after section of the broad ligaments was most noticeable and quite unexpected; this may have been due, in some degree, to the preliminary exploration. The length of the uterus was 2½ inches. On opening the cavity about eighteen drops of dark fluid escaped; this was obviously under tension. The cavity thereafter was found to measure 1¼ inches; it ended blindly and the obturating bridge at its lower pole measured three-eighths of an inch. There was no evidence of dilatation of the Fallopian tubes. Sections showed no sign of cervical stroma or endocervix. The endometrium was practically normal throughout except at the lowest level, where a slight tendency towards polypoidal development was evident. The wall of the uterus and the obturating bridge appeared as a normal myometrium.

Dr. Leith Murray had failed to find in the literature any case exactly comparable to this. According to Keibel and Mall the tubar portion of the uterus formed the corpus uteri, and the utero-vaginal canal the cervix and vagina; the development of these two was therefore to some extent independent. It seemed remarkable, however, that the demarcation between the distal three-quarters and the remaining quarter of the whole uterine and vaginal tube should be so complete as was evident in this case.

Mr. STACY said he had reported an almost similar case to the Anatomical Society in 1924.

Adhesive Vulvitis.

Professor DOUGAL read notes of a case of adhesive vulvitis.

The patient was 36 years of age, married ten and a half years, and a nullipara. Menstruation had been normal. Eight years previously, during a severe attack of pneumonia, she began to complain of irritation in the neighbourhood of the vulva, and stated that the "vagina healed up." Intercourse had not been possible since, and recently she had had difficulty in micturition. Six years ago she had been curetted, and the adherent labial folds separated, but she had been no better. On examination the labia minora were found completely glued together in the mid-line, except at a point about the middle of the vulva, where a small opening, one-eighth of an inch in diameter, served for escape of menstrual blood and urine. Under an anæsthetic it had been found possible to separate the adherent folds without difficulty, and during separation a thin layer of desquamated epithelium was partially torn away, and remained stretched across the vulval opening. The area affected consisted of the inner surfaces of the labia minora and the folds about the clitoris. The surfaces were disinfected and separated by a dressing, but in a few days became adherent again, so the vulva was excised and the vaginal orifice well opened up, no labial surfaces being left in contact. Two months afterwards she was quite well, and there was no recurrence. Sections of the skin showed inflammatory changes in the deeper layers, and thickening and keratinization of the squamous-celled layers.

Professor PHILLIPS asked if Professor Dougal thought the infective agent was the pneumococcus. He himself had seen a case of pneumococcal endometritis in pneumonia. Professor DOUGAL agreed that the condition was probably due to the pneumococcus.

Foreign Body in a Pregnant Uterus.

Dr. LACEY reported a case of a foreign body in the pregnant uterus.

The patient, aged 28, with one previous instrumental confinement, had had amenorrhœa for two months. She said she felt a lump in the vagina, and tried to push it back with a crochet hook, which disappeared. She had pain in the lower abdomen the same night. On admission to hospital two days later she had a slight show, and a temperature of 100.6°, pulse 96. The os was closed; the uterus was three and a half to four months in size. She was æ-rayed, and the radiologist reported the presence of a foreign body, presumably in the uterus, and no fœtal parts. On the next day she aborted, her temperature being 101.6° and pulse 108. On the following day there was diffuse abdominal pain; the abdominal wall was tender and rigid, and there was slight distension. On laparotomy there was a small quantity of odourless pus in the abdominal cavity. The crochet hook was protruding through the

posterior wall of the uterus, and was firmly embedded against the sacrum. It was removed with little difficulty. The abdomen was drained, and the patient made an uninterrupted recovery.

The PRESIDENT inquired as to what action should be taken in these cases with regard to reporting them to the police. Dr. LEITH MURRAY said that he had had a case of premature twins in which he suspected criminal abortion. He had been advised to do nothing in the matter unless the patient died. Dr. BRIDE had removed two crochet hooks from the abdomen, one from the right kidney pouch and the other from the pouch of Douglas; in neither of these cases was the patient pregnant, though this was suspected. One of the cases was already in the hands of the police, but, when informed that the patient was not pregnant, they took no further action. Dr. CROFT had had a similar case, and he had removed the foreign body after the abortion.

Cystic Tumours of the Ovaries.

Miss NICHOLSON (Liverpool) described a case of cystic papillary tumours of the ovaries.

The patient, aged 44, married eighteen years, and a nullipara, complained of swelling of feet and legs for four months. She had always had scanty menstruation, and amenorrhoea during the last four months. Both legs and thighs, especially the right, were oedematous. A mass, from which the uterus could not be distinguished, was felt filling the pelvis, and rising as far up as the umbilicus. Laparotomy disclosed a large ovarian cyst filling the pelvis and lower abdomen; the bladder and coils of intestine were densely adherent to it. In freeing a small part of gut the cyst wall ruptured, and about a pint of slightly viscid straw-coloured fluid was evacuated. Multiple papillary growths were seen in this cyst, which was seen to be a loculus of a multilocular cyst. It was deemed impossible to remove the growth, so a small piece was excised for microscopic examination, the cyst wall was sewn up, and the abdomen closed. The patient made a good recovery. Microscopic examination of growth showed a simple papillary arrangement of cells, with marked myxomatous degeneration of the ends of many of the papillae. There was no evidence of malignancy. The patient was having *x*-ray therapy; the oedema had gone, and she was menstruating, but the abdominal tumour was only slightly reduced.

Miss Nicholson said that in her experience it was unusual to meet with such numerous and dense adhesions in cases of ovarian papillary cyst adenomata.

The PRESIDENT agreed that such dense adhesions were rare. He asked if there was any history of previous infection of the ovaries, suggesting that the adhesions might have been present round ovaries attached to the growth. He was doubtful as to the prognosis to give in these cases. He had recently seen a case on which he operated four years ago, in which the peritoneum was studded all over with small growths. The patient had had *x*-ray treatment, and had returned with two small recurrences apparently in the abdominal wall.

Professor DOUGAL recalled a patient on whom he had operated, and from whom Dr. Leith Murray had taken away a papilliferous cyst five years previously. He succeeded with great difficulty in removing another papilliferous cyst and the uterus, with good results.

Miss NICHOLSON said that the growth was apparently quite simple. There was no history of previous infection. She thought that the patient would have died if removal of the tumour had been attempted.

VERSION IN OBSTETRICS.

AT a meeting of the Brighton and Sussex Medico-Chirurgical Society, the President, Dr. E. RIVAZ HUNT, in the chair, Mr. H. F. SEYMOUR read a paper on version in obstetrics, the steps of Potter's method of version being demonstrated by lantern slides.

Mr. Seymour said that there was still a lamentable lack of hospital beds for obstetric cases for the reception of poor women whose homes were unsuitable for the conduct of labour, for the proper instruction of students and midwives, and for research work in this most important branch of preventive medicine. He traced the development of version through the centuries from the time of Soranus, the father of midwifery, and referred to the book of Eucharius Rösslin, published in Worms in 1513, and the lucid description of internal podalic version by Ambroise Paré in 1550. Smellie's work in England was described, and the later developments down to the time of Braxton Hicks, who introduced bipolar version. Dr. Seymour then discussed external version for rectifying a faulty lie before labour had started; bipolar version, a difficult manœuvre but useful in lateral or marginal placenta praevia for bringing down a leg for exercising pressure by means of the half breech; and internal podalic version, with special reference to the technique of Dr. Potter of Buffalo, New York. Mr. Seymour considered that Dr. Potter's system of internal podalic version was a beautiful example of the obstetric art, well worked out and conceived. It had the following advantages over the usual way of performing an internal podalic version: the very careful slow dilatation of the vaginal introitus and vagina; by bringing down both feet, instead of one, there was much better control; the rotation of the child so that each shoulder was delivered, in turn, as an anterior shoulder, saved lacerations of the perineum; leaving the head on the perineum, after the mouth was born, and delivering very slowly also tended to save the perineum. He was unable to agree, however, with Dr. Potter's too frequent use of the manœuvre, and said that it could not be right to deliver all women by version when the os was fully dilated, which would undoubtedly be meddlesome midwifery. He preferred to limit the use of internal podalic version to its positive indications—namely, transverse presentations; prolapse of the cord; in face, brow, and unreduced occipito-posterior presentations, when the head was not entering the pelvic brim well; in lateral or marginal placenta praevia, when it was the best mode of delivering; in cases of moderately contracted flat pelvis, when it was safer for the child than a high forceps delivery; and as a method of rapid delivery where indicated by maternal complications or foetal distress when the cervix was three-quarters dilated, the pelvis normal in size, and the head not engaged. When the head was fixed in the pelvic cavity, due to disproportion between it and the size of the pelvic cavity, it was necessary to deliver the after-coming head by means of forceps, and those designed by Dr. Piper of Philadelphia were recommended. These forceps were extremely long, the cephalic curve was that of a light Tarmier, and the shank was at least twice as long as that of other forceps; there was no shoulder, and the shank was so curved that the handles dropped below the patient's thighs. They rendered extraction very easy and were as useful in breech cases as after a version. Dr. Seymour considered that civilization had tended to make labour more pathological, and he wondered whether the increased athleticism of growing girls would in the future produce in women the male type of pelvis, with its obstetrical disadvantages. He thought that the accoucheur should mitigate suffering as far as possible. Before the os was fully dilated the only possible relief was to administer opiates; Dr. Fairbairn had recently appealed for the extended use of this treatment. Scopolamine-morphine narcosis was useful in some very nervous patients. If it was necessary to give an anaesthetic for the extraction of a tooth, surely it was good practice to alleviate thus the pains of the second stage of labour. Chloroform was the best anaesthetic for midwifery on the whole. There was no harm in gently easing the head over the perineum with the forceps, under anaesthesia, the utmost gentleness being used and the strictest antiseptic technique being employed. Where there was no contra-indication, and the patient was under chloroform, pituitrin would do the work of the forceps. When a woman of 44 or 45 years became pregnant for the first time the advisability of Caesarean section should be carefully considered. In the conduct of midwifery, while there should be no interference with the natural process of labour, yet everything possible should be done to make things easier and more bearable for the patient so long as her risk was not increased.

OSTEOMYELITIS.

AT a meeting of the Section of Surgery of the Royal Academy of Medicine in Ireland on February 18th, the President, Mr. ANDREW FULLERTON, in the chair, Sir WILLIAM WHEELER showed a patient, aged 25, who had been operated on eighteen years previously for osteomyelitis of the lower third of the femur.

Sir William Wheeler said that he had removed the lower third of the femur by dividing it with a Gigli's saw above the disease, and by wrenching away the metaphysis at its

junction with the epiphysis. This operation had been performed before the publication of Sir Harold Stiles's paper on removal of the diaphysis of the long bones. He also showed lantern slides of the portion of bone removed, illustrating the anatomical perfection of the re-formed shaft. The patient had full movements of the knee-joint, and there was three-quarters of an inch shortening. At the time of operation there had been a sinus discharging in the popliteal space. Sir William Wheeler said that Stiles had advocated the operation of subperiosteal excision of the diaphysis, which sometimes included the whole shaft in all the long bones with the exception of the femur, but the present case made it clear that the operation could be performed on the femur with the same success, and that there was no fear of undue shortening. He had reported three cases of resection of the juxta-epiphyseal portion of the femur in 1913. The bone removed in the present case showed admirably the central focus and the osteoplastic periosteitis. The formation of the thin layer of porous bone, coupled with the presence of thickened periosteum, was responsible for the very important clinical sign seen early in these cases—namely, thickening. The pathology of this and allied conditions could be explained on an anatomical basis, and was in consequence simple. Three sets of capillaries met in the metaphysis of bones: (1) the end branches of the nutrient artery (diaphyseal group); (2) branches from the arteries supplying the joint entering the metaphysis (metaphyseal group); and (3) branches from the same source as (2) supplying the epiphysis (epiphyseal group) perforated the cartilage and anastomosed with the diaphyseal and metaphyseal vessels. The circulation through the cancellous spaces of the bone was slow, and this fact, combined with the free capillary anastomosis, made it obvious why the site was favourable for the deposit of a tuberculous embolus. A slight injury, breaking down some of the trabeculae of the cancellous spaces, might determine the onset (by setting free an embolus) of active tuberculosis. Once established, the disease was at first frequently central, and subsequently was carried by the Haversian systems through the compact bone to the periosteum. An osteoplastic periosteitis ensued, and a thin layer of new bone, very porous and delicate, was laid down between the thickened periosteum and compact bone. Finally, as caseation and liquefaction proceeded, an abscess formed in the soft tissues, and was followed by a sinus leading down to diseased bone. Many of the cases were probably of mild staphylococcal origin, and were not tuberculous. Sir William Wheeler thought that Stiles's paper was epoch-making, and had greatly simplified the teaching in connexion with osteomyelitis.

Mr. A. B. MITCHELL said that the restoration of the bone in this case had been remarkable. He thought that all surgeons were afraid of performing this operation on the femur, partly because of Sir Harold Stiles's paper on the subject, and partly because they feared that it would leave the patient with a short leg.

Mr. SETON PRINGLE said that he had seen this patient with Sir William Wheeler, and as a result had performed the operation three times since, and intended to continue its use. It was an operation which should only be employed in selected cases.

The PRESIDENT said that he had only performed this operation once, the patient being a girl with a suppurating sinus, when he had found the bone loose and had pulled it out. She had a severe attack of toxaemia. He thought that when curetting was tried in these cases a toxaemia resulted sometimes which turned the result of the case against the patient.

The Appendix Reflex in Migraine.

Mr. A. B. MITCHELL read a paper on the appendix reflex as a cause of migraine and other troubles. The paper was illustrated by reports of cases, and Mr. Mitchell stated that the condition had been relieved following the removal of the appendix even though this organ was not grossly diseased.

Mr. DENIS KENNEDY thought that some of Mr. Mitchell's cases were attributable to toxaemia. Arbuthnot Lane had said that practically every disease was due to intestinal toxaemia, and that for this condition the whole colon should be removed. Mr. Kennedy thought that most patients who suffered from appendicitis had constipation, and that after appendicectomy the constipation disappeared very rapidly. He believed that the appendix contained enough poison to produce most of the symptoms described by Mr. Mitchell, if it was not emptying itself into the colon as it should; in this type of case its evacuation was certainly imperfect.

Dr. G. E. NESBITT doubted the value of the appendix reflex, and added that if Mr. Mitchell's suggestions were correct, medical practitioners should advocate the advisability of removing the appendix in infancy as a routine measure. He thought that the occurrence of benefit after the operation reported by Mr. Mitchell was *post hoc* rather than *propter hoc*. He agreed that any foci of infection should be dealt with; if the focus was in the appendix this organ should be removed, but unless this was the case he would not perform appendicectomy.

Mr. R. A. STONEY had often encountered patients with obscure complaints, sometimes referred to the abdomen in the form of vague indigestion, and sometimes ascribed to migraine. In these cases at an operation appendix trouble was often found. After its removal improvement ensued in a large proportion of the patients. In such cases he thought that there was little more than *post hoc*, but there were some *propter hoc* cases. In doubtful cases where no other cause could be found, and where, after a careful examination, it was apparent that there were symptoms of trouble in the appendix, such as tenderness or thickening, it was certainly worth while operating and removing the appendix.

Sir WILLIAM WHEELER thought that Mr. Mitchell had made it clear that most of the patients who had come to him had had symptoms (even though remote) of appendicitis; some had had very definite symptoms. It was apparent to him that what Mr. Mitchell wished to emphasize was that in cases where the operation had been performed and the appendix had been found diseased the patient had greatly improved after removal. Mr. Mitchell had, he thought, proved that trouble in the appendix in a certain number of cases accounted for remote disturbances of a reflex or toxaemic nature.

The PRESIDENT regretted that Mr. Mitchell had not extended the scope of his paper, instead of singling out the appendix, since similar symptoms to those described by Mr. Mitchell might be caused by the gall bladder, which, when diseased, gave rise to all sorts of symptoms.

Mr. MITCHELL, in reply, said that he had meant to imply that it was possible for a patient to have a diseased appendix which might become rather easily overdistended, but still would have the power of emptying itself, and by doing so would not produce pain, but might give rise to severe nervous symptoms. This was not the case with all patients. Frequently patients had a movable or floating kidney which did not upset them at all, whereas in other patients this condition produced a curiously neurotic hysterical state. His patients had been under medical treatment for many years, and the reason for their ill health had not been found. In seeking a cause the abdomen should be considered very carefully, since a very large number of cases of chronic headache in women were due to a retroflexed uterus. He did not think that continued toxaemia could cause migraine and similar conditions, which were much more likely to be due to something which occurred suddenly. In cases in which the abdomen was opened, and the stomach was found to be healthy except for a somewhat thickened pylorus, a surgeon would think that the condition was a reflex one; he would look successfully for the cause lower down.

Dilatation of the Sigmoid.

Mr. DENIS KENNEDY showed a specimen of a dilated sigmoid taken from a woman, aged 55, who had been admitted to hospital with a provisional diagnosis of fibroid uterus. At the operation a huge sigmoid was found, with no constriction whatsoever below it. The patient had not suffered much pain, and there was no history of constipation; apart from a feeling of discomfort, she had complained of nothing, but had noticed the lump swelling for about twelve months. Mr. Kennedy had believed at first that he was probably dealing with a big mesenteric cyst.

The PRESIDENT thought this was a case of achylasia of the pelvirectal sphincter. It was possible for a similar condition to arise in the oesophagus and in the pelvic colon. If the pelvirectal sphincter was examined it would be found that its disposition was different from that of other portions of the intestine. It was possible, as pointed out by Hurst, to have achylasia of the pelvirectal sphincter and also achylasia of the anus. It might be possible to cure patients of this condition by stretching the pelvirectal sphincter and to avoid such a big operation as was necessary to take away such a large amount of the patient's intestine as Mr. Kennedy had had to remove. The President related a case in which this had been done with great success.

Mr. A. CHANCE considered the parallelism between achylasia of the oesophagus and ileopathic dilatation of the sigmoid colon due to achylasia of the pelvirectal sphincter of the greatest importance. He had effected cure in a case of achylasia of the oesophagus by digital dilatation of the cardiac end, and it was now well known that these cases yielded successfully to digital or instrumental dilatation. If the parallelism were true there was every hope that by dilatation of the pelvirectal sphincter cases of ileopathic dilatation of the colon, formerly so intractable to treatment, could now be cured.

Mr. C. J. MACAULEY thought the condition was undoubtedly achylasia of the retrosigmoid sphincter; the responsibility of this condition for Hirschsprung's disease had been suggested some years ago by the Mayos. It seemed to him that, although dilatation of the rectal sphincter in a child might be comparatively easy, it would be very difficult in an adult.

Mr. J. H. HAYDEN was at present treating a case of achylasia, and had found the greatest difficulty in dilating the lower end of the oesophagus at the first attempt. The patient obtained some relief after the first dilatation, but was now so ill again that it had been necessary to pass a tube several times during a period of seven or eight weeks. Recently, however, the patient had gained 2 st. in weight.

AT a meeting of the Nottingham Medico-Chirurgical Society, on January 20th, Dr. J. C. BUCKLEY gave his presidential address on the early diagnosis and treatment of syphilis. Dr. Buckley commented on the importance of early diagnosis and treatment of a disease so prevalent and so disabling, since thus the most severe results could be avoided. He laid stress on the necessity for the examination of any suspicious sore for the spirochaete, and gave details as to the technique of the examination by dark-ground illumination, mentioning that this should precede the application of any antiseptic to the sore. By this examination a positive diagnosis could be made before the Wassermann reaction became positive. He dealt briefly with the other tests for syphilis, and then detailed the routine treatment as administered at the Nottingham Venereal Diseases Clinic. The drugs in use were (1) novarsenobillon for intravenous, and (2) bismostal for intramuscular injection. The technique of the intravenous injection was described, and the complications of the treatment were detailed, the chief being local sloughing from faulty injections, dermatitis, and jaundice. In dealing with jaundice, the lecturer mentioned that since the van den Bergh reaction had been extensively used at the Nottingham Venereal Diseases Clinic the incidence of jaundice had been reduced by 50 per cent.

AT a meeting of the Sheffield Medico-Chirurgical Society, on February 24th, Professor ARTHUR HALL gave a lecture on the reflexes which determine and control posture. He defined the function of the low level reflexes, situated between the mid-brain and the medulla, as being the control of certain automatic actions, among which might be classed posture. He dealt first with those reflexes which helped to maintain an animal in a fixed normal position, and which he called "stance reflexes"; he then considered those which enabled an animal to reassume the normal position when this had been upset—the "righting reflexes." By means of a series of models Professor Hall demonstrated the various attitudes and postures which an animal might be made to take up in various experiments, and showed very clearly the effect on the limbs of the varying tonicity of neck muscles. A series of cinematograph films of dogs and other animals was shown, illustrating vividly the actions which were called into play by the "righting reflexes." A particularly interesting film showed the slow rotation of a duck's body through an angle of 180 degrees, during which the animal was seen to keep its head in a fixed position relatively to the horizontal; when a complete revolution had been made the bird suddenly reversed the position of its head, thus bringing it back to the same relative position in space.

JAMES MACKENZIE INSTITUTE.

ON February 22nd Dr. A. ROWAND read a paper on *oxaluria, with special reference to its occurrence in children*. He pointed out that the term "oxaluria" was of very vague significance. It might be applied generally to the presence of calcium oxalate crystals in the urine, or limited to cases in which they occurred in large numbers and persistently; it had been suggested that the term should be used to signify excess of oxalic acid excretion in the urine; and it was applied to conditions of impaired health associated with oxalate crystals in the urine. Oxaluria as a condition with clinical symptoms was first described about the middle of last century. Golding-Bird made an exhaustive study of the subject, and the symptoms he described have been handed down, more or less fully, from textbook to textbook, the majority of the writers having probably repeated the views of their predecessors without independent investigation. Dr. Rowand gave a chronological survey of the opinion expressed in prominent clinical textbooks from the days of Golding-Bird to the present time, showing that the tendency had been to put less and less weight on any possible causal connexion between the oxalates and the general symptoms, and to regard both as having a common origin in some disorder of metabolism. The possible sources of oxalates were various, and therefore it could not be said that the presence of oxalate crystals in the urine indicated one definite error of metabolism. Moreover, there were individual idiosyncrasies. Of two individuals on the same diet one might show a large deposit of oxalates in the urine, while in the urine of the other no oxalates were found, and this might be the case even when substances rich in oxalic acid, such as rhubarb, were being taken. Again, the occurrence of haematuria was apt to be regarded lightly if many oxalate crystals were present in the urine, but probably in a healthy urinary tract irritation by the crystals was unlikely to cause such a serious symptom. All writers laid stress on the danger of the formation of calculi, but this did not solely depend on the amount of calculous material in the urine. Benjamin Moore showed that in the core of a calculus some colloidal substance was present in association with the calcium oxalate. Dr. Rowand did not suggest that the occurrence of oxalate crystals in the urine of children was of greater significance than in the case of adults. But the large number of urines of children who came to the James Mackenzie Institute for periodic observation provided a valuable field for study. The urines were examined at every visit, and as they were voided at the institute it would be possible to determine the extent to which the presence of oxalate crystals in fresh urine was associated with symptoms of impaired health. The investigation had been in progress for about a year. Fourteen per cent. of the urines had shown oxalate crystals as against the 30 to 40 per cent. commonly stated as applicable to urines. This lower percentage might be due to the fact that all the urines were freshly voided, and that a large proportion of the children were in good health. In about 20 per cent. traces of protein had been associated with the oxalates. In a very small number of cases were red blood cells found. There was some ground for believing that not only the number but the nature of the crystals might be of special significance. Refractile particles and minute octahedra would appear to be especially associated with symptoms of disordered metabolism and impaired health. But the investigation had not gone far enough to justify any definite opinion on this matter.

Reviews.

ON MEDICAL CASE-TAKING.

EVERY teacher of medicine requires a framework on which to lay out the rudiments of instruction for those students who are beginning their clinical work. The small volume[1] by Professor KENNEDY represents the framework which he has found useful at Cardiff. At the outset we are struck by the way in which this book differs from most others of the same kind. As a rule these guides to clinical examination partake of the nature of railway time-tables in which the student traces out particular systems of the human body as a prospective traveller traces out his train through the pages of *Bradshaw* to its destination. Professor Kennedy does not provide the student with a guide of this sort; the student is not asked to sit book in hand with one finger following down the page a list of questions and with the other hand recording the patient's answers or his own observations. He would appear to intend his book to be read away from the patient's beside and left at home. It is interesting enough to be so used because it is concerned more with principles than with details. The first two chapters deal mainly with history-taking, and this part is not unduly laboured, as is too often the case in modern teaching, for in practice both patient and student are apt to exhaust themselves at the game of cross-questions and crooked answers. Professor Kennedy realizes that the amount of exact information a sick man can give about his history is severely limited, and he instructs his students to stick to points on which the information of the patient and his family may be expected to deserve attention and prove enlightening.

The kernel of the book is contained in Chapter III. The importance of looking at the outside of the patient before going on to speculate on his inside has rarely been more deftly emphasized. Hippocrates is obviously the inspirer of this chapter, in which his description of the facies of impending death is given verbatim. And so, piecemeal, the student is encouraged to survey the "picture" of his patient before proceeding to the physical examination by palpation, percussion, auscultation, instrumentation, and chemical and biochemical analyses.

In the later sections, where physical examination is described, the author is content with brief rules and possibly inadequate explanations. Still, there are other books to which the student can turn for more detailed accounts of the phenomena he may encounter. A bulkier book might prove far less readable and therefore less instructive. But the explanations of auscultation surely need to be more explicit. Professor Kennedy partly disarms this criticism by saying in his preface that the student is assumed to have acquired some preliminary knowledge of physical signs and laboratory methods before he begins clerking in the wards, but in a book which makes room for details of a chemical test for free hydrochloric acid in vomit some explanation of the exotic terms used in pulmonary auscultation might well be afforded. Speaking of terms and their meaning, we wonder when lividity first began to imply "cyanosis combined with pallor"; there is authority for the meaning "black and blue," but surely not for "white and blue."

However, we feel certain that as an adjunct to the preliminary course which the students receive this thoughtful book will meet with wide appreciation.

It is interesting to contrast with Professor Kennedy's concise remarks on history-taking a book[2] recently written by Dr. JAMES A. CORSCADEN of Columbia University, which is devoted entirely to the subject of taking and recording patients' histories. The first impression the book gives is that undue attention is paid to the patient's own analysis of his or her (the book is mainly gynaecological) disordered feelings. Then there occurs the sentence "the patient must be met on common ground of language and vocabulary," and light dawns. It has to be borne in mind that the official language of the United States is not the native language of large numbers of patients coming under treatment, nor is it by any means invariably that of the doctors. Thus it is not so surprising to find Part II consists of "practically a complete list of terms employed in describing human discomfort together with a list of such circumstances connected with the life of the patient as will aid in the diagnosis and management of his illness."

A book like this brings home clearly how far the difficulties the student encounters when he begins clinical medicine depend upon the use of foreign or archaic words varied by the intervention of a few modern bastards pretending to Greek or Latin parentage. Some will long for a return to the direct speech of the Anglo-Saxon leechdoms.

[1] *Medical Case-taking.* By Alex. Mills Kennedy, M.D.Glas. London: Edward Arnold and Co. 1926. (Cr. 8vo, pp. 148. 5s. net.)

[2] *History Taking and Recording.* By James A. Corscaden, M.D. New York: Paul B. Hoeber, Inc. 1926. (Post 8vo, pp. vii + 78. 1.50 dollars.)

CLASSIFICATION OF CEREBRAL GLIOMAS.

DR. PERCIVAL BAILEY and Professor HARVEY CUSHING have issued an important volume, *A Classification of the Tumors of the Glioma Group on a Histogenetic Basis, with a Correlated Study of Prognosis.*[3] These tumours represent about 40 per cent. of all intracranial neoplasms, and their microscopical appearances differ widely. Further, the results after operative treatment vary remarkably in a manner which has not hitherto been adequately explained. The authors therefore undertook an investigation in order to discover the basis of the structural variations of these tumours and the significance of such variations in relation to the outlook after operative removal; in other words, in relation to the malignancy of the growths. They first addressed themselves to the detailed study of the structure of gliomatous tumours removed at operation or necropsy. They evolved a classification of these tumours based upon their cellular structure in relation to the normal histogenesis of the brain. They identified among the tumours types corresponding to practically every variety of normal brain cell, of which they distinguished twenty types arising at progressive stages in the development of the central nervous system. An account of the histogenesis of the brain, of the staining methods employed, and of the morphology of the normal cellular types is followed by a description of the histological appearances of the tumours, which occupies a large part of the book. The microphotographs which illustrate these sections are profuse and excellent.

The authors then turn to the second part of their investigation. Independently of the histological study a statistical inquiry was undertaken in regard to the total length of life from the date of onset of symptoms in 414 cases classified as glioma in the records covering a period of twenty-two years (1903 to 1924) of the Johns Hopkins and Peter Bent Brigham Hospitals. For various reasons 160 of these cases were rejected, and the remaining 254 were examined by modern histological methods and classified in the manner indicated. The general result of the inquiry showed that the tumours whose cellular structure reproduced the more primitive and less differentiated cells of the developing nervous system were much more malignant than those composed of more highly differentiated cells. Tumours of the latter type may be of extremely slow growth, and, unless their site is such as to cause obstructive hydrocephalus, may remain latent for many years.

The importance of this research in regard not only to prognosis but to the indications and extent of operative treatment is clearly very great.

[3] *A Classification of the Tumours of the Glioma Group on a Histogenetic Basis, with a Correlated Study of Prognosis.* By Percival Bailey and Harvey Cushing. London: J. B. Lippincott Company. 1926. (Med. 8vo, pp. 175; 108 illustrations 21s. net.)

JOHNSTONE'S "MIDWIFERY."

THE fifth edition of Professor R. W. JOHNSTONE'S now well known *Text-Book of Midwifery*[4] fully maintains the reputation it has deservedly acquired. It is compact, clearly written, and its teaching eminently sound and practical.

The reviewer, however, usually feels that he has to play the part of critic, and from this standpoint the impression given by this book is that its lay-out is rather too much on traditional lines. Though our conception of midwifery has been revolutionized in the last generation, this book does not fully express that change. It seems to be the old

[4] *A Text-Book of Midwifery for Students and Practitioners.* By R. W. Johnstone, C.B.E., M.A., M.D., F.R.C.S.E. Fifth edition. Edinburgh Medical Series. London: A and C. Black, Ltd. 1926. (Cr. 8vo, pp. xxviii + 503; 257 illustrations. 15s. net.)

design brought up to date where required by advances in science and practice. The four or five pages on ante-natal supervision, in which the form used at the Edinburgh Maternity Hospital is very properly included, might be enlarged in another edition in order to convey the great place this supervision now takes in practice. To make room the amount of space given to details and illustrations of rare forms of pelvic contraction might perhaps be reduced; one is described as an obstetrical curiosity, "there being only some dozen specimens known." Apart from what is an impression and no more, we have nothing but praise for the amount of matter compressed into the 500 pages of this book. It is full and brimming over.

Of its eight sections, the first four roughly cover the physiological and the other four the pathological side of obstetrics. The illustrations are numerous; they are for the most part line drawings that teach their lesson well, but there are also some excellent photographic reproductions, and one or two beautiful coloured pictures.

TRAINING BOY SCOUTS.

THE efficiency of the admirable organization that sprang from the fertile brain of Baden-Powell must of necessity depend upon the qualities of the scoutmasters, those grown-ups who supervise the activities of the boys and are to them outward and visible standards of what they wish to be in youth and later years. So far the movement has largely depended for the quality of its scoutmasters upon the training these have received at public schools and universities; and it would appear that there has been little or no disappointment in the quality that has been obtained. But since the work that they have to do is in reality a highly special type of educational work, it is logical that there should be provided for them some instruction in the basis of modern educational methods as formulated in recent psychology. Dr. F. W. W. GRIFFIN has done this for the scoutmaster in a little book entitled *The Quest of the Boy*.[5] In it he takes his readers through the whole scheme of psychological training. Beginning with the special senses, and the bearing of these on games and tests, he proceeds, through the consideration of association and mental concentration, to the unconscious self. For the explanation of this conception he gives a rough diagram of a steam lorry, in which the several parts suggest organs of the body, its instinct and its consciousness. Then these instincts are dealt with severally and very faithfully; so also the emotions; and, finally, there are chapters on conscience and conduct and the dawn of manhood.

It is no easy matter to write a book of this sort. It might have been so psychological as to be unintelligible to the ordinary reader. It might have been so "plain spoken" in the matter of certain theories as to be nauseating, and the last book that should be put into the hands of scoutmasters, who are very human. And yet it is a book that needed writing. The psychology of behaviour is too well known and too important to be overlooked in this regard, and it is well that it has been dealt with by one who is a doctor, one with knowledge of men and emotions, one who is in keen sympathy with the boys' movement, and one who takes a high standard. In the introduction we read: "A man who is called to serve the boyhood of his generation must . . . fire his life with the Good, the Beautiful, and the True, so that another may catch the torch from him, and illumine a little more brilliantly the darkness of this troubled world. . . . He must charm to harmlessness the wild beasts of ignoble earthly lusts; he must be a trumpet call to noble thoughts and deeds. . . ." Dr. Griffin has done his work well.

X-RAY DIAGNOSIS.

IN a book entitled *X-Ray Diagnosis*[6] Mr. J. MAGNUS REDDING endeavours to accomplish what others have attempted before—namely, a survey within a short space of all the varying conditions in which a radiographic examination may be of diagnostic assistance. He has succeeded as others have succeeded, and failed where others have failed, for the ground to be covered is so vast that in no textbook of this size is it possible to succeed beyond a certain fairly well defined point. A number of conditions are adequately considered and illustrated; the vast number can be only casually mentioned.

In his preface the author states that he hopes that the book may be useful to post-graduates preparing for the diplomas in radiology. It is to be feared, however, that this kind of book, attempting so much, fails in this respect; it may be of use to the general practitioner and to students, but cannot be considered adequate as a textbook for special examinations. A further criticism may be made as regards the illustrations: in many the great reduction in size from the original negatives means that essential detail is lost; in addition to this, very many show still more loss of detail and quality owing to imperfect reproduction. Recognizing these limitations, however, there is much to be praised in the general arrangement and in the manner of presentation of the subjects. The author has very wisely left out technique and the usual lengthy and useless descriptions of apparatus. A short introductory chapter is followed by one on the normal appearance of bones and joints; this includes ossification and developmental abnormalities. Four chapters on abnormalities of bones and joints follow. To the thorax five chapters are allotted, and to the alimentary tract three. Other conditions each with its own chapter are the accessory nasal sinuses, the central nervous system, the genito-urinary system, and the biliary tract, and the book concludes with an index.

Generally each condition dealt with is given a paragraph of greater or shorter length, the condition described being indicated at the commencement of such a paragraph by larger lettering, which makes it very easy to find the exact thing desired.

THE MEANING OF DISEASE.

DR. WILLIAM A. WHITE, the psychiatrist and neurologist, has written a book on *The Meaning of Disease*.[7] It is described as an inquiry in the field of medical philosophy, and is on the same lines as some of the writings of Dr. F. G. Crookshank, to whom reference is made. Dr. White maintains that as a result of specialism, and the analytical rather than the synthetic method of thought engendered thereby, there is not any adequate theory of disease at the present time; he therefore proceeds to examine some fundamental principles with the object of solving by the synthetic method many problems which have long resisted the analytical method. Health and disease are regarded as relative terms, and as health, like disease, is not a unitary but a relative concept, we may come to speak of healths as of diseases. He follows the late Sir Clifford Allbutt in pointing out that disease is not a fixed morbid entity, but the reaction of the individual to a *noxa*; he defines disease as a failure, more or less complete, in adaptation to external or internal circumstances, and describes the symptoms as the evidence of this contest, and, to a large extent at least, directly or indirectly signs of the way in which the organism is resisting destruction and combating death. He considers that the interpretation of the language of the patient is an important way of gaining knowledge of his unconscious motives, and discusses the difference between functional disorder and organic disease: when function which has not been "structuralized" becomes disordered there is functional disease, and, since this disordered process is reversible, recovery is possible, but the treatment should be, though it often is not, carried out by approach to the psyche. When function has been structuralized and becomes disordered there is gross organic disease, and, as organic lesions are in Dr. White's view irreversible, any recovery is due to a process of readjustment and compensation on the part of the remaining organs or tissues.

This work, with many illustrations from other works on psychology and philosophy, deals with an aspect of medicine which, though difficult, is of interest and of educational value.

[5] *The Quest of the Boy: A Study of the Psychology of Character Training.* By F. W. W. Griffin, M.A., M.D., Assistant County Commissioner (London), Boy Scouts. London: The Faith Press, Ltd. 1927. (Cr. 8vo, pp. xi + 143; 5 figures. 1s. 6d.)

[6] *X-Ray Diagnosis.* By J. Magnus Redding, F.R.C.S. London: Cassell and Co. 1926. (Med. 8vo, pp. xvi + 228; 80 plates. 21s. net.)

[7] *The Meaning of Disease: An Inquiry in the Field of Medical Philosophy.* By William A. White, A.M., M.D. Baltimore: The Williams and Wilkins Company; London: Baillière, Tindall and Cox. 1926. (Cr. 8vo, pp. 220. 13s. 6d. net.)

NOTES ON BOOKS.

IN *Food Values and Recipes for Diabetics*[8] Drs. S. MILLER and F. B. SMITH have compiled a series of tables to assist diabetic patients to maintain accurate control of their diet. The carbohydrate, protein, and fat proportions of various foods and drinks are stated, and suggestions are given for combining the different ingredients in a meal, and for preparing composite dishes.

The second edition of Dr. LEONHARD JORES'S book on the application of anatomical principles to various important diseases[9] is almost double the size of the first, which was published in 1912 and has been out of print for nearly six years. The book consists of an introduction and twelve sections, dealing respectively with disturbances of nutrition and metabolism, endocrinal changes, local circulatory disorders, inflammatory and infectious diseases, diseases due to animal parasites, post-infective conditions and intoxications, the action of foreign bodies, regeneration and healing of wounds, alteration in the form and position of organs, blood vascular disease, tumours, and malformations. An appendix is devoted to chondrodystrophy, osteogenesis imperfecta, and extrauterine pregnancy. The text is accompanied by numerous excellent illustrations, many of them in colour.

The increase in the numbers of the medical profession is again reflected in the *Medical Register*[10] for 1927, which contains 52,614 names as compared with the corrected figure of 51,738 for the previous year, and with 50,035 for 1925. During the past year 2,120 names were added; in 1925 the additions numbered 2,570; and in 1924 (which marked the summit of the exceptional post-war period) there were 2,796 new entries, almost exactly twice the figure for 1914. Of the new names in the present issue 1,059 were registered in England, 527 in Scotland, and 361 in Ireland; 165 were colonial, and 8 foreign. The number removed from the *Register* was 1,159, as compared with 947 and 978 in the two previous years. Of these 1,159 names 828 were removed on evidence of death; 328 were removed because of failure to reply to the inquiries of the Registrar as to cessation of practice or change of address; and 3 were struck off under the disciplinary powers conferred on the General Medical Council by the Medical Act of 1858. As the interest of these official volumes is, for our present purpose, mainly numerical, one further figure may be quoted: the total number of persons registered from the beginning of medical registration in 1858 up to January 1st, 1927, was 100,430.

The *Dentists Register*[11] for 1927, which corresponds in form and arrangement, though not in bulk, with the *Medical Register*, contains 14,395 names, being an increase of 196 over the figure for the previous year. The entries are grouped under the headings "United Kingdom Dentists," "Colonial Dentists," and "Foreign Dentists." A useful feature of the volume is the local list of names appearing in the *Dentists Register*, arranged under the several postal sub-districts of London and under the towns, respectively, of England, Wales and Monmouthshire, the Channel Islands, Isle of Man, Scotland, Northern Ireland, Irish Free State; Europe, Asia, Africa, America, and Australasia; and the Services. During the year under review 380 dentists were registered with qualifications, and 43 under the provisions of the Dentists Act of 1921. Of the total names in the present edition 6,649 (45 per cent.) are registered with medical, surgical, and dental qualifications, and 7,926 (55 per cent.) are registered under the provisions of the Dentists Acts of 1878 and 1921.

The General Medical Council has also issued a volume[12] containing the lists of medical and dental students registered in 1926. Each entry indicates the preliminary examination in arts and pre-registration examination in elementary science passed by the student, the date of registration, and the date and place of commencement of professional study. The medical students registered last year were 1,260, as compared with 1,070 in the previous year; these figures contrast sharply with the unprecedented total—3,420—in 1919. England again heads the list with 577, though on four occasions in the past ten years Scotland has had the largest entries. Registrations of dental students numbered 229, as compared with 191 in 1925.

[8] *Food Values and Recipes for Diabetics.* By S. Miller, M.D., and F. B. Smith, M.D. Second edition. Harrogate: Duchy House. 1927. (Post 8vo, pp. 23. 2s. 6d.)

[9] *Anatomische Grundlagen wichtiger Krankheiten.* Von Dr. Leonhard Jores. Zweite Auflage. Berlin: Julius Springer. 1926. (Sup. roy. 8vo, pp. vii + 525; 365 figures. Paper, R.M.48; bound, R.M.51.)

[10] *The Medical Register.* London: Published for the General Medical Council by Constable and Co., Ltd. 1927. (21s.)

[11] *The Dentists Register, 1927.* London: Published for the Dental Board of the United Kingdom by Constable and Co., Ltd. 1927. (12s.)

[12] *Medical and Dental Students Register, 1926.* London: Published for the General Medical Council by Constable and Co., Ltd. 1927. (7s. 6d.)

Mr. LUDOVICI tells us in his book *Man: An Indictment*[13] that the modern Englishman suffers from overmuch humour, and that this is one of the signs of his degeneracy. Perhaps the attitude of the author towards humour accounts for the boredom we experienced in trying to read his book. Mr. Ludovici has an idea which, with a little more humour and at considerably less length, might have been expounded in an interesting manner. He thinks that modern man, especially the Englishman, is degenerating, and he finds a sign of this degeneracy in the claim for greater power made by women. He marshals an array of arguments to show that the feminists have no right to suggest that the mental capacity of women has increased. For him the apparent dominance of women is to be attributed to the degeneracy of man. We are led through lengthy tirades against the Christian religion, especially puritanism, against the Englishman's shamefacedness about the act of procreation, against miscegenation, and against the neglect of breast feeding. We are advised to consider the eugenic possibilities of in-breeding, and even of incest, and are recommended to study the art of correcting faulty co-ordination of our bodies. Throughout it all we seem to trace the influence of the author of the *Will to Power*. We feel sure that Nietzsche would gladly have lent a hand to help his stumbling disciple on his way.

The British Journal Photographic Almanac[14] for 1927 includes a pictorial supplement, with reproductions of notable photographs taken during the previous year. It is stated that photographs, whether previously exhibited or not, will be welcomed from all countries. The editor, Mr. GEORGE E. BROWN, contributes some practical notes on the use of the reflex camera, with illustrations showing the advantages of this type of camera for various subjects. Mr. T. L. J. Bentley describes the preparation and arrangement of snapshot photographs, with suggestions as to trimming, mounting, and framing. Other articles deal with developing and printing from the standpoint of the dispensing chemist, and the use of chlorobrom papers. The book contains the useful features of previous issues, including an epitome of progress, various tables and formulae, miscellaneous information, and a directory of photographic societies; it will certainly be as popular as its predecessors.

[13] *Man: An Indictment.* By Anthony M. Ludovici. London: Constable and Co., Ltd. 1927. (Demy 8vo, pp. xix + 374. 14s. net.)

[14] *The British Journal Photographic Almanac, 1927.* Edited by George E. Brown, F.I.C., Hon. F.R.P.S. London: H. Greenwood and Co., Ltd. 1927. (5 × 7, pp. 818; illustrated. Paper, 2s.; cloth, 3s.)

PREPARATIONS AND APPLIANCES.

Electric Light Fittings.

THE development of the high efficiency electric glow lamps during recent years has opened up special problems in the use and fitting of these lamps. There is no question of their economy. For a given current their light is greatly superior to any other previous type of electric light. But the intrinsic brilliancy of the lamp—that is, the intensity of the light at its source—renders them dangerous unless they be properly fitted so that the filament is not seen naked by the eye. Exposure to the naked filament seriously interferes with comfort, and actually the visual performance of the eyes is reduced so that the benefit of the new lamp is lost. The lamp must be either so high that it is out of the line of sight, or it must be surrounded with a glass bowl or similar device which, by greatly diffusing the luminous area, diminishes its brightness to a comfortable value. The bowel then becomes the effective source of light, and its large size renders the shadows softer than those given by the bare source. The production of opal bowls for this purpose has been greatly stimulated, and recently the Illumination Research Committee of the Department of Scientific and Industrial Research[1] has investigated and reported on the effect of these fittings, measuring by appropriate means the surface brightness of the bowls. The work was carried out at the National Physical Laboratory. Eighteen different patterns were tested. They are reported to come out well from the tests, since the glass is uniform so that the light is smoothly diffused. There are two main patterns. A bowl, like a pudding basin, suspended by the rim, the lamp being hung within the bowl; in this way the light is reflected upwards to the ceiling, and passes through the opal glass of the bowl. The tests only concern the light that passes through the bowl. The second class of fitting is an enclosing globe, round or squat as may be. The light from this source is mainly that which is directly transmitted through the

[1] *Surface Brightness of Diffusing Glassware for Illumination.* By O. J. W. Grieveson, M.A., B.Sc. London: H.M. Stationery Office, Kingsway, W.C.2. 1926. Price 9d. net.

glass, but there is also internal reflection downwards from the upper covering of glass, and there is a sufficient illumination of the ceiling. The advantage of the closed globe over the open bowl lies in the fact that the globe does not lose efficiency when dust collects upon the upper surface; whereas the bowl, unless frequently cleaned, becomes a dust accumulator. Neither of these points, however, comes into the matter of this test. The conclusion is that the samples submitted for the most part did secure an even and therefore comfortable diffusion of the light. With equal lamp power it would appear from the figures that the closed globe gave a higher surface brilliance possibly because the completeness of the globe allows a thinner glass to be used.

Models of the Labyrinth.

Mr. A. H. CHEATLE, C.B.E., F.R.C.S., and Mr. V. E. NEGUS, M.S., F.R.C.S., have made models for the purposes of investigating labyrinthine diseases and for teaching students. They are double natural size and are made of Wood's fusible metal, which is sufficiently strong for ordinary purposes; the ampullary ends are painted in different colours in order to show them up; it is easy to make reproductions of the semicircular canals and cochlea from one petrous bone, and it is also easy to make models of the labyrinth if accuracy is not desired. But the intention has been to produce a model which would be properly orientated. As previously described (*Proceedings* of the Royal Society of Medicine), the method used was to fix a hollow tube between the internal auditory meati of a dry skull, and to hold this hollow tube in place by means of a rigid frame, which had bars clamped on to the side of the skull in such a way that the lower edge of each bar coincided with the Frankfort plane; that is to say, the upper margin of the bony external auditory meatus and the lowest point of the orbit. Metal was run through the foramen ovale of one side to fill the cochlea and semicircular canals of that side and to pass across the hollow tube to the opposite labyrinth, which was also filled, the hollow tube being rigidly held in place by cement. The next step was to remove the bone and to extract the complete model in one piece. The casting presented considerable technical difficulties, which were overcome by Mr. Shaw, who managed to produce an intact model at the Royal Dental Hospital. Enlargements were then made to double size, not by a modelling machine, as had been hoped, but by free-hand work. The models were made in silver by Mr. Thomas, seal engraver and medallist, who exercised extreme care in getting details accurate and the orientation of the canals perfect. Having secured the enlarged model, it was then necessary to arrange for reproduction in mass. This again caused considerable delay, as it was difficult to find anyone who could undertake the work. Success has been attained, however, by Messrs. Gerrard, furriers and naturalists, who made piece moulds and cast the two labyrinths together in Wood's metal. The original frame was made by Messrs. Mayer and Phelps, and they have made head frames with a pointer to lie parallel with the Frankfort plane in such a way that when the frame is on the head the labyrinth lies in correct orientation in all respects. The patient's head can then be put into any position and the exact relations of each of the canals are seen; rotation and caloric tests can be carried out with the frame in position. It must be remembered that there may be slight variations in the inclinations of the canals in individual skulls. The whole apparatus of enlarged models and head frame, "King's College Hospital" pattern, can be obtained from Messrs. Mayer and Phelps, 59, New Cavendish Street, W.1.

SCIATICA: ITS CAUSE AND TREATMENT.

LECTURE BY PROFESSOR PUTTI.

LAST week Professor VITTORIO PUTTI, director of the Istituto Ortopedico Rizzoli, Bologna, delivered the Lady Jones Memorial Lecture in the University of Liverpool. A large and appreciative audience listened for an hour and a half to an address in fluent English on "New conceptions in the pathogenesis and treatment of sciatica."

After discussing the history of the complaint, Professor Putti passed on to a survey of its prevalence in all classes and its importance as a clinical entity. It was, he said, always a syndrome secondary to some other pathological condition, and after giving the classification he preferred—namely, peripheral and central—he went on to say that his remarks would be confined to what had hitherto been regarded as primary or idiopathic sciatica. He dealt with the recognized signs and symptoms, laying stress on the position adopted by the patient, the loss of ankle-jerks, and Lasègue's sign. This type of sciatica commonly occurred after some slight chill or similar exposure, a point which had some bearing on his conception of the etiology. Professor Putti then briefly described the anatomical relations of the nerves entering into the composition of the great sciatic, emphasizing the large part played by the fourth and fifth lumbar roots. Mention was made of sacralization of the fifth lumbar vertebrae and the part played by this condition in simulating sciatica. Some excellent radiographs were shown of unilateral and bilateral variation. He demonstrated the path traversed by the lumbo-sacral plexus and recalled the work of Sicard in dividing the fibres into the following sections: before leaving the canal, between the canal and the plexus, in the plexus, and after the plexus.

"Neurodocitis."

He then laid stress on that part of the nerve in the intervertebral foramen, and said that he wished to coin a word, "neurodokon," for this part—a word which he applied to any nerve contained in an osseous or fibro-osseous canal, calling inflammation of this part "neurodocitis." By means of instructive diagrams he showed that the relative sizes of the five lumbar intervertebral foramina decreased from above downwards, while their length and the size of their contents increased. He recalled the boundaries of the intervertebral foramina, drawing particular attention to the proximity of the articular processes and facets. By means of a further diagram the arrangement of blood vessels in a plexus around the foramina was well demonstrated, and diagrams taken from actual *x*-ray photographs showed that variations in the plane of the articular facets (from the sagittal to the coronal) would materially affect the "neurodokon." An arthritis of the intervertebral articulations, on account of small osteophytes, oedema of the soft tissues, or congestion of the plexus referred to, would cause pressure on the nerve and consequent pain.

Diagnosis.

Any arthritis calls forth in response a reflex spasm of the surrounding muscles which is protective in nature. This should always be looked for in cases of sciatica, and in some cases was so marked as to give rise to a scoliosis which had been called by various authors "sciatic scoliosis." This might be homolateral, contralateral, or alternating, the explanation being that in the homolateral cases spasm of the muscles of the same side drew the body over, in the contralateral cases muscles of the opposite side contracted to relieve (by opening out) the intervertebral foramina, and that in the alternating cases the arthritic condition was bilateral and the relief of the "neurodokal" pressure was obtained by muscle spasm, first on one side and then on the other. The presence of the arthritis was shown by haziness of the articular surfaces, by increased density of the neighbouring bones, or even by osteophytic outgrowths. Narrowing of the intervertebral foramen could be ascertained by radiography, but for this purpose good prints and stereoscopic views were absolutely essential.

Treatment.

After briefly surveying the methods in general use for the relief of sciatica, Professor Putti indicated the lines along which he worked. These consisted of rest, preferably by immobilization in plaster-of-Paris jackets, followed by active hyperaemia. The jacket must be well made, moulded to fit perfectly, and could at first be worn only for a short period such as thirty minutes, for the patients were intolerant of fixation in one position for any length of time. The splint was usually tolerated for a gradually increasing space of time and eventually worn continuously. At the end of three to six months active hyperaemia of the parts was induced by means of radiant heat, the jacket being reapplied after each session. The whole time of treatment was usually from nine to twelve months. In exceptional cases this proved unsuccessful, and recourse was had to operation, which consisted in the removal of the posterior wall of the intervertebral foramina, usually necessitating the cutting away of laminae and articular processes. One case in particular was recorded. Excellent radiographs before and after operation were shown, and an entirely successful result six months after operation was reported.

Conclusions.

Professor Putti summarized his points as follows:

1. The importance of "neurodocitis."
2. Its recognition by good stereoscopic radiographs.
3. Its treatment by rest and active hyperaemia and occasionally by radical measures.

Nova et Vetera.

MATTHEW BAILLIE'S DIARY OF TRAVEL IN 1788.

A CONTEMPORARY of Arthur Young and John Howard, a successor of Tobias Smollett, and a predecessor of the Dutch Tilanus, Dr. Matthew Baillie went on the grand tour in the spring and summer of 1788. The record of the journey through France, Switzerland, Germany, Flanders, and Holland is contained in a modest diary, and is chiefly a survey of hospitals and anatomical museums and collections. The little volume, resembling a pocket-book, in which the traveller recorded his impressions was handed down in the family of his descendants and had remained unnoticed till it came into the Library of the Royal College of Surgeons in the summer of 1926. That its contents were unknown is hardly to be wondered at, for it is written partly in faded ink and doubtless with the worn quill pens found in primitive foreign inns of the year 1788. Moreover, it is couched in a queer attempt at French, which begins bravely when Baillie leaves Paris to travel eastward, and ends rather lamely as boredom and fatigue assail the traveller. The little MS. was unknown to Matthew Baillie's biographers, James Wardrop and Sir Norman Moore, and was evidently so lightly regarded by the writer himself that he makes no mention of it in his MS. biography, "A Short Memoir of My Life with a view of Furnishing Authentic Materials." Yet he there refers to his travels and says:

"In the course of this short sketch of my life I forgot to mention that in the summer of 1788 I made a short Tour on the Continent, in which I pass'd through part of France, of Switzerland, of Germany, of Flanders and of Holland. Many scenes with which I was delighted in that Tour are still strongly impress'd upon my mind."

Baillie was aged 27 in 1788 and was already well known as a lecturer on anatomy in the Windmill Street school, the use of which for thirty years had been left him by his uncle William Hunter. He published his first paper in the *Philosophical Transactions* in that year, and in 1789 became F.R.S. William Hunter had left him £5,000, and the estate of Long Calderwood, which latter he had of late generously handed over to his famous surviving uncle, John Hunter. He was therefore not too rich, and he gives one the impression in his descriptions of travel of being still a modest beginner, economical, alert, and eager to make the most of his opportunities. Yet he was fully imbued with the Hunterian tradition as to the collecting and preservation of anatomical specimens; he had served also under private teachers and amid private collections. Accordingly he found the carelessly preserved State collections of the Continent, under dilatory conservators, inflated with the kind of academic pomposity then common abroad, in many instances highly unsatisfactory. The hospitals, too, struck him as ill managed—overcrowded and often not too clean. On May 8th, in Paris, he records:

"We went to see the Hôtel Dieu, were through every ward, saw the large vessels for washing the Linnen, saw the Butcher's Shop for supplying the Hospital, the stable for the Cattle, the Kitchen, etc. 1800 lb. of meat consumed there every day in summer, 2000 consumed in Winter. A Row of beds at each wall. 2 rows of bed contiguous to each other in the middle. Now in it above 3000 patients."

Next day he visited the Hôpital St. Louis, an appendage to the Hôtel-Dieu,

"intended for patients having the itch, eruptions, and incurable complaints. Wards high—two, three, and sometimes 4 patients in a bed. Contains above 600 patients."

He had a far higher opinion of La Charité hospital,

"the best by much in Paris—218 Patients in the house—men only —one patient in one bed. Beds at very considerable distance from each other—Roofs rather low—Attended by Monks and Nuns and therefore probably well attended—A commodité between every two beds—Some good pictures in the Wards."

At Bicêtre he noted 250 madmen, and that some of the worst prisoners were sometimes kept in a "dark dungeon." He visited the Ecole Vétérinaire outside Paris and was dissatisfied with the museum.

"Saw some very good diseases of bones and calculi. The coarse injections were pretty good—well varnished—but the muscles most commonly removed so as to give no idea of relative situation. Some few tolerable absorbent preparations of the intestines, spleen, etc. Some preparations of Horses, Bulls, etc., with muscles preserved but not well managed. Some preparations of fetuses with their membranes, monsters, but not well suspended in the bottles—some fish—some stuffed Birds and beasts. Two Halls for preparations—Saw the stables with the Horses under cure. The chief means they employed were Setons and Purges. Saw a Room for dissection, large and airy, but nothing in it at present. Saw the shop for the medicines, etc."

At the Salpêtrière he saw the "*folles.*"

"They were chained to the wall and are expos'd to every sort of weather day and night. When they are not very much affected in their Intellects they are allowed a Bed and are protected from the weather."

On the other hand, the hospital of the *Petits Enfans Trouvés* struck the traveller as "very clean and neat." Above twenty foundlings were "laid at the door each night." Illegitimacy was rampant in Paris during the piping times of the Ancien Régime, and it is a question whether the modern "apache" is not a descendant from the irregular sex relations of that as well as a later epoch. The foundlings observed by Matthew Baillie were under a severe rule. "They rise at half-past 4, breakfast at 6, dine at ten and sup at 5 in the evening, after which they soon go to sleep." Four large hospitals, says our author, are proposed at Paris, and these doubtless were in time built and became the famous institutions where, in the Napoleonic epoch and later, the great surgeons Dupuytren, Larrey, Boyer, Dumeril, and their colleagues performed the operations which were the admiration of Tilanus and his fellow travellers.

Baillie travelled to Lyons in June, passing through a country traversed at much the same time by Arthur Young, who on this his second journey rode his mare 3,700 miles. Young brought back chicory seed from Lyons, and made many of the agricultural and sociological observations by which he is remembered. Baillie also thought it his duty to note crops wherever he went, and in France and across the Rhine records his observation of wheat, hemp, vines, tobacco, potatoes, and scattered trees in an unenclosed country, which puzzled him. In Lyons he visited the Hôtel-Dieu, a superb hospital with its 1,100 iron bedsteads. Each patient had a bed to himself, but there was a lack of visiting physicians and surgeons. A year later John Howard says of this hospital:

"The summer white furniture of the beds was changed into a dirty blue harradeen [a coarse woollen cloth] with useless fringes, well fitted to retain infection. The rooms were nasty and offensive; and two patients in many of the beds, but not one window open; the medical gentlemen here, and also the charitable sisters, being prejudiced against a free circulation of air, as well as against keeping rooms clean by washing them." (*An Account of the Principal Lazarettos in Europe*, etc., 4to, Warrington, 1789.)

Baillie next visits Geneva, passing through scenery which strikes him as being as romantic as that of the Hebrides. His travelling companion, a Dutchman, is the most disagreeable he has ever met, and his driver, an Italian, moves at a foot's pace. He says nothing, however, of the people in the inns, who struck Smollett as so surly towards travellers. Nor, indeed, does he comment, as does Arthur Young, on the eve of the French Revolution, upon the apparent prosperity of the peasants. The Geneva Hospital calls for little notice, but at Lausanne he is struck by the infirmary, which differs, he says, from all those so far visited by him. There are never more than four beds in one room: the insane are in rooms, and there is a department for the care of veuereal patients. At Chamounix he notices two albinos, children of brunette parents. They are a surprise to him, as he does not appear to be familiar with the German writings on the subject of albinism published from 1777 onwards. At Berne he admires the clean orphanage and the fine workhouse. At the hospital he finds eight wooden bedsteads in each room, and there is no apothecary's shop in the house as in most foreign institutions of the kind. Prisoners are well cared for at Berne, which as a whole impresses the traveller by its cleanliness and general culture. At Strasbourg later on he is back on French soil, and here he has much to say, his account comparing interestingly with that of Tilanus. At the school of anatomy he finds a museum with 400 preparations, which include some monsters, snakes, and lizards. The specimens strike him as dirty and ill hung. He mentions the double matrix afterwards seen by Tilanus and commented upon by Eisenmann as early as 1752. Tilanus gives a curious account of what was still a

primitive kind of museum in the early nineteenth century. "The specimens are not placed in show cases," he writes, "but stand on unpainted wooden shelves, and some of the large ones lie loose on the floor." A railing presumably keeps visitors away from this derelict collection. Baillie approves of the orphanage, but finds it overcrowded with beds, of which there are six or seven rows in each ward. The Foundlings' Hospital is similarly overfull. In the huge military hospital he finds 350 patients in two or three rows of beds and in large wards. The latter are dirty, but hot and cold baths are provided, and there is a good laundry with good linen. The town hospital is dirty and overcrowded; he finds as many as seven rows of beds in one room. The beds are of wood and curtainless, and the absence of curtains seems always to distress him. There are three physicians and two surgeons, who are followed by pupils. There is a small madhouse with eighteen beds and a bathroom; this he condemns as very badly arranged and dirty. He is, of course, comparing things as he finds them with John Hunter's museum and arrangements at home and with St. George's.

Tilanus finds that these institutions have expanded in his day. Of the anatomical specimens, which in 1819 are separated from the natural history, he says: "The arrangement and the classifications are much better than at the Ecole de Médecine in Paris." But, like Baillie, he finds the hospitals overcrowded. He, however, praises the University Clinic, which has since the armistice of 1918 grown into one of the largest and finest hospitals in Europe. He differs from Baillie in mentioning several professors, such as Berot and Lobstein, the teachers of Goethe.

In the museum of the school of anatomy at Mannheim the diarist notes that of the 300 preparations many are ill sealed in their bottles. The professor has not the art of sealing, so well practised in the Hunterian museums. On later occasions he makes a like observation. He has little to say of the two hospitals, but notes that soldiers who die there are given to the professor for dissection, etc. At Frankfurt-on-Main he visits a very clean hospital, and another devoted to strangers, which is dirty, crowded, ill built, and devoid of baths and operating theatre. The clean hospital is doubtless the famous Senckenburg Institute, founded by a medical man, and fully described by Tilanus as one of the glories of the town. The diarist fails to examine a medical library which he finds in Frankfurt. At Mayence the Hospital of the Poor is full of patients, paupers, and orphans. The wards are rather dirty, bed linen and napery fine and very clean. The hospital, like others in Germany, is under a superintendent. Baths are lacking. Baillie has little to say of the Brussels and Antwerp hospitals, except that the medicines there are made up by the religious and the wards are a little crowded. In Holland he is loud in praise of the general cleanliness. At Rotterdam he notes the anatomy collection belonging to the Surgical Society. The 500 specimens strike him as being badly suspended and sealed, but the *eau-de-vie* in which they are preserved is clear. The petrified skeleton of a child arrests attention. The hospital is very clean, but there are often two in a bed and the rooms are too small. There are only about 30 patients out of a possible 200. There is a superintendent, and a physician and two surgeons pay daily visits. The Hague delights him as the prettiest town he has ever seen. He finds the anatomical museum at Leyden badly arranged and the jars ill sealed. The cabinet of Albinus contains superb injections, of which there are some 200. In Paris he had already viewed M. Sue's collection of anatomy, where he found "some good coarse injections," but "not a preparation in a bottle in the whole," and other collections, notably that of Madame Binns. The last-named consisted of some sixty specimens in wax modelled by this remarkable woman, who had studied anatomy secretly from her childhood onwards. The King of France bought her collection, and our diarist found many errors in the anatomy.

The trip ended in Amsterdam, where he had not time to view the hospital, but was loud in praise of the vast poorhouse, which is also a penitentiary.

That Matthew Baillie was a man of a sound classical education and considerable culture is well known. It is interesting to note the many but all too short observations on things in general contained in his diary, as these, taken together, afford a good idea of the mind of a cultivated medical man towards the close of the eighteenth century, when the so-called Age of Reason was merging in modern romanticism. In Paris, in May, 1788, nothing foreshadows the French Revolution of the following year. The Bastille is *in statu quo*—"a dark gloomy building with 8 turrets, surrounded by a high wall." The Louvre contains paintings "in extremely bad condition," "many much decayed." "Some statues—these extremely mutilated. Nothing put in proper light to be shown to advantage." On the other hand, the collection of minerals in the "Hôtel des Monnoies" is superb and the lecture room most elegant. The King's library, with its 300,000 volumes, is in excellent order, so also is the botanic garden. At the chapel of the English Benedictines, in "a corner set apart," he views the sepulchre of James II and the death mask in wax "taken as soon as he was dead." The Jacobins afterwards desecrated this Jacobite shrine and drew the King's fine white teeth. A visit is paid to Mr. David, "the first painter in France," and frescoes by Mignard are admired. The Palace of the Prince de Condé is the most superb he has ever seen. At St. Cloud "I saw the Count d'Artois playing at cards with some noblemen." At Versailles he sees the Cordon Bleu procession—

> "Nobles with black Cloak and Gold with blue sash all in chapel at 12 o'clock. King there—Queen in Gallery above—High Mass perform'd—Queen and King din'd afterwards [in public]—Gold Plates, etc."

The gardens of Versailles he finds very beautiful with their many "jetteaus" and orange trees. In the menagerie the "hyaina" and rhinoceros are the most remarkable wild beasts, and the buildings are extremely good. At the Jardin du Roi he is tickled at seeing a statue of Buffon "at the turn of the stair" in the Cabinet of Natural History with "animals, fossils, etc., lying at his feet," and the proud motto "Majestati Naturae par ingenium." This statue must have been known to Buffon twenty years before his death. He attends a meeting of the Académie des Sciences, and hears an abbé read a paper on the strata of the Pyrenees, illustrated by a piece of rock. A learned member called it "schorl, which rather abash'd the Abbé."

Outside Paris the traveller views everything somewhat from the eighteenth century point of view. He has little eye for scenery, though he commends the glaciers at Chamounix and "the shepherdesses." On the Rhine also he admires the customary views near Coblentz. Gothic architecture is admired as such, but he prefers "neat, elegant" classical buildings. However, he admits that Strasbourg Cathedral is the most superb ever seen by him. In Flanders and Holland he mentions very few painters save Rubens. At the Hague and Haarlem Franz Hals and Vermeer, and also the "Anatomy Lesson" of Rembrandt, seem as yet unknown, for he makes no mention of them. Among picture galleries he gives the palm to the collection of the Elector at Mannheim, though the Palais Royale in Paris ranks high in his estimation.

V. G. P.

ROYAL MEDICAL BENEVOLENT FUND.

AT the last meeting of the Committee thirty-eight cases were considered, and £746 10s. voted to thirty-six applicants. The following is a summary of some of the cases relieved.

L.R.C.P. and S., aged 63, has, through illness, been unable to act as locumtenent and is now in hospital. To meet his expenses an emergency grant of £5 was sent, and a further sum of £40 voted.

M.R.C.S.Eng., aged 57, worked as an assistant until December last, when he was taken ill and is now in a nursing home. Only assets £120 capital and about £50 worth of furniture. The Fund sent 10 guineas and voted a further £40 payable in six instalments.

Widow, aged 67, of M.R.C.S.Eng. who died in 1914. Through failure of investments and the loss of a son who contributed to her support, she has taken a post as housekeeper at £60 a year. During the last two years she has broken her arm, and twice broken her ankle. She has £62 from two pensions, but debts of £20. She was voted £10.

Daughter, aged 40, of M.B.Aberd. who died in 1905. Supported herself as a clerk until 1925, when she had a serious breakdown, and is entirely dependent on her sister, who is a bank clerk. £10 was voted.

Daughter, aged 60, of M.R.C.S.Eng. who died in 1913. Owing to her age she has great difficulty in finding employment as a dispenser, and last year only made £82. From investments she received £24. Board and lodging cost her £80. She was voted £12 in twelve instalments.

Subscriptions may be sent to the Honorary Treasurer, Sir Charters Symonds, at 11, Chandos Street, Cavendish Square, London, W.1.

THE SCHOOL OF PATHOLOGY AT OXFORD.

OPENING OF THE SIR WILLIAM DUNN LABORATORIES.

WHEN Convocation resolved to set aside nine acres of the University Parks for the extension of the science departments of the University, nearly a third of the site was allotted to the School of Pathology. Upon this piece of land, bordering the north side of South Parks Road and within 200 yards of the Natural Science Museum, the new pathological block has arisen in leisurely fashion during the past three years. Its position is shown in the sketch map on the next page. The money for building and equipment has been provided by the directors of the Commercial Union Assurance Company, acting in their capacity as trustees for the late Sir William Dunn, who, with far-sighted wisdom, left the bulk of his large estate to be applied to benevolent purposes in such manner as they deemed fit. The trustees, after full consideration by a small committee, decided to allocate two sums—one for the establishment of a biochemical institute in the University of Cambridge, and another for a pathological institute in the University of Oxford.

The New Building.

The Sir William Dunn School of Pathology at Oxford, which with its contents has cost not far short of £100,000, is under the direction of Professor Georges Dreyer, M.D., F.R.S., who has held the chair of pathology in the University since 1907. The architect is Mr. Edward Warren, brother of the President of Magdalen, who has succeeded admirably in reconciling the claims of art and the workaday needs of medical science. His design has produced a handsome building of red brick faced with stone, simple and well proportioned outside and in.

The main block consists of three floors, each with a long corridor running east and west of the central flights of stairs to the expanded wings at the ends. All the rooms, and the staircases and upper corridors as well, are excellently lit, with pleasant views over the Parks from many of the windows. The west wing, with large classrooms and library and museum, is for teaching, and the east wing for research; the basement comprises workshops, cold-rooms, sterilizers, store-rooms, mechanical plant, and so forth, all fitted with the latest appliances, and a low-pressure chamber that has an interesting war record. An airy outbuilding of two stories at the back of the grounds, connected with the main block by a covered way, provides good housing for animals—and for the boiler. The general appearance of the main frontage and east wing can be judged from the illustration; a corner of the animal house is seen on the right.

The old Pathological Laboratory in the University Museum (which has lately been refitted, at the cost of the Dunn Trust, to house the Pharmacological Department) was inadequate in many respects. The new building gives ample accommodation for twice as many students and research workers, with every advantage and amenity that modern equipment can provide.



[Photograph by] MAIN ENTRANCE AND EAST WING. [James Soame, Oxford.

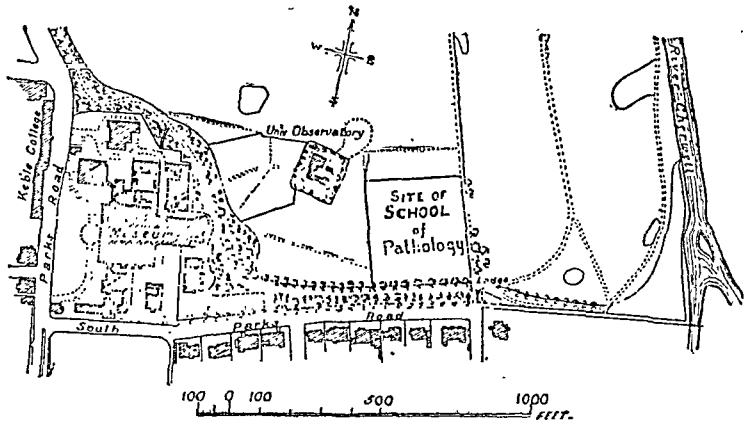
The Opening Ceremony.

The opening ceremony took place on the afternoon of Friday, March 11th, in the presence of a distinguished company. Owing to attacks of influenza the Chancellor of the University (Viscount Cave, Lord Chancellor of England) and the senior member of the Dunn Trustees (Sir Jeremiah Colman, Bt.) were unable to attend, and Mr. Charles D. Seligman formally handed over the building to the Vice-Chancellor, Dr. F. W. Pember, Warden of All Souls, who accepted it on behalf of the University. The visitors were received in the lecture theatre by Professor Dreyer. The Vice-Chancellor attended in state, and beside him on the dais were Mr. Seligman and his co-trustees, the Hon. A. H. Holland-Hibbert and Sir James Leigh-Wood. A large number of Heads of Houses and other senior members of the University attended, including Sir Archibald Garrod (Regius Professor of Medicine), Sir Charles Sherrington, Professors Arthur Thomson, J. A. Gunn, and R. A. Peters, Sir Frederick Keeble, Professor E. B. Poulton, Dr. William Collier, Mr. R. H. A. Whitelocke, Dr. A. G. Gibson, and Dr. E. W. Ainley Walker (Dean of the School of Medicine). Among the visitors to Oxford were Sir Humphry Rolleston (Regius Professor of Physic at Cambridge), Sir Frederick Andrewes, Sir Frederick Gowland Hopkins (Sir William Dunn Professor of Biochemistry at Cambridge), Sir Walter Fletcher (Secretary of the Medical Research Council), Professor C. J. Martin (director of the Lister Institute), Professor J. S. C. Douglas (Sheffield), and Dr. Andrew Balfour (director of the London School of Hygiene and Tropical Medicine). Professors Moellgaard (Copenhagen) and Holst (Oslo) represented the Scandinavian Universities, and continuity with three former Regius Professors of Medicine at Oxford—Acland, Burdon-Sanderson, and Osler—was made by the presence of Dr. T. D. Acland, Professor J. S. Haldane, and Lady Osler. A large proportion of the company were in academic dress, and doctors of the University wore scarlet.

MR. SELIGMAN, in formally presenting the building to the University, expressed the general regret at the absence of the Chancellor and of the senior trustee, who had entered so fully into the project from the beginning. He then briefly recalled the history of the Dunn bequest, noting the wide discretion given by the testator to his trustees, and acknowledging the guidance given them by Sir Walter Fletcher. In approaching their task the trustees felt strongly that it was far better in the interest of mankind to get at the root causes of disease than to attack it when manifest. Hence their allocation of part of the funds at their disposal for the purpose of medical research and teaching, and for that there could be no better place than one or other of the great seats of learning. Mr.

Seligman ended his interesting and well informed speech by remarking that just as Sir William Dunn's Trustees had endowed a school of biochemistry at Cambridge and a school of pathology at Oxford, so the Rockefeller Trustees, with a fine feeling for symmetry, had endowed a school of biochemistry at Oxford and a school of pathology at Cambridge.

The VICE-CHANCELLOR, in accepting the munificent gift of the Dunn Trustees, recorded the gratitude and admiration of the University of Oxford for their wise and prescient stewardship. Sir William Dunn, he liked to recall, was an alderman of the Ward of Cheap in the City of London, and his posthumous gifts brought to mind the splendid endowments of Tudor days and of the seventeenth century. The compassion and breadth of mind of the testator were shown by his direction that a large part of his estate should go towards the alleviation of human suffering. To ensure the legality of using some of this money for medical research and education, his Trustees had prudently sought the sanction of the Court of Chancery. The University, too, might take some credit for granting so fine a site for the new School. Dr. Pember then briefly outlined recent developments in the study of pathology and bacteriology at Oxford. The first large step was taken by Sir Henry Acland, and a great impetus was given by his successor, Sir John Burdon-Sanderson. This new building, admirably designed and equipped, would give to those who worked in it the best modern facilities for teaching and research. In conclusion, the Vice-Chancellor, speaking on behalf of all present, paid a warm tribute to Professor Dreyer, who, during the twenty years of his work in Oxford, with straitened accommodation and equipment, but unwearying in resource and ingenuity, had inspired everyone around him with his own cheerful enthusiasm.



SKETCH MAP SHOWING SITE OF THE SCHOOL OF PATHOLOGY, OXFORD.

After the ceremony visitors took tea in the large laboratory above the lecture theatre, and had an opportunity of inspecting the institute and its annexe. All were agreed that its establishment will prove a great gain to the Oxford Medical School as a centre of teaching and investigation.

PATENTED RESEARCH.

IN our last issue we referred in general terms to the practice of patenting research, the subject having been suggested by the Drs. Dick patent. It would appear from the patent specification lodged in this country that an application for a patent was made in the United States on November 28th, 1924. We understand that under the International Convention an applicant for a patent in one country has a period of priority so that he can make similar application for a patent in other countries which are parties to the Convention. An application was lodged in the United Kingdom on August 31st, 1925, but this may have been a provisional specification. The "complete specification" (No. 243675) was accepted here on December 31st, 1926. "Accepted," so we understand, means that the Patent Office accepts the complete specification as fulfilling the rules and constituting a prima facie claim. The specification is published in the *Patent Journal*, and if no opposition is lodged within two months the patent is granted. In this case the period expired on March 12th, and so far as we are aware no opposition has been lodged. The matter is one of considerable importance, and doubtless the specification, which has, we presume, been accepted by the Patent Office, will be studied by all who are engaged in serological work. We set out below in full the eight claims made in the complete specification. The patent is taken out in the names of Dr. George Dick and his wife, Dr. Gladys Dick. The specification, in the first place, describes their methods of preparing the scarlatinal toxin, of identifying the specific streptococcus, of applying the skin test, and of preparing the antitoxin; and, secondly, enumerates the claims made under the patent. The latter are as follows:

1. The process of isolating hemolytic streptococci specific to scarlet fever, growing them in a suitable medium, obtaining the sterile toxin therefrom, injecting an animal with the sterile toxin and obtaining an antitoxin specific to scarlet fever.

2. The process claimed in Claim 1, wherein the said antitoxin is contained in a serum which is obtained from the said animal.

3. The process for the identification and standardization of an antitoxin which consists in isolating hemolytic streptococci specific to scarlet fever, growing them in a suitable medium, obtaining the sterile toxin therefrom, injecting an animal with the sterile toxin, obtaining an antitoxin specific to scarlet fever, and injecting the antitoxin into or through the skin of a human being.

4. An antitoxin specific to scarlet fever when obtained from the blood of an animal which has been injected with sterile toxin specific to scarlet fever.

5. An antitoxin specific to scarlet fever when obtained by the process claimed in Claims 1 or 2.

6. The process of isolating hemolytic streptococci specific to scarlet fever, growing them in a suitable medium and obtaining a sterile toxin therefrom.

7. The process for the identification and standardization of a toxin which consists in isolating hemolytic streptococci specific to scarlet fever, growing them in a suitable medium, obtaining a sterile toxin therefrom and injecting the toxin into or through the skin of a human being.

8. A sterile toxin specific to scarlet fever when prepared by the process set forth in any of the preceding claims.

The essence of the patent seems to be in the method of discriminating the scarlatinal streptococcus from other streptococci. This is done by means of a skin test analogous to the Schick test in diphtheria. Claim 6 prohibits everyone from isolating scarlatinal streptococci by this means. The other claims rest on this one; the toxin, antitoxin, and serum mentioned in the specification refer to such as have been obtained by the streptococcus so identified. Taking the claims altogether they practically amount to this: that the streptococcus identified in this manner is neither to be isolated nor made use of in any way whatever; and further (Claims 4, 5, and 8), that toxin and antitoxin are to be obtainable from the patentees alone. The patent may conceivably remain a dead letter; it would not be the first time that such a thing has occurred. But, assuming that it will be acted on, it cannot be otherwise regarded than as a serious hindrance to research, and it will be interesting to hear from the Drs. Dick why they have adopted this particular line of policy. Serological research has always been free from trammels of all kinds, and its phenomenal fruitfulness has been partly due to that fact. The claim of the Drs. Dick rests on a whole series of unpatented discoveries in the past, and is merely a natural, and probably an inevitable, sequel to them. They are making a break in one of the traditions of the medical profession for reasons which, we confess, appear to us obscure.

British Medical Journal.

SATURDAY, MARCH 19TH, 1927.

INFLUENZA AND THE HEART.

THE history of every epidemic of influenza shows that it invariably leaves in its wake a trail of victims who for a longer or shorter period after the main illness has passed away fail to recover their normal powers in one direction or another. A low blood pressure, a subnormal temperature, an excessive lassitude, are part of a chain of symptoms that incapacitate the sufferer for weeks or months; as Sir William Gowers put it, they suffer from an inertia so intense that every action may require for its initiation an effort of will that is almost painful, and its accomplishment results in undue fatigue and (it may be) even in collapse. In the mind of many this "good-for-nothingness" is ascribed to some deficiency in the action of the heart; and in the more tragic cases of sudden death, which always attract special attention when an epidemic stalks the land, the blame is often laid at the door of the prevailing scourge; the parson dies in the pulpit, the cook falls dead in the kitchen, and some unknown effect of influenza on the heart is adduced as an explanation of an otherwise inexplicable event.

The cases of simple bradycardia, which are by no means uncommon, and the rarer cases of heart-block of varying severity, can be shown, as Cockayne[1] pointed out, to give the typical electro-cardiographic response due to involvement of the myocardium and conducting tissues; but these account for only a small proportion of those cases in which, from a variety of symptoms, suspicion falls upon the heart. Exact information as to what damage influenza actually does to the heart is difficult to obtain; a considerable number of pathological investigations have been made on the condition of the heart in patients dying in the acute stages, and the evidence is somewhat conflicting. Sir James Mackenzie,[2] writing after the 1918 epidemic, stated that *post-mortem* examination revealed the extensive damage done to the myocardium, and suggested that influenza might lay the beginnings of a myocarditis which would ultimately end in heart failure; but, curiously enough, he had to admit that in a very considerable clinical practice he had not seen this occur, and he gave it as his opinion that the post-influenzal debility so commonly seen was not cardiac in origin. Dr. T. H. G. Shore,[3] in a report to the Medical Research Council, published some observations made during an outbreak among the troops in 1918, and has confirmed them during the recent epidemic. He found that there very frequently is a widespread hyaline degeneration of both skeletal and cardiac muscle, and to this he attributes the low blood pressure which he suggests is one of the important and characteristic features of the disease. Lucke, Wright, and Kime[4] also found acute parenchymatous changes in the myocardium in a large proportion of cases in a series investigated in America, in 90 per cent. of which there was dilatation of the right side of the heart. On the other hand, most observers in Germany and others in this country appear to have detected no exceptional change in the heart; a few cases, indeed, in most series have shown some form of myocardial degeneration of various forms, but on the whole there has been nothing in this respect to mark out influenza from other acute infective conditions where—as in typhoid fever, for example—a hyaline degeneration of muscle is of no particular rarity. These discrepancies may perhaps be accounted for in part by the fact that muscle tissue is queer stuff in the peculiar changes it may undergo according to the manner of death and of fixation, and different interpretations may well be placed by different observers on the varying changes found, whether they be gross or microscopical. Moreover, it may well be that many a case which has been passed as normal from its gross appearance would have shown some histological change.

There is, however, a very considerable body of opinion which looks upon the general debility, the low blood pressure, and the subnormal temperature of the post-influenzal state as symptoms of a derangement of the vasomotor mechanism, and as in no way dependent on a primary cardiac defect. In this connexion it is interesting to recall the work of Stoerk and Epstein[5] in Vienna in 1919. These observers examined the arteries in a series of cases dying of acute influenza; they limited their study to patients between the ages of 13 and 23 dying between the eighth and fourteenth day of the disease, so as to avoid as far as possible the inclusion of vessels that might have been damaged by other factors. As a result they found widespread degeneration of the internal peripheral vessels, with destruction of the muscle of the media; elastic layer and necrosis of the muscle of the body irregularly, but it was especially noticeable in the coronary this degeneration was scattered about the body irregularly, but it was especially noticeable in the coronary arteries; they particularly stated, however, that the cardiac muscle itself was not affected. Although they did not suggest that these lesions were specific for influenza—indeed, they pointed out the general agreement of their findings with those of Wiesel in other acute infections—yet they thought from their experience that the changes were more constantly present in influenza, and suggested that they did provide a pathological basis for the clinical symptoms of circulatory failure.

Whatever the future may reveal as to the underlying pathology, it is pretty clear that low systolic blood pressure is a very definite phenomenon both in the acute and in the post-influenzal condition. This may be due in the main to a primary cardiac lesion, but it is possible that the toxin in influenza may also have some deleterious action on the suprarenal bodies. Several workers have made investigations on this point, and Cowie and Beaven,[6] although unable to demonstrate any definite histological damage to the suprarenals, thought they found distinct evidence of "hypofunction"; but the advantage that has been claimed for treatment with adrenaline and other similar methods has received no great measure of confirmation. Treatment by drugs directed especially towards the heart has by general agreement proved conspicuously unfruitful, but attention given to the blood pressure and care to insist upon rest until it has reached a normal level may well save many patients from a series of distressing symptoms, and some from disaster.

[1] *Quart. Journ. Med.*, vol. 12, p. 409.
[2] *Practitioner*, 1919, p. 19.
[3] *Lancet*, 1927, i, p. 252.
[4] *Arch. Int. Med.*, 1919, vol. 24, p. 154.
[5] *Frank. Zeit. f. Path.*, 1920, vol. 23, p. 153.
[6] *Arch. Int. Med.*, 1919, vol. 24, p. 78.

ALCOHOL AND LONGEVITY.

ALTHOUGH no problem—the problems of religious belief and practice not excepted—gives rise to more bitter controversy than that of the use of alcoholic beverages, the amount of ground common to the holders of even extreme opinions on either side is really large. No educated man in the one camp doubts that alcohol taken in large doses at frequent intervals is a dangerous poison; in the other, the sternest supporter of total and lifelong abstinence from every form of alcoholic beverage does not believe that the taking of minute quantities of the drug at long intervals works irreparable harm. Similarly, although precisians of both parties may split verbal hairs, nobody seriously contends that alcohol is a "food" in the common-sense way that bread is a food, or that it is a "stimulant" in the sense that tea is a stimulant. The real controversy is on another plane. A prohibitionist might easily concede that a moderate use of wine does in fact add to the joy of life of thousands of good citizens, and yet maintain that the price to be paid in terms of social evil is too heavy to be borne. An antiprohibitionist might contend that, although for every pleasure of alcohol there is an adequate substitute, yet any attempt to suppress a usage older than civilized man would inevitably create more evil than it averted. In truth there are perhaps among educated men of to-day none who would either prohibit the use of alcohol in all circumstances or would free its use of any restrictions. All admit the need of some restriction; it is a delicate question of degree and method. To the solution of this problem Dr. Raymond Pearl, in a recent essay on alcohol and longevity,[1] neither makes nor affects to make any contribution. He is concerned with two questions — namely, our objective knowledge of (1) the racial or hereditary effect of alcohol, and (2) the effect of alcohol upon the average duration of life of individuals. His chief new contribution to the study of the former problem is a systematic confrontation of his own experimental results upon fowls with those of Stockard upon guinea-pigs and of MacDowell upon rats, while the second problem is elucidated by an analysis of statistics of human families collected in Baltimore (a preliminary account of which appeared in our columns on May 31st, 1924).

With regard to the former problem, the principal results are that the immediate effect of alcoholizing parents is to increase pre-natal and neo-natal mortality. It appears, further, that, in guinea-pigs, the average offspring of treated animals are inferior in weight to controls (in rats the controls were inferior), and still show, in breeding, a higher rate of pre-natal or neo-natal mortality. But these disadvantages decrease until in the F4 generation of descendants from alcoholized animals we have an equality in weight and a definite superiority in pre-natal and neo-natal mortality. Dr. Pearl concludes that "the *racial* effect of alcohol is preponderantly either beneficial or, at the worst, not harmful. This is true for characters depending upon general vigour in guinea-pigs (after early generations are passed), fowls, rats, mice, rabbits, insects, and probably frogs." This seems to put the case rather too high. All that Stockard claims, if we understand his argument rightly, is that if a generation of parents be submitted to the action of alcohol and the descendants not exposed to alcohol, then, ultimately, in the fourth generation, we shall have a population superior to the ancestors, inferior variants having been weeded out by the selective action of the drug. It is certainly not proved that if *each* generation were exposed to alcohol we should ultimately produce a better living population. The directly deleterious effect of the drug on each living generation might more than counterbalance the effect of elimination of inferior variants.

Dr. Pearl's contribution to the second problem—namely, the effect of alcohol upon average longevity—is based upon a study of 5,248 individuals derived from the families of (*a*) tuberculous persons, (*b*) non-tuberculous persons taken at random from those who had been before a juvenile court for some trivial offence or registered in the out-patient department of the Johns Hopkins Hospital. This material is very carefully analysed by the appropriate actuarial methods, attention being paid to nature of habits in use of alcohol (whether abstainer, occasional moderate drinker, steady moderate drinker, heavy occasional drinker, heavy steady drinker), civil state, change of habits during life, and so on. It appears that, however analysed, the heavy drinkers showed a disadvantage in comparison with the abstainers, and the moderate drinkers either an equality with or even some advantage over the abstainers. It is quite clear that the material is not, statistically speaking, a random sample of the population, but it also appears that the nature of the selection is not such as to produce a bias in favour of those using alcohol. Hence there seems to be no reason to dissent from the conclusion that, on the average, a moderate use of alcohol does not tend to shorten life. We must, however, demur from Dr. Pearl's phrasing when he writes that "it [that is, this evidence] certainly gives no support to the almost universal belief that alcohol always shortens life, even in moderate quantities." We should have said that such a belief was far indeed from being universal.

In addition to the important new data we have mentioned, Dr. Pearl provides a critical analysis of earlier researches and a useful bibliography. It is very hard to write on any phase of the alcohol problem without ever departing from the objectivity of a man of science, and there are some passages in this book which we could have wished away. But, taken as a whole, it is, we think, a valuable contribution to knowledge, worthy of its author's high reputation, and written with the clarity and grace that always characterize his work.

[1] *Alcohol and Longevity.* By Raymond Pearl. New York and London: A. Knopf. 1926. (Extra post 8vo, pp. xii + 273; 19 figures. 15s. net.)

THE LISTER CENTENARY IN GLASGOW.

GLASGOW, as the cradle of that antiseptic method which abolished hospital gangrene from surgical wards and made the surgery of the cranium, thorax, and abdomen possible, may fitly at this time honour the hundredth anniversary of the birth of the distinguished man whose work in her midst led up to these great developments and heralded the new surgical era. In 1860 Mr. Joseph Lister, an Englishman, who had been house-surgeon under Professor Syme in Edinburgh, was appointed to the chair of surgery in the University of Glasgow. Soon afterwards his colleague the professor of chemistry directed his attention to Pasteur's studies in fermentation and kindred topics. Seizing the principles of these researches, Lister set to work to apply them to the exclusion of germs from surgical wounds. In the wards of the Glasgow Royal Infirmary he initiated antiseptic treatment, using various devices to make it effective. In 1867 he published papers setting forth the record of two years' practice of the new surgery. By 1869,

when he returned to Edinburgh to be professor of surgery there, the foundations of antisepsis had been securely laid. The Lord Lister centenary celebrations in Glasgow will, as mentioned briefly in our last issue, take place on April 1st next. The Lord Provost and magistrates of the city, and representatives of the University of Glasgow, the Royal Faculty of Physicians and Surgeons of Glasgow, and other public and scientific bodies, including the British Medical Association, will assemble in the Royal Infirmary at 10.45 a.m., and walk in procession to the Cathedral close by, in which, at 11.15, a public commemorative service will be conducted by the Rev. Lauchlan MacLean Watt, D.D., Minister of Glasgow, who will preach the sermon. At 1 p.m. the Lord Provost and Corporation of Glasgow will entertain the representatives of the public bodies and scientific societies to luncheon. The illustrious memory of Lord Lister will be proposed at the luncheon by Sir John Bland-Sutton, Bt., ex-President of the Royal College of Surgeons of England. The guests at the luncheon will include Professor Irvine H. Cameron, representing the Royal Society of Canada; Dr. D. Colquhoun, representing the University of New Zealand; and Professor do Quervain of Lausanne. Thereafter the representatives of the various bodies who intend paying homage to Lord Lister's memory will proceed to his statue in the Kelvingrove Park, in front of the high tower of his old University, though not the building he knew, and place their floral tributes at the base of the statue. In the evening at 8.30 the University of Glasgow will hold a reception. The guests will be welcomed by the Principal, Sir Donald MacAlister, Bt., K.C.B., and short addresses will be delivered by Sir Hector C. Cameron, C.B.E., who, as Lister's house-surgeon at the Glasgow Royal Infirmary in 1857, was an eye-witness of these things, Sir George T. Beatson, K.C.B., Emeritus Professor Murdoch Cameron, M.D., and Professor Irving H. Cameron. The bodies participating in the conduct of these celebrations will be the Corporation of Glasgow, the University of Glasgow, and the Royal Faculty of Physicians and Surgeons of Glasgow, which have joined together to commemorate one whose signal achievements have reflected distinction upon the city which cradled his pioneer work.

INDUSTRIAL PSYCHOLOGY.

THE National Institute of Industrial Psychology has just issued its annual report for the year 1926. It covers the sixth year of the activities of the Institute, and discloses a remarkable work done over an extensive field, and a happily increasing appreciation of the practical usefulness and widening promise of such work. The names of the presidents, Viscount Haldane and Sir Charles Sherrington; president of the Institute, the Earl of Balfour; of its vice- of its director, Dr. Charles S. Myers; the list of its council, composed of many of those most eminent in medicine, in science, in industry, in commerce, and in education, are sufficient guarantee of the genuine character and the national importance and scope of its investigations and services. Not so very long ago there was a tendency in some quarters to be sceptical with regard to this. There is no excuse for such scepticism to-day, when even the United States of America, with all its "scientific manage- ment" of industry, is enlisting the services of this British National Institute to correct or replace its own cruder methods. The activities of the Institute may be described as threefold—concerning vocational aptitude, vocational methods, and vocational surroundings. Remarkably suc- cessful results have been obtained, both psychological and economic. It can never be easy to ensure that the right person is doing his appropriate work by the most suitable methods in the best surroundings, but commercial and industrial firms are showing a welcome tendency to seek the services of the Institute in connexion with their enter- prises, and there is scarcely an instance in which the financial return and the output and comfort of the workers have not all been greatly improved as the result of applying the suggestions made and the advice given. The present report records such results in concerns so varied as factories of various kinds, spinning and woollen mills, quarries, oil refining, rubber works, gas works, printing works, motor-car construction, omnibus building, laundries, hotels, retail stores, banks, and offices. The point of view of the workers themselves is well illustrated by comments made to members of the Institute's investigating staff: "Could we not have more like this? It has made it a lot easier for us"; "I wish you had been here when I was a girl; I wouldn't look the old hag I do now"; "How on earth did they get on without you so long?" Such practical work as that indicated necessarily involves, indeed constitutes, research, and much of the vocational selection and guidance is in its nature experimental; it is important and interesting to note that much of it is being done at, or in co-operation with, the Industrial Fatigue Research Board, the Borstal Institution, employment bureaux, and education authorities. Two of the investigations on which Dr. C. S. Myers has himself been engaged, for instance, are the effects of menstruation on mental and muscular efficiency, and the influence of ultra-violet rays on the efficiency of the factory worker. Three separate reports dealing with vocational psychology, very valuable and suggestive, have been published by the Institute. They deal mainly with vocational guidance; and with regard to this the Committee on Education and Industry, in its recent report, says: "We think that the experiments should be encouraged, and we would recommend that local education authorities, juvenile advisory committees, and teachers should make themselves acquainted with the tests which are carried out and the methods adopted." We can unreservedly make the same recommendation to the medical profession.

LIPIODOL.

THE use of lipiodol in many branches of medicine and surgery is now well established, and numerous papers have recently been published on the subject since that by Mr. Sargent which introduced the method to surgeons in this country (BRITISH MEDICAL JOURNAL, 1923, ii, p. 174). At a meeting of the Medical Society of London on March 14th Dr. Jacques Forestier of Paris, one of the originators of the use of lipiodol in radiography, gave an interesting account of its discovery and the various ways of employing it. Six years ago a patient under the care of Professor Sicard was receiving injections of lipiodol into the buttock for thera- peutic purposes, and a chance radiological examination led to the discovery that the substance was opaque. This led Sicard and Forestier to investigate the use of lipiodol, which Sir Percival Hartley described later in the evening as one of the greatest aids to the diagnosis of diseases of the chest which had been discovered in the last twenty years. Dr. Forestier detailed the steps of the evolution of the use of lipiodol, animal experiments being carefully performed in the first instance. The oil itself is prepared from poppy seed; iodine to the extent of 40 per cent. can be combined with it, and is not merely in solution. Its uses in the diagnosis of diseases of the lungs and bronchi were described, and Dr. Forestier indicated the various ways in which it could be injected. The only contraindica- tions in this connexion were advancing tuberculosis with fever and haemoptysis. With regard to the spinal cord, two main routes were used: 1 to 2 c.cm. of lipiodol could be injected into the cisterna and allowed to fall by gravity, or the same amount could be introduced by lumbar punc- ture and the patient carefully tilted on a special x-ray table. In this way complete stoppage of the opaque oil by a tumour could be seen, and also definite x-ray

evidence of even intramedullary tumours could be obtained, when a curious picture of partial blockage was presented. A further development was the use of "light lipiodol," a mixture of lipiodol and olive oil, to inject the ventricles of the brain, since this "light" variety would rise in the cerebro-spinal fluid. By injection into the epidural space in cases of sciatica lipiodol was made to surround the sheaths of the spinal roots, with beneficial therapeutic results. Dr. Forestier, reviewing other uses of lipiodol, said that the nasal antra and sinuses had been injected, and in some cases of disease of the lacrymal ducts it was of value. The injection of sinuses and fistulae by this substance was also beneficial, since it was completely non-irritant. He described one case of deep-seated abscess without a fistula which, by means of lipiodol, was traced to previously undetected spinal caries. The arteries could also be injected, and Dr. Forestier described two striking cases of gangrene of the leg where the exact site of the obstruction was localized in the arteries, leading in one of these cases to successful embolectomy from the femoral artery. In the genito-urinary system lipiodol had also been used to demonstrate diseases of the urethra, ureters and kidneys, and even the vas deferens and seminal vesicles had been successfully injected. Lastly, Dr. Forestier mentioned the injection of lipiodol into the uterus and Fallopian tubes, where it was useful to diagnose tumours in the pelvic cavity and to test the patency of the tubes. Dealing finally with the dangers of the method, Dr. Forestier stated that he had used lipiodol in thousands of cases without any sort of accident, except in one case of injection of the spinal canal followed by slight "shock" symptoms. He had recently searched the bibliography without finding the record of any fatality.

THE PRACTICAL VALUE OF INSULIN.

PROFESSOR MARCEL LABBÉ begins to exercise a kind of appellate jurisdiction in medicine. For instance, a certain number of physicians have been saying that there are cases of diabetes which prove refractory to the action of insulin. An appeal like this against the accepted verdict in favour of insulin needs a judicial hearing. Professor Labbé gives his considered verdict in a communication to the Académie de Médecine. In some cases, he says, where insulin is accused of failure the trouble has been renal glycosuria without hyperglycaemia. Chabanier's suggestion that certain true diabetics have kidneys abnormally permeable to glucose he rejects because it is unsupported by evidence. Hepatic glycosuria is refractory to insulin, but it is not true diabetes, and in some instances true diabetes may be complicated by cirrhosis of the liver, which may delay improvement, though ultimately such cases respond to treatment with insulin. Then Professor Labbé goes on to mention cases of glycosuria which may be refractory owing to disorders of the thyroid, pituitary, or suprarenals. But he points out that glycosuria associated with lesions of the thyroid or pituitary may depend in a measure on failure of the internal secretions of the pancreas. Next he deals with true diabetes complicated by severe infections, and whilst admitting that diabetes may be greatly aggravated by concurrent infection, it does not, he says, become refractory to insulin if only big enough doses are administered. As for diabetes complicated by arterio-sclerosis and nephritis where coma develops, he holds the coma to be due to cerebral haemorrhage or uraemia, and insulin cannot be expected to avert or cure these accidents. Professor Labbé finally discusses the cases of true diabetes where the patients deceive the physician by surreptitiously increasing the diet prescribed. He quotes many examples where insulin has been credited with failure that turned out on closer surveillance to be entirely due to the patient's refusal to submit to dietetic restrictions, or, again, to error on the part of the physician in the regulation of the diet. He concludes by giving as his verdict that there is no case of true diabetes, however severe it may be, that proves refractory to insulin. Professor Marcel Labbé has rendered a signal service to medicine by his careful consideration of a difficult problem and by his authoritative judgement.

THE INFLUENCE OF MANURIAL CONDITIONS ON THE VITAMIN CONTENT OF GRAIN.

THE fact that white bread is almost universally preferred in this country, and that it forms a high proportion of the diet of the poorer urban population, coupled with the further fact that it is deficient in vitamins, has caused many people to be alarmed at the possibility of the total diet of these classes being seriously deficient in vitamins. The dietary problems in this country are, however, trivial compared with those occurring in the East, where populations of many millions restrict themselves to a single cereal as the staple article of their dietary. Lieut.-Colonel McCarrison, I.M.S., who is in charge of the Deficiency Diseases Inquiry in South India, has recently published[1] an interesting paper which opens up many new problems regarding the possible causes of vitamin deficiency. He made experiments to determine the relative vitamin content of millet and wheat grown under varying conditions. Three different cultural methods were tested. The grains were grown on plots of ground which had received no manure for many years, in ground treated with chemical manure, and on plots supplied with cattle manure. The yields of the different plots varied greatly, and the manured plots yielded three or four times as much grain as did the plots without manure. As regards vitamin content, the most striking result obtained was with millet; the grain from the plot which received no manure of any kind appeared to be completely devoid of vitamin B, whilst the content of this vitamin in the grain of the cattle-manure plot was markedly higher than that in the grain from the plot treated with chemical manure. Millet is the staple diet of large populations in the Madras Presidency, and the poor lands in this district have the same general characters as those of the no-manure plot. It is to be noted that beri-beri is endemic in certain areas. These facts indicate the great practical importance of the experimental results obtained. Those with wheat were not so clear. Wheat from cattle-manure plots had a distinctly higher vitamin A content than wheat from chemical-manure plots, but although the no-manure plots gave a very poor yield of grain, yet the wheat obtained had as high a content of vitamin A as the cattle-manure wheat. It seems, therefore, that the influence of manure supply on the vitamin production of grain is complex, and that different cereals are affected in different ways. There are many possible reasons for these differences, but it is evident that McCarrison's experiments have opened up large and important problems, and it is to be hoped that this interesting work will be continued. The vast damage that deficiency diseases have in the past produced amongst Eastern races makes it important to learn as much as possible about the conditions governing the vitamin content of the grains that constitute their dietary.

LESSONS FROM NECROPSIES.

PROFESSOR WILLIAM OPHÜLS of the Pathological Department of the Stanford University Medical School has made a careful statistical survey of 3,000 necropsies[2] performed by him or his associates, mainly in the Lane Hospital or in the San Francisco Hospital, during the years 1900 to 1923.

[1] *Indian Journal of Medical Research*, 1926, vol. xiv, p. 351 et seq.
[2] *A Statistical Survey of Three Thousand Autopsies from the Department of Pathology of the Stanford University Medical School.* Stanford University Publications; University Series, Medical Sciences, Vol. I, No. 3. 1926. (Sup. roy. 8vo, pp. 244; 16 charts. Paper 2.50 dollars; cloth, 3 dollars.)

One-tenth of these were on cases fatal before or shortly after birth, and in more than one-third (112) of these 307 cases the cause was congenital syphilis, so that all other diseases pale into insignificance in comparison as factors in infant mortality—a conclusion which does not appear to be of universal application. The largest number of deaths occurred between the ages of 50 and 55. Taking the cases as a whole, by far the most frequent morbid change was tuberculosis, which was present in 64 per cent. of all bodies, being active in 22 per cent. and quiescent in 42 per cent.; in 82 per cent. of the total it was pulmonary. Septic infections were present in 1,288 cases, or nearly 43 per cent. of the total 3,000. The respiratory tract was affected in 384 cases, or 30 per cent. of the septic cases, there being 200 of bronchopneumonia and 122 of lobar pneumonia (it may be noted that only 38 necropsies were performed during the influenza pandemic of 1918-19); the endocardium was affected in 302 (209 chronic); the liver and biliary tract figured in 103 cases, and the rest of the alimentary tract in 137, the appendix being inflamed in 23 only; but there were also 125 cases of suppurative peritonitis. General arterio-sclerosis occurred in 917 cases, and chronic nephritis in 101; this subject, on which Professor Ophüls wrote an admirable monograph (the first in this series) in 1921, is discussed at considerable length, and a number of interesting points are brought out; among 105 cases of arterio-sclerosis of the cerebral arteries, haemorrhage into the brain occurred in 45 and was recent in 38, thus showing its fatal character. Among 7 additional examples of cerebral haemorrhage the arteries both in the brain and elsewhere were healthy, but in 4 of them there was evidence of high blood pressure, as shown by cardiac hypertrophy; this observation is obviously of interest in connexion with the question whether or not high blood pressure can produce rupture of a normal artery. There were 129 cases of coronary arterio-sclerosis, and in 70 of these specially investigated there were 8 with angina and advanced arterial change, 6 of them with thrombosis. The observations made did not support the view that angina is due to disease of the first part of the aorta. The systems of the body are gone through seriatim, and many deductions useful in medicine can be gleaned from these pages. For example, more than a third of the patients with known chronic alcoholism had excessive accumulations of fat somewhere in their bodies, and a little less than a third of all patients with such fatty deposits were known to have been chronic alcoholics.

SYMPTOMS PROLONGED BY HABIT.

DR. CHARLES FIESSINGER, in a communication to the Académie de Médecine on February 1st, discussed the effect of habit on morbid symptoms. He had already recorded the case of a patient, 66 years of age, who suffered from slowness of the pulse, probably due to arteritis of the small vessel of the bundle of His. The arteritis was cured, but the slow pulse remained, until a new doctor restored the confidence of the patient, and a cachet of theobromine removed the symptom. The patient remained well for eighteen months. The symptoms most likely to be perpetuated by habit were those most accessible to the will. Habit would have less effect on fever than on cough or constipation. Pain that had been relieved by morphine might persist though the cause had been removed; and each successive injection confirmed the habit of pain. Similarly with insomnia, a patient might fail to sleep unless he had taken his cachet. Yet if he ceased to take it, though he might not sleep for four or five days, in the end the habit would be broken and normal sleep would return. In heart disease dyspnoea might continue though the heart had become nearly normal and the kidneys were functioning well. In such cases twenty-five years ago miracles were wrought by the Trunecek serum, which attacked a symptom having no right to exist except in its obstinacy against disappearing. Dr. Fiessinger even thought that a heart could take the habit of dilating; and that some albuminurics passed albumin through habit. The cure of such cases by restoring the patient's confidence had been confirmed by Eichhorst. In cases of habit in symptoms such as those described, the doctor, while prescribing appropriate remedies, would devote his attention mainly to the mentality of the patient. He would try to remove fears, and to break down the habit by emotional reactions. The manner in which these reactions should be provoked depended upon the perspicacity and intelligence of the doctor.

MENTAL HYGIENE AND EMIGRATION.

A most imposing document has been issued by the United States Public Health Department, entitled *Mental Hygiene, with Special Reference to the Migration of People*.[1] It is the work of Dr. Walter L. Treadway, surgeon in the United States Public Health Service. He may well be complimented upon the comprehensiveness of his survey. The emigration law of the United States provides for the appointment of boards of special inquiry. These are composed of immigration inspectors, who determine upon the disposition of all cases of immigrants detained at ports of entry in accordance with the law. Such boards are authorized to determine whether an alien who has been duly held back shall be permitted to land or shall be debarred from entering the country. The decision of a board of special inquiry is often based upon the certificate of medical officers, and, according to law, "shall be final as to the rejection of aliens affected with tuberculosis in any form or with a loathsome or dangerous contagious disease, or with any mental or physical disability which would bring such aliens within any of the classes excluded from admission to the United States." There is a right of appeal from such decisions. Racial groups organize and maintain "machines" for the furtherance of the aims of their compatriots: "Unless one is familiar with these effects, he cannot appreciate the enormous pressure of influences that seek to land excluded aliens." Humanity forbids the return of persons who are actually ill, and for these temporary admission is allowed, but such are the facilities for delay that a mentally defective woman whose deportation was stayed under bond remarried, and is still in the United States after seven years, for each successive order for deportation was postponed on request for re-examination. In the meanwhile she has married and produced two children. "What of her progeny?" asks Dr. Treadway. That is the main thesis of the work: to ascertain the effect of emigration upon mental disease. There are excellent chapters on the conception of mental hygiene, on the policy of public relief of defectives, and in particular the growth of the policy in the States in correctional institutions, the care of the insane, and the education of the feeble-minded. There follow chapters on European ethnology; a description of the ten decades of migration to the States; chapters on the evolution of emigration laws—these began with slave importation and the transfer of criminal prisoners to the colonies; the psychological characters of the racial groups of immigrants; and finally, details of the actual work of the immigration officers and those having the care of the insane. There are immense bodies of statistics, some of them most suggestive. For example, in New York State foreign-born comprise about one-fourth of the general population, but almost one-half of the first admissions to the public institutions for

[1] Public Health Bulletin, No. 153: *Mental Hygiene, with Special Reference to the Migration of People*. By Walter L. Treadway, United States Public Health Service. Washington: Government Printing Office. (Pp. 199. 25 cents.)

mental disease are foreign-born. Further, figures go to show that the admissions of foreign-born are greater in the later years of their residence than in the early. On this is based a suggestion that greater care in mental examinations and more strictness are required. Racial groups show specific liabilities. Syphilitic brain disease is highest among Indo-Eranic, Sinitic, Negritic, Lettic, Finnic, and Chaldaic stocks, low among the Anglo-American stock. Malayic stock is prone to mental disease from traumatism. The Celts seem more prone to develop intoxication psychoses than any other stock; the Irish rank first in disorders due to alcohol, Slavonics are high, the Hellenics, Indo-Eranic, and Chaldaic the lowest.

NATIONAL ASSOCIATION FOR PREVENTION OF TUBERCULOSIS.

THE National Association for the Prevention of Tuberculosis has issued an illustrated historical sketch of its career from its inception in 1898 down to last year. The object of the publication, it would seem, is to invite financial help for a wide extension of propagandist effort. Notwithstanding the assumption by the State and local authorities of responsibility for tuberculosis schemes, the association is convinced that much remains in which voluntary bodies may render assistance. The directions in which the association desires to extend its efforts are in educating every member of the community in the cause and prevention of tuberculosis, and in developing a scheme of tuberculosis care committees throughout the country. A further object of the association is "to render aid to pressing claims for help, communal and individual, . . . when the need cannot adequately be met, if at all, by provisions rendered possible by statute." The pamphlet sets forth a very fine record of work accomplished by the association in diffusing knowledge of the disease amongst the lay population, and in promoting various schemes, national and international, for dealing with the victims of tuberculosis. Under the former heading are the promotion of congresses, beginning with the British congress in 1901, to be followed by international congresses in various countries; the compilation and distribution of leaflets; tuberculosis exhibitions and caravans; lectures and films. To aid in treatment the association has taken up the subject of training for voluntary workers in tuberculosis, and, at the request of the Joint Council of the Order of St. John and the British Red Cross Society, drafted a scheme of training for members of Voluntary Aid Detachments. A tuberculosis survey of England was undertaken on behalf of the British Red Cross Society. A handbook of tuberculosis schemes was prepared in 1916, and a fourth edition of the book was published in 1923. During the war the association urged on the War Office and other authorities the need for providing for the future care of tuberculous ex-service men. The proposals included the establishment of farm colonies, and of homes for advanced or dying cases. The association was able to establish the Burrow Hill training colony in Surrey, and to assist in the foundation of the Southfield sanatorium colony near Edinburgh. Through the activities of branches of the association a number of sanatoriums for the working classes have been opened in various parts of the country. The setting up of tuberculosis care committees throughout the country is regarded as a matter of immense importance, and as essentially work for voluntary associations. The care committees should help the tuberculosis officers to solve many problems for the sufferers from the disease, to re-create disorganized homes, to clear away conditions in which tuberculosis is bred, and to train and guide the young in the selection of suitable and healthy employment. The pamphlet contains many reproductions of photographs of sanatoriums and farm colonies founded by the association and its branches. There are also pictures of royal patrons and presidents, of the late Earl of Derby, and of Sir William Broadbent, the first chairman of council. There are some maps of Great Britain showing, for comparison, the distribution of tuberculosis in 1898 and in 1924. These maps are stippled or lined in various degrees to show local death rates per 1,000 of population. These maps may perhaps be useful for propaganda, but we venture to think that to the casual observer they are liable to be misleading. The 1898 map is heavily lined in almost its whole extent, with one very black patch in the South of Scotland. In the map for 1924 large tracts of country have become pure white, and there is a total absence of heavy lining and of black spots. Yet this represents a country in which over 40,000 people die annually of consumption. The explanation is that the white areas on the map represent a death rate of less than 1 per 1,000 of population, and do not mean that the areas are free from tuberculosis. The association does not, of course, claim that its efforts are the sole cause of the fall in the number of deaths in Great Britain from 70,000 in 1898 to 46,000 in 1923, but no reference is made to the decline in the death rate that occurred before the association began its activities. The statement in the Registrar-General's report for 1920 that there is an "ever-increasing acceleration of the rate of fall" is quite justifiably quoted as it stands. We recall that the drop in the phthisis mortality in the twenty-eight years from 1860 to 1888 was from 2.7 to 1.5. The present mortality is about 0.85.

INTERNATIONAL SOCIETY OF MEDICAL HYDROLOGY.

FOLLOWING a council meeting in London of the International Society of Medical Hydrology on March 3rd, a conversazione was held at the house of the Medical Society of London, when Dr. Gustave Monod, the president of the society, and Madame Monod received a large company of guests. An exhibition of hydrological interest, arranged by the staff of the Wellcome Historical Medical Museum, consisted of a gallery of old prints illustrating bathing establishments and their procedures in this and other countries, also relics or replicas from the baths and domestic water arrangements of the ancient Romans, and a collection of strigils, gathered over a very wide field of Europe and Asia. The strigil, it will be remembered, is an instrument, in wood or metal, used for scraping the skin at the bath. Another exhibit was a piece of wooden water-pipe of the seventeenth century found during excavations in one of the main thoroughfares of the city of Liverpool. A demonstration with the epidiascope was given to illustrate the life-history of silica, from the colloid to the crystalline form, and including what was described as the birth, life, and death of the opal. The lecturer, Mr. Lewis Abbott, F.G.S., explained how the chemicals taken up by the percolating waters gave rise to medicinal springs, and how the jasper and sapphire are related to the pebbles of the brook. One or two members of the society from abroad spoke in their own languages a few complimentary remarks, and a cinematograph film was shown depicting the events of the annual meeting of the society held last year at the invitation of the Czech Government and spa authorities, and attended by representatives of thirteen countries. Dr. Monod is now relinquishing the chair of the society, and in a few valedictory words he spoke of the pleasure it had given him to preside over a society which was founded in Great Britain, and which now had its members in twenty-four countries, having grown more quickly than its promoters had ever anticipated. The object of the society, he said, was to place on an increasingly scientific basis the oldest natural methods of treatment—water, air, and light, or, to quote St. Francis,

"Brother Sun, Brother Wind, and Sister Water." He also announced that the society would hold its next annual meeting in Italy in October next, and that its new president would be Professor U. Gabbi, a distinguished Italian hydrologist.

We regret to have to record the death of Dr. Corrado Da Fano, Reader in Histology, King's College, London. He was well known for his work in neurology. We hope to publish a notice of his life in an early issue.

"THE FATHER OF TROPICAL MEDICINE."

A MANSON MEMORIAL: MR. NEVILLE CHAMBERLAIN'S TRIBUTE.

At the Albert Dock Hospital, London, on Tuesday afternoon, March 15th, Mr. Neville Chamberlain, the Minister of Health, unveiled a tablet to the late Sir Patrick Manson. The tablet, which is placed in the ward where Manson for a number of years practised and taught, is a very simple work of art, embodying a medallion portrait in bas-relief, and the words: "Sir Patrick Manson, G.C.M.G., F.R.S., The Father of Tropical Medicine, Physician to this Hospital, 1892-1922." Among those present at the ceremony were:

Mrs. Carnegie (formerly Mrs. Joseph Chamberlain), Sir Ronald and Lady Ross, Dr. and Mrs. Manson-Bahr, Sir Humphry Rolleston, Sir James K. Fowler, Dr. Andrew Balfour, Sir William Simpson, Sir Wilmot Herringham, Colonel and Mrs. Alcock, Admiral Sir Henry Jackson, Dr. F. E. Fremantle, M.P., Dr. F. N. Kay Menzies, Professor C. J. Martin, Dr. A. G. Bagshawe, and the Chinese Chargé d'Affaires and the Siamese Minister.

Mr. CHAMBERLAIN, who was invited by Sir Arthur W. Clarke, chairman of the Seamen's Hospital Society, to unveil the tablet, described Manson as one of the great benefactors of the human race. His name had been familiar to him from the closing years of the last century, when his father, Mr. Joseph Chamberlain, appointed Manson medical adviser to the Colonial Office. In those days tropical diseases were little understood; the symptoms of many of them would not have been recognized by the majority of medical practitioners, and malaria, the greatest scourge of tropical lands, was supposed to be due to some poisonous exhalations arising in marshy districts. But Sir Ronald Ross was working out his observations upon the natural history of the malarial parasite, and eventually showed that the parasite was communicated from man to man through the agency of a species of mosquito, in whose body it underwent an essential part of its existence. That discovery was quickly followed by the initiation of measures for the destruction of mosquitos in fever-infested localities, and the mitigation, if not the total suppression, of the disease in many places where it had been almost impossible for the white man to live. This work was a tremendous stimulus to the imagination of the medical profession. A whole army of investigators entered into the field, and began to consider whether the establishment of the biotic connexion between man and living organisms in the propagation of disease might not have many other illustrations; their efforts were rewarded with extraordinary success. In medical science no one section could be isolated, and these discoveries, originating in the study of tropical diseases, had their repercussion in diseases of temperate climates, so that it was difficult to estimate the number of lives which had been saved in all parts of the world as a result of these relatively early discoveries in tropical medicine.

Of all the labourers in this field (Mr. Chamberlain continued) Patrick Manson might truly be said to be the father. He was a Scotsman, born in Aberdeenshire, originally intended for engineering, and embracing medicine because prevented by physical weakness from following the other profession. For twenty-three years he lived in China, on the island of Formosa, or on the mainland at Amoy, or in the British settlement of Hong-Kong. It would be difficult to find a less favourable environment for research work, cut off from contact with scientific society and overwhelmed with the routine of a busy practice; but he found time to pursue his observations upon the unfamiliar diseases of the East, with inexhaustible patience and ingenuity. The whole story of his work was told in the extremely interesting biography just published from the pen of his son-in-law Dr. Manson-Bahr, in collaboration with Colonel Alcock. Mr. Chamberlain thought the most dramatic incident in that story concerned the clue by which this medical detective arrived at a solution of his problem. He was examining the blood of many infected people suffering from filaria, and he employed two assistants, one of whom took samples in the daytime and the other in the evening. The second was singularly successful in finding the filaria, whereas the first had almost barren results, and from this discrepancy Manson discovered what might be called a periodicity in this organism similar to that which existed in the mosquito's habits. Manson came back to England in 1899, and three years later was appointed consulting physician to the Albert Dock Hospital. Mr. Chamberlain believed that it was only after his return that he became acquainted with Ronald Ross. With extraordinary generosity he offered Ross the results of his knowledge and experience, and gave him the utmost encouragement to pursue his investigations on the malarial parasite and the mosquito. A correspondence ensued between the two men, lasting over four years, and marked on both sides by a fine unselfishness, freedom from jealousy, and devotion to the public good. The association of Manson and Ross reminded him of that of Darwin and Wallace, in both cases a noble example of which their countrymen did well to be proud. In 1897 Manson was made medical adviser to the Colonial Office. He was impressed by the fact that medical officers went out to different parts of our tropical empire without any opportunity beforehand of learning of the diseases which were common there. In his efforts to remedy that state of affairs he was supported by Mr. Joseph Chamberlain, who had been appalled by the mortality among the officers sent out to West Africa and elsewhere: and there was a third party to the success of the project, the Seamen's Hospital Society. In 1899 the London School of Tropical Medicine was opened. It began with 27 students, and now 3,000 men had passed through it. In Manson was to be recognized a patient investigator, who greatly enlarged the sphere of knowledge, a very human gentleman, who was an example to those who worked with him and under him, and would remain an inspiration to those who came after him, and one of our great empire-builders not by reason of his conquest of other peoples, but by the victories he had won over some of the most distressing plagues which afflicted mankind.

The vote of thanks to Mr. Chamberlain was proposed by Dr. G. C. Low, senior physician to the hospital, who said that, strange to say, this teaching scheme met with unexpected opposition from some members of the medical profession in London. Sir Patrick Manson had shown his great strength by finally wearing down this opposition. Dr. Low also gave a description of the master among his students in the very ward in which the memorial was set up. The resolution was seconded by Professor R. T. LEIPER, who said that for nearly twenty years he had the opportunity and the joy of working with that warm-hearted and inspiring personality whom they were honouring that afternoon. It was appropriate that the memorial should have its place in the ward of the hospital rather than on the wall of the adjacent laboratory, for Manson was first and foremost a great physician and a great teacher, and as a teacher he not only dispensed technical information while exhibiting his professional skill to his students, but laboured unceasingly to utilize his ever-increasing influence to secure privileges and opportunities for research for all who by their earnestness and sincerity appeared likely to profit by them. Mr. CHAMBERLAIN, in reply, said that he realized he was following a family tradition in taking part in that function that afternoon, and it would be the greatest happiness to him if in any way he could help in the furtherance of what was called the Manson tradition.

THE BLEACHING OF FLOUR.

IN June, 1924, the then Minister of Health, Mr. Wheatley, extended the reference of the Departmental Committee inquiring into the use of preservatives and colouring matters in food, and instructed it to consider "Whether and to what extent the practice of treating flour with chemical substances is objectionable on grounds of health, and whether it is desirable in the interests of the public health that the practice should be prohibited or restricted, and in the latter case what restrictions should be imposed." The Committee was constituted as follows:

Sir H. C. Monro, K.C.B., *Chairman*; Professor W. E. Dixon, O.B.E., M.D., F.R.S., Sir A. D. Hall, K.C.B., LL.D., F.R.S., J. M. Hamill, O.B.E., M.D., D.Sc., P. A. Ellis Richards, F.I.C., Professor Sir F. G. Hopkins, M.B., F.R.C.P., F.R.S., G. R. Leighton, O.B.E., M.D., A. P. Luff, C.B.E., M.D., F.R.C.P., Charles Porter, M.D., B.Sc., G. Stubbs, C.B.E., F.I.C.

The Committee made an interim report, on the use of formaldehyde as a preservative for food, in August, 1924 (BRITISH MEDICAL JOURNAL, August 16th, 1924, p. 289), and the final report of the Committee on its original reference was published at the end of October, and noticed in the JOURNAL of November 1st, 1924 (p. 828). Its report on the additional reference has now been published.[1]

Perusal of the report shows that the inquiry was of a highly technical nature, and that it involved many commercial problems and questions of vested interests. The Bread Act of 1822 and 1836 makes it an offence to sell bread with other constituents than certain substances named, and although this was amended in 1922 in favour of self-raising flours, yet the treatment of flours with chemical agents has been continually increasing. English-grown wheat forms about one-fifth of the total milled in this country: the annual British milling output represents about twenty-two *million sacks, the imports only five or six million sacks.*

The characters necessary in flour used for bread making are that it shall have the capacity to make a large well risen loaf of good texture which shall be white in colour. Flours deficient in these characteristics are frequently treated with chemical agents which may be either bleaching agents or "improvers" or both. The principal bleaching agents in use are nitrogen peroxide, benzoyl peroxide, chlorine, and nitrogen trichloride. The last two substances are often called maturing agents; they both bleach and "improve," but they may be considered for discussion here as bleachers. Bleaching was introduced into this country about twenty-two years ago to meet a demand for white bread, particularly among industrial and manual workers in the North of England. Flour, after milling, changes slightly on keeping, its baking qualities improve, and its colouring matter is bleached. This natural ageing is probably an oxidation process, and imported flour from America and Australia is kept sufficiently long to exhibit this ageing effect. British flours, which cannot easily be kept because of the absence of storage facilities and because of expense, are in this respect at a disadvantage regarding colour; nevertheless, some imported flour is bleached before reaching this country. Hence the practice of bleaching enables millers to compete with importers of flour which has the natural advantage of ageing.

Bleaching Agents.

Bleaching eliminates the difference in appearance between the higher and lower grades of flour from the same wheat. The higher grades, which are obtained from the hardest part of the endosperm, called the semolina, are not only harder but produce a lighter coloured flour; these are known as "whites" or "patents," and total about 50 per cent. of the flour milled; the remainder are known as "households." From the latter and softer flour the offal is less perfectly separated. By the use of bleaching it has been said that a proportion of the "households" can be made to simulate patents, and a "longer range of patents" can thereby be obtained. It is said that a 60 per cent. extraction of the wheat can by means of bleaching be made to look better than a 50 per cent. extraction without bleaching.

Chlorine bleaches by combining with the colouring matter of the flour (carotin), but it also combines with other constituents of the flour. It is known that chlorine can act on the tyrosin and tryptophane groupings of the gluten complex with injurious results as far as the nutritive value of the gluten is concerned. Besides these there are other and more subtle substances in flour, the vitamins, which are known to be very susceptible to traces of chlorine; these also may be destroyed, and so impair the nutritive value of the food which contained them. Although these changes would occur probably in the commercial treatment of flour with chlorine to a limited extent only, yet it is a serious consideration in the case of a food so important as bread.

The same considerations apply to nitrogen trichloride. This body is much more highly reactive than chlorine, and the amount of it used per sack is consequently less. Nitrogen trichloride is introduced into the flour in air saturated with moisture. It is used in proportions varying from one to four grams per sack, and is converted to ammonium chloride and hydrochloric acid in the flour. It gives the effect of ageing in respect of bleaching, and it also improves the baking qualities of the flour.

Benzoyl peroxide, after bleaching the colouring matter in the flour, remains as benzoic acid, and although the amount is small it is better that flour should not contain benzoic acid.

Nitrogen peroxide, like the other bleachers, oxidizes the carotin in the flour. It is less reactive with proteins and fats than chlorine; it leaves nitrites in the flour, though very little—not more, perhaps, than two or three parts per million. The Committee regards nitrogen peroxide less unfavourably than the other bleaching agents.

"Improvers."

The substances used as improvers are principally chlorine, nitrogen trichloride, acid calcium phosphate, acid ammonium phosphate, and persulphates, besides extracts of malt and wheat germ. It is claimed for improvers that they enhance the natural baking qualities of flour by yielding well risen loaves of good volume and symmetry, of satisfactory texture, and of even aeration. "Strength" is the term applied to flours possessing this character, and it depends on the qualities of the contained gluten. Some wheats, notably English, are weak, but the properties of the gluten can be altered by the addition of certain salts and acids to the flour. It is claimed that by the use of improvers a more varied supply of wheats can be used and blended, and a flour of uniform baking quality thus maintained. It is claimed also that the improver promotes the growth of yeast, and so improves aeration. It is established that improvers do improve, though how they act is more difficult to define; one important factor is the degree of *acidity* expressed in terms of *p*H. It is known, for example, that acid phosphates cause dispersed gluten to cohere, but another explanation ascribes the gluten change to oxidation. On the other hand, *the yeast-food type of improvers,* like malt extract, are easier to explain, and their value is most pronounced in those flours that give a small loaf. Much, of course, can be done by judicious blending of weak wheats with strong wheats like Manitoba, but millers want to be in a position to take advantage of any wheat that is on the market on a particular day, and to be free to use improvers so as to be able to make the cheapest flours on that particular day.

Against the use of improvers it may be said that they are not normal constituents of genuine flour; phosphates do not, so far as we know, occur in the flour as such: improvers allow a larger number of loaves to be made from the sack principally by adding to the water: flour from weak wheats, which are usually poor in gluten, contains less protein than flour from strong wheats: by the use of improvers flour from weak wheats is made to simulate flour from stronger wheats, though it is inferior in protein content. The Committee expresses the opinion that millers "are content rather to use more of what they themselves would call inferior wheats, relying on chemicals to make up the baking quality to the old standard."

[1] H.M. Stationery Office, or through any bookseller, price 6d.

The saline improvers probably affect the composition of flour little, and the changes they produce are recognized only by the alteration of those characters which are responsible for strength in flour. Nevertheless, demonstrations were made to the Committee of the serious effect of acid calcium phosphate on the mucous membrane of the alimentary canal. The Committee did not, however, think that in the amounts in which it was added to ordinary flour it could be very harmful (0.5 per cent.).

Physical Methods of Improvement.

The Committee has had under consideration physical methods for improving flour, and thinks that the results already obtained in this direction are promising. For example, it has been shown that improvement in strength of a flour can be obtained by heating the flour under certain conditions; that is to say, flour overheated by artificial means itself acts as an improver. After a warm harvest English wheat produces a stronger flour than after wet and cold harvests; it is suggested that this may be due to partial heat-coagulation. But whatever the explanation, there is hope in the future that improvers will be diminished or eliminated by the addition of a proportion of physically treated flour to each sack.

The Committee concludes its report by stating that it considers that a staple and indispensable foodstuff such as flour, the purity and wholesomeness of which are of cardinal importance to the community, should be jealously guarded against unnecessary treatment with foreign substances, but is not prepared, on the present knowledge available, to recommend the complete elimination of the bleaching agents and improvers now in use.

It advises that chlorine, nitrogen trichloride, and benzoyl peroxide should be forbidden. It recommends that it should be compulsory for the manufacturers of chemical substances for use either as bleaching agents or improvers or both to declare to their purchasers the nature of the ingredients of which they are composed, and that millers should be required to inform their customers whether their flour has undergone a process of chemical bleaching or improving or both, and, if so, with what substances and in what proportion.

Scotland.

JUBILEE OF THE ODONTO-CHIRURGICAL SOCIETY.

THE Odonto-Chirurgical Society of Scotland celebrated its diamond jubilee at its meeting on March 11th, when a dinner was held in the Hall of the Royal College of Surgeons, Edinburgh. The society originated on March 13th, 1867. The toast of "The Society" was proposed by Dr. Parfitt, president of the Odontological Section of the Royal Society of Medicine, and the toast was acknowledged by the chairman, Dr. L. C. Broughton Head, L.D.S., president of the Scottish society. During no period in the history of medicine had there been so great an advance in knowledge and so beneficial an effect on mankind as in the sixty years of the life of this society. Three new sciences—bacteriology, radiology, and biochemistry—had grown up during this period, and all of them had affinities with dentistry. An important experiment in the education of the public in medical matters had recently been instituted by the British Medical Association by the establishment of the Hastings Lectures. The first of these was that on cancer, given by Sir Berkeley Moynihan (SUPPLEMENT, January 29th, p. 29) a few weeks ago to a large audience of the general public assembled in the Great Hall of the Association's new house. Sir Berkeley Moynihan had justly emphasized the necessity of the public seeking medical advice at the earliest sign, but the speaker ventured to think that something further ought to have been said of long-continued diseased conditions of the teeth and gums as an antecedent or predisposing condition to cancer, not only of the mouth, but of the important organs of the alimentary canal. He thought that in this matter the dental surgeon should sound a note of warning both to the public and to its medical advisers, and suggest that efficient dental treatment during early adult and middle life might play an important part in averting the onset of cancer in the later years of life. Mr. J. S. Amoore, L.D.S., proposed "The Royal College of Surgeons," and deprecated any lowering of the standard of examination for the licence in dental surgery. Mr. Alexander Miles, F.R.C.S., who replied, said that whatever political influence might be brought to bear the College of Surgeons would not allow the diploma of dental surgeon to deteriorate in any way. "The Edinburgh Dental Hospital" was proposed by Dr. G. T. Goldie and acknowledged by Dr. William Guy, F.R.C.S., dean of the Dental School. He said that on a recent visit he had conceived a great admiration for the dental institutions of America, but at the same time he felt that in this country, although no great sums of money were expended, a sufficient number of dental surgeons were turned out regarding whose competence there was not the slightest doubt. He believed that in the prevention of disease there was no more potent instrument than the dental surgeon.

GLASGOW ROYAL ASYLUM.

In his report to the annual general meeting of subscribers to Glasgow Royal Asylum Dr. Henderson, the medical superintendent, stated that 681 patients had been under treatment during the year, the average number resident having been 533. The problem of mental disorder and defect, he said, was more far-reaching than that of cancer, for which appeals were being made in regard to a combined attack on the causes, and co-operation in finding out the treatment of the disease. Mental disease similarly demanded co-operation between the medical profession and the public, because of its widespread direct and indirect effects. Treatment at the present time in many cases was too long delayed. If mental disorder in its beginnings were admitted instead of being hidden it would be easier to exert a beneficial influence on the individual's life. Students of medicine, teachers, clergymen, and the public at large should be made familiar with this fact, and education in the sense of character building should be the watchword of those who dealt with mental illness. People should be brought to recognize that mental disorder was not different from any other type of illness, and that it sprang, in the majority of instances, from modifiable factors.

ROYAL SAMARITAN HOSPITAL FOR WOMEN, GLASGOW.

A new wing has been added to the Royal Samaritan Hospital for Women in Glasgow, and the nurses' home has been considerably enlarged. These extensions were opened on March 4th by Lady Blythswood, who mentioned the great success of the bazaar held in 1924, when £78,000 had been raised in three days. Help had been received also from the police, who collected over £8,000, and from the staff and employees of the corporation tramways, who had contributed more than £1,200. Sir John Stirling-Maxwell, president of the hospital, gave a summary of its history during its existence of forty-one years, and referred to the fact that Dr. Halket, who was the first physician to the hospital, was now its consulting physician. The whole cost of the new building—about £80,000—would be met from the fund raised in 1924 and the interest which had accrued to it, though an additional annual sum of £6,000 would be required for the upkeep of the new wards. In spite of the fact that eighty new beds had been added to the institution by the present extension, there would still be a long waiting list, and he expressed the hope that a convalescent home might later be provided so as to enable patients to pass more rapidly through the wards.

SCOTTISH MIDWIVES BILL.

The text has been issued of the Midwives and Maternity Homes (Scotland) Bill. It consists of two parts, of which one amends the Midwives (Scotland) Act of 1915, and brings it into greater conformity with the practice of England,

while the second deals with the registration and inspection of maternity homes. An important clause (Clause 1) is that prohibiting anyone not a certified midwife under the Act from attending a woman in childbirth, otherwise than under the direction and personal supervision of a duly qualified medical practitioner. Except as regards attention given in a case of sudden and urgent necessity, attendance by any other person involves a penalty not exceeding £10. This does not, however, apply to persons undergoing training with a view to becoming duly qualified medical practitioners or certified midwives. In cases where a midwife has been suspended from practice in order to prevent the spread of infection, if she herself was not in default, authority is given in Clause 3 to the local supervising authority to pay her such amount by way of compensation for loss of practice as is reasonable in the circumstances of the case. The Central Midwives Board for Scotland may, if it thinks fit, divide the roll of midwives into two parts (Clause 5)—one containing the names of practising midwives supplied to the Board by local authorities in January of each year, which is to be published annually, and another part containing the names of other persons entitled to be on the roll, which will be published at intervals not exceeding five years. Power is also given to the Central Midwives Board to institute inquiries by registered letter addressed to anyone whose name is included in the roll with a view to finding out whether she has ceased practice or has changed her address, and failing a reply within six months, to erase the name from the roll. Power is also given to the Central Midwives Board for Scotland to frame a rule as to the wearing of badges by certified midwives (Clause 6).

The second part, dealing with the registration and inspection of maternity homes, is of more general interest to the medical profession. It provides (Clause 8) that any person who after the appointed day carries on a maternity home, unless that person is registered in respect of the home, shall be liable to a fine not exceeding £50, or in the case of a subsequent offence to imprisonment not exceeding three months. Application for registration is to be made to the local supervising authority and is to be accompanied by a fee of 5s. The authority is to have power to refuse registration where it is satisfied that the applicant is not a fit person, by reason of age or otherwise, to carry on a maternity home, or for any reasons connected with the situation, construction, accommodation, staffing, or equipment which appear in any way improper or undesirable in the case of a maternity home. The local supervising authority may also at any time cancel the registration of any person for any reason which would entitle them to refuse an application for registration (Clause 9). Before exerting this authority in either of these matters the local supervising authority shall give to the applicant or to the person registered not less than fourteen days' notice (Clause 10), setting out its reasons and giving the person concerned an opportunity of showing why such action should not be taken by the authority. The authority must also in such cases give the person an opportunity of being heard, and the order refusing an application or cancelling registration shall not come into force until the expiration of fourteen days from the date on which the order was made, or until an appeal has been decided or withdrawn. Any person aggrieved by an order under this section may also appeal to the sheriff within fourteen days, and the decision of the sheriff shall be final and be given effect to by the local supervising authority. Powers are also given, in Clause 11, to the Scottish Board of Health to make regulations with respect to records to be kept by the staff of the home, notifications of death, and prescribing. Persons contravening the provisions of such regulations shall be liable to a fine not exceeding £5, or, in the case of a continuing offence, to a fine not exceeding £2 in respect of each day on which the offence continues after the date of conviction. Maternity homes may be inspected by an officer authorized by the Scottish Board of Health (Clause 12). A local supervising authority may, however, grant exemption from the operation of this part of the Act in respect of a hospital or institution not carried on for profit or not used mainly as a maternity home (Clause 14).

Ireland.

Clean Milk Supply.

Giving evidence before the Advisory Committee (Irish Free State) on the milk supply on behalf of the Dublin Cowkeepers' and Dairymen's Association, Mr. J. Hanly, F.I.C., F.C.S. (chief chemist to Messrs. J. Bibby and Sons, Liverpool), said that the present presumptive standards of quality were unsatisfactory to the producer, the consumer, and the administrator. There were no means by which adulterated milk could, with certainty, be distinguished from milk of naturally poor quality. Consequently it was usually impossible to prove that adulteration or abstraction of fats had taken place. Criminal proceedings were not fitted to such cases, and the matter should be regulated by contract, the producer giving an undertaking to the local authority to deliver milk of a fixed minimum quality. Such minimum should take into account the normal seasonal variations in the composition of milk, and, in his opinion, might average 3.2 per cent. for fats over the full year. The remedy for failure should take the form of a rebate payable to the local authority by way of compensation for administrative cost of maintaining the contract standard, and of such amount as to render a breach of contract unprofitable.

County Medical Officers of Health (Irish Free State).

A deputation from the General Council of County Councils waited on the Minister of Local Government and Public Health, Mr. S. Burke, in connexion with the appointment of county medical officers of health for the Irish Free State. Senator Kenny, in introducing the deputation, said that, generally speaking, the attitude of the council was favourable. When the matter was first considered in 1923 the reports and recommendations of the Public Health Committee were discussed. One recommendation was that the net cost should be borne half by the State and half by the county council, and this was approved, but the Act of 1925 provided that the salaries of county medical officers were to be paid by the county councils, and charged on the area in which they acted. Some of the councils thought that the appointment of these officers should not be taken out of their control; the councils which opposed the scheme did so generally on the ground of the extra expense involved. They estimated that the new appointments would involve other appointments, and that the total cost might amount to £3,000. Various schemes, each possessing a considerable amount of merit, had been opposed on the plea that the financial position would not warrant any extra expense. The Minister, in reply, said that he appreciated the points raised; his department had always been sympathetic with the financial difficulties that arose. However, this scheme was now law; it had been passed by the Oireachtas, and it was his duty to enforce it. It was necessary to make a beginning, and three appointments had already been made. The present medical officers were not able to cope with the situation, particularly as regards the preventive side of the medical service. When fevers broke out the local officers had not got adequate machinery, as instanced by the present outbreak of typhoid in county Cavan, and of scarlatina in the counties Longford and Kerry. County medical officers would be able to deal with the situation. There was also the commercial aspect, which would become more important as time went on. At present the produce of the Free State enjoyed a very favourable position in the English market—better than any of the colonies. He did not want to be alarmist, but it was necessary to stress the point that if medical inspection in the Free State was not brought up to a level with the English inspection it was quite possible that produce would be put under a ban, particularly pork and butter. The report of an inspector from the United States of America upon some Free State meat factories was not very favourable. On the question of costs, he said that officers were being appointed, not to set up an elaborate public health machinery, but

to a great extent to avoid doing so. It was altogether an exaggeration to say that the cost would run into £3,000; 50 per cent. of any expense, other than the £800 salary, would be borne by the State. He also pointed out that the agricultural grant had been doubled in recent years.

England and Wales.

SICK AND AILING CHILDREN IN LIVERPOOL.

THE annual reports of the various children's hospitals and homes on Merseyside demonstrate the great amount of medical attention which is demanded. The out-patient departments of the Royal Liverpool Children's Hospital, Myrtle Street, and the Birkenhead and Wirral Children's Hospital dealt during the past year with nearly 30,000 new cases. This number is large, but mere figures, however steadily increasing as years go by, do not give an altogether just index to the increasing work. The development of prophylactic medicine is particularly marked in childhood, and an ever-increasing number of patients at hospital clinics are not seriously ill but are brought there as a preventive measure. The necessary medical detailed examination is often as a consequence exacting. At the Liverpool hospital an [illegible] department has been established and [illegible] apparatus extended; in connexion with the Birkenhead hospital a new convalescent home is to be opened during the summer. At the Heswall branch of the Royal Liverpool Children's Hospital extensive developments are in progress, which it is expected will ultimately add three new wards to this open-air establishment. Corresponding extra accommodation is being provided for residents, nurses, and maids. Both at this hospital and at the Liverpool Open-air Hospital for Children, Leasowe, an increasing amount of orthopaedic work continues to be done in conjunction with various authorities and councils. At the West Kirby Convalescent Home, at the Royal Liverpool Children's Hospital at Heswall, and at the city children's hospitals in Liverpool and Birkenhead, very large numbers of rheumatic cases are dealt with. During the past year the honorary physicians on the staffs of the four institutions, together with a small body of research workers, have determined and set in action a concerted plan of campaign dealing with rheumatic and heart cases, and in conjunction with the medical officers of health for Liverpool, Birkenhead, Bootle, and Wallasey are developing this work.

COUNTRY HOSPITAL FOR CRIPPLES IN NOTTINGHAMSHIRE.

The interest of the Duke and Duchess of Portland in the treatment of cripples in Nottinghamshire has led them to offer a site in Harlow Wood, between Nottingham and Mansfield, for the erection of a special country hospital school for cripples. A representative county committee has been formed, and it is hoped to raise the sum of about £30,000, of which £24,000 will be required for the building and £6,000 for equipping it on the most modern lines with an operating theatre and electrical and radiological departments. The locality is very suitable for treatment by fresh air and sunlight, and it is recognized that educational facilities must be provided. It is estimated that at present there are in the city of Nottingham alone more than 100 cripples who, for lack of such an institution, are unable to receive the prolonged residential treatment which they need, in spite of the activities of the out-patient clinic of the Nottingham Cripples' Guild, and the affiliated clinics at Mansfield, Newark, Worksop, Hucknall, and Loughborough. The new hospital will be the centre for all orthopaedic work in the district, and will undertake the treatment of inflammatory conditions of the bones and joints, deformities of all kinds, and the various forms of paralysis. The Nottingham Cripples Guild commenced its work in a small way with the provision of crutches, instruments, and bath chairs. Its present clinic in Park Row was erected at a cost of between £4,000 and £5,000, and was opened a year ago. Since then the average weekly attendance has been 274, the majority of the patients being children. The health, education, and Poor Law authorities have co-operated actively in its work.

Union of South Africa.

[FROM OUR CAPETOWN CORRESPONDENT.]

THE UNIVERSITY OF CAPETOWN.

AT the graduation ceremony of the University of Capetown in December, when the Vice-Chancellor (Sir J. Carruthers Beattie, D.Sc.) presided, the address was given by Professor W. A. Jolly, LL.D., D.Sc., dean of the Faculty of Medicine. In an eloquent plea on behalf of the extension of research work, referring in particular to medical science, Professor Jolly said it could justifiably be claimed that much advance had been made in medical knowledge in recent times. Diseases which were baffling until the other day could now be met and overcome, or, better still, prevented, but what could as yet be done was as nothing to what would be done when more was known, and increased knowledge could only be got by investigation. "Suppose," Professor Jolly continued, "you are attacked by disease and a cure is effected, you are naturally grateful, but if you are only cured and nothing more is done with your case, then you are justified in bearing a grudge against the medical profession. You may be attacked by the disease again and not recover, or your relatives or friends may die of it. If your case has not been studied and recorded with a view to our learning more about the disease, so that humanity in time may be rid of it, then the community has failed in its duty. It would be well that hospital authorities should grasp this aspect of the matter. If we take a broad view it is comparatively a small thing that individuals should be helped. We cannot be satisfied with the present state of affairs. The present, with its dirt, disorder, and disease, is a nightmare. We must work towards a happier, healthier world in the future, when we shall have the foul thing disease more effectually by the throat."

Prior to the constitution of the congregation, Professor Jolly was presented with the LL.D. hood and gown by the members of the Medical Faculty. The presentation was made by the Vice-Chancellor, and Professor M. R. Drennan also spoke.

INFLUENZA.

The Secretary for Public Health for the Union has issued the following circular as to influenza:

"I am directed by the Minister of Public Health to draw attention to the prevalence of influenza of severe and epidemic type in certain parts of Europe, the increase of notifications of and deaths from this disease in Great Britain, and the risks of introduction of the infection into South Africa.

"The greatest vigilance is being exercised, and all practicable measures and precautions taken at the ports of the Union to prevent such an eventuality, but the nature and extreme diffusibility of the infection of epidemic influenza are such that, short of wholesale quarantining of arriving vessels (which would entail enormous expense and paralyse the oversea trade of the Union), the exclusion of the infection at the ports cannot be guaranteed. It is therefore desirable that local authorities and all others concerned should review and overhaul their organization, facilities, and resources for dealing with a possible outbreak—especially as regards the enlightenment of the public as to the nature and dangers of the disease and precautions to prevent spread, the treatment and care of the sick in their own homes, and the accommodation, nursing, and treatment of cases requiring removal to hospital.

"This department is keeping in close touch with developments in Europe, and has arranged for obtaining weekly telegraphic reports during the continuance of the prevalence, and for the immediate cabling of particulars of any development of special importance in Europe; these reports will be published in the press, and all necessary steps taken to keep local authorities and the public of the Union fully and promptly informed. It is not thought that the position at present is such as to cause anxiety or to necessitate expenditure by local authorities on the employment of special staff or on stores or equipment (especially if of a perishable nature, or liable to deteriorate with keeping), but it does call for vigilance, preliminary preparation, and special activity as regards sanitary and housing conditions and overcrowding, and for the preliminary preparations for dealing with a possible outbreak."

Local authorities in Capetown are fully alive to the possibility of an outbreak occurring with little warning. The city council, it is satisfactory to note, has acted wisely in approaching the local branch of the Medical Association of South Africa, inviting the co-operation of the medical profession in the preparation of a scheme of emergency measures should the threatened danger materialize. The details of such a scheme are to be discussed at a special

meeting of the branch council of the Medical Association. The matter has been discussed also at a recent meeting of the Cape Divisional Council, a body which administers the affairs of the rural areas in the Cape peninsula.

KIMBERLEY HOSPITAL.

A service was held recently in the chapel of the Kimberley Hospital at which a memorial was dedicated by the officiating minister, the Very Rev. T. C. Robson, to the memory of the late Dr. E. O. Ashe, who was closely associated with the hospital for many years. The memorial, which is a beautiful rose-window, was given by Mrs. Ashe. It was designed by Mr. W. M. Timlin and executed in England by the Birmingham Guild.

The question of rendering the Kimberley Hospital fly-proof has been under consideration by the hospital board for some time, but financial stringency has so far prevented the scheme from being put into effect. Now the welcome intimation has been received that the De Beers Company is prepared to contribute a sum of £200 towards the cost of the project; this offer is the outcome of a promise made by the chairman of the board some six months ago. Without doubt this scheme when completed will add greatly to the comfort of the patients and staff, and the generosity of the company is on that account much appreciated.

APPOINTMENT OF A SUPERINTENDENT AT THE CITY HOSPITAL.

The wave of nationalism—the word is used not in any political sense—pervading the country at the present time is responsible for an unfortunate controversy which has arisen in local medical circles over the question of the appointment of an overseas applicant to the position of medical superintendent of the City Hospital for Infectious Diseases, Capetown. Following the resignation of Dr. W. P. Cooney, who held the appointment, the city council through its responsible committee advertised both locally and overseas for a successor. It would appear that seven applications were received locally and nine through the London agents. After due consideration, and having interviewed four of the South African candidates, the Health and Building Regulations Committee recommended to a meeting of the city council that a certain medical man from England be appointed. This evoked a heated outburst on the part of several councillors, who in very strong terms deprecated the fact that local applicants had been passed over. It was held by them that at least one of the latter was sufficiently well qualified and had had adequate experience for holding the position in question. After a lengthy debate, in the course of which accusations were made and apologies accepted, a ballot was held, the result of which showed 21 votes for the overseas candidate, and 14 and 1 respectively for the South African applicants whose names had been put forward along with that of the gentleman recommended. So far as the city council is concerned the incident now apparently ends, but it is more than likely that the last has not been heard of the matter in medical circles, this being only one of several instances where local authorities have endeavoured to import men for positions which, it is asserted, can be filled just as efficiently by local candidates. If and when the whole matter crops up for discussion again, be it in medical or lay circles, it is sincerely to be hoped that views will be expressed dispassionately, bearing in mind that in the making of any public appointment efficiency should always be the deciding factor, other things being equal.

India.

PUBLIC HEALTH IN CEYLON.

THE estimated population of Ceylon in 1925 was 5,009,502, of whom 10,212 were Europeans. The birth rate was 38.58 per 1,000, and the death rate 23.46. The infantile mortality in the thirty-three principal towns of the island was 216 per 1,000 births, as compared with 235 in the previous year; this improvement is attributed by Dr. J. F. E. Bridger, Principal Civil Medical Officer and Inspector-General of Hospitals in the island, to the activities of child welfare associations, the establishment of crèches in the principal towns and on the estates, and the teaching of mothercraft in the training schools for pupil teachers. In his annual report for 1925 on the health and sanitary condition of Ceylon Dr. Bridger states that 1,063 deaths were caused by malaria, as compared with 1,388 in the previous year. Antimalarial campaigns were in progress in several places, and the number of cases treated in hospitals and dispensaries decreased markedly during 1924 and 1925. A rapid survey of filariasis in the southern province was made at the end of 1925, and the distribution of infection was found to be very patchy, as had been previously reported in 1912 by Manson-Bahr. The campaign against ankylostomiasis is being continued jointly by the Government of Ceylon and the International Health Board of the Rockefeller Foundation. The survey of the island, commenced in 1924, has been completed, and mass treatment given, carbon tetrachloride in magnesium sulphate solution being employed for adults and oil of chenopodium in castor oil for children. In some cases the two remedies were combined, and proved very efficient in dealing with both hookworm and ascarine infections. An intensified scheme of treatment throughout the island is thought to be advisable, and active educational work by lantern lectures, distribution of literature, and meetings is suggested. Slow progress is being made in improving sanitation. The two leper asylums in Ceylon treated about 700 cases during the year. The number of patients with framboesia admitted to hospital fell from 6,149 in 1924 to 4,897 in 1925, as the result of intensive campaigns by eight itinerating medical officers, who treated 13,075 patients. During the early part of 1925 a training class in health and sanitation was held for police, headmen, and others, and the public health section organized in connexion with a horticultural exhibition was very well attended.

MEDICAL RESEARCH IN INDIA.

The fourth annual conference of medical research in India was held at the School of Tropical Medicine in Calcutta during December, 1926, and occupied four days. The president, Major-General T. H. Symons, C.S.I., Director-General of the Indian Medical Service, in opening the conference, reviewed the position of medical research in India, and explained how enlargement of the programme had become possible as a result of the full restoration of the Government grant. It was proposed, he said, to name the new experimental station at Karnal the Ross Experimental Station for malaria. A discussion afterwards took place on the steps to be taken to establish a permanent and efficient organization for the study and control of malaria. The lines laid down by previous conferences have already been adopted to a considerable extent by the Central Government, and the hope was expressed that provincial Governments would co-operate more closely in the future in some general scheme for India. Subcommittees dealt with improvements in the co-ordinated research work in connexion with plague and cholera, and mention was made of the new bili-vaccine method of treatment. It was stated, however, that in some parts of India the benefits of inoculation were becoming so much appreciated that a vaccine given by the mouth would probably be less popular. Reports of the work of the Kala-azar Commission and of the inquiry at the Calcutta School of Tropical Medicine were discussed, and satisfaction was expressed at the extent and value of the various investigations. Other subjects considered by the conference were tuberculosis, which is one of the more important causes of mortality in India; the investigation of sprue at the Haffkine Institute, Bombay; leprosy; the study of beri-beri in Burma and South India; and the almost complete survey of hookworm throughout India.

INDIAN SANITARY REPORT.

The annual report of the Public Health Commissioner with the Government of India for 1924 has recently been published in two volumes. The delay in its appearance is attributed to the late receipt of the Bengal provincial reports, when the Public Health Commissioner was a delegate in Europe at the International Sanitary Conference, Paris. The report has been

increased from eight to nine sections, and is somewhat differently arranged from that for the preceding year (1923). The sections dealing with the army, British and Indian, have been removed from the beginning to the end, and the report now begins with the section on the state of public health in British India. The new section, which is entitled "Medical intelligence and international health, including ports," is placed second.

In 1924 the birth rate fell from 35.06 to 34.45 per 1,000; the death rate rose from 25 to 28.49 per 1,000. Most provinces showed a birth rate higher than the quinquennial mean. Deaths numbered 842,235, more than in the preceding year, but the death rate also was below the quinquennial mean of 29.20. Registration of deaths is stated to be very imperfect. This probably applies more to the causes of deaths than to the actual number. But death registration is likely to remain imperfect until it becomes impossible, or at least difficult, to dispose of an unregistered dead body. The number of deaths really due to malaria is stated to be probably not more than one-third of the number registered under this heading. An interesting malaria map of India, compiled at the Central Malarial Bureau, Kasauli, is given in Section II. Tuberculosis is generally asserted to be on the increase in India, but the report states that there is no definite proof of this. There are eighteen tuberculosis sanatoriums in India, of which seven are in the Bombay Presidency. The provinces of Bihar and Burma have none, but Bihar has special wards for the disease in eight headquarters dispensaries. Cholera showed renewed activity, chiefly in the Gangetic plain, after two years' comparative quiescence; 1923 has shown the lowest mortality for thirty years. Plague mortality also was higher than for five years past, chiefly due to an epidemic in the Punjab, with 251,261 deaths, nearly five times the mortality of 1923. The United Provinces, Madras, Bombay, and Bihar showed a decrease. Rabies caused 2,044 deaths. There are four special institutes for the treatment of rabies—at Kasauli, Coonoor, Shillong, and Rangoon—besides which special arrangements for the treatment of the disease are in force at Calcutta, Bombay, and Lahore. Over 20,000 deaths were caused by wild animals. Snakebite accounts for 19,867 deaths, while all other animals caused only 2,587 deaths, tigers (1,174), wolves (419), and leopards (406) being the chief culprits. The total number of vaccinations rose by nearly a million to over ten millions, almost the whole increase being under revaccinations. Seven special research institutes were at work in 1923—Kasauli (two), Bombay, Madras, Coonoor, Shillong, and Rangoon. An eighth is mentioned in 1924, in Mysore State, but its chief work seems to be water analysis. A list is given (pp. 106-109) of special researches undertaken during the year; and near the end (pp. xxxvi-xlvii) a list of papers published in the *Indian Journal of Medical Research*. The number of medical institutions—that is, civil hospitals and dispensaries—increased from 3,634 to 3,669; the number of patients from 38,059,386 to 39,381,032; and the number of operations from 1,194,664 to 1,278,036. These figures give some idea of the scale on which charitable medical work is done in India. There were twenty-two mental hospitals, as lunatic asylums are now called, with a daily average of 7,605 inmates, including 738 sick. About one-third (2,501) were criminal lunatics. The total number is probably about 1 per cent. of the number of insane persons in India. There are seven medical colleges, one of which, the Lady Hardinge Medical College at Delhi, with 108 students, trains women only. The number of students in the others varies from 1,155 at Calcutta to 269 at Lucknow. There are also twenty-two vernacular medical schools, of which four are in Bengal, seven in Madras, and three in Bombay; four train women students only. The average jail population was 126,664. Both sick rate and death rate of prisoners show a slight decrease. There were no epidemics in jails during the year. British troops show a slight increase in admission rate, daily sick rate, and death rate. The death rate of 4.20 per 1,000, however, was lower than that of any previous year except two—1913 and 1923. For venereal disease the admission rate decreased to 58.9 per 1,000. That for Indian troops was only 22.3. For Indian troops the admission rate (423.1 per 1,000) and the average sick rate (18.05 per 1,000) were both the lowest on record. The death rate (5.73) and invaliding rate (12.8) were below those for 1923, but still in excess of the 1910-14 quinquennial period. One-third of the sickness among Indian troops was due to malaria. The report states that "the financial outlay on the Indian station hospital scheme is being justified from year to year."

Correspondence.

THE THYROID AND MANGANESE TREATMENT IN ACUTE PNEUMONIA.

SIR,—Whatever be the value of this treatment (in pneumonia or other conditions), it is not of importance that strings of mucus, "even mucous casts of the bowel," be afterwards passed. The rectum and colon of many healthy, if costive, people would thus react.

I am not informed on Dr. Nott's treatment of pneumonia by thyroid and manganese (this being the subject of the paper by Dr. Roche in your issue of March 12th), but reflect that many treatments, sometimes any treatment, produce excellent results. Unfortunately, at times, all fail—in pneumonia. And the cases quoted by Dr. Roche in support of Dr. Nott's treatment are not impressive, and, so far as the charts go, do not convey the idea of serious illness, but of a favourable condition running a natural course towards recovery, which would have been achieved by any form of simple treatment. In no case did the temperature reach 104°, nor the respiration rate 40, nor the pulse exceed 130, according to the charts. In fact, I do not understand the charts. I have yet to see an infant of 15 months, with double bronchopneumonia, and weakened by measles, with a respiration rate of only 36 and a pulse of only 130. This was on the first day of treatment, I understand, and after twenty-four hours there was no change in pulse or respiration, and the temperature had not fallen one degree. Case III is even more extraordinary in these respects. Whatever the clinical condition was, the facts as disclosed by the charts, so far as they go, suggest mild cases, running a favourable course.

While indebted to Dr. Roche for his communication, I feel, as no doubt others do, that the greatest care must be exercised in deducing the effect of the treatment in a series of cases so simple (by the charts) as these were. I am sure Dr. Roche will agree, and welcome the criticism I offer.—I am, etc.,

Glasgow, W.2, March 13th. R. O. ADAMSON.

TUBERCULIN IN THE PROPHYLAXIS AND TREATMENT OF TUBERCULOSIS.

SIR,—The article which appeared in the JOURNAL of February 19th (p. 340), headed "Tuberculin in the prophylaxis and treatment of tuberculosis," especially that first part of it which deals with prophylaxis, is, in my opinion, one of the most important and stimulating publications which I have read in recent years.

I will quote two passages which are worthy of the most serious consideration, not only in regard to the stamping out of tuberculosis, but in the removal possibly of all other widespread infectious diseases also.

The first is as follows: "The control of an infectious disease may be attempted in two ways—first, by exterminating the germ which causes the infection; secondly, by immunizing, or raising the resistance of, potential sufferers from the disease." And the second, dealing with the modern procedure in regard to tuberculosis, states: "The object of all these measures is to prevent the dissemination of the tubercle bacillus. They have had some success, but it is very far from being complete; so widespread is the disease that many doubt if it ever can be; and not a few experts in the disease hold that if the measures were successful the result would be a community intensely susceptible to chance introduction of infection. If they are correct it would follow that the only way to check the ravages of tuberculosis must be by some form of immunization."[2]

There is nothing absolutely new in either of these statements, but yet the subject is put in such a clear and concise form that it would be difficult to overestimate the importance of the question raised. Hitherto, I am afraid, a good many of us have been unable to see the wood for the trees, but here we now get a clear bird's-eye view of the whole forest.

The question arises whether we have not been devoting far too much attention to exterminating the tubercle bacillus, to the neglect of the most efficient method of combating the disease—namely, by developing in the community a high degree of immunity. This latter should now be our war-cry, and we should not rest until the immunity developed is so great that the tubercle bacillus, which is now a pathogenic organism of high virulence, has been rendered non-pathogenic and harmless.

Syphilis was a deadly scourge in Europe during the Middle Ages, and is still a serious disease in this country. Along the littoral of the Mediterranean, however, especially on the African coast (where I understand the infection is found in upwards of 80 per cent., if not more, of the population), the disease has become so mild that it is not now taken seriously, and late manifestations are quite rare.

Again, trypanosomiasis, which is so deadly to the domestic cattle in certain parts of Africa, produces no symptoms in the wild cattle inhabiting the same areas, although they are equally infected. This is not due to any weakening or loss of virulence on the part of the virus, as when the same has been transferred to a susceptible subject he develops the disease in all its strength, but is the result of prolonged immunization extending over several generations.

Your valuable space will only allow me two further illustrations, but they will suffice. Malaria, which is severe and often deadly amongst white people, is almost non-pathogenic in the coloured populations of the malarial countries; and small-pox, which was the terror of England in the middle of the eighteenth century, is now, after over one hundred years of vaccination, showing itself as quite a mild disease, as witness the recent outbreaks in the North of England, where even in the unvaccinated it is to a large extent benign.

I am not suggesting that we should abandon our efforts to find a means of arresting the disease in persons already suffering from tuberculosis; far from it. I think we should persist for the sake of those who will suffer until the immunity has been developed; but I am most strongly of the opinion that the time is now ripe for a great campaign of preventive medicine, the ultimate objective of which is the changing of the tubercle bacillus from a highly pathogenic into a non-pathogenic organism. The road is clearly defined for us, and a beginning has already been made by Calmette and others.

As this question is of transcendental importance, it behoves all States which have the interests of their people at heart to begin forthwith and establish institutions for the study of immunity.

Team work and concerted action should be so developed that the subject could be tackled from every possible direction, and all the different institutions in all the different States should work together, arranging between themselves as to the distribution of the work. Generations may be required before the objective is fully achieved, but even a hundred or more years would be well occupied if at the end tuberculosis could be considered a thing of the past, and in the meantime a steady improvement could be looked for.—I am, etc.,

Corbally, Limerick, March 13th. E. G. FENTON.

MALIGNANT DISEASE OF THE THROAT.

SIR,—As one to whom it has fallen to have to deal with a large number of cases of malignant disease of the throat, I write to impress upon general practitioners, to whom these present themselves in the first instance, the great, the vital importance of the recognition of the earliest stages of the disease when removal by one or other method is distinctly hopeful. I am impelled to this by the case of a patient whom I have seen to-day: a man with a growth in his pharynx, suitable for removal by surgical diathermy; but he has a large mass of glands in the neck so extensive that even a large dissection could not eradicate them. This is by no means an isolated case. One hesitates to use strong language, but in view of the seriousness of the question I feel justified in saying that the delay in arriving at, or in obtaining by reference to those who are competent to give, a definite and early diagnosis in patients suffering from symptoms which may be due to malignant disease of the throat is inexcusable nowadays, when for a number of years special instruction in diseases of the throat has been a part of the medical curriculum.—I am, etc.,

Glasgow, Feb. 28th. W. S. SYME.

PHARYNGEAL DIVERTICULA.

SIR,—In the JOURNAL of January 8th (p. 79) Dr. William Hill questioned the grounds on which, during the discussion on his paper on "Pharyngeal diverticula" at the Annual Meeting of the British Medical Association at Nottingham last year (BRITISH MEDICAL JOURNAL, December 18th, 1926, p. 1163 et seq.), I objected to the case published by Sir Rickman Godlee and Mr. Bucknall in 1901 being described as a pharyngeal diverticulum.

I replied to his criticism in the issue of January 15th, and stated the grounds on which, from the clinical and anatomical standpoint, the tumour in this case could only be looked upon as a laryngeal air sac, and that I was prepared to admit the pharyngeal origin of the sac if the microscopic section could be traced, and if definite muco-salivary glands were, as stated, proved to be present. I had not, at the time, considered the question from an embryological point of view.

I now find that the microscopic slide to which I referred has unfortunately been misplaced among the many thousand others at University College Hospital. There is a note, however, by Mr. Lawrence at the museum of his having received the specimen, which is entered as a "pharyngeal or laryngeal sacculus," the latter being deleted; it is therefore evident that the possibility of its being an aerocele was considered at the time.

I was on the point of supplying further proof of the laryngeal origin of this tumour, from an embryological point of view—namely, the relationship of the carotid vessels and superior laryngeal nerve to the canal of the sac—when an unexpected meeting with Sir Arthur Keith, on January 17th, brought to light the following remarkable and somewhat dramatic story, which I think it will be admitted settles the present discussion in my favour. The story runs that on the Sunday following the publication of Godlee and Bucknall's paper in the *Lancet* (1901) he (Sir Arthur Keith) wrote a letter to Godlee, and pointed out that the description and anatomical relationship of the tumour left no doubt whatever that it was a laryngeal air sac; to which Godlee replied, accepting this opinion, and admitting that he was wrong in describing it as pharyngeal. Unfortunately Godlee does not appear to have taken any steps to correct his mistake. If this had been done, and Keith's opinion recorded, the present controversial, but friendly, discussion would not have arisen.

The reconsideration of this case has led me to examine further Dr. William Hill's recent classification of pharyngeal diverticula, and especially the group which he describes as "Congenital lateral pharyngeal diverticular sinuses and aeroceles of abnormal branchial cleft origin," or, again, as "Congenital lateral post-faucial diverticula (synonyms: Aeroceles; branchial diverticula)," usually opening by a mouth in the region of the palato-pharyngeal fold just behind the tonsil.

Dr. Hill, in his paper, says, "it is only very exceptionally, however, that a sinus passing into the neck from an internal pharyngeal orifice expands into an aerocele," and refers to Godlee and Bucknall as having published such a case (the case discussed above), and that they also mentioned a number of recorded cases in which an internally opening sinus had developed into a well marked diverticular aerocele, which presented as an obvious air-filled swelling in the neck. He also draws attention to two of the cases referred to by Godlee and Bucknall as coming under the

same group—namely, one recorded by Watson of Edinburgh in 1875, and another by Wheeler of Dublin in 1886.

The case recorded by Watson as a "remarkable pharyngeal diverticulum" cannot be described and accepted as a cervical acrocele, for there is undoubted evidence that it was a branchial cleft sinus with a dilated saccular or cystic extremity. It originated behind the position of the thyro-hyoid membrane, and such a diverticulum never contains air (Keith). It corresponded in position to the embryonic cervical sinus. Watson himself suggested the possibility that it was a visceral cleft abnormality.

Sir Arthur Keith states that every air-containing sac in the neck which perforates the thyro-hyoid membrane has only one origin, and that is the sacculus laryngis, and that no cervical air sac ever originated in the pharynx; they are all laryngeal and originate from the sacculus laryngis. He further says he has never met with an example, or any evidence, of an air-containing sac in the neck having any other origin, and that there is no such thing as an air-containing pharyngeal diverticulum of developmental origin.

Wheeler described his case as a "pharyngocele with dilatation of the pharynx," and the tumour in the neck as "a sort of aneurysma herniosa" of the pharynx. He expressed his opinion that the primary cause of the tumour was the violent exertion of the voice (the patient was a military man with a stentorian voice, who prided himself on the fact that he could drill an entire brigade by his own word of command), which first led to dilatation of the pharynx, and then some violent effort produced a slight protrusion of the mucous membrane, which became further stretched by food and drink getting into it.

Wheeler mentioned that the internal orifice of the sac, which opened precisely upon the site of the sinus pyriformis, was so large that a complete view of the larynx could be seen through it—that is, the epiglottis, ary-epiglottic folds, vocal cords, etc. He also described the orifice as being entirely bounded by the following muscles: the superior constrictor above, the middle constrictor below, the palato-pharyngeus anteriorly, and the stylo-pharyngeus posteriorly. These boundaries, therefore, place the orifice above the great cornua of the hyoid bone. Dr. Hill in his paper refers to the stalk or canal of the tumour as having been traced upwards between the two carotids. No statement of this kind was made by Wheeler in his original publication, and it is evident that this description belongs to the case which Watson recorded, and which confirms the fact that his case was a branchial cleft diverticulum.

In his classification Dr. Hill places Wheeler's case under the group of congenital lateral post-faucial diverticular acroceles of embryonic branchial cleft origin. In my opinion, and I am supported by Mr. Lawrence, the tumour in this case should be described as a "lateral pharyngeal pressure diverticulum or pulsion pouch."

The case therefore contradicts the general statement, accepted and repeated by Dr. Hill and others, that the mouth of a pharyngeal pouch is *always* in the deep pharynx, and invariably situated posteriorly and mesially at the line of junction of the upper oblique and lower transverse fibres of the inferior constrictor muscle, as is the case in those commonly met with and described.

The late Professor S. G. Shattock[1] stated in 1923 that he did not agree that these pouches always arose in the middle line. He knew of one specimen in which "the situation of a lateral pouch was immediately behind the posterior border of the thyroid ala."

It is obvious, therefore, from the points enumerated and the opinion expressed, that the three cases quoted by Dr. Hill cannot be described as cervical acroceles, and that the term "acrocele" should be deleted from the group of congenital lateral pharyngeal diverticular sinuses of abnormal cleft origin; and further, that all diverticula which pass through the thyro-hyoid membrane contain only air and no food, and are outgrowths of the sacculus laryngis.—I am, etc.,

London, W., March 1st. IRWIN MOORE.

*** The correspondence on this subject in our columns may now be considered at an end.

[1] *Proc. Roy. Soc. Med.* (Sect. Laryngol.), 1923, xvi, pp. 41, 42.

PATENTED RESEARCH.

SIR,—Your editorial comments (March 12th, p. 479) upon the taking out of a patent by the Dicks are timely, and I should like to elaborate the points, having had some small experience of patents—non-medical, of course.

It is quite possible to patent something which is of no practical value, but which may later prove to be a necessary step in the manufacture of something of great practical utility; in such a case the owner of the earlier patent can "hold up" the whole business until he is bought out or given a share of the royalties. Wireless telephony is the most prominent example in recent times.

I hope shortly to publish further results of treatment with residual vaccines. This type of vaccine would furnish an example of the state of affairs that would arise if I had attempted to patent the process of preparation, and certain other workers had also patented their original work. The oxidation process would be the property of Professor H. R. Dean, the washing would belong to Dr. David Thomson—with the proviso that Michaelis might lodge an objection on the grounds of prior use of acid agglutination and precipitation.

It should not be forgotten, however, that one cannot in this country obtain a patent for the use of a remedy to relieve human suffering; the law would only grant protection to some special method of preparing the remedy, and it is very doubtful if the utilization of the special streptococcus of scarlet fever is patentable at all. It is certain that the preparation of a serum for the cure of scarlet fever is not patentable.

The first of these patented remedies was insulin, I believe, and the Canadian patent was presented with a great flourish of trumpets to the Medical Research Council; it would be interesting to know if the Council applied for an English patent under the International Convention, and if one was granted. If the English patent exists it can only refer to the process of manufacture.

It appears to me that even if this system of protecting one's work becomes common it will not be of much real use to the owners of the patents, because the inability to prevent unauthorized use for human treatment will enable anybody to drive a coach and four through most of the patents.

At the same time, the probable angle at which the Dicks look at the matter can be surmised. They see great commercial concerns selling the remedy to the profession, and the public paying huge sums in fees for its use, whilst they get nothing out of it. The public professes a great admiration for the noble work of our profession, but regards the question of fees from a strictly business standpoint.

The only section of the community that has any moral justification for raising an outcry against the patenting of medical research is our own profession, particularly pathologists and other research workers. The lay public—and Big Business in particular—would have no just grounds for complaint.—I am, etc.,

Manchester, March 12th. C. E. JENKINS.

SYSTEMIC TREATMENT OF CANCER.

SIR,—With reference to the remarkable results stated by Dr. Coley in his letter, published in your issue of January 29th (p. 211), I have been hoping that there would have been letters from surgeons in charge of cancer wards, and others, relating their experience with Coley's method of treatment of cancer by means of the mixed toxins of erysipelas and *Bacillus prodigiosus*. I would especially call attention to the following paragraph in Dr. Coley's letter:

> "In a recent follow-up of ninety-three cases of inoperable sarcoma treated with the toxins alone I find sixteen patients have remained alive and well from eight to thirty-three years, and twelve from ten to thirty-three years."

Since inoperable sarcoma means (except in rare instances) inevitable death, these results are most striking.

It is important that we medical officers of health, who are expected to assist in the launching of cancer campaigns, should know what is being done in this country with regard to this form of treatment, which Dr. Coley mentions has also been used successfully in a number of inoperable cases

of carcinoma. It must be remembered that the majority of cancer deaths are due to internal cancers which cannot be, or are not, diagnosed sufficiently early to permit of successful operation.

I would suggest that Dr. Coley should publish in detail the technique of his methods, so that the information may be available for all practitioners who have cases suitable for his method of treatment, the dangers of which, he points out, are practically *nil*.—I am, etc.,

County Offices, Dorchester, March 1st. J. E. ROBINSON.

*** Dr. Coley's treatment of inoperable sarcoma by the injection of a mixed suspension of *Streptococcus erysipelas* and *B. prodigiosus* aroused considerable interest some time back. He stated his views fully to the Section of Surgery of the Royal Society of Medicine in July, 1909; a very good and full abstract of his paper appeared at that time in our columns (JOURNAL, 1909, vol. ii, p. 144), and the complete text was published in the *Proceedings of the Royal Society of Medicine*, 1910, vol. iii, Part III. Dr. Coley gave details of his technique and its successful employment in fifty-two cases of sarcoma. He stated that the changes in the tumour were the same whether the bacterial toxins were injected directly into it or into remote parts of the body, thus indicating that their action is systemic rather than local. He suggested that this treatment was also likely to be useful as a prophylactic against the recurrence of carcinoma after operation, and added that he had obtained some little evidence of its efficacy in dealing with carcinomatous growths. In his recent letter, to which Dr. Robinson refers, Dr. Coley mentioned that he has a book in preparation which will contain a complete report of his results to date, including a number of cases of carcinoma in which the tumours entirely disappeared as the result of this treatment.

WIRELESS MEDICAL CONSULTATIONS AT SEA.

SIR,—I enclose copy of suggestions I recently sent to the Board of Trade (Mercantile Marine Department) by request.

1. All medicines for internal use to be carried in the form of concentrated stock mixtures (two or three of which to contain opium, etc., within the limits of the Dangerous Drugs Acts), pills, and tablets. This would prevent misuse of sedatives, avoid difficult dispensing, and be more effective. I consider that eight or ten formulae for mixtures, eight or ten for tablets, and six or eight for pills would be ample, and, of course, salts and quinine.

2. Chief stewards should have the first aid certificate, and have two or three lectures on simple nursing and on the medicines carried. It falls to their lot to look after any sick.

3. The first aid course should be more like the navy one than that of the St. John Ambulance Association.

4. A more frequent inspection by a Board of Trade medical officer. I have never heard of one.

Dr. Lillingston's letter in your last issue shows the chaos the subject is in.—I am, etc.,

Brighouse, March 14th. F. F. BOND.

BREATHING EXERCISES WITH MOVING ARMS.

SIR,—A sentence in Surgeon Commander Horace Hill's paper (March 5th, p. 422) calls for comment. "Neither, when the arms are raised, can any pull occur on the ribs to elevate them, any muscles tending to oppose the raising of the arms being elongated and their tone inhibited (Sherrington's proprioceptive reflex and reciprocal action of antagonistic muscles)."

But when one sits in a chair and palpates the tendons of the hamstring muscles, one finds that on extending the leg on the thigh, with the elongation of the hamstrings, the tension of their tendons increases: thus, the tension of the hamstrings must increase, so that they are not inhibited. Again, if with the elbow flexed and the arm so held that the elbow points upwards (to put the effect of gravity on the biceps and of torsion on the joint out of court), the tendon of the biceps of the arm is palpated by grasping it between a finger and thumb in the anticubital fossa, one finds that on extending the forearm on the arm the tension of the biceps tendon increases in spite of the fact that the muscle is elongated. And if one lies on the back and palpates the pectoralis major muscle by grasping it in the anterior fold of the axilla, with the arm in a position of adduction, and then moves the arm into abduction, it is found that with and during the movement, as the *pectoralis major is being* extended (that is, elongated) its tone—its tension—that is, its state of contraction, progressively increases.

How, then, can it be said that raising the arms does not elevate the ribs, causing, or tending to cause, an expansion of the chest, and, if the glottis and diaphragm permit, an inspiration? We know very well that such movements do have such effect, and for this reason are commonly employed for artificial respiration. How do they cause inspiration, if not by the effect of the movement on the tone—on the tension—of the pectorales?

Many other instances of this "action" of muscles "opposing" a movement exist. Thus, on inspiration (with fixed thorax), with the descent of the diaphragm, the belly wall bulges and the recti abdominis become harder (Keith) (that is, more contracted). As the erect individual stoops, the erector spinae become longer and yet are more contracted (Zuckerkandl) (as they obviously must be—for they have to do greater work). As the pelvic floor descends during straining (for example, during defaecation and parturition) the muscle fibres of the levator ani, though they become longer, become more contracted (Halban and Tandler). So also we see that during pregnancy the flank muscles of the belly wall become so elongated and so resist the elongation that not only they but their aponeuroses suffer, producing a muscle weakness and a separation of the recti (regression). If the flank muscles were simply "inhibited" and simply elongated, no separation of the recti would occur.

Can, then, the doctrine of the reciprocal innervation of antagonistic muscles stand? Or are the experiments on which this conception is based (at least those adduced in that most interesting book *The Integrative Action of the Nervous System*) open to another interpretation? Do the phenomena I have mentioned throw light on Thomsen's disease, and on the difficulty of movement experienced by individuals who are "muscle bound"? Is not the muscular state of an individual poisoned by strychnine but an exaggerated picture of the normal? Or is it, as has been suggested, an exception? Perhaps, after all, the "inhibition" (the dying away of the tonic contraction) of a muscle or of a muscle group opposing a movement is the exception—the active participation of opposing muscles in a movement being an absolute necessity for "co-ordinated," that is, precise movement. (Compare tabes dorsalis.)—I am, etc.,

Rugby, March 6th. R. H. PARAMORE, F.R.C.S.Eng.

RESISTANCE TO QUININE IN MALARIA.

SIR,—Sir Humphry Rolleston's reference to the extremely resistant character of malaria to quinine treatment during the war in the Macedonian area (January 15th, p. 89) raises certain questions.

The past malarial season in the Punjab, India, has been a very bad one, and has provided more material for discussion than could be satisfactorily dealt with in full scientific and statistical manner, and I am therefore unable to give figures in support of my statements. Cases diagnosed malaria (almost invariably benign tertian or malignant tertian, or both) as a result of microscopic examination were immediately treated by quinine sulphate, and in the large majority this led to the condition being brought under control. In practically all cases where the pyrexia did not yield to this treatment, urinary examination revealed that no quinine was being excreted by this channel, and presumably, therefore, was not being absorbed. Substitution of quinine hydrochloride, or the bihydrochloride, resulted invariably in a fall of the temperature to normal, and in the appearance of quinine in the urine.

This suggests to me that it was not a question of the malarial parasites being resistant to quinine in the war area in question, but merely lack of absorption of quinine; medical officers in the area were too overworked to study each individual case after being satisfied that the condition

was malarial; and often lacked previous experience of tropical diseases.

The time available for the study of this question was not very great, but I raise the point in the hope that others with similar experience may investigate it.—I am, etc.,

February 11th. I.M.S.

THE AFTER-TREATMENT OF MASTOID OPERATIONS.

SIR,—In your issue of February 26th (p. 375) Mr. A. J. Wright has drawn attention to the advantages of ambrine, or the *British Pharmaceutical Codex* paraffin No. 7, as a dressing for the radical mastoid cavity. Originally suggested by Daure in 1917, the method has received the strong support of Liebault, who published results in the *Revue de Laryngologie*, vol. 45, No. 7, 1924. Probably this is the reference which Mr. Wright desires. Liebault does not commence the ambrine treatment until the sixth or eighth day after operation. He renews the dressing every second day, and states that within a fortnight the cavity is almost dry and lined with epidermis. Although my personal experience of the method is small, the results have been most encouraging.

The "simple" or Schwartze operation has been robbed of its terrors by immediate suture following the use of bipp paste. May we not hope that a similar revolution in regard to the "radical" operation may be achieved when otologists recognize the value of the paraffin treatment?—I am, etc.,

Edinburgh, March 7th. DOUGLAS GUTHRIE.

INFLUENZA AND ALBUMINURIA OF PREGNANCY.

SIR,—There must, I think, be some more than casual relationship between influenza and albuminuria of pregnancy, even if it does not amount to cause and effect, which I feel is not improbable. I have had a number of cases of albuminuria of pregnancy passing through my hands during the last few weeks whilst the epidemic of influenza has been with us, and on looking through the hospital records I see the same was true during the epidemic of 1919. Then I put it down to a different cause, but I think I was wrong in view of my present experience. At that time I assumed it was the result of pregnant women getting back to a more generous diet than had been possible during the war.

I should be interested to know if the experience of others has been similar to my own during this and the previous epidemic, and why it is that the pregnant woman only is affected in this way.—I am, etc.,

Ipswich, March 10th. JOHN GUTCH, M.D.

PUERPERAL SEPSIS.

SIR,—I am obliged to Dr. Oxley for drawing my attention to a seeming misinterpretation of the table given in the East End Lying-in Home for the year 1925. By sepsis I mean puerperal sepsis. My figures were on that basis for both this home and the Glasgow Maternity. To satisfy Dr. Oxley, let me now give the figures for the relative *deaths* from sepsis. In 1925 one patient (ill before admission) died from sepsis; outdoor none. In Glasgow the deaths were: indoor 26, outdoor 8. In forty-one years in London there have been 3 deaths from sepsis indoor, against 866 in Glasgow; and not one death outdoor, against 328 here.

I agree we are all striving to reach the ideal of no sepsis, but Dr. Fairbairn quoted this home as an example of what could be done by the general practitioner, and I ask him how his figures compare with it, and I ask Professor Kerr the same. Is this unfair?—I am, etc.,

Dennistoun, March 12th. JAMES COOK, M.B.

DR. ARCHIBALD CAMERON.

SIR,—As must often happen in the case of the vagabond members of the Association, my weekly copy of the JOURNAL often follows an erratic course before it reaches me—for example, the issue of December 4th, 1926, has only come into my hands to-day; hence this delay in writing.

On page 1056 of that issue, under the heading "Medical Criminals," appears a report of "an address on some well-known medical criminals," given by Dr. L. A. Parry. Now, Sir, I do not accuse Dr. Parry of deliberate malice; but am wishful to enter my protest against the inclusion of Dr. Cameron in the same category with poisoners, with other kinds of murderers, and with mob leaders and burglars.

Archibald Cameron and all of his brothers, the eldest of whom was chief of his clan, were royalists: no doubt the members of the Hanoverian faction professed to regard them as traitors; but had the royal arms been fortunate instead of unfortunate in 1745, the King would have come back to his own again and the Hanoverians would have been traitors before the law. It is notorious that Dr. Cameron freely gave his services to the wounded of both sides and that many Hanoverians gave their cordial testimony to his humanity. After he had escaped to France in 1746 (he was a member of the prince's party, including Lochiel himself and the father of Napoleon's famous marshal, MacDonald, who escaped from the West Highlands by the French brig) he, carrying his life in his hands, returned to Scotland on three occasions on his royal master's business, the father of the latter, James VIII and III, being still alive. On the third of those occasions he was sold by the despicable Puckle the spy (young Glengarry, from whom, however, the present house of Glengarry is not descended); he was taken south and executed in London on June 8th, 1753; he remained loyal to the end; and even the bitter sort of the Hanoverians themselves regarded his execution as a judicial murder. Wherever pristine loyalty is cherished he is known as the last of the Jacobite martyrs. His name is not one to be mentioned with names of poisoners, etc.—I am, etc.,

January 27th. NOMADIC DOCTOR.

*** On the proverbial saying "Treason never prospers" somebody a few centuries ago made the couplet:

> Treason doth never prosper. What's the reason?
> If it prosper none dare call it treason.

This seems to put our nomadic correspondent's argument pithily and wittily. Amid the fierce passions of the eighteenth century the prudent man chose his party with care, but in justice to Dr. Parry we must recall that he was careful to put those accused of high treason in a class by themselves. We have shown this letter to Dr. Parry, who asks us to offer his sincere apologies to the writer. Dr. Parry adds: "Dr. Cameron should not be called a famous criminal; I fully recognize my mistake. The proper title of my lecture should have been 'Some famous medical trials,' and this is the name under which I am shortly publishing a book, an extension of my lecture."

THE DEVELOPMENT OF VAGINAL OPERATIONS FOR GENITAL PROLAPSE.

SIR,—I submit the following brief reply to Dr. R. A. Paramore's letter in your issue of December 25th, 1926 (p. 1241).

1. The primary or main supports of the uterus are the cardinal ligaments. This view is borne out, first, by the late Arthur Nyulasy's successful operation of looping or shortening these ligaments, and thereby overcoming uterine prolapse; secondly, by the fact that the perineum may be lacerated right into the rectum without any uterine prolapse whatever occurring; thirdly, by the fact that, in an ordinary vaginal hysterectomy, the uterus cannot be fully brought down until the cardinal ligaments (in the base of the broad ligaments) have been divided; fourthly, by the emphatic opinion of the eminent anatomist Professor A. F. Dixon on "The supports of the uterus," as expressed in the BRITISH MEDICAL JOURNAL of March 29th, 1919 (p. 378).

2. The secondary support of the uterus is the pelvic diaphragm, which prevents undue stretching (that is, strain) of the cardinal ligaments as the result of intra-abdominal pressure; so that, in this regard, the function of the pelvic diaphragm is merely subsidiary to that of the cardinal ligaments.—I am, etc.,

Melbourne, Feb. 5th. FRANK A. NYULASY, M.D.

PRACTITIONERS OF PATHOLOGY.

SIR,—The British Pathologists Association was formed at a meeting held in London on January 7th last, for the purpose of developing the application of pathology in relation to medicine, and of protecting the interests of those engaged in its study and practice. Membership is open to all registered medical practitioners engaged in the study and practice of pathology.

It is, in the opinion of the council of the association, very necessary that there should be in existence a schedule of minimal fees payable for pathological investigations for persons insured under the National Health Insurance Acts. In the absence of such a schedule there is bound to be competition for this work, with consequent fee-cutting and inefficiency.

The council of the association has in hand the drafting of a schedule of fees for the various classes of laboratory investigations in general use in clinical medicine. The fees in this schedule have been worked out on the basis of the cost per pair of hands per hour employed in a pathological laboratory under the direction of one of the members of the association, the costs of which have been accurately controlled over a period of years. The fees indicated may be regarded as the minima which can be expected to give a reasonable financial return when the procedures are performed in a laboratory subsidized from no outside source.

Copies of this schedule will be sent on request to all members of the association, for comment or suggested amendment.

The British Pathologists Association is working in the very closest touch with the British Medical Association, from which it has received invaluable help. The schedule of fees for pathological investigations is to be submitted to the Insurance Acts Committee of the British Medical Association at an early date, at a meeting at which the whole question of provision of a pathological service for panel patients will come under discussion.

It is proposed to submit this schedule to the Ministry of Health and to urge its adoption for pathological work performed for insured persons under any arrangements made either by the Ministry or by individual National Health Insurance Committees.

In approaching the Ministry of Health the British Pathologists Association wishes to be able to speak as representing the body of practising pathologists in this country. Practising pathologists not already members of the association are therefore urged to become so. The annual subscription is £1 1s., which includes entrance fee. Medical practitioners desiring to join the association should communicate with one of the members of the council, which is constituted as follows:

Dr. C. Powell White (President), Victoria University, Manchester; Dr. J. G. Greenfield, National Hospital, Queen Square, London, W.C.1; Dr. S. C. Dyke, Wolverhampton and Staffordshire Hospital, [illegible], 16, St. John Street, Manchester; [illegible]on and East Cornwall Hospital, [illegible]neral Hospital, Bristol; Dr. A. G. [illegible] Hospital, Eastbourne; Dr. A. F. [illegible]wansea; Dr. W. Grace, Royal Infi[illegible]lly, Royal Devon and Exeter Hospital, Exeter.

—I am, etc.,

S. C. DYKE,
Secretary, British Pathologists Association.

Wolverhampton, March 10th.

OPTICIANS AND OPHTHALMIC BENEFIT.

SIR,—I send the following account in the hope that it may be sufficiently interesting for publication. It also tends to prove that these societies (and I believe that there are many) who direct their members to go to the opticians for ophthalmic benefit are not always in the right.

In December, 1926, a woman factory worker, aged 34, was sent to me by her panel doctor, who recognized that the headaches from which she was constantly suffering were due to refractive errors. Four years ago she had been to a qualified optician (who, by the way, had charged her £2 7s. 6d. for a pair of rimless spectacles), and his prescription was for right and left eyes +0.5 axis cylinder horizontal.

She wore these spectacles for one year, but obtaining no relief she went to him again, and he then altered the lenses to −0.5 cylinder axis horizontal, right and left; for this change of lenses the charge made was £1 1s. Still obtaining no relief, the patient discontinued wearing the spectacles for a considerable time, and the headaches continued. She was then referred to me, and my notes show as follows:

No conjunctival injection. Pupils react to light, and media normal. Right vision 6/24 not improved. Left vision 6/18 not improved. Under homatropine her refraction was

R. +3.5 ⊕ +2. L. +2.5 ⊕ +1.75.

At a post-mydriatic test she preferred

R. $\frac{+0.25 \text{ sp.}}{+1.5 \text{ cyl. hor.}} = \frac{6}{6}$ L. $\frac{+0.25 \text{ sp.}}{+0.75 \text{ cyl. hor.}} = \frac{6}{6}$

These were prescribed for constant wear, and since wearing them she has been quite free from headaches.—I am, etc.,

A. G. C. POCOCK.

Leicester, Feb. 23rd.

THE SPAHLINGER TREATMENT.

THE following letter has been addressed to the President of the British Medical Association by the President and Secretary of the Central Committee of the Fédération des Médecins Suisses:

"MY DEAR COLLEAGUE,

"The Swiss medical faculty has for some time past been receiving a considerable number of inquiries from British doctors as to the extent to which the methods utilized by Mr. Spahlinger of Geneva for combating tuberculosis are known and utilized in Switzerland, and what is the opinion of the Swiss medical fraternity with regard to them.

"The Central Committee of the Swiss Medical Federation (Fédération des Médecins Suisses) has therefore decided to make and communicate to you the following declaration:

"(1) Mr. H. Spahlinger of Geneva, 'licencié en droit,' holds no medical degree, and so is not a member of our Federation.

"(2) The serums and vaccines that he claims to have discovered for the cure of tuberculosis have so far only been applied in exceptional cases by Swiss doctors and for Swiss patients; moreover, the Swiss medical press has never published any communication either from Mr. Spahlinger himself or anyone else giving the composition of these serums and vaccines, the means by which they can be prepared or procured, and the therapeutic results that they have given. Any control in our country of the value of these serums and vaccines, or of the results obtained by their application, has therefore been impossible.

"(3) Consequently, Mr. Spahlinger's methods have so far remained unknown to the large majority of Swiss practitioners.

"(4) The Geneva Medical Society (Société Médicale de Genève) was asked by the Central Committee to give its opinion on the Spahlinger treatment. It replied that it was not at present in a position to give any opinion on Mr. Spahlinger's methods, as no published statement existed giving a sufficiently clear account of these methods to allow of their serious examination. The Geneva Medical Society further noted that Mr. Spahlinger's first statement in explanation of his system had been made to the society on the 2nd March, 1927, in order to enable it to comply with our request. This statement could not, however, be considered as in any way conclusive, since the ground plan of his work and the basis of his statement are purely theoretical, and have not yet been subjected to scientific investigation.

"We should be glad if you would bring this declaration to the notice of the members of your Association.

"We have the honour to remain,

"Yours faithfully,

"Dr. H. MAILLART, *President*,

"Dr. GARRAUX, *Secretary*,
of the Central Committee of the
Fédération des Médecins Suisses."

Geneva, March 8th.

Obituary.

FREDERICK ARMITAGE SOUTHAM, M.A.,

M.B.Oxon., F.R.C.S.Eng.,

Consulting Surgeon, Manchester Royal Infirmary; Emeritus Professor of Surgery, Manchester University.

WE greatly regret to announce the death of Mr. F. A. Southam, which took place on March 9th. Mr. Southam was the son of Dr. George Southam, who was honorary surgeon to the Manchester Royal Infirmary from 1847 to 1876. George Southam was lecturer in surgery at the old Chatham Street School of Medicine, which later joined with the School of Medicine in Pine Street, and subsequently amalgamated with Owens College. He was a prominent man in the medical life of Manchester in the middle of last century, and was President of the Council of the British Medical Association in 1872 and 1873.

Mr. F. A. Southam, who was born in Manchester in 1850, was sent to Rugby and went up to Trinity College, Oxford, in 1869. He graduated B.A. in 1873, taking a first class in natural science. He graduated M.A., and also M.B.Oxon. in 1877, and was admitted a Fellow of the Royal College of Surgeons of England in the same year. His clinical study was carried out in Manchester, where he won many honours. In 1876 he became physician's assistant at the Manchester Royal Infirmary, was house-physician in 1877, and resident surgical officer in 1878 and 1879. He was also for a time resident at the Barnes Convalescent Hospital. He was elected honorary assistant surgeon to the Manchester Royal Infirmary in 1880, and remained on the active staff until 1910, when he retired on reaching his sixtieth year. In 1914, owing to the shortage of surgeons due to the great war, he again took charge of a surgical unit at the infirmary, and helped the hospital during a time of great difficulty. During the war he also held the rank of Lieutenant-Colonel R.A.M.C., and did much valuable work at the Second Western General Hospital. Mr. Southam was the author of *Regional Surgery: a Manual for Students*, a book which was widely read by students of his day. He wrote many articles on surgical topics in the course of his life, one of the best known being that on fractures, in Treves's *Manual of Surgery*. In 1887 he received a certificate of honourable mention for the Jacksonian Prize at the Royal College of Surgeons of England for his dissertation on the subject of "The pathology, diagnosis, and treatment of tumours of the bladder." It is perhaps for his work on the bladder and on vesical calculus that Mr. Southam was best known. In 1904 he published a paper in this JOURNAL on a series of 120 operations for vesical calculi. To the end of his life he showed great interest in this subject, and as recently as two years ago a letter from him was published in the BRITISH MEDICAL JOURNAL on the question of the treatment of bladder stone. He was also one of the pioneers in the early operative treatment of acute appendicitis, and published several important articles on the subject when this disease first became recognized. He was lecturer in operative surgery at the Victoria University, Manchester, for a number of years, and later held the appointment of professor of clinical surgery at the University. He was a past president of the Manchester Medical, Pathological, and Clinical Societies, and was an honorary member of the Manchester Surgical Society. He was for many years a member of the British Medical Association and took an active part in its meetings. He was secretary of the Section of Surgery at the Annual Meeting at Birmingham in 1880, vice-president of the Section of Diseases of Children when the British Medical Association held its annual gathering in London in 1895, and vice-president of the Section of Surgery at the Annual Meetings in Carlisle and Manchester in 1825 and 1902 respectively. He held a number of consultative positions in connexion with the medical institutions of Manchester; among these were consulting surgeon to the Manchester Royal Infirmary, the Northern Hospital for Women and Children, the Manchester Christie Hospital, and the Victoria Memorial Jewish Hospital. He was formerly examiner in surgery to the Universities of Oxford and Manchester.



F. A. SOUTHAM, F.R.C.S.

Mr. Southam was a man of unusual character, combining quiet determination with rare kindliness and goodness of heart, and was pre-eminent as an instructor. His teaching was of the simplest and clearest character, without being confusing or deep, and at the same time perfectly definite. His old pupils speak in the highest terms of his judgement, which was unerring, and his operative skill, which was unequalled in his day. He was a cool and careful operator, and was never at a loss in any surgical emergency. Perhaps one of the secrets of his success in surgery was his rapidity in operating. His ward classes and clinical lectures on surgery were the best given in their time, and rarely surgeons, even at the present day, equal him in directness. Few men have been held in such affection by those who came under his hands, both as a teacher and an operator. He was a great athlete in his earlier days, winning his blue at Oxford for short-distance running, and even to the end he was a well known figure in the Manchester streets, always preferring walking to driving. It is recorded that people living in his neighbourhood set their clocks by the regularity of his daily peregrinations until the last week of his life. He was a keen golfer, even to the extent of having a practice net fitted up in his own home. In 1882 he married Amy Florence Hughes, daughter of the headmaster of Blundell's School, and had a very happy married life. He was left a widower four years ago, and is survived by his two sons, the Rev. Eric Southam, vicar of St. Mark's, Portsmouth, and Mr. A. H. Southam, M.Ch.Oxon., F.R.C.S.Eng., who is carrying on the surgical tradition of the family in Manchester.

The funeral service, which was conducted by his old rector the Bishop of Middleton, took place at the Manchester Crematorium on March 11th, and was largely attended by members of the medical and surgical profession in and around Manchester. The ashes were deposited in the family vault at St. John's, Pendlebury, the following morning.

DR. WILSHAW WILLIAM GROSVENOR, who died on January 8th at Bury Vicarage, Sussex, received his medical education at the University of Cambridge and St. Bartholomew's Hospital. He obtained the diplomas M.R.C.S.Eng. and L.R.C.P.Lond. in 1888, and graduated M.B.Dublin in 1894, proceeding M.D. in the following year. For many years Dr. Grosvenor carried on a successful practice at Gloucester, and was a strong supporter of the British Medical Association. He was honorary secretary of the

Gloucester Branch from 1899 to 1902, and one of the honorary local secretaries of the Annual Meeting at Cheltenham in 1901. He was elected president of the Gloucester Branch in 1911, and served on the Branch Council from 1912 to 1919.

Dr. FREDERIC WILLIAM POLLARD of Blackburn died on February 25th, aged 51 years. He was the son of the late Dr. W. R. Pollard, who for nearly half a century was medical officer to the Blackburn rural district council. His early education was conducted by a private tutor, and he studied medicine at the University of Edinburgh and Trinity College, Dublin. He took the diplomas of Lic.Med., L.Ch., and L.M. in 1901, and graduated M.B., B.Ch., B.A.O.Dub. in 1924. After serving as clinical clerk to the Meath Hospital, Dublin, he joined his father in practice and subsequently started on his own account. For several years he was a district medical officer, and had to resign the appointment owing to pressure of other work. Dr. Pollard was a member of the Blackburn Division of the British Medical Association, and during the war served at the Whalley Military Hospital; he is survived by his widow. *The funeral, which took place on March 1st,* was attended by many members of the medical profession in Blackburn and the surrounding district.

The death occurred rather suddenly, on February 14th, of Dr. JOHN BRANGAN, Kells, co. Meath, at the age of 56. He had an anginal attack a few days previously, but apparently recovered, and visited some patients on the day of his death; a second attack occurred in the evening, and he succumbed. A native of co. Meath, he was educated at St. Malachy's College, Belfast, and the Catholic University of Dublin, obtaining the diplomas of L.R.C.P. and S.Ed. and L.R.F.P.S.Glasg. in 1899. He was appointed medical officer to Kilskeer Dispensary in 1900, coroner for North Meath shortly afterwards, a justice of the peace for the county, and later a peace commissioner. Dr. Brangan had a very extensive practice, and was held in the highest esteem by all classes of the community. His splendid physique, with his cheery and friendly smile, inspired confidence in his patients, who recognized in him a sincere friend and a skilled physician. Apart from his profession, his special hobby was the breeding and racing of horses, and during the past quarter of a century he owned some very good thoroughbreds, who won races on both sides of the Channel; Icila, Tisheen, Hairpin II, Parapluie, and Gardenrath, to mention only a few of his animals, were well known in England. His funeral was one of the largest ever seen in county Meath, and was representative of every class and creed. Dr. Brangan leaves a widow and a family of seven. His eldest daughter and second son are members of the medical profession.

Dr. ISAAC WHITLA CORKEY of Epsom was one of those brilliant young Ulstermen whose services were lost to Ireland when the Irish Free State came into being. He was born at Warrenpoint, county Down, in 1892, and studied medicine at the University of Dublin, where he won a medical scholarship, graduating B.Ch. and B.A.O. in 1915, and later proceeding to the M.A., M.D., and M.Ch. degrees. He had a distinguished career in the war, when he served as medical officer with the Ulster Division and gained the Military Cross, and after demobilization from the R.A.M.C. at the end of the war he took the Fellowships of both the English and the Irish Colleges of Surgeons. In 1919 he was appointed assistant surgeon to Sir Patrick Dun's Hospital, Dublin, and had to all appearances a successful career before him in the Irish capital; but the Irish Free State and the methods of those who strove for its formation were both so distasteful to him that he threw up his appointment, settled at Epsom in partnership with another of his compatriots, and was appointed surgeon to St. Anthony's Hospital. Corkey (writes a former colleague) was in many ways a typical Irishman: impulsive, even hot-headed, generous, humorous, and, above all, eminently human. He had the defects of some of these qualities, in that it was often difficult to make him see both sides of any question, especially political or religious questions. But he never bore malice, was always as ready to laugh at himself as at anyone else, and was, in a word, a man whom anyone might be glad to call his friend. He was nephew to Sir William Whitla of Belfast. He leaves a widow and one very young child, to whom sympathy will be widely extended on the sudden loss of so brilliant and popular a member of the medical profession.

Dr. ANDREW THOMSON, who died in Edinburgh on February 19th at the age of 70, came from a well known Border family, who for several generations had held the farm of Hobton, Ancrum. Dr. Thomson graduated M.B., C.M. at Edinburgh in 1883, and thereafter practised for a time at Wakefield. He had retired from active practice about three years ago, and went to reside in Jedburgh. He was keenly interested in local sports, and in particular was an enthusiastic supporter of the Jedforest Football Club.

Dr. WILLIAM YOUNGSON DAVIDSON, who died on February 27th, after a very short illness, had practised in Smethwick for fifteen years. He received his medical education at Aberdeen, and graduated M.B., Ch.B. in 1908. He took great interest in municipal affairs, and particularly in the housing question, and he was an active member of the Conservative Association. In 1924 he was elected to the Smethwick Town Council as a representative of the Soho ward, and served on the health committee. He was a member of the British Medical Association, and served on the Executive Committee of the Birmingham Central Division in 1925. His funeral on March 2nd was attended by the Mayor of Smethwick and by representatives of the various organizations with which he had been connected.

Dr. ANDREW ROBERTSON of Halifax died on March 4th, aged 64 years. He was educated at the University of Edinburgh, where he graduated M.A. in 1882, and M.B., C.M. in 1888. After serving as assistant house-surgeon to the Halifax Infirmary he started practice in 1888. During the war he was a member of the St. Luke's War Hospital medical staff with the rank of Major R.A.M.C., and his name was amongst those brought to the notice of the Secretary of State for War for valuable services rendered. Dr. Robertson took a keen interest in cricket and football, in both of which games he excelled in his earlier years. He was a member of the Halifax Division of the British Medical Association; his widow and one son survive him.

Dr. JOHN MOORE SWAIN, of Long Clawson, Leicestershire, who was born in January, 1827, died on March 7th. He obtained the diploma L.S.A. in 1849, and the M.R.C.S. in the following year, being one of the first to register under the Medical Act of 1858. For between sixty and seventy years he practised in the Vale of Belvoir, and only retired about five years ago. He was well known for his generous gifts to local institutions. For nearly forty years Dr. Swain was a member of the British Medical Association, and a telegram was sent to him a few weeks ago by the President of the Association congratulating him on the attainment of his hundredth birthday.

The following well known foreign medical men have recently died: Dr. GABRIEL FERRÉ, professor of experimental medicine in the Bordeaux faculty of medicine; Dr. JUAN BARCIA CABELLERO, professor of anatomy and rector of the University of Santiago; Dr. MAX FINGERHUTH, joint editor of the *Schweizerische medizinische Wochenschrift*; Dr. WILLIAM OETTINGER, a Paris physician who was the author of works on diseases of the arteries and digestive system; Dr. CASPER HENDRIK KUHN, formerly professor of morbid anatomy and medical jurisprudence at Amsterdam; Professor KARL ERNST RANKE of Munich, a leading authority on tuberculosis, aged 56; Professor HEINRICH BENEDICT, director of the Jewish Hospital in Budapest, aged 54; and Dr. WILHELM FLEINER, formerly director of the medical policlinic at Heidelberg.

Medico-Legal.

HUME-SPRY *v.* SMITH AND WATSON.

BEFORE Mr. Justice McCardie and a special jury in the King's Bench Division the hearing was continued on Wednesday, March 9th, of the action brought by Mr. F. Hume-Spry against Dr. R. Percy Smith of Queen Anne Street, W., and Dr. A. H. Watson of Salisbury, for damages for alleged negligence in certifying him as a lunatic.

The defendants pleaded the protection of Section 330 of the Lunacy Act, 1890, because they acted in good faith and with reasonable care; and, further, they relied on the Public Authorities Protection Act, 1893. A summarized report of the earlier proceedings appeared at page 495 of our last issue.

Plaintiff's Case Continued.

Dr. J. S. Risien Russell, of Wimpole Street, gave evidence for the plaintiff. He saw Mr. Hume-Spry on December 17th, 1925, and, after reading the certificates of the defendant doctors, he questioned the plaintiff as to the examinations he had been subjected to before certification. He saw the plaintiff again in January, 1926, and after a further complete examination, both physical and mental, he could not find any evidence of insanity—or, from the evidence before him, that he had ever been insane. The "delusion" mentioned in the certificates was a perfectly possible state of things—Mrs. Hume-Spry's misconduct—and was not the same thing as a *man thinking that he was the Deity, or the King of England, or* the Emperor of Germany. The history which he heard was compatible with psychasthenia, in which the patient might behave in the manner popularly known as that of a "raving lunatic," or he might be morose and seek solitude as the plaintiff was said to have done. The condition was particularly common since the war. In the witness's opinion the certificates of insanity ought not to have been given.

Mr. Neilson, K.C. (cross-examining): Assuming that Dr. Smith saw the case-book at Latchmere Hospital, was told the facts by Dr. Oliver, and had an interview with the plaintiff lasting an hour and three-quarters, are you prepared to say that he could not properly and honestly make up his mind that the patient should be put under control?—No; but if he had found at the examination anything which justified that, it must have appeared in the certificate, and there is not one word in this certificate which would justify a man's being certified.

Dr. Russell agreed that copies of the certificates went before the Board of Control, who had full control of institutions such as the Old Manor House, and that if they were not satisfied they could take action and send the patient out of the asylum.

Dr. T. B. Hyslop, of Portland Place, W., said he examined the plaintiff on March 3rd last, and found him of sound mind and understanding. During forty years he had never put down in a certificate any fact communicated by others. It was necessary to make a physical examination of a patient to exclude the possibility of the mental symptoms arising from some bodily illness. In his opinion, Dr. Percy Smith should have considered the physical as well as the mental aspect.

Cross-examined, Dr. Hyslop said Dr. Smith might have thought that he was justified in giving the certificate, but he (witness) would not have accepted hearsay evidence in dealing with a person's liberty without putting the matter to the patient himself. There was no obligation to certify; on the other hand, there was an obligation to the public and to the patient. In a social matter, such as an allegation of immorality against a wife, it was not the medical practice to go further than questioning, and, if necessary, cross-questioning, the patient about the suggestions of immorality.—"I think that many medical men have extreme courage in these matters. A doctor is always on the horns of a dilemma and is inadequately protected by the law."

Sir James Purves-Stewart spoke to examining the plaintiff on December 18th, 1925. It was not until he saw the letters written to Mrs. Hume-Spry by Dr. *Stodart-Walker* that he expressed an opinion. Then he declared that the "delusions" were not delusions, but beliefs founded on reasonable evidence. On physical examination he could find no evidence of mental disease at all, and he therefore came to the conclusion that the plaintiff was sane.

Cross-examined, the witness agreed that Dr. Smith, on March 13th, 1923, might properly have taken a view different from that which he had expressed, especially if he had been inadequately informed.

Mrs. Weller and Mrs. Thwaites, sisters of the plaintiff, also gave evidence.

Case for the Defendants.

Mr. Neilson, in opening for the defence, said Section 330 of the Lunacy Act, 1890, gave protection to *medical men in addition to that* afforded by the common law. That section provided that, if any medical man did anything in pursuance of that Act, he was not to be liable in any civil or criminal proceedings so long as he had acted in good faith and with reasonable care. If Dr. Smith and Dr. Watson gave their certificates honestly, and in the proper exercise of the skill which they possessed, they would not be liable, even though other medical men might think that the plaintiff was suffering from psychasthenia and not from unsoundness of mind. Doctors were entitled to differ, and when doctors had to examine a patient to ascertain the condition of his mind they had a very grave responsibility and had to make up their minds in circumstances of very great difficulty and complexity. They had to pay regard, not only to the interests of the patient, but also to those of the public. There was the added complication in the present case of the allegations between Mr. and Mrs. Hume-Spry. The defendants were not concerned with the truth or falsity of these allegations. The only things that mattered were their state of *knowledge when they gave their certificates, the care that they took* in examining the patient and in forming their opinion, and what the plaintiff's condition was on the material dates of certification.

Dr. Percy Smith, in evidence, said he had practised as a consulting physician on mental cases and nervous diseases since 1898. He had known Dr. Woods professionally since 1912, but not socially. He was asked over the telephone by Dr. Oliver, the medical superintendent under the Ministry of Pensions at Latchmere Hospital, to go and see the plaintiff. The symptoms displayed in the documents, and the story which he heard from Dr. Oliver, were facts which put him on inquiry. He regarded it as serious that the patient should threaten to kill Dr. Woods by shooting him with a revolver. The plaintiff looked very angry and suspicious. The interview lasted three-quarters of an hour. Then he saw Mrs. Hume-Spry, and he felt she was telling the truth. Turning on the gas in his wife's bedroom and putting a knife to his own throat were acts on the part of the plaintiff which he regarded as serious. Having seen the husband and wife and the documents, he then expressed his honest opinion that the plaintiff was insane and not a fit person to be at large. The fact that he knew Dr. Woods in the professional sense did not in any way influence him in the decision he came to, except that he felt that for a man in the position of Dr. Woods it was such a grave charge that he could not believe it.

Answering Mr. Justice McCardie, the witness said he regarded the plaintiff at the time he certified him as unfit to manage his affairs or to look after himself, and as being a danger to others. Continuing, Dr. Percy Smith said that the same evening he heard that the plaintiff had left the hospital and had not returned, and, as he considered it very dangerous for the plaintiff to be at large, he signed the certificate the next morning.

Cross-examined, Dr. Smith said he would not offer any opinion as to the plaintiff's sanity now. He had heard the plaintiff's evidence in that court as to the grounds for his belief that his wife had been unfaithful to him. They were much to the same effect as the statements the plaintiff made to him in March, 1923. He admitted he never examined the plaintiff physically. In reply to the Judge, who asked, "What is the final question before signing a certificate?" the witness replied that an important question was whether the patient was safe to be at large, or whether he was a danger either to himself or to others. A third question was whether the patient was marked by such unsoundness of mind as to require treatment in a mental hospital.

Sir H. Maddocks: Looking at the certificate, can you see anything in the facts observed by yourself which would justify you in certifying the plaintiff?—Yes, because he had, in my opinion, a delusion that his wife had committed misconduct with Dr. Woods and could prove it. I formed the opinion that that was a delusion after I had seen his wife, and because he said that the idea came to him with redoubled force from his environment and not from anything new.

The witness agreed that he did not ask the plaintiff whether he had threatened to kill Dr. Woods. One of the things to consider was the *bona fides* of the people who reported such threats. He agreed that a medical man who took out to dinner the attractive wife of one of his patients was very injudicious, but even if he had known in March, 1923, that Dr. Woods had taken Mrs. Hume-Spry out to dinner and had visited her at her flat, he would still have certified the husband, because there were other things which might have been put down in the certificate. He did not make any attempt to find out the truth of Mr. Hume-Spry's charges against Dr. Woods; he was not a magistrate. In reply to a question whether, if he had known as a fact that she had misconducted herself with Dr. Woods he would have signed the certificate, the witness said he did not suppose that he would. He added that if he had known of the letters from Dr. Stodart-Walker to Mrs. Hume-Spry—which in his view were flippant nonsense—he might possibly have had to take other steps before certifying Mr. Hume-Spry as suffering from delusions about his wife's infidelity.

Dr. Arthur Hubert Watson, in evidence, said he was a general practitioner at Salisbury. On March 17th, 1923, he saw the plaintiff at the Old Manor House, Salisbury, after he had had a conversation with Mrs. Hume-Spry and Dr. Martin. The interview lasted about half an hour, and the witness came to the conclusion that the plaintiff was obviously insane.

Mr. Justice McCardie: You saw him in the witness-box. Did his appearance and the way in which he answered questions resemble what you observed in March, 1923?—I will not say that it did not bear the slightest resemblance, but it was quite different.

He (witness) was scared and nervous of him, and felt relief in knowing that there were attendants outside. When he (the witness) gave his certificate he did not know that it was Dr. Percy Smith who had already certified the patient as being insane.

In cross-examination Dr. Watson said he knew an urgency order had been made against Mr. Hume-Spry before he saw him at the *Old Manor House on March 17th, 1923. He never saw the case-*book or anything in writing relating to the case; he heard the history from Dr. Martin (the proprietor), Mrs. Hume-Spry, and the patient. He agreed that he had put into the certificate he signed the statement that the plaintiff had tried to murder his wife "by turning on the gas and shutting the window last Monday." He knew now that that incident was alleged to have occurred nearly three months earlier. Witness added that when he put to the plaintiff his wife's denials about Dr. Woods, the plaintiff's account was confused. The plaintiff repeated the charges, but he formed the conclusion that the plaintiff was insane. He agreed with counsel that wildness and excitement might be due to the fact that a man was labouring under strong emotion, and the sanest man in a temper

might look like a madman. The plaintiff (whom he saw alone) did not offer him any violence, or utter any threats against anyone whilst he was with him.

Dr. W. J. O'Donovan of Harley Street, in his evidence, said the plaintiff and his wife occupied a flat in the same building as the witness and his wife in 1920. In March, or April, 1920, the witness was called in to see the plaintiff, who spoke of suicide; Mrs. Hume-Spry, in her husband's presence, said he had threatened to commit suicide, and had also threatened her. As a result of a letter the witness wrote to Dr. Woods that plaintiff "required expert psychological treatment or I am sure he will come to an untimely end," the plaintiff went into Palace Green Hospital. In January, 1922, the plaintiff told the witness that there was a liaison between Dr. Woods and Mrs. Hume-Spry, and that he thought that he should have compensation from Dr. Woods. Witness turned him out forthwith, telling him he was a blackguard, and that he was attempting blackmail. Plaintiff's ultimate certification seemed to the witness to be a "very natural development" from the symptoms he had observed in 1920. In cross-examination Dr. O'Donovan agreed that in 1920 his wife and Mrs. Hume-Spry became friendly, and that he (the witness) had known Dr. Woods since he was a medical student.

Mr. Herbert Francis, solicitor, of Bedford Row, in his evidence, said that in the autumn of 1921 he read a diary shown him by the plaintiff, and advised the plaintiff that, in his opinion, he had no case against his wife for divorce. Cross-examined, he agreed that in 1918 the plaintiff consulted him in regard to divorce proceedings, producing what purported to be original letters from a man to Mrs. Hume-Spry. Subject to the advice of counsel, the witness advised a petition for divorce, as the letters disclosed a prima facie case against the wife provided evidence was forthcoming. He heard later that the parties had become reconciled. He could not remember whether, when he had the diary, the last two pages were torn out, and he could only say that he did not remember that any other document accompanied the diary. When in 1926 the plaintiff's present solicitors approached him with regard to a confession, he said he had seen certain documents which were alleged to be the confession, but that he had no clear recollection of their contents. Re-examined, Mr. Francis said that, as a result of the divorce proceedings in 1918, the co-respondent paid £300, including costs, and that the petition was withdrawn.

Mr. Collings, clerk to the previous witness, spoke to the plaintiff bringing to him the diary in 1921, but he did not think that there was any other document. If a confession by Mrs. Hume-Spry of misconduct had accompanied the diary he thought he would have remembered it.

Mrs. Amelia Hume-Spry, in her evidence, denied committing adultery with the co-respondent cited in the divorce proceedings instituted in 1918. The man in question completely lost his head about her, and wrote her five letters because she avoided him. When her husband suggested a petition, the witness told him "it was nothing but an attempt to commit blackmail" and that she would not be a party to it. Her husband then suggested that a confession from her would clinch the matter, and she told him exactly what she thought of him. About that time her husband pretended to shoot himself with his revolver. "I understood that he would shoot me and then do away with himself, so I signed a confession. That was in 1918, and I have never signed one since." Eventually, the co-respondent paid £300 and the petition was withdrawn. Her husband then told her: "If you had gone through with the thing properly there would have been £3,000 instead of £300." What he meant by that was if she had really misconducted herself with the co-respondent. Her husband was never normal and was unmanageable. When he was at Palace Green Hospital she went to see him every day. Though he thought he was perfectly sane, she thought he was 75 per cent. insane.

*** There was an inaccuracy in the report of this case published in our last issue. On page 495, first column, appeared the words: "Mr. Hume-Spry remained at the Old Manor House until December, 1923, when he was certified by other doctors (Sir James Purves-Stewart, Dr. Risien Russell, and Dr. Hughes) as being perfectly sane." We understand that when at a later stage Sir Henry Maddocks, counsel for the plaintiff, repeated this date, Mr. Neilson, counsel for the defendants, immediately corrected the statement and pointed out that Sir J. Purves-Stewart and Dr. Russell did not see the patient until December, 1925, that is, until two and three-quarter years after the patient had been certified. This is clearly brought out in the report of their evidence printed above. Dr. Orr was the medical man who gave the certificate of sanity in January, 1924, when the patient was on leave of absence.

Universities and Colleges.

UNIVERSITY OF OXFORD.

Rolleston Memorial Prize, 1928.

THIS prize, now of the value of about £100, is awarded every two years for original research in animal and vegetable morphology, physiology and pathology, or anthropology. The next award will be made in Trinity Term, 1928.

No candidate will be eligible (1) who has not either passed the examinations for the B.A. or the B.M. degree at Oxford, or for the B.A. or M.B. at Cambridge, or been admitted as an advanced student or as a student for the degree of B.Litt. or B.Sc. at Oxford, or as a research student for the degree of M.Litt. or M.Sc. or Ph.D. at Cambridge; (2) who has exceeded a period of six years from attaining one or other of these qualifications, or from attaining the first of such qualifications, if he has attained more than one; (3) who has exceeded ten years from his matriculation.

Candidates must forward their memoirs to the Registrar of the University of Oxford before March 31st, 1928. The memoirs may be printed, typewritten, or in manuscript. They should be inscribed "Rolleston Memorial Essay," and bear the name and address of the author. Memoirs already published are admitted to the competition. No account will be taken of any research which has not been prosecuted by the candidate subsequent to his matriculation.

UNIVERSITY OF CAMBRIDGE.

AT a congregation held on March 11th the degree of M.B., B.Chir. was conferred on G. Simon.

UNIVERSITY OF LONDON.

MR. ERNEST PLAYFAIR and Mr. Hugh Augustine Richards have been recognized as teachers of anaesthetics at King's College Hospital Medical School.

A readership in bacteriology and immunology, tenable at the London School of Hygiene and Tropical Medicine, is to be instituted.

The regulations for the academic Diploma in Psychology have been amended by the substitution of the words "the second Monday prior to the first Monday in July" for the words "the first Monday in July" on page 529 of the Red Book, 1926-27.

The regulations for the second examination for medical degrees, Part II, for internal students are to be amended by the deletion of the words "or general" in lines 1 and 2 of Section (v) on page 237 of the Red Book, 1926-27, and by the addition to the end of the same section of the following:

> Students who have passed the B.Sc. (General) Examination will be similarly exempted provided they have obtained at least second-class marks in the subject of physiology.

The regulations for external stud
(Blue Book, September, 1926, page

Professor T. H. Bryce has been
anatomy for science and medical examinations, in succession to Professor E. Fawcett, resigned.

The Chancellor has appointed Professor Rushton Parker to be his representative on the Court of the University of Liverpool.

The ceremony of Presentation Day will be held in the Royal Albert Hall on Wednesday, May 11th, at 3 p.m. The graduation dinner will take place the same evening at 7 p.m. in Fishmongers' Hall, London Bridge.

Applications for grants from the Dixon Fund, which are allocated annually for the purpose of assisting scientific investigations, must be sent in between April 1st and May 16th, and for the Thomas Smythe Hughes Medical Research Fund for assisting original medical research between May 2nd and June 15th. Further particulars can be obtained from the Academic Registrar.

VICTORIA UNIVERSITY OF MANCHESTER.

PROFESSOR H. S. RAPER, C.B.E., M.B., Ch.B., D.Sc., has been appointed Dean of the Medical School as from July next.

The following appointments have been made:

Assistant Lecturer in Physiological Chemistry: Mr. P. W. Clutterbuck, O.B.E., M.Sc., Ph.D.Leeds. Assistant Lecturer in Comparative Physiology: Mr. E. N. Willmer, B.A.Oxf., M.Sc.Manch. Assistant Lecturer in Anatomy: Miss Eugenia R. A. Cooper, M.Sc., M.D.Manch.

The following award has been made: The Hill Prize in biochemistry has been awarded to Eric Boyland.

UNIVERSITY OF DUBLIN.

AT a meeting of the Senate held on March 12th Graces were passed for conferring at the summer commencements on June 28th the honorary degree of M.D. on Sir Humphry Rolleston, Bt., K.C.B., Regius Professor of Physic at Cambridge, and of M.Ch. on Dr. Harvey Cushing, C.B., Emeritus Professor of Surgery in Harvard University.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN ordinary Council meeting was held on March 10th, when the President, Sir Berkeley Moynihan, Bt., was in the chair.

Licences and Diplomas.

Licences in Dental Surgery were granted to 56 candidates. Diplomas in Tropical Medicine and Hygiene were granted jointly with the Royal College of Physicians to 24 candidates.

Appointments.

Mr. C. H. Fagge was appointed the representative of the College on the [illegible] of the Schiff Home of Recovery. Mr. V. [illegible] d a representative of the College on the [illegible] of London. Mr. Victor Bonney was elected a representative of the College on the Central Midwives Board for the period of one year from March 31st next. Sir H. J. Waring was re-elected a representative of the College in the General Council of Medical Education and Registration of the United Kingdom. Dr. George Parker, of Clifton, Bristol, was nominated as Thomas Vicary lecturer for the ensuing year.

Honorary Fellowships.

The following were elected honorary Fellows in connexion with the Lister centenary celebrations to be held in April next, the

elections being subject to the condition of personal attendance at the College to receive the Diploma:

Alessandri, Roberto, Professor of Surgery, Faculty of Medicine and Surgery, Rome.
Archibald, Edward William, Professor of Clinical Surgery and Surgery, McGill University, Montreal.
Krogius, Frans Ali Bruno, Professor of Clinical Surgery, Faculty of Medicine, University of Helsingfors.
Lecène, P., Professor of Surgical Pathology, Faculty of Medicine, University of Paris.
Leriche, René, Professor of Clinical Surgery, Faculty of Medicine, University of Strasbourg.
Matas, Rudolph, Professor of Surgery, Tulane University of Louisiana, New Orleans.
Willems, Charles, Professor of Operative Medicine, Faculty of Medicine, University of Liège.

Representation of Members on Council.

A report was received from a committee which had had under consideration the resolution carried at the annual meeting of Fellows and Members in November regarding the question of admitting Members to direct representation upon the Council of the College. A recommendation from the committee was adopted, and the exact form of question to be put to the Fellows will be settled at a future meeting of the Council.

ROYAL FACULTY OF PHYSICIANS AND SURGEONS OF GLASGOW.

HERBERT FREDERICK BLACKLEE, M.B., Ch.B., Barrow-in-Furness, has been admitted after examination as a Fellow of Faculty.

Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

THE Parliamentary Medical Committee met at the House of Commons on March 9th, and re-elected Dr. Fremantle its chairman for the present session, and Dr. Graham Little its honorary secretary. The committee received and conferred with a deputation from the British Medical Association about the Dogs' Protection Bill and the steps which might be desirable in order to set forth the medical case for the use of dogs in experimental research. The committee approved the suggestion of the British Medical Association to call a conference of representatives of medical bodies in order to make plain to the public the opinion of those concerned in medical teaching and the progress of scientific medicine on the attacks made on medical research, and to explain why this work is in the interests of the public.

The Mental Deficiency Bill.

Definition of Mental Deficiency.

The text of the Mental Deficiency Bill, which was set down for second reading on March 18th, differed from that introduced last session chiefly in the addition to the definition of mental deficiency of a subsection requiring that the condition must have existed in the patient before the age of 18 years. This subsection ran:

"For the purposes of this section 'mental defectiveness' means a condition of arrested or incomplete development of mind existing before the age of 18 years, whether arising from inherent causes or induced by disease or injury."

Memorandum.

The memorandum prefixed to the bill is as follows:

1. The main object of this Bill is to amend the definitions of defectives which are contained in the Mental Deficiency Act, 1913. Under these definitions only persons who are mentally defective from birth or from an early age come within the Act, and there is thus no power to deal with cases where the defectiveness arises at a later stage. An illustration is afforded by the disease known as encephalitis lethargica, though these particularly need the sort of care and treatment which can be provided in a mental deficiency colony. The effect of the Bill (Clause 1) is to eliminate the words "from birth or from an early age" and to bring within the scope of the Act all cases of mental deficiency which arise before the age of eighteen, whether due to inherent causes or induced by disease or injury.

2. Under the existing Act a defective may be placed under care if he is found to be also "neglected, abandoned or without visible means of support or cruelly treated." Clause 2 (1) extends this provision to a case where the care or training which the defective requires cannot be provided in his own home.

3. Subsections (2) and (3) of Clause 2 are designed to provide that any case may be dealt with by any one of the three methods recognized by the Act, viz., providing supervision, placing under guardianship or sending to an institution, while Clause 3 merely introduces a drafting amendment into the Act of 1913 to make it clear that section four of that Act only applies to the two latter of these methods.

4. Clause 4 will enable an order to be made on a petition without the consent of the parent or guardian, if, owing to his being abroad, the attempt to obtain it would unduly delay the proceedings on the petition.

5. Clause 5 provides that if a patient is away from an institution on leave of absence, he need not be brought back to the institution for examination in connexion with the continuation report required under section eleven of the Act.

6. Clause 6 makes explicit the power and duty of local authorities to provide suitable training for mental defectives whilst under supervision as well as in institutions.

7. Although the Act authorises the combination of local authorities, it does not enable a local authority to provide additional beds which could be lent to other authorities. Clause 7 (1) provides for such a procedure.

8. Clause 7 (2) enables the local mental deficiency authority and the local education authority (who have responsibility for certain classes of defectives of school age) to provide an institution jointly.

Notices of intention to move the rejection of the bill were given from the Labour benches.

The Navy Estimates.

On March 14th Mr. Bridgeman, in his statement on the Navy Estimates, said that recruitment for the Royal Naval Medical Service had been unsatisfactory for some considerable time. A committee had been set up to look into the conditions of the Service, and as a result certain improvements had been effected, which were notified last July in Fleet Orders. Greater facilities had been given to young medical officers to specialize in various branches of their profession which were not naturally easily available in sea service. Improved allowances had been given to holders of specialized posts, and charge pay to medical officers in charge of hospital and sick quarters had been approved. Any candidate who held a house appointment at a recognized hospital was allowed to ante-date his seniority by one year, the object of that being to attract the most efficient of the younger medical students. The establishment of dental officers had been increased from 48 to 64.

Sir B. Falle said that if a man fell ill in the navy he was sent to the fleet surgeon, who, on his own responsibility alone, decided whether the man was to be discharged from the service or not. That was absolutely wrong. The medical service in the navy was a great service, and the men in it were as able as could be found anywhere, but it should not rest with one man to decide a matter of this kind. If a man was going to be thrown out he should have the right to go before a board. He suggested that if this board consisted of a fleet surgeon, a civil practitioner, and a man like the town clerk of Portsmouth, the navy would be satisfied to abide by its decisions. The number of men thrown out of the service this year for tuberculosis alone was 196; only six of them, or about 3 per cent., were given any pension for the illness they had contracted in the service. Men suffering from tuberculosis dare not go sick, because if they did they knew that the fleet surgeon would throw them out on the beach. Appeal to the Admiralty should be made automatic and a matter of right.

Lieut.-Colonel Headlam doubted whether other medical opinion could be got so easily as Sir B. Falle imagined. If Sir B. Falle would let him know of a definite case where men had been hindered from appealing to the Admiralty, the matter should be looked into.

Later in the debate Mr. Bridgeman said he was not entirely satisfied with the arrangements for invalidity pensions regarding the attribution of disease. He would look into the matter and see if anything more could be done.

Flying Accidents.

During the discussion of the Air Estimates, on March 10th, Mr. Baldwin spoke on the causes of accidents in the Air Force. He said the proportion of accidents due to remediable causes was very small. Few could be traced to the failure of the human element on the ground, and very few to faulty design. It was not the fact that older designs of aeroplane were more prone to disaster. The type of man who made the flying pilot was the adventurous, quick-brained, with great reserve of nervous power. He asked the House to remember the elation of a young man of that temperament who had just learnt the mastery of the aeroplane. The great majority of accidents happened from a slight error of judgement on the part of pilots, and most of them within the first year or two of flying. Captain Garro-Jones said he had been in more than one aeroplane accident. He asked what were the regulations on the consumption of alcoholic drink in the flying squadrons. In the fine, swift judgements required of an aeroplane pilot one alcoholic drink would make the difference between disaster and safety. No pilot should be allowed to consume alcoholic liquor before he flew on any day. Science demanded that decision. Sir Philip Sassoon said the Air Ministry was anxious and careful to have as little drinking as possible in the Air Force. There was drinking. Drunkenness was an offence against the Air Force Regulations, and was carefully watched.

On March 14th Sir S. Hoare (Secretary for Air) told Mr. Hore-Belisha that 263 airmen were invalided from the Service in 1926. Of these, 230 were refused pensions on the ground of no attributability. Of thirty-five appeals against the original decision six were allowed, but in three of these cases the degree of disablement was under 20 per cent.

Boys in Mines: Miner's Nystagmus.

Colonel Lane-Fox told Dr. Davies, on March 15th, that boys of 14 years of age were permitted to work in coal mines without a previous medical examination for fitness; and that under the Factories and Workshops Acts no child of 14 years of age was permitted to work without a previous medical examination by the

certifying factory surgeon. The existing system of examination under the Factories and Workshops Acts, however, had been recently condemned by a committee of inquiry, and an improved system of examination was to be submitted to the House in the Factories Bill. If it was approved, the application of similar provisions to mines and quarries would certainly be considered.

On the same day Colonel Lane-Fox told Mr. Short that in 1925 the number of new cases of miner's nystagmus in which compensation was paid was 3,444, and the number continued from previous years was 7,890. The figures for 1926 were not yet available. The Mining Association and the Miners' Federation had been invited to co-operate with the Home Office to give effect to the recommendation of the Nystagmus Committee, and continual efforts were being made to improve lighting in mines. Colonel Lane-Fox further stated that the average time spent below ground each working day by the miners in coalfields where the full eight hours had been enforced by the employers was approximately eight and a half hours, with a shorter period on Saturdays in many districts.

Twenty persons under 18 years of age were killed in coal mines in Great Britain during the months of December, 1926, and January and February, 1927.

Small-pox.—Answering a member who has recently made many requests for statistical details concerning small-pox, Mr. Neville Chamberlain said: "I would point out that these particulars can be obtained from the weekly return of infectious diseases published by the Registrar-General."

Royal Commission on Lunacy.—The Minister of Health states that it is not practicable to prepare in time for introduction in the present session a bill incorporating the recommendations which the Government is able to adopt from the Report of the Royal Commission on Lunacy and Mental Disorder.

Research in Tuberculosis.—During 1926 the Medical Research Council spent £4,846 in research upon specific problems of tuberculosis. This excludes the cost of research into fundamental problems of which the bearing upon tuberculosis could not be calculated, and also the cost of work in this subject by members of the Council's own staff in the National Institute for Medical Research.

Anthrax in Menageries.—Mr. Guinness, replying to Sir W. Davison, on March 15th, said that in view of the recent outbreak of anthrax at the Zoological Gardens in London, he was at present considering the advisability of including within the scope of the Anthrax Order of 1910 all animals susceptible to anthrax which were kept in public or private zoological collections and travelling manageries.

Pensions.—In a reply to Sir W. de Frece, Major Tryon said he was satisfied that the hospital accommodation available was fully adequate to the requirements of the Ministry of Pensions. The average waiting period for admission to hospital did not exceed three to four days. The geographical distribution of the hospitals was as good as could be obtained. Answering Mr. Paling, Major Tryon said he did not know of any general discontent at the time which passed between a medical board and the communication of the result to the applicants. In a few cases expert opinion or additional evidence might have to be obtained, but such cases were diminishing in number. In an answer to Major Hills, Major Tryon said the wooden limb had now been so improved that it was lighter than the metal limb. In many cases it was regarded both by the pensioner and the surgeon as more suitable, especially in amputations below the knee.

Blind and Partially Blind Children.—Lord Eustace Percy states that the provision in certified special schools for totally blind children between the ages of 5 and 16 is, generally speaking, complete. Thirteen authorities had special schools for partially blind children, and fifteen or twenty authorities either admitted partially blind children to their own schools for the blind or sent them to such institutions elsewhere. In 1925 there were 2,000 blind children of school age and 4,692 partially blind children in England and Wales. On March 14th Lord Eustace Percy told Mr. R. Morrison that on March 31st, 1926, there were in certified special schools for the blind 613 children aged between 13 and 14, 361 between 14 and 15, 288 between 15 and 16, and 54 aged 16 and over. There were 496 deaf children aged between 13 and 14, 480 between 14 and 15, 416 between 15 and 16, and 71 aged 16 and over.

Mentally and Physically Defective Children.—Lord Eustace Percy stated on March 14th that in certified special schools for the mentally defective there were on March 31st, 1926, 2,629 children aged between 13 and 14, 2,103 between 14 and 15, 1,465 between 15 and 16, and 241 aged 16 and over. Physically defectives in special schools numbered 2,486 between 13 and 14 years of age, 1,360 between 14 and 15, 770 between 15 and 16, and 100 aged 16 and over. Epileptics numbered 96 between 13 and 14, 96 between 14 and 15, 76 between 15 and 16, and 13 aged 16 and over.

Invaliding from the Army.—Captain King told Mr. Hore-Belisha, on March 15th, that the exact number of men invalided from the army during 1926 was not available, but the total number of disability cases (including those of men already discharged) dealt with by the Chelsea Commissioners during that year was 2,546. In 2,100 cases the disability was found to be not attributable to military service, but 639 of the men concerned were eligible for non-attributable awards of gratuity or temporary pension. It was not possible to distinguish between appeals made by the men themselves and cases referred to the War Office by the Chelsea Commissioners. The approximate number of cases referred under both heads was 137, and the decision was modified in 59. There were, in all probability, other cases which did not necessarily come before the Chelsea Commissioners. Dr. Davies asked if the right hon. gentleman thought it possible that the present methods of assessment could be improved. Captain King replied that the present method of assessment was proving satisfactory. The question of an appeal tribunal had been considered on many occasions, and it was not considered necessary to set one up.

Foot-and-Mouth Disease.—On March 15th, in the House of Commons, Mr. Guinness moved the second reading of the Diseases of Animals Bill, which had already passed the Lords. The measure seeks to improve and modernize methods of defence against contagious diseases in animals. He explained that the decrease in foot-and-mouth disease was due to the embargo put on after the outbreak in a bacon factory at Carluke. The report of the Foot-and-Mouth Disease Committee confirmed the Government's action, because it gave an account of experiments which reproduced the conditions which occurred at Carluke. Healthy pig carcasses were splashed or smeared with the infected blood of other pigs. They were kept at a temperature of 15° C., and four days afterwards rinsings were taken, reproducing the condition of the effluent at Carluke. They were found to be capable of infecting healthy animals with foot-and-mouth disease.

Gas Warfare.—Sir L. Worthington-Evans states that the Government has information that the study of gas warfare is being actively pursued in Soviet Russia. Numerous factories have been set up and are in course of erection. There is not the slightest doubt that much greater preparations are being made in Russia than anywhere else in the world.

Notes in Brief.

On March 14th the Sale of Food and Drugs Bill passed through the report stage and was read the third time in the Commons, and on March 15th was read the first time in the Lords.

Asked why imports of phenacetin, hydroquinone, and other chemical substances had not been exempted for liability to duty, Sir Burton Chadwick said that an Order had been made on March 7th exempting certain of these substances from duty.

The United States has been invited to define its attitude towards the Opium Convention adopted at Geneva in 1925.

In 1926 factory inspectors visited 101,962 factories out of 129,695 in England and Wales.

The number of dairy farms in England and Wales is estimated at over 200,000. Of these, 220 were visited in 1926 by inspectors of the Ministry of Health.

From September 1st, 1925, to December 31st, 1926, 23,369 cows were slaughtered by local authorities under the Tuberculosis Order, 1925.

Medical News.

SIR THOMAS HORDER, Bt., M.D., will preside at the "Wiltshiremen in London" annual dinner at the Connaught Rooms on April 2nd next.

AT a sessional meeting of the Royal Sanitary Institute on Friday, March 25th, in the Town Hall, Leeds, a discussion on cancer will be opened by Sir Berkeley Moynihan, Bt., P.R.C.S., followed by Professor R. D. Passey, M.D., Director of Cancer Research, University of Leeds. The chair will be taken at 5 p.m. by Dr. G. F. Buchan.

DR. R. TRAVERS SMITH will lecture for the Fellowship of Medicine on emergencies in neurological practice on March 24th, at 5 p.m., at the Medical Society, 11, Chandos Street, W. On March 22nd Mr. N. C. Lake will give a clinical demonstration in surgery at Charing Cross Hospital at 2 p.m., and ophthalmological demonstrations will be given at the Central London Ophthalmic Hospital at 4 p.m. on March 23rd by Mr. Levy, on the 24th by Miss Mann, and on the 25th by Mr. Williamson-Noble. The lecture and these demonstrations are free to medical practitioners. An all-day comprehensive course in orthopaedics is in progress at the Royal National Orthopaedic Hospital, and will continue until April 2nd. A two weeks' course in the late afternoons will begin on March 21st at the London Temperance Hospital for the benefit primarily of general practitioners. From March 28th to April 9th the Queen's Hospital will hold a special all-day course in diseases of children. At the Royal Eye Hospital there will be a series of afternoon demonstrations on the diagnosis and treatment of diseases of the eye from March 28th to April 8th. The Fellowship arranges for practical courses in anaesthetics and obstetrics and also for clinical assistantships in gynaecology. Copies of all syllabuses and of the *Post-Graduate Medical Journal* are obtainable from the Secretary of the Fellowship, 1, Wimpole Street, W.1.

THE new Health Committee of the League of Nations, whose tenure of office began on January 1st last and will run for three years, has held its first meeting. Dr. Madsen of Copenhagen was elected president, and Dr. Cumpston of Melbourne, Dr. Alice Hamilton of Harvard, and Professor Winslow of Yale were appointed expert assessors. After reviewing the work of its various commissions the committee decided to appoint a committee of experts on the relation of health insurance to public health services, and to proceed with the inquiry regarding infant welfare. It approved the

steps taken to collect information regarding the influenza epidemic. It expressed satisfaction at the progress of the Singapore bureau, and welcomed the proposal to establish a subcentre at Melbourne. It accepted a suggestion to undertake research into the subject of plague prevention. The courses on malaria in London, Hamburg, and Paris are to be held again this year, with field work in Italy, Spain, and Jugo-Slavia.

AT the last meeting of the Central Midwives Board for England and Wales, with Sir Francis Champneys in the chair, an intimation was received from the Midwives Institute that Dr. Fairbairn, Miss A. A. I. Pollard, and Miss M. E. Pearson had been reappointed as its representatives on the Board. It was resolved to reply to the county medical officer of health for Durham that in the opinion of the Board a midwife, when she had been in contact with an infectious case, should notify the local supervising authority, undergo disinfection in the manner prescribed by the local supervising authority, and await the permission of the local supervising authority before attending other maternity patients.

HEALTH Week will be observed from October 2nd to 8th on the same lines as in previous years. During 1926 meetings and exhibitions were arranged in connexion with Health Week by over eighty local authorities, several county councils organizing celebrations in numerous centres. Health Week was also observed in India, South Africa, Australia, New Zealand, Ceylon, and the West Indies.

AN appeal for volunteers to join the blood transfusion service, organized by the British Red Cross Society, the British Hospitals Association, and the Rover Scouts, has been issued. The total number of volunteers at present on the list is about 350, but during 1926 the number of calls made and answered was 737, and as the number of appeals is increasing (there have been 122 already this year) the committee fears that it will soon be unable to meet the demands. The appeal, which is signed by Sir Arthur Stanley for the British Red Cross Society, by Lord Knutsford for the British Hospitals Association, and by C. Lisle Watson for the Rover Scouts, asks employers to permit volunteers in their service to act in emergency cases during business hours. At present only fifty volunteers are available during the daytime, and most of them have already acted once this year. The committee will send a speaker to institutions interested, and individual inquirers may obtain particulars from the Honorary Secretary, 210, Peckham Rye, S.E.22. (Telephone, night and day, New Cross 1606.)

THERE has been a further substantial decline in the number of deaths recorded from influenza throughout the country. The total number of deaths from this cause in the great towns of England and Wales during the week ended March 12th was 572 compared with 898 in the previous week and 1,023 in the week before that. In London 49 deaths were notified as compared with 69 and 81 in the two previous weeks; and in the outer ring of the metropolis 24 as against 44 and 67. Reports received by the Scottish Board of Health indicate that in most parts of Scotland the influenza epidemic was last week definitely on the wane. The decline was very noticeable in Dundee and Aberdeen. In Ayr and in Orkney, however, the disease is still spreading, and in Fife there is little sign of diminution as yet.

VACANCIES exist at present for medical officers in the Malayan Medical Service. Candidates should be British subjects of European parentage and not over 35 years of age. Further particulars are given in our advertisement pages.

WE are informed that the British College of Nurses, endowed by an anonymous donor with £100,000, has secured 39, Portland Place, London, W.1, as headquarters. The college and its governing body the council are composed entirely of registered nurses.

THE late Dr. Samuel Clarke Noble of Kendal, who died in December last, aged 89, has left estate of the gross value of £38,807, with net personalty £33,066. His bequests on the death of his wife included £3,000 to Balliol College, Oxford, for the foundation of an Eric Raymond Noble scholarship; £300 to the Medical Mission of the Church Missionary Society; £1,150 to Dr. Barnardo's Homes; £1,000 to the Kendal Grammar School for a scholarship at Oxford; £1,500 to the Westmorland County Hospital for the endowment of three beds in the children's ward. The ultimate residue of the property is to be divided in three equal parts between the Middlesex Hospital Medical School for the endowment of a Hugh Percy Noble research scholarship, preferably on cancer or diabetes, in remembrance of his son; to Balliol College for the foundation of an open classical scholarship; and to Dr. Barnardo's Homes for general purposes.

THE late Sir Isambard Owen has left estate valued at £9,234.

THE International Labour Office has published six more pamphlets (Nos. 58 to 63) dealing with miner's nystagmus; the treatment of industrial waste water; the postal, telegraphic, and telephonic services; trinitrotoluene, trinitroxylene, and trioxybenzene; tuberculosis and silicosis; and aluminium and amber. They may be obtained from the London correspondent of the International Labour Office, 12, Victoria Street, S.W.1.

A MINISTRY of Health has been established recently in Denmark.

THE eighth International Congress of Actuaries will be held in the Guildhall, London, from June 27th to 30th, under the honorary presidency of the Prince of Wales. Many delegates are expected from the Dominions, the United States, Europe, and other parts of the world, in view of the public and professional interest taken in the application of actuarial science to life insurance, and to old age and invalidity pensions.

THE fourth Spanish Congress of Pediatrics, which will be held at Valencia in May under the presidency of Dr. Juan Moret, dean of the medical faculty of Valencia, will consist of four sections devoted respectively to the hygiene and protection of infancy, medical diseases of children, surgery and orthopaedics, and pedagogy.

THE proceedings of the Twelfth Congress of Northern Countries, held at Stockholm from August 27th to 29th, have been recently published in a special supplement of *Acta Medica Scandinavica*, the communications appearing in English, French, or German.

DR. AUVRAY has been elected a member of the Académie de Médecine in place of the late Professor Le Dentu in the section of surgery and obstetrics. Professors Lejars and Sebileau of Paris have been elected corresponding foreign members of the Belgian Royal Academy of Medicine.

Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to ***The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.***

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the BRITISH MEDICAL JOURNAL alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the BRITISH MEDICAL JOURNAL must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the JOURNAL, should be addressed to the Financial Secretary and Business Manager.

The ***TELEPHONE NUMBERS*** of the British Medical Association and the BRITISH MEDICAL JOURNAL are *MUSEUM 9861, 9862, 9863,* and *9864* (internal exchange, four lines).

The ***TELEGRAPHIC ADDRESSES*** are:

EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology Westcent, London.*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westcent, London.*

MEDICAL SECRETARY, *Mediocera Westcent, London.*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 4737 Dublin), and of the Scottish Office, 6, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 4361 Central).

QUERIES AND ANSWERS.

"ARCHIVES OF DISEASE IN CHILDHOOD."

DR. A. H. LOWTHER (St. Aubyn's, Burnham-on-Sea) is anxious to read the issues of the *Archives of Disease in Childhood* for August and October. These numbers are out of print, and Dr. Lowther would like to borrow or buy copies of them.

NERVOUS VOMITING.

DR. W. NUNAN (Bombay) writes in reply to "H. W. B." (JOURNAL, October 9th, 1926, p. 670) to recommend resort to suggestion.

MORBID SHYNESS IN A CHILD.

DR. R. MACD. LADELL (Birmingham) writes: "The letter of 'K. H. G.' in the JOURNAL of February 26th (p. 410), asking for suggestions as to the treatment of excessive shyness in a child of 8, is evidence of the lack of appreciation still shown by the majority of medical practitioners as to the possibilities of psychotherapy. Such a case should, as a matter of course, be taken for advice to a medical psychologist. Obviously to treat the cause of the shyness one must be aware of what is passing in the child's mind, and this can only be done by a process of psychological analysis." Dr. Ladell looks forward to the time when psychological clinics will be established in every large town.

CHRONIC URTICARIA.

"J. B. S." writes: "Pruritus" should again examine the urine of his patient for sugar, with a specimen of high specific gravity. Not a large amount of sugar, but a small amount—say, 3 per 1,000—for which the "Char test" is the best. Treat the patient as a potential diabetic, perhaps by heredity. Cut off starch and sugar and give liquor ammonii acetatis to act on the skin. Consider also occupation.

RURAL WATER SUPPLIES.

In reply to Dr. D. M. Macdonald (Arnside, Westmorland), it may be stated that the Public Health (Water) Act, 1878, which is still current, places upon a rural sanitary authority the duty of seeing that every inhabited house in its area has a convenient and adequate supply of wholesome water, and empowers the rural sanitary authority to call upon an owner to provide such supply where requisite. If the owner fails to comply after statutory notices given the rural sanitary authority may itself provide the supply and recover expenses. These provisions, however, do not relieve the rural sanitary authority of its general duty under Section 51 of the Public Health Act, 1875, to provide its district or part of it with a wholesome water supply where necessary on health grounds. A rural sanitary authority is a rural district council—that is to say, the council of a union or portion of a union which is not in an urban district. The medical officer and the sanitary inspector of the rural sanitary local Government shed from a rural district council, has certain water duties. It may utilize a well, spring, or stream, and provide facilities for obtaining water therefrom, but its borrowing powers are limited under statute and are subject to the consent of the parish meeting.

INCOME TAX.

Motor Car Transactions.

"P. G. S. C." bought a car in 1924, but found it unsuitable for his neighbourhood and sold it in the same year at a loss of £95, purchasing a heavier car for £310. The assessor allowed the £95 as an expense of the year 1924, but refuses the 20 per cent. depreciation allowance for 1926–27 unless the former allowance is cancelled.

*** If we have gathered correctly the practice of the authorities on this point, the action of the assessor in question would not be supported by headquarters, seeing that there was no depreciation allowance in force until 1925–26. We suggest that our correspondent might point out that fact to the assessor, and if he still declines to make both allowances—which are obviously equitable—then that the full facts should be placed by letter before the Secretary, Inland Revenue, Somerset House, London.

Obsolescence Allowance for Car.

"A. B. C."—A touring car four-seater was bought in 1921 for £440 and sold in 1927 for £25. Depreciation (£41) was allowed for 1925–26 and £40 for 1926–27. A new car was bought from the same makers in 1927 for £265. What amount can be deducted for obsolescence?

*** The amount is the cost of a touring four-seater of the same make in 1927 less (£25+£41+£40=) £106. That amount should be regarded as a professional expense of the year 1927.

LETTERS, NOTES, ETC.

ETIOLOGY OF CANCER.

DR. A. T. BRAND (Driffield), referring to the letter by Dr. W. H. Fearis on Spengler's bacteriological theory of cancer (JOURNAL, February 12th, p. 305), protests against the term "theory" being used in connexion with the etiology of cancer, and asserts that the bacterial origin of this condition is a fact which was established by logical deduction long before it was proved by experiment and demonstration. He argues that the distribution of cancer through the entire vertebrate kingdom postulates a microbic origin, since a microbe can be the only possible universal agent, and he considers that the investigations of Dr. T. J. Glover (see *Epitome*, January 29th, para. 127) have defined this pleomorphic organism conclusively. He adds that Dr. Glover's work has been confirmed by Drs. Julian London and J. M. McCormack of Toronto and Dr. M. J. Scott of Montana, while Dr. J. Young of Edinburgh has independently isolated a pleomorphic organism from cancerous growths, and Dr. Gye of London has discovered a filter-passing organism from the same. Dr. Brand concludes that attempts to produce malignant disease by mechanical irritation are now obsolete and impossible, and that attention should be paid rather to the cancerous tissues themselves and to the cause of the natural or acquired immunity from this disease possessed by many people.

LABOUR AND THE PUERPERIUM COMPLICATED BY PNEUMONIA.

DR. L. MATHER (Lancaster) writes to record a case of severe complications during pregnancy and the puerperium with a satisfactory outcome. A woman, aged 32, the mother of three children, developed pleurisy and pneumonia in the later weeks of pregnancy. Labour started spontaneously and terminated naturally with the birth of a healthy male child, weighing 5 lb. 12 oz. For several days the woman was very ill, with extensive consolidation of the bases of both lungs, and, at the height of her illness, acute cholangitis supervened, with deep jaundice. The temperature fell to subnormal twenty-four hours later, resolution quickly followed in the consolidated lungs, and the jaundice gradually disappeared. The patient's convalescence was rapid and uninterrupted, and one month after her confinement she was apparently little the worse for her ordeal. The child also progressed favourably.

VOLUNTARY PULSE CONTROL.

DR. THOMAS LINDSAY (London, S.W.) refers to the statement that voluntary and conscious control of the radial pulse, though rare, is not unknown (*Epitome*, February 26th, 1927, para. 216), and calls attention to his description of aortic systolic murmurs (JOURNAL, May 13th, 1922, p. 759), when he wrote: "Many persons, by contracting their muscles, can obliterate the radial pulse." He adds that he can do this easily himself, and that his wife, while nursing during the war, frequently detected this ability in military patients.

LIFE ASSURANCE AND TUBERCULOSIS.

DR. ROBERT CARSWELL (Wandsworth, S.W.18) has sent us a letter suggesting that holders of a negative tuberculin test certificate should be accorded specially favourable terms for sickness and life assurance. "A negative test certificate, by which," Dr. Carswell continues, "I mean negative in the original sense of Koch, would at least indicate freedom from the risks of endogenous tuberculosis. Not only would this be an economically sound proposition from the insurance point of view, but the pressure of the insurance world in this direction would react favourably on the elimination of tuberculosis by promoting on the part of individuals a desire to belong to the 'tuberculosis-free herd.'"

*** We referred this suggestion to Mr. Ferris-Scott, F.C.A., who is Secretary of the Medical Insurance Agency, as well as Financial Secretary and Business Manager of the British Medical Association. He writes:

"I have no knowledge as to the practical value of the suggestion Dr. Carswell makes, but there has been a movement for some considerable time towards the establishment of a practice by which every person holding a life assurance policy should submit to a medical examination every year. Attempts of this nature have been made with varying success in America and at least one; tentatively, in England. The advantage to the assured person should be fairly obvious; the advantage to the assurance company is the possibility that illness discovered by this thorough examination whilst in its early stages might be arrested and the claims experience of the company concerned thereby benefited. In practice, however, it has not been proved that the cost of paying adequately for these medical examinations would be recouped, nor is it certain that the average person would be willing to submit to a periodical medical examination at the behest of the assurance company. I should not care to say whether Dr. Carswell's suggestion would be an economical proposition, and I think that he is optimistic in so regarding it until he has made some suggestion as to the extent of the specially favourable terms to be granted. It might be economically sound if the specially favourable terms are 1 or 5 per cent. and the fee for the certificate only a few shillings, but such a fee would not be remunerative to the medical examiner. The proposition would not be economically sound if the specially favourable terms were 25 or 50 per cent. and the fee £3 3s.

"There is a class of life assurance which starts at an early age. I believe it is arguable, but I think an assurance company would accept the proposition, that a child of 12 or 15 might receive a negative certificate and develop tuberculosis at some time between 25 and 35. If I am correct in supposing that a person might receive a negative certificate at one period of his life, either before or after an attack, then it seems obvious that the assurance policy would have to be determinable or could be altered at the option of the assurance company, and the security of the assured's position would be severely damaged and confidence in life assurance shaken."

CORRECTION.

THE price of Daukes's *Barrier Charts for Health Officers*, which was reviewed in the JOURNAL of March 5th (p. 432), is 3s. 6d.—not 2s. 6d., as stated in the footnote to the review.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 42, 43, 44, 45, 48, and 49 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 46 and 47.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 95.

THE SURGICAL TREATMENT OF PARALYSIS OF THE VOCAL CORD AND OF PARALYSIS OF THE DIAPHRAGM.*

BY

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(With Special Plate.)

I.—THE VOCAL CORDS.

EXPERIMENTS performed on the monkey and the dog show that end-to-end, or end-to-side, anastomosis of the recurrent laryngeal nerve to the phrenic nerve is successful in restoring, after a certain lapse of time, movements of abduction and adduction of the vocal cord comparable to those of the opposite or normally moving cord. After section of the recurrent laryngeal nerve the vocal cord assumes a typical cadaveric position and the inner border is concave and flaccid. After six or eight weeks from the date of the operation the inner border of the immobile cord becomes straight and tense. There is, in fact, a tension about the previously paralysed cord which had not been present before. Four months after the first experiment of recurrent laryngeal-phrenic end-to-end anastomosis was carried out both vocal cords were moving equally in tranquil respiration. Six months after the experiment was done the previously paralysed cord moved more strongly than the other, and seven months after the experiment there was excessive, almost violent, movement as compared with the vocal cord on the normal side. This result was hardly a surprise, because the nerve current required to cause contraction of one half of the muscle of the diaphragm must be considerably stronger than that required to energize the small intrinsic muscles of the larynx.

The best method of anastomosis of the recurrent laryngeal nerve to the phrenic nerve so as to obtain recovery of movement of the paralysed vocal cord in rhythm with the movement of the normal cord remains to be determined.

In certain experiments in the monkey the root of the phrenic nerve from the third cervical nerve, or the root of the phrenic nerve from the fourth cervical nerve, was united side-to-end to the recurrent laryngeal nerve; and in others the root was divided and united end-to-end to the divided recurrent laryngeal nerve. In other experiments the divided recurrent laryngeal nerve was united end-to-end to the proximal segment of the divided main trunk of the phrenic nerve; and in yet others the end of the divided recurrent laryngeal nerve was anastomosed end-to-side to a small lateral incision made in the side of the main trunk of the phrenic nerve.

In some cases the end-to-side anastomosis of the recurrent laryngeal nerve to a root of the phrenic nerve or to the main trunk of the phrenic nerve was effected by making a small longitudinal median incision into the part of the phrenic nerve selected for the site of anastomosis and attaching the cut end of the recurrent laryngeal nerve to it. The end-to-side operation is the operation of choice—that is, if there is sufficient length of the recurrent laryngeal nerve to bring across the carotid sheath to the side of the phrenic nerve without tension on the anastomosis. If, however, the available length of the recurrent laryngeal nerve is insufficient to reach the phrenic nerve, then the phrenic nerve must be divided and the proximal end brought across to meet the divided distal end of the recurrent laryngeal nerve. The actual method of anastomosis, whether by lateral incision or longitudinal median incision, did not seem to affect the final result. We believe, however, that the plan of lateral incision is the plan to adopt when end-to-side anastomosis is performed, as there is a definite and immediate approximation of divided nerve fibres. In such cases a partial or complete paralysis of one half of the diaphragm follows, but in a few weeks the paralysis passes away.

In man, therefore, the operation of choice is recurrent laryngeal-phrenic anastomosis, end-to-side, the lateral incision of the main trunk of the phrenic being carried out in order to obtain a raw surface of cut nerve fibres to which the distal end of the cut recurrent laryngeal nerve is attached.

This decision is based not only on the recurrent laryngeal-phrenic nerve anastomosis experiments, but on the results of a large number of experiments in which the two ends of a divided nerve were implanted at varying distances apart into the side of, or into median incisions in, a neighbouring nerve. These experiments have been reported,[1] and they seem to prove that the lateral incision method leads to more rapid and satisfactory recovery of the muscles supplied by the divided nerve than when its two ends are implanted into median longitudinal incisions made in the neighbouring nerve.

There is also no advantage in attaching the recurrent laryngeal nerve to one of the roots of the phrenic. When the root is divided and its proximal end sutured end-to-end to the recurrent laryngeal nerve the distal end of the root has sometimes been left without being joined to another nerve, and sometimes it has been joined end-to-end to the divided proximal end of the descendens noni nerve. In either case, even when the vocal cord muscles function again, there seems to be some delay in the recovery of normal contractions of the whole muscle of the diaphragm. It is curious to note that the quickest return of function of the vocal cord follows end-to-end anastomosis of the recurrent laryngeal to the proximal cut end of the main trunk of the phrenic nerve, and the most rapid recovery of the whole diaphragmatic muscle has followed end-to-end anastomosis of the distal cut end of the phrenic nerve to the proximal cut end of the descendens noni nerve. This latter result is in itself surprising, as we have not been able to obtain return of movement in the vocal cords during tranquil respiration by means of descendens noni-recurrent laryngeal end-to-end anastomosis. We do not suggest any explanation of this experimental finding.

There is another point about end-to-side recurrent laryngeal-phrenic anastomosis. In some cases there seems to be delay or arrest in the complete recovery of the movements of the vocal cord, or there may be delay in the complete recovery of the diaphragm, or there may be delay in the complete recovery of both vocal cord and diaphragm. The cause of these variations would seem to be that the nervous energy travelling through the phrenic nerve is overtaxed. While before the operation the nerve current of the phrenic nerve had to cause only contraction of one half of the diaphragm, after the operation it has now also to excite contraction in the intrinsic muscles of the larynx. In all departments of life the pursuit of two objectives may delay or hamper complete success in either or both of them. Napoleon wrote to his vacillating Admiral Villeneuve, "It seems to me your purpose is *not exclusive enough* for a great operation. You must correct this fault, for that is the art of great successes and of great operations." This famous maxim is true not only of the great operations of war but also of those of surgery.

Nevertheless the success which has followed the end-to-side anastomosis experiments makes it clear that this is the best operation to perform. (Fig. 19.) The experiments in which more than one anastomosis was carried out are less likely (except in special circumstances, as when there is only a short piece of the recurrent laryngeal nerve available) to find a permanent place in surgical practice. The best recommendation of recurrent laryngeal-phrenic end-to-side anastomosis is that it is a simple procedure and is frequently followed by the best functional results.

The number of experimental anastomoses of the recurrent laryngeal nerve to other nerves done is 33: 6 anastomoses to the vagus nerve end-to-side, 7 anastomoses to the descendens noni nerve end-to-end, and 20 anastomoses to a root or the main trunk of the phrenic nerve. The end-to-end anastomosis with the main trunk of the phrenic nerve

* The experiments mentioned in this paper were carried out at the National Research Institute, Hampstead. The Medical Research Council paid the expenses and gave me every assistance. I am greatly indebted to Dr. Dale.—C.B.

The microscopical sections have been cut and stained by Mr. Steward at the Royal College of Surgeons by the kind permission of Sir Arthur Keith.

produced an unnaturally wide abduction movement of the cord, while the end-to-side anastomosis to the phrenic nerve was followed by an abduction movement comparable to that of the opposite or normal cord in tranquil respiration.

The attachment of the divided end of the recurrent laryngeal nerve to a root of the phrenic nerve instead of to the main trunk does not appear to present any advantage. When one root of the phrenic nerve was divided a portion of the corresponding half of the diaphragm was paralysed, but in one experiment there was complete recovery from this after some months, following the attachment of the proximal end of the divided descendens noni nerve to the distal end of the root of the phrenic nerve. It will be seen in the second part of this paper that paralysis of one half of the diaphragm is under the control of the surgeon and that this paralysis need no longer be of serious concern to the operator.

In the hussar monkey the microscope shows that the root of the phrenic from the third cervical nerve is composed of many fine presumably motor fibres and some large fibres, while the root from the fourth nerve contains many large as well as small fibres. A large number of microscopic sections of the nerves of the neck of man and the monkey have been examined, and large and small nerve fibres in varying proportion have been seen in all the nerves. (Figs. 1 to 4.) In the microscopic sections of the superior laryngeal nerve and of its internal and external branches there appears to be a marked difference in size between the nerve fibres (sensory) of the internal branch and the nerve fibres (motor) of the external branch. It has not been possible, however, to follow this distinction with any certainty in the case of the other nerves. All so-called motor nerves contain large nerve fibres, but whether these are motor or sensory it is not possible to tell.

DESCRIPTION OF SPECIAL PLATE.

(FIGS. 1 TO 4.)

FIG. 1.—Transverse section of the phrenic nerve of the hussar monkey. (× 50.) The large nerve bundle comes from the fourth cervical nerve. The next largest bundle comes from the third cervical nerve. The smallest nerve is presumably the root from the fifth cervical nerve, but this root was not seen during the dissection. The nerve bundle arising from the fourth cervical nerve contains much larger fibres than the nerve bundle from the third cervical nerve. This difference in the size of the nerve fibres may indicate some difference in function.

In man the roots of the third and fourth cervical nerves can be seen to join a little below the point where the root from the fourth cervical nerve is given off. They are enclosed in one sheath beneath the fascia of the scalenus anticus muscle, but can be seen to continue as separate nerves on the way down the neck. So clearly separate are the two roots of the phrenic that a lateralized tenotomy knife can be passed between them and either nerve can be divided without injury to the other. This anatomical fact was taken advantage of in the experiment on a hussar monkey in which the separation of the two roots was observed. In this monkey the root from the fourth cervical nerve was divided with a tenotomy knife as described and united end-to-end with the divided recurrent laryngeal nerve. The difference in size of the nerve fibres of the different roots as observed in the hussar monkey is not seen in the phrenic of man.

FIG. 2.—Transverse section of the superior laryngeal nerve in a man aged 40. (× 30.) The main trunk is divided into one large bundle of fibres and four smaller ones. The fibres of the large bundle are much larger than those of the small bundles.

FIG. 3.—Transverse section of the internal branch of the superior laryngeal nerve. (× 30.) The drawing shows three bundles of fibres. The fibres in the large bundle are all of comparatively large size. It would appear that in the superior laryngeal nerve the large fibres are sensory and the smaller ones motor in function.

FIG. 4.—Transverse section of the external branch of the superior laryngeal nerve. (× 50.) The drawing shows four bundles of fibres. The fibres are small except a few large ones scattered among the masses of small fibres.

The operation of recurrent laryngeal-phrenic anastomosis end-to-side (by lateral incision of the main trunk of the phrenic nerve) has been performed by one of us in the case of a woman, aged 54, who eight months before the anastomosis operations suffered from paralysis of both vocal cords following an operation for removal of a thyroid tumour. Five months after the anastomosis operation on the right side and four months after the anastomosis operation on the left side were carried out both cords of the patient were showing slight abduction excursions in tranquil respiration, and the paralysis of both halves of the diaphragm had completely disappeared.

Experiments had been performed before the recurrent laryngeal-phrenic anastomosis was attempted. In these the vagus nerve and the descendens noni nerve were united to the divided recurrent laryngeal nerve. In the end-to-side recurrent laryngeal-vagus anastomoses and the end-to-end recurrent laryngeal-descendens noni experiments, the vocal cord in each case recovered its tension, and its inner border became straight, but no movement of abduction was observed in tranquil respiration some eighteen months after the operation. This movement, however, was obtained by partially asphyxiating the animal while it was under ether by pressure on the trachea. The inspiratory effort on releasing the pressure on the trachea became so powerful that the muscles of the immobile vocal cord recovered sufficient nervous energy to contract. In one case, four and a half months after descendens noni-recurrent laryngeal anastomosis, the monkey was placed under ether and pressure was made on the trachea. This induced strong adduction of both vocal cords. As soon as the pressure which had induced partial asphyxia was relaxed, wide outward excursions of both vocal cords, equal on the two sides, were observed and continued for two or three minutes. The excursions of the previously immobile cord gradually diminished in extent as the asphyxia passed off, and then ceased.

This experiment (originally suggested by Professor Starling) possibly gives the key to the problem of re-education in man of the paralysed vocal cord after anastomosing the recurrent laryngeal nerve to the phrenic nerve. "Holding the breath" is necessarily followed in man by a strong inspiratory effort, which would probably cause in man, as in the monkey experiment, abduction of the previously immobile vocal cord, so that a patient's immobile or slightly moving cord might at last be re-educated to act in an harmonious subconscious normal respiratory movement with the vocal cord of the opposite or healthy side.

This method of re-education—"holding the breath"—is being employed in the case of the woman mentioned above, and in addition a galvanic current has been passed across the larynx for ten minutes once or twice a day since the operation, in the hope that it would influence the recovery of the intrinsic muscles of the larynx and perhaps prevent the scar tissue of the operations from causing undue pressure on the nerves and the anastomoses.

That a nervous impulse could pass through the anastomoses made between the recurrent laryngeal nerve and the vagus and descendens noni nerves was clear from the following experiments.

1. Fifty days after a descendens noni-recurrent laryngeal anastomosis was done in a monkey the wound was opened and the anastomosis exposed. On stimulating (1) the hypoglossal nerve proximal to the origin of the descendens noni nerve, (2) the descendens noni, (3) the site of the anastomosis, the vocal cord was seen to abduct.

2. Seven months after a recurrent laryngeal-vagus anastomosis was done in a monkey the wound was opened. The vagus was stimulated (1) proximal to the anastomosis, and (2) at the site of anastomosis. The vocal cord was seen to abduct.

These stimulations caused abduction of the previously immobile cord; the excursions of the cord were not so wide as on the opposite or healthy side. Later (when perhaps the abductor was tired) strong adduction was observed.

The recognition of the certainty of recovery of the movements of the vocal cord which follows recurrent laryngeal-phrenic anastomosis made us abandon the operation of uniting the recurrent laryngeal nerve with either the descendens noni nerve or the vagus nerves. The object in view is not merely to obtain a return of tone in the cord, however desirable this may be, but to win by means of operation a recovery of the movements of adduction and abduction equal and synchronous with the movements of the opposite or normal cord.

From the experience gained from the monkey experiments it is not possible to state at what period after the experimental operations movement of the recovering cord first occurs. The animals have to be kept for nerve anastomosis experiments to mature for long periods of time. They are valuable and scarce, and an anaesthetic is dangerous.

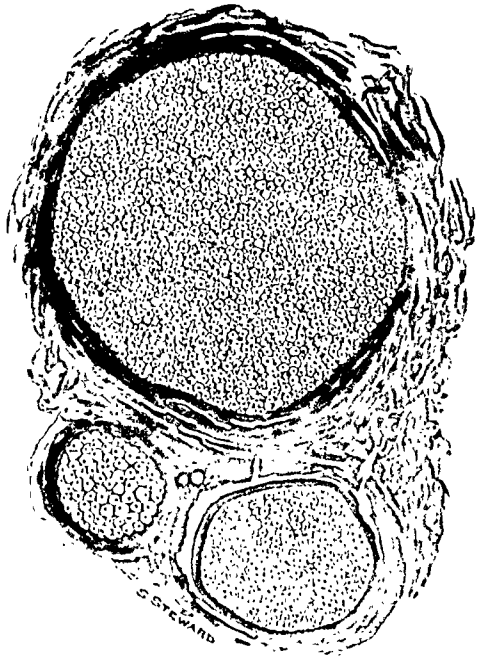


FIG. 1.

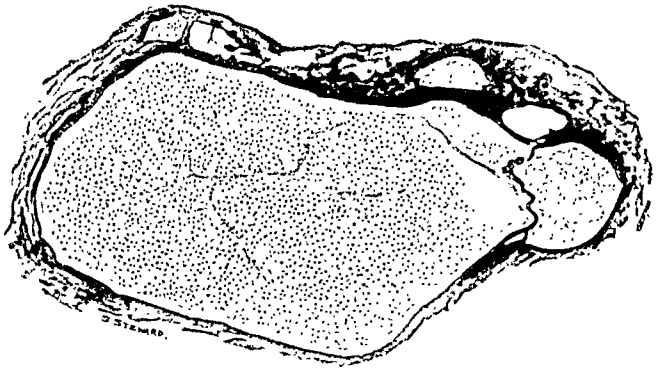


FIG. 2.

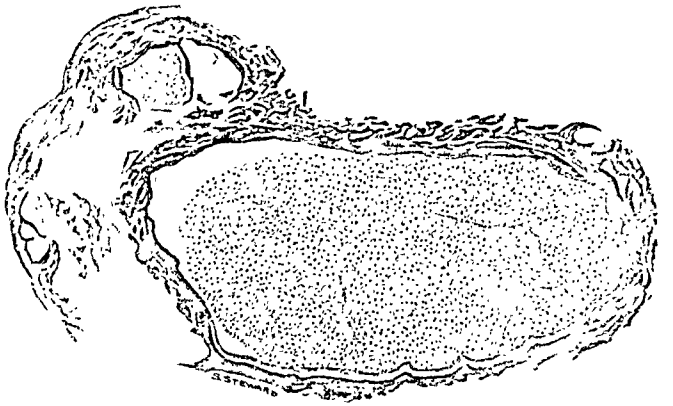


FIG. 3.

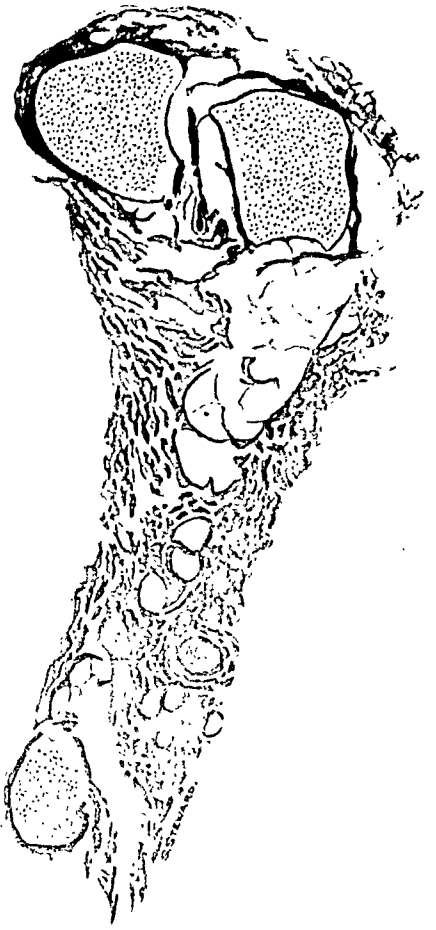


FIG 4.

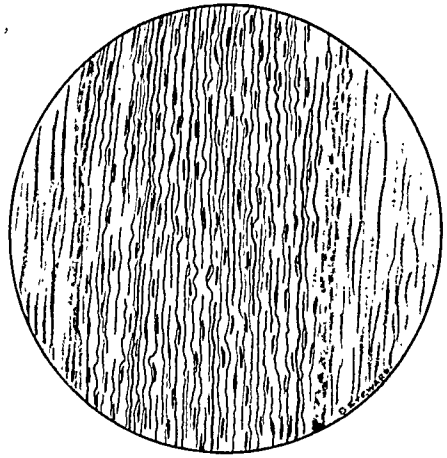


FIG. 5.

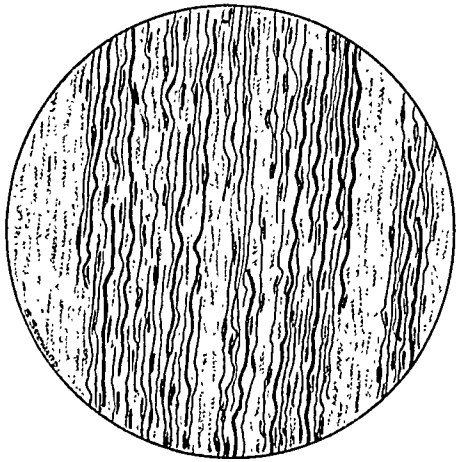


FIG. 6.



FIG. 8.—Adduction.

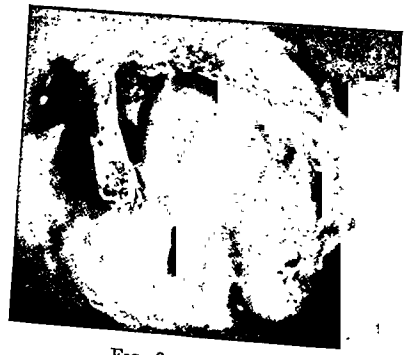


FIG. 9.—Abduction.



FIG. 10.—Adduction.



FIG. 11.—Abduction.



FIG. 7

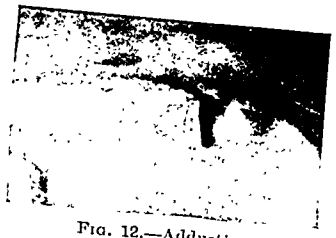


FIG. 12.—Adduction.



FIG. 13.—Abduction.

In man, however, when these operations become performed generally it will be possible to note week by week, by the aid of the laryngoscope, the slow but certain stages of recovery of movement of the vocal cord. It appears from the experiments, however, that the movement of adduction reappears earlier than that of abduction, and this corresponds with the familiar clinical experience that the abductors of the cords are more vulnerable than the adductors. The adductors, too, correspond to the flexor muscles of the limbs, and it is a common experience that after a nerve lesion of a limb the flexor muscles recover before the extensors. Negus points out that in evolution "adduction is an older function than abduction; therefore the power of the former survives that of the latter."

In disease, and possibly in injury, one intrinsic muscle of the larynx may atrophy though its nervous supply is intact, while the other intrinsics are acting normally. Hughlings Jackson and Morell Mackenzie published a case in 1865.[2] The abductor muscles were found greatly atrophied after death, while the nerve structures were intact. It would appear also that bilateral paralysis of the abductor muscles may arise from disease of the nerve fibres distributed to these muscles without paralysis of the other intrinsic muscles of the larynx.[3] In our experiments when perfect functional recovery is not present these facts should be remembered. It may be that some intrinsic muscle or some nerve filaments have not regenerated so well as others. This demonstrates the necessity, at a later stage of the experiments, for the careful study of microscopical sections of each intrinsic muscle and of its motor nerve fibres.

In the experiments the recurrent laryngeal nerve has always been completely divided, and as a result the vocal cord occupies the cadaveric position; but in cases of abductor paralysis in man the paralysed cord lies nearer to the mid-line than the cadaveric position because of tonic contraction of the adductor muscles.

Another question also requires an answer: When the vocal cord is moving normally through nervous impulses conveyed to it through the phrenic nerve, will the patient be able to phonate? This is the question asked by the late Sir Frederick Mott. The answer can hardly be decided by experiments on the monkey; operation on man will give the reply This is the decisive experiment. Sir Frederick Mott pointed out that the lemur monkey of the forests of Sumatra possessed a highly developed larynx, and that these animals were said to sing in chorus in their native wilds. He suggested that one of these monkeys should be obtained, as it would be very important to know whether, after a recurrent laryngeal-phrenic anastomosis had been performed, the singing voice would return or be modified; but it has not been possible to obtain a lemur monkey.

The recovery of the movement of the vocal cords after recurrent laryngeal-phrenic anastomosis has been filmed, and the appearances are described in another part of the paper.

It is not possible to say how long after paralysis of the vocal cord has taken place it would be justifiable to attempt to restore the movement of the cord by surgical operation. The surgical treatment of paralysis of the face may be attempted as long as contraction of the muscles of the face, however feeble—if necessary under an anaesthetic—can be obtained by stimulation through the skin with the galvanic current. It does not appear whether this method has been employed in the case of the intrinsic muscles of the larynx, but an electrode might be introduced into the larynx through the laryngoscope and a galvanic current used in order to find out whether any movement of the paralysed vocal cord can be induced. Frazier and Chevalier Jackson have advised that mobility of the crico-arytenoid joint should be tested with a long probe, lest the cartilages have become fixed either from arthritis or from secondary changes in the joint following prolonged paralysis and interference with its nerve supply.

There is another point of contrast also: in paralysis of the face some treatment, perhaps intermittent, such as massage and galvanism, has almost always been adopted to maintain the nutrition of the muscular fibres; so that, years after a complete palsy of the face has occurred, nerve anastomosis may be followed by a wonderful recovery of the facial muscles. The fact that, in the case of the patient previously quoted, eight months elapsed between the injury to the recurrent laryngeal nerves and the anastomosing nerve operations, and that already there is promise of a successful result, is a hopeful augury for the performance of the operation when the paralysis has continued for a much longer period than eight months.

Two experiments have been performed in which the recurrent laryngeal nerve was divided three months and six months before it was united to the phrenic nerve, but the specimens from these cases are not yet ready for publication. (Figs. 5 and 6.)

Altogether twenty experiments have been performed in which the recurrent laryngeal nerve has been anastomosed in various ways to a root of the phrenic nerve or to the main trunk of the phrenic nerve, and the results leave no question in the mind as to the success of the operation. When both recurrent laryngeal nerves have been anastomosed to the corresponding phrenic nerves the result is not always at first satisfactory. In a large rhesus monkey in which the operations on the two sides of the neck were separated by a long interval of time no stridor and no difficulty of breathing occurred; but in two baboons and two dogs it was noticed that while in tranquil respiration there was no stridor, yet when these animals became excited noisy respiration occurred. In these baboons and dogs it must be noted that the central nervous connexion of both recurrent laryngeal nerves and both phrenic nerves had been disturbed—the recurrent laryngeal nerves being united to the proximal part of the divided phrenic nerves and the distal part of the phrenic nerves to the divided proximal parts of the descendens noni nerves. Further, the depressor muscles of the larynx in the baboons were paralysed for a time, the distal segment of the descendens noni nerve on each side of the neck being united end-to-side to the lower border of the hypoglossal nerve, and in some other cases to the side of the phrenic nerve proximal to the recurrent

DESCRIPTION OF SPECIAL PLATE.

(FIGS. 5 TO 13.)

FIG. 5.—Microscopic appearance of phrenic nerve of a baboon distal to a descendens noni-phrenic anastomosis eighteen months after the performance of the anastomosis. (× 150.) Cajal stain.

FIG. 6.—Microscopical appearance of recurrent laryngeal nerve of a baboon distal to a recurrent laryngeal-phrenic anastomosis eighteen months after the performance of the anastomosis. (× 150.) Cajal stain. The recurrent laryngeal nerve had been divided in the lower part of the neck six months before the anastomosis operation was done.

FIG. 7.—Dog. Photographs by Mr. Melville of the position of the diaphragm at the end of expiration and at the end of inspiration (Experiment I). A, End of expiration. B, End of inspiration. Twenty seconds elapsed between the two exposures. Each exposure lasted an eighth of a second. Both halves of the diaphragm are contracting through nerve currents passing through the descendens noni-phrenic anastomosis.

FIGS. 8 AND 9.—Dog under ether anaesthesia (Experiment I). Rapid respiration described by Richet by the name "polypnoea." Stated by Semon and Horsley as occurring when the lower third of the cortex of the precrucial gyrus is stimulated. The rapid respiration is frequently observed during ether anaesthesia in this animal and is relieved by the administration of a little chloroform. Note the wider space between the arytenoid cartilages in abduction. *The film was taken fifteen months* after a recurrent laryngeal-phrenic end-to-end anastomosis was performed on the right side, and ten months after the recurrent laryngeal-phrenic end-to-end anastomosis was done on the left side. In this case the main trunk of the phrenic was used for the end-to-end anastomosis on the left side, while on the right side the end-to-end anastomosis was made to the proximal segment of the root of the phrenic arising from the sixth cervical nerve. (See also Figs. 14 and 15.)

FIGS. 10 AND 11.—Large rhesus monkey; tranquil respiration (Experiment II). Note the wide angle formed by the two sides of the arytenoids in abduction and the lesser angle in adduction. These photographs do not give the same effect as seen in the film. For example, in the film much more adduction is visible; the channel between the vocal cord approximates to a slit-like opening. The film was taken two years and six months after the operation of recurrent laryngeal-phrenic end-to-side anastomosis was performed on the right side, and thirteen months after the operation of recurrent laryngeal-phrenic anastomosis end-to-end was done on the *left side*. Note the wider abduction movement of the vocal cord on the left side. (See also Figs. 16 and 17.)

FIG. 12.—Same monkey. Strong adduction during partial asphyxiation. The cords have nearly passed off the field.

FIG. 13.—Same monkey. Wide abduction following immediately after pressure on trachea was relaxed.

laryngeal-phrenic end-to-end anastomosis. It is true that operations on the two sides of the neck were separated by a considerable length of time, but now, when both cords were moving, when both halves of the diaphragm had recovered from paralysis, and when the muscles on both sides of the neck were again working normally, why is it that noisy respiration on excitement occurs? It must be remembered that the muscles innervated by the recurrent laryngeal, phrenic, and descendens noni nerves are intimately associated in the respiratory movements. The noisy respiration caused by the inco-ordination of muscular movement does not appear surprising, since complicated nerve arrangements must be made in the central nervous system before the nerve-cells of the central connexions of the phrenic and descendens noni nerves are brought into nervous union with those nerve cells which control under normal circumstances the rhythmical respiratory movements of the vocal cords and each half of the diaphragm. Time alone offers the probability or possibility of complete recovery.

The end-to-side and end-to-end anastomoses of the distal end of the divided recurrent laryngeal nerve to the main trunk of the phrenic nerve on one side of the neck have been invariably successful, in that they are followed by apparently normal movements of the corresponding vocal cord; but when such an operation has been carried out on both sides of the neck, the movements of the vocal cords, thus energized through union with the corresponding phrenic nerves, have shown in a few instances an inco-ordination or false timing of the movements of the vocal cords, indicating that though the respiratory centre is working yet it has not regained normal control. This paradoxical result affects the vocal cord on the side which was first operated on, though previous to the second operation this vocal cord was moving equally and synchronously with the opposite or normally moving vocal cord.

There are other points to consider. The end-to-end suture of the extremely fine nerves in the monkey is not in all cases carried out so perfectly as is desirable; and again, the presence of scar tissue at the site of anastomosis may possibly delay or weaken the passage of a nervous impulse. These, no doubt, are theoretical considerations, but the fact remains that when both recurrent laryngeal nerves have been anastomosed end-to-end to the corresponding phrenic nerves a paradoxical movement of the vocal cords has been seen, adduction occurring in inspiration and abduction in expiration.

Inco-ordination is also seen in emotional movement, such as laughing, after a nerve anastomosis has been performed for facial palsy. The distortion of the face may be so great that, superficially observed, it appears that no recovery has taken place; but if and when by re-education both sides of the face work together the distortion on emotional movement does not occur. It may be that in the practical application of the operation for double abductor paralysis the difficulty of inco-ordination may be avoided or minimized by performing the operation on one side only, leaving the opposite cord without movement, since it is a commonplace observation that unilateral paralysis frequently causes neither dyspnœa nor lasting alteration in the voice.

In Blalock and Crowe's paper[4] admirable figures are given of regeneration of the recurrent laryngeal nerve distal to anastomosis with the descendens noni nerve and the vagus nerve. This regeneration we have found whatever cervical nerve has been anastomosed to the recurrent laryngeal nerve. In our experiments in no instance could the recovery of the movements of the vocal cord be compared to that obtained by anastomosis of the recurrent laryngeal nerve to the phrenic nerve. In our experiments, too, monkeys were chiefly used, and in Blalock and Crowe's dogs only. We think the experiments with the monkey give results which are of more service for comparison when the time arrives for their application to the surgery of man. Blalock and Crowe recommend the selection of the descendens noni nerve or the upper root of the phrenic. They say that the best results are obtained by making the anastomosis close to the larynx, as the axis cylinders have a shorter distance to traverse before reaching the end-organs in the intrinsic laryngeal muscles; but this is a theoretical statement, and represents a theory of nerve regeneration which is not universally accepted (see *Healing of Nerves*, Ballance and Stewart).

Blalock and Crowe state that the entire severance of the phrenic or vagus involves a needless risk. No one has suggested the entire severance of the vagus, and in man we only recommend the division of the trunk of the phrenic when there is not a sufficient length of recurrent laryngeal nerve to bring across the carotid sheath in order to carry out an end-to-side anastomosis. We do not believe in risk associated with division of the phrenic on one side (it is often destroyed at the present time in the treatment of some forms of phthisis and bronchiectasis), and we know that the anastomosis of the proximal end of the divided descendens noni nerve to the distal cut end of the phrenic will eventually result in complete recovery from paralysis of the diaphragm. We have employed end-to-end and end-to-side anastomosis of the recurrent laryngeal nerve to the upper and middle phrenic roots, but we are convinced that end-to-side anastomosis of the recurrent laryngeal to the trunk of the phrenic is the operation of choice. Further, our experiments teach us that operation on one of the phrenic roots does cause a partial paralysis of the diaphragm. We agree, however, with these authors that light ether anæsthesia is of great importance in observing the movements of the vocal cords; deep anæsthesia or morphine may abolish the movements and lead to wrong conclusions. This point was insisted on also by Semon and Horsley.

DESCRIPTIONS OF EXPERIMENTS.

In each experiment before the sutures were passed to bring the cut ends of the several nerves together the recurrent laryngeal and phrenic nerves were stimulated with the faradic current. The contraction of one half of the diaphragm was easily observed, and so was the movement of the corresponding vocal cord, by means of the laryngoscope. It was noted, too, that the contraction of the muscle of one half of the diaphragm was sometimes associated with contraction of the lower intercostal muscles. These latter muscles being associated in normal respiratory action with the muscle of the diaphragm seem to have received a reflex hint to carry on as normal.

It has been already said that twenty experiments in which the recurrent laryngeal nerve was united to the phrenic nerve have been performed. When both recurrent laryngeal nerves were anastomosed to the corresponding phrenic nerves the two operations were counted in the above list as two experiments. In the following description of certain of these experiments when two operations have been done on the same animal it has been found more convenient to reckon such a procedure not as two experiments but as one.

EXPERIMENT I.—*Dog.*

This animal was constantly barking, which was a fact of value in relation to the nature of the experiment proposed to be performed. The dog was deeply anæsthetized with ether, but unfortunately just before the film was about to be taken the respiration became very rapid, shallow, and panting. The film therefore shows much smaller excursions of the cords than have been observed to take place when the respiration is quiet and natural. The right cord, however, will be seen to have a wider abduction movement than the left, and this is probably due to the fact that the operation on the right side of the neck was performed *five months* before that on the left side. The film was taken fifteen months after the operation was done on the *right side of* the neck and ten months after the operation was done on the left side of the neck. (See Figs. 8 and 9.)

First Operation (*Right Side*).—Recurrent laryngeal nerve to the proximal segment of the root of the phrenic derived from the sixth cervical nerve—anastomosis end-to-end. Descendens noni nerve to the distal segment of the root of the phrenic derived from the sixth cervical nerve—anastomosis end-to-end. (*Fig.* 14.)

In this case it will be seen that the root of the phrenic from the sixth cervical nerve was used for the anastomoses and not the main trunk of the nerve.

The animal began barking again vigorously three months after the operation, and five months after the operation the right cord was moving synchronously and equally with the *normal* cord on the left side.

It was decided to do a similar operation on the left side.

Second Operation (*Left Side*).—Recurrent laryngeal-phrenic (main trunk) anastomosis, end-to-end. Descendens noni-phrenic (main trunk) anastomosis, end-to-end. (*Fig.* 15.)

Thus on the left side of the neck a different operation was done from that carried out on the right side of the neck. The recurrent laryngeal nerve and the main trunk of the phrenic nerve were divided and the proximal end of the divided phrenic was united end-to-end with the distal cut end of the divided recurrent laryngeal nerve. The descendens noni nerve was divided in the *operation on the right and left sides* of the neck, below the

origin of the branches to the omo-hyoid, sterno-hyoid, and sterno-thyroid muscles, and its proximal end united to the distal end of the divided root or main trunk of the phrenic nerve.

Six months after the operation on the left side of the neck the dog was barking again loudly, but perhaps the bark was not exactly the same as before the operations; the movements of both cords were equal and synchronous.

Examination of the State of the Diaphragm (at University College).—A film of the contractions of the diaphragm cannot at present be taken, but Mr. Melville hopes that before long this may be possible. Professor Elliot Smith's report is as follows:

The first examination was made with the radiographic screen ten months after the operation was done on the right side of the neck and five months after the operation was done on the left side of the neck.

Report on the Right Side.—The major part of the right half of the diaphragm is contracting normally, especially the posterior portion; but an area of the muscle is still paralysed.

Report on the Left Side.—Active contraction of all parts of the muscle.

Five months later another examination was made. The report stated that both halves of the diaphragm were actively contracting, and there was no sign of paralysis on the right side. (Fig. 7.)

Ten months after the second operation was done the vocal cords were moving equally and synchronously as seen through the laryngoscope. At this time the movements of the vocal cords were filmed. The film shows that the excursions of the right vocal cord were slightly more pronounced than those of the left vocal cord.

Some little time after the filming of the vocal cords it was noted that the dog was suffering from stridor and that the bark was very hoarse. The animal was not under constant observation as it was kept at the farm laboratories. It seemed that the stridor and hoarseness might be accounted for either by the prolonged anaesthesia necessary for the filming upsetting the respiratory rhythm, especially as multiple anastomoses had been done, or possibly that the extension of the neck during the filming had stretched or in some way damaged the anastomoses. The larynx of the dog was examined again, when, though the vocal cords were actively moving, adduction was seen to take place in inspiration and abduction in expiration. All observers note that the movements of the vocal cords are very sensitive to deep anaesthesia.

Three months after the filming of the vocal cords the dog was anaesthetized again, and killed with ether at the close of the examination.

There was still the paradoxical movement of the vocal cords as described above, but adduction was accompanied by movement of the larynx as a whole, caused by the subhyoid muscles, so that possibly the adduction may have been due to extrinsic influence and not caused simply by contraction of the intrinsic muscles.

The following experiments seem, however, to point to a different conclusion.

1. Stimulation of the undivided recurrent laryngeal nerve on the left side was followed by adduction of both vocal cords.

2. Stimulation of the distal end of the divided recurrent laryngeal nerve was followed by adduction of both vocal cords.

3. Stimulation of the proximal end of the divided nerve was followed by adduction of the opposite vocal cord.

The two last observations are paradoxical and contrary to what occurs in normal circumstances, so that the truth seems to be that the prolonged anaesthesia required for the filming of the vocal cords had interfered with their normal rhythm of movement.

The appropriate area of the cortex cerebri was stimulated, but no movement of the vocal cords was seen; when the cortical stimulation was done the animal had been under deep anaesthesia for some time.

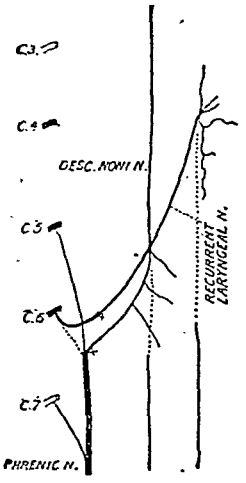


FIG. 14.—Dog (Experiment I). Recurrent laryngeal-phrenic (root from sixth cervical nerve) end-to-end anastomosis. Descendens noni-phrenic (distal end of divided root from sixth cervical nerve) end-to-end anastomosis.

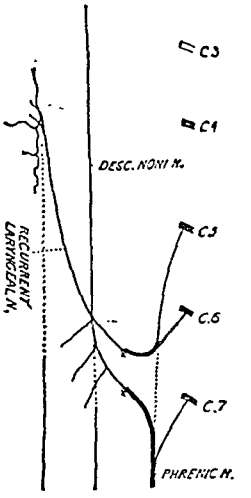


FIG. 15.—Dog (Experiment I). Recurrent laryngeal-phrenic (main trunk) end-to-end anastomosis. Descendens noni-phrenic end-to-end anastomosis.

EXPERIMENT II.—*Large Rhesus Monkey.*

First Operation (Right Side).—Recurrent laryngeal-phrenic anastomosis, end-to-side. The recurrent laryngeal nerve was divided and the distal cut end united, end-to-side, to a small median incision made in the main trunk of the phrenic nerve. (Fig. 16.)

Six months later the right cord was moving synchronously with the left.

Second Operation (Left Side).—Seventeen months after the operation on the right side the following operation was performed on the left side: Recurrent laryngeal-phrenic (main trunk) anastomosis, end-to-end. No anastomosis of distal end of phrenic to any other nerve. (Fig. 17.)

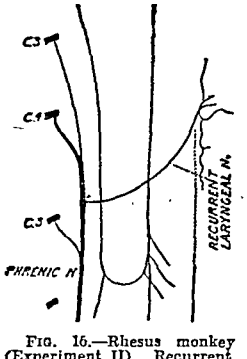


FIG. 16.—Rhesus monkey (Experiment II). Recurrent laryngeal-phrenic anastomosis, end-to-side. (Small median incision made in middle of phrenic trunk.)

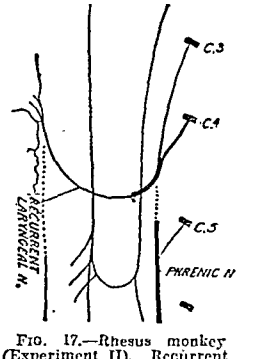


FIG. 17.—Rhesus monkey (Experiment II). Recurrent laryngeal-phrenic end-to-end anastomosis. No anastomosis of distal part of phrenic to any other nerve.

Six months later both cords were moving well, but the left cord (the recurrent laryngeal had been attached to the whole phrenic) showed a wider abduction excursion than the left.

The Diaphragm.—Examination at University College with the radiographic screen by Professo. Elliot Smith, Dr. Beattie, and Mr. Melville, two years and five months after the operation on the right side and twelve months after the operation on the left side. The report on the right side stated that all parts of the diaphragm were contracting equally and well. That on the left side was as follows: "No contraction of any part of left half of diaphragm; cupola moves passively upwards and downwards with respiration."

This monkey is still alive and well. It is three years since the recurrent laryngeal-phrenic anastomosis was done on the right side and one and a half years since the recurrent laryngeal-phrenic anastomosis was performed on the left side. This animal has never had any stridor. Both vocal cords are apparently moving naturally. It is to be noted that, though the left half of the diaphragm is paralysed, the right half is contracting through nervous influences passing in the normal manner through the right phrenic nerve—a recurrent laryngeal-phrenic end-to-side anastomosis having been done. (Figs. 10 to 13.)

EXPERIMENT III.—*Baboon.*

Operation (Right Side).—Recurrent laryngeal-phrenic end-to-end anastomosis. Descendens noni (proximal end)-phrenic (distal end) end-to-end anastomosis. Descendens noni (distal end)-hypoglossal end-to-side anastomosis. (Fig. 18.)

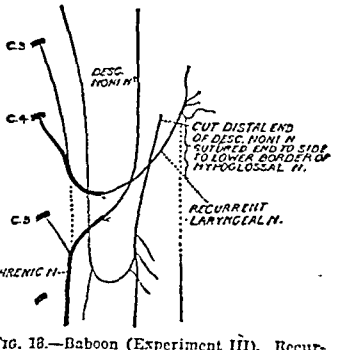


FIG. 18.—Baboon (Experiment III). Recurrent laryngeal-phrenic end-to-end anastomosis. Descendens noni-phrenic end-to-end anastomosis. Descendens noni-hypoglossal end-to-side anastomosis

A. *The Vocal Cords.*—Four months afterwards: Right vocal cord moves equally with left in tranquil respiration. Six months after operation: Right vocal cord moves more strongly than left. Seven months after operation: Right vocal cord moves excessively as compared with the movements of the left vocal cord; the movements of the cords are, however, synchronous. (Observed by Sir David Ferrier and the late Sir Frederick Mott.)

B. *The Diaphragm.*—Examination by Dr. Eidinow with the radiographic screen at the Hampstead Institute seven months after

the operation. The report stated that both halves of the diaphragm contracted equally and normally. (Professor Leonard Hill agreed with this report.)

C. *The Depressor Muscles of the Hyoid Bone and Larynx.*—Seven months after operation: The muscles on the right side of the neck react to the faradic current in a normal way and like those on the left side of the neck.

The baboon became ill two weeks later and was destroyed by ether inhalation.

EXPERIMENT IV.—*Dog.*

First Operation (*Right Side*).—Recurrent laryngeal-phrenic (main trunk) end-to-end anastomosis. Descendens noni-phrenic (main trunk) end-to-end anastomosis.

Three months later the animal was running about in good health; there was no sign of difficulty in breathing.

Six months after the operation: Both cords move equally and synchronously. Perhaps there is not quite so much abduction of the right cord as there is of the left cord. The adduction movement of both cords is strong.

The wound was opened and the hypoglossal nerve proximal to the origin of the descendens noni nerve and the descendens noni nerve proximal to its anastomosis with the phrenic nerve were exposed and stimulated with the faradic current. Contraction of the right half of the diaphragm occurred and continued rather violently for a short time after the faradic stimulation ceased. Previous to this experiment no difference could be detected on inspection and palpation between the movements of the upper half of the right abdominal wall and ribs and the movement of the corresponding parts on the left side.

Second Operation (*Left Side*)—six months after operation on the right side.—Recurrent laryngeal (main trunk) -phrenic end-to-end anastomosis. Descendens noni-phrenic (main trunk) end-to-end anastomosis.

Nine months after the second operation: Some stridor had been noted for two or three months when the animal was excited.

Vocal Cords.—Both cords abduct, but the right moves more actively than the left. Adduction, which is a strong movement on both sides, takes place in inspiration and abduction in expiration.

Diaphragm.—Examination by Professor Elliot Smith at University College. The right side showed normal diaphragmatic contraction; all the muscle was acting. On the left side the movement appeared to be less in amplitude than that on the right. It seemed that some of the muscle fibres on the ventral surface were not yet active.

Two months after the examination at University College the animal was killed by the inhalation of chloroform. Before death took place both recurrent laryngeal nerves were exposed near the larynx and stimulated with the faradic current. Stimulation of the right recurrent laryngeal nerve with a moderate faradic current caused strong adduction of *both* cords. When the stimulation ceased the cords moved outwards, leaving a wide air space. Stimulation of the left recurrent laryngeal nerve gave the same result, but the movement on the right side was stronger than that on the left.

The paradoxical movement of the vocal cords is discussed in another part of the paper. In normal circumstances the stimulation of the intact recurrent laryngeal nerve is followed by an equal movement of both vocal cords. It is interesting that the same result obtained in this case, though each recurrent laryngeal nerve had been anastomosed to the corresponding phrenic nerve. Both halves of the diaphragm were contracting through nerve currents passing through the descendens noni-phrenic anastomoses, but the left muscle of the diaphragm had not completely recovered.

EXPERIMENT V.—*Dog.*

First Operation (*Right Side*).—Recurrent laryngeal-phrenic (main trunk) end-to-end anastomosis. Descendens noni-phrenic (main trunk) end-to-end anastomosis. Only one root (that from the sixth cervical nerve) was observed at the operation.

Seven months later the right vocal cord moved synchronously with the left vocal cord, but the abduction excursion on the right side was slightly more marked than the same movement on the left side. The abdominal wall and ribs moved on the right side in the same manner as those on the left side, showing there was no paralysis of the diaphragm.

Second Operation (*Left Side*)—eight months after first operation.—Recurrent laryngeal-phrenic (main trunk) end-to-end anastomosis. Descendens noni-phrenic (main trunk) end-to-end anastomosis.

Three months later there was no stridor or other evidence of difficulty of breathing.

Four months after the second operation the animal died of acute lobar pneumonia.

The microscopic sections of the nerves and intrinsic muscle of the larynx have not yet been studied. They will form the basis of another paper.

EXPERIMENT VI.—*Dog.*

Operation (*Right Side*).—Recurrent laryngeal-phrenic end-to-side anastomosis. The end of the recurrent laryngeal nerve was sutured to a small transverse incision made in the side of the trunk of the phrenic nerve formed by the union of the roots from the fifth and sixth cervical nerves.

Two months after operation the animal was barking again.

Three months after operation the right vocal cord was straight, tension good. Slight abduction was observed during tranquil respiration. The barking of this dog had become a nuisance.

Seven months after operation the right vocal cord moved actively, equally, and synchronously with the left vocal cord.

Diaphragm.—Examination at University College with the radiographic screen by Professor Elliot Smith and Mr. Melville, who reported: "Both halves of the diaphragm contracting equally and normally." A few weeks previously, at another examination, the report was as follows: "Both halves of diaphragm contracting well. Right half is contracting well and as a whole, but a small area near the vena cava seems to be lagging behind the rest."

EXPERIMENT VII.—*Hussar Monkey.*

Operation (*Left Side*).—Recurrent laryngeal-phrenic end-to-side anastomosis. The anastomosis was made by the method of lateral incision. (Fig. 19.) The phrenic nerve was seen to be formed of two bundles of nerves. A fine tenotomy knife was passed between them and made to divide one of the bundles. Into the gap thus made the cut end of the recurrent laryngeal was fixed by one suture of the finest catgut. The two nerve bundles of the phrenic nerve came respectively from the third and fourth cervical nerve. That from the fourth cervical nerve was the larger, and it was this bundle which was divided; so the anastomosis was between the fourth cervical root of the phrenic and the recurrent laryngeal nerve. Whether the healing process spread the anastomosis to the root from the third cervical nerve or whether the anastomosis remained a pure recurrent laryngeal-phrenic (fourth root) junction is not known.

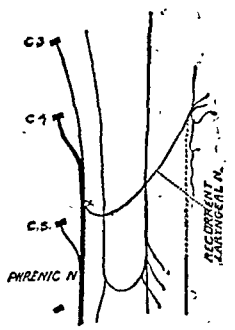


FIG. 19.—Hussar monkey (Experiment VII). Recurrent laryngeal-phrenic end-to-side anastomosis. The anastomosis was done by the method of lateral incision of the phrenic nerve.

Three months after the operation Dr. Eidinow examined the diaphragm with the radiographic screen. *Report:* Left half of diaphragm contracting normally. (Professor Leonard Hill concurred in the report.)

Six months after the operation the vocal cords were examined. *Report:* Deep anaesthesia: shallow breathing. The glottis in this animal is normally widely open. It never moves in its large cage, and therefore the respiratory centre has the minimum amount of work to do. The left vocal cord is tense and straight, but immobile. There is scarcely any movement of the right vocal cord.

Nine months after the operation the normal position of *both* vocal cords seemed to be wide abduction. There was slight abduction of the left vocal cord. Strong adduction of both cords was caused by partial asphyxiation, which was followed by strong abduction, which was not so marked on the left side as on the right. Deep anaesthesia abolished the movement of both cords. Two weeks after this examination the animal died.

EXPERIMENT VIII.—*Large Barking Baboon.*

First Operation (*Right Side*).—Recurrent laryngeal-phrenic end-to-end anastomosis. Descendens noni-phrenic end-to-end anastomosis.

The recurrent laryngeal nerve had been divided three months before this operation. The distal end of the descendens noni nerve was not united end-to-side to the hypoglossal. During the operation the root from the third cervical nerve was not seen; the root from the fourth cervical nerve was comparatively large. It is not certain whether the trunk of the phrenic nerve formed by the junction of the third and fourth nerve roots was divided and employed in the anastomosis or whether only the root of the phrenic from the fourth cervical nerve was used. The laryngoscope showed the right vocal cord without tone, with a concave border and immobile. Before doing the anastomosis the recurrent laryngeal nerve was stimulated, when a slight adduction movement of the right cord was seen. Dr. Charles Mayo, Dr. Franklin Martin, Dr. Cabot, and Dr. Willis of America, and Dr. Tapia of Madrid, were present at the operation.

Four months after the operation the baboon was barking loudly again, and on using the laryngoscope the right vocal cord was seen to have regained its tone its inner border was straight, but it was still immobile. During this examination the anaesthesia was deep and the respiration very shallow.

Second Operation (*Left Side*), performed nine months after the first.—Recurrent laryngeal-phrenic end-to-side anastomosis.

The right vocal cord now shows a slight abduction excursion in tranquil respiration. For three months this monkey has been barking so loudly that the neighbours have complained of the barking of the "dog." After the operation which paralysed the left vocal cord the movements of adduction and abduction of the right vocal cord became quite obvious.

Six months after the second operation an examination of the movements of the diaphragm was made by Professor Elliot Smith, Dr. Beattie, and Mr. Melville, who reported as follows:

The right half of the diaphragm is contracting in the normal manner and the muscular portion appears to be completely functioning.

In the left half of the diaphragm the movement is not normal; amplitude less than that on the right side. Query: the muscular fibres are not all yet acting.

Two months before Professor Elliot Smith made this examination it was noted that this baboon suffered from stridor when excited or angry, and that the barking was less noisy, less frequent, and changed in character.

After the examination of the movements of the diaphragm an attempt was made to examine the vocal cords, but the examination was unsatisfactory and the animal died from an overdose of anaesthetic shortly afterwards. It was suspected that the stridor was due to a paradoxical movement of the vocal cords.

It may be added that the microscopical examination shows regeneration of axis cylinders in both recurrent laryngeal nerves and in both phrenic nerves below the anastomoses. All the intrinsic muscles of the larynx appear to the naked eye to be in a healthy state, though the *microscopical examination* of each intrinsic muscle is not yet complete. It is to be noted that the distal part of the descendens noni nerve was not united to the lower border of the hypoglossal; this was a mistake in the operation; the animal had a long neck, but it was believed, however, that the descendens noni was divided below the origin of the nerves to the sterno-hyoid and sterno-thyroid muscles. The nerve to the omo-hyoid muscle was divided.

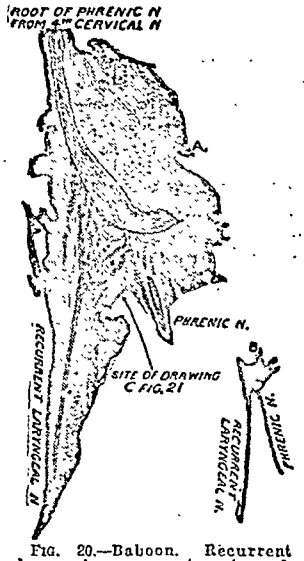


FIG. 20.—Baboon. Recurrent laryngeal nerve anastomosis, end-to-side, to the root of the phrenic nerve coming from the fourth cervical nerve (Experiment X). Death three months and twenty days after operation. B, The nerves removed after death. A, Microscopical sections. (× 10.)

The following three experiments illustrate the difficulty, even when every care is taken, of keeping monkeys alive for the long periods of time required for final results to be obtained in nerve anastomosis experiments.

EXPERIMENT IX.—*Baboon.*

Operation (Left Side).—Recurrent laryngeal-phrenic end-to-side anastomosis.

Three months later the left vocal cord showed no movement during tranquil respiration, but its border was straight and it had recovered its tone. A week after this laryngoscopic examination the monkey became ill and was destroyed by ether inhalation. Before death ensued the right recurrent laryngeal nerve was exposed and stimulated with the faradic current. The results were as follows:

Undivided recurrent laryngeal nerve:—(*a*) Weak current: both cords move equally. (*b*) Somewhat stronger current: strong adduction of opposite cord.

Divided recurrent laryngeal nerve:—(*a*) Proximal end: strong adduction of opposite cord. (*b*) Distal end—weak current: adduction of both cords. Somewhat stronger current: powerful adduction of opposite cord.

It is difficult to explain these movements of the vocal cords, but the same results were obtained in a similar case in which the recurrent laryngeal nerve on the side opposite to the one stimulated had been anastomosed to the phrenic nerve. It is worthy of note that though the left vocal cord was devoid of movement in tranquil respiration, yet when the opposite recurrent laryngeal nerve was stimulated by the faradic current its excursions were much more marked than those of the vocal cord on the normal side. It is therefore clear that a nerve current was already capable of passing through the recurrent laryngeal-phrenic anastomosis.

EXPERIMENT X.—*Baboon.*

Operation (Right Side).—Recurrent laryngeal-phrenic end-to-side anastomosis. The end-to-side anastomosis was to the root of the phrenic nerve from the fourth cervical nerve by the method of median incision. (Figs. 20 and 21.)

Three and a half months later the right cord had regained its tone—border straight. Dr. Eidinow examined the movements of the diaphragm by means of the radiographic screen; and reported that the right half of the diaphragm was contracting normally.

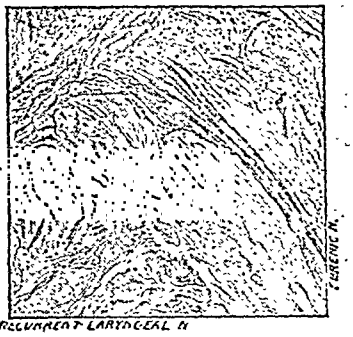


FIG. 21.—Microscopical section. (× 150.) This figure is marked C, and the site of the section is marked in Fig. 20.

The animal was taken suddenly ill and died a few days later.

EXPERIMENT XI.—*Baboon.*

Operation.—Recurrent laryngeal-phrenic end-to-end anastomosis. The end-to-end anastomosis was to the proximal part of the divided root of the phrenic nerve from the fourth cervical nerve.

One month later the animal died of tuberculosis.

[A full description of the method of taking the cinematograph pictures will be contained in the second part of the paper to be published next week.]

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TRAUMA AS A CAUSE OF AURICULAR FIBRILLATION:

ITS MEDICO-LEGAL SIGNIFICANCE.

BY

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Is trauma or physical strain to be accepted as an exciting factor in the production of auricular fibrillation?

This is a matter of considerable practical importance because of its medico-legal bearing, apart altogether from the obvious clinical interest. In the valuable and helpful book by Dr. E. M. Brockbank on *Incapacity and Disablement in its Medical Aspects* the author states quite definitely that he has "never met with a case in which auricular fibrillation could be attributed to sudden strain," and expresses the view that he would be "very unwilling to believe that strain could cause it." Since there is nothing to suggest that he has in mind the effect of strain on a healthy heart we can only conclude that he holds the view that strain will not induce fibrillation, even in a heart damaged by disease.

Our experience is contrary to that of Dr. Brockbank, and we feel that it is desirable to put on record a few cases in which the advent of fibrillation might reasonably be ascribed to trauma or physical strain.

The view is generally held that fibrillation, as met in clinical practice, is always superimposed upon a pre-existing pathological change in the heart. This probably holds good in the large majority of cases. It is open to doubt, however, whether there are not exceptions to this rule. Even granting that some myocardial change must precede fibrillation, the medico-legal question is simply whether physical effort does not prove in some instances the determining factor in its onset. And it must be remembered that once fibrillation has begun it tends to persist.

Auricular fibrillation is an added disability and is sudden in onset, though the ensuing cardiac failure resulting from the fibrillation may take time to develop and manifest itself.

That auricular fibrillation is a disability *per se* is beyond question. This is clearly shown in those patients in whom the fibrillation is paroxysmal, who know when an attack begins, and who are conscious both of the onset and the offset of the fibrillation. Such patients are clearly aware of an increased liability to shortness of breath on effort. They have no delusions in regard to the matter; previous to the onset of the disorderly rhythm they can undertake physical effort without distress, but while fibrillation is present such physical effort cannot be undertaken with comfort. When an attack is over (after a short period of subsequent exhaustion) the reserve is again unimpaired. Whatever the pathological changes in such a heart they are in existence before an attack, during an attack, and after an attack. The factor responsible for the disability is the onset and the presence of fibrillation. When that disappears the heart is back again to its old standard.

It is the ventricles which do the work of the heart. They are the pump. Their health or disease has nothing to do with the inception of fibrillation of the auricles. Their

soundness has, however, a great deal to do with their power of dealing with the abnormal conditions set up by auricular fibrillation. We refer, of course, to the increased ventricular rate and the irregular force of the systoles. The auricles pipe, and the ventricles perforce must dance. The rhythm of their dance is both rapid and irregular, and if the ventricular muscle is unsound it is a dance that sometimes leads to death.

Eyster and Swarthout have shown that fibrillation diminishes the cardiac output by 40 per cent. in dogs whose myocardium was presumably sound and vigorous, and from the clinical evidence it is clear that the inception of fibrillation means an inadequate circulation and a sudden definite increase in the load which the heart has to bear.

In fibrillation the output of blood per minute is less, but the work of the heart is increased—100 to 160 ventricular contractions instead of 60 to 70 per minute, with a corresponding diminution in the resting of the heart. In other words, there is a diminution of the pumping power in spite of a greater expenditure of energy. As the direct result of the diminished output the essential organs are poorly

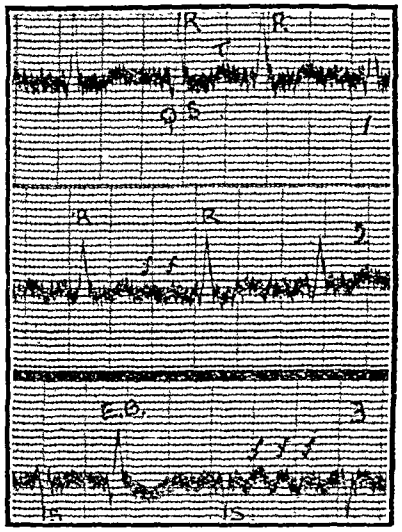


FIG. 1.—Electro-cardiogram showing fibrillation, with an ectopic beat (E.B.) in Lead 3, and relative preponderance of the left ventricle. QRS=Initial deflection of ventricular complex. f=Deflections due to fibrillation.

supplied with blood, and the individual, as an individual, becomes less efficient. Now, if it is proved that this added disability (A.F.) was brought on by the nature of a man's employment, then the employers of that man are liable. It is, therefore, important to know whether physical strain can reasonably be regarded as one exciting factor in the inception of this abnormal and disabling rhythm.

The experience of most of those who have carefully examined and cross-examined patients suffering from auricular fibrillation might be summarized as follows:

1. There is the group in which the *date of onset cannot be determined*—those patients in whom fibrillation causes little, if any, distress, and such distress not being associated in the patient's mind with any change in the heart, the myocardium being capable of tolerating the added load with equanimity. The disorderly rhythm is discovered by the doctor in the course of his physical examination. In this group one must place also those who present themselves with symptoms of cardiac failure, who believe that the heart is at fault, but who were unaware of the onset of the irregularity which is present.

2. There is the group in which the moment of the *onset of fibrillation can be clearly defined*, either because the patient recognized the sudden change in cardiac rhythm, or because the medical attendant (as the result of his own observations) is able to determine the date of the change in rhythm to within a day, or even within a few hours, of its onset—the predisposing influences in such a group being toxic influences, such as influenza, pneumonia, hyperthyroidism, or digitalis. Sudden emotional disturbance may have been the responsible factor. In this group one might also include those in whom there was no apparent exciting cause. The moment of onset was recognized, the predisposing condition being that of old-standing heart disease.

3. There is the third and smallest group in which fibrillation followed immediately upon some definite effort or physical strain. The onset, in point of time, was clearly defined and was closely associated with the effort or strain or shock—so much so that it would be unreasonable not to admit the relationship.

It is this third group which interests us.

Dr. J. G. Emanuel, in the Ingleby Lectures, 1925, gives the conditions associated with the onset of auricular fibrillation in 52 patients in whom the onset of the fibrillation was accurately noted. Among the conditions noted were:

Running for a tram	2 cases
Walking uphill	4 „
Climbing steps or stairs	3 „
Coughing violently	5 „
Laughing heartily	2 „
Unscrewing steam pipe	1 case
Considered due to an electric shock	1 „

Dr. Emanuel does not go so far as to say that the physical effort in the above patients was the exciting cause,

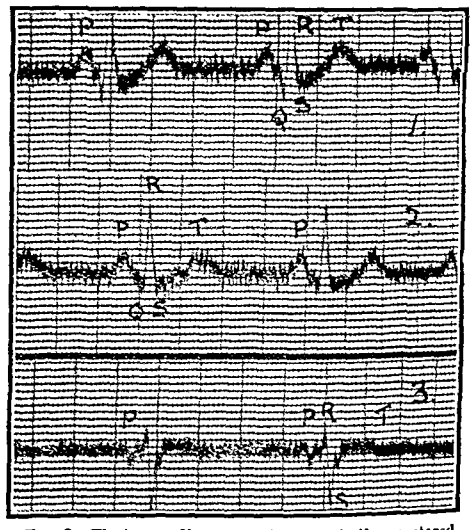


FIG. 2.—Electro-cardiogram. Normal rhythm restored. P=Deflection caused by systole of the auricles. P is absent in fibrillation.

and he accepts the view that "for fibrillation to occur the heart must be affected by rheumatism, syphilis, arteriosclerosis, Graves's disease, or some toxaemia." It is certainly true that myocardial damage or some toxaemia is generally present as a predisposing factor, but we do not believe that either is essential. In any case, the *point* at issue is rather whether physical strain or shock can precipitate the onset of fibrillation, either in a damaged heart or even in a heart which is apparently normal.

It is well known that auricular fibrillation, essentially a functional condition, is easily induced in the healthy heart of an animal, and it has been demonstrated that in animals both interrupted galvanic current and faradic shocks cause fibrillation.[1]

It is significant that in such experiments the fibrillation so produced does not cease when the stimulus which produced it is no longer active, but continues for an appreciable time, "*after fibrillation.*"[2]

In 1913 Gossage and Hicks published one or two cases in which fibrillation occurred spontaneously in young patients with apparently healthy hearts.[3]

The cases which we propose to relate appear to justify the view (1) that the functional disability of fibrillation may be induced by sudden strenuous physical effort, or by a severe electric shock; (2) that fibrillation can occur in a heart which is sound as judged by ordinary clinical methods. And we hold it is a reasonable assumption that physical strain and effort does *still more* readily induce fibrillation in hearts already predisposed to its onset by myocardial damage or some toxaemia.

CASE I.—*Auricular Fibrillation following Exposure to Electric Current.*

Our first case is that of a healthy man exposed to a powerful electric current, with the result that auricular fibrillation replaced the normal rhythm of the heart. His age was 35. He had always been in excellent health, and there was no history of any rheumatic or syphilitic infection. On April 13th, 1926, he was sitting on an electric crane and accidentally placed his forehead against the "live terminals" of the crane, receiving 250 volts of "direct current." He experienced an intense burning sensation over the right eye and through the whole of the right side of the body, and was unable to release himself from the terminals for about two minutes—until, in fact, it was possible to switch off the current.

He was assisted to the ground in a very prostrate and collapsed condition and the burns of the face and hands were dressed. The nurse who attended to him states that at that time the pulse was markedly irregular and rapid. He slept that night at the St. Helens Cottage Hospital and returned home by tram-car the next day. Later in the day he went for a walk but returned in fifteen minutes "quite exhausted," and he himself noticed that his pulse was irregular.

Five weeks later he came to the heart clinic of the Royal Infirmary for examination and was admitted for treatment. He was a strong, plump, healthy looking man. Clinical examination failed to reveal signs of disease in any organ. The heart was slightly enlarged (apex beat 4¾ in. from mid-sternal line) and the cardiac action was completely irregular. The Wassermann reaction was negative. (Fig. 1.)

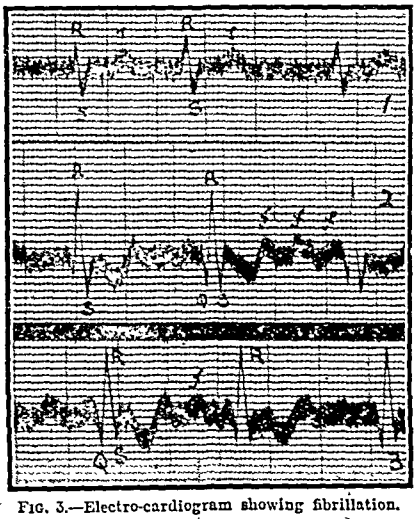


FIG. 3.—Electro-cardiogram showing fibrillation.

Tincture of digitalis was prescribed in 3p doses daily. At the end of eight days there was no change in the heart rate, and on June 4th treatment by quinidine sulphate in doses of 0.2 gram was begun. He received one dose every seventy-five minutes, and normal rhythm was restored after eighteen doses—3.6 grams in all. The heart rate became 70 per minute and regular. (Fig. 2.)

Fibrillation, once induced, tends to recur, and we were not surprised when on June 10th he reverted to fibrillation. Normal rhythm returned after 1.6 grams of quinidine, but in twenty-four hours (on June 12th) the auricles again fibrillated. After another 2 grams of quinidine the rhythm became normal and has remained normal up to the present (March, 1927).

He continued to take quinidine in capsules of 0.2 gram four times daily. This amount of quinidine has been reduced gradually, and he now takes one capsule every third day. He has had no return of the fibrillation, feels quite well, and has resumed his occupation of electrical mechanic, entailing moderately heavy work.

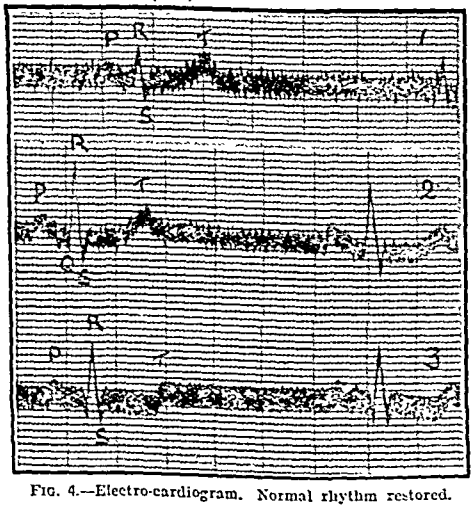


FIG. 4.—Electro-cardiogram. Normal rhythm restored.

We are much indebted to Dr. John Roberts of the Glass Works, St. Helens, for the details of the accident and for the opportunity of treating this patient.

The next case is an example of auricular fibrillation induced by a combination of sudden physical effort and excitement.

CASE II.—*Auricular Fibrillation following Sudden Physical Effort and Alarm.*

The patient was a man, aged 32, in good health. One evening in July, 1912, he was walking home after a good supper of pastry and buttermilk when he was attacked by a dog. He was extremely frightened and with great difficulty struggled over a high wall. He was at once conscious of a peculiar sensation over the heart, and from that time suffered from shortness of breath and pain about the left shoulder-blade on any exertion.

On examination the heart was slightly enlarged, extending 4½ in. to the left of the mid-sternal line. There were no bruits. The heart rate was 100 and disorderly. Blood pressure 130 mm. Hg systolic for the larger beats.

Two months later, after treatment by rest and digitalis, the action of the heart, though still disorderly, was about 80, and the cardiac dullness 3¾ in. from the mid-line of the sternum, indicating that when first examined the dilatation of the heart was probably secondary to the fibrillation.

In April, 1926, fourteen years later, fibrillation was still present. The heart dullness extended 4½ in. from the mid-sternal line and a soft systolic murmur was occasionally heard over the mitral area. Digitalis is still required to steady the heart, but he is able to carry on his business so long as he is reasonably careful.

CASE III.—*Auricular Fibrillation during a Struggle.*

This patient was a man in whom fibrillation came on while he struggled with a horse. It bolted and he seized it by the bridle and had to run with it for over 100 yards, dragging at its head. He was a healthy man with a sound heart previous to this adventure. There was no history of any rheumatic infection. The fibrillation has persisted.

In neither Case II nor Case III was quinidine sulphate administered, as both developed their fibrillation more than ten years ago, before this was a recognized mode of treatment.

CASE IV.—*Auricular Fibrillation Precipitated by Sudden Effort.*

A man, aged 50, in 1922 ran hard to catch a train, and noticed at once that the action of his heart had become peculiar. He complained of a constant sensation of tightness around the chest and palpitation on the slightest exertion. On examination the ventricular rate was 120 and disorderly in rhythm. There was no evidence of valvular defect, but the heart was a little enlarged, and the deep cardiac dullness extended 4½ in. from the mid-sternal line. (Fig. 3.) The day before the onset of the fibrillation he had been examined for life insurance and the heart had been passed as normal in every respect. The fibrillation yielded to 0.4 gram of quinidine sulphate. (Fig. 4.)

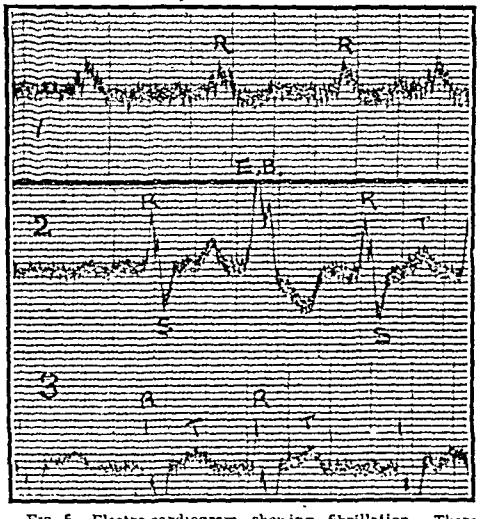


FIG. 5.—Electro-cardiogram showing fibrillation. There is, in addition, evidence of some degree of block in the right branch of the A-V bundle, and of an ectopic beat (E.B.).

In the summer of 1924 he had another attack, which was again terminated by quinidine sulphate.

His last attack, in November, 1926, was again caused by running smartly for a train. Within ten hours of the onset quinidine was given by Dr. E. Noble Chamberlain, and after a total dosage of 0.8 gram normal action of the heart was restored.

This patient is somewhat predisposed to fibrillation, for he gave an account of an illness in 1918 for which he was in hospital a

fortnight, and which, from his description, was similar to that in 1922. The significant fact, however, is that the attacks in 1922 and 1926 were undoubtedly due to severe physical effort.

CASE V.—*Auricular Fibrillation Started by Lifting a Heavy Weight.*

A man, aged 57, was apparently efficient until the onset of his present disability; he experienced no discomfort on exercise and was not conscious in any degree of the action of his heart. Twenty years ago he was in hospital suffering from rheumatic fever.

On January 30th, 1925, he was *lifting a heavy "hip" on to a roof when he felt something give* in his chest. His heart seemed to stop beating and then to race, there was acute pain all over the chest and he became very short of breath. He sat down for half an hour, during which time his heart continued to race. He was conscious of respiratory distress. The following day the pain was still present and the dyspnoea marked. He was seen by his doctor and later was admitted to one of the Liverpool infirmaries. While there a diagnosis was made of "strained heart."

He was a fairly well nourished man; he presented no cyanosis nor oedema. The conjunctivae were rather watery. There was marked dyspnoea on any exertion, even on walking slowly. This was accompanied by pain in the mid-line behind the sternum; the pain did not radiate in any direction. Pulse 160, very irregular; blood pressure for the larger beats 150 systolic, 60 diastolic. Cardiac thrust in the fifth and sixth spaces. Deep cardiac dullness 5½ in. to the left. There was a loud blowing systolic murmur over the apex beat—murmur conducted outwards and to some extent inwards; a short rough systolic over the aortic area, and a faint diastolic extending down to the left of the sternum audible during the long pauses.

The liver was enlarged and hard, 2 in. below the costal margin (he admitted taking four pints of beer daily). The urine contained a fair amount of albumin. The electro-cardiogram showed a rapid heart with a right bundle lesion (Fig. 5) and occasional ectopic beats originating in the right ventricle.

He responded well to digitalis, and his cardiac reserve increased, but he has never been able to work since the onset of the trouble.

It is reasonable to infer that fibrillation was the result of the sudden strain.

In Case v there was pre-existing disease both of the valves and of the myocardium, and the patient was more likely to suffer from physical strain than a normal healthy man. He broke down in consequence of the strain of his employment, and his employers were consequently liable. This has been recognized by them, and he is drawing full compensation for total disability. In reference to one case the law lords laid down that:

"If a man, in lifting a weight or trying to move something not easily moved, were to strain a muscle, or rick his back, or rupture himself, the mishap, in ordinary parlance, would be described as an accident."

"Were to strain a muscle." This man strained the most important muscle in his body—his heart—and its auricles fibrillated.

Summary.

Five cases are recorded in which fibrillation resulted from trauma; in one case the exciting factor was a powerful electric shock; in the remaining four the exciting factor was sudden physical exertion putting an unexpected and undue strain on the heart. In four of these men there was no evidence that the heart was diseased or abnormal, and up to the onset of fibrillation they were living active normal lives.

We hold that the evidence justifies the view that sudden strain may, and frequently does, initiate auricular fibrillation and induce cardiac failure in men and women with diseased hearts. We would go further and say that fibrillation may result from physical strain in hearts that are apparently normal, so far as can be determined by *ordinary clinical methods.*

The medico-legal significance of this is of considerable practical importance, and it was for this reason that we have put these cases on record.

REFERENCES.

[1] W. C. Garvey: *Physiological Reviews*, vol. iv, No. 2, 1924. [2] T. Lewis: *The Mechanism and Graphic Registration of the Heart Beat*, p. 234. [3] Gossage and Hicks: *Quart. Journ. Med.*, 1913, p. 435.

ULTRA-VIOLET RAYS: THEIR PLACE IN MEDICINE.*

BY

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IN certain quarters a prejudice against light treatment exists because of the multiplicity of disorders for which it is recommended. As definite effects upon the skin can be demonstrated, claims for the value of ultra-violet rays in dermatological cases do not, as a rule, meet with much opposition; but when the same agent is said to be useful in all forms of tuberculosis, in rickets, in various diseases of the blood and lymph glands, rheumatism, neuritis, herpes, organic diseases of the nervous system, syphilis, and even cancer, the orthodox may be pardoned for an inclination to class such a remedy with those advertised in the pages of popular magazines. Yet all the maladies enumerated have really been cured or improved by ultra-violet rays, used either alone or in combination with other forms of radiant energy. Apart from mechanical interference with the function of organs, the greater part of organic disease is directly due to the action of circulating poisons, and of these poisons the majority are of microbial origin.

In disturbances of health caused by microbial invasion the symptoms are not due to the microbes as such (embolism apart), but to the toxins they generate. Nevertheless, provision is made in the body, by phagocytic attack, to deal with the actual germs, as well as with their poisonous products.

Medical treatment must aid and stimulate natural processes. For the most part direct aid is impossible at present; diphtheria antitoxin is about the only example. Vaccines, and even so-called specific drugs, such as neo-salvarsan and quinine, are valuable only so long as the host-tissues retain a power of response. The modes of reaction of the body to external stimuli are comparatively few, although the stimuli themselves may be almost infinitely varied. A similar result may be brought about by diverse causes, or apparently diverse results by a single cause. If we can discern an agent capable of activating, at least in some degree, all the defence mechanisms of the body, then the list of diseases in which it is of value will be large.

An approach to such an agent we possess in ultra-violet rays. All radiation is due to the vibration of electrons, and travels in the form of waves through the ether. The sole difference between one form of radiation and another lies in their respective frequencies. In the case of visible light the eye and brain interpret the frequency in terms of colour; in the case of invisible light —ultra-violet rays and x rays—the skin shows itself capable of distinguishing between different frequencies or wave-lengths by its reaction. For example, an erythema follows an ultra-violet exposure in eight to ten hours, but after x-ray exposure requires as many days to develop. And, in the former case, hair is stimulated, whereas in the latter epilation occurs, and regeneration is not well established for two or three months.

There are three well known types of lamp for the production of ultra-violet rays—the carbon arc, the tungsten arc, and the mercury vapour arc. The former is the most suitable for general treatment; the two latter are capable of producing erythema in a few minutes, and are best suited for local treatment. The production of erythema would appear to be for the most part essential to the successful local treatment of skin disease. Acne, dry eczema, alopecia, impetigo, pruritus, boils, scleroderma, and extensive varicose ulcers are some of the conditions which yield to local applications. A series of erythema doses over the painful area in cases of neuritis, sciatica, and lumbago will often effect a cure; and, applied over the lower abdomen, may relieve the pain of cystitis. These results may be "explained" by saying that the erythema induces a local phagocytosis, and that, in the case of deep-lying trouble, cure is brought about by counter-irritation.

* Abstract of an address to the Croydon Division of the British Medical Association.

The effects of general radiation are clinically no less definite, but many medical men refuse to credit this. Steenbock and Black, of the University of Wisconsin, have shown that ultra-violet rays can reactivate cod-liver oil the antirachitic power of which has been destroyed by heat; and can also confer this power upon other fats, including that present in the human skin. This "explains" their action in rickets in terms of cod-liver oil. Again, Leonard Hill and his co-workers have proved that an erythema dose over about one-quarter of the body surface raises the bactericidal power of the blood. Here is a possible explanation, in bacteriological terms—which, by virtue of thirty years' use, have become familiar and respectable—of the action of ultra-violet rays in tuberculosis. But when it is stated, for example, that great benefit may result from their use in disseminated sclerosis, in pernicious anaemia, and in Hodgkin's disease, there is no obvious link with familiar facts.* Yet it is generally believed that these disorders are the result of toxins, and that these toxins are probably of microbial origin. The bodily resistance to known toxins is raised by ultra-violet rays, and this stimulation is effective against such widely different organisms as the tubercle bacillus and the cocci of suppuration. Surely, then, it is not very difficult to admit that it may be effective against other, and at present unknown, organisms.

It is often said that light treatment is useless, and even dangerous, in phthisis, but by cautious dosage—erythema should be avoided—and a careful selection of cases, much good may be done. The patients must not be very ill, nor must they be of the well known type which offers little resistance to the spread of the disease. The kind of patient who would in any case struggle on for some years, doing a certain amount of work, is the one who will derive definite benefit. His working life will be prolonged, and his outlook on life altered for the better.

If we bear in mind steadily that for the most part light acts as a stimulus to natural power of defence, we shall understand its limitations. The moribund patient cannot respond, and the patient with high temperature is in no state to answer further calls. Ill health of any kind due to a concealed septic focus cannot be permanently benefited. "Rheumatic" or "neuritic" pains caused by an abscess at the apex of a tooth are examples in point. When, however, we suspect a toxin, but cannot locate it, the use of light is justified in so far as it places the patient in the best possible condition to resist the hypothetical poison.

Finally, it should be noted that ultra-violet rays form but a small part of the total of wave-lengths in nature; and while their value is great, even if used alone, it is vastly enhanced by a combination with other radiations, notably x rays. Their addition is an essential factor in the cure of some skin troubles; and, on the other hand, x rays may be employed more freely in deep-seated cancer if ultra-violet rays are used to prevent injurious effects on the blood.

The actual carrying out of light treatment may well be delegated to competent lay operators, acting upon definite prescriptions. But the indiscriminate use—or, rather, abuse—by unqualified persons of ultra-violet rays as a cure-all is likely to bring discredit upon the treatment.

* Since the delivery of this address good results have been obtained in the treatment of the inco-ordination and depression which follow "sleepy sickness."

SPORADIC BACILLARY DYSENTERY IN ENGLAND.

BY

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THE following brief account of two recent outbreaks of dysentery or pseudo-dysentery, chiefly affecting children, would seem worthy of record, especially in view of the pathological and bacteriological findings. The sudden and limited outbreak, confined in each case to one household, seemed to point to some kind of food poisoning, and it was with the view of ascertaining the character of the toxic agent that a complete pathological and bacteriological examination was made in the first outbreak described.

The first outbreak involved four children from one household in Warrington. The first child attacked, S. D., aged 1 year and 9 months, became ill on February 27th, 1926, with sickness and drowsiness; then severe diarrhoea set in. Three days afterwards (on March 2nd) A. D., aged 6 years, and G. D., aged 4 years, were taken ill with sickness and diarrhoea. All three were noted to be drowsy at the commencement of the illness. Dr. David Meikle, their medical attendant, stated: "All had symptoms of acute gastro-enteritis, vomiting, diarrhoea, green stools loaded with mucus, no blood or rise of temperature, rapid but regular pulse. The two elder children were semi-conscious, but the youngest was quite conscious. The eldest had had an epileptiform seizure in the night." R. B., aged 2 years and 9 months, was taken ill on March 4th with vomiting and diarrhoea. Drowsiness was not noted in this case.

All the children were removed to Whitecross Hospital, Warrington, on March 4th. S. D. died on March 8th, and R. B. on March 9th, and *post-mortem* examinations were ordered by the coroner. A. D. and G. D. survived.

Post-mortem Examinations.

S. D.—The body was that of a well nourished male child. *Post-mortem* lividity was well marked over the back and buttocks. Rigor mortis was present. The heart and lungs were normal; the left ventricle contained a large amount of dark fluid blood, and there was a large dark clot in the right auricle. The liver, spleen, kidneys, and pancreas were normal. The stomach, which was practically empty, was removed between ligatures for further examination. About the middle of the small intestine signs of congestion appeared, and continued to its junction with the large intestine, which was very congested, showing haemorrhagic patches of inflammation studding the large intestine almost throughout its whole length.

R. B.—The body was that of a well nourished male child. The body was warm, and rigor mortis had not yet set in. *Post-mortem* lividity was present in slight degree. The heart and lungs were normal. There was a small amount of dark fluid blood in the left ventricle, and a slight amount of *post-mortem* clot in the right ventricle and auricle. The stomach was removed between ligatures unopened for further investigation. The large intestine was also removed between ligatures. The lymph glands in the mesentery of the large intestine presented a remarkable appearance. There was a continuous row of enlarged lymph glands close to the intestine throughout the whole of its length. The other glands in the mesentery were also enlarged. The small intestines contained dark coloured faecal matter, and the ileum was much congested, and contained dark fluid blood. The liver, spleen, and kidneys seemed normal. The brain vessels were congested to a moderate degree with dark fluid blood, but were otherwise normal.

As food poisoning was suspected, the stomachs, intestines, and pieces of the kidneys, liver, and spleen were sent to the pathological laboratory of the Ministry of Health, packed in 30 per cent. glycerin. The pathologist's report, dated March 17th, 1926, was received from Dr. A. W. MacFadden. It was as follows:

"None of the specific food poisoning organisms or dysentery bacilli could be found in the tissues from the two cases. The circumstances point, I think, to an acute infection of the gastro-intestinal tract, and I should suspect an infection of *B. aertrycke*. It would be useful to test the serums of the surviving children against this organism and against the Morgan's bacillus, which I obtained from small intestine and liver of S. D."

Samples of blood from the surviving children were requested in order to test the serums for agglutinating properties. A blood sample from A. D. was sent, and the report was as follows:

"The blood serum from A. D. shows no trace of agglutinin for the *aertrycke* group of bacteria—that is, there is no evidence that the outbreak was one of 'food poisoning.' But the blood serum agglutinates the *B. dysenteriae* 'Y,' which indicates that the condition was almost certainly bacillary dysentery."

A good sample of blood could not be obtained from the other surviving child, G. D., but blister fluid resulting from emplastrum cantharidis was sent. This blister fluid gave no agglutination with *B. dysenteriae*. It may be that the absorption of cantharidin in the blister fluid affected any agglutinating properties that it possessed.

A careful investigation of the food eaten by the affected children was made by Chief Inspector Flood. Their meals consisted of toast and tea for breakfast, chip potatoes and cakes at midday, and eggs boiled and made into sandwiches for tea. The mother stated that the boy A. D. told her that the children were playing in the ash-bins on the morning of February 27th, and that S. D. was seen eating

orange peel picked from the bins. No tinned salmon, meat, or milk, or prepared foods of any kind had recently been used in the house. No other persons in the household or other children in the neighbourhood had been ill in a similar manner.

The other outbreak occurred at Antrobus, Cheshire, and was reported to one of us (J. S. M.) by Dr. Love of Great Budworth.

A boy, aged 4 years, was taken ill on December 1st, 1925, with vomiting and diarrhoea, temperature 102°. There was a little blood in one of the motions. Two days later the temperature became normal, and the child seemed better. On Monday, December 6th, diarrhoea recurred, and the temperature rose to 100°, with pain in the left side of the abdomen. At 2 a.m. on December 7th he had acute pain in the left side of the abdomen, with great distension. He was sent to a Manchester nursing home for operation, but died before any operation was performed. A sister, aged 2½ years, was taken ill on December 4th with diarrhoea and vomiting; blood and mucus were present in the stools. Diarrhoea continued until December 9th. The child recovered. A maid and visitor in the house also had diarrhoea for a couple of days. Mrs. C., aged 35, was taken ill on December 13th with frequent diarrhoea—blood, mucus, and shreds in the stools. A specimen of this was sent to the Runcorn Research Laboratory in a sterile bottle, and Dr. H. A. Mitchell reported as follows:

"Cultivations made from this specimen have yielded cultures of (1) *B. coli communis*, (2) a Gram-negative non-motile bacillus producing a turbidity in broth. It causes acid production in glucose, mannite, and maltose, but has no effect on saccharose, lactose, dulcite, and raffinose, nor on litmus milk or gelatin. It failed to form indol, and gave only slight agglutination with specific Flexner 'Y' serum. Classification, *Bacillus paradysenteriae* closely resembling the Flexner 'Y' type as described by Park and Williams."

A culture of this organism was sent to the Ministry of Health laboratory, and the report was as follows:

"The culture gives the fermentation reactions of the Flexner group of the *B. dysenteriae*, but fails to form indol, and gives only insignificant traces of agglutination or none with the specific serums of all the types of the Flexner group. It is not one of the standard dysentery bacilli, but may possibly be pathogenic."

A sample of blood was taken from Mrs. C. to test its agglutinating properties. This sample proved insufficient, and the patient refused to allow another sample to be taken.

The cases in this household were at first thought to be due to food poisoning, but nothing could be discovered likely to produce the condition. Milk and water were examined, and the well, formerly of good repute, which supplied the household was found to contain *Bacillus coli* in 1 c.cm. Other users of this water were not affected. All were warned to boil the water after the contamination was revealed. These cases, together with an account of an outbreak published by one of us (J. S. M.) in 1921 (*Lancet*, April 16th, p. 802), show that small localized and virulent outbreaks of colitis occur in this country, especially affecting children, and evidently have some etiological relationship to a bacillus of the dysenteric group of the Flexner "Y" type.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

THE OPERATION OF TONSILLECTOMY.

I was interested to read in your issue of January 8th (p. 56) an account by Dr. Lodge of an ambidextrous method of performing tonsillectomy, though a little befogged by the various anatomical movements described. Many years ago it occurred to me that ambidexterity in tonsillectomy would be a great advantage in securing without change of position the second tonsil, which so quickly becomes obscured by blood, and consequently I set about practising it. The steps of the operation are as follows.

Doyen's gag is introduced slightly to the left of the middle line and ethyl chloride administered. The operator stands on the patient's right, the nurse on the left, and the anaesthetist in the usual position at the head of the table. The nurse holds two adenoid curettes (Sir StClair Thomson's for preference), one in each hand, with the blades uppermost. I invariably use artificial light as it makes one independent of dull days and inadequately lighted rooms.

If the operation is performed in an institution the head of the table is slightly raised, the sliding electric lamp pulled down by the anaesthetist, and the light reflected into the mouth from the ordinary forehead mirror worn by the operator. I have got into the habit of removing the left tonsil first, therefore I take the guillotine (Jenkins's guillotine for choice, the blade of which can be blunted on sandstone) in the left hand, depress the tongue with the index finger of the disengaged hand, and completely expose the tonsil to be enucleated. The ring of the guillotine is then passed over the lower pole, the handle of the instrument brought right across to the opposite side and depressed, while the point is raised and pushed well behind the tonsil, which with the soft palate in front of it is pushed well forwards. The index finger is then released from the tongue and used to push the tonsil (which can be distinctly felt under the soft palate) through the ring of the instrument until the circumference of the latter can be felt all round; the blade is then driven home and with a slightly wriggling movement the tonsil is brought out entire.

The guillotine is next taken in the other hand and the procedure repeated on the other tonsil. The nurse then relieves the operator of the guillotine and places a curette in his hand (one usually suffices); it is passed into the mouth blade downwards until it reaches the pharynx; it is then rotated through 180 degrees and passed up behind the soft palate until it impinges on the posterior end of the septum; it is then pushed backwards and upwards, and finally levered downwards in one sweep, using the incisor teeth as a fulcrum, and the adenoid growth brought out in the cage.

In this way I have enucleated many thousands of tonsils, and during the past three years have been most ably assisted by my colleague, Dr. Macleod, senior medical officer, Hull Dispensary, who has anaesthetized some 3,000 patients for me without a hitch.

I wish it to be understood that I am not claiming anything new or original—the method of enucleating the tonsils described above will be recognized as that introduced by Whillis and Pybus some years ago, and is, I believe, in general use—I am simply giving my experience as to how, with a combination of artificial light, team work, and ambidexterity, the operation which has taken so long to describe can be performed in a few seconds.

ALFRED J. S. ROE,
Aural Surgeon, Hull Dispensary.

PULMONARY EMBOLISM FOLLOWING CHILDBIRTH.

THE following case, which occurred in 1925, may be of interest in connexion with the two cases reported in the BRITISH MEDICAL JOURNAL of November 6th, 1926 (p. 835).

A healthy woman, aged 27, gave birth to her third child after a perfectly normal labour and without any intervention. I was not present at the birth, but was sent for two hours later by the nurse. I found the patient complaining of faintness, with a livid face and anxious expression, laboured breathing of 40, and a pulse rate of 160. The placenta had been delivered normally soon after birth and there had been no abnormal loss of blood. The uterus was fully contracted. Examination of the heart revealed no bruits, but the sounds were greatly accentuated, the second in the pulmonary area being exceptionally loud and sharp. During the examination the heart rate increased rapidly to 200.

Various stimulants were given, such as intramuscular injections of camphor, ether, strychnine, and digitaline, but without effect.

The patient vomited once and then lapsed into unconsciousness, and died in less than fifteen minutes after my arrival.

No *post-mortem* examination was performed, but the only possible diagnosis seemed to be that of pulmonary embolism.

G. W. V. PARRY, M.R.C.S., L.R.C.P.
St. David's, S. Wales.

OCULAR SYMPTOMS DURING CATAMENIA.

IN the issue of the BRITISH MEDICAL JOURNAL dated May 8th and 15th, 1926 (*Epitome*, para. 503), a case of retinal haemorrhage synchronous with onset of menstrual period is described. The patient subsequently developed scleritis and she proved to be tuberculous. In view of this it may be of interest to record the following case.

A married woman, aged 29, reported that her left eye regularly became sore two days before menstruation and cleared up two days after menstruation ceased. She was found to have mild episcleritis. A month's local treatment with 1 per cent. yellow mercuric oxide ointment and massage was not successful in preventing a recurrence of the phenomenon. On obtaining a history of acute rheumatism, regular doses of sodium salicylate (15 grains thrice daily) were administered by the mouth, with the result that the patient has not had a relapse for six months, although treatment was only continued for two months.

A. WOLSELEY D'OMBRAIN, M.B., CH.M.SYD.,
Honorary Ophthalmic Surgeon to the West Maitland, Kurri Kurri, and Cessnock District Hospitals, New South Wales.

Reports of Societies.

USES AND LIMITATIONS OF ULTRA-VIOLET RADIATION THERAPY.

AT a joint meeting of the Sections of Medicine, Dermatology, and Children's Diseases of the Royal Society of Medicine on March 22nd, a discussion was held on the uses and limitations of ultra-violet radiation therapy, Dr. HUGH THURSFIELD in the chair.

Dr. S. ERNEST DORE said that the history of light therapy in its local application in cutaneous diseases went back to 1893-94, to the introduction of red-light treatment of smallpox and concentrated sun and arc-light treatment of lupus vulgaris by Finsen. Phototherapy by means of concentrated actinic rays was introduced into this country about 1900, when Finsen's lamp was employed at the London Hospital. That lamp was still in use, but in other quarters it had been largely superseded by the smaller Finsen-Reyn lamp. Light treatment might be said to have reached its level in this country twenty years ago, when it was generally recognized as a valuable therapeutic measure, chiefly in diseases of the skin, but for some reason, possibly the superior claims of *x* rays, it did not come into use for general purposes until much later. In 1916 the Simpson lamp was introduced, for which exaggerated results were claimed at the time. It was even stated that with this lamp asthma and other conditions were benefited, not only by exposure to the light, but by inhalation of the fumes from the burning of the wolfram electrode. In 1918-19 the combined use of local and general light treatment in lupus began, mercury vapour and tungsten lamps being largely employed. Light treatment in its general application in constitutional diseases might be said to have started in 1902-3 when Bernhard and Rollier employed heliotherapy in surgical tuberculosis, followed by Gauvain in 1908, using natural and artificial light. In 1919 Huldschinsky demonstrated the value of ultra-violet radiations in human rickets —work which was confirmed by English and American observers. No discussion of light treatment would be complete without reference to its possible harmful effects. The bogy of carcinoma as a sequel to ultra-violet treatment had been laid by Dr. Reyn and Dr. Sequeira, both of whom stated that they had never seen such a case. Certain mechanical dangers might be mentioned, such as the breaking of quartz burners, fire from spluttering electrodes, and electric shock. Too frequent or lengthy sessions might produce debility and depression, and there was always the possibility of aggravating a latent tuberculosis. Ultra-violet radiation treatment had recently received a great impetus. It was being used in many new directions. He knew of one medical practitioner who regularly employed it as a preventive measure for persons who were quite well. Its increasing use in municipal clinics might be excellent, but he thought that something ought to be done to check exaggerated statements which gave rise to false expectations.

Dr. H. M. ODDY spoke of the applications of light in children's diseases. Children usually reacted much more quickly than adults, therefore the dose had to be reduced appropriately. It had been suggested that for children half the normal adult dose should be given, and for infants half the child dose. It was much more difficult to produce an erythema in a young child than in an adult, and this meant that the *minimum* erythema dose could not be used in the treatment of children. The symptoms of over-dosage were increased irritability and restlessness, with possibly disturbed sleep, persistent loss of weight or failure to gain weight under treatment, and perhaps digestive disturbance and loss of appetite. He thought that better results were obtained on the whole with mercury vapour than with the carbon arc, except perhaps in surgical tuberculosis. The length of treatment must vary with the disease, but from twelve to twenty treatments at the rate of two or three a week should be followed by a month or two of rest. In small infants pigmentation did not occur as a rule, but in spite of its absence the clinical results were excellent. Metabolism was much improved by light baths, and although Dr. Leonard Hill had shown that this was mainly due to the effect of cold air on the skin rather than to ultra-violet radiation, since exposure of the skin was necessary for the treatment the two could hardly be dissociated. The radiation was a valuable adjunct in the treatment of rickets. It was indicated also in surgical tuberculosis unless there was active disease in the lungs. If the disease in the lungs was quiescent, treatment might be given with great care, but it must be avoided in all cases where there was pyrexia. Bone and joint cases did better under light treatment than peritonitis or gland cases. Light was useful for the nursing mother whose milk showed signs of failing, and for the infant suffering from malnutrition. Among older children, the pale, thin child, *with hypotonic muscles, though with no evidence of disease*, often showed good results under light, but there were more failures than one would expect. For debility following severe illness or operation there was no tonic so good as the light bath. In some cases of asthma light baths did a certain amount of good. Of the treatment in blood conditions he had had little experience, but in theory he thought it contraindicated in leukaemia.

Dr. ALBERT EIDINOW said that experiment had shown that there was no direct bactericidal action of light in the living tissue; experiments as to whether light, acting on the skin or tissue, produced some bactericidal substance which became absorbed and carried through the circulation were not yet complete, but it could be said that an erythema dose of light produced a leucocytosis beneath the skin, and this fact gave some clue to the biological action. There was permeation of the plasma through the capillary wall, and wandering leucocytes were found in the oedematous tissue. It had been shown that the skin rapidly became immune to the action of ultra-violet radiation. The surface of the skin exposed had an important bearing on the clinical result; experiment had shown that there was a definite optimum area of skin to expose—namely, one-sixth of the surface area of the animal or patient under investigation. Bearing this in mind, a patient could be kept in a state sensitive to light for a long time with short exposures. It was quite possible that many of the bad and indifferent results with light were due to the fact that the skin had become immune through repeated doses. The question of dosage, to his mind, depended much more on the area of skin exposed than on the actual quantity of light employed.

Sir HENRY GAUVAIN remarked that very little work had been done on pure or unmixed ultra-violet radiation, and a point to bear in mind in considering all the results was the possible effect of other rays which were ordinarily mixed with those in the ultra-violet. In natural sun treatment, which was still the best form of radiant treatment, at all events in surgical tuberculosis, the proportions of infra-red rays, visible rays, and ultra-violet rays were said to be respectively 80, 19, and 1 per cent. A larger proportion of ultra-violet radiation was obtained with the carbon arc, but the carbon arc light baths were not so good as the natural sun baths, and in the case of mercury vapour, in which the proportion of ultra-violet was greater still, the value was even less. In other words, in the treatment of surgical tuberculosis the sun came first, the carbon arc second, and the mercury vapour lamp a long way behind. Thus there must be a great deal of value in the radiations other than ultra-violet, or if these other radiations had no positive action themselves they might, by some dilution and modification, intensify the value of the ultra-violet. The value of light largely depended on the power of response of the individual treated, and one reaction which personally he considered of very great importance was pigmentation of the skin. Pigmenters, in the majority of cases, did very much better than non-pigmenters. In surgical tuberculosis the healing lesions were healed more rapidly under light treatment, but in the case of progressive lesions there was no such effect.

Dr. J. H. SEQUEIRA agreed with Sir Henry Gauvain's remarks about the utility of the mixed rays. In all his clinical work at present he was using mixed rays, and he entirely agreed also with the order of importance of the various sources which Sir Henry Gauvain had given: the sun first, the carbon arc, perhaps reinforced by tungsten, second,

and the mercury vapour, with a more limited field, third. General treatment, without any local measures whatever, had been declared effective in the healing of lupus vulgaris, both of the skin and the mucous membrane, and this had been confirmed in his own clinic, but in no case was it wise, even in the treatment of a disease like lupus, which reacted both locally and generally to light, to rely entirely upon the general irradiation of the body. Some work had been done on the action of light on basal metabolism. Dr. Argyll Campbell, working in Dr. Sequeira's clinic, had found that no change in the basal metabolism was produced solely by the general light bath. The speaker's experience was that light treatment did not prevent the onset of acute specific fevers, and in his own clinic the patients had suffered from varicella, measles, whooping-cough, and there had even been cases of cerebro-spinal meningitis. In post-febrile debility the treatment had great value. An experiment was about to be undertaken in one of the Metropolitan Asylums Board's hospitals of illuminating every alternate patient admitted for whooping-cough; some interesting information as to the value of light given during the course of an infection should be available in that way. With regard to pigmentation, he had seen good results in extensive lupus in patients who had not pigmented at all. The question of the area of the body which was to be exposed to light required further investigation. Dr. Sequeira also mentioned the extraordinary value of general light baths in the treatment of some of the more chronic affections of the eyes, especially in children.

Dr. KATHERINE GAMGEE said that children under 5 reacted very differently from older children, with whom the reaction was very much the same as in the case of the adult. With regard to rickets, she had had experience of some severe cases, which had made apparently no headway under cod-liver oil treatment, and took a sudden leap forward when put on light. The nervous child reacted in an extraordinary way, and, in particular, cases of nocturnal enuresis showed a marked response. An analysis of about twenty or thirty cases showed that the percentage of cures was slightly higher with this form of therapy than with other forms, though she knew that it was difficult to formulate any conclusion from so small a series. The convalescent child and the child about to be submitted for operation for tonsils and adenoids offered very suitable cases for treatment. Light treatment shortened convalescence. The results in anterior poliomyelitis she had found very disappointing unless the child was submitted to the treatment very early. To her mind the remarkable thing about light treatment was that the body cells became unresponsive with extreme ease; this was quite apart from any phenomenon of pigmentation, and occurred in children who did not pigment.

Dr. A. C. ROXBURGH thought it almost impossible to make a fair comparison between the values of natural and artificial light, for the reason that sunlight treatment must necessarily be given in the open air, whereas the carbon arc, or any other form of arc, had to be given in a comparatively stuffy room, because any draught upset the work. Thus the comparison between the two sources was vitiated. Many speakers had referred to light treatment as non-specific. This was borne out by an analysis of the statistics of cases treated at St. Bartholomew's Hospital during twenty-one months. There were 272 cases, and the curious thing was that whether one took tuberculous infections, non-tuberculous infections, or non-infected cases, the proportion of cases cured or greatly improved in each of the three groups was round about 20 per cent. In the cases which were somewhat improved the proportions were rather different—namely, 36 per cent. of tuberculous infections, 57 per cent. of non-tuberculous infections, and 48 per cent. of non-infected cases. Of all the cases treated, 21 per cent. showed cure or great improvement, 46 per cent. some improvement, and 33 per cent. were not improved or were made worse.

Mr. L. V. CARGILL endorsed Dr. Sequeira's remark about the value of general light baths in the treatment of chronic affections of the eyes. He had found general carbon arc baths give good results in conjunctivitis and keratitis and tuberculous diseases of the eye. Such conditions as detached retina could not be benefited, which, of course, had had to be denied.

CHEMOTHERAPY.

AT a meeting of the Section of Comparative Medicine of the Royal Society of Medicine, held at the society's house, 1, Wimpole Street, on March 16th, at 5.30 p.m., the President, Sir D'ARCY POWER, in the chair, Professor MOELLGAARD of Copenhagen read a paper on "Some of the principal questions in chemotherapy, with special reference to the heavy metals."

Professor Moellgaard began by saying that, according to the usual modern conception, specific therapy was identical with immunotherapy; in other words, that the therapeutic agent was the metabolism of the animal organism itself, and that it attacked the invading parasite only, leaving the sound host-tissue untouched. In this respect the immunological power of the host undoubtedly represented the ideal form of therapy. In many cases, however, this power failed to cure the disease, even when general or vaccine or serum treatment was given also, because either the host could not produce this curative power in sufficient quantity or because its action on the parasite was prevented from becoming effective. In these cases an attempt must be made to alter the dominating pathological conditions of the host, either by removing the cause of the failure of the development of these powers, or by attempting to destroy the parasite itself. Both of these possibilities had been considered by scientific chemotherapy from its origin in the work of Ehrlich. The purpose of chemotherapy was to discover substances which caused, directly or indirectly, the maximum amount of harm to the parasite with the minimum amount of injury to the host. So far, no substance had been discovered which, having a considerable effect on the parasites, was at the same time harmless to the host, and present knowledge of the relationship between chemical composition and the pharmacological action of drugs was too slight and fragmentary to enable such substances to be prepared. Accordingly, chemotherapy was at present, and would remain for many years, a series of approximations to the ideal type of therapy which was created by the natural powers of the animal body itself. This was evident by the fact that the real worth of any drug in present use might seriously be doubted, because its influence was never limited to a certain parasitic organism, but often extended to many different species. Accordingly, the action, even of the best of these substances, seemed to be due to general chemical affinities. Ehrlich's original conception was "*corpora non agunt, nisi fixata*," or that the action of chemical substances on the living cell was subject to the existence in such substances of chemical groups or radicles susceptible of reaction with other chemical groups in the cell. This rule, the basic principle of our whole idea of metabolism, was generally accepted. On the other hand, the conclusions Ehrlich drew—namely, that a parasite could only be killed in the host by chemical compounds having a special chemical affinity for its protoplasm (in other words, a pronounced *parasitotropy*), could not be accepted as a correct interpretation of the known facts. In the first place, they failed to account for the fact that the drug did not react on the parasite merely in a watery solution, but was injected into a very complicated heterogenic system, the animal body, where it underwent chemical changes which might al its therapeutical action. Secondly, experience seemed indicate that chemical compounds might kill the parasit not by reacting on them, but by stimulating the natu reactions of the host. This might be of very great imp tance to the future development of chemotherapy, beca it meant that not only were they dealing with the chemi substance and the parasite, but also with the react tissue of the host. Browning had expressed this epigra matically when he said that chemotherapeutical substan reacted in co-operation with the tissue.

Professor Moellgaard then proceeded to consider the m important modern researches in chemotherapy and the li which they threw on this co-operation. The drugs he de with fell into two groups: the salvarsan and sanocry series and the trypaflavine series. Sanocrysin, when gi subcutaneously, was relatively effective, whereas lo applications were ineffective. The reverse was true trypaflavine, whose local action was much more effecti

in destroying the parasite. He also drew attention to the effect of sanocrysin in tuberculosis. When laboratory animals were treated with this salt four to five days after infection, about 95 per cent. recovered; if the injection was during the second week, the cases which recovered amounted to about 75 per cent.; while if the drug was given at the same time as the bacillus, even though it was repeated later, none recovered. This seemed to suggest that it was necessary that the disease should commence before treatment was applied. He then considered in detail the theory of Ehrlich, and the modern theory of the catalytic action of these substances, and related his own recent experiences with chemotherapeutical agents.

ULTRA-VIOLET RAY THERAPY.

AT a meeting of the Forfarshire Medical Association at University College, Dundee, on February 16th, the President, Dr. R. C. BUIST, in the chair, Dr. G. H. S. MILLN opened a discussion on heliotherapy.

Dr. Millin first surveyed briefly the history of heliotherapy, and then gave a short account of the general properties and physiological effects of the ultra-violet rays. Describing the commoner modes of production of the rays, he said that those from the tungsten arc were probably the best for light treatment. The dosage depended on the patient, on the lamp, and on the distance of the light from the skin. The susceptibility of patients could be tested by exposing small areas of skin to various doses, and determining the dose required to produce erythema. He believed that it was best to begin with just under an erythema dose, and then to increase it gradually until eventually a good brown pigmentation was acquired. The effects were those of an ideal tonic. Remarkable results were obtained in those patients who, while never well, yet showed no definite sign of disease. Ultra-violet radiation was also one of the most potent weapons that the dermatologist possessed. Combined with x rays he had found it of great value in sycosis. In carbuncles and in furunculosis the results of ultra-violet radiation were almost uncanny, but psoriasis did better with x-ray treatment. In the case of tuberculosis of the skin x rays had now been practically discarded for ultra-violet rays, but caution was necessary since vascular dilatation round foci in the lungs might lead to sudden haemorrhage. In rickets, ultra-violet treatment, together with proper feeding, exerted a great influence. In bronchitis and asthma the results were striking. Tuberculous glands without softening were much benefited, and definite improvement followed when sinuses were present. In fibrositis and allied conditions great success was obtained by a more drastic application, a fairly sharp reaction being aimed at. Claims were being made for ultra-violet rays in almost all diseases, but it would be well to see that this most beneficial form of treatment did not fall into disrepute through exaggerated statements.

Dr. J. HUNTER discussed the use of ultra-violet rays in the treatment of tuberculosis, and described the methods employed and the results obtained in three institutions in Dundee. He emphasized the point that this potent agent must be used with caution in the treatment of tuberculosis, or a latent lung focus might be roused with disastrous results. He favoured the open carbon arc. The best results were produced by general radiation; erythema and pigmentation should not be produced. Good results were obtained in the case of the pre-tuberculous child. Abdominal tuberculosis generally did well, but in tubercle of bones, joints, and spine the effects were not good. He had used the rays carefully and under rigid rules in lung cases in a moderate state of activity. No bad results had been found so far, but he could not say that good results had been obtained. There might be general improvement, but he had found no improvement in the local lesion.

Dr. J. B. MACDONALD read notes on six months of sunlight lamp work in Dundee Eastern Hospital. With the mercury vapour lamp he had obtained marked improvement in marasmus and rickets. Varicose ulcers as a rule did well. Among the cases which appeared to have benefited, and of which notes were read, were rheumatoid arthritis, chorea, epilepsy, and mental depression.

Dr. JOHN KINNEAR remarked on the similarities in causation and treatment between tubercle and rickets. He suggested that ultra-violet radiation of cod-liver oil might be tried in tubercle as well as in rickets. He reported a case of summer eruption due to sunlight; it was cured by small doses of ultra-violet rays.

Dr. ROGERS agreed that great improvement followed the use of the rays in rickets. Herpes zoster was benefited, and excellent results were obtained in erysipelas. He had found the treatment useful in marasmus and as a tonic after pneumonia.

Dr. A. R. MOODIE discussed the applications of heliotherapy in ophthalmology. Many conditions, such as chronic blepharitis, trachoma, and marginal ulcers, did well under this treatment, but interstitial keratitis did not respond. Local phototherapy to the eye was not without danger and should be used only by an ophthalmologist with a thorough knowledge of ultra-violet rays.

The PRESIDENT said that the discussion showed that while the method was very attractive from an empirical point of view, it was from the scientific standpoint a mere infant and was open to the serious risk of improper exploitation.

HEART DISEASE AND PREGNANCY.

AT a meeting of the Midland Obstetrical and Gynaecological Society on February 8th, the President, Mr. FURNEAUX JORDAN, in the chair, a joint discussion on heart disease and pregnancy was opened by Dr. J. G. EMANUEL (Birmingham).

Dr. Emanuel mentioned the great diversity of opinion as to the seriousness of heart disease in pregnancy, the mortality rate being variously stated from 3 per cent. to over 60 per cent. The only form of heart disease likely to affect cardiac efficiency during the child-bearing age was rheumatic heart disease, and mitral stenosis, with or without aortic disease, was the commonest form. The incidence of rheumatic heart disease in pregnant women was roughly 1 per cent. The cardiac output in cubic centimetres per minute during pregnancy had been found by experiments in animals to be increased by one-third to one-half the output before pregnancy; while the reserve power of the normal heart was able to meet this extra load, the damaged heart was liable to fail. There was no evidence of hypertrophy of the heart or of increased blood pressure during normal pregnancy. Even were it possible to estimate mathematically the reserve power of the heart by exercise tolerance tests, this alone would not indicate the effect of pregnancy on a damaged heart. Such an estimate would only give a measure of the mechanical strain the heart was able to stand, whereas cardiac failure might also be brought about by unpredictable factors such as an intercurrent infection, including the common cold, influenza, and endocarditis, the onset of auricular fibrillation, the occurrence of embolism, difficult labour, puerperal infection, and the toxaemias of pregnancy. Rhythm and the size of the heart were the most important guides in prognosis. Sinus arrhythmia and extra-systoles were of no importance, but auricular fibrillation was a bar to pregnancy. If the heart was not enlarged the risk of mitral disease was small, but the risk increased with the degree of enlargement of the heart, and these facts were well supported by the statistics of the late Dr. G. H. Hunt in the *Guy's Hospital Reports* for April, 1926. While it was difficult to say in what cases of heart disease pregnancy was comparatively safe, it must be clearly recognized that pregnancy and repeated pregnancies were possible without ill effects in women with rheumatic hearts. A woman with cardiac disease, but no symptoms of diminished reserve power, might be allowed to become pregnant, but when a woman with heart disease had shown objective evidence of cardiac failure, pregnancy must be avoided. If signs of cardiac failure supervened during pregnancy the patient must be treated as a case of heart failure, and by the same methods as though non-pregnant. Cardiac failure might occur after delivery, showing that emptying of the uterus was to treatment for a failing heart. Only when the cardiac failure had been successfully combated should interference with the pregnancy be considered, and this question would

be greatly influenced by the date of pregnancy, the financial position of the patient, and her ability to obey instructions. If the cardiac failure occurred early in pregnancy induction of abortion was required, but if it occurred in the later months, and provided that strict supervision and suitable treatment were possible, the delivery of a living child by Caesarean section followed by sterilization should be aimed at.

Dr. F. EDGE recalled the death of a woman with mitral stenosis during the second stage of labour which he reported in 1890. In those days Caesarean section and induction of premature labour were comparatively risky procedures, and the method then employed in heart disease was to evacuate the uterus in the early months or to help labour by forceps or version under an anaesthetic in the later months of pregnancy. That the heart was adversely affected by pregnancy was especially shown by the congestion at the bases of the lungs, the oedema of the limbs, and the varicosity of the veins. In a case of heart disease with an evident defect in compensation the patient should be advised against marriage; if she was married contraceptive measures might be legitimately ordered and taught. When pregnancy occurred with a defective cardiac condition the simplest means of combining evacuation and sterilization was a subtotal hysterectomy with preservation of the ovaries. This method assured the patient against pregnancy, and enabled happy married life to be continued. At this stage it was an easy and uncomplicated operation. During the later months, as soon as the child was viable, Caesarean section under a general or spinal anaesthetic should be performed. Induction of premature labour was not advisable in these cardiac conditions except in the most favourable cases. A competent cardiologist should have charge of these patients, and on his direction the obstetrician should act according to the duration of the pregnancy.

Mr. CHRISTOPHER MARTIN raised the question whether a woman with organic heart disease and good compensation should be allowed to run the risk of pregnancy. He thought that the danger of failure of compensation was so serious that in most cases it should not be permitted. The patient should be told the danger, and if she decided to run the risk the responsibility was hers. If it was ever justifiable to advise methods of contraception it could be approved in such cases as these. Though many cardiac patients passed safely through pregnancy and labour, certainty of this was not possible. In dealing with patients with definite organic heart disease in the first half of pregnancy, while there might be no present signs of compensation breaking down, yet they could not answer for the latter half of pregnancy. Some patients passed through the whole course of pregnancy and the strain of labour without any difficulty, but the majority of cases he had seen did not do so. Commencing failure called for intervention, but in the absence of such signs it was permissible to treat the case medically and wait for danger signals, though it must be remembered that these might come on without warning and active measures be taken too late. The more advanced the pregnancy the more risky was intervention, especially after failure of compensation. Treatment of patients with organic heart disease in the latter half of pregnancy depended on the general condition. If compensation was failing there should be no long wait before intervening; if it was good then it was justifiable to wait till near full term in order to give the child a fair chance of life. In the first half of pregnancy abortion was best induced by inserting one or two solid rubber bougies about the diameter of a lead pencil into the uterus. They were better and safer than the gum-elastic catheter often advised, since they could be boiled. No anaesthetic was required. The vagina was cleansed, disinfected with tincture of iodine, the cervix drawn down with volsella, and the perineum pulled back with a speculum. It was now easy to insert the bougie without letting it touch any part of the vaginal wall. Mr. Martin usually inserted one bougie four or five inches into the uterus, and tried to pass it between the ovum and the uterine wall without rupturing the membranes. In from twenty-four to forty-eight hours as a rule the uterus emptied itself. In some cases ovum forceps and the flushing curette might be required. In the latter half of pregnancy labour might be induced by inserting similar but larger solid rubber bougies, about half an inch in diameter. These were sterilized by boiling, and inserted by the same method as the smaller ones. It was sometimes necessary to dilate the cervix first with metal dilators (modified Hegar's dilators) in order to insert the rubber bougie. After the eighth month, and with a good prospect of the child surviving, the best line of treatment was Caesarean section, performed for choice under spinal anaesthesia. A woman with compensated organic heart disease who had safely gone through a labour at or near the full time should be advised to avoid a second pregnancy. If in such a case a Caesarean section was performed the Fallopian tubes should be tied in order to prevent further conception.

Dr. K. D. WILKINSON (Birmingham) said that they were dealing with women between the ages of 20 and 45 whose heart disease was the result of rheumatism. The commonest valvular lesion was mitral stenosis, which resulted from prolonged rheumatic infection and was often associated with damage of the heart muscle and kidneys. No woman who had once had heart failure should risk pregnancy. No woman with auricular fibrillation or heart-block, or history of rheumatism, or considerable cardiac enlargement, with or without valvular disease, should be allowed to become pregnant. On the other hand, valvular disease of the heart did not invariably forbid pregnancy, and pregnancy was permissible when the damaged valve was in a stationary condition and of long standing, if the response of the heart was good, if there was little or no enlargement, if the excitability of the heart was not raised, and if the rhythm was normal. It might also be allowed in aortic regurgitation where the arterial pressures were approximately normal, and in mitral stenosis if the presystolic murmur was short, the pulse volume good, and there was no enlargement of the liver or oedema of the lungs. When a woman with heart disease became pregnant her social condition was very important in determining what steps should be taken, since it was obvious that a woman in good circumstances could rest and adopt the treatment advised, when her poorer neighbour was unable to do so. The first child was often the most difficult, both during pregnancy and at labour, yet, on the other hand, the first child was the most desired. The risk to the child was greatly increased by heart failure in the mother, and the risk to the mother was not only increased by pregnancy, but also by the necessary care of the child, which was the mother's duty, at least among the poorer classes, for a year or more after birth. These cases should be seen as soon as possible, diagnosis should be made early, and a settled opinion reached as to the treatment. When the heart had failed, the failure must be treated first and then the pregnancy. Dr. Wilkinson preferred delivery by Caesarean section because a short anaesthesia added little to the danger, the fatigue of labour was avoided, plethora could be minimized, sterilization was possible, and the time of operation could be accurately selected, thus avoiding the tedious last month of pregnancy. During pregnancy there was extra blood to be distributed throughout the body and there were various disturbances which were normal in pregnancy. Sooner or later a woman without any heart disease showed some dyspnoea and a lessened physical capacity for exercise. Often the presence of varicose veins or oedema suggested pelvic pressure, and these signs were much more common and much more serious when there was defective cardiac reserve. Pregnancy was cumulative in its effects, and not only did the cardiac work increase but the metabolism of the whole body was increased as the gestation advanced. Because of the raised diaphragm, respiration became less efficient, and to these must be added the effects of labour. His experience had convinced him that pregnancy had a harmful effect upon a damaged heart. In many cases it accelerated the final failure of the heart, while in all cases the heart afterwards was not quite so good as it was before. Mitral stenosis appeared to him the most serious lesion, for he had now seen eight deaths from acute pulmonary oedema in women with mitral stenosis, all of which occurred during or immediately after labour.

Professor LAURENCE BALL said that when a woman with heart disease became pregnant they had to attempt to estimate the reserve power of the heart, and to consider whether it was adequate to meet the unusual stress which would shortly be imposed upon it. The medical question could not be considered apart from the obstetrical; the probability or otherwise of an easy labour had obviously an important bearing, but unfortunately both factors could only be estimated roughly. A single examination of the circulation in these cases was entirely unsatisfactory; the heart required careful supervision throughout the duration of pregnancy. They were to some extent handicapped by inadequate knowledge of the physiological changes which occurred in the circulatory organs during pregnancy and in labour. During pregnancy for various reasons the heart was called upon to do extra work; there was thus normally a dyspnoea on effort in the later months. When estimating the reserve power of the heart early in pregnancy it must be remembered that the field of response to effort would be diminished later, and that only a part of the reserve found at an early stage would be available to meet the stress of labour. He had never seen pregnancy associated with heart disease of purely vascular origin, arterio-sclerotic or syphilitic. In cases of renal disease with cardiac enlargement the renal element was more important than the cardiac from the obstetric point of view. Irregularity of the heart due to extra-systole occurring apart from signs of organic disease would not interfere with a normal pregnancy and labour. He had seen a case of Graves's disease in which all the symptoms, including tachycardia, became aggravated during pregnancy, and it was considered advisable to terminate the pregnancy at an early stage. In one case of paroxysmal tachycardia of undetermined nature the paroxysms were severe and prolonged, and associated with crepitations at the bases of the lungs, and again it was considered advisable to terminate the pregnancy. Recently, however, he had seen a woman who had suffered for over twenty years from paroxysmal tachycardia and had borne two children without difficulty. While such conditions as these were relatively rare, rheumatic disease was common, and the most frequently occurring lesion was mitral stenosis. In each case they must attempt to estimate the reserve force of the heart, bearing in mind what the effects of the stress of the later months of pregnancy, of labour, and the puerperium were likely to be. The significance of murmurs must be considered and the size of the heart noted; the pressure, rhythm, and rate of the pulse, the response of the patient to effort, the presence of cyanosis, oedema, albuminuria or swelling of the liver, and the occurrence of persisting crepitations at the bases of the lungs demanded consideration. In a case in which the systolic murmur of mitral regurgitation was present the cardiac enlargement was inconsiderable, the cardiac rhythm was regular, there was no cyanosis, and the patient's response to effort was good, the pregnancy should proceed to a natural termination. Pregnancy was dangerous in the case of a young patient pregnant for the first time if she had poor general physical development and a history of repeated manifestations of rheumatic infection in childhood, with the murmur of mitral regurgitation, a much enlarged heart, cyanosis, and poor response to effort. When the apical murmur was presystolic in time, with or without a systolic murmur, the rhythm was regular, cardiac enlargement inconsiderable, cyanosis absent or minimal, and the response to effort good, the signs indicated an early stage of mitral stenosis, and such a patient might be expected to bear her child without harm. In a more advanced stage of mitral stenosis the patient was definitely cyanosed, there was dyspnoea on effort and evident cardiac enlargement. On auscultation at the apex, in addition to a presystolic murmur, there was a long diastolic rumble, and the second sound at the pulmonary area was accentuated. Such a patient frequently gave a history of haemoptysis, not in itself a serious matter; of much greater significance was the presence of persisting crepitations at the bases of the lungs, and especially if associated with impairment of resonance and weakness of breath sounds. This group presented the greatest difficulty. If such signs were found at an early stage of pregnancy, Professor Ball thought termination of the pregnancy was always justifiable, but they often appeared late in pregnancy. In determining the course of action at this stage, especially in the case of women of the working class who had usually been up and about until the time of admission to hospital, in all but the urgent cases it was useful to try the effect of rest in bed upon the symptoms. He had seen several patients in whom symptoms of serious cardiac failure had improved with rest in bed to such a degree as to allow of spontaneous labour or Caesarean section at or near term. The danger of allowing such cases to proceed to term lay in the risk of a rapid development of pulmonary oedema. Increasing cyanosis and an upward spread of crepitations from the bases of the lungs were ominous signs. From the obstetric point of view, and as regards the immediate future of the patient, he had not observed any essential difference between those cases of mitral stenosis in which the heart failed with fibrillation and those in which it failed with a regular rhythm. If fibrillation was found early in pregnancy, generally the pregnancy should be terminated; if it occurred late, the other procedures previously mentioned were permissible. He thought he had seen more favourable results in failure with fibrillation late in pregnancy than in failure with a regular rhythm, owing to the better response to digitalis. He had seen three cases of the association of pregnancy with aortic regurgitation. In all these mitral lesions were present as well, and in two the mitral lesion appeared to be the more important; in none of them was the pregnancy allowed to proceed. In the more definitely aortic case there was great dyspnoea, and the character of the pulses and size of the heart pointed to a severe incompetence; this patient did not long survive the evacuation of the uterus. The termination of the pregnancy in these cardiac patients did not leave the heart as it was before conception. Prolonged rest and continued medical treatment were required, and there was a great tendency to permanent impairment. He had known patients too often come well through the delivery only to break down again on the premature resumption of household duties.

JAMES MACKENZIE INSTITUTE.

Haemoptysis.

AT a meeting on February 8th Dr. W. B. MACTIER dealt with the problems of blood spitting. He reviewed first the more common causes of haemoptysis—namely, phthisis and mitral stenosis—and gave details of two cases from the Institute records, in both of which the haemoptysis was often repeated, to exemplify its occurrence in mitral stenosis. Dealing with the rarer causes, the lecturer included in this group pneumonia, infarct, and bronchiectasis, describing a case of unresolved pneumonia complicated by infarction of the lung, and also a case of bronchiectasis, to illustrate its occurrence in these conditions. He specially directed attention to an interesting group of cases of haemoptysis from the records, in which, after prolonged observation, it was still not possible to be certain of the cause of the condition. All the patients had been carefully followed up since the haemoptysis, both clinically and by x-ray examinations, but nothing had come to light to clarify the diagnosis. In regard to the significance of haemoptysis, he indicated the great difficulty of correctly assessing this symptom in apparently healthy people, the most pressing question in the minds of both patient and doctor being whether or not the condition afforded evidence of phthisis. The lecturer drew attention to the difference of opinion among clinicians in regard to this, and mentioned that some authorities still asserted that probably all cases of haemoptysis were tuberculous in origin. Gee had suggested the possibility of recurrent haemoptysis being due to the presence of a small cavity "perhaps no bigger than a cherry." Dr. MacTier reported two cases which appeared to be of this nature; in neither had the tubercle bacillus been found on repeated examination. Prognosis in haemoptysis was primarily a question of diagnosis, the most difficult cases being those of healthy young adults who showed no physical signs of disease. The importance of continuing accurate observations of the weight, the evening temperature, and the sputum over a prolonged period was emphasized.

Reviews.

PLANT POISONS AND STIMULANTS.

Inorganic Plant Poisons and Stimulants,[1] by Dr. WINIFRED E. BRENCHLEY of the Rothamsted Experimental Station, first appeared in 1915, and in the second edition, which has just been published, the scope of the work has not been altered, though the text has been brought up to date by the inclusion of recent research work.

The action on plants of salts of copper, zinc, arsenic, boron, and manganese is described in detail. The facts are, of course, of great practical importance to farmers for their guidance in the use of chemical manures and fungicides, but it is of general interest to physiologists also, since many of the results show important analogies to effects observed in animal physiology. For example, a solution of copper in pure water exerts a powerful oligodynamic toxic action, and one part per million of copper sulphate stops all growth of barley, but if neutral salts are present ten times this concentration is needed to produce the same effect.

Even more interesting is the evidence that traces of boron and manganese are necessary for the normal development of plants. The quantities necessary are extremely small, for a concentration of one in one hundred million of manganese can produce a distinct stimulant action in the growth of barley. The similarity between these effects and those of iodine lack on vertebrates is at once obvious.

It is instructive to note that the author's careful analysis of the evidence shows that the action of these metals on plants does not really support the so-called law which states that substances which produce a toxic action in high concentrations will also produce a stimulant action in low concentrations. It is true that traces of boron and manganese are essential for the normal growth of many plants and that these substances are toxic in high concentrations, but, on the other hand, copper, arsenic, and zinc in most cases are toxic in all concentrations at which they produce any measurable action.

These examples show how many points of interest to general physiology are brought out in Dr. Brenchley's work.

INDUSTRIAL MEDICINE.

THE first volume of a new German treatise of social hygiene[2] was reviewed in our columns on November 6th, 1926 (p. 838); the second volume is wholly devoted to industrial medicine. Special attention is given to clinical aspects which, the editors remark, have not received adequate notice in German medical literature.

The first two hundred pages of the volume are on general questions. In this section the article of most interest to the English reader is Brezina's discussion of Taylor's system ("Scientific Management"), hours of labour, rest pauses, and night work. There follows a short and not very satisfactory statistical article by Koelsch; it is not very satisfactory because the best German statistical material dealing with sickness rates, that of the Leipzig Insurance Bureaux, is now almost a quarter of a century old, but must still do duty as no similarly detailed analysis has since been prepared. However, no Englishman can cast a stone, because nothing so detailed has ever been done in this country. The next 140 pages are devoted to industrial poisoning. Physical agents are then examined; Mager's section on caisson disease—a subject to which much attention has been paid by English physiologists—although concise is adequate. We then have a series of articles upon diseases peculiar to or most frequent in particular industries, classified, in the main, anatomically. Mendel's essay on diseases of the nervous system, which discusses also occupational neuroses, is worthy of special mention, and Oppenheim's section on diseases of the skin is very well illustrated. In Koelsch's paper on cancer in occupations there are some interesting notes on the remarkable incidence of cancer of the lung upon the cobalt-arsenic miners of the Schneeberg district of Saxony; how far direct mechanical irritation and how far specific chemical action may be involved are unsolved problems. The volume concludes with a series of articles on the hygienic conditions of the chief industries in Germany. Schürmann's account of coal mining, illustrated by very full statistics of Rhenish-Westphalian coalfields, is particularly valuable. It appears from these tables that the incidence of fatal accidents is much heavier than upon any of the English coalfields, but the classification of workers may be different, and, therefore, the rates may not be comparable.

This should prove a useful textbook for the German hygienist; it contains some articles which can profitably be consulted by a foreigner; we have mentioned some of these, and may say generally that a comparison of the industries which are very important both in Germany and our own country is instructive. An interesting point is that some causes of incapacity which are very important here seem much less so in Germany. Thus telegraphist's cramp, the object of very special consideration here, is only noticed cursorily among a whole series of occupational neuroses, while miner's nystagmus is clearly much less prevalent as an incapacitating illness in German than in British mines. Perhaps both the general social distress in the years immediately following the war, and the fact that by the German law the onus of proof is upon the employee to establish the occupational origin of his incapacity, are factors of etiological importance when we are dealing with disability which has, at least, some psychological element.

Considering the greater length of our industrial history, it would be discreditable to the English medical profession if a foreign textbook were decidedly superior to anything of the kind in English. That is not, we think, the case. The English or American speaking student who is not a specialist need not go beyond works in his own language. This volume will, however, be a useful but—at £2 14s. unbound—rather expensive addition to a reference library.

THE ALPINE CLIMATE.

DR. PAUL GÖTZ carries on at Arosa an observatory on the lines of that at Davos conducted by Dr. Dorno. He has recently published a book detailing the results: *Das Strahlungsklima von Arosa*.[3] The duration of the sunshine, the total heat radiation of the sun, and the red, green-blue, and ultra-violet radiation are recorded daily; the cadmium photo-electric cell is used for the last. The effect of the transparency of the atmosphere, and of the ozone layer in the very high atmospheric region, are studied, the latter in association with Dr. Dobson of Oxford, who has initiated a world-wide investigation of the influence of this ozone layer on the ultra-violet radiation of the sun. It is this layer which limits the penetration of the shorter wave-lengths—to 2,900 Angström units. The brightness of the sky is also measured at Arosa, and the influence of different aspects on this. In addition to the ordinary meteorological data, wind, temperature, humidity, etc., the cooling power of the air has been studied by means of Leonard Hill's kata-thermometer. As at Davos, the cooling power is found to be very equable, owing to the absence of high wind.

The still cold air of winter, and the warmer breeze air of summer keep up about the same cooling power all the year round. This is of advantage in the treatment of tuberculosis. The high radiant energy and cool, still, dry, and dust-free air of the Alps offer most excellent conditions.

DISEASES OF THE HEART.

Auricular Fibrillation[4] was the subject chosen by Dr. EMANUEL for the Ingleby Lectures delivered at the University of Birmingham in 1925, and they are now published

[1] *Inorganic Plant Poisons and Stimulants.* By Winifred E. Brenchley, D.Sc., F.L.S. Cambridge Agricultural Monographs. Second edition. London: Cambridge University Press. 1927. (6½ × 9½, pp. ix + 134; 21 figures. 10s. 6d. net.)

[2] *Handbuch der Sozialen Hygiene und Gesundheitsfürsorge.* Herausgegeben von A. Gottstein, A. Schlossmann, L. Teleky. Zweiter Band: Gewerbehygiene und Gewerbekrankheiten. Berlin: J. Springer. 1926. (Sup. roy. 8vo, pp. viii + 816; 56 figures. R.M.54.)

[3] *Das Strahlungsklima von Arosa.* Von Dr. F. W. Paul Götz. Berlin: J. Springer. 1926. (6½ × 9½, pp. 190; 31 figures, 69 tables. R.M.8.70.)

[4] *Auricular Fibrillation.* By J. G. Emanuel, B.Sc., M.D., F.R.C.P. Birmingham: Cornish Brothers, Ltd. 1926. (Roy. 8vo, pp. 31; 16 figures. 3s. 6d. net.)

in a book. After a brief historical note the lecturer deals with the essential nature of this disorder of rhythm, and several parts which have been the subject of special observation are discussed in greater detail. The fact that in sinus rhythm all the impulses pass from auricle to ventricle, while in auricular fibrillation only a proportion do so is ascribed to the view that in the latter the impulses themselves are "abnormal" in so far as they arise from auricular muscle fibres and not from the pacemaker. No mention is made of circus movement or of the fact that increase in rate of stimuli attacking the bundle is in itself a cause of functional heart-block. In discussing the onset of auricular fibrillation, the author draws attention to a small group of cases in which reflex vomiting may be induced and can only be controlled by rest in bed or by restoration of sinus rhythm. The effect of toxins on the rate of the ventricle in auricular fibrillation is also discussed and their action in producing slowing of the ventricle rate is compared with the action of digitalis and of organic disease of the bundle, and the effect of all three in fibrillation is contrasted with their action on sinus rhythm. When dealing further with the effects of digitalis, the view is advanced, and supported by experiment, that the earlier effects of digitalis are vagal and the later on the bundle. The lectures provide suggestive reading, particularly in those parts where they differ from commonly accepted views.

During the great war the Surgeon-General of the United States Army issued Circular 21 as a guide to medical officers in the examination of the circulatory system of candidates for military service. Dr. LEROY CRUMMER, professor of medicine at the University of Nebraska, using this as his text, offers in his book the *Clinical Features of Heart Disease*[5] an interpretation of the mechanics of diagnosis for practitioners. Though rather discursive in its style, this book has much to commend it and should prove of value to practitioners in aiding them to assess the significance of the signs and symptoms of heart disease. It contrasts with many modern books on the same subject by reason of the entire absence of illustrations, and this is a natural corollary to a sentence in the text—"Overvaluation of mechanical aids in diagnosis is a general defect of medical thought." In the sections dealing with diagnosis and with treatment the author pays attention to many practical points often overlooked in textbooks. Some of his statements are rather arresting, as when he says that "simple aortic insufficiency in early adult life (not associated with mitral disease) usually develops during a pneumococcal infection and not during acute articular rheumatism"; and again, when he asserts that "cacodylate of sodium is a specific in rheumatic pericarditis." It is an easy book to read and contains many useful hints.

In his essay on *Angina Pectoris*[6] Professor HANS KOHN of Berlin gives a useful historical and critical review of the various hypotheses put forward to explain this condition. The discussion is concerned chiefly with the coronary and aortic hypotheses, and the author brings together a mass of evidence from all departments of medical science and practice for and against these views. As a result of this examination of the writings of previous workers and of his own experience, Professor Kohn comes to the conclusion that angina pectoris is always the result of narrowing of the coronary arteries. He believes that there is only one angina pectoris and that it is a definite disease, an entity, and not only a collection of symptoms. The coronary narrowing, in the great majority of cases, is anatomical (by atheroma, syphilis, etc.), but may, in a few cases, be purely functional and caused by coronary spasm, toxic or nervous in origin. He holds further that even with disease of the vessel wall, spasm gives rise to the attacks. The pain and the sense of oppression (which is but a variety of the pain) arise, and are experienced, in the coronary arteries and in the ischaemic heart muscle. He considers the sense of impending dissolution to be an expression of momentary cardiac failure as a result of the ischaemia, while sudden death occurring in an attack is due to ventricular fibrillation, also a result of insufficient blood supply. The review includes a bibliography of about five hundred references.

[5] *Clinical Features of Heart Disease.* By Leroy Crummer, M.D. Introduction by Emanuel Libman, M.D. London: Henry Kimpton. 1925. (Demy 8vo, pp. xix + 353. 12s. 6d. net.)

[6] *Angina Pectoris.* Von Prof. Dr. Hans Kohn. Ergebnisse der Gesamten Medizin IX. Berlin and Vienna: Urban and Schwarzenberg. 1926. (7¼ × 10¼, pp. 209-276.)

SIR JAMES CRICHTON-BROWNE'S ESSAYS.

IN *Stray Leaves from a Physician's Portfolio*[7] we welcome a further supply of the products of Sir JAMES CRICHTON-BROWNE'S spare moments in a long and observant life. Of these seventeen pleasantly written essays, many touch on medical subjects of general interest, such as "Dreamy mental states," "Poisons and poisoning," "Brain rest" (dealing with sleep), "Brain building" (with wise remarks on food), "Light and sanitation," and "Claret in Scotland," which contains also information about whisky. In several of the essays the life of students in the Scottish universities in the past is described, and a comparison between the less hardy condition of to-day indicated. Carlyle's experiences as a student form the subject of one essay and Craigenputtock of another. Biography is further represented by the story of Thomas Young's many activities, and by an article contending that Patrick Branwell Brontë has been much maligned and misunderstood. "Shakespeare in Scotland" contains much that is interesting, conveyed with a light touch, and showing his influence on the Wizard of the North. The rise of the drama in Scotland is traced, and the opinion is expressed that, in spite of what may be said to the contrary, the genius of that country is essentially dramatic. Among so much that is charming in these papers it is difficult to select one for particular mention, but perhaps that on "The lightening before death"—a quotation from Shakespeare: "How oft have men when at the point of death been merry, which their keepers call 'the lightening before death'"—deserves the palm.

THE WINE TRADE.

IN *Bottlescrew Days*[8] Mr. SIMON contributes another volume to the list of his publications on the subject which he has made his own. The title needs some explanation. The use of corks for stopping the mouths of wine vessels began with the eighteenth century, and at first the cork was made long and tapering so as to leave enough of it protruding from the neck of the bottle to allow a good grip with the fingers so that it could be pulled out. Before that time all wine was on draught in skins, casks, or jars. Then some genius had the bright idea of using short corks cut flush with the mouth of the bottle and protected by a layer of wax, and to extract these corks the bottlescrew, now known as a corkscrew, was invented. Like some other great inventions, this one is anonymous. The introduction of the cork and its screw enabled wine to be matured in bottle as soon as the bottles were made of a shape that allowed them to be laid down in the cellar. Much French wine was drunk in England in the days when Guienne belonged to the English Crown, and the traffic between Bordeaux and such privileged ports as Winchelsea was associated with the development of the British merchant navy. The huge cask or "tun" containing four hogsheads, or 252 gallons, gave its name to the "ton" of shipping measurement, for the size of a ship was gauged by the number of these great wine casks that she could carry. In Elizabethan times wines from Spain and its dependencies became popular, and Sherris (Xerez) sack and Canary (or Palm) sack figure largely in the drama of that period. French wines, however, seem to have become popular again in the seventeenth century, and despite tariffs and the long wars with France they never wholly lost their vogue, despite the Methuen Treaty of 1703, which was falsely accused of undermining the morale of Scotland.

> "Firm and erect the Caledonian stood,
> Old was his mutton and his claret good.
> 'Let him drink port,' the English statesman cried!
> He took the poison and his spirit died."

[7] *Stray Leaves from a Physician's Portfolio.* By James Crichton-Browne, M.D., LL.D., F.R.S. London: Hodder and Stoughton. (8¼ × 5¼, pp. viii + 251. 12s. 6d.)

[8] *Bottlescrew Days.* By André L. Simon, F.R.Hist.S. London: Duckworth and Co. 1926. (Demy 8vo, pp. 273; 46 plates. 21s. net.)

But the reputed death of the Scots spirit was, like that of Mark Twain, "greatly exaggerated." Perhaps the *perfervidum ingenium* was saved by whisky.

Mr. Simon is an enthusiastic admirer of French wines and has little to say in favour of those from other countries. Port, the rival of French wines for so many years, has few merits in his eyes. We hope that we do not misrepresent him in saying that he seems to think that good wine, and especially good French wine, is incapable of doing anybody harm. But the use of gin, which was encouraged at first in England because it was an indigenous production, is unsparingly condemned by him. We doubt very much whether the gin-drinking classes had ever been regular consumers of wine. Beer had been the popular beverage for centuries, and it was by favouring its consumption that the authorities tried to combat the evil habit of gin-drinking. In his condemnation of ardent spirits we are at one with the author, but we cannot share the conviction expressed in his dedication wherein drunkenness and teetotalism are referred to as evils apparently of equal magnitude, "which every fair-minded and temperate man cannot help deploring." While we would not "rob a poor man of his beer," we have yet to learn that total abstinence ever did anyone any harm, except the vendors of alcoholic liquor. Mr. Simon gives us a great deal of illuminating information as to the habits of the well-to-do in the eighteenth century, gathered from such documents as the wine accounts of the Barber Surgeons' Company of London, and of some great noblemen such as the Earl of Bristol. It is interesting to note the occurrence in such lists more than two hundred years ago of the names of vineyards such as Château Margaux and others which are still synonymous with excellence and popularity.

This book is profusely illustrated with forty-six plates many of them reproductions of old caricatures, others of excellent photographs of old wine glasses, bottles, and labels, besides reproductions in the text of bills and invoices. Among these latter is a trade card which has a peculiar interest for us. It is that of "John Lister Son-in-law and succefsor to the late Stephen Jackson, deceased, at the Old Wine and Brandy Vaults opposite Tokenhouse Yard," etc. This was the father of Joseph Jackson Lister, who carried on the business after his father's death, but whose heart was in the study of optics and who made most important improvements in microscopic object-glasses. His son Joseph was the great reformer of surgery who became Lord Lister. The great surgeon and man of science did not do credit to his father and grandfather in the matter of wine, if we may believe the story told of the unsparing denunciation of his claret by a tactless French guest in Glasgow.

NOTES ON BOOKS.

A SMALL *Handbook of Medical Electricity and Radiology*,[9] by Dr. J. R. RIDDELL, is stated in the preface to be written to inform the student as to the uses, and the indications for the use, of the many pieces of apparatus usually found in the electrical department of a general hospital. Into some two hundred and fifty pages of fairly large print, but small size, are compressed nine chapters and an index, together with about one hundred and ten illustrations. The subjects of the chapters are electrotherapeutics, the examination of the electrical reactions of nerves and muscles, Roentgen-ray production and control, the action of *x* rays on living tissues, *x* rays in diagnosis, *x* rays in treatment, radium, light, and carbon dioxide snow. The book is a well written example of its type, and it is rather extraordinary how much the author has been able to include and to compress into such a small space. Obviously a great deal of detail has of necessity been omitted. The eighty-seven pages allotted to regional examinations by means of *x* rays not only contain a vast amount of information, covering almost the whole ground of *x*-ray diagnostic work, but also many good illustrations. This chapter alone quite fulfils the intentions of the author as laid down in the preface. The book is well presented, the text is easily read and understood, and the illustrations are better than is usual in books of this kind. It can be recommended to students as a guide to the possibilities of an *x*-ray and electrotherapeutic department.

In the evening of life—at all events of a well spent life—a man tends naturally to become reminiscent. He reviews events in which he has taken part, and if he is of balanced judgement his mind recalls, not only his successes, but also his failures. The recollection of the latter need not be too bitter, for he knows that it is human to err; and if he feels called upon to record his experiences for the benefit of younger colleagues he is buoyed up by the hope that even his failures may not have been in vain. So it would seem to be with Dr. TYSON of Folkestone, who has recently published a small book of *Medical Notes*,[10] dedicated to his colleagues at the Royal Victoria Hospital. In fifty little chapters Dr. Tyson sets forth thoughts that have occurred to him on various problems in medical practice, and his words seem to flow gently from his pen, in defence of wise and balanced conservatism. Thus he does not despise the humble leech in the relief of heart congestion, and his list of valuable drugs is headed by magnesium sulphate. He finds that mercury still holds its own in the treatment of syphilis, and he has discovered that the drug, in the form of blue pill, has a soporific action in the insomnia of certain cases indefinitely described as biliousness. Dr. Tyson notes the difficulty at times of dissociating functional and organic disease. He regrets the lack of institutions where the general practitioner may keep early mental cases under observation on reasonable terms. He urges the need for instructing students in the use of as many of the instruments of diagnosis as possible, while recognizing that diagnosis should only be made after due assessment of the proportionate value of symptoms; and he pleads with the surgeon to remember the importance of treatment after operation, and to avoid, as far as possible, lightning diagnosis. In his final chapters Dr. Tyson discourses of the patient, what he shall be told, how he can assist us in his future treatment, how he should not be forgotten in treating his disease, whether he should be advised to remain long in bed, and when he should retire from his work.

There is good ground for believing that the number of members of the medical profession who take a lively interest in archaeology, using that term in its widest sense, is very considerable, and some have made themselves authorities on certain departments of field archaeology. It is probable, therefore, that numerous will be the medical readers of a new quarterly, *Antiquity*, for, judging by its first number, just issued, it will give a large part of its space to the results of field work. The present position of one subject to which medical men, including Dr. Williams-Freeman and the two Drs. Eliot Curwen, have contributed a good deal is stated in a paper on "Some Prehistoric ways" by Dr. R. C. C. Clay, F.S.A. The value of air photography in showing up old walls and paths now covered by ground under cultivation is well illustrated in one of the papers. The annual subscription is £1, which should be sent to the editor, Mr. O. G. S. Crawford, Nursling, Southampton. The first number has been very well printed by John Bellows of Gloucester, England, from whom single copies may be obtained (price 5s. 6d.).

The *Pharmacopoeia of the City of London Hospital for Diseases of the Heart and Lungs*, Victoria Park, contains three sections devoted respectively to medicaments for internal use; preparations for the throat, nose, larynx, eye, and ear; and external applications. An appendix contains instructions to sisters for the nursing of different types of patient, the special preparation necessary for *x*-ray examination, and the usual tables. The small volume (London: H. K. Lewis, 3s. 6d.) is interleaved with blank pages, and is of convenient size for the pocket.

The fifty-fourth annual issue of *Willing's Press Guide*[11] follows the lines of its predecessors, and is a useful work of reference. It contains an alphabetical list of newspapers and periodicals published in the United Kingdom, with particulars of the year of establishment, politics (if any), date of publication, price, and the publisher's name and address. An interesting list is provided of the existing newspapers and periodicals which originated in the seventeenth and eighteenth centuries. Lists are also given of reporting, telegraphing, and news agencies, and the principal newspapers published in the Dominions and in foreign countries. The present issue retains all the valuable features which have rendered past editions so popular.

[9] *Handbook of Medical Electricity and Radiology.* By James R. Riddell, F.R.F.P.S. Edinburgh: E. and S. Livingstone. 1926. (Cr. 8vo, pp. xv + 239; 109 figures. 8s. 6d. net.)

[10] *Medical Notes.* By W J Tyson, M.D., F.R.C.P., F.R.C.S. London: H. K. Lewis and Co., Ltd. 1926. (Cr. 8vo, pp. xi + 64. 2s. 6d. net.)

[11] *Willing's Press Guide, 1927.* Fifty-fourth year. London: J. Willing, Ltd. 1927. (Demy 8vo, pp. xii + 485. 2s. 6d.)

NINETY-FIFTH ANNUAL MEETING
of the
British Medical Association,
EDINBURGH, 1927.

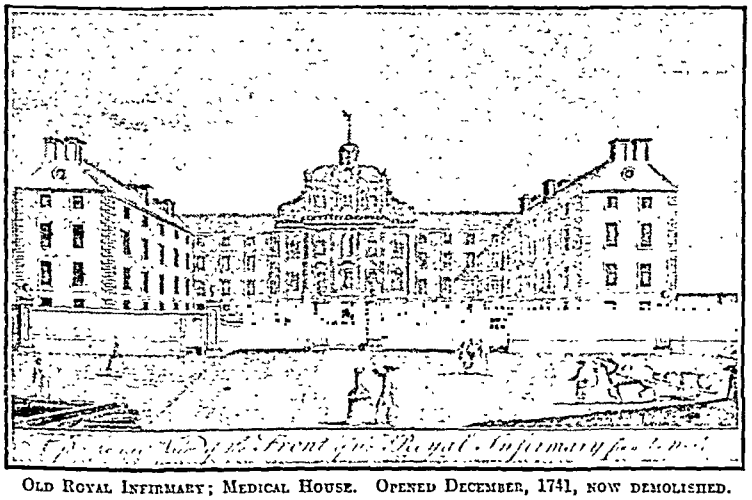
THE ninety-fifth Annual Meeting of the British Medical Association will be held in Edinburgh this summer under the presidency of Sir Robert Philip, M.D., LL.D., honorary physician to the King in Scotland, who will deliver his address to the Association on the evening of Tuesday, July 19th. The scientific and clinical work of the meeting will occupy, as usual, the three following days, and on this occasion it will be divided among twenty-one Sections. The names of the officers of Sections and other preliminary announcements are published in the SUPPLEMENT this week; the full programme of scientific business and further details of the arrangements for the Annual Meeting will appear in later issues. The Annual Representative Meeting, for the transaction of medico-political business, will begin on Friday, July 15th. On the last day of the meeting (Saturday, July 23rd) there will be excursions to places of interest in the neighbourhood. We print below the third of a series of descriptive and historical notes on the Scottish metropolis and its relations with the science and practice of medicine. The first article, published on December 4th, 1926, dealt with old Edinburgh and the beginning of the Edinburgh Medical School; the second, on January 1st, with the Medical School from 1726 to the middle of the nineteenth century.

It has been decided to make the Edinburgh celebrations of the centenary of Lord Lister's birth coincide with the Annual Meeting of the British Medical Association. A book dedicated to Lister's life and writings is being prepared for the occasion, and throughout the week a museum of Lister relics will be on view in the Upper Library of the old University. On Wednesday, July 20th, at 8 p.m., a public meeting will be held in the McEwan Hall, with the Earl of Balfour, K.G., in the chair, when short commemorative addresses will be delivered.

EDINBURGH MEDICAL INSTITUTIONS.

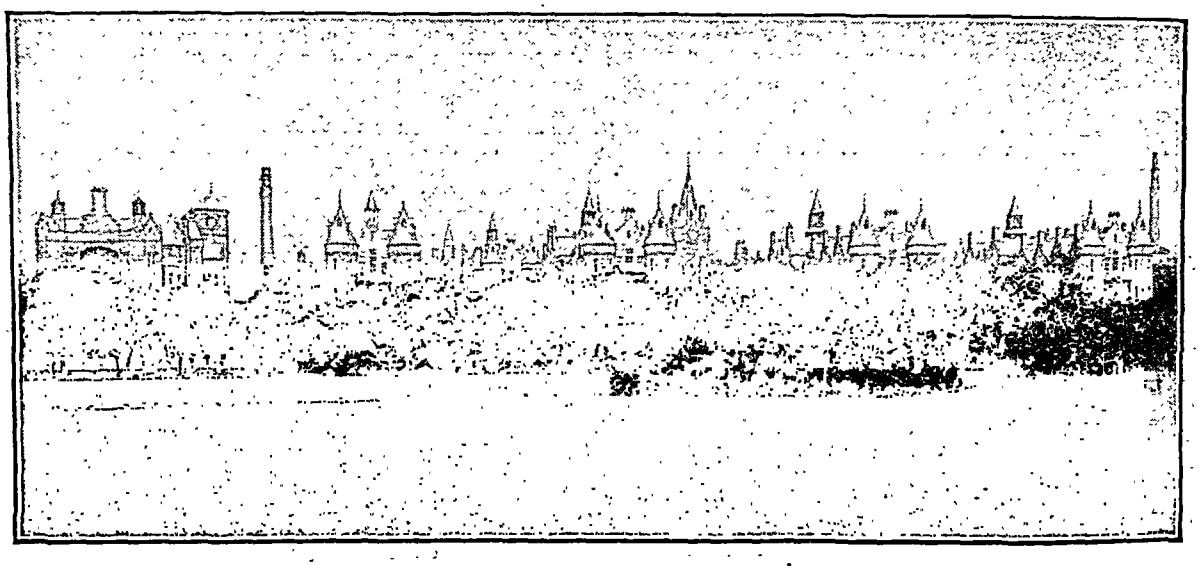
THE ROYAL INFIRMARY OF EDINBURGH.

THE Royal Infirmary of Edinburgh owes its origin to the Royal College of Physicians, which was founded in 1681, largely by the influence of Sir Robert Sibbald, in association with other eminent physicians of the city, by whom the first steps were also taken for the foundation of a complete medical school at Edinburgh.[1] This College from its earliest days interested itself in the care of the sick poor, and at its third meeting, on February 10th, 1682, two physicians were appointed "to serve the poor of the city and suburbs." Advice and medicines were first distributed to the poor at the Hall of the physicians, but in 1725 the College proposed the foundation of a building where the sick could be received. In 1726 the minutes of the College mention that subscriptions had already been set on foot with "pretty good success," and the Fellows of the College were now joined in their scheme by the members of the Incorporation of Surgeons as well as receiving substantial encouragement from charitable people in many quarters. It was considered that the sum of £2,000 was the smallest which would suffice for this purpose, and this sum having been speedily collected, the committee charged with the object decided to hire a small house for receiving sick poor out of the annual proceeds of the capital sum, and at the same time appointed twenty managers to control it. This "small hired house" stood at the head of Robertson's Close and provided accommodation for six patients. It was formally opened on August 6th, 1729. Some time later the managers obtained a Royal Charter from King George II, dated August 25th, 1736, in which the hospital is designated the Royal Infirmary of Edinburgh, and by August 2nd, 1738, the foundation stone of a permanent hospital was ceremoniously laid. This building consisted of a "body with two wings, each of three full storeys and an attic one with garrets in the roof." The body was 210 feet long and each wing extended 70 feet, with a "large theatre where more than 200 students can see operations, and which is also a convenient chapel. Over the theatre a cupola is raised that may occasionally be used as an astronomical observatory, having windows to the different quarters of the hemisphere." The house was designed for 228 sick people "received into separate beds," and on the ground floor there were twelve cells for mad people. Round the hospital was an area of two acres with grass walks for the patients to walk in. The patients previously had had the privilege of walking in the neighbouring Physic Garden of the College, which had



OLD ROYAL INFIRMARY; MEDICAL HOUSE. OPENED DECEMBER, 1741, NOW DEMOLISHED.

[1] See BRITISH MEDICAL JOURNAL, December 4th, 1926, p. 1067.



ROYAL INFIRMARY, EDINBURGH, FROM THE MEADOWS.

been leased in 1724 to Dr. Rutherford and some of his colleagues for the purpose of rearing medicinal plants. The building of this hospital appears to have commended itself to all classes. The Assembly of the Church of Scotland ordered collections to be made at all church doors; benefit nights were given at the theatre; most of the societies in and about Edinburgh sent money; merchants sent presents of timber, stone, and other materials; farmers and carters supplied carriages; and mechanics and labourers gave so many days' work gratis. In addition, the managers dispersed copies of their prospectus in England, Ireland, and the British Plantations, from all of which countries considerable subscriptions were received. In the credit assigned to the founders of the hospital, one of the most active to be recognized was George Drummond, Commissioner of Excise, who held the office of Lord Provost of Edinburgh six times. "His indefatigable labours in procuring bounties, whether money or material, to set the work agoing and his ardent efforts in forwarding it when begun, were amply compensated, as his solicitous wishes were happily gratified, in seeing it completed many years before his death." The labours of this public-spirited and far-seeing man were commemorated by a bust which stands at the entrance to the present Royal Infirmary as well as by a portrait in the board room. Finally the Infirmary was fitted up, and the sick were received into it in December, 1741.

In 1745 and 1746 the affairs of the Infirmary, as well as of the whole country, were thrown into confusion by the Rebellion, and the Infirmary was converted into a general hospital for sick and wounded soldiers, of whom several hundred were attended and dressed by the surgeons. From the commencement of the hospital in 1729 the surgeon apothecaries had not only attended without fee, but each had furnished the medicines necessary out of his own shop. In 1748, however, the managers decided to fit up an apothecary's shop in the institution from which both in-patients and out-patients could be served.

By 1778, when a new appeal was issued, it had been found that the original twelve cells for mad people were unnecessary, and some of them had therefore been converted to other uses. On the upper floor a ward had also been established "for lying-in women, sufficiently separate from the rest of the house, and under the direction of the professor of midwifery." On the attic story and in a remote part of the house "a salivating ward for female patients had also been established containing twelve beds." There was also a small ward with four beds for the same purpose. "This ward was fitted up in consequence of a few female patients, who, being sufferers, not by any fault of their own, but by that of their husbands, or from suckling infected children, had applied to be taken under cure in the hospital." By this time, too, it is recorded that "in the west wing are one cold and two hot baths with their respective dressing-rooms, while in the east wing is a bath for the patients of the house, so constructed that it may be occasionally used either as a cold or a hot bath." The report continues: "those in the west wing are intended for people of the city; no patient in the hospital having at any time admittance to them." These three baths appear to have been the only provision, towards the end of the eighteenth century, by which the inhabitants of Edinburgh could carry out complete ablution otherwise than in a stream or in the sea, and the baths appear to have been a source of considerable revenue to the charitable institution. Another source of revenue was tapped in 1746, when the managers of the Infirmary and of the town's workhouse took a joint lease of the hall where the weekly assemblies for dancing were held. Several ladies of quality and rank undertook to act in turn as directresses of the weekly assemblies, and the profits arising from these brought to the Infirmary a revenue of about £100 per annum.

It is interesting to note that the Royal Infirmary of Edinburgh in the eighteenth century affords an example of the modern movement for the payment of hospital staffs. In January, 1751, the managers elected Dr. David Clark and Dr. Colin Drummond physicians in ordinary to the infirmary, each with a salary of £30. This was to supersede the old arrangement by which each of the Fellows of the College of Physicians had in turn attended the Infirmary for a month, but this arrangement seems again to have been departed from at a later period. For a time also the practice of having paying patients was introduced, and the charge for these was at the rate of 6d. a day. After the peace of 1763 a great number of sick and lamed soldiers presented themselves at the Infirmary, and in the same year Dr. Adam Austin was appointed by the Commander-in-Chief to visit the military wards regularly and to report thereon. Every assistance was given by the managers and staff of the house to Dr. Austin in the execution of these duties.

Excluding the military ward and the wards reserved for special types of case, some sixty beds appear to have been available for ordinary free patients. With these the Infirmary continued for about half a century, but in 1828 the old High School, vacated by the transference of that institution to a site on the Calton Hill, was acquired, and this, along with an intermediate building connecting it with the original Infirmary structure, became the surgical hospital. This part of the old Infirmary is still standing, though the original building of 1741 has long since disappeared. Between 1860 and 1870 much discussion took place as to whether the Royal Infirmary should be rebuilt or whether a new Infirmary should be erected on a different site. The latter alternative was adopted, in great part owing to the advocacy of Professor Syme. The site selected

was that of George Watson's Hospital, between Heriot's Hospital and the Meadows. Here the foundation stone of the present Infirmary buildings was laid on October 13th, 1870. The present Royal Infirmary was opened on October 29th, 1879.

Various changes have taken place in the past two centuries as regards the appointment of physicians and surgeons to the hospital, and the present Infirmary, in the forty-eight years of its existence, has enormously expanded with the introduction of new departments for diseases of the eye, disorders of the ear and throat, radiology, bacteriology, and other special departments and clinics. The present visiting staff numbers sixty-eight, with twenty-six consultants who have served their term of office in the institution. Of the visiting staff, some six attached to special departments are paid as whole-time or part-time officers. With regard to the work of the hospital, in 1926 over 17,000 patients were treated in the wards, while over 56,000 out-patients attended the various departments.



PART OF OLD INFIRMARY, EDINBURGH, CONTAINING LISTER'S WARDS, AND FORMERLY THE HIGH SCHOOL OF EDINBURGH.

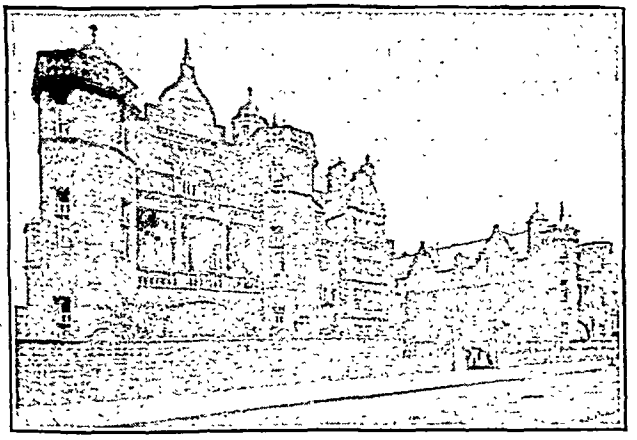
During the time that has elapsed since the foundation of the Infirmary nearly two hundred years ago the arrangements for treatment of patients have undergone a gradual evolution. Until the year 1751 all the Fellows of the Royal College of Physicians attended the patients in rotation, but in that year the managers appointed two physicians to the Infirmary at a salary of £30 each. Similarly, all the members of the Incorporation of Surgeons up to 1766 attended the surgical cases in rotation, but in July of that year the managers appointed James Rae, Peter Addis, John Balfour, and Andrew Woods as surgeons to the hospital.

One of the most important developments in the relationship of the Royal Infirmary to the Edinburgh Medical School commenced in the year 1748, when John Rutherford, professor of practice of physic in the University, and grandfather of Sir Walter Scott, obtained permission from the managers to give a course of clinical lectures in the Royal Infirmary. This was perhaps the first course of clinical lectures delivered in this country, and was organized by Rutherford on the model of lectures which he had attended in the hospital at Leyden. Very soon other professors of the medical faculty began to co-operate with Rutherford, and the fame of the clinical teaching at Edinburgh increased, especially in the hands of William Cullen, who commenced to give clinical lectures in 1757 and became professor of practice of physic in 1773. An interesting account is given by Dr. Graves of Dublin of clinical teaching at Edinburgh when he was a student there in 1819. Two clinical clerks, he said, were appointed for the male and female wards, selected by the physician from among the senior pupils.

"Their business was to write an accurate history of the cases, to report the effects of medicines and to record the symptoms which might have occurred since the physician's last visit. At his daily visit the physician stood at the bed of each patient, and having received the necessary information from his clerk, he examined the patient, interrogating him in a loud voice, while the clerk repeated the patient's answers in a tone of voice equally loud. This was done to enable the whole audience to understand what was going on and required an exertion almost stentorian to render this conversation between the physician and his patient audible by the more distant members of the class. Every word was attentively listened to and forthwith registered most faithfully in each student's case-book and afterwards all the observations of the professors, made in their clinical lectures, were taken down with equal care and fidelity."

According to Graves, this method of instruction was indeed very useful, and nothing better could be devised for a beginner. Some forty years later, referring to the year 1853, the following picture of Syme is given by the late Dr. Joseph Bell (said to be the prototype of Mr. Sherlock Holmes):

"His hospital life was on this wise—two clinical lectures a week, operations two days more (perhaps three), a ward visit when he wished to see any special cases; he spent generally about two hours in the hospital. Driving down in his big yellow chariot, with footman, hammercloth, and C-springs, with two big, rather slow and stately white or grey horses, he used to expect his house-surgeon to meet him at the door and move upstairs with him to his little room, where he at once took up his post with his back to the fire and his hands under the flaps of his swallow-tail coat. In this little room he generally held a small *levée* of assistants, old friends, practitioners wanting to arrange a consultation, old pupils home on leave; and before this select class he examined each new and interesting case that could walk in. The new cases had been collected, sifted, and arranged by the dresser in a little room on the stair, irreverently known as 'the trap,' and Mr. Syme then and there made his diagnosis, which to us young ones seemed magical and intuitional, with certainly the minimum of examination or discussion. One was sent off with a promise of a letter to his doctor, another was fixed for to-morrow's lecture or next day's operation. Then, if it was lecture day, a tremendous rush of feet would be heard of the students racing to get the nearest seats in the large operating theatre where the lecture was given. Chairs in the arena were kept for colleagues or distinguished strangers; first row for dressers on duty; operating table in centre; Mr. Syme on a chair on left centre. In his later days it was a fine cushioned chair called the 'chair of clinical surgery.' (In 1854 it was a meek little wooden chair without arms.) House-surgeon a little behind, but nearer the door; instrument clerk with his well stocked table under the big window. He comes in, sits down with a little, a very little, bob of a bow, rubs his trousers legs with both hands open, and signs for the first case. The four dressers on duty, and in aprons, march in (if possible in step), carrying a rude wicker basket, in which, covered by a rough red blanket, the patient peers up at the great amphitheatre crammed with faces. A brief description, possibly the case had been described at a former lecture, and then the little, neat, round-shouldered, dapper man takes his knife and begins; and the merest tyro sees at once a master of his craft at work—no show, little elegance, but absolute certainty, ease and determination; rarely a word to an assistant—they should know their business if the unexpected happens; his plans may change in a moment, but probably only the house-surgeon finds it out; the patient is sent off, still anaesthetized, and then comes a brief commentary, short, sharp and decisive, worth taking verbatim if you can manage it, yet he has no notes, a very little veiled voice, and no eloquence."



ROYAL HOSPITAL FOR SICK CHILDREN, EDINBURGH.

Into this atmosphere Joseph Lister stepped in 1853 and took up the position of house-surgeon to Syme in 1854. Returning from his period of office as professor of surgery

in the University of Glasgow, he succeeded Syme as professor of clinical surgery in 1869. Lister's wards were situated in that part of the Infirmary which had formerly been the High School of Edinburgh, and which still stands as the Engineering Department of the University at the foot of Infirmary Street.

The Royal Hospital for Sick Children.

The first hospital for sick children in this country, that of Great Ormond Street in London, was opened in February, 1852. For some time before and after 1840 Dr. William Campbell, lecturer on midwifery in Argyle Square, Edinburgh, gave a full course of lectures on the diseases of children, and these lectures were the first of the kind delivered in Edinburgh. Appeals began to be made about the year 1856 in the columns of the *Edinburgh Medical Journal* as to the expediency of founding a hospital for the diseases of children in Edinburgh, and later, about 1859, an agitation was made for the same purpose in the *Scotsman*, the *Witness*, and other papers. Premises were secured at No. 7, Lauriston Lane, and on February 15th, 1860, a hospital with twenty-four cots was opened. In May, 1861, the directors purchased Meadowside House *at the foot of Lauriston Lane, with ground adjoining* to the extent of one acre, and here a hospital was established for forty patients, including a separate fever ward. This building was formally opened in May, 1864, and a new surgical department was added in 1889. Here over 600 patients were treated annually. For a short time after 1890 the hospital was removed to a building formerly used as a hydropathic at Morningside, and subsequently, when the present building was completed in Sciennes Road, the hospital moved back to the central portion of the town. The hospital is a handsome building constructed of red sandstone, with two ward pavilions, three stories in height, and a central administrative block. Adjoining the hospital is a large out-patient department. There is also a convalescent home situated at Muirfield, Gullane, in which chronic cases and cases requiring a prolonged convalescence are treated by the seaside. During 1925, 2,968 cases were treated in the wards of the hospital and 7,459 out-patients, involving 28,242 attendances, at the out-patient department.

Royal Edinburgh Asylum.

The Royal Edinburgh Asylum for the Insane was founded by a charter in May, 1807, and the foundation stone of the institution was laid in June, 1809, by the Lord Provost of Edinburgh. The founding of this institution was largely the outcome of a suggestion by Dr. Andrew Duncan, who had been greatly impressed by the miserable death of Robert Ferguson, the poet, while insane in the common workhouse in 1774. When Duncan became professor of institutes of medicine, in 1792, he again brought up the matter, and in addition to the Royal Charter obtained a Government grant of £2,000 for the erection of this lunatic asylum at Morningside, Edinburgh, on modern, humane lines. This was the original East House, which, with the growth of the city, has now disappeared. The West House was added later, and in June, 1890, Craig House, on the slopes of Craiglockhart Hill, was obtained, and further asylum buildings added, which were opened in October, 1894. In 1917 an important further step in dealing with cases of mental disorder was taken by the managers of the Royal Asylum, who instituted five nursing homes for mental cases in Edinburgh, so that these could be treated without the objectionable feature of certification. A sixth home, known as Jordanburn Hospital, and intended for persons of the poorer classes, is at present in process of erection. The average annual number of patients under treatment in the institution is 850, and the managers have recently applied to Parliament for an order to change the name of the corporation and of the institution from that of the Royal Edinburgh Asylum to "The Royal Edinburgh Hospital."

Royal Maternity and Simpson Memorial Hospital.

In 1756, when Dr. Young was appointed professor of midwifery at Edinburgh University, a ward in the attic story of the Royal Infirmary, by permission of the managers, but at Dr. Young's expense, was fitted up for four lying-in women, or as many more as Dr. Young could accommodate, each exceeding the number four paying 6d. a day to the house. With the view of obtaining further opportunities for practical instruction the professor also gave notice that patients should be delivered at their own house free of expense and, if necessary, supplied with proper medicines. Dr. Alexander Hamilton succeeded to the chair in 1780 and carried on the same arrangements for about ten years. He was now allowed six beds in the attic ward of the Royal Infirmary, but he found this was altogether inadequate for the purpose of training nurses as well as teaching students. In 1791, therefore, he made proposals for the establishment of a lying-in hospital, and in the beginning of November, 1793, a proper building was purchased and a hospital was opened with the title of the Edinburgh General Lying-in-Hospital. Professor Alexander Hamilton was himself the ordinary physician to the hospital, and Dr. C. Stuart held the position of extraordinary physician. This house served as a maternity hospital for nearly fifty years and was situated in Park Place. Attendance on this institution was afterwards carried on by James Hamilton, the son and successor of the first Hamilton, *during his long incumbency of the chair of* midwifery, lasting forty years. Here the younger Hamilton was assisted by Dr. John Moir, who lived in the neighbourhood, and latterly took over most of the attendance on the hospital from the professor. After 1843, the house in Park Place being sold, the Lying-in Hospital went through a series of migrations, being transferred successively to a house at No. 2, John Street, where it became known as the Royal Maternity Hospital; three years later to Milton House in the Canongate; in 1852 to Minto House, and in 1856 to Chapel House, where it remained sixteen years. From 1872 to 1874 it occupied George Watson's Hospital buildings, acquired by the Royal Infirmary, which, however, was not yet able to use the building for wards. In 1874 it was transferred to 18, St. John Street, until a sum of money collected to perpetuate the memory of Sir James Y. Simpson became available, and in May, 1879, the new hospital in its present situation was opened for the reception of patients. Here the hospital has continued to grow both in usefulness and extent until further extension has become impossible. It has been affiliated with the five dispensaries of the city and has established a department in Leith. One of the most modern developments of the hospital was the ante-natal department established by the late Dr. J. W. Ballantyne, of which an account was given in the British Medical Journal of March 20th, 1926 (p. 539). In taking this step the hospital enjoys the distinction of having been the first hospital in the United Kingdom to initiate the movement for ante-natal supervision of expectant mothers. As it has become urgently necessary to rebuild the hospital, and as its present site is incapable of expansion, arrangements have been made between the Infirmary and the directors of the Royal Simpson Memorial Hospital that the latter should be amalgamated with the Royal Infirmary, and it will in course of time be rebuilt on a site in the immediate neighbourhood of the present Royal Infirmary buildings. During the year 1925 the hospital treated 1,854 indoor patients and 531 outdoor patients, while the Leith branch attended 549 women, making a total of 2,934 patients delivered in or in connexion with the hospital, a number which covers 35.5 per cent. of the total births in Edinburgh. The ante-natal clinic was attended by 1,297 patients with a total of 4,121 visits.

Leith Hospital.

Leith Hospital is an institution which has gradually developed to its present size of a hospital containing nearly 100 beds. The Edinburgh and Leith Humane Society was founded in 1788, a dispensary was added in 1815, with a casualty hospital in 1837, and these institutions were combined as Leith Hospital in 1848 and incorporated in 1907. The hospital occupies a central position in the town of Leith, which now forms a portion of the city of Edinburgh. The most recent addition to the hospital was a ward for children containing thirty-six cots, which was completed in 1926 and opened as a war memorial to commemorate the men from Leith who fell in the great war.

Deaconess Hospital.

The Deaconess Hospital was founded by the Church of Scotland as a memorial to Lady Grisell Baillie, one of the initiators of the modern Deaconess movement. The hospital was founded in 1894 and contains some fifty beds, including wards for men and women, a gynaecological ward, and a children's ward. The number of patients treated in hospital during 1926 was 716, while at the out-patient department 5,960 patients were treated, with total attendances of 26,804. The hospital is situated in the densely populated district of the Pleasance, where its services are particularly valuable to the poor of the locality.

Chalmers Hospital.

In the year 1836 George Chalmers, plumber in Edinburgh, bequeathed the residue of his estate, amounting to £30,692, to the Dean and Faculty of Advocates for the purpose of founding a new hospital for the sick and hurt. After allowing the fund to accumulate for some years the trustees erected the present hospital in Lauriston Place, which was opened for patients in the year 1864. An addition to the hospital was made in 1898 to commemorate the Diamond Jubilee of Queen Victoria, and more recently alterations have been made to improve the surgical department of the hospital. The hospital contains almost fifty beds, equally divided between medical and surgical cases, with gynaecological and aural departments. The total number of patients treated in hospital during the year 1926 was 925. In addition to these, 3,571 persons received treatment at the out-patient department. Since an early period in its career this hospital adopted a principle which is at the present day considered to be an ideal arrangement for general hospitals, in the provision of private wards as well as free beds. The charge for maintenance in the private wards is at present fixed at 10s. 6d. per diem.

Royal Edinburgh Hospital for Incurables.

This hospital occupies a somewhat unique position among the hospitals of Scotland. Attention was drawn half a century ago to the urgent necessity for the provision of hospital accommodation for persons suffering from incurable diseases. A public meeting was held in Edinburgh in December, 1874, as a result of which the Edinburgh Association for Incurables was founded. The hospital, which was opened in 1875, originally provided twenty-two beds, intended for the reception of incurable cases, and for the purpose of affording the medical profession an opportunity of studying more carefully that class of disease which had hitherto been considered incurable. At the present time the hospital maintains two institutions—the Longmore Hospital, situated at Salisbury Place, Edinburgh, with accommodation for 160 beds, and Liberton Hospital, opened in 1906, with fifty beds, at Liberton, on the southern outskirts of the city, where cases of advanced tuberculosis especially are treated. A considerable proportion of the tuberculosis cases are of surgical tuberculosis in children, and with such cases there is often an encouraging number of successful cures. The hospital also possesses funds for affording outdoor benefit to patients who have recovered sufficiently to be discharged. The number of patients treated in the two hospitals during the year ending March, 1925, was 329, and the total number of patients treated during the fifty years of the hospital's existence up to that date was 5,933.

Royal Victoria Hospital for Tuberculosis.

The Victoria Dispensary for consumption and diseases of the chest was opened in November, 1887, at 13, Bank Street, under the superintendence of Dr. (now Sir Robert) Philip. As the result of growing activity and usefulness, the dispensary was removed in 1891 to 26, Lauriston Place. By this time about sixty cases were seen three times a week. During 1892 the important step of visiting patients in their own homes was undertaken, so as to trace other infected cases among those who had come into intimate contact with the patients. In 1894 Craigleith House, on the north side of the town, was taken as a hospital for tuberculosis and named the Royal Victoria Hospital. Here various pavilions were added in 1903 and at subsequent dates. The increasing activity of the dispensary necessitated its removal in the year 1911 to a large building which had become available in Spittal Street. This removal was made the occasion of a semi-jubilee celebration. At this time 2,042 visits to tuberculous families were paid annually by the doctors attached to the institution, and 5,273 visits by a staff of nurses. In 1910 Polton Farm Colony, situated in the country to the south of Edinburgh, was established, where on a farm some twenty persons suffering from chronic tuberculosis could obtain useful employment suited to their physical abilities. The organization was taken over by the Corporation of Edinburgh in 1914, the Royal Victoria Hospital being now provided with some 100 beds. The Tuberculosis Trust has still continued its activities, and in addition to the organization as managed by the Edinburgh Corporation, the Trust established the Sanatorium Colony of Southfield, near Liberton, in 1919, where cases of tuberculosis in any of its forms are treated and about forty patients are received. As another aspect of antituberculosis work, the Trust in 1923 leased the farm of Gracemount in the same neighbourhood, and established a model dairy farm with a herd of tuberculin-tested cows for the supply of certified milk.

Edinburgh Hospital for Women and Children, and the Hospice.

The Edinburgh Hospital for Women and Children, with a female medical and surgical staff, was founded in 1879 in Whitehouse Loan. The hospital increased gradually in size until now it contains some fifty beds. The Hospice was inaugurated in 1904 at 219, High Street, with ten beds, and maintained a separate existence until 1910. In that year the two institutions were amalgamated under one committee. In July, 1925, this committee reconstituted the Hospice and transferred it to Spring Gardens, overlooking the King's Park, as the Elsie Inglis Memorial Maternity Hospital. This hospital contains forty-five beds, and is shortly to be extended to sixty beds. It is reserved for the treatment of obstetric cases. These two hospitals have a certain number of free beds for persons unable to pay anything, but whenever possible patients are expected to pay from 25s. to 3 guineas weekly, the latter charge being the cost of a private room. The number of cases treated in the Bruntsfield Hospital during 1926 was 667, while the number treated at the Elsie Inglis Memorial Hospital was 670, with 213 cases in their own homes in the surrounding district.

THE DISPENSARIES.

Edinburgh was one of the first cities to institute dispensaries for the medical treatment of the sick poor.

The *Royal Public Dispensary* was the first of these, being founded in the year 1776 and incorporated by Royal Charter in 1818. It has thus completed over 150 years of existence. Its institution was largely due to the suggestion and effort of Dr. Andrew Duncan, who was also responsible for the initiation of several other of the Edinburgh medical institutions. The dispensary combines the double purpose of affording attendance to the sick poor and of giving instruction and an opportunity for practice to senior medical students. The medical officers attend in rotation on different days of the week, and each has a group of students with whom he sees those patients attending for advice, and to whom he apportions the patients requiring visits at their own homes. The patients receive gratis the medicine prescribed for them. This system of dispensary teaching has been an important feature of the practical instruction given by the Edinburgh Medical School during more than a century.

New Town Dispensary.—As the town grew and the poorer part of the population removed from its eastern end, new dispensaries were established. The first of these was the New Town Dispensary in Thistle Street, which was instituted in 1815. Here some 10,000 of the sick poor receive attendance by the medical staff and by students each year, as well as such medicines as may be necessary.

Livingstone Memorial Dispensary.—This dispensary was founded by Dr. Handyside in 1858, with the double object of providing medical attendance for the sick poor of the Cowgate district and a training school for medical missionary students. The dispensary in 1861 became the Edinburgh Medical Missionary Society Training Institution, and here various agencies, medical, social, and religious, are centred. The society also supports hospitals in Nazareth and Damascus, and trains students for work in these and various other mission fields. In addition the society maintains a convalescent home at Duddingston on the outskirts of Edinburgh, and deals with approximately 10,000 sick persons annually.

Western Dispensary.—This institution was founded in 1870 for attendance on the poor in the western part of the city.

Provident Dispensary.—This dispensary, established in 1878, was founded to provide the poor with medical attendance without making them feel entirely dependent on charity; it is supported by subscriptions, donations, and small payments made by patients for medicines. It occupies a position in Nicolson Square, close to the University, and is attended by students similarly to other dispensaries.

Dispensary for Women and Children.—The Dispensary for Women and Children at 21, Torphicen Street, is managed in connexion with the Bruntsfield Hospital for Women and Children and the Elsie Inglis Memorial Maternity Hospital. In addition to this dispensary there is a Steel-house Dispensary in the grounds of the Elsie Inglis Memorial Hospital at Spring Gardens, intended for maternity and child welfare work, and a branch dispensary at 29, Windsor Street.

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THE MENTAL DEFICIENCY BILL.

THE Mental Deficiency Bill was read a second time in the House of Commons on Friday of last week without a division. The bill is almost identical with the Government measure which at the end of last session was withdrawn for lack of time owing to somewhat unexpected opposition encountered in the concluding stages. The present bill is a private member's measure, and is presented by Mr. Crompton Wood, supported by Sir Douglas Newton, Sir Leslie Scott, Mr. Rhys Davies, Mr. Cadogan, Dr. Fremantle, and others. The memorandum explanatory of the bill was published in this JOURNAL last week (p. 549), and the admirable and interesting debate on the second reading is reported this week on page 602. As the bill has secured a second reading so early in the parliamentary session, as it received support so emphatic from the Ministry of Health, and as it was definitely opposed by one Socialist member only on grounds of pure individualism, it is to be presumed that its further progress will be facilitated by the Government, and that it will become an Act of Parliament before the session closes. In view, however, of what happened to its immediate predecessor it would be well for those who regard this consummation as of great importance —and the medical profession is included among these —*not yet to relax their efforts, but to urge members of* Parliament whom they can influence to give the bill active and continued support.

The bill proposes to amend previous enactments relating to mental defectives in three main ways. The first of these is by a change of definition. Hitherto there has been no legal definition of mental defectiveness; there have been merely definitions of certain classes of mentally defective persons. In the Act of 1913 each of these definitions included the statement that the mental defect must have existed "from birth or from an early age." Experience has shown the necessity for getting rid of these words on two grounds. On the one hand, there have been a considerable number of cases in which, though the mental deficiency was undoubted, and though to an expert investigator it was evident that the condition was congenital, it was impossible to produce actual evidence that the condition existed in the earliest years of life, since nothing was known of those years. In these circumstances magistrates have felt themselves unable to take action, and doctors have hesitated to certify. On the other hand, there are certain causes arising at a somewhat later age, such as the occurrence of encephalitis lethargica or of a severe head injury, which may produce an arrest of mental development, making it highly desirable that administrative or educational action should be taken on the same lines as though the condition were congenital. The definition now proposed will get rid of both of these difficulties. The classes of mentally defective persons (idiots, imbeciles, feeble-minded persons, and moral defectives) are differentiated as hitherto; but it is provided that "mental defectiveness" shall mean "a condition of arrested or incomplete development of mind existing before the age of 18 years, whether arising from inherent causes or induced by disease or injury." The introduction of a precise age limit into the definition is not scientific, and the medical profession would probably prefer a phrase of less rigid meaning, but its practical convenience for magistrates and administrators, and the fact that it will curiously satisfy a few parliamentary objectors, are held to outweigh any more theoretical disadvantages. A warning should be given, however, against any attempt to raise the prescribed age in Committee. Even if a few cases of real mental defectiveness should escape, it is essential not to include cases of unsoundness of mind which are of a different character, and which should be dealt with under the lunacy laws.

The second principal way in which the bill proposes to amend previous Acts is by a slight but important extension of the categories of defective persons who may be dealt with. In addition to defectives who are habitual drunkards, or who have given birth to an illegitimate child while in receipt of Poor Law relief, or who have been found guilty of a criminal offence or sent to a reformatory or industrial school, a defective can, under the present law, receive the protection of the Act of 1913 only if he be "found neglected, abandoned, or without visible means of support, or cruelly treated." Experience has shown that these restrictions tell very hardly on, for example, the poor mother of a mentally defective child (under 7 or over 16 years of age, and not notified by an education authority) for whom she is anxious to secure the treatment and training that can be obtained only in a properly equipped and staffed institution. Such a mother who has been giving her child all the devoted attention possible in her circumstances naturally resents having to plead "neglect," even though, in one sense, the child is neglected in that he is not receiving the care, training, and attention for which his or her condition calls. It is now proposed to add to the subsection above quoted the words, "or not under proper care or control." This addition will meet a class of case in which difficulty has been experienced.

The third main amendment proposed by the bill is to extend the methods by which certain classes of mentally defective persons may be dealt with. There are three such methods: (1) sending to an institution; (2) placing under guardianship; (3) supervision. At present children who have been educated as far as possible in a special school or class may, on or before attaining the age of 16 years, be notified by the education authority to the authority under the Mental Deficiency Act as needing guardianship or institutional care, but not as requiring supervision merely. There is a considerable proportion of higher grade defectives who can, with a varying amount of skilled supervision, safely be left in the care of their parents or employers and who do not need any more restrictive procedure. For such cases no legal supervision is now provided, and often, through its neglect, they become socially as well as mentally defective. The new bill proposes to remedy this omission.

All these alterations of the law are obviously reasonable in themselves and have been shown by experience to be really necessary. A large amount of thought, time, and care is being given by many persons in the most devoted and kindly way to supplying the needs of this peculiarly unfortunate class of mental defectives. The defectives themselves are found to be not only more useful and more largely self-supporting, but also much happier when they feel themselves protected in one or other of the ways that the law provides; and there need be no fear, even on the part of the most

suspicious, that as a result of the proposed amendments there will be any tendency to deprive any persons of the liberty they should enjoy.

CANCER STATISTICS.

STATISTICS are made use of almost universally as an adjunct to medical investigation and research by experiment; there is no question of their utility in this connexion. When, however, they are made to replace experiment as a mode of investigation they are apt to acquire discredit if the principles governing their use are not strictly observed. In the solution of simple problems, such as the death rate per thousand of the total population, there is not much danger of going astray; but where complex problems are concerned, such as the influence of heredity in cancer, the alleged increase in its occurrence in recent years, and the influence of civilization as an etiological factor, more is often demanded of statistics than they can reasonably be expected to perform. It is not always realized that the conditions in a statistical problem need to be as carefully thought out as in an experimental problem.

The degree of reliance to be placed on statistics as at present employed forms the subject of an interesting paper in the *Journal of the American Medical Association* by Dr. Gideon Wells, entitled "Cancer statistics as they appear to a pathologist." He shows, in the first place, that statistics often give different answers to a plain question—for example, What is the commonest site of carcinoma in women? The statistics of the Middlesex Hospital give the breast as the commonest site; the Huntingdon Hospital, Boston, gives the skin; and the author's autopsy records from the Cook County Hospital give the stomach. It is by no means infrequent to find statistics applied in this manner, the data employed consisting neither of totals nor of fair samples of totals, and the deductions being made with a fine disregard of logic. Such misapplications as these are to be referred to an ignorance of statistical science rather than to any defect in the science itself. The ordinary methods of applying the general vital statistics to the solution of cancer problems are unreliable. Here the question of diagnosis comes into prominence, and this, added to the fact that the data employed cannot possibly be homogeneous, is a fruitful source of false deductions. In many cases no *post-mortem* examination has been made, and where this is so a considerable margin of error needs to be allowed for. Dr. Wells cites figures which give some idea of the possible extent of error that may arise from this cause. In his own hospital, out of 545 malignant growths, 367 were correctly and 178 wrongly diagnosed; Bashford's statistics from a number of London hospitals showed an error amounting to 112 in 396 cases; Reichelmann reported 156 errors in 711 cases in a Berlin hospital, and similar results have been reported from Budapest, Poland, Jena, and elsewhere. In addition many cases were diagnosed as cancer where it did not exist. Although Dr. Wells goes fully into the matter, it hardly seems necessary to inquire whether there is likely to be any considerable error in connexion with statistics based on death certificates instead of *post-mortem* examinations; if these things are done in the green tree, what shall be done in the dry?

Turning to the influence of heredity in cancer, the author states that existing statistics are worthless. The information obtainable from patients varies greatly with the circumstances. If a patient seeks advice for what he knows to be cancer, it is probable that he will have made full inquiries as to the occurrence of the disease in his family; whereas if he is suffering from some other disease, such as peritonitis, the family history will not have interested him. Another inherent source of error is the fact that a certain proportion of the patients will develop cancer at some later date, and yet they are used as non-cancer material. Further, if we attempt to work out the heredity of cancer with statistical material, using Mendelian principles, we find that this is impossible, for a single error of diagnosis might invalidate an entire family record, and there are probably no existing families with complete necropsy records of all deceased members for any considerable periods.

On the whole, statistics agree in indicating that cancer has been increasing in frequency in recent years, but the significance of the fact is not yet agreed on. As the average duration of life increases and infant mortality decreases, and as diseases such as typhoid fever and diphtheria become eliminated, it would seem safe to assume that the number of candidates for cancer must increase. A high crude cancer death rate may therefore be evidence of a good state of public health. Again, with an increasing accuracy of diagnosis many more cases of internal cancer should find their way into the records than heretofore. Reasons such as these may seem sufficient to account for an increased frequency of the disease. Yet the problem is not so simple as at first appears. No tendency to increased frequency has been reported by observers who have selected for consideration only the external cancers, which are unlikely to be incorrectly diagnosed. Willcox found that the cancer increase in Frankfort for the period 1860-1913 was limited to inaccessible growths, and similar reports come from Stuttgart, Berlin, Hamburg, and Great Britain.

Dr. Wells is no less sceptical of the value of statistics in reference to the influence of civilization and the supposed increase of cancer in primitive peoples when they come in contact with modern civilization; and he sums up his reflections on the whole subject in the following terms: "After thinking about what the figures may mean, and what they really mean, and what others think they mean, I find myself unable to accept anything about cancer as finally established by statistics." One conclusion to be drawn from his investigations is that there must be a sad ignorance of the science of statistics and of its proper mode of application.

LISTER CENTENARY IN LONDON

IN our issue of March 5th (p. 437) we announced the arrangements made for celebrating in London the centenary of the birth of Lord Lister, which falls on Tuesday, April 5th next. At the reception of delegates by the Prime Minister, which will take place at 11.30 a.m. that day in the Great Hall of the British Medical Association House, there will be a considerable number of seats available for members of the medical profession and for the general public. Members desiring tickets for themselves and friends are requested to make immediate application by letter to the Financial Secretary, B.M.A. House, Tavistock Square, W.C.1. Tickets are available also for reserved seats at the ceremony in Westminster Abbey on the morning of April 6th. The arrangements made for the celebrations by the London committee are summarized in a time-table printed in the SUPPLEMENT at page 104, where information about academic dress will be found.

FRENCH EXPERIMENTAL WORK ON TUBERCULOSIS.

IT would appear that more experimental work in tuberculosis is being done in France than in England, and the results of several such researches have been reported to recent meetings of the Académie de Médecine of Paris. Perhaps the apparent difference between the two countries is due to tuberculosis being a more serious disease in France; or perhaps the enthusiasm of Calmette stimulates other workers. Dr. Vaudremer recently presented a report on some further researches undertaken by himself and Drs. Puthomme and Paulin on the development of the tubercle bacillus. The experiments consisted in cultivating on gelatin tubercle bacilli which had been submitted previously to the action of substances elaborated by the *Aspergillus fumigatus*. They claim to have proved as long ago as 1910 that the growth of this fungus will destroy the greater part of a culture of tubercle bacilli in glycerinated broth, and with it the tuberculin. The recent experiments showed that in cultures of tubercle bacilli exposed for a few days to the products of the growth of the aspergillus there appeared, among masses of acid-resisting organisms, a number of granules, and of bacilli with a terminal granule, which had lost the resistance to acid and were colourable by methylene blue. The granules resembled in appearance Gram-staining meningococci. Ultimately the typical bacilli in the culture completely disappeared, and were replaced by zoogloeal masses of cyanophile granules. Shortly after the appearance of these masses the culture medium became cloudy; and at this point it was possible to make fresh cultures of the granules on a gelatin medium. With successive cultures the granules assumed the form of a cyanophile, granuliferous matting similar to that described by Bezançon and Philibert. The cultures on gelatin appeared to die quickly; but if kept for some months resuscitation occurred, and amidst cyanophile granules and acid-resisting granules typical bacilli were found. In the same preparation it was possible to follow the passage from the ordinary granule to the classic bacillus of Koch. None of the elements grown in aspergillus fluid or on gelatin produced tuberculosis in guinea-pigs. To render them virulent it was necessary to grow them in a medium of animal origin, such as glycerinated ox serum. They would then kill guinea-pigs in eight days. If, however, the gelatin cultures were killed by heat, they conferred, when subcutaneously injected into guinea-pigs, a marked resistance to tuberculosis, lasting at least fifteen months. As a result of these experiments tubercle cultures simply modified by aspergillus fluids were at first used therapeutically on patients at the surgical clinic of the Salpêtrière under Professor Gosset. The treatment was applied in 128 cases of surgical tuberculosis, and 85 were followed up. The best results were obtained in osteitis of small bones, in adenitis, epididymitis, and peritonitis. The treatment was less effective in hip disease and in aged persons. Subsequently cultures on gelatin from the aspergillus fluid were used, and 260 patients were treated by this method, which gave better results, over 75 per cent. being cured, as compared with 48 per cent. under the first method.

HISTORY OF MEDICINE.

THE Section of the History of Medicine of the Royal Society of Medicine held its last ordinary meeting of the session on March 16th, when four communications on widely different subjects were made. The first was a paper by Sir D'Arcy Power on the place of Tudor surgeons in English literature, which Dr. Kenneth Hay read for him in his absence. This showed by examples how faithfully the English surgical writers of the sixteenth century reflected the changing character of the nation during the renascence i[illegible] of printing into this country. The love of nature and of the open air characteristic of the period revealed itself in the opening passages of Thomas Gale's *Institution of a Surgeon*, and in extracts from William Bullen's *Dialogue Against the Fever Pestilence*. Another good example of contemporary literary style was that of William Clowes, writing on the subject of syphilis. That Master Clowes could speak his mind very plainly when the occasion called for it was shown in a paragraph of invective against the deplorable state into which English surgery had fallen in his day. This generation of surgeons—Hall, Gale, Clowes, and Read—tried an experiment which began and ended with them, and happily failed; they essayed to write in verse, and the lines quoted by Sir D'Arcy Power proclaimed them pretty bad versifiers. But the prose passages went far to substantiate his claim that the Elizabethan surgeons had a definite place in English literature at a time when our written language was being moulded ready for the hand of Shakespeare and the translators of the Authorized Version. Dr. Charles Singer next introduced to the Section a record, compiled with great pains by Professor E. Morpurgo of Padua, of the many English physicians who studied in the Collegio Veneto Artista of the University of Padua between 1617 and 1771. Greater than any of these names, however, is that of William Harvey, who received his doctorate at Padua in 1602; the illuminated diploma is one of the treasures of the Royal College of Physicians of London. Dr. Singer then showed some photographs of a recently discovered example of the Egyptian god Bes, giving in detail his reasons for thinking that the original of this grotesque image suffered from spina bifida. Lastly, Dr. Herbert Spencer showed the very rare book, Wolveridge's *Speculum Matricis*, printed in 1671, together with two manuscript copies in the society's library—one of them beautifully written and illustrated with loving care. Dr. Spencer traced this book to a much earlier work, and told how Wolveridge's manual for midwives was itself plagiarized later under another name.

WILD RODENTS AND PLAGUE.

AMONG the communications submitted to the Standing Committee of the Office International d'Hygiène Publique at its recent meeting in Paris is one which treats of the increasing activities of wild rodents as agents in the transmission of plague. There are places in Asia, Africa, and America where rat plague, originally brought to the coast on shipboard, has made its way inland, infected indigenous wild rodents, and so established itself as a settled enzoötic in tracts previously immune. In each locality a few species only are the constant reservoirs of infection. Among them are the marmot, *Arctomys bobac*, in the north-east of Asia, the gerbille, *Tateroma lobengulae*, in South Africa, the sousliks in South-West Russia, and the *ground squirrels* in California. As a class they are trapped or shot with a view to the protection of crops or for their own intrinsic value, and those who pick up or handle their carcasses may contract plague from the fleas. Field-mice, such as *Rattus coucha* and *Arvicanthis pumilio*, serve as intermediary channels of infection, bringing the disease with them from the open country into the dwellings of man. Among the fleas implicated are *Ceratophyllus silanticri* and *Neopsylla setosa*. In these areas the common rat, for once, seems comparatively blameless. It is true that he started the enzoötic at first, but having done this he does not himself, under these conditions, pass plague on to man. Plague in wild rodents shows a tendency to visceral, and especially pulmonary, involvement. It is remarked that in hibernating rodents infection may remain localized during hibernation, awakening to activity at the close of the winter sleep. Plague in man contracted from [illegible] rather apt to assume the pneumonic form;

such cases may or may not be preceded by cases of the bubonic type. The attempt has been made to extinguish enzoötic plague by exterminating the peccant rodents. This has proved a formidable and costly task. Short of wholesale destruction, however, some good may be done by local repression. Clear zones are established round inhabited places as buffers against the wild. Rodents are kept down in these zones by the use of poison bait, poison gas, and explosives, or by turning to account their natural enemies, such as carnivores, birds, and snakes. With regard to marmots, there is the special point that marmot-catching is a lucrative business which those engaged in it are unwilling to abandon. It is recommended that it should be scheduled as a dangerous trade, and governed by regulations for the protection of workers.

NATIONAL HEALTH INSURANCE STATISTICS.

THE statistical review of national health insurance given by Sir Alfred Watson, the Government Actuary, to the Royal Statistical Society, and reported in the SUPPLEMENT of last week (p. 94), shows the vast extent and some of the many complications of the scheme of insurance. His figures are not only interesting in themselves, but have an important bearing on all proposals for the extension of the medical services. The accumulated funds now reach a total of £120,000,000, a sum which, as the Royal Commission recommended and as we have previously noted, should be sufficient for those extensions of medical, maternity, and laboratory services which are urgently required. The total number of insured persons is given at about 15,600,000. It is interesting to note that between 1919 and 1923 some 5,263,000 persons entered insurance, that the numbers of men and women were almost equal, and that 60 per cent. of them came in at the age of 16 years. With entrants in such numbers compulsorily secured, the scheme can scarcely be held to require any overloaded reserve fund. During the same period some 3,000,000 women left insurance, more than 800,000 on marriage, and the remainder apparently mainly because their resort to industrial employment was only temporary. Of the 1,800,000 men who went out, it is concluded that the great majority of those over 35 years of age did so by reason of their taking up forms of occupation other than employment. It would, however, be valuable to be told, if possible, how many of these, both men and women, were clerical workers who left insurance by reason of their salary rising above £250 a year. Such information has never, we believe, been forthcoming. The statistics of sickness benefit relate, first, to the numbers claiming such benefit, and secondly, to the average duration of incapacity. Under the former heading experience among men and among unmarried women is eminently satisfactory, and that among married women only less so. A marked improvement in the health of the community seems to be indicated, the "rate of sickness" being on the average 20 per cent. less than the experience of the Manchester Unity of Oddfellows in the years 1895-97, on which, it will be remembered, the actuarial calculations for the national scheme were based. Figures with regard to the duration of incapacity, more particularly among women, are not so good. This duration in the case of married women claimants averaged eight and three-quarter weeks. This is a very high figure, and seems to call for some explanation. One conclusion which it seems possible to draw from the combined figures is that the opportunity to work is one of the best preventives of incapacity to do so. Among women the sum drawn in the war years 1916-17 was less than two-thirds that drawn in 1913-14, and since the war these claims have again risen, till they are now approaching the level of the earlier period. Disablement benefit has, of course, been an increasing quantity as the insurance scheme has grown to maturity. It is estimated that there are now about 200,000 persons permanently disabled and drawing benefit from approved societies. Altogether, it seems to be established that the effects on national health are beneficial, that the financial position is satisfactory, and that there is every reason why those improvements of the service which have been advocated by the medical profession and others, and endorsed by the Royal Commission, should be proceeded with without undue delay. Some further discussion of Sir Alfred Watson's paper, by a well informed correspondent, will be found at page 589.

HOSPITAL DIFFICULTIES IN CHINA.

FAILURE on the part of the Southern Government of China to appreciate the essential lines on which modern hospitals must be conducted has compelled the board of directors of the J. G. Kerr Hospital for the Insane in Canton to close that institution. We referred on February 26th (p. 392) to the dispute between this hospital and the local labour union, and mentioned that the Cantonese Government had expressed a certain amount of sympathy with the hospital. It has now, however, issued a series of regulations for the administration of all hospitals in China, whether Chinese or Western, public or private; the terms of these, though less absurd than those suggested by the labour union, are of such a nature as to render continuance of hospital work impossible. The fact that many of these hospitals are almost wholly supported by the charity of subscribers outside China is ungratefully ignored, and the hospitals are henceforth to be compelled to accept the additional liability of treating all their sick employees until well without deduction from wages. In the event of the death of an employee who has served for more than a year, the hospital must pay the relatives the equivalent of six months' wages; hospitals for contagious diseases are similarly liable for twelve months' wages, while if the worker has been employed for more than six years the grant must be larger: "the amount to be discussed at the time," though by whom is not revealed. Hospitals are permitted to engage their employees as they please, but must then compel them to join the local labour union. If the dismissal of any employee causes trouble among the workers the Government will establish a court of arbitration, during whose deliberations no employee of the hospital may be dismissed for any reason, however protracted the proceedings of the court may be. Picketing is forbidden, and more or less suitable arrangements for public holidays are defined, but, since it is stated that these regulations can be "amended" at any time by the officials, any element of security would appear to be lacking. Dr. James Maxwell, who is secretary of the China Medical Association, has sent us a reprint of these regulations, which were published in the *South China Morning Post*. He states that the executive committee of the China Medical Association is advising its members to close their hospitals where these regulations are to be put into force. He adds that joint action is likely to be taken by the Chinese National Association and the China Medical Association to impress on the Southern Government the gravity of the situation thus created, with a view to obtaining the withdrawal of these regulations.

THALLIUM.

AT the meeting of the Section of Dermatology of the Royal Society of Medicine on March 17th Professor W. E. Dixon gave some results of experiments on the pharmacology of thallium carried out under his charge by Dr. J. H. Wadia. Thallium exerts the remarkable action of causing a loss of hair and general alopecia in all animals. On the other hand, if skin areas of animals are shaved, thallium induces a rapid growth of hair in these parts compared with control animals. Histologically the interruption in the normal

growth of the hair in animals treated with thallium appears to depend on a failure of the normal process of transition from the large polygonal epithelial cells of the hair bulb to the horny scales of the hair. Thallium rubbed into the skin with oil or alcohol is readily absorbed, but exerts no action on the skin until after absorption; it has no local action. It exerts no action of moment on the vessels of the skin, and although it can be found in almost every tissue of the body after absorption, the skin is an exception; so that its action, unlike that of arsenic, cannot be a local action on the skin. One other most remarkable feature of thallium is its effect on the autonomic nervous system. The whole autonomic system becomes more sensitive, so that electrical stimulation of nerves produces an exaggerated response. This is most marked on the sympathetic portion of the autonomic system. Professor Dixon suggested that this was the explanation of the increased growth of hair or alopecia which supervened with thallium therapy. He compared the action with ordinary alopecia, and gave some reasons for believing that such alopecia also was due to some abnormal functioning of the autonomic system. In view of the action of thallium on the suprarenal gland, which is so closely associated with the sympathetic system, he suggested that suprarenal therapy might be worth trying by dermatologists in certain cases of alopecia.

REST PAUSES IN HEAVY WORK.

THE Industrial Fatigue Research Board is accumulating valuable information on the occurrence and effect of rest pauses in various forms of work. Until recently the investigations were concerned for the most part with light repetitive occupations; the latest report to the Board by Dr. H. M. Vernon and Mr. T. Bedford, assisted by Mr. C. G. Warner, deals with "Rest pauses in heavy and moderately heavy industrial work" (H.M. Stationery Office, 9d. net). Rest pauses, unless arranged as part of the routine of a factory, may be either voluntary or involuntary, the latter being due to such causes as lack of material, the intervention of other workers in removing accumulated products, and so on. Voluntary rest pauses in light repetitive work occur generally as the result of boredom and monotony rather than from fatigue. But in heavy muscular effort the pauses are literally rests, and serve for recovery from physiological fatigue. The occupations investigated by Dr. Vernon and his colleagues ranged from moderately heavy work in agriculture, road-making, dock labour in unloading, and bootmaking, to pitch loading, coal mining, and, heaviest work of all those investigated, tinplate rolling. The rest pauses of the agricultural labourer, who plods his weary way in solitude, are naturally all voluntary. The ploughman pauses at the end of each furrow, and in this way consumes 14.6 minutes in each hour of work. In the lighter work of harrowing or rolling the rests average 8.1 minutes an hour, and are not taken with the same regularity as in ploughing. In many occupations the voluntary rest pauses are strikingly similar, and amount to about 11 minutes an hour. But in tinplate rolling the various processes involve a very large amount of involuntary pause, with the result that, while the voluntary rest pauses of the different workers employed are about 7 minutes, the involuntary pauses range from 7 to 23 minutes in each hour. The observers were surprised at the similarity of habit in rest pauses spontaneously adopted by groups of men employed in widely different occupations. They found that in the moderately heavy processes of bootmaking there was no sign of fatigue in the afternoon. They discovered that in pitch loading, in which payment at piece rate is an inducement to work, the men rested for about half their time, but undoubtedly put in a very hard day's work; and in coal getting they concluded that the most advantageous rest was one which lasted less than a minute, and that the involuntary rests forced on miners were unnecessarily long, and, as relief to fatigue, were wasted. The observers regarded this demonstration of the ineffectiveness of involuntary rests as the most important practical conclusion of their report. At the same time, the varied nature of the collier's work would make it quite impracticable to devise for them an artificial scheme of rest pauses.

THE SHORTCOMINGS OF THE PARENT.

"AND only parents' love," says Browning, "can last our lives." But the complaint of the psychologist seems to be that parents' love is too lasting, too masterful and overwhelming. The address given by Dr. J. R. Rees at the Child Study Society on March 17th was virtually a plea for a more detached attitude on the part of parents to their children. Parental errors, arising, not from neglect, but from fussiness combined with ignorance, accounted, said Dr. Rees, for numerous problems concerning the individual in after-life. It was extraordinarily difficult to convince parents that to bring up a child required much learning, a capacity for self-effacement, and the acceptance of a whole-time job. Parenthood was taken for granted, and though the terminology of the parental function and duty had been modernized, the old methods and mistakes were perpetuated. The grosser mistakes of spoiling were obvious. The foundation of hysteria in later life was often laid by the parent who took up the infant every time it cried, so that the child came to think there was something magical in a howl which secured for it immediate attention. The vast number of people who were afflicted with self-consciousness had most likely been placed on a pedestal by their parents, unduly praised to their faces, and presently, having been knocked off the pedestal by an unfeeling world, suffered from a sense of inferiority, and were perpetually striving to regain their former elevation. Dr. Rees said that the number of children afflicted with "nerves" was extraordinary, as was the number of parents who were actually proud of the fact that their children were highly strung, thinking that to have "nerves" was rather distinguished and interesting. These parents never realized that they were condemning themselves, and that the nervous child was no more a subject for pride than the lying or thieving child, and was very often the result of parental mishandling. In nine cases out of ten it was not the child, but the parent, who should be punished. Dr. Rees pleaded for a closer co-operation between parent and teacher. Part of the teacher's job was to understand the parent. He hardly ever met a teacher without hearing an exclamation about the "awfulness" of parents, nor a psychotherapist without a similar tale, generally more emphatically told. There should be conferences between parent and teacher over the child, and in really difficult cases the doctor or the psychologist might be brought in. Dr. Rees went on to say that the art of parenthood depended to a great extent on the art of being married. There could be no successful parenthood without successful marriage. Many "difficult" children came from homes where parents did not understand each other, where the conjugal adjustment had never been made, and thus no progressive atmosphere was created. To his mind the conjugal was more important than the parental side of marriage, if only because the former lasted throughout life, whereas the parental function ceased when the children went out into the world and got homes of their own. The conjugal side mattered more than the parental, except perhaps during the months of pregnancy and of nursing the child, yet many women had the idea that being married was an incident only, and that mothering was the really important thing. Women had a difficult time over this problem, and few solved it. He believed that a good

deal of morning vomiting during pregnancy and other upsets was due to interior conflict over the adjustment of the parental and conjugal relations. Too often the mother became over-identified with her children—had them, so to speak, always on her own wave-length. The father did not come into the picture until the child was about 4, at which age the jealousy complex arose in the child, with efforts to detach one parent from the other, and this was likely to be successful where there was uneven discipline, where the parents failed to back each other up, and where there was competition for the child's favour. Parents, again, often made the mistake of not respecting their children enough. They looked upon them as others looked on a Pekinese dog, talked silly language with the idea of keeping the child young, failed to realize that the child was a logical little being, with thought processes as reasonable as their own. Parents often thought of a child, not as a prospective citizen committed to their charge, but as a possession which they had a right to manipulate and push about. If a parent resorted to disciplinary measures he should make it plain to the child that these were not imposed because he was offended and happened to be stronger and older, but because the social demand and responsibility had been infringed, and he, the parent, was the person who, for the time being, had to interpret this to the child. Much ill was wrought by parents who fussed and nagged their children, kept control over them in small matters, and refused to allow them to adventure, simply because they were not prepared to see their offspring make mistakes. Upon sex, too, they often looked as a narrow thing, a physiological process merely, instead of teaching their children that it was a large and splendid thing. Sex education, he considered, was not a job for the schools, though instruction in biology might be given there, but a job for the home. Sir John Cockburn, M.D., the president of the Child Study Society, who was in the chair, remarked upon the tendency he had observed for those brought up under strict parental discipline to be indulgent when they became parents themselves, and for their children in their turn to revert to an attitude of strictness; hence the frequent disharmony, of which the child took advantage, between parental and grandparental rule.

GLASS FRAGMENTS IN FOODSTUFFS.

IT may be gathered from a report just published by the Ministry of Health[1] that we may eat glass with impunity, and that famous mediaeval poisoners used powdered glass merely as a vehicle for the conveyance of more deadly things. Apparently public analysts were perturbed by the discovery of particles of glass in foods and drinks put up in glass containers. The Ministry, therefore, instructed Dr. G. C. Hancock to carry out an investigation; and he has now reported on the "Occurrence of glass fragments in foods packed in glass containers." Public analysts, it appears, have found glass in beer, mineral water, marmalade, jams, potted meats, and numerous other foods. In some cases such particles were found in 72 per cent. of the articles examined. Generally the particles were only 1/1000 or 1/2000 of an inch in size, but fragments as large as a quarter of an inch were sometimes found in jam. Did the glass come from the container? Dr. Hancock is not very clear on this point. Most food manufacturers, it appears, are well aware of the value of good glass, and for their own protection seek to avoid the possibility of contamination by broken bottles. The process of manufacture of cheap hand-made glass may leave splinters or fragments in the container. But most glass containers are now made by semi-automatic or completely automatic processes. "Returned empties" may have chipped and jagged rims; but measures are usually taken to eliminate such containers, and some firms use only new bottles or jars. Moreover, in some of the samples examined by Mr. Munro, an analytical chemist, the refractive index, tested with benzine, was found to differ from the refractive index of the glass container. It is suggested, therefore, in the report, that the dust in factories, with its particles of slag, which has all the properties of true glass, may be a source of contamination. And fruit on its way to the jam factory is bound to pick up a large quantity of dust. For the purposes of Dr. Hancock's investigation a series of microphotographs was prepared by Dr. Monier-Williams. These show how glass particles may be differentiated from other siliceous material by means of polarized light. The microphotographs are reproduced at the end of the report; and the chunks of old red sandstone, glass, and other residue to be found in salmon and shrimp and anchovy pastes will shock the consumer of these delicacies. However, it is gratifying to learn from Dr. Hancock that, even if glass is an undesirable ingredient of food, there is little, if any, evidence that in powdered or microscopic form it has any injurious effect. As confirmatory evidence Dr. Hancock quotes the case of the young negro who ate half a dozen test tubes, two good sized lamp chimneys, a 4-oz. medicine bottle, two pieces of window glass, and three strips of coloured glass one inch wide and three inches long! The story will perhaps console those who expected something both definite and sensational in a report on this subject.

[1] Ministry of Health. Reports on Public Health and Medical Subjects. No. 37. London: H.M. Stationery Office. 1927. 1s. net.

AN ANATOMICAL CONGRESS IN LONDON.

THE French Association des Anatomistes has arranged to hold its meeting in London on April 11th to 13th in association with the Anatomical Society of Great Britain and Ireland. The meeting will be held at University College, and about 150 members of the two societies are expected; as the French society includes anatomists from Belgium, Italy, Holland, Switzerland, Spain, Portugal, Poland, and Czecho-Slovakia, the congress promises to be of an international character, and the first of its kind held in Great Britain. On the evening of April 11th a conversazione will be held at University College, and on the following evening a reception at the Wellcome Historical Medical Museum. On April 13th there will be a dinner at King's College. Arrangements have been made for the members of the congress to visit Cambridge as the guests of Professor Wilson. During the congress a trade exhibition dealing with scientific appliances and other technical equipment for anatomical study will be held.

THE HUME-SPRY CASE.

WE conclude this week at page 600 our summarized report of the action brought by Mr. Hume-Spry against Dr. R. Percy Smith and Dr. A. H. Watson for damages for their alleged negligence in certifying him as insane. The case occupied fifteen days in the King's Bench Division before Mr. Justice McCardie and a special jury, and, as most people who followed the proceedings at all closely had anticipated, it ended in a verdict for the defendants, with costs. The jury, in fact, by their action in stopping the case after a patient hearing, clearly intimated their opinion, not only that the two defendants, Dr. Percy Smith and Dr. Watson, had acted *bona fide* and with reasonable care in certifying the plaintiff, but also that the insinuations which the plaintiff had instructed his counsel to make were wholly without foundation. The judge's own view of the plaintiff's evidence is clear from his remark to the effect that the documents in the case would be held at the disposal of the Director of Public Prosecutions. We congratulate Dr. Percy Smith and Dr. Watson on the outcome of their protracted ordeal. Our comments on other aspects of the case must be deferred to a later issue.

THE AUSTRALASIAN MEDICAL CONGRESS
OF THE
BRITISH MEDICAL ASSOCIATION,
DUNEDIN, NEW ZEALAND.

INAUGURAL CEREMONIES.

THE second Australasian Medical Congress of the British Medical Association was held in Dunedin from February 3rd to 10th. The first, it may be remembered, was held in Melbourne in November, 1923.* The proceedings at Dunedin took place in the Medical School Buildings, King Street, while demonstrations of cases and operations were given in the Dunedin Hospital immediately opposite, and in the new Dental School close by. The session was a great success from every point of view. Nearly 600 members of the medical profession were in attendance, representing every State of Australia and New Zealand; and there were present, in addition, Dr. Cooper Pattin, accredited representative of the British Medical Association in the British Isles, and Dr. George Piness of Los Angeles, medical representative of the United States of America. The meeting of the Congress in Dunedin—the first since 1896—roused great interest, more especially as the University of Otago with its medical school is the centre of medical education in New Zealand; visiting members spoke very highly of the warmth of their reception, and of the boundless hospitality shown to them.

OPENING OF NEW MEDICAL SCHOOL BLOCK.

The Medical School Buildings, in which most of the proceedings were located, consist of two blocks. The latter and larger of these is a new structure, just completed in time for the opening of the Congress. The opening ceremonies on February 2nd formed, therefore, a highly appropriate preliminary to the Congress proceedings. The formal ceremony was performed by the Acting Premier, the Hon. W. Downie Stewart, in presence of the Chancellor of the Otago University, Mr. T. K. Sidey, M.P., and a large gathering of members of the University Council and staff and of Dunedin citizens, together with a number of visiting members of the Medical Congress.

The CHANCELLOR, who presided, expressed his pleasure at the presence of several oversea members of the Congress, and on behalf of the University tendered a hearty welcome to them. The first steps, he said, towards the establishment of a medical school in connexion with the University of Otago were taken in 1872; but for a considerable time after its foundation the school had provided only for a portion of the degree course, the students having to go to Britain to complete their medical training. It was not till 1883 that the complete medical course was provided, and the first medical student graduated in 1887. Since then the number of medical graduates had risen to 667, apart from a considerable number of graduates of other universities who had taken part of their course in Otago. During its early years the school had been financed almost wholly by provincial funds and private donations, but its rapid growth had compelled the University Council to seek Government assistance. He thanked the Government for having rendered possible the construction of the much-needed new building, and the completion of the medical scheme which brought all the departments of the school to one centre, in close proximity to the clinical material of the hospital.

The ACTING PREMIER, in declaring the school open, and in congratulating the University and the city on the fine building just erected, referred to the great interest taken by the city of Dunedin and the province of Otago in the Medical School since its foundation, as shown in the practical financial support that had always been forthcoming. The present building was the result of unceasing efforts and long negotiations of the University Council with the Government. Mr. Stewart spoke also of the unquenchable enthusiasm with which the Dean of the Medical Faculty, Sir H. Lindo Ferguson, had striven for the advancement of the school. "I congratulate the Medical Faculty," said Mr. Stewart, "which is now housed in ample space for effectively and properly educating the students in medicine. In my opinion, no profession is better warranted in that direction than the medical profession. In the earliest days, when this school was struggling into existence and towards further success, the leading medical men of Dunedin put their medical services without reserve at the council's disposal for the purpose of assisting the students by personal and voluntary services. In that respect they were a shining example to other professions in New Zealand."

Speeches were also delivered by the DEAN of the Medical Faculty and by Dr. L. E. BARNETT, President of the Australasian Medical Congress.

The new building is a commodious and imposing structure of three floors and a basement, and is connected with the older block by a passage-way on the first floor. Its construction enables the departments of anatomy and physiology, which had hitherto been located in the University Buildings in Leith Street, and which, in spite of several extensions, had outgrown their old quarters, to be grouped alongside the other medical departments in one centre opposite the hospital. The sub-departments of histology, biochemistry, and pharmacology are also provided for. The greater part of the second and third floors is devoted to anatomy, with dissecting-room, lecture-rooms, museum, library, and professors' and demonstrators' rooms. The first floor is allocated to physiology, the chief rooms being those for junior physiological chemistry, with a chemical preparation room adjoining, two lecture-rooms, rooms for advanced physiological chemistry, gas analysis, food analysis, library, tutorial work, and research.

The ground floor has an imposing entrance and stair hall, in which a prominent figure is the bronze bust of Lister which had been on view at the recent New Zealand and South Seas Exhibition, and which was presented to the school by Mr. Edmond Andscombe, the exhibition and university architect. On this floor are placed the general offices, waiting-rooms, men's and women's common-rooms, junior experimental room, experimental demonstration room, experimental research rooms, preparation room, rooms for experimental physiology, and rooms for the professors of medicine, clinical medicine, and surgery.

The basement extends over the whole area. The anatomy section accommodates the mortuary, workshop, storage tank, refrigerating chamber and plant, bone room, and modeller's room. The physiology part contains the animal room, rooms for vitamin and nutrition work, electrocardiograph and x-ray room.

The whole building is heated by low-pressure steam and lighted by electricity. The cost of the building alone was £110,000.

INAUGURAL CEREMONY.

The inaugural meeting of the Congress, held on Thursday evening, February 3rd, in the Early Settlers' Hall, was one of the most brilliant and impressive functions which Dunedin has known for many years. The entrance to the hall was specially illuminated with a brilliant electric sign bearing the word "Welcome," and the interior was decorated with draped flags, with massed foliage and flowers on the platform, while the entrance halls were embowered in New Zealand ferns and greenery.

* BRITISH MEDICAL JOURNAL, 1924, vol. i, pp. 30, 71, 125, 165, 201, 340.

On the platform were the Hon. S. S. Argyle, Dr. George Piness (Los Angeles), Dr. J. Macmillan Brown (Chancellor of the New Zealand University), Dr. F. Antill Pockley, the Hon. W. Downie Stewart (Acting Premier of New Zealand), Dr. L. E. Barnett (President of Congress), Sir George Syme (retiring President), the Hon. J. A. Young (Minister of Health), Dr. A. C. Purchas, Mr. T. K. Sidey, M.P. (Chancellor of the Otago University), Dr. H. Cooper Pattin (Norwich), Mr. H. L. Tapley (Mayor of Dunedin), Mr. H. S. Newland, Dr. R. H. Pulleine, Dr. R. Wade, Mr. B. Kilvington, Dr. Dunbar Hooper, Sir H. Lindo Ferguson (Dean of the Medical Faculty), Dr. Jefferis Turner, Dr. T. A. Valintine (Director-General of Health, New Zealand), Dr. A. M. Morgan, Dr. A. L. Kenny, Dr. O. Latham, Dr. F. S. Batchelor (President of the New Zealand Branch, British Medical Association), Dr. A. H. Tebbutt, Dr. Harvey Sutton, Dr. S. A. Gibbs, Colonel Tracy-Inglis, Major-General Barber, Dr. R. H. Todd, Dr. H. E. Gibbs, Mr. N. D. Royle, Dr. J. S. Elliott. The large hall was filled to its upmost capacity with members and friends.

At 9 o'clock the retiring President, Sir GEORGE SYME, called upon the Hon. W. Downie Stewart, Acting Premier, to declare open the Second Session of the Australasian Medical Congress of the British Medical Association.

The Acting Premier's Speech.

The Hon. W. DOWNIE STEWART, welcoming on behalf of the Government those who were attending the Congress in Dunedin, expressed regret that the Prime Minister (the Right Hon. J. G. Coates) had not been able to return to New Zealand from the Imperial Conference in time to open the Congress. He had been pleased to hear from Dr. Barnett that quite a number of oversea visitors who were with them that night had been present at the last Dunedin Congress in 1896. Dr. Barnett was one of the very best type of New Zealand practitioners. In Australia and New Zealand the medical profession was known, not only for the very high standard of its own special work, but individually for its broad interest in public affairs, and particularly in supporting the fine arts—painting, music, literature—subjects too much neglected in small communities. In the world of medicine and surgery there were greater advances being made and greater movement of thought was manifest than in any other profession. Co-operation and consultation were becoming increasingly necessary; the institution of clinics and specialists was taking the place of the old family physician. Speaking particularly of the present Congress, Mr. Stewart maintained that in no other country in the world could such a congress be held in such happy and hopeful circumstances. New Zealand enjoyed an extraordinarily healthy and bracing climate, where health was not a Utopian dream, but a national ideal—an ideal capable of approximate realization. Her geographical configuration tended to the production of towns of moderate size and a well distributed population, and not of great metropolitan conglomerations with their vice, crime, and squalor. Her pioneers had come from the best British stock, and were resourceful and capable. She had no racial troubles. The Maoris were happy and contented, and were the only native race which, in contact with Europeans, was not declining: on the contrary, they were increasing and prospering.

Mr. Stewart then declared the Congress open.

Address by the Minister of Health.

The Hon. J. A. YOUNG (Minister of Health) said that it was a great compliment to New Zealand that this Congress was so well attended. He read a message from the Right Hon. S. M. Bruce, Prime Minister of Australia, who had just passed through Auckland on his way home from the Imperial Conference in London. The message read as follows: "On behalf of the Government and people of the Commonwealth of Australia I desire to extend to the Australasian Medical Congress best wishes for success. Thanks to the unremitting efforts of the public-spirited members of their great profession, our citizens are realizing the part which health plays in every aspect of our national life, and the enormous economic waste occasioned by the inefficiency of the partly unfit. I hope, and indeed I feel sure, that the labours of the Congress will advance us still further towards the accomplishable ideal of a happy, prosperous, and healthy community." Mr. Young added that there was great opportunity for co-operation between the medical profession and the State; the State had the great responsibility of teaching the people by legislation so to act that they might escape the pitfalls of disease, and avoid exposing their fellow-citizens to needless sufferings by ignoring elementary rules of health.

Sir George Syme's Speech.

The retiring PRESIDENT said that it was exactly forty years since the thought had occurred to Dr. Fulton of Adelaide that it would be a very good thing to have gatherings of the medical practitioners of Australia and New Zealand in congress. The idea was very warmly supported by the profession in South Australia, and materialized in the first session of what was then called the Intercolonial Medical Congress, under the presidency of Dr. (now Sir) Joseph Vercoe, who was still active in his service to the community and to the profession. Since then a series of congresses had been held under other presidents. Sir Joseph Vercoe, an eminent physician, was followed by an equally eminent surgeon, Sir Thomas Fitzgerald; and in turn the position had been held by university professors, by general practitioners, and by specialists. He congratulated Dr. Barnett on being nominated by the New Zealand Branch and appointed by the Federal Committee of the British Medical Association in Australia to the position of President. Those who had been present at the Congress in Dunedin in 1896 regarded that meeting as the high-water mark of all congresses before or since; he was confident that the present Congress would equal its predecessor.

Sir George Syme then inducted Dr. L. E. Barnett, C.M.G., M.B., C.M., F.R.C.S., to the position of President of the Congress.

THE PRESIDENT'S ADDRESS.

In the course of his address the PRESIDENT said:

"The Australasian Medical Congress, since its inception in 1896, was held every three years, independently of any other organization; but, beginning with the medical congress in Melbourne a little over three years ago, it has merged itself voluntarily, and I think wisely, in the British Medical Association. It had thus become part of a great imperial scientific institution, of which the King is patron. Though the majority of the people are of the same opinion as their sovereign in regard to the maintenance of the high ideals and traditions of medical practice, yet we have repeated and very obvious indications that there are quite a number of people who do not see eye to eye with us, and we have to face at times very bitter antagonism towards a policy that has been devised conscientiously and with infinite pains to safeguard the interests of the general public equally with those of ourselves.

Medical Ideals and Lay Criticism.

"There are many who mock and deride us for our subservience to what they call a ridiculous code of medical etiquette. There are some who criticize us in frank and fearless fashion, but withal reasonably, and often usefully. Hostile criticism, if it is reasonable, has a more purifying and stimulating effect than friendly adulation. 'A friendly eye does never see such faults,' and the medical profession makes no claim to be faultless. Our little medical parliaments are as liable as the greater parliaments of the people to make blunders, and that is certainly a fair admission of human limitations, of human error, of human frailty. Criticism by an opposition party is a good thing in the people's parliament, just as it is a good thing in the parliament that deals with the doings of doctors. We must give consideration to the honest and reasonable criticism of the opponents of our policy, whether that

criticism comes from lay or medical sources. But we cannot help feeling resentment at the publication of gross and unwarranted statements that accuse us of rank dishonesty; allegations, for instance, that we are a great trade union, whose chief aim is to keep the wages of its doctor members at the highest possible level; that we strangle competition by keeping out of this union the numerous and wonderful unorthodox healers, who have not conformed to our requirements of a thorough medical education; that we advocate vaccinations, operations, inoculations, animal experiments, and so on, not for the sake of suffering humanity, but for the benefit of our sordid selves; that we only give gratuitous service to the hospitals and sick poor for the sake of prestige and a free advertisement—that is to say, we climb over the backs of the poor into the pockets of the rich.

"I have the impression that these intensely bitter and vociferous critics of ours are not only mentally, perversely active, but also abnormally healthy in body, and that, consequently, they have not had their crude conclusions confounded by any dangerous and painful malady, accompanied by the soothing ministrations of a capable doctor. We judge it wise to refrain from responding in the lay press to calumniations of this kind. The piquant controversies that otherwise would arise could produce nothing but confusion. We are quite prepared to be judged by the majority. Let our lives and our actions suffice to discredit our detractors.

"It has been said that human destiny is largely in the hands of the medical profession. Whether this be so or not, we must not fail to realize the sacred duty that devolves upon us—namely, the medical care of the most wonderfully beautiful and intricate living thing on earth—the human body, and with it the human mind, and even the human soul. We know that Nature, if unhindered by harmful customs imposed by a too luxurious civilization, can cure most illnesses and heal most wounds in human beings, just as is the rule in lower animals. We know, and we preach, that if people lived a more natural life, from the pre-natal stage onwards through babyhood to adult life—if they took more advantage of those priceless tonics sunshine and clean, dust-free air; if feeding was more rational as regards quality, quantity, temperature, and periodicity; if the drinking of alcohol was not abused; if teeth were looked after and food well masticated, and if they earned their meals by a fair measure of exercise—there would then be much less necessity to resort to the ministrations of the physician and the surgeon, to the nostrums and cure-alls of the proprietary drug vendors, or to the hocus-pocus of quackery.

"But we doctors know that there remains a considerable and serious proportion of cases of illness, virulent microbic infections, tumours and cancers, grievous injuries and mechanical disabilities which Nature unaided cannot cope with—troubles which may at first seem slight and unimportant, but which have tragic possibilities, and which may be overwhelming from the very outset. Not individuals alone, but whole communities, suffer disaster if troubles of this degree of gravity are allowed to progress unchecked. Disease and degeneration, injuries and ill habits, and other health-destroying agencies are numerous and often complex, obscure, and difficult to control. To prevent and to conquer these malign influences and to repair the ravages of illness and injury, a defending army of selected, educated, and trained doctors has been organized—an army which has for its headquarters staff, its board of control, its disciplinary body, the General Medical Council and the British Medical Association.

"These assemblies have always included medical representatives of eminence and special fitness for their duties. Quite recently, in deference to public opinion, a lay member has been added to the General Medical Council—namely, Commander Hilton Young, a distinguished English politician and one of the heroes of the Zeebrugge naval attack. Lay representation on the Council is, I think, a wise provision, calculated to allay public distrust in the pronouncements of that important body.

"We have, in the course of long years, evolved a scheme of medical education and training, of efficiency examinations, of ethical regulations, of safeguards against injustice, of post-graduate study and research, of preventive measures for the lessening of disease and the control of epidemics. We benefit in many ways by such a scheme, but the public benefit still more. We have the public welfare at heart just as much as, if not more than, our own, and that is a point which deserves reiteration.

"Moreover, we do not try to interfere with public liberty. A sick man, or a man who thinks he is sick, is not bound to come to one of us for treatment. He can choose a layman if he wants to—he can have the drains of his own precious body—his stomach, his bowels, his kidneys, and whatnot—tinkered with by an ill-educated self-styled healer who has not the haziest idea of the intricate mechanism of these essential organs; yet if he wants the pipes, drains, or sewers of his house looked to, the law insists that he must employ a man specially trained and certified for the job—paradoxical but true.

Cancer Research.

"We shall endeavour to stimulate and correlate cancer research in the various Australasian centres. Although far more cases of cancer are cured now by operative and radiological means than in former years, chiefly because the patients are learning the wisdom of seeking treatment when the disease is in its early stage, yet, owing to the increasing prevalence of this still mysterious malady, the total death rate from cancer keeps mounting higher and higher. The cancer problem is still with us, but ever nearing solution as a result of intensive labour in a hundred fields.

"I take this opportunity of congratulating Sydney University on the generous response of the people of New South Wales to its appeal for a Cancer Campaign Fund. With a sum of well over £100,000, a splendid plan of research can be instituted, and I only hope that other scientific centres in Australasia, including Dunedin, may have the same good fortune.

Research in Public Health.

"The Governments in every civilized country now regard it as their bounden duty to encourage research that has for its object the betterment of the public health. The Royal Commission on Health for Australia, so ably presided over by Sir George Syme, has recently reported the conclusions of one of the most valuable investigations into public health matters that have ever been made, and one of its recommendations, and a very significant one, is that a health research council should be established and provided with an endowment of £30,000 per annum.

"We shall at our meetings give detailed attention to the important subjects of maternal and infantile mortality, of tuberculosis, and of certain tropical diseases of great public concern in Northern Australia and the Pacific Islands; to questions concerning diet in health and sickness, and to many other matters of special interest from the preventive medicine point of view.

The Australasian College of Surgeons.

"I must refer also—and I do it in optimistic vein—to the proposed inauguration, during the currency of this Congress, of the Australasian College of Surgeons, because I believe that such a college is likely to have a valuable influence on the public welfare, and because I have for some years been trying to mould professional feeling in New Zealand towards something of this kind. The promoters will endeavour to combine the good points of the Royal Colleges of Surgeons of the British Isles with those of the more recently founded American College. The aims are to raise the standard of surgical efficiency, surgical endeavour, and surgical ethics in both hospital and private practice, and to encourage the provision of facilities in hospitals whereby a sufficient number of suitable men can be specially trained to undertake the responsible duties of a surgeon.

"In Great Britain it is quite exceptional for anyone without special training and experience to do major operations, but in the newer countries, like America, Australia, and New Zealand, there is not the same restriction. In these countries major operative work is quite commonly

undertaken by men who, though adequately equipped with what is popularly called 'nerve,' lack, in varying degree, that knowledge and experience which are requisite in deciding such questions as: (1) Is an operation really necessary? (2) When should the operation be performed? (3) How are the unanticipated difficulties and complications to be handled? (4) How should the scope of the operation be limited or extended according to circumstances? I do not insinuate that the only competent surgeons will be those who are Fellows of a college. For various reasons a man who really is a good surgeon may not wish, or may not be in a position, to obtain a hall-mark of this kind. The patient's choice will be unfettered. If he selects an operator who is not a Fellow of a college he may or may not get a properly trained man, but if he does choose a Fellow of a college he can rest assured that he has the services of a fully trained surgeon.

Hospital Appointments.

"The greatest care should be exercised in the selection of the junior and senior staffs of our hospitals for many reasons, and one of them has to do with the supply of trained surgeons to the community. The recognized recipe for the making of a surgeon is to take a young man who shows both intellectual ability and manual dexterity, and place him in an approved hospital, first as a house-surgeon, and then as assistant surgeon for several years. The passing of a high-grade academic examination is desirable, but is not essential to the performance of high-grade surgery. The main thing is good hospital work, at first under supervision, and later independently.

"Painstaking, skilful, and kindly hospital work does materially help in the building up of the very best class of private practice. But the kind of advertisement a hospital gives is similar to that of a shop window, exhibited, however, not to the public generally, but to those only who know the worth of the articles displayed. When a surgeon or a physician habitually shows work of good quality within a hospital it is appraised accordingly by competent observers—that is to say, by his colleagues, his students, and his nurses. If, on the other hand, his work is habitually faulty, then, instead of a good advertisement, he gets a bad one. A hospital appointment may place a man in consultant rank, but only if he is worthy of it. The public benefit enormously by this automatic method of grading medical practitioners through the medium of their gratuitous hospital service.

"Modifications in our hospital systems are now receiving serious consideration, largely stimulated by the investigations and reports of Dr. MacEachern, the American expert on hospital standardization. I hope that many of his valuable suggestions will be adopted, and, in particular, I would like to see our public hospitals made available to all classes, but with the proviso that the sick poor shall continue to have the gratuitous services of an honorary staff, in accordance with the honourable traditions of the profession. For in this, as in all things, we must jealously guard the great heritage of public esteem and public confidence that we owe to our predecessors."

At the conclusion of the presidential address the visitors and their friends attended a reception by Dr. and Mrs. Barnett in the adjoining Art Gallery Hall.

SOCIAL EVENTS.

Congress week was a very full one. The various proceedings were entered into with great interest and enthusiasm by members, and the sectional meetings brought forth many able papers and keen discussions. The many social events were well organized and highly appreciated. An official Congress dinner was held at the Fernhill Club, and sectional dinners were held at the Fernhill, Otago, and University Clubs. A medical women's dinner was held at the Carlton Hotel. Members were also entertained at various private dinners throughout the city. Garden parties or "at homes" were given by Mr. T. K. Sidey (Chancellor of Otago University) and Mrs. Sidey, by Sir John Roberts and Mrs. George Roberts, by Sir Lindo and Lady Ferguson, by Mrs. North, Mrs. Edmond, and others. There were also several cabaret evenings, and bridge, tennis, and golf parties for the ladies. On February 6th the Mayor and City Council organized a motor excursion to Waipori for about one hundred members, and a special train took large parties to various doctors' seaside residences at Waitati and Warrington. Dr. Gribben (medical superintendent of Seacliff Mental Hospital) and Mrs. Gribben entertained the members of the Neurological Section at lunch at Seacliff. A popular lecture by Dr. Peter Buck (Te Rangi Hiroa), director of Maori hygiene, on the subject "The coming of the Maori," was one of the most interesting of outside events.

A very extensive trade exhibit by well known British, American, Australian, and New Zealand firms occupied most of the ground floor of the Medical School buildings.

The Congress Museum was organized under the direction of Professor F. Gordon Bell, and besides showing a number of interesting pathological conditions contained many original wax models of anatomical conditions. There was an interesting display of plastic surgery, and relics of former congresses were also on view.

The general organization of the Congress was the subject of very favourable comment by visiting members of the Congress, and special credit was bestowed on the "inner executive"—the President (Dr. L. E. Barnett), Dr. W. P. Gowland (Honorary General Secretary), Dr. A. M. Drennan (Honorary Associate Secretary), and Dr. D. W. Carmalt-Jones (Honorary Treasurer).

The scientific and clinical work of the Congress was shared by twelve sections—namely, medicine; surgery; obstetrics and gynaecology; pathology; preventive medicine; ophthalmology; otology, rhinology, and laryngology; neurology; pediatrics; naval and military; orthopaedics; and radiology. We shall publish an account of the proceedings of these sections in an early issue.

Nova et Vetera.

QUEEN SQUARE.

In an interesting book with the above title[1] the Secretary of the National Hospital for the relief and cure of diseases of the nervous system makes a pleasant contribution to the history of eighteenth century London. When, however, on the first page of the book he lays down the boundaries of what he imagines to be Bloomsbury, we most emphatically disagree and disapprove. "Queen Square, Bloomsbury," is a phrase used no doubt for the sake of distinction from other Queen or Queen's Squares, but it is incorrect. The name "Bloomsbury" has been very loosely used by many writers, but none, we think, have gone so far as Mr. Hamilton, who places its eastern boundary at Gray's Inn Road, and so includes Gray's Inn. Why stop there? Why not go on to the line of the Fleet ditch, or even further? The boundaries of Bloomsbury have been exact and well defined for more than six hundred years as the ancient manor of the Blemunds of Tottenhall, and later as part of the parish of St. Giles-in-the-Fields, and when the parish of St. George, Bloomsbury, was formed in 1724 it had the same boundaries as the ancient manor, and it has them to this day. Its eastern boundary corresponds to the east side of Southampton Row (which has swallowed up Kingsgate Street, where lived that irregular but popular obstetrician Mrs. Sarah Camp. Queen or Queen's Square (it has been known by both names) is therefore outside Bloomsbury. It was designed in Queen Anne's reign, but was not begun to be built till after her death, "at the north end of Devonshire Street, near Red Lion Square," as a contemporary described its position. The two squares are linked by more than names, for Alexander Pope, who went to a school in Devonshire Street, lay ill in later years in Cheselden's House in the Westminster Square. Many people have supposed that the statue in Queen Square, like that in Queen Anne's Gate, represents the good (but sluggish) Queen Anne. The mistake is natural, but, as Mr. Hamilton shows, it is beyond dispute that it is meant

[1] *Queen Square.* By Godfrey Heathcote Hamilton, Secretary, National Hospital, Queen Square. London: Leonard Parsons. 1926. (Med. 8vo, pp. xi + 146. 10s. 6d. net.)

for Queen Charlotte, the consort of George III at the time of its erection in 1775. The square was built upon part of what were known as the Conduit Fields. These fields seem to have been a well known playground. In Mist's *Weekly Journal* for May 16th, 1719, there is the following report:

"Last Week a Tryal was brought at Guildhall before the Lord Chief Justice Pratt, between two Companies of Cricket Players, the Men of Kent Plaintiffs, and the Men of London, Defendants, for Sixty Pounds played for at Cricket, and after a long Hearing, and near 200 l. expended in the Cause, my Lord not understanding the Game, ordered them to play it over again; and they met accordingly on Monday last in Lamb's-Conduit-Fields, but one of the Players being taken ill, it was deferred to another Opportunity."

No doubt the judicial ignorance was genuine and not assumed as has sometimes been the case in our time. Whether the match was ever replayed or no we cannot tell.

There appear to have been numerous conduits in this neighbourhood which collected water from springs and conveyed it to London through pipes. The term "conduit" was used to include the collecting cistern, generally housed in for protection, the pipe conveying the water, and the standard from which the water was drawn for distribution. Such a system is described in Stow's *Survey* thus:

"There lieth a street from Newgate west to the end of Turnagain Lane, and winding north to Oldborne Conduit. This conduit by Oldbourn (Holborn) Cross was first built 1498. But of late a new conduit was there built in place of the old, namely, in the year 1577, by William Lambe, sometime a gentleman of the chapel to King Henry VIII and afterward a citizen and clothworker of London. The water whereof he caused to be conveyed in lead from divers springs to one head and from thence to the said conduit, and waste of one cock at Oldborne Bridge more than two thousand yards in length. All of which was by him performed at his own charges, amounting to the sum of fifteen hundred pounds."

This was Lamb's Conduit, from which the northern continuation of Red Lion Street takes its name. An earlier conduit seems to have supplied the celebrated Greyfriars monastery—Eastminster, as Besant called it—which was situated in Newgate Street, where afterwards Christ's Hospital (now being itself forgotten) stood next to Christchurch. The White Conduit Fields, further to the north-east of Lamb's Conduit, were named after another water supply. One conduit head which survived until recently was situated in the garden of No. 20, Queen Square, and has been carefully taken to pieces, removed, and re-erected in the grounds of the Metropolitan Water Board at the New River Head in Rosebery Avenue. The only similar building—to the present writer's knowledge—still existing in London is the ivy-covered water-house on the south side of Hyde Park, just inside the Knightsbridge railings, opposite the Alexandra Hotel. This was connected with the water supply of the Abbey and Palace of Westminster, and is undoubtedly the oldest building in the neighbourhood. One of the difficulties of supplying London with water in this way was caused by land and house owners through whose property the pipes passed tapping them and drawing off water, so that in one case there was no longer any flow at the standard or conduit in the city.

At the beginning of the eighteenth century, when Queen Square was planned, the buildings of Bloomsbury proper did not extend north of Great Russell Street; but east of what is now known as Southampton Row building operations had reached further northward up to the line of Great Ormond Street or thereabouts. Southampton House and its garden occupied the whole of the north side of Southampton (since called Bloomsbury) Square, and when, by marriage, the Russells inherited the property of the Wriothesleys this house became known as Bedford House.

Bloomsbury Square has medical interest, for in it Radcliffe and Mead and Sir Hans Sloane dwelt and practised. Mead afterwards moved to the house in Great Ormond Street, close to Powis House, in which the Hospital for Sick Children was afterwards established, much helped on by a former occupant of Tavistock House, Charles Dickens.

All through the eighteenth century the Russells enjoyed an uninterrupted view of Highgate and Hampstead from the back windows and garden of Bedford House across the Long Fields, parts of which afterwards became Russell Square. Only one building of any size can have obtruded itself on their view. This was Baltimore House, built in 1763 by Frederick Calvert, sixth and last Earl of Baltimore. This bold bad man seems to have been of the Surrey melodrama type:

"Can I forget those wicked lords
Their voices and their calves
The things they did upon those boards
And never did by halves?"

This particular wicked earl became notorious for his goings-on in this house, to which he decoyed a Miss Woodcock of Tower Hill and detained her for some days, during which he made repeated attempts at seduction, and at length carried her off by force to his house near Epsom, where he effected his purpose by foul means. He was tried for rape at Kingston Assizes in 1768, but acquitted. An intelligent jury, having found him not guilty, wanted to record a verdict of guilty against some of his servants, who were charged as accessories. Perhaps they thought rape was allowable in an earl, but not in plebeians. Lord Baltimore died three years later and left his immense property in the State of Maryland to a boy, named Henry Harford. The house still stands, much altered, at the southern corner of Guilford Street and Russell Square, within a stone's throw of Queen Square.

"Queen Square, Bloomsbury . . . seems to have been set apart for the humanities of life and the alleviation of all hard destinies." Thus wrote Robert Louis Stevenson, and even now that the Alexandra Hospital for Hip Disease has left it, there are enough hospitals and offices of philanthropic agencies to make good Stevenson's statement, although some people may question the suitability of his description when applied to the Examination Hall of the Royal Colleges. But even there they temper justice with mercy and are cruel only to be kind.

The neighbourhood was never aristocratic as Mayfair, Portman Square, and Belgravia have been, but in it and the older part of Bloomsbury lived leading men in law, medicine, and science. Dr. Anthony Askew came to live in Queen Square in order to be near Mead in Great Ormond Street. Askew was more distinguished as a classical scholar than as a physician, and, like Mead, he left a great collection of classical literature and Radcliffe's celebrated gold-headed cane, which he inherited from Mead and passed on to Pitcairn and Baillie, whose widow presented it to the Royal College of Physicians. Later medical residents of the square have been Sir Rickman Godlee and Hughlings Jackson. Dr. Charles Burney, the father of Fanny and the historian of music, and William Morris represent art among the former inhabitants.

It is a pity that so many of the fine old houses of Queen Square should have been condemned as insecure and therefore pulled down and rebuilt, not always in styles in keeping with their older neighbours. The pity is the greater because the sacrifice was probably unnecessary. Sir Francis Fox tells us in his book of reminiscences how one of the old houses in Great Ormond Street, occupied by the Hospital for Sick Children, was condemned as unsafe, and how the committee of the hospital, faced by the prospect of an outlay of many thousands of pounds, appealed to him. He was able, by applying the system of grouting which saved Winchester Cathedral, to save this house and render it stronger than it had ever before been, for a fraction of the cost of destruction and rebuilding.

When St. George's, Bloomsbury, was made a separate parish from St. Giles-in-the-Fields and St. George-the-Martyr was cut out of St. Andrew's, Holborn, the growing population made new burying grounds necessary, and accordingly sixteen acres of meadow land were obtained a little to the west of Gray's Inn Lane and consecrated for the use of the two new parishes. These cemeteries are now known as St. George's Gardens. Here various notabilities were buried, from Nancy Dawson the hornpipe dancer to Zachary Macaulay, whose famous son once lived in Queen Square. This Bloomsbury graveyard was the scene of the Resurrectionists' activities which occasioned the first prosecution for such an offence in England. In 1777 the gravedigger and his assistant, and also a woman, were

tried, under an indictment for a misdemeanour, at the Westminster Guildhall before Sir J. Hawkins for stealing the dead body of Mrs. Jane Sainsbury, who had been buried nearly two months before. The woman was acquitted, but the men were convicted and sentenced to the savage punishment of six months' imprisonment and to be each severely whipped twice in the last week of their confinement from Kingsgate Street to Dyott Street, which is full half a mile—in fact, along the whole of the southern boundary of the parish—but the whipping was afterwards remitted. Had they been convicted of stealing anything with the body they would have been guilty of felony and would have suffered a much greater punishment. In a small house at the end of Handel Street, abutting on the graveyard wall, was Cooke's School of Anatomy, the last survivor of the once flourishing private medical schools, which were killed by the regulations of the College of Surgeons. Until quite recently this school was licensed under the Anatomy Act, and here anyone could, on payment, study practical anatomy and dissect without being or becoming a medical student. Mr. Cooke was for some years on the staff of the Westminster Hospital, and his *Tablets* of anatomical and physiological facts in a concise form may have been familiar to some among the older generations of our readers. In this building recently two men were found dead from poisoning by illuminating gas, and the inquiry into the circumstances of their death afforded occasion for much speculation and profit to the "yellow" press.

Mr. Hamilton's book contains much that is of great interest and abounds in reproductions of old prints and modern photographs of the neighbourhood. It forms a valuable addition to the fast-growing library of books about London.

THE GOVERNMENT ACTUARY ON NATIONAL HEALTH INSURANCE.

[FROM A CORRESPONDENT.]

AT a meeting of the Royal Statistical Society on March 15th Sir ALFRED WATSON, K.C.B., Government Actuary, read a paper entitled "National health insurance: a statistical review," which will interest many readers other than professed statisticians.*

The evidence adduced that the sickness experience of males was becoming more favourable is very important. Sir Alfred Watson has analysed a thoroughly representative sample of the national experience of 1921-23 and compared the results with those of the registered friendly societies in 1876-80, and of the Manchester Unity of 1893-97. For reasons either stated in the paper or elicited by the discussion, he is of opinion that these three experiences are fairly comparable. He does not think that the omission from the national experience of sickness lasting not more than three days, which was included in the old friendly societies' experience, seriously impairs comparability. Again, the method of taking the sample for 1921-23 virtually excluded that class of insured person which does not claim sickness benefit. Assuming comparability, the results of comparison are remarkable. The friendly societies' experiences, which may be taken as typical of the conditions of the industrial classes fifty and thirty years ago, were practically identical. Between the ages of 20 to 24 and 55 to 59 the sickness rates per annum hardly differed in the two series. But the national experience of 1921-23 was far more favourable. Thus at 40 to 44 the rate of sickness per annum was 1.08 weeks in 1876-80, 1.07 in 1893-97, 0.80 in 1921-23. At 45 to 49 the rates were 1,28, 1.23, and 0.90. At the oldest age in the table, 60 to 64, the rates were 2.51, 2.30, and 1.85.

Sir Alfred Watson comments as follows:

"If, as must be believed, the relatively favourable experience of the most recent period is dissociated from any continuous decline having its origin in the early years of the century, or even previously, it must apparently be ascribed to conditions special to the period in which it has emerged. Some may find such conditions in the increasing efficacy of medical benefit as provided by the Insurance Act and the regulations thereunder. Others may ascribe the change, in part at any rate, to conditions set up by the war and, in particular, to the increase in the cost of living with which the sickness benefit provided under the Act, though substantially augmented in 1920, has scarcely kept pace. While the claims have risen since 1923, as shown by Table III, the comparison which Table IV provides is such as to afford strong grounds for hope that the sickness intensity shown by the experiences of the friendly societies in the later years of the nineteenth century will not again be reached. So much at least should have been secured to us by the advancements in the twin sciences of medicine and surgery, in the practice of sanitation, and in individual education, with which this generation has been blessed."

It is to be hoped (although not expected) that those critics of their fellows who have in some instances not hesitated to "explain" excessive local rates of sickness as due to malingering, abetted by medical men, will note the caution with which Sir Alfred Watson (who, in the course of his reply, gave a striking example of the injustice of some recent uncharitable interpretations of changing sickness rates) offers explanations of so striking a decline. We shall do well to imitate him in resisting the temptation to assign all the credit of the improvement to the medical profession. One point may, however, be noted. If the low sickness rate of the sample experience of 1921-23 were due to men unfit to work "sticking it out" for fear of losing employment or on account of the cost of living, we should expect an unfavourable influence to be exerted upon the death rates. No such effect can be discerned, so that although we cannot prove that *real*, as distinct from statistical, ill health is less to the extent the figures imply, there is certainly no inherently more plausible explanation. This is a very satisfactory result. Less satisfactory is Sir Alfred's demonstration of a heavier incidence of sickness upon women than upon men, particularly upon married women.

"The figures respecting married women" (he writes) "reveal conditions to which in its fullest import the word 'serious' applies. Not only are the claims among this section far more numerous, relatively to the numbers insured, than those of the unmarried, but at all ages up to 35 the average duration of the claims in the case of the married is in marked excess of that among the unmarried. It is not too much to suggest that an average duration of incapacity, within the year, of seven to eight weeks at practically all ages from 16 to 65 for every woman who is sick is disconcerting, and that such an experience in the case of the married women invites consideration of the fact that in the usual case the husband also is an industrial worker, and a portion only of the family earnings is suspended when the woman ceases to work."

An obvious suggestion—namely, that married women who are industrially employed have a far heavier burden to shoulder than spinsters, may well be true, but the fact, disclosed by a tabulation of the separate years 1921, 1922, and 1923, that the ratio of the average duration of sickness benefit per insured married woman to the average per insured unmarried woman is increasing cannot be so explained. As Sir Alfred Watson remarks, "It is surely contrary to reason to suppose that the health of married women, as contrasted with that of their unmarried sisters, is deteriorating at this rapid rate."

There are many other points in this valuable paper to which attention might be called, but perhaps enough has been said to send readers to the original, which, not being thick-set with statistical algebra, can be read by any intelligent person. Some may have felt that, so far, too little use has been made of the national health insurance experience for the elucidation of problems of national health other than those of finance. Sir Alfred Watson has given an excellent example of what is possible on these lines. It is to be hoped that he and his colleagues will give many more papers similar to this one. From the nature of the case, the private investigator cannot achieve much, although if insurance practitioners had less to do and were more interested than most medical men are in statistical methods, their material might furnish data for very interesting papers.

* A summary of Sir Alfred Watson's paper appeared in last week's SUPPLEMENT, and further comment upon it will be found in the JOURNAL this week at p. 581.

France.

[FROM OUR OWN CORRESPONDENT.]

MEDICAL EDUCATION.

THE same problems face every country at the same time, and it is not surprising that the question of medical education should come to the front once more. A good deal of readjustment has taken place since the war, and the medical faculties in France have given up the old system which seemed to have been organized rather to turn out anatomists than medical men. Understanding that medicine relies more and more upon physiology and laboratories, the anatomical course has been reduced to the first year at the faculty. A very strenuous and full year it is for the poor student who has to face a severe examination at the end of the first academical year. It may be added that he is now under a system working like a steam-roller, his time-table being fixed. As a matter of fact, he has not even a right to be ill; if he misses a class three times he is not allowed to sit for the next examination. Aesculapius appears to be sceptical of Aesculapian excuses. The question goes far beyond that of organization. The whole system of education has been criticized at the Academy of Medicine.

First of all scientific preliminaries as actually taught in the Faculté des Sciences, prior to the student matriculating as medical, are far beyond the requirements of the average doctor. It is suggested that such teaching should be given by men who have received a medical training, and not merely by what we call "pure" scientists.

Then comes the most important and subversive move. The French system is, and has been, characterized by the fact that from the very start the student comes into contact with hospital patients. Before knowing anything of medicine he has to examine and to report on patients; the idea is that a good medical training means having seen as large a number of patients as possible. It may be that we should replace "seen" by "understood," and perhaps a great many useful hours are wasted in the wards. The new system proposes to control the non-initiated much more closely, but the number of students makes it necessary that there should be many more teachers, and that physicians in charge of hospitals should be recognized, if it be their desire, as such.

As all our hospital appointments are the result of competition, it is now asked that their programme should cease to be exclusively anatomy and theoretical medicine. The attention of the young students must be turned towards physiology, and they should prove, before taking charge of their ward laboratory, that they have some idea of the use of the instruments they are responsible for. This is not the case at the present time. A good memory is the essential requisite for the first competitive examinations. The result is that students try to secure the office first, and then learn how to make the best of it. The sooner the change comes the better.

The final question is how the body of teachers should be organized. Some would have teaching professors on the one hand and research professors on the other. It is quite a different proposition from that of whole-time professors, which has a very poor chance with us so far as medicine is concerned. How, it is asked, should the professorial staff be recruited? Many of us think that the competitive system is, as a matter of fact, very nearly an election; then why not let it be so openly?

If they will consider these few points, readers will come to the conclusion that the French system is gradually drawing nearer to the British, except that in no instance will there ever be, between our hospitals, the watertight compartments so characteristic of (and perhaps detrimental to) the latter.

HYGIENE IN FRANCE.

Alarming figures are given concerning the birth rate in France. The Government is taking steps to relieve the burden upon the shoulders of parents in allowing 50 million francs as premiums. Most of the money goes to the protection of the mother to assure care and rest at birth time. But the death rate is far too high, and we rank behind Great Britain, Holland, Germany, Sweden, and Denmark; 82 millions have been voted to fight the social scourges, 50 go to stamp out the slums, 25 to fight tuberculosis, 6 venereal diseases, and 1 cancer. The effort is far too small. For the sake of comparison, while Denmark spends 1s. 8d. a head on its antituberculosis campaign, France spends a little over one penny. Hygiene is sacrificed on the altar of the budget, and if "public health is the first concern of the statesman," as Disraeli put it, the French have still to learn that lesson.

THE LADY DOCTOR.

M. Delbet (professor of surgery in Paris) and M. André Pascal (otherwise Dr. Henri de Rothschild) have just staged a play called *La Vocation*. Its problem is what sort of a wife the lady practitioner will prove to be. The writers are evidently misogynists, for the poor husband (useless to say that a *tertia pars* appears in the play) is driven to suicide by the unfaithfulness of his wife. The play attracted both attention and protest. It seemed to some rather unfair that two medical men should try to prove their case by selecting a character almost incredibly exceptional. We are driven back to consider the stern reality and our daily experience. The great majority of our fair confreres act in a way exactly opposite to Professor Delbet's heroine. Their call is the great call: they marry the young doctor, and as soon as they are married they are pretty careful to leave the consulting-room entirely to their mate; they give up medicine very readily, and have no idea of competing with their husbands—more especially when the night bell rings. But that would not allow the concoction of a play.

G. MONOD.

Union of South Africa.

[FROM OUR CORRESPONDENT IN JOHANNESBURG.]

MEDICAL, DENTAL, AND PHARMACY BILL.

THIS bill has come before Parliament periodically for the past ten years, but has always been allowed to lapse before the conclusion of the session. Its urgency has been emphasized by the different Ministers who have successively tried to guide it through the House; but the concerted efforts of persons not at present on the medical or dental registers of the provinces to become registrable has, in the past, so delayed its passage that it had invariably to be dropped.

It is a bill to consolidate and amend the laws in force in the various provinces of the Union "relating to medical practitioners, dentists, chemists and druggists, midwives, nurses, masseurs, and other classes of persons; the keeping and sale of poisons; the importation, sale, and use of habit-forming drugs, and as to other matters connected therewith; and to provide for the extension of this Act to the mandated territory of South-West Africa."

The present session has opened calmly with few fresh measures, and at last the Medical, Dental, and Pharmacy Bill shows reasonable signs of becoming law. Much time has been allowed it in the House, and at this early stage of the session, not only has the second reading been survived, but the two most contentious clauses have been passed in committee.

The second reading was moved on February 7th by the Rev. Dr. Malan, Minister of Public Health, who spoke in Afrikaans. He would not, he said, repeat the arguments which had been used on the numerous previous occasions that the bill had been before the House; it was of so urgent a nature that its passage should be no longer delayed. The need for a consolidating measure had long been felt, and the Medical and Pharmacy Boards had, even before union, had a draft consolidating measure prepared. The present bill had been before no fewer than three select committees, which had taken evidence at considerable length from all persons concerned. The matter had become urgent for various, more particularly administrative, reasons. Medical services in general throughout the Union should be uniform. To-day each province had its own Medical and Pharmacy Acts; sixteen such Acts had at present to be administered by his department, which led to considerable confusion and expense. Since the first introduction of the bill two university medical faculties had been established in South Africa, and it was essential that the medical profession and the medical faculties should

stand on properly defined relations towards each other, which was not the case to-day. An essential matter was the bringing of the trade in poisons under proper legal control. It had been said that in no other country in the world was it so easy for a person to become possessed of poisons as in South Africa; the tracing of crimes due to *poisons was extremely difficult.* The time had come to give effect to one of the agreements arrived at under the Versailles treaty regarding the sale of opium. This agreement was being carried out to some extent by means of regulations; but this was a matter essentially to be dealt with by legislation. A most important point was the position in the mandated territory. The South-West administration had the right to pass its own laws, but the less difference there was between the laws of the South-West and the Union the better. South-West Africa to-day had no medical laws; nurses and maternity nurses need not even be registered. *The need for medical legislation was* realized by South-West Africa, and after correspondence with the administrator it was agreed that legislation of the Union should also be made to apply to the South-West Protectorate. It was necessary for dental practitioners to be protected. The lack of protection in the past had resulted in the arrival of a number of dental mechanics who were permitted to do nearly everything that the fully qualified man did. They were actually better off than the qualified man, who fell under the discipline of the medical councils, in that they were allowed to advertise; unfair competition was thus created. The bill made provision for the registration of qualified nurses and masseurs. Regarding maternity nurses a great step forward would be made. In the past the heavy infantile mortality had been due largely to unqualified nursing. The number of qualified maternity nurses, especially in the rural areas, was certainly insufficient, and such areas had to be provided for. In certain specified areas nobody would be allowed to practise as a maternity nurse for remuneration unless properly certified and registered. All members were agreed as to the usefulness of the bill, and it was 95 per cent. non-contentious. The clause providing penalties for unregistered practising was the most contentious. Unqualified persons had striven to obtain under the bill rights and privileges similar to those of qualified persons. The clause last year had read that no one not duly qualified would be allowed to practise "for gain, hire, or reward, direct or indirect, or for the expectation thereof." He had met the objections raised last year against the words "hire or reward, direct or indirect, or for the expectation thereof." These words do not now appear. A person would now only be liable if he carried on while unqualified to do so "for gain," the word "gain" being duly defined in the bill.

The Minister expressed the hope that since various objections raised last year had been met much of last year's discussion would be avoided. He was, however, to be disappointed. The same arguments in favour of the registration of persons who practised "unorthodox methods of healing"—osteopaths, chiropractors, naturopaths, cancer curers—were brought up. In the backveld there are many persons who are believed to possess herbal remedies for many ills, and several country members spoke feelingly on behalf of the good being done by these persons to simple folk. These alleged remedies, when their constitution has been revealed, have almost invariably proved to be compounded of entirely inert materials. In committee many amendments are being moved, but in the present comparative leisure of the House they are being relentlessly disposed of. One member moved the following amendment:

"Provided that any person not registered in accordance with this Act shall be entitled to treat a person who has been abandoned by a medical practitioner as incurable, and to charge for such treatment."

A division was demanded, and the amendment was defeated by 51 votes to 22. Eventually this, the most contentious clause, was passed without amendment; but the next two clauses evoked much discussion. They dealt with the penalties for practising as a dentist when unregistered, and the exemption of certain unregistered persons performing dental work prior to the commencement of the Act. By March 1st both these clauses had been adopted in committee. The remaining clauses (there are 97 in all) should be dealt with expeditiously.

Certain of the alterations made by the Minister to meet previous objections are not proving too acceptable to the medical profession. This applies particularly to the inclusion on the South African Medical Council of two laymen. *Nevertheless, the feeling in the profession is that if the* present bill becomes law South Africa will be provided with probably the best medical legislation in the world.

FOOD, DRUGS, AND DISINFECTANTS BILL.

Another long overdue measure, which in the present becalmed state of Parliament has a reasonable prospect of becoming law, is the

"bill to consolidate and amend the laws for preventing the importation or sale of foods or drugs which are unwholesome or adulterated or incorrectly or falsely described, and for regulating the labelling and sale and for preventing the incorrect or false description of disinfectants."

A consolidating measure of this kind is urgently required for administrative purposes. At present each of the four provinces has its own Act or ordinance, and there are often wide discrepancies between them. Further, their provisions are in many cases obsolete, and are easily evaded. This bill, on becoming law, will repeal the four existing provincial laws. It was introduced by the Minister of Public Health, by whose department the Act will be administered. The Secretary for Public Health, acting on the authority and instructions of the Minister, will be charged with the general execution and enforcement. As this bill is the result of consultation between experts and representatives of all parties concerned it should meet with little opposition.

HOSPITAL SURVEY COMMITTEE.

The applications for State-aided hospital provision all over the Union have become so numerous that it has proved quite impossible for the Government to comply in all cases. In certain districts this provision is entirely inadequate, while in others the provision is almost excessive. To have some guidance in dealing with the numerous applications from towns, the Minister of Public Health has appointed *a committee to make a hospital survey of the Union and* investigate the hospital requirements of each of the provinces. This committee will make suggestions as to future administration, more particularly regarding the possibility of linking up and co-ordinating the work of the various institutions, nursing organizations, dispensaries, and similar bodies. The chairman of this Government Committee is Sir Edward Thornton, Director of Medical Services, and senior assistant health officer for the Union. The members include Dr. A. H. Louw, medical superintendent of the Pretoria General Hospital, Mr. R. F. Smithers, Public Service Inspector, Mr. J. R. Booth, secretary of the Kimberley Hospital, and a lay representative in each province nominated by the administrator of the province. The committee has completed its inquiry in Natal, and is at present sitting in Pretoria. It will sit a week each in Bloemfontein and Capetown. Its recommendations will be of considerable value for Government as professional guidance. It is hoped that the delimitation of hospital areas, each with a well equipped central hospital, and subsidiary smaller hospitals of the cottage type, will result from this inquiry.

Scotland.

PARLIAMENTARY REPRESENTATION OF THE SCOTTISH UNIVERSITIES.

THE death of Sir Henry Craik has created a vacancy in the parliamentary representation of the four Scottish universities. At the last election, when Sir Henry Craik stood in the Conservative interest, he headed the poll with 7,188 votes. His colleagues were Mr. D. M. Cowan (Liberal), with 5,011 votes, and Sir George Berry, F.R.C.S.Ed. (also Conservative), with 3,781 votes. Mr. Cowan was head master of the Higher Grade School, North Kelvinside, Glasgow, and is therefore, like Sir Henry Craik, an authority on education. Sir George Berry is consulting ophthalmic surgeon to the Edinburgh Royal Infirmary, and

has held the office of President of the Royal College of Surgeons, Edinburgh. No definite steps have yet been taken in Scotland to find a successor to Sir Henry Craik, and none will be taken until the various political organizations there have had time to consider the situation. We understand, however, that Dr. C. O. Hawthorne has already been approached, and that he is willing to consider the possibility of becoming a candidate should a general desire be expressed that he should stand. Dr. Hawthorne, who was assistant to the professor of medicine in the University of Glasgow from 1887 to 1897, has long resided in London, was chairman of the council of the Medical Graduates' College and Polyclinic from 1909 to 1914, and holds the position of consulting physician to several hospitals. He is at present Deputy Chairman of the Representative Body, and Chairman of the Science Committee of the British Medical Association. As a possible candidate the name has also been mentioned of Mr. John Buchan, author and publisher, who, although a Scot by birth, is a graduate of the University of Oxford.

PREVENTION OF TUBERCULOSIS IN EDINBURGH.

At the annual meeting of the Royal Victoria Hospital Tuberculosis Trust, the President, Sir Ralph Anstruther, said that not only had a great deal of help been given to individuals, but the power of dealing with this disease was furthered from year to year by the operations of the Trust. Professor George M. Robertson, President of the Royal College of Physicians, said that a spirit of hopefulness permeated the report, which was a great contrast to the attitude of despair with which medical men had looked upon tuberculous disease some forty years ago when he commenced to practise medicine. He believed that there was no disease against which warfare had been so scientifically and systematically waged as against tuberculosis, and he thought that these methods might be a model for those concerned with other diseases to imitate. In this matter Edinburgh and the Royal Victoria Hospital Trust had led the way; the dairy farm it had established at Gracemount for the supply of tubercle-free milk had been a valuable object lession, so that there were now thirty other dairy farms supplying milk of this type. Again, there were far too many one- and two-roomed houses in Scotland as compared with England, for overcrowding was a most potent factor in the spread of tuberculous disease. Education in hygiene was essential for the public welfare and to lessen tuberculous disease, and no institution in the country had done more to educate the public and the medical profession than the Royal Victoria Hospital Tuberculosis Trust. Professor Sir Robert Philip, proposing a vote of thanks to the collectors for their services, referred to the hopes often raised by announcements in the press of cures for tuberculosis. He referred especially to a campaign in favour of a Swiss observer who five and a half years ago had made a promise to the speaker, as representing a powerful organization in this country, that he would submit a certain amount of his products for examination and testing. In spite of reminders, this promise had not been fulfilled, and he understood that similar promises had been made and unfulfilled to other workers. He thought it was high time that the world and the press should know the real facts in regard to this matter. The report of the Trust for 1926 refers to additions which have been made to the buildings at Southfield Sanatorium Colony, especially the completion of a sun-bath and the installation of artificial sunlight apparatus. It also refers to developments in connexion with the production of certified milk at Gracemount Farm. The ordinary income for the year was £4,328, and the expenditure £3,140.

MOSQUITOS IN SCOTLAND.

At a meeting of the Royal Society of Edinburgh, on March 14th, Professor J. H. Ashworth, F.R.S., gave an account of the distribution of anopheline mosquitos in Scotland, so far as had at present been ascertained, for search did not appear to have been made in half the counties of Scotland. Three species of anopheles occurred in Scotland as in England—namely, *maculipennis*, *bifurcatus*, and *plumbeus*. The first was known in four localities, all in the Highlands, but many more areas would have to be examined, and a careful inspection made of cowsheds, pigsties, stables, and outhouses, which the adult mosquitos of this species frequented, especially in dark corners. *A. bifurcatus* occurred in thirty-six localities and was widespread both in the Lowlands and in the Highlands. *A. plumbeus* had been found in eight localities, all near the east coast and its estuaries. The west of Scotland, with the exception of the Clyde area, was still practically unexamined. In England *A. maculipennis* had been found to be the most abundant of the three species; but in Scotland *A. bifurcatus* was apparently the most abundant and widespread, and severe effects often followed the bite of this species, as well as of *A. plumbeus*. The mosquito had been found for the first time in Scotland in 1908, in a garden in the Grange district of Edinburgh, and it was believed that the actual breeding place was in water lodging in holes in trees. Data were lacking as to which species of anopheles had acted as transmitter of the parasite of malaria in Scotland. The areas in which ague was common in the eighteenth century were unfortunately those as to the mosquitos of which little or nothing was yet known. There was, therefore, at present no basis available for a consideration of the present distribution of anopheles in relation to the former distribution of ague. With regard to recent years, the only case of indigenous malaria in Scotland was recorded in the report for 1919 of the medical officer of health for Glasgow. A visitor had gone from Glasgow to Kirriemuir on July 17th, 1919, and thirteen days after her return to Glasgow had an attack of benign tertian malaria. Troops were quartered at Kirriemuir at the time of the visit, and it was surmised that the mosquito may have acquired the parasite from an infected soldier.

MENTAL TESTS.

Mr. R. H. Thouless, M.A., Ph.D., lecturer on psychology at Glasgow University, in an address to the Royal Philosophical Society of Glasgow, said that the object of introducing practical work into the teaching of psychology was to give the student actual acquaintance with mental facts and to train him in scientific habits of thought and of investigation. The teacher of practical psychology must bear in mind the practical needs of his students, who would have to apply standardized tests rather than to carry out research experiments. Instruction in mental tests was, therefore, an important part of practical psychological training, and new tests were still being framed. A problem now engaging the attention of many psychologists was the discovery of tests for traits of temperament and character, so that these could be measured with accuracy comparable with that of the tests for intelligence. The temperamental tests now available were taught in laboratories, but so far their practical usefulness was limited.

MATERNITY HOMES AND COUNTY COUNCILS.

At a meeting of the Eastern District Committee of Stirling County Council, on March 10th, an important decision was reached in regard to support of maternity homes in general hospitals by the local authorities. The recommendation by the Public Health Subcommittee has been that the authorities in Stirlingshire should hold themselves responsible for the support of ten beds in each of two proposed maternity homes at the new infirmaries of Stirling and Falkirk. The maternity scheme is estimated to involve a capital contribution to the two infirmaries of £12,000 by the combining authorities. This, together with proposed venereal disease centres at the two infirmaries, would involve about four-fifths of a penny on the public health rate. It was agreed to give the District Committee's representative powers to approve of the adoption of such a scheme, subject to satisfactory arrangements being made with the Board of Health and with the board of directors of the two infirmaries.

GLASGOW ROYAL MATERNITY HOSPITAL.

At the annual meeting of Glasgow Royal Maternity and Women's Hospital, the Lord Provost, who presided, remarked that child welfare had come to be recognized as one of the most important obligations resting upon the community. If it were not for the facilities which

this hospital provided many of the children in the city would be born under conditions not only detrimental to their future welfare but hazardous to their lives. The community which looked after its children was the one which in the future would produce strong, robust, and vigorous manhood and womanhood to take up the responsibilities and burdens of their complex life. Dr. A. S. M. Macgregor, medical officer of health for Glasgow, made reference to the new laboratory of the hospital, which took a high place in the research work of the country; he believed that with adequate support it would become more and more useful not only to the city but to the nation.

AIR POLLUTION.

At a meeting of the Glasgow and West of Scotland Smoke Abatement League, Mr. W. Brownhill Smith said that domestic smoke was the greatest factor in polluting the air of Great Britain, and for this reason it was desired to extend the league to the whole of Scotland. In Glasgow a smokeless fuel as cheap as coal and as efficient as other fuels was available. He thought that the spread of information, together with some improvement in legislation to deal with cases of persistent neglect, would bring about the realization of a purification of the atmosphere, which seemed rather a hazy ideal some twenty years ago. It was decided to reorganize the league so as to form as many sections as possible in Scotland, and to establish an executive committee containing representatives of the various local authorities.

RECENT NOTIFICATION ORDERS IN SCOTLAND.

The Scottish Board of Health has renewed the Order requiring the notification of cases of infective jaundice. In view of the prevalence of small-pox in several districts of England, the magistrates and council of the city of Edinburgh on March 3rd ordered that the Infectious Disease (Notification) Act, 1889, shall apply within the city of Edinburgh so as to include chicken-pox. This temporary Order will cease to be in force on February 29th, 1928, or at such earlier date as may be fixed by the Scottish Board of Health. The Order came into operation on March 21st.

INFLUENZA IN SCOTLAND.

The Scottish Board of Health announces that the part of the country most seriously affected by influenza in the past week was the south-west. The two largest Ayrshire burghs, Kilmarnock and Ayr, both had relatively high death rates, and school absences at Ayr due to influenza have fallen only slightly in number. In Ayr county the disease was prevalent in many districts, except in the northern district. In Dumfriesshire the epidemic has been moving south-westwards and is now mainly confined to the south-west corner, while Kirkcudbright has experienced a sharp rise in prevalence within the past ten days, though in both counties the northern districts have suffered less than the others. Renfrewshire has cases in all parts of the county, though the numbers are not unduly large. Greenock shows an increase of cases over the previous week's figures. In Fife, Dunfermline burgh and district show an improvement, but Kirkcaldy burgh and district both had more cases. Motherwell and Wishaw has once more to report a heavier incidence. Elsewhere the epidemic is rapidly dying out. In Dundee the outbreak appears to be over, and in Aberdeen the prevalence of influenza is now normal for the time of the year. Equally encouraging reports have been received from other parts of the country, and there is ground for hoping that the end of the outbreak in Scotland is in sight.

Ireland.

ULSTER MEDICAL SOCIETY.

THE eighth meeting of the session was held in the Medical Institute, Belfast, on March 10th. The President (Dr. Nolan, Downpatrick), who was in the chair, presented Sir Thomas Houston with an illuminated vellum certificate of honorary fellowship of the society, and Sir Thomas expressed his thanks. Dr. E. P. Cumberbatch, director of the electrotherapeutic department of St. Bartholomew's Hospital, London, gave an address on recent advances of diathermy in medicine and surgery. He dealt with the treatment of chronic infections in gynaecological practice and with arthritis, both by general and local application, in surgical work and in medical conditions, hyperpiesia, sciatica, etc. Several questions were asked, and Dr. Cumberbatch gave answers. Professor R. J. Johnstone proposed a vote of thanks to Dr. Cumberbatch, which was seconded by Professor Fullerton and passed with applause.

CORONERS AMENDMENT ACT (FREE STATE).

The Coroners Amendment Act (1927), which has been recently passed by the Dail, contains many sections which are of interest to medical men practising in the Free State. Some important changes are made in the sections of the Coroners (Ireland) Act, 1846. The following sections are of special interest to medical practitioners:

Section 2.—(1) In any case (other than those provided for by Section 1 of this Act) in which the coroner is informed of the death within his district of a person who was not attended throughout his last illness by a duly qualified medical practitioner or that a medical certificate of the cause of death of any person is not procurable, he may inquire into the circumstances of the death of such person, and if he is unable to ascertain the cause of such death he may if he shall think fit hold an inquest for the purpose of ascertaining the cause of such death. The coroner may, at any time after he is informed of the death of any such person and pending any such inquiry, make an order for the burial of the body of any such person.

Section 2.—(2) It shall be the duty of the local superintendent or other officer of the Civic Guards, in case he becomes aware of the death within the district of a coroner of any person who was not attended throughout his last illness by a duly qualified medical practitioner, or in whose case a medical certificate of the cause of death is not procurable, to inform the coroner of such death.

Section 3.—(1). Subject to the provisions of this Section a coroner within whose district the dead body of a person is lying may, in lieu of summoning a jury in the manner required by Section 23 of the Coroners (Ireland) Act, 1846, for the purpose of inquiring into the death of that person, hold an inquest on the body without a jury.

Section 3.—(2) If it appears to the coroner either before he proceeds to hold an inquest or in the course of an inquest begun without a jury, that there is reason to suspect (*a*) that the deceased came by his death by murder, manslaughter, or infanticide; or (*b*) that the death occurred in prison or in such place or in such circumstances as to require an inquest under any Act other than the Coroners (Ireland) Act, 1846; or (*c*) that the death was caused by an accident, poisoning, or disease, notice of which is required to be given to a Government department or to any inspector or other officer of a Government department, under or in pursuance of any Act; or (*d*) that the death was caused by an accident arising out of the use of a vehicle in a street or public highway; or (*e*) that the death occurred in circumstances the continuance or possible recurrence of which is prejudicial to the health or safety of the public or any section of the public; he shall proceed in the manner required by the Coroners (Ireland) Act, 1846, and in any other case if it appears to him, either before he proceeds to hold an inquest or in the course of an inquest begun without a jury, that there is any reason for summoning a jury, he may proceed to summon a jury in the manner aforesaid.

Section 4.—In the case of an inquest held by a coroner with a jury, such jury shall consist of not less than six and not more than twelve persons.

Section 11.—(1) Where a coroner is informed that the dead body of a person is lying within his district and there is reasonable cause to suspect that the person has died a sudden death of which the cause is unknown, if the coroner is of opinion that a *post-mortem* examination may prove an inquest to be unnecessary, he may cause such examination to be made and the result to be reported to him, and for the purposes of the examination the coroner and any person authorized by him to conduct the examination shall have the like powers, authorities, and immunities as if the examination were an examination directed by the coroner at an inquest upon the body of the deceased.

Section 11.—(2) If as a result of such an examination as aforesaid the coroner is satisfied that an inquest is unnecessary, he shall send to the registrar of deaths whose duty it is to register the death a certificate under his hand stating the cause of death as disclosed by the report, and the registrar shall make an entry in the register accordingly.

Section 12.—(1) Without prejudice to the power of a coroner holding an inquest to direct a medical witness whom he may summon under Section 33 of the Coroners (Ireland) Act, 1846, to make a *post-mortem* examination of the body of the deceased, the coroner may, at any time after he has decided to hold an inquest, inform the Minister for Justice by writing under his hand that it is in his opinion desirable to have made (*a*) a *post-mortem* examination of the body of the deceased; or (*b*) a special examination by way of analysis, test, or otherwise of such parts or contents of the body or such other substances or things as ought, in the opinion of the coroner, to be submitted to analyses, tests, or other special examination with a view to ascertaining how the deceased came by his death; or to have both such examinations made, at the same time stating his reasons for such opinion;

and the Minister for Justice may thereupon appoint a legally qualified medical practitioner to make such *post-mortem* examination or special examination or may appoint any other person whom he considers to possess special qualifications for making such a special examination as aforesaid to make the special examination.

Section 12.—(3) The fee payable in respect of any such *post-mortem* or special examination shall be a sum not exceeding ten guineas, or such larger sum as the coroner shall with the approval of the Minister of Justice determine, and if the person making such *post-mortem* or special examination is summoned by the coroner as a witness to attend an inquest he shall be given such further allowance as the coroner with the approval of the Minister for Justice shall determine.

Section 13.—(1) The fees payable to a legally qualified medical practitioner who has made any *post-mortem* examination by the direction or at the request of a coroner, or who has attended an inquest in obedience to a summons of a coroner under the Coroners (Ireland) Act, 1846, or this Act, shall (save as in this Act otherwise expressly provided) be as follows: (*a*) for attending to give evidence at any inquest whereat no *post-mortem* examination has been made by the practitioner, not exceeding two guineas; (*b*) for making a *post-mortem* examination of the body of the deceased and reporting the result thereof to the coroner without attending to give evidence at an inquest, not exceeding three guineas; and (*c*) for making a *post-mortem* examination of the body of the deceased (including the making of a report, if any, of the result thereof to the coroner) and for attending to give evidence at an inquest on the body, not exceeding four guineas: Provided that no fee or remuneration shall be paid to a medical practitioner for the purpose of a *post-mortem* examination instituted without the previous direction or request of the coroner.

Section 13.—(2) In the case of any other witness attending to give evidence at an inquest, if the coroner shall certify that special circumstances exist he shall allow such sum for expenses as he shall consider reasonable, not exceeding in any one case the sum of five pounds.

England and Wales.

BIRMINGHAM HOSPITALS.

THE proposal to construct a new hospital centre at Edgbaston was discussed at the annual meeting of governors of the Birmingham General Hospital on March 16th. A site near the University has been offered by Messrs. Cadbury, and it is suggested that this should be shared by the General Hospital and the Queen's Hospital, which would eventually amalgamate. With this in view both hospitals have abandoned the idea of extending their present buildings, with the exception of a temporary ward which is to be built in the grounds of the Birmingham General Hospital in order to reduce the long waiting list of patients. A new building for the treatment of venereal diseases is also to be erected by this hospital, but the cost of this will be borne by the public health authorities concerned and not by the hospital. The annual report of the Birmingham General Hospital shows that the accumulated deficit on December 31st, 1926, was £23,435. The new contributory scheme which was originally suggested by this hospital, and which is now in the hands of the Hospitals Council of the city, will shortly come into operation, and will, it is hoped, be effective in placing all the Birmingham hospitals on a more satisfactory financial footing. This scheme aims at co-ordinating the various sources of hospital income. It is proposed to form a central managing committee, with subsidiary sections in the various wards of the city. The Hospital Saturday Fund will constitute the principal branch industrial contributors' scheme for employers and employees, and will pay to the central committee the total received, less amounts reserved for the special work of the Fund in connexion with such activities as the provision of convalescent home treatment and surgical aid. Contributions of 2d. weekly are invited from employees, and employers are asked to subscribe a sum equal to at least one-third of the total amount so obtained. The hospitals will still be open as before to patients too poor to contribute. Private individuals with limited incomes will be able to join a subdivision of the scheme, and so become eligible for free hospital treatment. It is hoped that each hospital will make a maintenance charge for other patients who are not contributors, but who could have afforded to pay at least 2d. a week. The new arrangement is not intended to interfere in any way with the systematic appeal by individual hospitals for subscriptions and donations from any sources not embraced by the scheme.

MEDICAL STUDENTS' VISIT TO BATH.

A party of medical students from Birmingham University, accompanied by Professor Douglas Stanley, professor of pharmacology and therapeutics, and other members of the staff, visited Bath on March 19th, to study the spa treatment of rheumatic and other diseases. After lunch the party assembled in the Pump Room, where Dr. A. Gordon Watson described the types of cases in which spa treatment is indicated. The bathing establishment was inspected under the guidance of the director of baths, Mr. John Hatton, and demonstrations were given of the various baths, douches, and other methods employed. The Royal Mineral Water Hospital was then visited, and cases were demonstrated by Drs. Rupert Waterhouse, R. G. Gordon, James Lindsay, H. Clulow Nixon, and Litt. After a short motor tour of the city to see the historic houses and the Georgian architecture of Bath, the Roman baths were visited. Before the party returned to Birmingham tea was served on the Roman Promenade.

HOSPITAL SATURDAY FUND.

A social gathering of the Hospital Saturday Fund was held in London at the Guildhall on March 16th. The Lord Mayor, president of the Fund, commented on the satisfactory progress during the fifty years of its existence, and made special reference to the valuable help it had given in maintaining the voluntary system. Its organization of the collection of subscriptions in workshops, factories, and offices had resulted in the people generally taking an increasingly keen interest in the work of the hospitals and recognizing their responsibility in the matters of maintenance and extension. The Earl of Malmesbury, chairman of the Fund, said that the income last year had amounted to £109,677, of which £30,577 had been received from patients, £4,127 from the General Post Office, £2,520 from the London, Midland, and Scottish Railway, and £1,623 from the London and North-Eastern Railway. Expansion of the work of the Fund had rendered it necessary to obtain new premises at a cost of £7,000. Nearly 47,000 letters had been issued for hospitals, convalescent homes, and sanatoriums, while 21,773 grants had been made for surgical appliances. He added that the attendance of the Lord Mayor at this social gathering which had replaced the annual dinners held in previous years was an illustration of the close connexion between the Mansion House and the Fund.

Correspondence.

SLEEP IN HOSPITAL.

SIR,—Many a true word is said in jest, and I should like therefore to draw the attention of your readers to an article in *Punch* (March 2nd, 1927), entitled "The Wash; or, Dawn in Hospital," by "A. P. H."

The art and science of nursing has become so nearly perfect that nobody bothers to inquire whether it could be improved. The question, however, of sleep is, I venture to think, a matter to which not nearly enough attention is given. If this matter is discussed with the nursing staff they always point out that the present routine of the hospital makes it imperative that washing should start in the very early hours of the morning. This enslavement to routine was carried out to such an extent in the war that I was obliged to ask my commanding officer to make it a rule that no washing should start before 6 a.m., except for therapeutic measures. At that time the number of nurses in the casualty clearing stations was very small, and when there was a particularly busy "strafe" on it was not an uncommon sight to see the tents lit up at 3 a.m. and washing commenced. We were told that the seriously wounded man was not washed, but his companions on either side who were slightly wounded and feeling full of joy at being away from the firing line used to have an animated conversation, so that sleep was impossible.

Many of your readers, like myself, have experienced the joy of a morning sleep after a restless night, and have also been rudely awakened in the early hours for ablutions.—I am, etc.,

MALCOLM DONALDSON.

London, W.1, March 21st.

THE THYROID AND MANGANESE TREATMENT IN ACUTE PNEUMONIA.

SIR,—The letter of your correspondent, Dr. R. O. Adamson in the JOURNAL of March 19th (p. 539), encourages me to offer an observation which appeared to me to be pertinent when I read the article of Dr. Roche to which he refers, wherein is advanced the therapeutic advantages of thyroid and manganese in acute pneumonia as advocated by Dr. Nott.

Lobar pneumonia, a self-limited disease, and one in which I venture to say one's prognostic deficiencies are only too often displayed, is, as Dr. Adamson suggests, an excellent opportunity to exhibit the apparent advantage of almost any treatment. During the war I enjoyed the exceptional opportunity of observing lobar pneumonia on a very large scale.[1] In two and a half years I saw 558 cases, the whole of the treatment of which I personally undertook or supervised. The mortality rate of the whole series was 10.9 per cent. I recollect, as bearing upon this subject, that at one time 53 consecutive cases, including several of the greatest severity, were treated without a death, and, if only one fatal result be included, this series numbered 94 consecutive cases. I think it would have been not merely reasonable, it would have been irresistible had any special or peculiar treatment been adopted, to have allocated to such treatment the credit of so exceptionally high a recovery rate. Yet at no time was any but symptomatic treatment employed.

Universal satisfaction will be expressed if Dr. Nott's treatment can prove to be a specific or at least a valuable adjuvant in the treatment of lobar pneumonia. But I can only agree with Dr. Adamson that the greatest care must be exercised in deducing the effects of any treatment.—I am, etc.,

London, W.1, March 19th. ADOLPHE ABRAHAMS.

THE USE OF TUBERCULIN.

SIR,—A perusal of the article on tuberculin in the BRITISH MEDICAL JOURNAL of February 19th (p. 340) led me to inquire what investigations into the use of this substance had been carried out in this country in recent years. I was surprised to find that there exists a committee, appointed, I think, in 1920, by the Medical Research Council, for the purpose of investigating the use of tuberculin in the diagnosis and treatment of human tuberculosis. It is true that I have failed to discover any reports made by this committee on human tuberculosis, though there are two reports on the use of tuberculin in cattle. But inasmuch as the three experts stated by you to have been appointed to investigate Dr. Camac Wilkinson's methods are members of the committee, something presumably has been done about the human variety of the disease during the seven years of the committee's existence. It seems a pity that some sort of report on the original reference to the committee is not yet available.

If, however, the committee finds its hands too full with the application of tuberculin to cattle, may I suggest that the National Association for the Prevention of Tuberculosis might usefully turn its attention to research? If I am correct in supposing that this association is meditating another campaign of what is called "propaganda," I venture to think that the funds it is setting out to collect might prove of greater value if devoted, say, to helping to establish an institute such as that suggested by Dr. Camac Wilkinson in a letter to the *Times* on March 15th. Propaganda is somewhat hackneyed; and, under present limited conditions of knowledge, has been carried about as far as the circumstances justify.—I am, etc.,

Felsted, March 21st. CHARLES BUTTAR.

THE PRACTICAL VALUE OF INSULIN.

SIR,—In the JOURNAL of March 19th (p. 530) you record the verdict of Professor Marcel Labbé that no case of true diabetes proves refractory to insulin. I should have agreed with him two months ago, but since then I have had under close observation a lad of 19 who is extraordinarily resistant to insulin. On a fixed diet of 50 grams carbohydrate, 80 grams protein, and 150 grams fat, 220 units of insulin a day failed to reduce the blood sugar to normal and to keep him sugar-free, and it required 400 units to reduce his blood sugar to normal. In my former experience such a diet has never required more than 60 to 70 units a day in the severest case of diabetes. Undoubtedly insulin had some effect on him, because when it was omitted he developed coma in a week, and was rescued by large doses of insulin. All the factors which are known to counteract insulin appear to be absent in his case. Another similar case is recorded by two careful workers, Mauriac and Aubertin (*Presse Médicale*, December 29th, 1926).

The above case will be reported more fully later, but in the meantime it may be of interest to know that cases extremely resistant to insulin do occur for no known reason.—I am, etc.,

R. D. LAWRENCE, M.D., M.R.C.P.

London, W.1, March 19th.

[1] *Lancet*, 1920, ii, 543.

THE MODERN TREATMENT OF HERNIA.

SIR,—Mr. M. Fitzmaurice-Kelly's interesting remarks on this subject (BRITISH MEDICAL JOURNAL, March 12th, p. 491) seem to call for a brief reply. I am very glad to know that he has already carried out the treatment of umbilical hernia by a combination of Mayo's and Gallie's technique just as I suggested in my paper. I feel sure that this is an advance in the surgery of hernia. Meanwhile I have learnt that even this method will not meet the requirements of every case. I have recently had occasion to operate on a very obese man for an enormous obstructed hernia in the region of the umbilicus. The hernia consisted of two peritoneal sacs—one small and one very large. The size of the resulting opening in the abdominal wall, combined with the fact that local anaesthesia does not give general muscular relaxation, made it impossible to obtain any real overlapping of aponeurosis. I therefore employed Gallie's ordinary technique as described for treating any ventral hernia, with a very satisfactory result.



Femoral hernia seen in profile.

With regard to Mr. Fitzmaurice-Kelly's theoretical objection to the operation which I have described for the larger femoral hernias, I am afraid that I have not succeeded in making quite clear the rationale of the procedure. The cure of the hernia is not dependent solely upon the integrity of the suture line between the aponeurotic flap and Cooper's ligament. The sutures are merely holding the flap in its new position and are not under any tension. The flap is forming a curtain *behind* the plane of the crural canal over an area larger than the actual opening, so that pressure from the abdomen will impinge on the flap as a whole and will not put a strain on the suture line in particular. The use of a fascial suture for fixing the flap is therefore a luxury rather than a necessity. I can only repeat that the method I described was used for the more difficult cases and has stood the test of time, some of the patients being men employed on heavy work. I may also point out that Mr. Fitzmaurice-Kelly's method does not overcome the only possible objection to the inguinal approach—namely, that a breach is made in the transversalis fascia in the floor of the inguinal canal, whereas the other method automatically deals with this at the same time.

I do not wish, however, to claim finality for this operation, as there are patients for whom it would be inadequate. Since publishing my paper I have operated on the largest femoral hernia that I have ever seen. The sac was eight inches in diameter, as shown in the accompanying profile view, and contained the greater part of the small

intestine. Gallie's full technique was employed under local anaesthesia. The lower edges of the internal oblique muscle and conjoint tendon were sutured along the crest of the pubes and this was oversewn with two further layers of fascial sutures, the inguinal ligament being incorporated in these layers. The patient, a woman of 66, was undisturbed by the operation, and the result appears to be excellent. Perhaps even Mr. Fitzmaurice-Kelly would have found it necessary to clear this sac from below as a preliminary!—I am, etc.,

London, W.1, March 12th. GEOFFREY KEYNES.

INFLUENCE OF MANURIAL CONDITIONS ON THE VITAMIN CONTENT OF GRAIN.

SIR,—The interesting and highly suggestive work on the above subject by Lieut.-Colonel McCarrison, referred to in your issue of March 19th (p. 530), raises a subject of far-reaching interest and medical importance. Your note emphasizes the probable value of the work in relation to dietary and disease in the East; it is advisable to keep in view the possibility that similar, although less pronounced, conditions of an allied nature may be operative in this country.

Within the past few years the opinion has been expressed by not a few thoughtful agriculturists that the widespread use of artificial chemical manures has exerted an unfavourable influence on the amount and value of the crops. The extension of the use of artificial manures in this country in the past twenty-five years has been remarkable, and there is some reason for thinking that this may have tended to exhaust the soil of some of the ingredients required for obtaining the maximum yield of grain of the best quality. My personal experience of this subject for some years past has forced me to share this opinion. McCarrison's work will be useful in drawing attention to the important problem of "deficiency" in relation to nutrition and disease in its widest biological aspects.—I am, etc.,

Edinburgh, March 21st. CHALMERS WATSON, M.D.

THE ORIGIN OF SYPHILIS.

SIR,—I have read with interest the article on "The Origin of Syphilis: New World or Old?" as published in your issue of December 25th, 1926 (p. 1235). This editorial inclines to the view that the American theory of origin of the disease appears to be weak from the evidences summarized. I am moved, therefore, to offer certain additional evidence supporting the "American theory." My colleague, Dr. Hugh J. Means, roentgenologist, has recently published an article entitled "A roentgenological study of the skeletal remains of the prehistoric mound builder Indians of Ohio" (*American Journal of Roentgenology and Radium Therapy*, vol. xii, No. 4, pp. 359-367, April, 1925), in which he shows (Plate I) illustrations of seven long bones which he considers exhibit evidence of syphilis in different stages of the disease. Dr. Means took advantage of the rich collection of skeletal remains of mound builders in the Ohio State Archeological and Historical Museum. "This investigation was undertaken to determine if an extinct race, apparently having had no contact with the later tribes and the white race, would show the same pathological conditions as are found to-day." He used the roentgenological method only, this being the first time this method has been used in connexion with this collection. Naturally, lesions causing general decalcification could not be demonstrated, so that malignancies, tuberculosis, and other afflictions where repair had not taken place are not found demonstrated. Among the bone diseases, Dr. Means claims:

> "There is no doubt that lues existed among the mound builders of Ohio. Definite gross and [illegible]ence of syphilis was found in three skeleton[illegible]ying degrees of involvement, from a simple [illegible] and roughening on the crest of the tibia, [illegible] bone invading the medullary canal with gumma formation. Two others were strongly suspicious and several more showed a possibility. Of the three positive cases, two occurred in one tribe and the third in another. The tibias were involved in all three individuals, in one case both, in another one, and in the more advanced case a tibia and ulna. Many more positive specimens would probably have been found if the skeletons had been in a less fragmentary condition."

The article takes up also evidences of Pott's disease, rickets, joint infections, osteitis deformans, coxa vara, hypertrophic arthritis, impacted third molar in ramus of mandible, and various fractures, as well as wounding agencies such as arrows and spears. Among conclusions: "It has been clearly proven that syphilis existed and was a fairly common disease."—I am, etc.,

EMERY R. HAYHURST, M.D., Ph.D.,
Professor of Hygiene, Ohio State University.

Columbus, March 7th.

SCIATICA.

SIR,—It is possible that some misapprehension may arise from perusal of the condensed account in the BRITISH MEDICAL JOURNAL for March 19th (p. 522) of Professor Vittorio Putti's lecture on a subject which, it has been truly observed, has hitherto attracted but little attention in England, although very closely studied by the French school of neurologists and osteologists. The word "névrodocite" was used more than ten years ago by Sicard (*Bull. et mém. soc. méd. des hôp. de Paris*, November 3rd, 1916; *Presse méd.*, January 7th, 1918) to express the alteration set up in nerve structures by their compression in bony, fibrous, and aponeurotic sheaths and canals. The word "funiculite" was used by the same observer so far back as 1913 (*Mouvement médical*, August, 1913) to indicate a neurodocitis due to compression of the united spinal roots in an intervertebral foramen.

An admirable account is given in André Léri's recently published work *Les affections de la colonne vertébrale*, embodying the work which the author and his colleagues have carried out during many years. Meynadier's *Thèse de Paris*, 1923 (*La Sacralisation Douloureuse*), gives what is perhaps the most complete bibliography of the subject that is easily accessible to English readers.—I am, etc.,

London, W.1, March 19th. F. G. CROOKSHANK.

INFLUENZA AND ALBUMINURIA OF PREGNANCY.

SIR,—Dr. Gutch (BRITISH MEDICAL JOURNAL, March 19th, p. 543) refers to a relationship between influenza and the albuminuria of pregnancy, amounting in his opinion not improbably to cause and effect. How explain it? The albuminuria is not due to the toxin of influenza, for "the pregnant woman only is affected in this way." Nor is it due to a too generous diet: Dr. Gutch has abandoned that view. Can the persistent cough explain it?

Two years ago, during a similar epidemic, a primigravida, 30 years of age, and seven months pregnant, developed a "terrible" cough and became pre-eclamptic; general oedema ensued, and the urine became scanty (8 ounces in twenty-four hours) and highly albuminous. The cough preceded the pre-eclampsia, and in my opinion caused it. But how?

In 1922, considering the proximate cause of the toxaemia of the pernicious vomiting of pregnancy,[1] the conception that vomiting is a pathological force arose and became defined. It was easy to see that the compressions of the liver, produced by the acts of vomiting, interfered with the blood flow through the liver; and that the kidneys were similarly affected by the same acts and in the same way, to the extent that they could not prevent albumin escaping. Thus, though greatly interested, I was not greatly surprised to find my patient, apparently quite well until she got influenza, become more or less rapidly oedematous with the rise and persistence of her cough, which she described as "terrible."

We have but to think of the enormous rise of pressure in the abdomen produced by cough, and to understand that with the abdomen distended by a pregnant uterus, the compression of the kidneys produced by cough must be greater than in those with flat abdomen, to see that the blood flow through the kidneys during each cough—especially in pregnancy—must be much impeded. And no great stretch of the imagination is necessary to allow the possibility that

[1] *Lancet*, 1922, i, 867.

a succession of such forces may produce albuminuria: thus, in athletes, albuminuria is produced by rowing a race (Collier). In the latter case, the kidneys become ischaemic through the violence and rapid repetition of the abdominal contractions (in which the diaphragm participates). In the case of a "terrible" and persistent cough, with the abdomen distended by pregnancy and the abdominal muscles in a state of greater tonic contraction than normal (as I have shown is the case in pregnancy),[2] the more marked implication of the kidneys in pregnancy and the relationship referred to by Dr. Gutch become of easy interpretation.—I am, etc.,

Rugby, March 20th. R. H. PARAMORE, F.R.C.S.Eng.

SIR,—Dr. John Gutch ends his letter on this subject in your issue of March 19th (p. 543) with the question, "and why it is that the pregnant woman only is affected in this way?" It has long been my experience that albuminuria, generally of slight degree, is so common in cases of influenza that it should be expected to be among the symptoms of any case of that infection. I have been surprised that this is not more generally recognized. —I am, etc.,

Manchester, March 20th. P. MCDOUGALL.

SPASTIC PARAPLEGIA.

SIR,—In the discussion on spastic paralysis reported in the JOURNAL of December 25th, 1926 (p. 1208), reference is made to the form of treatment introduced by me—that is, sympathetic ramisection (*Medical Journal of Australia*, January 26th, 1924).

In the first place, I would emphasize that ramisection was not based upon the hypothesis that the functions of movement and posture are performed by entirely different sets of muscle fibres, as stated by Mr. Bankart, but upon experimental observations made by me upon the effect of the removal of the sympathetic nerves from the left hind limbs of normal, spinal, and decerebrate goats. The film shown by Dr. Beattie illustrated the results of these experiments; and in reply to Dr. Adie and Dr. Walshe I have to state that the effects shown were constant not only in goats but in cats and rabbits also. In addition, Kuntz and Kerper were able to produce similar results in the dog (*American Journal of Physiology*, March, 1926).

In the second place, Mr. Bankart considers that the operations of sympathetic ramisection have now been given a fair trial, but his evidence is far from satisfactory. On examining his own statements the reasons for his failure are obvious. He has done the operation ten times; "in about one-half the cases" there was no appreciable effect upon muscle tone or upon the vascular condition of the limb. It should be obvious from this statement that the structures divided by Mr. Bankart were not sympathetic nerves, but this apparently escaped the notice of the neurological and physiological critics at the meeting at Nottingham, and at the meeting of the Royal Society of Medicine, reported in *Brain*, vol. 49, Part 1, p. 135. If this result was obtained by Mr. Bankart in "about one-half the cases," is it not fair to suggest an error in technique or an incomplete technique in the other half? Mr. Bankart says that his experience is similar to that of those who have tried the operation in America. He has apparently not seen the statement of Dr. von Lackum of the New York Orthopaedic Hospital (*Journal of Bone and Joint Surgery*), in which he says that the usefulness of grey "ramisectomy" in selected cases is, in his opinion, no longer in doubt, and, further, that a definite relief from spasticity will be noted and a marked increase in voluntary control will be gained

He is also not aware that ramisection, or a modification, is practised successfully at the Mayo Clinic, and that successful results have been obtained at the Toronto, San Francisco, and Los Angeles children's hospitals. From my own experience in Australia I am convinced that unsuccessful results can always be accounted for by the improper selection of cases, or by an error in technique.—I am, etc.,

March 2nd. N. D. ROYLE.

[2] *Proc. Roy. Soc. Med.*, Obstet. and Gyn. Sec., 1913, vi, 309.

OPTICIANS AND OPHTHALMIC BENEFIT.

SIR,—I am a whole-hearted opponent of all types of unqualified practitioners, and am in hearty agreement with the principle of Dr. Pocock's plea (p. 544) that societies should discontinue their practice of advising their members to go to qualified opticians. If any members of the general public ever peruse medical literature, however, I do not think they would be very favourably impressed with our cause if they found one of our leading medical journals publishing, in a prominent position, an isolated case in which a qualified optician showed an error of judgement in prescribing spectacles.

I once failed to diagnose, until after several days' delay, a case of ambulatory pneumonia; on another occasion I diagnosed a bronchiectatic cavity as an empyema, and aspirated—with disastrous results. I think these errors were far more serious than that made by the optician, and yet I should feel rather hurt if any colleague published these cases with an implied suggestion that patients should be advised not to consult men of my type! There is no evidence that the optician did not employ "reasonable care and skill," and if we are going to endeavour to damn the unqualified practitioner by promoting a principle that members of a profession must never make a mistake, I am afraid that we shall find ourselves "armed with a boomerang."—I am, etc.,

T. W. PRESTON, M.B., M.R.C.P.

London, S.E.19, March 19th.

"BIRTH CONTROL."

SIR,—The review in your issue of March 12th (p. 475) of the book *Medical Views on Birth Control* includes, in a composite summary of this very one-sided symposium, the opinion that, beyond a considerable number of cases in which there are definite medical indications for the prevention of conception, it is at least extremely doubtful whether a more general practice of this can be justified on any grounds. Surely, if contraception could be and were abolished, the birth rate would rise to over 30 per 1,000 per annum; and, to avoid a decline of our average duration of life, we should therefore require to maintain a natural increase of population of over 20 per 1,000 per annum, which is only possible in new countries. Taking the world as a whole, one may say that its food supply is increased so slowly that only a very small proportion of couples can get really sufficient food for themselves and more than three children.—I am, etc.,

London, S.W.7, March 12th. B. DUNLOP.

THE RHEUMATIC CHILD.

SIR,—Perhaps you will allow me to point out that the report on rheumatic fever about which you comment in the last issue of the BRITISH MEDICAL JOURNAL corroborates what I stated at the Conference on Cripples held in the British Medical Association's House last November, and published in the last issue of the *Cripples Journal*.

I pointed out that bad teeth, enlarged tonsils, damp houses, etc., may be associated with, but are not the cause of, rheumatic fever, whilst the one and only thing common to all these cases is malnutrition, whereby they get none of the lime-bearing foods such as milk, eggs, and cheese. In addition they aggravate this want of lime by partaking of acids like vinegar, sauces, pickles, and lemons.

Where two or three in a family fall a prey it is always found that their feeding habits differ from those who are not attacked, the latter liking and drinking milk.—I am, etc.,

Swansea, March 13th. G. ARBOUR STEPHENS.

Obituary.

JOHN BROWNLEE, M.D., D.Sc., F.R.F.P.S.,

Director of the Department of Statistics, Medical Research Council.

THE death, from bronchopneumonia, after little more than forty-eight hours' illness, of Dr. John Brownlee, which occurred on March 20th, will come as a great shock to his numerous friends. Dr. Brownlee had not enjoyed robust health for some years, but he was actively engaged in research work only a few days ago and apparently in his usual health and spirits.

John Brownlee was born in 1868, a son of the manse, and was educated in the University of Glasgow, where he had a brilliant career, securing first class honours in mathematics and natural philosophy in his arts course and commendation both for M.B. and M.D. degrees. He graduated M.A. in 1889, M.B. in 1897, M.D. in 1898, and D.Sc. in 1907. He was also a D.P.H. of Cambridge, and some years ago the Faculty of Physicians and Surgeons of Glasgow conferred upon him the distinction of election to the Fellowship without examination. After graduation and the usual resident posts, Brownlee spent two years as resident physician in the Belvidere and Kennedy Street Fever Hospitals, and then nine months as pupil-assistant to the late Dr. J. B. Russell in the Glasgow Health Office. This experience impressed him deeply, and Russell was for him one of those great men who, in Helmholtz's words, "alter one's whole scale of values." In 1899 Brownlee was appointed medical officer of health for Guernsey, and although he held the post only eighteen months this stay in an environment very different from that of a great industrial city also affected him deeply. In 1900 Brownlee returned to Glasgow as physician superintendent of the Belvidere Fever Hospital, and for the next fourteen years (he transferred from the Belvidere to the Ruchill Hospital in 1908) he was mainly engaged in the clinical and administrative work of a large hospital for infectious diseases. In this work he was conspicuously successful. Although not a fluent lecturer he was a wonderfully inspiring clinical teacher, and the writer of this notice well remembers the enthusiasm with which an old pupil of Brownlee, whom he messed with during the war, spoke of the Ruchill teaching. Brownlee found time, however, to apply his mathematical ability to medical and biological problems, and before his appointment by the Medical Research Council, in 1914, to be the first director of their statistical department, he had already published several important papers of a biometric character and won a reputation as a prominent exponent of the statistical method. From 1914 onwards Brownlee's professional interests were statistical, and a bibliography of his work since 1913 includes no fewer than forty-five titles; many of these papers, such as his memoir on the epidemiology of phthisis and his investigation of the periodicity of epidemics of measles, involved an immense amount of detailed analysis and are of permanent scientific value.

It is not possible, in a note written within a few hours of the loss of a great investigator, adequately to characterize the nature and value of his contribution to knowledge: it is hardly respectful even to try to do so. Perhaps it may be said that the real value of Brownlee's life work was not so much in any important specific addition to knowledge as in the general character, the *quality* of his work. This may at first seem a hard saying, for in the mere A B C of literary composition Brownlee was deficient. His literary style was not very attractive, and he had none of the power so conspicuous in, for instance, the writings of Mr. Udny Yule, of expressing a difficult mathematical argument in such a way that no attentive reader can fail to grasp it.

But any reader who cares to surmount the superficial difficulties of Brownlee's style is inevitably conscious of a certain philosophical breadth of treatment which he will seek in vain in the writings of most statistical epidemiologists. The memoir on the epidemiology of phthisis or the report on the mortalities of birth, infancy, and childhood well illustrates this quality. A reader may dissent from every particular proposition and yet feel that the author has placed him under a great obligation—has obliged him to look at the problems from a loftier standpoint. There is a great gulf between acuteness and sagacity. Of that acuteness which enables a man to solve neatly particular problems—the mental analogue of the precision with which a terrier nips rats—Brownlee had little; he was not acute in the narrow sense, but he was something more—he was sagacious. Of course, he had the defects of his qualities. People who did not know him intimately and sought guidance on some specific problem might be, and frequently were, exasperated by the way he would pass from topic to topic and leave the difficulty just where it was at first. But nobody who knew him intimately could fail to be struck by the immense range of his erudition or to be charmed by the simplicity of his character. It was easy to be vexed by his discursiveness when one wanted to have his opinion on a specific point, but one felt that, however discursive he might be, his influence on his associates was extraordinarily good, in that his ideal was that of a pure scholar. He was singularly free from personal jealousy or vulgar ambition, and if not in the formal sense a great teacher of statistical epidemiology, his writings and example have done, and will continue to do, great good. Many years ago Dr. Campbell Munro wrote: "Dr. Brownlee is a man of high intellectual endowments, of great breadth of view, of brilliant scientific attainments—a man who is certain to attain a high position in the public health speciality. He is a man of high moral purpose and elevation of character, and, with all his attainments, of singular modesty and simplicity." That might fairly stand for Brownlee's epitaph.

SIR HENRY CRAIK, BT., K.C.B., M.P.

THE death, on March 16th, of Sir Henry Craik removes from the House of Commons a member of a type not common in that assembly, but of great importance to its efficiency. He had sat in Parliament since 1906, when he was elected to represent the Universities of Glasgow and Aberdeen. After the redistribution in 1918 he became one of the three representatives of the four combined Scottish universities. He was born in 1846. He was educated at the High School at Glasgow, whence he went to Balliol as a scholar and exhibitioner. Immediately after taking his degree—which he did with honours in classics and history—he entered the Education Department, became a senior examiner in 1878, and secretary of the Scottish Education Department, Whitehall, in 1885. He retired in 1904. He was Conservative in politics, but kept an open mind, as becomes a university representative. Apart from politics he fully realized his responsibility to his constituents. He was always ready to study and, if he could approve, to support the views of the medical profession from his seat in Parliament, and to this Dr. Cox bears witness below. His chief contribution to literature was perhaps his book on *The State and Education*, a subject on which, by his long experience, he was well entitled to speak. But he also wrote *A Century of Scottish History* (1745-1843), with a discussion of the effects of the disruption in the later year. He edited also a series of volumes entitled *English Prose Selections*, writing introductions to four of the five volumes.

Dr. Cox, Medical Secretary of the British Medical Association, writes: Sir Henry Craik was a good friend of the medical profession and of our Association, and I have reason to know that he was pleased and proud when we made him an honorary member. I saw a good deal of him during the struggle over the original National Health Insurance Bill, which he cordially disliked. His instincts revolted against any interference with the freedom of any profession, for though he was an old civil servant and thus under the suspicion of favouring bureaucracy, he was a born individualist. On many later occasions I sought his help as a member of Parliament, and he was always ready to give it, even if it meant much trouble, for he took his duties as a university member very seriously. He will be a distinct loss to us and also to Parliament, for there are too few with his devotion to all that parliamentary institutions stand for. The service at St. Margaret's on March 19th, which I attended on behalf of our Council, was dignified and beautiful; representatives of Sir Henry's

family were surrounded by large numbers of members of Parliament and members of the public services, the universities, and the professions, all of which he had served with devotion and distinction. It was just, one felt, what he would have regarded as a fitting end to his work.

C. DA FANO, M.D.,

Reader in Histology, University of London (King's College).

DR. C. DA FANO, F.L.S., Reader in Histology at King's College, London, died with unexpected suddenness at his residence in London on March 14th, in his forty-eighth year. By his death medical science in this country loses one of the ablest exponents of histology.

Corrado Da Fano was the third son of Commendatore Alessandro Da Fano. He received his early training in histology in Golgi's institute of histology and general pathology at the University of Pavia, where he graduated M.D. in 1905, and later (1912) became Libero Docente in morbid anatomy. He obtained a travelling fellowship at Milan and worked in Ziehen's neurological clinic in the University of Berlin in 1908, and in the following year with Dr. Bashford at the Imperial Cancer Research Fund, London. After a period of work at Groningen he returned to Milan University as vice-director of the pathological institute. From 1915 to 1918 he served as captain in the Italian Army Medical Service on the Italian front. In 1918 he became lecturer in histology at King's College, London, and in 1922 was given the title of reader in histology in the University. Dr. Da Fano specialized in the histology of the central nervous system, and his advanced lectures attracted large audiences; the histological specimens by which they were illustrated formed a complete and noteworthy collection. His researches, published in a series of about sixty papers in various journals, were mainly concerned with the Golgi apparatus in cells and the special lesions of the nervous system in such affections as encephalitis lethargica. He had a very extensive knowledge of foreign languages, and he generously devoted a considerable portion of his time to acting as one of the editors of *Physiological Abstracts*. He married in 1915 Miss Dorothea Landau, and leaves a son and a daughter.

Universities and Colleges.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

ELECTION TO THE COUNCIL.

MONDAY, March 21st, was the last day on which the names of candidates were to be received for the election of members of the Council which takes place on July 7th. Nine nominations have been forwarded to the Secretary by candidates seeking to fill the three vacancies occasioned by the retirement in rotation of Sir John Bland-Sutton, Bt., Sir Cuthbert Wallace (Vice-President), and Mr. W. Thelwall Thomas.

The candidates are: Sir Cuthbert Wallace, K.C.M.G., C.B. (St. Thomas's), Fellow 1893, Member 1891; Mr. W. Thelwall Thomas, M.B.E. (Liverpool), Fellow 1893, Member 1886; Mr. L. P. Gamgee (Birmingham), Fellow 1893, Member 1891; Mr. Herbert J. Paterson, C.B.E. (London Temperance Hospital), Fellow 1897, Member 1892; Mr. H. W. Carson (Prince of Wales's), Fellow 1899, Member 1895; Mr. J. P. Lockhart-Mummery (St. Mark's), Fellow 1900, Member 1899; Mr. Hugh Lett, C.B.E. (London), Fellow 1902, Member 1901; Sir Crisp English, K.C.M.G. (St. George's), Fellow 1903, Member 1900; Mr. C. C. Choyce, C.M.G., C.B.E. (University College Hospital), Fellow 1905, Member 1905.

The constitution of the Council since July, 1926, has been as follows:

President.—Sir Berkeley Moynihan, Bt., K.C.M.G., C.B., Council (1) 1912 (substitute), (2) 1919, Pres. 1926.

Vice-Presidents.—Sir Cuthbert S. Wallace, K.C.M.G., C.B., C. 1919; Mr. F. J. Steward, C. 1920.

Other Members of Council.—Sir Anthony A. Bowlby, Bt., K.C.B., K.C.M.G., K.C.V.O., C. (1) 1904, (2) 1912, (3) 1920, Pres. 1920, 1921, 1922; Sir John Bland-Sutton, Bt., C. (1) 1910, (2) 1918, Pres. 1923, 1924, 1925; Sir D'Arcy Power, K.B.E., C. (1) 1912, (2) 1920; Sir H. J. Waring, C. (1) 1913, (2) 1921; Sir John Lynn-Thomas, K.B.E., C.B., C.M.G., C. (1) 1918 (substitute), (2) 1925; Mr. Ernest W. Hey Groves, C. (1) 1918, (2), 1925; Mr. W. Thelwall Thomas, M.B.E., C. 1921; Mr. C. H. Fagge, C. 1921; Mr R. P. Rowlands, O.B.E., C. 1922; Sir James Berry C. 1923; Mr. J. Herbert Fisher, C. 1923; Mr. W. Sampson Handley, C. 1923; Mr. Percy Sargent, C.M.G., D.S.O., C. 1923; Mr. G. E. Gask, C.M.G., D.S.O., C. 1923; Mr. W. McAdam Eccles, C. (1) 1914, (2) 1924; Mr. Wilfred Trotter, C. 1924; Sir Charles Gordon-Watson, K.B.E., C.M.G., C. 1924; Mr. A. H. Burgess, C. 1925; Mr. V. Warren Low, C.B., C. (1) 1916 (substitute), (2) 1917, (3) 1926 (substitute); Mr. Victor Bonney, C. 1926 (substitute); Mr. G. Grey Turner, C. 1926.

The medical schools are represented as follows:

London:	
St. Bartholomew's	6
Guy's	3
St. Mary's	1
*Middlesex	3
St. Thomas's	3
University College	1
Royal Free	1
Total London	18
Provincial:	
Bristol	1
Cardiff	1
Leeds	1
Liverpool	1
Manchester	1
Newcastle-on Tyne	1
Total Provincial	6
Total Council	24

* One member retires and does not seek re-election.

UNIVERSITY OF OXFORD.

Proposed Research Fellowship in Medical Science.

A BEQUEST to the University was made by the late Gustave Isidore Schorstein, D.M., Christ Church, F.R.C.P., physician to the London Hospital and the Brompton Hospital for Diseases of the Chest, who died in 1905. The bequest was subject to two life interests, and these having matured by the termination of both life interests, a Decree has been promulgated in the University proposing to establish a research fellowship, to be called the Schorstein Research Fellowship in Medical Science. If the Decree, which was promulgated on March 15th, meets with the approval of congregation next month, it is probable that an election will be made during the Summer Term. The conditions under which it is proposed that the Fellowship shall be awarded have been published in the *Oxford University Gazette* of March 16th, 1927.

UNIVERSITY OF DURHAM.

AT the June convocation the honorary degree of D.C.L. will be conferred upon Sir James Berry, F.R.C.S., President of the Royal Society of Medicine and consulting surgeon to the Royal Free Hospital.

VICTORIA UNIVERSITY OF MANCHESTER.

THE following candidates have been approved at the examinations indicated:

DIPLOMA IN PUBLIC HEALTH.—N. S. Craig, T. N. Fisher.
DIPLOMA IN PSYCHOLOGICAL MEDICINE (*Part I*).—Mary C. Luff.

UNIVERSITY OF ABERDEEN.

THE following candidates have been approved at the examination indicated:

FINAL M.B., CH.B.—G. J. Allan, A. W. Badenoch, J. Barclay, Catherine I. A. Craig, J. G. H. Davidson, R. G. Dingwall, P. T. J. Doss, A. D. Duff, G. A. P. Fraser, J. M. C. Gill, J. Leiper, J. W. Lobban, *N. J. Logie, *H. G. M'Pherson, C. P. Mann, G. N. Marr, *W. Marshall, J. R. Moir, J. H. Olby, *A. S. Paterson, Mary Riddoch, C. C. Ross, G. C. Walker, L. G. Walters.

* With distinction.

UNIVERSITY OF ST. ANDREWS.

THE University Court at its last meeting accepted with gratitude the gift of £100,000 to the University from an anonymous benefactor. Of this munificent donation £40,000 will be used for establishing a number of entrance scholarships of £100 a year each, confined to men students living in an official residence at St. Andrews; £29,000 will go towards the cost of the new hall of residence for men students; £8,000 will be used in improving the University chapel; and the balance, £23,000, remains at the disposal of the University Court.

UNIVERSITY OF DUBLIN.

TRINITY COLLEGE.

At the spring commencements in Hilary Term, held on March 19th, the following degrees in the Faculty of Medicine were conferred:

M.D.—R. E. Steen.
M.B., [illegible] G. J. Boorsen, G. D. Edwards, E. A. Ellis, [illegible] (*antea* Sherowitz), G. S. [illegible]

[illegible] Justice [illegible] Hume-Spry, [illegible] up, in 1918, [illegible] been asked by [illegible] ry had full [illegible] egligence and [illegible] conceded by Sir [illegible] Strode had be[illegible] verdict of the ju[illegible] pletely vindicated.

JUTH WALES.

[illegible], B.Ch., D.Sc., has been [illegible] College, in succession to [illegible] in the beginning of October.

Medico-Legal.

HUME-SPRY *v.* SMITH AND WATSON.

JURY STOP CASE: VERDICT FOR DEFENDANTS.

ON the fifteenth day of the hearing the special jury stopped the action in which Mr. F. Hume-Spry, now an official in the Probate Registry, claimed damages in the King's Bench Division from Dr. R. Percy Smith and Dr. A. H. Watson for their alleged negligence in certifying him as insane. Mr. Justice McCardie accordingly entered judgement for the defendant doctors with costs, the jury being exempted from further service for five years.

The previous proceedings in the case are reported in the issues of the BRITISH MEDICAL JOURNAL of March 12th (p. 495) and 19th (p. 547).

Evidence for Defence Continued.

Mrs. Hume-Spry, wife of the plaintiff, continuing her evidence in chief, said she was compelled by her husband to write unkind, or objectionable, letters to her mother-in-law. In 1921 her husband asked her to approach Dr. Woods to ask him to write to his mother about making provision for him. She did so, and Dr. Woods called to see her at her flat—"he told me that he was passing, having been to a nursing home, and that as he had not made any appointment he had thought that he would drop in and see what he could so. He said that he was in a great hurry, *and he asked me if I had had any dinner.* I said that I had not, and so we went to dinner at Pagani's Restaurant." She also dined with Dr. Woods at the Café Royal in January or February, 1921. Her husband suggested at the time that she should bring Dr. Woods into the flat and be discovered with him in a compromising position, but she told him he was mad and that she would have nothing to do with it. She thought it kinder to think him mad than a blackmailer—he had a sort of moral cancer. She never told her husband that Dr. Woods was in love with her and that she reciprocated it. While her husband was at Dolgelly she received a letter from him containing the words: "Don't waste your time being friendly with Woods. Get him compromised. . . . I suggest getting him to take you away for the week-end." She wrote in reply: "Cannot you realize that decent men do not sell their wives for cash?" He then wrote that he was coming to London to show her and Dr. Woods up, as no judge would believe Dr. Woods visited her flat merely to talk business. She telephoned to Dr. Woods that she wanted to see him but that she did not want to go to the hospital. They therefore met at Pagani's Restaurant, where she showed him her husband's letter, saying her husband had done the same sort of thing in 1918. The witness described the scene at Paddington Station and at her flat on her husband's return from Dolgelly. He found the letters he had written from Dolgelly and destroyed them. In March, 1921, when she and her mother were living in Marylebone, her husband came in late one night shouting: "Where is that man?" but the next morning he begged them not to tell the doctors. She never wrote a confession of misconduct with Dr. Woods. She had always opposed her husband's certification. There was no truth in the suggestion that she had misconducted herself with Dr. Stodart-Walker of the Ministry of Pensions. The witness then described the night of December 31st, 1922, when she woke up and found her husband had turned on the gas. Later, she told Dr. Prideaux and Dr. Forward, of the Ministry of Pensions, about this incident. On March 12th, 1923, her husband came to her flat at 11 p.m. and charged her with conspiring to get him certified. The conversation went on to 3 a.m. Then her husband put a carving knife to his throat, and she knocked it away, exclaiming, "If you do one more mad act I will have you certified." Later, the same night, she found her husband on one knee with the same knife to his own throat. The following day she informed Dr. Oliver (the medical superintendent at Latchmere) what had occurred, and she went to Latchmere and saw Dr. Percy Smith, one of the defendants, about her husband's condition. The day after that Dr. Oliver said her husband had not returned to the hospital, and asked her to sign an application for an urgency order. She did so, and later her husband called at her flat "oozing venom." She denied telling him that she had "got him in the hollow of her hand." When he left the flat she telephoned to Dr. Oliver and told him what had taken place. On March 17th she went to the Old Manor House, Salisbury, and saw Dr. Watson, the other defendant, and then signed the petition for the reception order.

Mr. Justice McCardie: It has been suggested that you were a party to a scheme to get your husband certified. Is there the slightest truth in that?—There was no conspiracy, or scheme, or plot. If I schemed at all I schemed to keep him out of the asylum.

Cross-examined, Mrs. Hume-Spry said there were worse things to be said about her husband than had already been said. He was a sexual pervert. He was always urging her to earn money for associating with men. His attitude was always that of an accommodating husband.

Sir Henry Maddocks: *If he had been scheming for your downfall, it is* very strange that the delusion that you had committed misconduct with Dr. Woods drove *him mad?—Yes, if he had not been mad before.* My sin was one of omission to get Dr. Woods compromised. If I had done that you wouldn't have had this case at all.

Continuing her evidence under cross-examination, Mrs. *Hume-Spry* said that when she and her husband were "hard up" in 1918 a young officer called upon her who said he had been asked by another man to visit the flat. Whilst he was there her husband appeared and asked the lieutenant "What the hell are you doing here with my wife?" The boy replied that her husband was the man who gave him her address as "a woman whom he might visit." Her husband admitted that night that what he had done was the act of a foul maniac. After her husband came out of the Old Manor House he told all her tradesmen at Westminster that she had been seduced by the whole of the Ministry of Pensions and half Harley Street. The witness added that everything that was foul and dishonourable appealed to her husband. In 1917 and 1918 it was quite clear that her husband wished her to make money by immorality.

Answering Mr. Justice McCardie, Mrs. Hume-Spry said she met Mr. Chetham-Strode, a barrister, when she was travelling to Belgium with her uncle, since dead, and there was not the slightest *foundation for the insinuation that she had misconducted herself* with Mr. Chetham-Strode.

Mr. Justice McCardie pointed out to Sir Henry Maddocks, counsel for the plaintiff, that he had said he had materials from which he could make reasonably definite charges against Dr. Woods, Mr. Chetham-Strode, and Dr. Stodart-Walker.

Sir Henry Maddocks: I say that I shall prove sufficient facts to show that the ordinary person would draw an inference that adultery had been committed. If I misled your lordship into thinking that I should prove actual adultery I never intended to do so. I meant that I should put before the jury such a state of circumstances that Mr. Hume-Spry had no delusion at all, but that he was entitled to draw the inference that adultery had been committed. Whether he was right or wrong is another matter.

Mrs. Hume-Spry, cross-examined on the contents of letters she received from Dr. Stodart-Walker, described them as "flippant rubbish." Her husband knew of the letters as they arrived; she kept them because there was nothing to hide. Witness said it was pure invention on the part of her husband that in 1922 she signed a confession of adultery with Dr. Woods. The confession her husband forced her to sign in 1918 was still with Mr. Francis, the solicitor.

On the instruction of the judge, Mr. Francis was sent for and, re-entering the witness-box, he produced the confession signed by Mrs. *Hume-Spry* in 1918. He explained that he had forgotten this confession when he gave his evidence. His recollection was that the plaintiff's solicitors asked him to produce a confession relating to Dr. Woods in 1922 which he did not remember having seen.

Continuing her evidence, Mrs. Hume-Spry described her interview with Dr. Percy Smith, one of the defendants. Dr. Smith put it to her quite straightly whether there had been any misconduct, and she replied that there had not been. He did not ask her whether she had ever given her husband cause for jealousy with any other man. At a later stage the witness said she saw her husband at the asylum on May 10th, 1923, and he begged her very hard to take him out. She saw no sign of his being cured: he was the same old Hume-Spry. She saw him again on September 5th, 1923, and was much impressed with the *improvement in him.* He thanked her for having had him certified because the shock of certification had made him realize the nature of his previous actions. In the course of answers to further questions by Sir Henry Maddocks, Mrs. Hume-Spry said she did not regard her husband's delusion about herself as proof of his insanity; *it was the mildest part of it.* At times he was dangerous, not only to himself, but to her and to the community generally. Asked if she considered him cured now, she said she would not go so far as to say that; she thought he was merely improved.

Mrs. Amelia Johnson, mother of the last witness, gave evidence of the bedroom incident—the alleged turning on of the gas by the plaintiff and the threats to his own and to his wife's lives with a carving knife. The plaintiff's temper, she said, was at times uncontrollable and he used filthy language. In the course of cross-examination she agreed that before strangers her son-in-law was always good-tempered. After she came to know that he wanted to blackmail Dr. Woods she continued to live with her daughter and the plaintiff. Her daughter would not leave the plaintiff—she had old-fashioned ideas about the duties of marriage.

Dr. James Cowan Woods, who was medical officer in charge of the special hospital for officers at Palace Green, Kensington, until it was closed in 1921, said that on the plaintiff's admission in 1920 he showed signs of general mental failure. Throughout the time the plaintiff was in the hospital he was a border-line case. The witness dined with Mrs. Hume-Spry at Pagani's Restaurant and at the Café Royal solely for the purpose of helping the plaintiff. Mrs. Hume-Spry showed him a letter from her husband from Dolgelly urging her to "get Woods compromised."

Mr. Neilson: Did you tell Mrs. Hume-Spry at any time that you were in love with her?—It is ridiculous.

Did she ever say that she reciprocated that feeling?—It is completely untrue.

The witness added that no patient was surreptitiously drugged at the hospital. He had no knowledge of the plaintiff's movements after 1921, except in March, 1923, when he was told that, in the opinion of the authorities at Latchmere Hospital, Ham Common, the plaintiff was dangerous to him. Later, the witness was told that the plaintiff had been certified. Asked by Mr. Neilson if people of unsound mind had delusions like this about sexual matters, Dr. Woods replied that they were the commonplaces of mental institutions.

Sir Henry Maddocks (cross-examining): Supposing a neurasthenic patient knew that a doctor had taken his wife out to dinner on three occasions, and had taken her back to the flat where she was living alone, do you think that he would be mad because he was jealous?—I cannot give you any answer to that.

That is what happened, is it not?—No; I met Mrs. Hume-Spry with her husband's full knowledge to discuss something at his repeated request.

On all the occasions on which we dined I was doing him a favour by devoting my time after my hospital work to communicating with his people with the object of *getting him a better regard from his mother.*

Is it not a delusion of neurasthenic patients that the doctors are paying attention to their wives?—*Not in any degree.*

Did you communicate with the Ministry of Pensions and tell them that one of your patients was accusing you of immorality with his wife, and that you would rather not keep him?—Within a few days he gave me a written apology. The whole thing was absolutely crazy.

Mr. E. D. Chetham-Strode, a barrister, in evidence, denied that *any misconduct had taken place between him and the plaintiff's* wife, and his lordship said the honour of the witness had been completely vindicated.

Dr. A. Stodart-Walker, in evidence, said he was assistant director of treatment and training at the Ministry of Pensions in 1922. He denied misconduct with the plaintiff's wife. "Mrs. Hume-Spry," he said, "is a woman whom it does not take long to know, and in a very little time we were in the midst of good-humoured laughter." The suggestion that there had been immoral relations was simply monstrous. In reply to Mr. Justice McCardie, who asked if there was the slightest ground for suggesting that he caused Mr. Hume-Spry's certification, the witness said he had nothing to do with it; he did not even know that the plaintiff had been certified. The head of Rotherfield Court, an officers' training centre near Henley, recommended that he should see Mrs. Hume-Spry. Her husband's welfare was a passion with her, and he was able to advise her whom to see at the Ministry of Pensions.

At the suggestion of the jury, the defence agreed to call Dr. Prideaux, Dr. Oliver, and Dr. Martin as their next witnesses.

Dr. J. F. E. Prideaux, Deputy Commissioner of Medical Services at the Ministry of Pensions, in his evidence, said that on December 11th, 1922, he saw the plaintiff at Rotherfield Court. His whole appearance—distracted, excitable, and agitated—was that of a very unstable person. From the reports the witness saw, and from observation, he concluded that it was unsuitable that the plaintiff should remain at Rotherfield Court, so he recommended his transference to Latchmere Hospital, which was then a "border-line" hospital. He was then of opinion that certification would probably have to take place later. On January 15th, 1923, the plaintiff called at the Ministry of Pensions and asked to be allowed to remain at Rotherfield Court. The witness then told him that he could not alter his decision, and the plaintiff was much upset. Mrs. Hume-Spry saw him (the witness) about the same time, and told him of the incident when her husband tried to poison her by turning on the gas in their bedroom. She was not in the least vindictive against her husband; on the contrary, she said that she did not want him certified. The story about the gas incident was consistent with Mr. Hume-Spry's condition at that time. The witness said he formed his opinion of the plaintiff's condition both on December 11th, 1922, and January 15th, 1923, quite irrespective of any accusations against Dr. Woods and the plaintiff's wife. At that time he knew nothing about the plaintiff's charges. While at Latchmere the plaintiff called several times on the witness at the Ministry, and told him that while at Palace Green Hospital Dr. Woods had drugged him so that he could go out with Mrs. Hume-Spry. The next time the plaintiff called he was almost in a state of mania. He burst into the office with his eyes bulging and was wildly excited, accusing the witness of being a friend of Dr. Woods and in league with him. The plaintiff also said he was going to thrash Dr. Woods, and then broke off the interview very abruptly and dashed out of the room. At the next interview the plaintiff was quiet and suspicious, and said that all the officers of the Ministry of Pensions were conspiring against him. At the last interview he was quiet, but said he would not remain at Latchmere, and that he would shoot Dr. Woods. The witness then came to the conclusion that he was definitely certifiable, whether his statements against Dr. Woods were true or not. He then telephoned to Dr. Woods and warned him, and also telephoned to Dr. Oliver at Latchmere Hospital, and Dr. Oliver agreed with the view he expressed. In April, 1923, the witness saw the plaintiff at the Old Manor House, Salisbury, and he thought that he had improved and might be on the way to recovery. He thought that Mrs. Hume-Spry was doing everything she could for her husband.

Dr. Prideaux, in the course of his cross-examination, was asked whether in January, 1923, he considered that the plaintiff ought to be certified in the public interest, and replied that he was not then prepared to make up his mind definitely. He agreed that if, in January, 1923, Mrs. Hume-Spry told her husband that the doctors at the Ministry of Pensions wanted to have him certified, that might have a tendency to disturb him, and if he were suffering from nerves that might tend to make him worse.

Dr. N. H. Oliver, a member of the Bar, and medical officer in charge of the officers' special hospital under the Ministry of Pensions at Latchmere, in his evidence said that within a few days of the plaintiff's admission to Latchmere he came to the conclusion that he was certifiably insane. The witness did not care about having him in his hospital, because he was very excitable and very suspicious, and had conceived a belief that there was a great plot against him *by everybody in the Ministry* of Pensions. The plaintiff even thought that the witness, as a doctor attached to the Ministry, was also concerned in it. The plaintiff asked him if he knew Dr. Woods, and when the witness replied that he did, the plaintiff said, "I thought you would." Later the witness heard reports that the plaintiff was threatening the other patients and the orderlies, and that the other patients objected to having him in the hospital. The day before he was certified the plaintiff went to London and stayed out all night without leave. On the following day the witness asked him what *he had been doing,* and he replied that he had spent a couple of hours on the previous night outside Dr. Woods's house. The witness asked, "What would you have done if you had seen him?" and the plaintiff replied, "I should have killed him. I intend to kill him." After that the witness had to take some step. At the witness's request Mrs. Hume-Spry came to the hospital, and he told her that her husband was too bad for his hospital. She did not wish him to be certified, and asked whether certification could not be postponed or avoided. The witness at that time formed the conclusion that if Mr. Hume-Spry was not dangerous then he would soon become so. He chose Dr. Percy Smith, the defendant, to see the plaintiff because of his eminence in the profession and of his independence of the Ministry, against whose doctors the plaintiff had made all sorts of charges. The witness took the steps for certification for the plaintiff's own benefit, as the witness thought he could not possibly get well in the circumstances in which he was. Compulsory discipline was the *only thing for him.* The day after Dr. Smith saw him (March 14th, 1923) the plaintiff left the hospital before breakfast, having told several people he did not intend to return. The witness looked upon him as being definitely and dangerously homicidal, and telephoned to Dr. Smith for an urgency order as soon as possible. It was a very anxious time.

Cross-examined, the witness said that what the plaintiff had said about his waiting outside Dr. Woods's house and intending to kill him impressed the witness more than anything else as to the urgency of certification. Mrs. Hume-Spry was opposed to certification, but at length she said to the witness: "If all you doctors think the same I am afraid that I shall have to give way." Asked by Sir Henry Maddocks what he would have certified the plaintiff for before March 13th, the witness answered: "Because *he was likely to be dangerous to others.*" He *added that the* plaintiff suffered *from insanity* of a delusional type. He believed that the whole Ministry of Pensions was in league against him. His reason was so distorted and warped that he was not always rational, and refused to be treated in any way, breaking all the rules of the hospital.

Mr. Justice McCardie: *Do you think that Dr. Smith was right in* certifying Mr. Hume-Spry on March 13th?—I think that he was absolutely right. I do not think that he could do anything else.

You yourself would have certified him on that date without hesitation? —Without hesitation.

Dr. S. E. Martin, the medical superintendent of the Old Manor House, Salisbury, said he received Mr. Hume-Spry into that asylum on March 15th, 1923. Two days later he saw Dr. Watson, the defendant, and told him that, in his view, Mr. Hume-Spry was a dangerous and possibly suicidal case. In his opinion it was quite proper to certify him, and he was not influenced by anyone in *forming that conclusion.*

Mr. Neilson: *Did you ever tell Mr. Hume-Spry that if he did not write* to Dr. Woods he would never get out of the asylum so long as he lived? —No.

It has been suggested that, thinking one thing, you expressed another because of your wife and child. Is there any truth in that?—No.

The witness added that Mr. Hume-Spry was kept in an observation ward, and the suggestion that he was put in a refractory ward was absolutely false. To say he was kept among raving lunatics was absolutely untrue. At one time the plaintiff maintained that his suspicions about Dr. Woods were without foundation. Mrs. Hume-Spry's attitude towards her husband was always very solicitous for his recovery. No pressure was ever brought to bear on the witness from any quarter to keep the plaintiff in the asylum, or to refuse him leave on parole. On August 28th the plaintiff wrote to the witness expressing appreciation of "your treatment of my case," and said that the Old Manor House had given him a perspective and enabled him to feel a much stronger man. On December 11th Mr. Hume-Spry was allowed on parole for a month to visit his sister. Although his condition was improved, he was not then fit to be discharged from institutional care. He did not return after the leave expired.

Cross-examined, Dr. Martin said the plaintiff was so manifestly insane when he was received by him that it would not have altered his opinion if he had known that the plaintiff had had grounds for believing his wife had misconducted herself with Dr. Woods.

As the witness was answering this question, the jury handed a note to Mr. Justice McCardie, who sent it to Sir Henry Maddocks.

Sir Henry Maddocks (after reading its contents): It is quite sufficient intimation for me. The jury for a long time have given careful attention to this matter. It has been gone into in great detail.

Mr. Justice McCardie: The jury say: "We are all of opinion that there must be a verdict for the defendants." I gather that after that you feel that it would be useless to proceed with the case.

Sir Henry Maddocks: I think that it would be wrong. The issue is one of fact for the jury. They have heard the evidence in great detail and they have acted on it. I have nothing to complain about.

Verdict for Defendants.

The jury then formally returned a verdict for the defendant doctors.

Mr. Neilson referred to the aspersions cast upon Mr. Chetham-Strode, Dr. Woods, Dr. Stodart-Walker, and Dr. Martin, and *expressed the hope* that it would be possible for his *lordship* and the jury to say that the characters of all these witnesses had been completely vindicated; also that, in view of what the last three witnesses who were called had said about Mrs. Hume-Spry's solicitude for her husband's welfare, she would be relieved of the baseless charges which had been made against her.

Mr. Justice McCardie said it was clear that the verdict of the jury had fully vindicated both the defendants from the charges of negligence and bad faith which were made against them. It was conceded by Sir Henry Maddocks that the honour of Mr. Chetham-Strode had been completely vindicated. It followed from the verdict of the jury that the honour of Dr. Woods had been completely vindicated. He also inferred that the honour of Dr.

Stodart-Walker had been vindicated, although his lordship had no doubt that the jury would like to express their regret at the careless and foolish letters he wrote. He must infer from the verdict of the jury—and he should hold it himself without the slightest hesitation—that there was not the faintest ground for the suggestion that there was a conspiracy by the officials and doctors of the Ministry of Pensions wrongfully to send the plaintiff to the asylum.

His lordship added: "I shall retain the documents in the custody of the court that the Director of Public Prosecutions may consider whether or not he shall take criminal proceedings against Mr. Hume-Spry for perjury, or such other offence as he may think fit."

Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

BUSINESS in the House of Commons this week has included the second reading of the Cinematograph Films Bill, further discussion of the Navy Estimates, the second reading of the Consolidated Fund Bill, and certain Scottish business. In debating a London, Midland, and Scottish Railway Bill a number of members referred to the daily overcrowding of trains in East London and South Essex. The House of Lords has discussed the possibility of greater economy in national expenditure.

On March 22nd Dr. Fremantle presided over a meeting of the Conservative Health and Housing Committee, which discussed the Nursing Homes Bill, introduced by Mrs. Philipson. This bill is down for second reading on April 1st, as second order of the day. Its text was not available for the Committee, but it is expected to incorporate the recommendations of last session's Select Committee on Nursing Homes. The Health and Housing Committee was of opinion that the bill should be drafted so as to meet general approval and ease its passage into law this session, which is to be a short one. Emphasis on rigorous inspection of all nursing homes would probably be deprecated by those who wish to see the bill pass, but the need for registration of these homes is accepted.

A Mental Deficiency (No. 2) Bill has been introduced by Mr. Rhys Davies. It represents the Labour party policy on the question, and incidentally proposes to reconstitute the Board of Control.

The Mental Deficiency Bill.

Second Reading Carried.

In the House of Commons, on March 18th, Mr. Crompton Wood moved the second reading of the Mental Deficiency Bill. He said a mental disease which in its nature could be cured was dealt with in the Lunacy Acts, while the Mental Deficiency Act of 1913 dealt with those considered to suffer from arrested and incomplete mental development, and who, while likely to recover, required care, supervision, and control. The 1913 Act, though one of the most valuable social Acts ever passed, had the defect that only those mentally deficient "from birth" or "an early age" came within its scope. Those words, as generally defined by magistrates and medical practitioners, excluded several classes from the benefits of the Act. Encephalitis lethargica, and meningitis, and frequent epileptic fits might affect a person all through life, but unless these began at an early age the sufferers, though often rendered mentally deficient, could not come within the benefits of the Act. Another class suffered accidents causing damage to the brain. Cases in which the early history was lost were frequent. An instance had come before the Board of Control where a man, aged 36, was convicted forty times between 21 and 34 years of age, twenty times for indecent assaults. He had been imprisoned in all for five years between those ages. The cost in prosecution and imprisonment had been £1,000. No female was safe while he was at large, but his history before the age of 14 was unknown, and the magistrates could not make an order for his detention, as they held that the defect could not be proved from an early age. A bill introduced last session had been crowded out. The present bill had been so drawn up as to obviate any charge of interfering with the liberty of the subject; in its preparation the advice had been obtained of experts at the Ministry of Health and of the Board of Control, and with the assistance of the Association of Mental Welfare. The bill proposed the deletion from the Act of the words "from birth" and "from an early age," as recommended in the report of the Departmental Committee on Sexual Offences against Young Persons. A subsection defining mental deficiency, which was not in the Act, had been introduced. The bill of last session limited the period within which mental deficiency must appear to the ages of mental development, but in the present bill the age limit was put at 18 years. Many people wished the limit to be higher, but that age had been chosen to avoid opposition. From last year's provision that mental deficiency must be "induced after birth by disease, injury, or other cause," the words "or other cause" had been dropped. The original Act provided that a defective might be placed in an institution or under guardianship if "found neglected, abandoned, or without visible means of support, or cruelly treated." The bill provided that the good mother could apply to the magistrates for her defective child to be certified. It also provided that children incapable of receiving benefit in special schools or likely to be detrimental to others could be placed under supervision or sent to an institution. The bill would give education authorities power to recommend for supervision children who had been in special schools, in addition to their present power of certifying for guardianship or for committal to an institution. Mr. Wood remarked that he looked to supervision of mental defectives in their own homes as one of the great hopes of dealing with this problem. Of mentally deficient girls who had been allowed to go to their own homes under supervision of the London County Council during the first ten years of the Mental Deficiency Act, only 10 per cent. had children. Another clause in the new bill enabled a continuation order for a mental defective to be made by a doctor at the place where the boy was working. The boy would not be recertified by one medical practitioner alone. The case had to be investigated by three magistrates, with one or more women, and a medical practitioner added. A further clause made it the duty of local authorities to provide training and occupation for defectives who were at their own homes under supervision. Mr. Wood told the House how, at a recent visit to the Epsom Manor Institution for Mental Defectives, he had found a large number of young persons all working busily at trades. Their ages ranged from about 8 up to 25. In an adjoining mental hospital he found young sufferers from encephalitis lethargica among elderly people with no great provision made for their training. The children would benefit greatly by transfer to the special institution, and the bill was directed to empower such a transfer.

Sir Douglas Newton, in seconding, said that even under the extended provisions of the bill some mental defectives would not be covered. The medical profession had shown courage in the administration of the Act of 1913, but was not adequately covered by the present law. In 1925 there were 55,480 mental defectives in the country, or 1.46 per 1,000 of the population. Ascertainment tended to increase the figures. The argument that sterilization would prove a cheap alternative to segregation he did not think a sound one. Little expense would be saved to the community, and mental deficients nearly always led useless or harmful lives. Sterilization, if resorted to, would only result in 3 to 5 per cent. of those now in institutions receiving greater freedom. He urged that all cases of mental deficiency should be notified by local authorities before these cases reached the procreative age.

Colonel Wedgwood moved the rejection of the bill, and protested against the "detestable coercion" of taking into homes those defectives whose parents did not wish them to go. He referred to the case of a London labourer who had frequently been sent to prison for cutting off tresses of hair from girls on omnibuses. Under the bill that man, who ought to have visited a doctor, would receive a "life sentence" in an institution for mental defectives, though he would not be sent to one, because at present there was not adequate accommodation. He denied that statistics proved that persons called morally defective were sure to have mentally or morally defective children. The danger was that this bill would be used to prevent girls being on the streets. He would wager that most of the younger persons up to 25 who were in the homes for the mentally defective were women.

Mr. Crompton Wood intervened to say that most of them were boys.

Colonel Wedgwood said it was better to have an illegitimate birth rate which was diminishing than to hold over girls on the border-line of vice and immorality the fate of being enclosed in one of these institutions for life. He declared that the definitions in the bill were not of much importance; the expert would have his own way with the Act of Parliament, and would lock or unlock the door of the institution. He warned the House against building up a new worship of expert authority.

Mr. Rhys Davies said there were young persons in prison who should not be there, but were cases for sympathetic medical treatment. The same thing was true in the Borstal institutions. Greater powers should be given to the Ministry of Health to see that local authorities performed their duties under the Mental Deficiency Act. There was no place in the country where an adult suffering from "sleepy sickness" could be sent.

Mr. Chamberlain said he had received many letters from mental deficiency committees and organizations interested in mental welfare, all regretting that last year's bill had been dropped and urging its reintroduction in the same or a slightly modified form. He inclined to think that the definition of mental deficiency in the bill before the House was too narrow

and the limiting age of 18 too low. Defective children were happy in their institutions, and were treated with unvarying kindness, but were not suitable companions for non-defective children. The shortage of accommodation for these cases could be temporarily alleviated if other institutions now administered by boards of guardians could be handed over to the councils of counties or county boroughs. Meanwhile, let all be certified who ought to be. He did not think it necessary to provide special institutions for adult cases of encephalitis lethargica. He did not think the bill would require to be much amended, and hoped it would be carried.

Mr. Snell, as a member of the Royal Commission on Lunacy, thought that certification for mental deficiency should be the last resort. The first thing to do was to make sure that attention had been given to the physical health of the young person. Whatever good there might be in medical treatment for the mentally afflicted should be available for the adolescent. He was not satisfied that the bill sufficiently discriminated between temporary and permanent affliction. The House ought to have a healthy distrust of "medical omniscients." He declared that life in institutions for the mentally defective could not be happy. Mr. Charleton suggested that members and medical men did not understand the view of the working class woman on separation from her child. He had visited a number of mental hospitals and homes, and had noticed that in some cases the children cringed to the attendants. Attendants were far more eager to prevent the appearance of bruises on their patients than to treat them kindly. To a mother these institutions were asylums. His own boy had been mentally deficient from the age of 2, and had been kept at home. Though he (Mr. Charleton) had only been a fireman on the railway, all difficulties had been overcome by a mother's love.

Colonel James said that if Mr. Charleton had any charges to make against mental homes he should bring them definitely. To make insinuations in the House was most unjust. Many cases of mental deficiency were unwanted children, and at their homes got a cuff on the head rather than a mother's love. Many border-line cases suddenly "went off the deep end," and for them this bill was necessary. He hoped the bill would not be obstructed in Committee.

Mr. Smithers said one of the things of which they could be proudest in this country was the high standard of the medical profession. In the case of death or accident, or in the coroner's court, everyone seemed to accept the doctor's decision. Mr. March, in supporting the bill, paid a tribute to the way the London County Council had graded children in the various schools. He understood that there were 40,000 to 50,000 mentally defective children in the country, but only two or three schools for them. The local authorities should set about building institutions.

Sir George Hume gave details of what the London County Council was doing for the mentally defective, and said the Council was considering the provision of further accommodation, chiefly for criminal, intractable, and very immoral women. The bill introduced no new principle.

Major Crawfurd asked medical members of the House whether the ordinary medical practitioner was in fact duly qualified to give an opinion on cases of mental deficiency. Commander Williams thought that before passing the bill the House should be certain that there were means of training a staff adequate for the new institutions which would have to be provided. These modern institutions would be very costly. They might easily get an increased cost of £20,000,000.

Mr. Hardie, who had experience of schools for the mentally defective in Scotland, said the medical men of whom he had experience were not bigoted. He had cases of children, in the ordinary way looked on as hopeless, who had benefited wonderfully in the special schools. A boy who could not speak and could not add two and two was now a skilled designer in a carpet factory.

Dr. Vernon Davies said that no real opposition to the bill had been developed in the debate. Mental deficiency, or amentia, was absolutely distinct from dementia, and unfortunately cure could not be expected. Defectives could not be cured but might be improved. The bill did not mean that nearly all cases of mental deficiency must go to institutions. If they had to go, the liberty of the subject was efficiently guarded by the process which must be gone through. The whole idea of the Act of 1913 and of this amending bill was the benefit of the child. As to the cases of encephalitis in which arrested or incomplete development resulted, most people who were competent to judge agreed that these cases only occurred in adolescence, before the brain was completely developed. He protested that the medical men of the country were sometimes severely criticized from the Labour benches. Their knowledge was superior to that of a layman, and attention should be paid to them. Whether they were believed or not, they were doing the best for the patients. Mentally deficient children did not feel confinement in an institution as a normal child did. They were all one happy family, and when allowed to go home for a week or a fortnight had, he found, been delighted to return to their school, their games, and their playmates. In reply to the inquiry whether the medical men who were called in were duly qualified to give opinions on cases of mental deficiency, Dr. Davies answered "Yes, certainly." The first examination was by two medical men who had been approved by the Board. The second, at the end of twelve months or whatever the period might be, was by a local medical man who was perfectly competent to decide whether the child should continue under control or go free.

Dr. Fremantle said medical men were the last to declare at any moment that they were right in any decision. They might be empirics, as Mr. Charleton said they were, but they had information a little deeper and wider than that of other people, and they had to decide upon experience. Very often the restrictions provided greater freedom for mental defectives than they would otherwise have. Often the individual wished to stay when the officers of the institution suggested that he could go home. Mr. Charleton had suggested an intermediate type of institution where a patient could be kept for five days of the week and allowed home at week-ends. That system already existed in a number of institutions. There were 55,000 mental defectives in the country, and accommodation for only 5,000 in institutions, but a large number of institutions under the guardians were being set free by measures like the Widows' and Orphans' Pensions Act. In the interests of the mentally defective, of their parents, of the public, and of the future generation he hoped the bill would pass into law.

Mr. R. Morrison said he had spent many years in teaching mentally deficient children, and had seen the wonderful results achieved in the special schools. There were nearly always in these mentally defective persons some senses more acute than those of ordinary people. Sir Herbert Nield said that when on the Middlesex bench he had had border-line cases before him who could not be certified under the existing law. The bill would ensure that such persons received proper care instead of ordinary punishment, which, with or without hard labour, would tend to aggravate their condition.

The bill was read a second time without a division, and sent to a Standing Committee.

Midwives and Maternity Homes (Scotland).

The Midwives and Maternity Homes (Scotland) Bill was read a second time by the House of Commons on March 18th, without a division. In moving the second reading, Mr. Barclay Harvey said the bill was for the registration of midwives, to reduce the number of midwives who were not qualified, and for the registration and inspection of maternity homes. The infantile death rate was still high in Scotland. The efforts of certain local authorities had reduced it, but not the rate of maternal mortality, which was actually increasing in Scotland, being 6.2 per 1,000 births in the period 1915-22. A committee under Lord Salvesen had stated that the evidence it received was unanimous on the essential proposals of this bill. The births in Scotland were rather over 100,000 yearly, and 600 women died in maternity. The bill tightened up the provisions against the unregistered midwife, but made exception in cases in sparsely peopled districts or in emergencies which could not be foreseen. One clause entitled a midwife to be paid if she had been suspended from work owing to the possibility of her carrying infection through no fault of her own. The bill might be improved in committee.

Sir George Berry, in seconding, said the medical profession in Scotland entirely approved of the bill.

Mr. Maxton said the infant and maternal death rates in Scotland were disgraceful, and the heavy incidence was in the poor quarters of the big cities. In one ward of Glasgow the infantile death rate rose above 100 per 1,000 per annum; at the other end of the same city it was 32. City medical officers had proved that in the one- and two-roomed houses this death rate rose above the hundred, and in houses with five or more rooms it dropped to the twenties. The bill would have absolutely no effect. He did not see that the bill improved the inadequate arrangements made by the Act of 1915 for registration and training of midwives in Scotland. The Government had imposed the duty of doing this upon the Glasgow Maternity Hospital and similar institutions in Edinburgh, Aberdeen, and Dundee, but had made no allowance out of public funds.

Dr. Elliot said the bill was backed by members of all parties. All the points mentioned by Mr. Maxton could be threshed out in committee. The contributions from the child welfare centres of the Glasgow Maternity Hospital already amounted to £3,000 a year.

The bill, as already stated, was read a second time, and sent to a standing committee.

Tuberculosis.—During 1926, twenty-six officers and men were invalided from the Royal Air Force on account of pulmonary tuberculosis. Sir Samuel Hoare states that the figures for the last five years show a steady decrease in the numbers invalided for this cause. The number of men invalided from the Royal Navy for pulmonary tuberculosis in 1925 was 209, and in 1926, 179. No reliable figures exist on which to estimate the number of cattle in Great Britain which are affected with tuberculosis.

Boys in Mines.—A bill to prohibit the employment of boys under 16 at night below ground in coal mines was read a first time on March 16th, on the motion of Mr. Tinker, who stated that more than 25,000 boys below 16 years of age are working underground. He added that many mine managers considered it morally and economically unsound to work boys on the night shifts. Boys were prohibited from working on the surface between 9 p.m. and 5 a.m., but this prohibition had not been extended to boys below ground.

Opium in India.—Earl Winterton, on March 21st, informed Mr. Gardner that the number of licensed opium shops in British India in 1925-26 was 5,844. The latest figure of poppy cultivation in British India showed 114,198 acres in the year ending October, 1925; in addition there was a small area of 1,653 acres in the Punjab Hills.

Infant Welfare in Tropical Colonies.—On March 21st Mr. Amery informed Mr. H. Williams that measures were being taken in most tropical colonies on the lines that had been successful in reducing infant mortality in this country. In many of these colonies the results compared not unfavourably with what had been accomplished here. Infant welfare clinics had been established and women doctors, nurses, and health visitors, with experience in this branch of medical work, were being appointed in increasing numbers.

Gland Grafting.—Mr. Guinness, in reply to Sir H. Brittain, on March 21st, said he was aware of Dr. Voronoff's work on gland grafting, and he had arranged, with Dr. Voronoff's concurrence, for a small commission of scientific men to examine and report upon the experimental work on sheep which had been carried out at the Government breeding station in Algeria. The visit of the Commission had been postponed until October or November, when the grafted sheep would be available for examination.

Physical Condition of Recruits.—In 1926 1,028 men presented themselves for recruitment into the Royal Air Force. Of them, 258 were rejected on medical grounds, the principal causes of rejection being dental defects, deformity of feet, heart disease, poor physique, respiratory diseases, defective vision, and ear diseases. For the Royal Navy in 1926 an average of 5,100 candidates presented themselves each month, and the average rejected was 4,460, not all on medical grounds. The main medical causes for rejection were defects of vision, teeth, and hearing.

Poor Law Medical Relief.—Answering Sir Charles Oman, on March 22nd, the Minister of Health said he was aware of the recommendation of the Royal Commission on Poor Laws to the effect that medical relief should be made more readily accessible and of the evidence of a witness, speaking on behalf of the British Medical Association, to the effect that if doctors attended without an order the rule was that they did not get paid. He was not aware that at the present time any difficulty had arisen. He would be glad to consider any information which Sir C. Oman might have on the subject.

Infant Vaccination.—In an answer to Dr. Watts, Mr. Chamberlain said the total number of births registered in England and Wales during 1925 was 710,582, but the vaccination returns in regard to the children born in that year were not yet complete. Returns to hand related to a total of 708,500 children, and of these 37,728 died unvaccinated. Certificates of successful vaccination were furnished in respect of 313,450 children, and declarations of conscientious objection to vaccination in respect of 291,347 children. As regards the remaining 65,975 children, no such certificates or declarations were furnished. He had no information on the number of prosecutions.

Vaccination in Pensions Hospitals.—On March 21st Lieut.-Colonel Stanley informed Mr. R. Morrison that in consequence of the recent severe outbreak of small-pox in Monmouthshire, it was deemed necessary by the medical advisers of the Ministry of Pensions to take all possible steps both to protect the patients in the Ministry of Pensions Hospital at Chepstow and to obviate the closing of this important institution, which served the needs of pensioners in Monmouthshire and South Wales. Closure would have been the only possible course in the event of an outbreak of this disease in the hospital. Instructions had been issued to the medical superintendent advising him that in the case of any patient whom he considered not already adequately protected against small-pox, revaccination should be secured if he considered it necessary and medically practicable. If a patient refused or was not, on medical grounds, suitable for vaccination, the case was to be dealt with either by the temporary provision of alternative treatment, by isolation, or by other means, compatible with the welfare of the patient, which would obviate contact with other patients in the institution. These instructions had been carried out with careful regard to the well-being of all the patients concerned, and had so far been effective. Mr. Morrison asked whether any of the ex-service patients who objected to being vaccinated had since taken their discharge from the hospital. Lieut.-Colonel Stanley replied that three had left. Their time was practically up and they would have been leaving in any case.

Public-house Reform.—A Public-house Improvement Bill to amend the law relating to the sale of excisable liquors was presented in the House of Commons on March 16th by Dr. Fremantle, supported by Sir Herbert Nield and others, and was read a first time. It provides for the issue of an improved public-house certificate for premises intended to be used as a house of general public refreshment, including food and beverages other than excisable liquors.

Notes in Brief.

The Foreign Secretary understands that the publication of the League of Nations report dealing with the traffic in dangerous drugs is merely postponed temporarily pending revision.

The Commissioners of Customs and Excise are giving special consideration to applications for the delivery from bond of wine to be used in the manufacture of medicated wines.

The Minister of Education is informed that the London County Council has asked its inspectors to see, on visiting schools, that a sufficiency of towels is provided for the children. The Council is not aware of any complaints of insufficient supply of towels.

The Services.

HONORARY PHYSICIAN TO THE KING.

LIEUT.-COLONEL AND BREVET COLONEL J. A. HARTIGAN, C.M.G., D.S.O., R.A.M.C., has been appointed Honorary Physician to the King, vice Major-General O. L. Robinson, C.B., C.M.G., late R.A.M.C., who has retired.

ROYAL NAVY MEDICAL CLUB.

THE annual dinner of the Royal Navy Medical Club will take place at the Trocadero Restaurant, Piccadilly Circus, on Thursday, April 21st, at 7.30 for 8 p.m. Members who wish to be present are asked to inform the Honorary Secretary, Royal Navy Medical Club, Queen Anne's Chambers, Tothill Street, S.W.1, not later than seven clear days before that date.

NAVAL MEDICAL COMPASSIONATE FUND.

A MEETING of the subscribers of the Naval Medical Compassionate Fund will be held at 11.30 a.m. on April 21st at the Medical Department of the Navy, Queen Anne's Chambers, Tothill Street, Westminster, S.W.1, to elect six directors of the Fund.

DEATHS IN THE SERVICES.

Lieut.-Colonel William Richard Gore Hinds, R.A.M.C. (ret.), died on November 10th, 1926, aged 84. He was educated in the Queen's University, Ireland, where he graduated M.D. in 1863. Entering the army as assistant surgeon on March 31st, 1865, he became surgeon major, after twelve years' service, and retired with an honorary step as brigade surgeon in 1885. In the old regimental days he was with the Prince of Wales's Own West Yorkshire Regiment. He served in the Afghan war in 1878-80, when he took part in the defence of Kandahar, and received the medal.

Lieut.-Colonel Alexander Chalmers, I.M.S., has died of heart disease at Coimbatore, in the Madras Presidency, where he was civil surgeon, on October 27th. He was born at Ballarat, Victoria, on December 20th, 1872, and was educated at Aberdeen, where he graduated M.B. and Ch.B. in 1898. Subsequently he studied at Leipzig, and took the F.R.C.S.I. in 1909. He entered the I.M.S. as lieutenant on June 28th, 1900, and attained the rank of lieutenant-colonel on December 28th, 1919.

Surgeon Lieut.-Colonel William Patrick Smith, R.A.M.C. (ret.), died in London on January 3rd, aged 85. He was born on February 11th, 1841, and was educated in Dublin. He took the L.R.C.S.I. and L.K.Q.C.P. in 1862, and entered the army as assistant surgeon in September, 1863; he became surgeon major in April, 1876, and retired in October, 1888. As he had then over twenty years' service his title of rank was altered to surgeon lieutenant-colonel when the compound titles were introduced. In the old regimental days he served in the 35th Foot, now the 1st Battalion of the Royal Sussex Regiment.

Major Frank Stuart Tamplin, R.A.M.C., died at Chakrata on February 14th, aged 43. He was the only son of the late Dr. C. H. Tamplin, and was educated at St. George's Hospital, taking the M.R.C.S. and L.R.C.P. in 1910. After filling the post of house-surgeon, house-physician, and ophthalmic house-surgeon at St. George's Hospital, he entered the army as lieutenant on July 28th, 1911, and became major after twelve years' service.

Major Robert James McCormack, R.A.M.C. (ret.), died on January 2nd, aged 69. He was born on February 14th, 1857, and was educated at Belfast, taking the degrees of M.D. and M.Ch. in the Queen's University, Ireland, in 1881. He entered the army as surgeon on August 2nd, 1884, became surgeon major after twelve years' service, the title being altered to major in 1898; he retired in August, 1903. He served in the South African war in 1899-1902, when he was for some time principal medical officer at Durban, and afterwards took part in the relief of Ladysmith, being mentioned in dispatches (1901) and receiving the Queen's medal with a clasp, and the King's medal with two clasps. When on the retired list he was employed at Omagh from 1905 to 1916.

Medical News.

IN connexion with the Lister centenary celebrations in London a meeting will be held at King's College Hospital, Denmark Hill, on Monday, April 4th, at 3 p.m., when Sir Watson Cheyne, Bt., F.R.S., Sir Lenthal Cheatle, and seven others who served under Lord Lister will speak on his personality. Particulars of the reception of foreign delegates by the Prime Minister in the Great Hall of the British Medical Association, Tavistock Square, at 11.30 on Tuesday, April 5th, will be found at p. 579. Full details of the celebration in London are printed in a time-table published in the SUPPLEMENT (p. 104). The number of applications for tickets for the social evening of the Royal Society of Medicine on April 4th, when Sir StClair Thomson will give his recollections of Lister, has been so great that it has been found necessary to close the list and no further tickets can be issued.

DR. P. P. LAIDLAW, F.R.S., has revised the report of the Medical Research Council (No. 35) on the reaction of culture media, which was issued towards the end of 1919. Brief accounts are given of the principles involved in the determination of the hydrogen ion concentration, the preparation of standard solutions, and the adjustment of the reaction of media, with special reference to a colour comparator by the use of which greater accuracy is obtainable. The revised report (price 6d. net) is obtainable from H.M. Stationery Office or through any bookseller.

A MEETING in aid of the Society for the Provision of Birth Control Clinics will be held at 16, Grosvenor Street, W.1, on Wednesday, March 30th, at 5.30 p.m., under the chairmanship of Lord Dawson of Penn, G.C.V.O., M.D. Speakers: Mrs. Margaret Sanger (President of the American Birth Control League) and Mr. Harold Cox.

THE annual meeting of the Royal Medical Benevolent Fund will be held at 11, Chandos Street, Cavendish Square, W.C.1, on Friday, April 8th, at 5 p.m.

A COMBINED meeting of the Tuberculosis Society and the Society of Superintendents of Tuberculosis Institutions will be held at Oxford from April 7th to 9th. Professor Lyle Cummins will give an address on the bovine tubercle bacillus in immunization. A discussion of the defensive mechanism of the body against tuberculosis, from the physical and chemical, bacteriological, and immunological aspects, will be opened by Drs. Leonard Hill and John Freeman. Dr. A. G. Gibson will read a paper on the secondary infections in relation to the course of pulmonary tuberculosis, and Dr. A. D. Gardner will deal with the laboratory diagnosis. Dr. J Middleton Martin will detail gaps and flaws in the public health administration of tuberculosis. Visits will be arranged to the Wingfield Orthopaedic Hospital and the new Osler Pavilion. The annual meeting of the Tuberculosis Society will be held at Oxford on April 8th. Those who are not members of the two societies may attend as visitors, and further information may be obtained from the secretaries, Dr. F. J. C. Blackmore, the Tuberculosis Dispensary, Maxey Road, Plumstead, S.E.18, or Dr. J. R. Dingley, Darvell Hall Sanatorium, Robertsbridge. Those who wish to attend the meeting will be entertained at dinner, and those who wish to take advantage of this offer should notify the honorary secretaries not later than March 31st.

AT the meeting of the Harveian Society of London to be held in the Paddington Town Hall on Thursday, April 7th, at 8.30 p.m., a discussion on the treatment of Graves's disease will be opened by Mr. T. P. Dunhill, to be followed by Dr. C. M. Wilson and others.

PROFESSOR S. LYLE CUMMINS, C.B., C.M.G., will read a paper at the meeting of the North-Western Tuberculosis Society, to be held at the Public Health Laboratory, York Place, Oxford Road, Manchester, on Thursday, March 31st, at 3.15 p.m., on the bearing of recent laboratory research on clinical conceptions in tuberculosis. The meeting will be open to all medical practitioners, who are cordially invited.

DR. C. T. W. HIRSCH will lecture and give a demonstration for the Fellowship of Medicine on emergencies in anaesthetics at the Medical Society, 11, Chandos Street, W., on March 31st at 5 p.m. The same day, at 3 p.m., Mr. H. L. Attwater will give a clinical surgical demonstration at the All Saints' Hospital, Vauxhall Bridge Road, S.W. The lecture and demonstration are free to medical practitioners. From March 28th to April 9th the Queen's Hospital for Children will hold a special course. Also beginning on March 28th the Royal Eye Hospital staff will give a series of demonstrations during the afternoon for two weeks on diseases of the eye. The Fellowship of Medicine can arrange for practical courses in obstetrics and anaesthetics, and also for clinical assistantships in gynaecology; it provides also a general course of instruction at the associated hospitals. Copies of all syllabuses and of the *Post-Graduate Medical Journal* are obtainable from the Secretary of the Fellowship, 1, Wimpole Street, W.1.

A POST-GRADUATE course will begin at the Cancer Institute of the Faculty of Medicine in Paris on May 16th, and will include lectures and a series of practical and clinical demonstrations on the nature, diagnosis, and treatment of malignant disease. Further details may be obtained from the Secretary of the Scientific Section of the Faculté de Médecine de Paris, 21, Rue de l'École de Médecine, Paris (VIe).

A NATIONAL Conference on Maternity and Infant Welfare will be held in the Great Hall of the British Medical Association, Tavistock Square, on July 5th, 6th, and 7th, under the presidency of the Minister of Health. The subjects to be discussed include atmospheric pollution in relation to maternity and child welfare, the provision of efficient sick nursing in the homes of children under school age, respiratory disease in relation to infant mortality, the provision of adequate accommodation for childbirth, the development of dental clinics for mothers and children under 5, the incidence of venereal disease in ante-natal and post-natal clinics, the results of artificial light treatment of children under school age, and the pasteurization of milk in relation to surgical tuberculosis. Lectures and film displays will be given in the evenings, and the travelling exhibition of the Central Council for Infant and Child Welfare will be on view each day. Visits will be paid to a number of maternity and child welfare institutions in London. It is stated that the Minister of Health will sanction the payment of the reasonable expenses of one delegate from any local authority or board of guardians, but that no grant under the Maternity and Child Welfare Regulations will be payable in respect of such expenditure.

IN connexion with the forthcoming Whitsuntide Congress at Ghent of the Royal Institute of Public Health there will be a section devoted to industrial hygiene, of which Lord Leverhulme is the president. Special discussions are to be held on industrial cancer, rheumatism, and temperature and humidity in industrial health. Medical practitioners wishing to participate in these discussions are invited to communicate with Dr. A. Vernon Davies, O.B.E., M.P., House of Commons, London, S.W.1.

COLONEL ROBERT J. BLACKHAM, C.B., C.M.G., late Honorary Surgeon to the Viceroy of India, has been appointed Commandant of the City of London Police Reserve.

IN accordance with the age limit of 68 fixed by the new federal constitution in Germany several professors in the medical faculties have recently resigned, including the physiologist Rubner, the internists F. Krauss and Goldscheider, and the medical jurist Strassmann.

THE Board of the London School of Hygiene and Tropical Medicine has combined the existing departments of entomology, helminthology, and protozoology in a division of medical zoology, under the directorship of Professor Leiper, F.R.S.

IT is announced that the Civil Service bonus for the six months dating from March 1st, 1927, will be calculated on the basis of a cost-of-living figure of 80 as against the figure of 70 for the past six months. This is a return to the level of March 1st, 1925.

THE late Dr. F. O. Stedman, formerly of Hong-Kong, who died at Weybridge in February last, has left estate of the gross value of £107,195 with net personality £101,000. He has bequeathed £500 to the Weybridge Cottage Hospital.

PROFESSOR EHLERS of Copenhagen has been made a Grand Officer of the Legion of Honour, and Professor David Giordano, senior surgeon to the Civil Hospital at Venice, has been nominated Grand Officer of the Crown of Belgium.

A DENIAL of the allegation that syphilis is caused by vaccination has been issued by the three Surgeon-Generals of the United States Army, Navy, and Public Health Service. It is stated that though 5,650,000 individuals have been vaccinated since 1917 by the Army and Navy, in no single instance has syphilis developed as a result, and none of the 2,918,000 vaccinated by the Public Health Service have contracted syphilis thereby. A similar immunity followed the vaccination of over 2,000,000 persons by local health authorities. In the United States the calf vaccine used is prepared only in licensed establishments under special regulations, which provide for repeated inspections of the laboratories and for proper safeguards as regards filling and labelling the tubes.

VACANCIES for two medical officers in the Sudan Medical Service are announced in our advertisement columns. The candidates, who must be single and under 30 years of age, must have held a resident appointment in a large general hospital. The pay commences at £E.720 a year, rising to £E.1,200 after thirteen years' service.

Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to ***The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.***

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the BRITISH MEDICAL JOURNAL alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the BRITISH MEDICAL JOURNAL must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the JOURNAL, should be addressed to the Financial Secretary and Business Manager.

The ***TELEPHONE NUMBERS*** of the British Medical Association and the BRITISH MEDICAL JOURNAL are *MUSEUM 9861, 9862, 9863,* and *9864* (internal exchange, four lines).

The ***TELEGRAPHIC ADDRESSES*** are:

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MEDICAL SECRETARY, *Mediocra Westcent, London.*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 4737 Dublin), and of the Scottish Office, 6, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 4361 Central).

QUERIES AND ANSWERS.

CHRONIC URTICARIA.

"A. F." writes: "Pruritus" should try small doses of thyroid, watching carefully the pulse. I had a similar case that went on for over a year, in spite of all treatment, including dieting, calcium, collosol manganese, etc. I noticed a very minor degree of hypothyroidism, and gave thyroid and iodine, with a very satisfactory result.

MORBID SHYNESS IN A CHILD.

"K. H. G." writes: In reply to my letter in the JOURNAL of February 26th (p. 410) asking for suggestions as to the treatment of a case of morbid shyness in a child of 8, Dr. R. MacD. Ladell (March 19th, p. 551) states that to treat the cause of the shyness one must be aware of what is passing in the child's mind, and this can only be done by a process of psychological analysis. This hardly seems practicable to me in a case of this nature, where the presence of a stranger (even a strange girl of about her own age) causes her to run away, hiding her face with her hands—all entreaties being unavailing.

INCOME TAX.

Wife's Income: Letting of Unfurnished Rooms.

"OVERTAXED" inquires whether his wife can claim repayment in respect of her separate income of £40, and whether he is liable to tax on receipts from letting unfurnished a portion of his own house.

*** (1) No claim can be made in respect of the wife's income; the income of husband and wife are aggregated, and presumably all personal allowances have been made from the husband's income. (2) Any liability to tax on the receipts from letting is covered by the assessment under Schedule A—sometimes referred to as the Property Tax—and the item need not be separately declared.

Income from Irish Free State.

"H. S.," who resides in England, understood that double taxation was done away with in 1926, but is informed that English tax will still have to be paid on the Irish property, although the income has already borne Irish tax.

*** The change made was in the direction of simplification, and it was certainly understood at the time that it would reduce the number of cases where both payments would have to be made. Assuming that the year in question is 1926–27, we suggest that "H. S." should ask the local collector to arrange for the English assessment to remain in abeyance until the Irish tax can be reclaimed and set against the English liability. A call at the office of the inspector of taxes might prove helpful.

LETTERS, NOTES, ETC.

THE NEWSPAPER REPORTER.

THE average newspaper reporter seems to be, in the strict etymological sense, incorrigible. In a report of an address to the Hammersmith Rotary Club a few days ago Sir Squire Sprigge was made to confuse the General Medical Council—a statutory body appointed in accordance with Acts of Parliament, and possessing, among other functions, certain penal powers with regard to registered members of the profession—with the Council of the British Medical Association—the executive of a purely voluntary body. He was also made to say that Britain was the only country where a man could not practise as a doctor unless he was on the *Register*. Of course, Sir Squire Sprigge never made any of these blunders, but they were passed by the editor of a news agency and published by a great London daily newspaper. If a reporter were to make blunders on the same scale about the Lincolnshire Handicap or Grand National, what would happen to him?

COINCIDENT HERPES AND VARICELLA.

TWO cases of the simultaneous occurrence of varicella and herpes zoster were reported in our columns on March 5th (p. 423), and an account of an another case is published by Dr. R. L. Thorold Grant in the *Medical Journal of Australia* for February 5th, 1927. A woman, aged 37, had had Hodgkin's disease for four years; it was kept in check by deep *x*-ray therapy, and signs of enlarging mediastinal glands had recently been treated in this way; shortly after the last irradiation a severe attack of herpes zoster along the course of the left sixth thoracic nerve began and was followed a few days later by an equally severe attack of herpes zoster along the course of the right seventh thoracic nerve; eventually the complete encirclement of the patient with a ring of herpes. At the height of the eruption she developed a profuse generalized varicella rash on the chest, back, abdomen, and scalp, with scattered vesicles on the extremities and face, and within the mouth. There was at that time in Adelaide a mild epidemic of chicken-pox, which the patient had not had in childhood.

ENLARGED PROSTATE APPARENTLY CURED BY COLD WATER APPLICATIONS.

DR. J. CORBET FLETCHER (London) describes a case of reduction in size of an enlarged prostate following continued applications of cold water to the perineum. He states that four years ago a man, aged 58, consulted him for difficult and painful micturition, the urine being tinged with blood. In addition to a large prostate, a ring of external piles was present. For the bladder condition a mixture of potassium bicarbonate, hyoscyamus, and camphor water was prescribed, and the patient was advised to bathe the piles with cold water twice a day. Last month Dr. Fletcher re-examined him and found that the piles had disappeared and that the prostate had returned to the normal size and gave no trouble. The patient has now no bladder difficulty of any kind, and attributes the cure to the cold water applications. Dr. Fletcher adds that in a long medical career he has never encountered another case of enlarged prostate cured except by operation.

CO POISONING.

DR. CHARLES W. CRAWSHAW (Ramsbottom) writes: In your issue of March 5th last Dr. Douglas J. A. Kerr, referring to the extreme toxicity of carbon monoxide, states that an individual breathing an atmosphere containing 1 per cent. of carbon monoxide will have 50 per cent. of carbon monoxide in his blood in fifteen or sixteen minutes. Thirteen years ago I received an urgent message to attend a fireman who had been taken suddenly ill whilst on his way to a fire. On my arrival at the warehouse to which he had been taken I found that he was dead. I was particularly impressed with the bright red colour of his lips and the pink tint of his skin. His fellow firemen informed me that he was apparently well when he took his accustomed place on the engine, but collapsed when about half a mile of the journey had been covered. The fire engine was a horse-drawn vehicle with a low chimney, and the deceased, whose seat was immediately behind the chimney, would be in a likely position to inhale the fumes. The *post-mortem* examination revealed no obvious cause of death, and at the inquest I stated, as my opinion, that death was due to carbon monoxide poisoning, basing this opinion on the rapidity of death and the *post-mortem* colour of the mucous membranes and skin. The interesting feature in the case was the fact that it was possible to inhale a poisonous dose of carbon monoxide in such circumstances — on a moving vehicle in the open air.

A DISCLAIMER.

DR. ALEXANDER BRYCE (Birmingham) desires to disclaim all responsibility in connexion with a paragraph—misleading in substance—which appeared in the London *Daily Mail* of March 19th, referring to his article on "Anaphylaxis and ultra-violet light treatment" in the BRITISH MEDICAL JOURNAL for that date.

VISUAL IMAGERY: CORRECTION.

PROFESSOR T. H. PEAR asks us to correct a technical term in the report of his lecture on visual imagery published in the JOURNAL of March 12th (p. 471). In line 13 of column 2 for "ideatic" read "eidetic."

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 39, 40, 41, 44, and 45, of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 42 and 43.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page *103*.

A Clinical Address
ON
SOME VARIETIES OF HEADACHE.*

BY
LORD DAWSON OF PENN, G.C.V.O., K.C.B.,
M.D., F.R.C.P.

In the address I have the honour to present to you to-night I propose to deal with certain forms of headache which, however distressing, are compatible with, and often characterize, an active life. That is to say, I am excluding from my purview the headache, on the one hand, of structural diseases such as nephritis and intracranial tumour, and, on the other hand, the headache which is a feature of certain infections.

Headache is a term of variable significance—the variability in its intensity suggests the best classification of pain with which I am acquainted—namely, (1) pain which one can forget, (2) pain which one cannot forget, and (3) pain which makes one forget everything else. Moreover, its character varies: it may be described as pain; as unbearable pressure; as throbbing, splitting; as a band of *compression*.

The origin of headache must lie in structures which are sensitive to pain. The dura mater and its extensions like the falx cerebri and the tentorium and the anterior two-thirds of the scalp are supplied by the trigeminal nerves. The posterior region of the scalp and the dura of the posterior fossa are supplied by sensory fibres coming from the upper cervical segments. Tension or stretching of the dura would, as in the case of the parietal peritoneum, produce pain, whereas the brain, like the intestines, is insensitive.

How is this tension set up? The skull is a rigid container which closely fits the brain, and the spare space for the expansion of the latter is strictly limited. If for any reason the spare space is inadequate for the brain expansion, it is suggested that tension results and pain may follow, referred to within the cranium, and, it may be, the scalp. The expansion may be produced by increasing the arterial inflow or retarding the venous outflow or by a swelling of the brain substance (an oedema). Sudden exertion will produce arterial flushing, and lowering the head below the level of the body venous engorgement.

By others it is thought that vasomotor instability is the cause of headache attacks—that is, spasm of cerebral arteries followed by dilatation. Widespread and obvious vasomotor disturbance occurs in many cases of headache; *contraction and dilatation* of the retinal arteries have been observed during attacks of migraine. Moreover, the pinched features, the cold nose and extremities observed before an attack, followed by polyuria as the attack eases, are suggestive of a vasomotor causal factor. Spasm of arteries offers some sort of explanation of localization of headache to one side of the head, or to the frontal, temporal, or occipital regions, and such phenomena as hemianopia and rarer manifestations of migraine like aphasia and paresis. The difficulty is that there is experimental evidence that the cerebral arteries are unresponsive to vaso-constrictor and vaso-dilator impulses.

We must admit that the precise mode of production of headache baffles us. Any valid explanation must account for its occasional rapid appearance and disappearance. I may exemplify this by the quick onset of headache from sudden anxiety and the rapid disappearance after evacuation of the colon.

In one's doubts as to pathogenesis there is a tendency to fall back on the endocrine system. There is no direct evidence of the latter's share in this problem, unless perhaps in relation to pituitary headache. The ductless glands do, however, seem to be a liaison between bodily and mental functions, and with headache this interaction is frequently seen. It is possible that the mechanism of headache may be set in motion by chemical rather than nervous stimuli.

The incidence of headache is variable. On the one hand there is the man of middle or old age who has never had a headache, and on the other hand the subject who seldom goes two or three days without one. Between these two extremes there is every variation. And this leads to the reflection that headache cannot be taken only as a measure of functional defect, but also as a feature of the patient's make-up or individuality; it is his reaction to environment. The same chain of events will lead to severe headache in one patient, slight headache in another, and in yet another no headache at all. Headache is like hyperpiesis: both are different varieties of responsiveness, of inborn trends which will develop or no according to the career of the possessor.

Given the innate nervous state with its characteristic impressionability and, with this, a responsible anxious life or such accessory factors as eye-strain, digestive or metabolic faults, and migraine will be your portion: you are a victim of physiological predestination.

If we call to mind cases of headache which fall into my category—namely, those which are compatible with and often characterize an active life—either they accord with the classic descriptions of migraine, or are associated with disorders of the alimentary tract, or are the result of physical or mental exhaustion, of anxiety states, or other psychical conditions.

I seek to show that there is a close interrelationship between apparently different clinical pictures.

The conception of migraine has been clouded by the dramatic features of its classic form of attack or by over-emphasis of one or other of its manifestations. In one person there is the characteristic hemicrania, with or without visual phenomena; in another the headache is bilateral and is associated with nausea and vomiting; in yet another there is no headache and the manifestations are abdominal. The form may vary in the lifetime of one individual and in members of the same family. The cyclical *vomiting of childhood* may give place in the twenties to the classic hemicrania with its aurae, and this in turn may give place in middle life to recurring general headache associated with gastro-intestinal disturbance.

The clinical pictures are equally variable and suggestive. There is the disciplined man with a high-strung nervous system who has had a heavy week's work and perhaps is congratulating himself how well he has stood it. He plays a game of golf on Sunday. He may then plume himself on the fact that he is as young as ever and play a second round. He then eats freely. Then comes the downfall—migraine. What happens? He is a man in whom the burden of fatigue falls on his plain muscular tissue. As the week advanced his stomach and intestine lost tone, and the functional capacity of digestion and metabolism deteriorated. The physical fatigue of the golf on the top of the week's duties lowered his blood pressure and put his digestion out of business. Here the sequence of events was: exhaustion—*failure of digestion*—toxaemia—headache. One round of golf followed by a light meal and recumbency would have done him good.

In very marked cases of gastro-intestinal responsiveness to fatigue, associated as they often are with low blood pressure, the only way is to let the man rest on the Saturday, take his exercise on the Sunday, and then he will be a king on Monday.

Let me give another example. A spare man of efficiency and conscience (this ilk so often suffers) works all day in the city, and in order to "keep fit" walks home, say, two or three miles at night. He complains of dyspepsia and frequent headaches of the migraine type. Why? The physical exercise following his mental labour was too much for him; the motility of his upper alimentary tract gave out, indigestion followed, and this provocation—perhaps a toxaemia—caused, in a man with an inherent tendency to headache, migraine attacks sometimes conforming to classical description and at other times atypical. Had he not possessed this innate liability to headache, he would have been a flatulent dyspeptic, and perhaps had his appendix or gall bladder out, or had colopexy performed. If he had not possessed a gastro-intestinal tract over-responsive to fatigue he would probably have had recurring attacks of hemicrania with visual phenomena. What cured him? Driving instead of walking, resting for half an hour in the recumbent position, careful attention

* Delivered before the South Staffordshire Division of the British Medical Association.

to warmth of his extremities, and a dinner of light solid first-cooked food with a small amount of good wine. This patient took his exercise exclusively at the week-end and with benefit; he was one of those who could not stand physical and mental effort at the same time.

Such patients often do not tolerate cooked fats. This means that their *hepatic capacity is naturally poor*, or is rendered so for the nonce by fatigue. They can take uncooked butter and even cream, but not cooked fats, and the latter will sometimes produce acetonuria. This is one of the reasons why sodium bicarbonate in full doses is the best remedy for some cases of migraine. For cyclical vomiting alkali and glucose by the rectum are sometimes followed by striking success.

The order of the symptoms will vary. In some the gastro-intestinal upset precedes the headache and in others the reverse order prevails. A recent letter in the BRITISH MEDICAL JOURNAL, signed "Consulting Surgeon," describes the association of acetonuria with cyclical vomiting in one of his children and with migraine in himself. The former he cured by magnesium carbonate and glucose, and the latter he relieved by sodium bicarbonate.

I will pass to another clinical picture. Given a proclivity to headache, and a responsive abdomen, and let it happen that the feet and hands become cold and the abdomen uncomfortable—beware! Warmth must be restored and only the lightest of food eaten. If not, the next movement of the bowel will be ineffective and the motion broken up. The bowel, though it opens, does not empty; there is retention of contents, the defences of the colon seem to weaken, and migraine—of classical or irregular type—will follow. If such a patient be given an ordinary aperient pill, especially a strong one, there is a liability of making him worse, for thereby the bowel is irritated and the defences further weakened, and he feels a worm—a condition described by the victim as "poisoned."

What happens? Provoked by cold, fatigue, or worry (and the worry need not be real, for these patients are sometimes of the "worriting" sort), there is spasm of arteries and of colon. The function of the latter fails—emptying is incomplete, toxic products get through, then follows headache. If no such proclivity to headache existed the patient would get an attack of so-called "colitis."

Abdominal Migraine.

A patient, aged 30, had periodic attacks coming on suddenly, and often in the night, with upper abdominal pain and vomiting. They lasted two or three days. A thorough abdominal exploration showed stomach, duodenum, gall bladder, and appendix to be normal. The latter was removed. Both the father and mother of the patient had been victims of classical migraine. Many such cases have been reported, and in some of them a phase of typical migraine attacks has given place to that of abdominal attacks.

ETIOLOGY.

In the understanding of the headaches we are considering, a number of factors, variable as to their presence and influence, have to be considered. These factors vary in different individuals and even in the same *individual* at different periods of life.

1. A proclivity to headache. Thus migraine is hereditary in more than one-third of the cases, and can sometimes be traced in one form or another through several generations.

> Dr. Yeatman describes himself as "One of the fifth generation of sufferers, propagated through the female line, complicated by gout, and always precipitated by exposure to cold or irregularity of meals, preceded by a feeling of cerebral discomfort, closely followed by general headache, a boring throb at the back of one eye, subsequent sickness, and gradual recovery, accompanied by free secretion of watery urine."

2. Anxieties, fears, repressions, and other psychical conditions.
3. Fatigue and exhaustion.
4. Gastro-intestinal: proneness to fatigue, leading to failure of motility and perhaps secretion, as already set forth. The brain and solar plexus are in error, the proportion and order of their responsibility varying.
5. Hepatic insufficiency.

In some cases several of these factors may contribute, whereas in others one will dominate. Thus you may have the subject troubled neither by fatigue nor anxieties, but the liver can only deal with the lightest food and will not tolerate alcohol; such persons will have periodic attacks of migraine, have a tendency to high blood pressure, and in middle life substitute gout for their headaches, though in these days the acute gouty arthritis is less common. On the other hand, migraine may result from half an hour's *acute anxiety* without any apparent association with digestive or metabolic changes.

DIAGNOSIS.

When we get beyond the precise boundaries and coherency of organic disease into disorders of function the aim of diagnosis is not to seek a label but to search out the why and the wherefore in each patient. The illness will be the result of reaction between external conditions and that particular patient's physiological and psychological make-up. The physician needs first to investigate the present disorder of function by all the tests at his command; next he must know the patient's physiological and psychological habit and workings; and lastly the circumstances of his mode of life and career.

I have given examples of states of body, and will now pass to the brief consideration of states of mind.

The victims of these headaches are often well educated and capable people in whom achievement counts for much, with the pride and hidden vanity that accompany its pursuit. At the same time they are sensitive to the dictates of conscience and duty, which easily become exaggerated and exacting. They thus keep their minds under the lash, and if fatigue supervenes they do not rest but lash themselves more. They strive for superiority; they try to avoid inferiority, and, if they fail, seek to disguise the fact from themselves by psychological pretext. If one adds that they are people of self-control and sometimes of reserve, it is easy to see that repressions and conflicts sometimes hidden under a plausible explanation lead to various failures of adjustment to daily life. Such "conflicts" come out in the pursuit of career, in sex relationships, in social ambitions. Headache is often an expression of the conflicts—with or without *concurrent* abdominal disturbance.

What the doctor has to do is to read and unravel the lines of force within the patient's mind when the latter is up against a concrete difficulty or trial. The treatment should be *ad hoc*. The doctor can then help the patient to understand himself, and point the way to the truth rather than crudely disclose it. So does diagnosis become the best treatment.

TREATMENT.

Treatment is in large measure a study of causes which are variable for different people but fairly constant for one individual.

In those people in whom the headache stands alone, and is the result of responsibility and stress, the day of rest is needed, but still more the right way of using it. So often the day of rest sees the same strenuousness and feverish activity as the day of work. It is relaxation which is needed, and its art requires study. Exercise to be beneficial must bear relation to the frame, physiological habit, and the week's work. There are times when the subject prone to headache needs a day or half a day in bed with windows open, the lightest of diet, and a diverting book. It is to be remembered that some headache victims have no twilight, no forewarning of fatigue, and in extreme cases their lives alternate between orgies of activity and prostration.

The best treatment is to show them the nature of the problem. In some cases an unusual somnolence, with or without yawning, in others an exaltation of fitness, may be danger signals, but often there is no warning. Some people must have fresh air. In the war many migraine subjects during their time in the trenches were immune from attacks. Eye-strain is an accepted exciting cause which needs no comment. Tobacco may be a cause, also alcohol, and—which is interesting—some victims are vulnerable to certain kinds of alcohol and not to others.

As regards the alimentary tract, I have already mentioned the importance of first-cooked foods, the avoidance of cooked fats, and in some cases restriction of sugar. Investigation in each case is needed.

People in whom the gastro-intestinal tract manifests their

fatigue should be careful to be warm when eating and to partake of light food when tired. Many an attack could be avoided by such precautions.

A word on aperients. Patients who are strong, of the gouty type, and whose headaches are mainly due to hepatic insufficiency, are benefited by routine administration of calomel and saline every ten days, but for many, if not most, headache subjects strong aperients are harmful. The dose of salts which would cover a sixpenny piece or a shilling, in the early morning, is sound because it stimulates the ampulla of Vater, but no fuller dose. Castor oil in doses of 1 to 3 drachms once or even twice a week helps many, and others can take the lighter aperients like cascara or senna.

I will not stay to discuss palliative measures; each subject must find his own best—an important thing, because the rule for the headache subject is to "carry on" if possible. Any palliative must be taken at the onset. Salicylate and bromide and sal volatile suits many. Phenacetin is invaluable; pyramidon for the few; cachet Faivre has staunch supporters, but is too depressing for some.

For those prone to acidosis sodium bicarbonate is the indication. Luminal is in some cases helpful, but its effects need watchfulness, because there are some patients it does not suit; thus now and then a blueness of lips may be noted, or again, a dullness or slight perversion of mental outlook.

Skilled massage of the head and neck, and manipulation which includes gentle traction of the head from the trunk, bring great relief to some people. But enough. Headache illustrates a problem which will increasingly occupy the attention of the medical profession—namely, the keeping of man in the path of "physiological righteousness."

Note.—A list of references given by Lord Dawson will be found at the back of the JOURNAL (p. 652).

THE SURGICAL TREATMENT OF PARALYSIS OF THE VOCAL CORD AND OF PARALYSIS OF THE DIAPHRAGM.

BY

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AND

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II.—ELECTRICAL STIMULATION OF THE RECURRENT LARYNGEAL NERVE.

WHEN the recurrent laryngeal nerve is divided previous to the anastomosis of its distal end to the phrenic or some other nerve it has been the rule to stimulate it while the vocal cords have been observed through the laryngoscope. Abduction and adduction of the vocal cord on the side on which the recurrent laryngeal nerve is being stimulated are plainly visible. If, however, the undivided recurrent laryngeal nerve is stimulated both vocal cords move equally. The movement of the opposite vocal cord is obviously induced by a sensory reflex reaching the respiratory centre from the site of stimulation. Possibly also both vocal cords are moving in obedience to the sensory reflex. The movements of the two cords appear to the eye to be synchronous, the vocal cord of the opposite side not moving later in time than the one on the same side as the stimulation. In another experiment, in which on the side opposite to the stimulation an end-to-side recurrent laryngeal-phrenic anastomosis had been done nine months previously and the vocal cord on the side of the recurrent laryngeal-phrenic anastomosis had been for three months moving rhythmically with the opposite or normal cord, the stimulation of the undivided recurrent laryngeal nerve was followed by movements of both vocal cords, but the movement of the opposite vocal cord was much more pronounced than the movement of the vocal cord on the site of stimulation.

This result brings this experiment into line with other experiments already described, and indicates that the nerve current passing through the phrenic nerve is stronger than that which passes along the recurrent laryngeal nerve in normal circumstances. Stimulation of the appropriate area of the cerebral cortex always induces a movement of both vocal cords and never of the opposite cord alone. The above experiment shows that the same obtains from stimulation of the undivided recurrent laryngeal nerve; the reflex causing movement of both vocal cords in this case probably comes from the medullary respiratory centre and not from the cerebral cortex.

There is, however, a possible source of error in interpreting all these results of stimulation of the recurrent laryngeal nerve. It is not possible for the arytenoideus muscle to contract without causing adduction of both cords, while contraction of the crico-arytenoideus lateralis muscle of one side will cause adduction of the corresponding cord. The general result of the stimulation of the recurrent laryngeal nerve is that when a very weak current is applied to the peripheral end of the divided recurrent laryngeal nerve adduction of the cord on that side only occurs, and it may be supposed that this movement is induced by contraction of the crico-arytenoideus lateralis, but if a little stronger current is used both cords adduct, so that the arytenoideus may be supposed to be contracting. These observations have been made on the monkey, the cat, and the dog. Sometimes the cord movements have been seen from above and sometimes from below.

Following the adduction of both cords abduction occurs, but why the cord on the opposite side should abduct it is difficult to understand, except that the cords in normal circumstances always move rhythmically together. No doubt the crico-arytenoideus posticus on the side of stimulation receives a stimulus to contract, but why is it that the corresponding muscle of the opposite side also contracts? The abduction excursions appear to be as active as the adduction movements.

The division of the superior laryngeal nerve does not make any difference, though it was thought before the experiment was done that the intimate anastomosis of the superior and recurrent laryngeal nerves in the larynx might enable a reflex stimulus via the superior laryngeal nerve to reach the respiratory centre. Stimulation by a weak current of the proximal end of the divided recurrent laryngeal nerve produced no movement of the vocal cords.

It is noteworthy that in a paper by H. K. Anderson[4] on "Paradoxical pupil dilatation" in lesions of the sympathetic on both sides of the neck, the conditions that evoke the paradoxical effect are stated to be excitement, dyspnoea, anaesthesia, and death. These conditions are also associated with paradoxical movements of the vocal cords.

III.—THE PARADOXICAL MOVEMENTS OF THE VOCAL CORDS.

Haldane writes:[5] "The respiratory centre is a small area situated in the medulla. When this area is destroyed all rhythmical respiratory movements cease. No definite anatomical group of nerve cells has been defined at the position occupied by the respiratory centre. It seems clear that it is at about the position which is sensitive to chemical respiratory stimuli. The central paths for the innervation of inspiratory and expiratory movements must be different, but in what sense the centre itself is double is still obscure."

Negus states[6] that he and McDowell have proved in cats that the contraction of the laryngeal and diaphragmatic muscles is not synchronous. The glottis opens before inspiratory movement of the diaphragm commences and closes before expiration begins. It is clear that at the end of expiration a stimulus causes inspiration to begin, while at the end of inspiration a signal causes expiration to begin. The contraction of the diaphragmatic, intercostal, and abdominal muscles in expiration is associated with the closure of the laryngeal channel, while the relaxation of the above muscles and the contraction of other inspiratory muscles in inspiration are associated with the opening of the glottis. Evidently these events are very closely and intimately connected. They are, as John Hunter said of the lungs and heart in life, in sympathetic connexion; and any alteration in rhythm or timing must interfere with the perfection of these organic life movements. Negus adds: "The obstruction offered by the glottis to passage of air causes prolongation of the time

taken to fill or empty the lung and thereby causes suitable delay in the timing of the signals for emptying or filling of the lungs—namely, the Hering-Breuer reflex." However this may be, and it appears to be true—and we are not now discussing the CO_2 content of the air in the lungs or blood or other chemical problems—either the diaphragm or the muscles of the vocal cords must be the factor in maintaining the respiratory rhythm. We are inclined to think that the diaphragm, the principal muscle of inspiration, must be the factor. We do not forget that the first respiratory act after birth is inspiration. The metronome in music sets the time: the question is, does the movement of the diaphragm or that of the vocal cords act as the metronome of the respiratory movements?

In our experiments the diaphragmatic contractions, as observed by Professor Elliot Smith, some months after certain anastomoses had been performed were quite normal; but in some instances, in which a double anastomosis had been carried out months previously on both sides of the neck, the vocal cords exhibited a paradoxical movement—with inspiration adduction and with expiration abduction. Before the second anastomoses were done on the left side of the neck the vocal cord on the right side of the neck was moving well with the opposite cord; but when the vocal cord on the left side began to recover from the paralysis it not only started to work in wrong time with the diaphragmatic contractions, but it prevailed on the vocal cord on the right side, which had for months been moving in a normal manner, to join it in a paradoxical movement.

Again, in another experiment (monkey) an end-to-side recurrent laryngeal-phrenic anastomosis was done on the right side and an end-to-end recurrent laryngeal-phrenic anastomosis on the left side. Six months after the first operation the right half of the diaphragm was contracting normally, and so was the vocal cord. On the left side the distal end of the divided phrenic nerve was not anastomosed to any other nerve, and the left half of the diaphragm remained completely paralysed. Six months after the recurrent laryngeal had been anastomosed end-to-end to the phrenic nerve the left vocal cord was moving in a normal way with the other cord. Why in this monkey is there no paradoxical movement of the vocal cords? Indeed, in this monkey there never has been any trace of stridor or difficulty of breathing. The answer seems to be that though the left half of the diaphragm is completely paralysed, the right half is working naturally through nerve influences passing down the phrenic nerve, and the suggestion is made that this half of the diaphragm is acting as a metronome of the respiratory signals.

When both halves of the diaphragm are contracting in consequence of stimuli passing through the descendens noni-phrenic anastomoses and both vocal cords are moving in obedience to signals traversing the recurrent laryngeal-phrenic anastomoses, some factor, it appears, may arise—for example, deep anaesthesia—which disturbs the normal timing of the contractions of the laryngeal and diaphragmatic muscles. No one of these groups of muscular fibres is working under normal conditions, though under such conditions their life and movement are in intimate and sympathetic connexion. There may be delay in the receipt of one or more of the appropriate signals; the longer distance which the nerve current has to traverse and the possible obstructions *en route* may have some adverse influence; or it may be, and it is probably true, that the laryngeal and diaphragmatic muscles get out of step because no one of these four groups of muscles is able, in the new and strange circumstances of their active life, to act as the metronome of the complicated respiratory movements.

IV.—THE DIAPHRAGM.

When the experiment was performed of dividing the phrenic nerve and uniting the end of the proximal segment to the divided end of the distal segment of the recurrent laryngeal nerve, the question arose how best to anastomose the distal end of the phrenic nerve to some other nerve, so as, if possible, to provide for the recovery from paralysis of the corresponding half of the diaphragm. The problem was solved by dividing the descendens noni and uniting the proximal end to the distal end of the phrenic nerve.

In the monkey experiments, when the main trunk of the phrenic nerve is mentioned, the main trunk formed by the union of the roots coming from the third and fourth cervical nerves is meant, as the root derived from the fifth cervical nerve has never been demonstrated during an experiment. In the dog, when the main trunk of the phrenic nerve is referred to, the main trunk formed by the union of the roots coming from the fifth and sixth cervical nerves is meant; the root, a considerable one, which arises from the seventh cervical nerve or brachial plexus, is placed at the upper opening of the thorax, and has never been seen during an experiment.

In the monkey, presumably as in man, the root of the phrenic from the fifth cervical nerve is variable, and when present small. In the dog, however, the root of the phrenic from the seventh cervical nerve is of fair size, and can easily be demonstrated by dissection. It is of much interest to note that in the monkey division of the phrenic trunk formed by union of the roots derived from the third and fourth cervical nerves, and in the dog division of the trunk of the phrenic nerve formed by union of the roots derived from the fifth and sixth cervical nerves, is followed in each instance by complete paralysis of the corresponding half of the diaphragm. The root of the phrenic from the fifth cervical nerve in the monkey when present probably innervates a special area of the diaphragmatic muscle. The same is probably true in the dog concerning the root of the phrenic nerve from the seventh cervical nerve. If this is correct then these special areas of the diaphragm ought to be the first to recover function—that is, if they ever really lost their power to function.

It may be suggested that if one cervical root of the phrenic nerve is divided the recovery of the contractile function of the whole of the corresponding half of the diaphragm is due to the spread of the healthy terminal filaments of the phrenic nerve to the paralysed area of the muscle. This is contrary to what is known of the recovery or continued palsy of muscular tissue in all other parts of the body. As in end-to-end anastomosis of the phrenic nerve to the recurrent laryngeal nerve there follows after a time a recovery of function of the vocal cord muscles, so in descendens noni-phrenic anastomosis it is reasonable to believe that the recovery of the diaphragmatic muscle is a direct consequence of the anastomosis. Besides, by experiment we know that in a monkey fifteen months after the division of the trunk of the phrenic nerve formed by the union of the roots from the third and fourth cervical nerves the corresponding half of the diaphragm remains completely paralysed. Further, the microscope demonstrates that the phrenic nerve distal to its anastomosis with the descendens noni nerve recovers its normal anatomical structure, just as the recurrent laryngeal nerve distal to its anastomosis with the phrenic nerve resumes its normal microscopical appearance. Electrical stimulation also of these anastomoses gives rise to the normal corresponding muscular contractions.

Keith[8] describes the origin and development of the diaphragm.

> "The branchial muscles which formerly forced water through the gill slits are now transmuted into pharyngeal muscles and help to pump air into the lungs, thus acting as muscles of inspiration. The muscles of the body wall are modified to form muscles of expiration. It is worthy of notice that each half of the mammalian diaphragm is developed from two embryonic muscular sources:
>
> "(*a*) *A sterno-costal portion* derived from the ventral longitudinal musculature of the embryonic neck. These muscular sheets give rise also to the rectus abdominis and the depressor muscles of the hyoid bone and larynx.
>
> "(*b*) *A special or vertebral portion* arising from the bodies of the vertebrae and arcuate ligaments, and derived from the cervical part of the transversalis.
>
> "The nerve supply of the diaphragm also points to the fact that there are two distinct muscular elements in the diaphragm. The phrenic nerve when it reaches its corresponding half of the diaphragm divides into two branches—a vertical to the right and left ventro-lateral parts (from the third and fourth cervical nerves) and a dorsal branch (from the fourth and fifth cervical nerves) to the right and left dorsal parts."

Notwithstanding the complicated story of the evolutionary history of the muscle of the diaphragm there is no evidence that any portion of the muscle has a double nerve

supply. It is of interest to note that the depressor muscles of the hyoid bone and larynx and the rectus abdominis are so closely associated in development with the sterno-costal portion of the diaphragm, all these muscles being associated with the respiratory movements.

As in the monkey the roots of the phrenic arise from the third, fourth, and fifth cervical nerves, and in the dog from the fifth, sixth, and seventh cervical nerves, the site of section of the descendens noni nerve for the purpose of doing a descendens noni-phrenic anastomosis may be different. In the monkey the descendens noni nerve is divided above the origins of the branches to the depressor muscles of the hyoid bone and larynx, and the proximal end is united to the distal cut end of the phrenic nerve. It is then desirable to do another anastomosis—namely, to unite the distal cut end of the descendens noni nerve to the lower border of the hypoglossal nerve (end-to-side anastomosis)—so as to obviate permanent paralysis of the omo-hyoid, sterno-hyoid, and sterno-thyroid muscles. (Fig. 22.) This anastomosis has been performed in man, and in animals many times, and always with success. The distal cut end of the descendens noni nerve has in some instances been united, not to the hypoglossal nerve, but to the phrenic nerve, end-to-side, above the recurrent laryngeal-phrenic end-to-end anastomosis. In the dog the descendens noni nerve can be divided below the origins of the nerves to the omo-hyoid, sterno-hyoid, and sterno-thyroid muscles; the proximal cut end can then be united, end-to-end, to the distal cut end of the phrenic nerve. In these circumstances it does not appear necessary to provide for the anastomosis of the distal end of the descendens noni nerve with any other nerve. Whether it would be best in all circumstances to sever the descendens noni above the origins of the nerves to the depressor muscles of the larynx and hyoid bone, when the object in view is the recovery of diaphragmatic paralysis, is not clear.

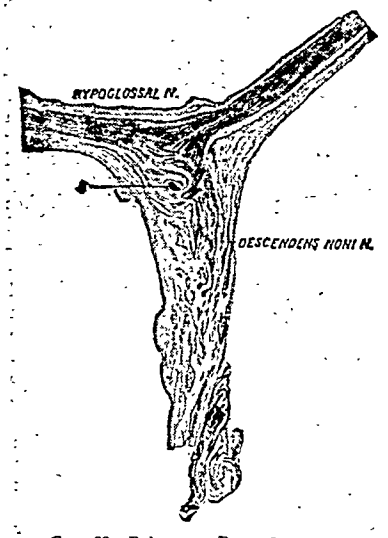


FIG. 22.—Baboon. Descendens noni-hypoglossal anastomosis, end-to-side. Specimen obtained fourteen months after the operation. Strocbe stain; *s*, remains of suture. Complete recovery of function of sterno-hyoid, sterno-thyroid, and omo-hyoid muscles.

In the dog recovery of the functions of the diaphragm is obtained by dividing the descendens noni nerve below its branches. The descendens noni nerve must certainly have many more nerve fibres, and nerve fibres too definitely associated with muscular action, above the origins of the nerves to the depressor muscles than below them. In the monkey the nerve below these branches is very small, but in the dog it is of fair size, and continues its course through the upper opening of the thorax. In man if it was necessary to divide the phrenic nerve there can be little doubt that it would be the right practice to divide the descendens noni nerve proximal to the place where its first branch is given off.

The descendens noni nerve, like the facial artery, has a tortuous course, as it lies among structures which are always in movement and constantly altering their length and position; hence when the nerve is dissected out it is of sufficient length so that it can be made to extend to any desired place.

In some instances one of the roots of the phrenic nerve was divided (instead of dividing the main trunk of the phrenic nerve), the proximal cut end of the root being united end-to-end with the distal cut end of the recurrent laryngeal nerve, while the distal cut end of the root of the phrenic nerve was anastomosed end-to-end with the proximal cut end of the descendens noni nerve. If the descendens noni nerve had been divided above the origins of the nerves to the depressor muscles then, as described above, a further anastomosis of the distal end of the descendens noni would be carried out.

In one instance an end-to-side anastomosis was performed, the end of the recurrent laryngeal nerve being united to a root of the phrenic nerve; the result being a partial paralysis for some months of that portion of the diaphragm supplied by the nerve fibres of the injured root.

It does not appear that there is any advantage in choosing a root, instead of the main trunk, of the phrenic for anastomosis with the recurrent laryngeal nerve; indeed, in one experiment the final recovery of the function of the diaphragm appeared to be delayed by the employment of this plan of anastomosis.

EXPERIMENT XII.—*Baboon.*

In this instance when the main trunk of the phrenic nerve on the *left* side had been divided and its proximal end sutured, end-to-end, to the divided recurrent laryngeal nerve, it was noticed that a large nerve was arising from the fourth cervical nerve close to the origin of the root of the phrenic nerve from the fourth cervical nerve. This large nerve received also a smaller root of origin from the third cervical nerve and passed down the neck for some distance near the phrenic nerve. It was the descending superficial cervical nerve which afterwards divided into suprasternal, supraclavicular, and supra-acromial branches. The trunk of this nerve was divided and its proximal end was sutured end-to-end to the distal cut end of the phrenic. (Fig. 23.) This union of the phrenic nerve with a sensory nerve seemed to be justified by the surprising results obtained by union of the lingual, glosso-pharyngeal, and cervical sympathetic nerves with the facial nerve. It would seem that the actual pathway of a nervous impulse is not of such moment as has been hitherto generally believed, as long as the nerve cells from whence issue the nerve impulses (in this case the nerve cells of the respiratory centre) and the nerve fibre endings (in this case in the muscle elements of the diaphragm) are intact. Sir David Ferrier was present at this operation.

A week after the operation some anaesthesia in the region of the distribution of suprasternal, supraclavicular, and supra-acromial nerve branches was demonstrated. *Five months* after the operation no anaesthesia of the skin in the region of distribution of these nerves could be made out, but the monkey was difficult to examine and the examination was not very satisfactory. *Eight months* after the operation the left vocal cord was moving in tranquil respiration rhythmically with the vocal cord of the opposite side and to an equal extent.

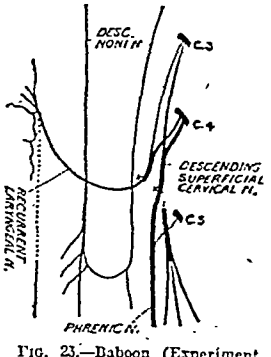


FIG. 23.—Baboon (Experiment XII). Recurrent laryngeal-phrenic end-to-end anastomosis. Descending superficial cervical-phrenic end-to-end anastomosis.

The Diaphragm.—Dr. Eidinow, with his radiographic screen at the Hampstead Research Institute, reported that the left half of the diaphragm was contracting well; in fact, there was no difference in the contraction movements of the two sides of the diaphragm.

This experiment remains a single one and therefore must not be too much relied upon. Unfortunately a week after Dr. Eidinow's examination the baboon became ill and had to be destroyed.

In other instances the cut end of the recurrent laryngeal nerve was united, end-to-side, to the main trunk of the

phrenic nerve, either to a small lateral incision made in the side of the phrenic nerve, or to a small median incision made in the middle of the phrenic nerve. In these cases no further anastomosis was necessary. An immediate partial paralysis of the corresponding half of the diaphragm results, and in all probability after a few days the cellular invasion at the site of anastomosis causes an anatomical division of the trunk of the phrenic nerve, so that complete paralysis of the corresponding half of the diaphragm ensues. But this paralysis is evanescent and passes off in three or four months.

This method of anastomosis — recurrent laryngeal-phrenic anastomosis, end-to-side—appears to be the method of choice for operations on man, as has been said in the previous remarks on the vocal cords. It simplifies the operation; it avoids the making of more than one anastomosis; it is satisfactory in that it promises recovery of the movement of the vocal cord, and in that it promotes recovery of the function of the diaphragm by regeneration of the phrenic nerve itself.

On one occasion, when the descendens noni and hypoglossal nerves were exposed, the hypoglossal nerve was stimulated. The thyro-hyoid muscle contracted and the depressor muscles relaxed; thus a typical Sherringtonian phenomenon was observed of contraction and relaxation of opposing muscles. The reverse experiment, of stimulation of the descendens noni nerve, which caused contraction of the omo-hyoid, sterno-thyroid, and sterno-hyoid muscles, should have been associated with relaxation of the thyro-hyoid muscle, but this could not be determined with certainty because of the overlying structures.

It is not possible to determine with accuracy whether half the diaphragm is in part or completely paralysed by observing or palpating the movements of the abdominal wall and costal arches. Dr. Eidinow kindly made some examinations at the Hampstead Institute for Research by means of the radiographic screen, and the results were also observed by Sir David Ferrier, the late Sir Frederick Mott, and Professor Leonard Hill. It was believed in each instance that the previously paralysed diaphragm was contracting again.

It was then decided to take some of the animals to the radiographic department of the Anatomical Institute of University College, Professor Elliot Smith having kindly promised to examine and report on the condition of the diaphragms in these animals. Dr. Beattie and Mr. Melville also observed the contractions of the diaphragmatic muscle through the radiographic screen. It will be seen from the reports of experiments that recovery of the muscular contraction of the diaphragm had taken place in each case.

V.—The Method Employed for Filming the Cords. (See Figs. 24 and 25.)

We are much indebted to the British Instructional Film Company for the painstaking effort which they made to film the vocal cords. The following are the chief points of the method employed:

1. A special high and solid table was made so that when the animal was anaesthetized and placed on it the eye of the observer, when standing, was on a level with the vocal cords.

2. A powerful beam of light from an arc lamp, A, was directed on and reflected from a small mirror through a special laryngoscopic tube, X. In length this tube was 5 inches along the upper border and 4 inches along the lower. The beam of light, before it reached the mirror, was caused to pass through a film of water, B. In this way the heat rays were cut off.

3. The inner extremity of the laryngoscope was a little larger than would ordinarily be employed for examination considering the size of the animal. It measured three-quarters of an inch from side to side and a millimetre more than half an inch in the vertical direction. The whole tube was oval in shape, and gradually increased in size till at the outer extremity it measured 2 inches from side to side and $1\frac{5}{8}$ inches in the vertical direction. The oval shape facilitated the passage of the beam of light, F, down the tube to the region of the vocal cords. The tube itself was blackened inside so as to prevent any reflection of light except from the vocal cords. A black oval screen, Z, was fitted around the outer extremity of the laryngoscope. It projected $1\frac{1}{2}$ inches on either side of the outer extremity of the laryngoscope, and in the vertical direction the screen extended $1\frac{1}{3}$ inches above the opening of the tube and three-eighths of an inch below.

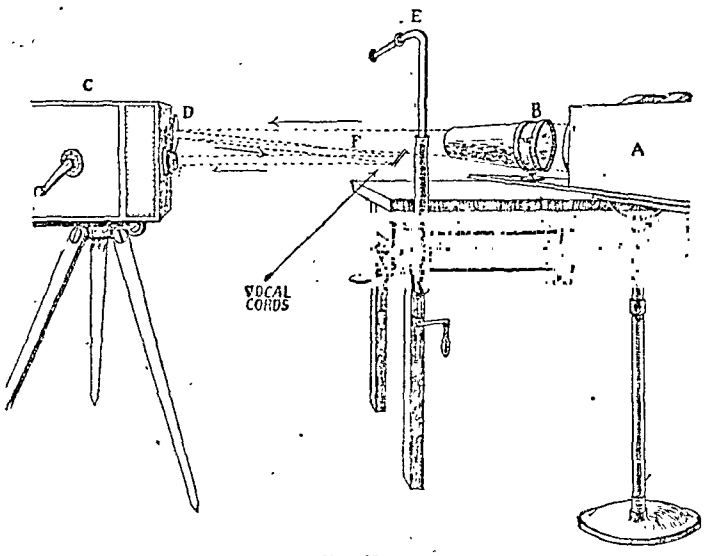


FIG. 24.

4. The laryngoscope was fixed to the ordinary suspension apparatus of Killian, E, by a metal rod. Thus unnecessary movement was avoided. In this rod was a hinge, Y, which could be fixed. The hinge allowed of the inner extremity of the laryngoscope being tilted a little upwards and downwards so as to facilitate the best exposure of the vocal cords.

5. The reflector, D, was attached close to the lens of the cinematograph camera, so that the light was reflected down the laryngoscope as nearly parallel as possible to the optical axis of the camera, C.

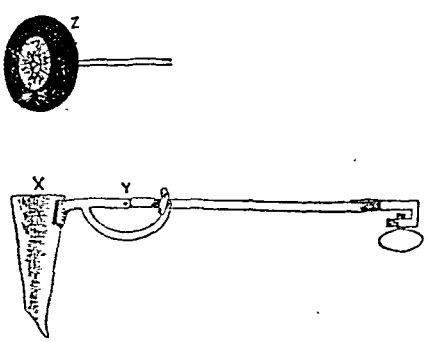


FIG. 25.

6. The anaesthetized animal was fixed approximately in position with a number of small sandbags. Then fine adjustments were made by means of the vertical and horizontal movements of the suspension apparatus and the hinge already referred to situated close to the laryngoscope.

7. One of us (L. C.) found it easy to manipulate the apparatus.

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CHOLECYSTOGRAPHY.

BY

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IN the two years which have elapsed since Graham introduced the method of cholecystography a very large amount of evidence has accumulated as to its value and the discomfort or dangers which may attend its use as a routine method of clinical diagnosis. When any new method is on trial, particularly when it is one requiring the intravenous administration of a new chemical compound the manufacture of which is not fully standardized, there are apt to be a few instances of alarming disturbances which further experience proves to be readily avoidable.

In our earlier cases we used a dose which was larger than that recommended by Dr. Graham, but which in our hands gave rise to no alarming symptoms. The record of a fatal case, where this larger dose was used, has led to a certain apprehensiveness in regard to the use of the method which we greatly regret, and it is due to Dr. Graham to say that no case of serious complication has followed an injection of the drug as practised and recommended by him. Our own experience has been that the larger dose (5.5 grams) which we used in our first 50 cases, having based our practice on that of the Parisian hospital where we first saw the method employed, is unnecessary, and that sufficiently good shadows can be obtained with a smaller dose (3 to 4 grams). It cannot be too strongly emphasized that the solution (40 c.cm.) must be freshly prepared, and must be injected slowly and with care. In our last 60 cases there have been no severe reactions, and in the vast majority no noteworthy disturbance of any kind. Whilst in some clinics the oral method is that in general use and gives satisfaction, we have seen no reason to abandon the intravenous use of the drug, and believe it to be the more certain and accurate method.

As to the value of the test as an aid to diagnosis there can no longer be any doubt. The total absence of a shadow, in a case with the clinical symptoms of gall stones, is reassuring and convincing evidence of the necessity for operation. The presence of a perfectly normal gall-bladder shadow, in a doubtful case of dyspepsia, is strong, if by no means absolute, evidence that the gall bladder is not at fault. Perhaps the most beautiful piece of evidence is where, in the doubtful case, the gall bladder is outlined and in it is visible a negative shadow where a cholesterin stone has displaced the dye. The faint and poor shadow indicating defective concentration is almost pathognomonic of a cholecystitis with or without stones. Hardly less useful in diagnosis is the displaced or deformed gall-bladder shadow, in the case of a swelling in the right hypochondrium, indicating a growth or other swelling in an adjoining viscus. With increasing experience we find ever more numerous the helpful points of evidence furnished by this radiographic test.

Before analysing the clinical material at our disposal we give an exact description of the method now employed by us. In the evening, twenty-four hours before the injection is given, the patient takes a dose of liquorice powder. The following day a skiagram of the upper abdomen is taken. At 9 p.m. 3.5 grams of tetra-iodo-phenol-phthalein (British Drug Houses), freshly dissolved in 40 c.cm. of distilled water, is given slowly into the median basilic vein, great care being exercised that not a drop escapes into the subcutaneous tissues. At 9 o'clock the following morning a skiagram is taken. A small barium meal is then given, and as the barium is escaping into the duodenum another skiagram is taken to demonstrate the relation of the shadows of gall bladder and duodenum. At 1 p.m. a meal rich in fat is given, and at 3 p.m. a final radiogram is taken to show the emptying power of the gall bladder.

We have now examined 158 cases, and in 132 of these the data obtained have been controlled by subsequent operation.

Normal Gall-bladder Shadow.—In 58 cases the gall bladder presented what was judged to be a normal shadow. In 50 of these a normal gall bladder was disclosed at operations carried out for a variety of upper abdominal lesions. In one case several very minute calculi were present in a gall bladder of normal colour and texture. In one case a single cholesterin stone, the size of a pea, was removed from what appeared to be a healthy gall bladder. In 3 cases there was definite evidence of a mild chronic cholecystitis, confirmed by microscopic examination, and in one of these, where the gall bladder was removed, a small lipoid papilloma was present. In the remaining 3 cases there was a mild but undoubted catarrhal cholecystitis, and streptococci were grown on cultures made from a portion of the wall. It is thus seen that an apparently normal cholecystogram is not quite conclusive evidence that the early stages of disease in the gall bladder are not present.

Absent Gall-bladder Shadow.—In 50 cases no shadow could be detected in the radiogram. In 44 of these the gall bladder was grossly diseased. In many the cystic duct or neck was occluded by a calculus, in others the viscus was completely filled with stones, in yet others it was shrivelled and functionless. In 13 of these 44 cases there was obstruction of the common duct and the patient was jaundiced. In 6, although no dye entered the gall bladder, calculi were clearly visible in the film. In 6 cases, in spite of the absent shadow, a normal gall bladder was disclosed at operation. These cases were very difficult to explain, as in all the ordinary technique had been followed. Possibly a temporary kinking of the cystic duct was responsible for the failure of the dye to enter the bladder. Certainly in two of them normal cholecystograms were obtained some weeks later. Most of them occurred in our earlier cases, and we are inclined to attribute the fault more to some mismanagement than to any inherent weakness in the test.

Faint Gall-bladder Shadow.—In 10 cases the gall bladder was faintly visible, but there was obviously defective concentration of the dye. In 3 of these there were negative areas due to stones. In all of them a very definite chronic cholecystitis was found at operation and the gall bladder was removed. It is obvious that only after considerable experience with a particular technique and with a well established standard for comparison can conclusions be drawn from mere variations in the density of such shadows.

Shadow of Gall Bladder and Calculi.—In this group are included 11 cases; in 5 the gall bladder was clearly outlined and in addition there were positive shadows of calculi. In 6 cases negative areas in the shadow of the dye indicated the presence of cholesterin stones. Operation was carried out in all these cases, and the *x*-ray evidence was correct in each instance.

Displaced or Distorted Gall-bladder Shadow.—In this group there were 5 cases. In all the presence of a swelling below the right costal margin made the diagnosis of a distended gall bladder a possibility. In two cases the shadow of the gall bladder was visible below the swelling, which in one instance was a sarcoma, and in the other a hydatid of the liver. In two cases the gall-bladder shadow was present as a concave shadow lying over and above the swelling. In both instances this proved to be a growth of the hepatic flexure of the colon. In the fifth case the shadow lay in front of the swelling, which was later shown by pyelography to be a hydronephrosis.

Toxic Symptoms following Injection.

It may be stated at once that in no instance in our series of 158 cases have toxic symptoms, giving cause for alarm, been noted. In one case symptoms of collapse supervened during the injection, which was stopped before quite one-half of the usual dose had been given. The patient rapidly recovered with no untoward after-effects.

In 93 cases there were no toxic symptoms.
In 27 cases there was some nausea.
In 33 cases there were nausea and vomiting.
In 2 cases the patient complained of tingling in the limbs.
In 1 case a rigor followed the injection.
In 1 case nausea with headache was complained of.

There can be no doubt that with the reduction of the dose which we have made in our last 60 cases the toxic

symptoms have been markedly reduced and the radiographic results no less valuable, if not quite so striking. An injection of 4 grams for a stout subject and 3 grams for one of slender build, in each case dissolved in 40 to 60 c.cm. of distilled water, may be reckoned a perfectly safe dose. We have been unable to recognize any particular benefit from special preparation, or from the regular dosage with alkalis, which was followed scrupulously in our earlier cases. We have as yet had no opportunity to test the newer drug, phenol-tetra-iodo-phthalein, which, in Graham's clinic, is found to be less toxic than the tetra-iodo-phenol-phthalein.

Conclusions.

Cholecystography is a method of real clinical value in the diagnosis of diseases of the gall bladder. Not only does it show whether the gall bladder is functioning, but also how well or how ill it is functioning. It will frequently disclose the presence of gall stones which do not show in the ordinary radiogram. It may, by showing the relation of the gall bladder to an abdominal tumour, give strong presumptive evidence as to the site of the growth and the possibilities of surgical treatment.

Using pure sodium tetra-iodo-phenol-phthalein in a dose not exceeding 4 grams, freshly dissolved, and injected intravenously very slowly, no disturbing toxic symptoms need be feared. *X*-ray films made twelve hours after injection and six hours later, after a meal containing fat, should give reliable evidence as to the functional capacity of the gall bladder.

The method has its limitations, and an apparently normal cholecystogram does not exclude the possible presence of a small cholesterin stone or mild degrees of infective cholecystitis.

CHOLECYSTOGRAPHY.

THE RESULTS OF 125 CONSECUTIVE CASES EXAMINED BY THE ORAL ADMINISTRATION OF THE SALT.

BY

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THE existence of such divergent views as to the relative values of the intravenous and oral methods of cholecystography has led us to believe that our results will be of interest.

The difficulty of oral administration appears to be due to the fact that the compound is decomposed by the hydrochloric acid of the stomach, converting the soluble salt into the insoluble free acid, which acts as an irritant and may be vomited. Endeavours were made, therefore, to provide for its passage through the stomach and liberation in the small intestine, where it would be absorbed and carried by the portal system directly to the liver. Stewart[1] of New York reported recently that he had obtained successful cholecystograms by enclosing the dye in keratin-coated gelatin capsules and using *x* rays twelve hours later. Other observers, however, do not seem to have met with the same success, and presumably their difficulties have been due to the unreliability of the preparation used, and also to the unsuitable nature of the capsule and its coating. In many cases the drug appears to have been liberated in the stomach, and vomiting has ensued, or the coating has been so resistant to the digestive juices that the capsules have been passed on into the colon intact.

In our early cases the results were similar. A British preparation of sodium tetraiodo-phenolphthalein, made into capsules by the manufacturers, was used. The capsules were not dissolved, as many as eight and even fourteen being seen in the large bowel next morning. We next obtained capsules of the iodine salt prepared in the United States. The results obtained were good but the cost excessive. Finally, an American preparation of sodium tetraiodo-phenolphthalein made up into capsules by the dispenser of the hospital seemed to be the most suitable. Different coatings were tried, but the best results were obtained by the following method.

Preparation of the Capsules.

The drug used is the sodium tetraiodo-phenolphthalein obtained from Messrs. Kodak, Ltd.; 0.3 gram of the salt is placed in a gelatin capsule, which is then given three coats of a keratin solution, made (using Merck's keratin) according to the *British Pharmaceutical Codex* formula. The capsules are allowed to dry in the air after each coat without heating. They are now prepared by a Liverpool firm of wholesale druggists from the salt supplied by Messrs. Kodak.

It is important (1) that the salt be obtained as fresh as possible and carefully stored, and (2) that the capsules be made up freshly. If capsules are kept for more than seven days the coating is not dissolved readily in the small bowel.

Technique Employed.

Twenty-four hours before administering the drug the patient is given an aperient, preferably one ounce of castor oil. On the day preceding the examination the patient takes an ordinary diet containing fats. No food is allowed after 6 p.m. and no further aperient is given. Between 9 and 9.30 p.m. the capsules are swallowed whole with sips of water. (For an average patient fifteen capsules are taken—that is, 4.5 grams of the salt.)

At 9.30 the following morning the first radiogram is taken, using the Potter-Bucky diaphragm, the patient being in the prone position. The patient returns at 12.30 p.m., and the second radiogram is taken. If the gall bladder appears normal at both these examinations the patient is told to take a meal containing fat and to return between 3 and 4 p.m. for a third radiogram. Should the gall bladder be empty or nearly so the examination is concluded. If it has not emptied, the patient is asked to return the following day. But in those cases where there is no suggestion of a gall-bladder shadow on both the 9.30 a.m. and 12.30 p.m. radiograms the examination is carried no further and a "pathological gall bladder" is reported.

If the gall bladder is normal a definite shadow is visible on the radiogram taken twelve hours after administering the dye. At the end of fifteen hours the shadow is denser and usually smaller. The radiogram taken two or three hours after the meal containing fat shows either no gall-bladder shadow or one very much reduced in size. If the gall bladder is not markedly smaller the patient is examined the following day.

Using the method outlined above cholecystography is as satisfactory as with the intravenous method, and it has the advantage that the preliminaries are very much simpler. Though the shadow with the oral method appears a little later, it is equally dense and yields equally satisfactory evidence of the form and function of the gall bladder.

It is important to realize the theoretical considerations involved in the use of this test. It demands a liver capable of secreting the dye into the bile capillaries, a patent cystic duct to allow of its passage into the gall bladder, and, finally, a mucous membrane sufficiently healthy to concentrate it by the reabsorption of water. It follows, therefore, that the normal gall bladder yields the densest shadow. At the same time it is obvious that a variety of conditions—adhesions and tumours pressing on the cystic duct or gall bladder, infections of the mucous membrane interfering with its power of concentration, thick tenacious debris in its interior—in addition to stones either in the cystic duct or gall bladder itself, can cause all degrees of variation from the normal density to complete absence of shadow. In actual practice, however, as seen from Table I, a definite and unequivocal complete absence of shadow occurs in 77 per cent. of the cases reported as pathological. Probably the only contraindications to cholecystography by this method are (1) advanced disease of the liver—for example, cirrhosis, secondary carcinoma—and (2) pyloric stenosis. Both these conditions, however, should be discovered by other methods, and there is little likelihood of their being present to confuse the issue in the type of case in which this investigation is being carried out.

Toxic Effects.

In our own series of cases we have seen no severe reactions. In two instances there was a slight rise of temperature, but in neither did it reach 100° F. Eight patients complained of nausea lasting a few hours, but only one of them actually vomited. This patient stated that she had vomited "purple material," but subsequent radiograms demonstrated a normal gall bladder which was unusually well defined on the *x*-ray film. Two somewhat

nervous patients vomited almost immediately after taking the capsules, which were returned whole, but this can hardly be attributed to any toxic effect of the drug. In one other case there was slight diarrhœa, the bowels acting three times during the night. All the other patients were apparently quite unaffected by the drug, and in no single instance did a patient fail to appear at the appointed time for the first *x*-ray examination.

TABLE I.

Group 1.	Normal gall bladder outlined		56
Group 2.	No shadow	53	
Group 3.	Irregularity or deformity	3	
Group 4.	Non-opaque stones	8	
Group 5.	Delay in emptying...	5	
	Number of cases reported abnormal		69
	Total number of cases examined by the oral method		125

TABLE II.—*Operative Findings.*

Group 1:			
	Confirmed as being normal	3	
	Contained stones	1	
			— 4
Group 2:			
	Contained stones	19	
	Cholecystitis without stones	2	
	Adhesions around gall bladder	2	
	Tumour involving gall bladder and ducts	1	
	Gall bladder found normal	1	
			— 25
Group 3:			
	Inflammatory mass at the pylorus		1
Group 4:			
	Contained stones		4
Group 5:			
	Dense mass of adhesions at neck of gall bladder...		1
	Total cases operated on		35
	Total cases where *x*-ray diagnosis was confirmed ...		33
	Total cases where *x*-ray diagnosis was not confirmed		2
	Percentage of cases where *x*-ray findings were correct		94.3

Comments on the X-Ray and Surgical Findings.

The cases here reported were consecutive, arising in private and hospital practice, and have not been selected in any way. It will be observed that in a large number a normal gall bladder was outlined on the *x*-ray films. An interesting example in this group was seen in the case of a patient in whom a normal gall bladder containing three opaque stones was visualized; concentration occurred in the usual way and it also emptied after the fatty meal had been taken. From this it would appear possible for the gall bladder to function in a perfectly normal way despite the presence of stones. The patient's only symptom was occasional nagging pain under the right costal margin. The instance in this group where the *x*-ray diagnosis was not confirmed at operation was one of our earliest cases. Only a faint shadow was shown, but owing to our inexperience of the oral method it was interpreted as being normal. A similar finding now would undoubtedly be reported as pathological.

Of the cases falling into Group 2—that is, those where no shadow is seen—the *x*-ray and surgical findings point definitely to a non-functioning gall bladder. Although the *x*-ray finding is a negative one it is most valuable, and, if the preliminaries have been carefully carried out, can be definitely relied upon. Where the clinical signs have not been very suggestive of cholecystitis, it has been our practice to repeat the examination in those cases where no shadow was seen at the first examination. In two such instances a normal gall bladder was outlined at the second *x*-ray examination, the explanation in one case being that the patient had taken a breakfast of bread-and-milk before the 9.30 a.m. film was taken—the radiologist was not informed of this at the time. We were unable to account for the failure in the other case. Of the twenty-five cases falling into this group which were operated upon, the gall bladder was found to contain stones in 76 per cent.; in a further 8 per cent. there was marked cholecystitis, while in another 8 per cent. adhesions around the gall bladder were the most obvious pathological finding. In one of these latter cases, where the adhesions were merely divided and the gall bladder was allowed to remain, the dye test was repeated a fortnight later and a perfectly normal gall bladder was revealed. In one case only of this group the gall bladder was found to be normal at operation; it was not removed, and this patient's symptoms were not relieved.

It is well known that a considerable degree of cholecystitis and even stones can exist undiscovered until the gall bladder is opened and examined, either *in situ* or after removal, and in view of this we consider it the surgeon's duty to remove the gall bladder when the *x*-ray evidence points definitely to disease being present in the organ, even though its external appearance seems normal.

Of the three cases occurring in Group 3 there was one example of an hour-glass gall bladder, and one where the gall bladder filled slowly and had an irregular outline. The third filled and emptied normally, but was abnormal in shape and position. The patient was operated upon and found to have a pyloric ulcer with adhesions to the gall bladder, to account for the *x*-ray findings.

Of the eight cases in Group 4 where a shadow indicative of non-opaque stones was seen, four patients were operated upon and the *x*-ray diagnosis was confirmed. Usually the stones are very definitely outlined by the dye, and in Stewart's[2] opinion this is the most positive finding of all. But in a later paper[3] he expresses a warning against the diagnosis of stones by mottling alone, giving his reason that small circular bubbles of gas in the duodenum often overlap the gall bladder and closely resemble non-opaque stones.

It is in Groups 3 and 5, as Graham points out, that most errors of diagnosis occur. Among our cases which fell into the latter group the gall bladder was still outlined at periods varying from eighteen to thirty-four hours, although several fatty meals had been taken by the patients. In the case of the patient operated upon there was a dense mass of adhesions at the neck. It seems probable that a similar condition will be responsible for the delay in emptying in the case of the remaining instances of this group.

It is perhaps worthy of mention that only in six instances out of our series of 125 cases were opaque gall stones seen on the *x*-ray films.

Conclusions.

1. The success of the oral method depends on obtaining a reliable salt, careful coating and preparation of the capsules, which must be freshly used, together with first-class *x*-ray technique and intelligent co-operation on the part of the patient.

2. Cholecystography by the oral method is easier than the intravenous so far as the preliminaries are concerned, and yields equally satisfactory results from a radiographic point of view.

3. The proceeding is devoid of risk, and the toxic effects are practically negligible.

4. The surgical findings confirm the *x*-ray diagnosis in 94.3 per cent. of the cases.

We wish to thank Dr. R. E. Roberts for allowing us to include some of his private cases, and Mr. D. Douglas-Crawford and Mr. O. Herbert Williams for permission to use the findings in the cases operated on by them.

REFERENCES.

[1] Stewart: *Amer. Journ. Roentgen.*, 1926, xvi, p. 234. [2] Idem, ibid., 1925, xiii, p. 259. [3] Idem, ibid., 1926, xvi, p. 224.

EPIDEMIC ENCEPHALITIS: THE PROPORTION OF PERMANENT RECOVERIES.*

BY

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I THINK it may be said that, after the passing of the earliest outbreaks of epidemic encephalitis of which this generation of physicians has had experience (six to ten years ago), the percentage of complete recovery was estimated by most writers on the subject at 20 to 30. Later writers express a more guarded opinion and generally record a much lower complete recovery rate. My own experience has been that in every outbreak the complete

* Abstract of a paper read before the Ulster Medical Society on January 27th, 1927.

recovery rate has been very considerably lower than 20 per cent. if the estimate be made, say, two or three years after the acute attack.

In the spring of 1924 an outbreak occurred in Belfast. In the three months April, May, and June 173 cases were admitted to the fever hospitals under my care. Though this outbreak was extensive and sudden it could not be said to have been of more than average severity as the death rate in the acute stage was 12.1 per cent.

These 173 cases form a compact group. Last autumn—that is, after two and a half years—with the assistance of Dr. W. B. Shane I made an attempt to ascertain the then condition of the 152 cases who had recovered from the acute attack. A paper of questions was sent out and replies received from the majority of the patients. Had these replies been taken as correct the figures would have been very different from those finally accepted. Our experience showed that statistics compiled upon such reports are altogether unreliable. Many patients who reported that they had remained quite well from the time of leaving hospital were found on examination to be very far from well; some who had so reported were found to be frankly Parkinsonian, some mentally deficient, etc.; 11 cases could not be traced. We were able to examine over 80 per cent., and received medical reports of the small remainder.

Epidemic Encephalitis: Results 2½ Years after Attack.
(Total cases 173.)

Died in acute stage	21	
Recovered from the acute attack... ...	152	
Of the 152 who recovered:		
Untraced	11	
Examined after 2½ years	141	
Of the 141 examined:		
Apparently well (after 2½ years)	13= 8.8	per cent.
Died of effects (within 6 months, 2; between 6 and 12 months, 3; between 1 and 2 years, 2)	7= 4.9	,,
Suffering from nervous symptoms of mild type	10= 7.0	,,
Showing "changed character"	18=12.7	,,
Showing mental symptoms (in mental hospital, 6; not in mental hospitals, 13)	19=13.4	,,
In other medical institutions	19=13.4	,,
Subject to convulsive attacks (epilepsy?)	2= 1.4	,,
Showing Parkinsonism (Stage I, 21; Stage II, 42; Stage III, 20)	83=58.8	,,
Partially incapacitated for work or school	29=20.5	,,
Totally incapacitated for work or school	84=59.5	,,

It will be seen that of those who survived the acute attack 8.8 per cent. were found to be well after two and a half years. I have no doubt were these cases again examined at the end of, say, five or six years from the onset this percentage would be further reduced.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

PURULENT PERICHONDRITIS OF THE LARYNX.

CASES of purulent perichondritis of the larynx, when secondary to constitutional disease such as syphilis and tuberculosis, are not of common occurrence. When present as a complication the diagnosis may not be difficult. If secondary to malignant disease it is conceivable that the condition may not be easy to diagnose and the results to the patient may be disastrous. If confronted with a case of this nature when neither syphilis, tuberculosis, nor malignant disease can in any way be used as a guide, then a very careful process of exclusion, in the absence of previous experience, may have to be invoked; in any case the medical man should take the earliest opportunity of calling the laryngologist to his aid. The following case amply illustrates the urgency of these cases.

A woman, aged 61, had been attending her doctor for five weeks, first with hoarseness, and latterly with difficulty in breathing, which had become very much worse; she was sent to hospital with a view to admission.

I found there was marked stridor and slight pain on swallowing; the larynx was more or less fixed and appeared to be pushed forward, and pressure over the front of the larynx caused pain. There was a swelling on the right side of the thyroid cartilage which gave deep fluctuation. On laryngoscopic examination the left ventricular band was found to be red and swollen, obscuring the view. The right vocal cord could be seen to move slightly in abduction and adduction over a yellow swelling which extended across the middle line from right to left in its posterior half. No swelling could be seen in the pharyngeal portion of the cricoid or arytenoid region. The temperature was 101° and the pulse 140. No history of foreign body was elicited: tubercles were not present; the Wassermann test was not performed. A diagnosis of purulent perichondritis was made and immediate operation advised. Under general anaesthesia tracheotomy was performed and an incision made over the site of fluctuation; pus was evacuated and some escaped into the pharynx, but not into the larynx. There was no sequestrum, but roughened cartilage could be felt with the handle of the scalpel through the incision. There can be little doubt that there was a communication with the interior of the larynx; this suggests the importance of a preliminary tracheotomy in these cases.

The tube was removed on the third day. With the exception of a slight collapse four days after admission, from which she soon recovered, her convalescence was gradual and uneventful. She left hospital on October 23rd looking and feeling well, with voice and breathing normal, and the larynx functioning well.

Although I had no doubt as to the actual condition, the important guides, apart from the appearance of the swelling in the larynx, were (1) deep fluctuation felt on the right side of the thyroid cartilage, (2) the pulse, (3) the temperature. Rise of temperature may be absent when pus is established and locked up, but its presence in this case was an indication of urgency.

If there is a lesson to be learnt it is that the laryngologist should be called to see these cases before the stage of stridor is reached; at any moment a disastrous end may result.

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TRANSPOSITION OF VISCERA.

THE following two cases of dextrocardia and transposition of organs, which were found in Arabs of the Sudan, seem worthy of record.

CASE I.

An Arab girl, aged 11, was brought to me suffering from malaria. While feeling for the spleen under the left costal margin I detected what I took to be the clear cut edge of the liver, and palpation of the right side revealed the spleen extending for the breadth of five fingers under the costal margin, with the typical notch opening to the left. The apex beat of the heart was visible in the fifth right interspace, one centimetre inside the right nipple line, and auscultation proved it to be a case of true dextrocardia. The girl was quite unaware of her condition, and the mother, father, and two sisters, who were examined, were found to have the heart in the normal position on the left side.

CASE II.

Within a week of seeing the first patient, a man, aged 25, came to me because of chest trouble. I found tuberculosis of the left apex, but could hear no heart sounds on the left side. Inspection revealed a faint apex beat in the fifth right interspace, half a centimetre inside the right nipple line. Percussion on the left side showed an area of dullness identical in size with the normal hepatic dullness, and in the corresponding position. The edge of the liver could just be palpated under the left costal margin. The spleen was not felt on the right side. The patient was fully aware of the abnormal position of the heart, but had kept the knowledge of it to himself fearing ridicule.

I can find no references in the literature to suggest that this condition is more common among the coloured or less civilized races, and the discovery of two such cases within so short a period and in the same locality may be pure coincidence.

I have to thank the Director of the Sudan Medical Service for permission to publish this note.

A. CRUICKSHANK, M.B., Ch.B.,
Sudan Medical Service.
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LABOUR RETARDED BY HYDROCEPHALUS TERMINATED BY DRAINING A SPINA BIFIDA.

I WAS called by a midwife to attend a woman in her third confinement. She had been in labour for six hours. The os was fully dilated. The presentation was a breech with extended legs. Under anaesthesia the legs were brought down and delivered with the body. A spina bifida was present with complete absence of the posterior arch of the spinal canal in the lower dorsal and upper lumbar region. No progress was made in labour, and a large hydrocephalus was diagnosed. Having a ready track to the ventricles it was deemed advisable to try to use it. The inner tube

of a Collins uterine douche tube was passed up the spinal canal into the ventricles and two quarts of fluid were drawn off. The uterine contractions immediately became strong and the flattened head was delivered. The puerperium was normal.

Alfreton. RAYMOND G. BINGHAM.

British Medical Association.

CLINICAL AND SCIENTIFIC PROCEEDINGS.

STAFFORDSHIRE BRANCH.

Ovarian Endometriomata.

A MEETING of the Staffordshire Branch was held at Walsall on March 17th. In the absence of the President (Mr. W. C. Allardice), Dr. J. A. M. CLARKE took the chair.

Mr. S. W. MASLEN JONES read a paper on ovarian endometriomata and showed specimens which he had removed at operation. He discussed the causation of these tumours and summarized the rival theories held by Vernon Bailey, Sampson, and other workers. He explained the pathology of such tumours and emphasized the fact that the aberrant endometrium, which was the basis of the pathological condition, exercised its effect principally by a production of menstrual flux at a time which corresponded with the ordinary period of menstruation in the uterine mucosa. This production led to the formation of cystic cavities containing a chocolate-coloured fluid. A discussion followed regarding the significance of the occurrence of endometriomata in sites other than the ovary.

Lead Treatment of Cancer.

Dr. S. C. DYKE read a paper on the lead treatment of cancer. He recounted his experiences at Professor Blair Bell's clinic at Liverpool, and explained that the reasoned basis of the treatment was the special toxic effect of lead upon cancerous tissue. One of the greatest difficulties in the treatment was that the general deleterious effect upon the patient might outrun the specific local effect upon the tumour; the best results would be obtained consequently when a lead product was found which had a minimum general toxicity combined with a maximum local effect upon malignant cells. Dr. Dyke reviewed several cases which he had seen undergoing lead treatment, and he mentioned the particularly good results which had been produced in some cases in which partial removal of an inoperable tumour had been combined with treatment by lead. A discussion followed which related particularly to points in the technique of the treatment.

Medicine in the Past.

Dr. F. G. LAYTON read a paper on mediaeval medicine. He emphasized the benefits which would accrue to practising physicians if they had a greater knowledge of the history of medicine than was commonly the case, and he contended that many of the old procedures were much more logical than many methods of therapy which were practised at the present day. He indicated the lines upon which the ancients arrived at a diagnosis, and held that a knowledge of human nature was perhaps even more common among the old-time Egyptian physicians than it was among present-day medical men. He made a plea for treatment by dietetics and regimen, both of which he considered should have a more important place in therapy than was at present the case. A discussion followed contrasting modern with more old-fashioned methods.

The Eyes in Diagnosis.

Dr. G. F. HAYCRAFT read a paper on the pupils as an aid to general diagnosis, and gave a brief but very informative summary of the anatomy and physiology of the iris. He then recounted important points in the causation, diagnosis, and treatment of iritis. Turning from inflammatory conditions, the speaker showed how the iris might be affected in a large number of general diseases. The subsequent discussion centred round the effects of tuberculous disease on the iris, these effects being produced either by local interference with the nerve supply of the iris musculature or by the general asthenic condition seen in late stages of the disease.

Reports of Societies.

RETROPERITONEAL FIBROID.

AT a meeting of the Section of Obstetrics of the Royal Academy of Medicine in Ireland on March 11th, the President, Dr. D. G. MADILL, in the chair, Dr. D. CANNON read notes on a case of retroperitoneal fibroid, and showed a specimen.

A woman aged 36, with enlargement of the abdomen, had been married for four years, but had no children. She had been operated on for appendicitis. She looked worn, tired, and rather older than her years. Her periods were normal, except for slight dysmenorrhoea, and her heart, lungs, and kidneys appeared to be quite normal. Inspection and abdominal palpation revealed a *symmetrical semi-solid tumour, which filled the whole of the* abdomen. On bimanual examination the tumour appeared as a swelling of the posterior fornix, extending more to the left than to the right. By vaginal examination its stony hardness contrasted with the almost cystic feeling of the abdominal wall. The cervix uteri could be recognized high up underneath the symphysis to the right side. The diagnosis lay between an ovarian cyst complicated by a cervical fibroid, or a cervical fibroid or broad ligament fibroid which had enlarged to such an extent as to become an abdominal tumour. When the abdomen was opened the latter condition was found. During the process of enucleation severe bleeding was encountered, and so a rapid enucleation of the upper pole of the tumour was performed. Towels wrung out of hot saline were packed into the bed from which a portion of the tumour had been enucleated. The patient suffered from shock at this stage of the operation, but recovered after a short time. The lower pole of the tumour was enucleated with ease, and with scarcely any bleeding. The left ureter, which was displaced outwards, was followed to its disappearance into the parametrium, and was intact. The uterus, which had reached the level of the umbilicus, was pushed well over to the right side and the cervix was elongated. The peritoneum of the posterior wall of the left broad ligament and Douglas's pouch was spread over the intestines like a thick apron, and was adherent to them. All bleeding points were carefully secured. At this stage the peritoneum was separated quite easily from the intestines, and omental adhesions were tied and divided. The excess of peritoneum was removed, and the margin of the rent which was oozing blood was sewn all the way round with continuous catgut. The thickened peritoneum presented the appearance of the thickened tunica vaginalis seen in chronic hydrocele. The cavity from which the tumour had been enucleated was now considerably reduced. It was obliterated by mattress sutures, and rubber tubing which had been split and threaded with gauze was inserted into the obliterated portion of the cavity and taken out at the lower angle of the wound. The abdomen was closed, and the patient left the table in fair condition, but collapsed some hours later and died. There was no evidence of bleeding from the tubes.

Dr. Cannon thought that death was due to secondary shock as a result of haemorrhage; the patient had certainly not died from primary shock. He believed that she would not have died if he had performed a complete hysterectomy after the tumour was enucleated. In this way he could have tied off the main source of blood supply to the pelvis, and could have drained the retroperitoneal space through the vagina. The uterus could easily have been removed in the circumstances; it was only left because the patient was very anxious to have a child. During the time that Dr. Cannon had charge of the Gynaecological Department of St. Mary's Infirmary, Highgate, he had encountered four retroperitoneal tumours. They were all small; three were parovarian cysts, and one was fibroid. They had presented no difficulties. The present case belonged to a different category. Owing to the size of the tumour, the cavity from which it was enucleated was difficult to obliterate; it was undergoing degenerative changes, and had probably been infected; the cavity was therefore probably a vascular one.

The PRESIDENT said that this was one of the largest fibroids he had ever seen which had been enucleated without removal of the uterus. It was difficult to say what more could have been done, as there must have been severe haemorrhage through the bed of the myoma.

Dr. GIBBON FITZGIBBON thought that the position of the tumour and its size made the case similar to that of full-term ectopic pregnancy. He had recently seen a case of this, and had done exactly the same as Dr. Cannon. When the patient left the operating table he was very satisfied with her, but she died later, and he thought the cause of death was venous bleeding from the parametrium. When a patient came round from an anaesthetic, and venous oozing of blood started, it was frequently the cause of

death. In a case such as Dr. Cannon's he would certainly have saved the uterus.

Dr. LOUIS CASSIDY did not agree that it was wise to leave the uterus behind in this case. In patients who had a tumour of this nature he thought that the probabilities of pregnancy after removal of the tumour were extremely small. He mentioned the importance of testing the patency of the tubes before opening the abdomen, since unless the tubes were patent pregnancy could not take place. He thought that trusting to the closing of the bed of the tumour had proved to be ill founded. He would have performed complete hysterectomy in this case. If the tubes were not patent, the only reason for leaving the uterus was to preserve the menses. Myomectomy was quite a safe operation, but should be preceded by testing the tubes.

Dr. BETHEL SOLOMONS said that in such a case it was impossible to say whether hysterectomy or myomectomy should have been performed without being present. When there was reasonable doubt at the time of operation, hysterectomy was preferable in spite of the wish of the patient that the uterus should be preserved. Many myomas were infected, and this must be borne in mind when considering the question of radical or palliative measures. Secondary haemorrhage was the cause of death in this case. Haemorrhage during the operation of myomectomy could be overcome by the use of Bonney's clamp and applying a ring forceps to the ovarian vessels; it would, however, have been impossible to use the former in this instance.

Dr. A. H. DAVIDSON believed that in a case of cervical myoma, where the cervix was elongated, this elongation would be a point against preserving the uterus. He doubted whether lengthening of the cervix was likely to be reduced after removal of the myoma. Dr. Schiller had stated that myomata were signs of ovarian disease, and that if the ovary of a woman who had myomata was transplanted into a woman who had not, myomata would grow in the uterus of this latter patient.

Dr. CANNON, replying, said that the view in Vienna was that sterility and fibroids were associated. After he had enucleated the tumour he could not see the uterus for a long time, and he then found that it was high up in the abdomen on the opposite side. It was difficult to know whether the uterus would remain hypertrophied after the operation or not. The patient had certainly died from secondary haemorrhage, and this haemorrhage was, he thought, due to ovarian dysfunction.

Hyperemesis Gravidarum.

Dr. LOUIS CASSIDY read a report on three cases of hyperemesis gravidarum. He said that vomiting in pregnancy must be distinguished from affections of the gastro-intestinal tract, uraemia, tumours of the brain or spinal cord, meningitis, and latent pyelitis, and from symptoms of some other toxaemia of pregnancy, such as pre-eclampsia. The term must be reserved for those cases where vomiting and pregnancy were synchronous and where no associated cause other than pregnancy existed to account for the vomiting. Statistics of the occurrence of morning sickness were given to show that it was more frequent in primiparae than in multiparae; it occurred between the eighth and sixteenth weeks. He suggested that it affected those carrying a male rather than a female child. He quoted Lindemann's *post-mortem* findings and Miller's work in connexion with vagus control as it affected reflex cases. The psychical nature of some cases was stressed, but as against this it was shown that dogs and cats suffered from a similar affection in pregnancy. Blame had been laid at the door of the endocrine system, and some authors (principally French) had mentioned deficiency in the corpus luteum, which organ was supposed to counteract the toxins generated by the chorionic villi. The occurrence of hyperemesis in conjunction with vesicular mole was as high as 19 in 27 cases, according to Pinard. Van den Bergh's test for bilirubin in the blood had, in the hands of Seitz, shown increase in the case of hyperemesis over and above the normal increase during pregnancy. In those cases of neurotic or reflex origin the clinical picture was intense thirst, bodily weakness, and emaciation; these, though distressing to the patient, gave no real cause for alarm, and disappeared as pregnancy advanced. In the toxic variety, on the other hand, the pulse rate was increased in spite of rest in bed; the tongue was furred and dry; the skin was dry; the urine was diminished in quantity, and contained pathological elements such as albumin, casts, acetone; coma, delirium, and insomnia might occur, and the condition was very grave. Clinical notes of three patients treated within the past twelve months were given, each of whom recovered, though treated on different lines.

The PRESIDENT referred to a discussion on hyperemesis in early pregnancy at the Obstetrical Section in the previous year, and to the fact that Dr. FitzGibbon had then laid great stress on the neurotic element in these cases, and their treatment by psychotherapy. Very many of these cases were probably toxic in origin. The President had tried the administration of thyroid extract in two cases, but had not found it of any value. He was interested to note that in one case mentioned by Dr. Cassidy the use of corpus luteum had not been beneficial, though the injection of the patient's own blood had been effective; in another case potassium bromide had brought about cure. It was always taught that if starvation, thorough elimination, and rectal enemata did not stop the vomiting in these cases that pregnancy should be ended; yet Dr. Cassidy's three patients had been treated in different ways, and it had not been necessary to stop pregnancy in any of them.

Dr. BETHEL SOLOMONS said that if women were unaware that vomiting occurred in pregnancy few would suffer from it. Patients were often in doubt as to their condition, because they had been told by their friends that they ought to vomit, and this symptom was absent. He was a firm believer in the neurotic or psychological element as an etiological factor in the mild and severe forms of vomiting. Irrigation of the stomach had a good effect in all; when performed gently it caused no shock, and it had the excellent effect of removing the backflow from the liver and of curing hysterical patients because of its unpleasantness. Another advantage was that purgatives could be left in the stomach. He believed also in the value of removing such things as basins from the patient's bedside, and in putting the patient on a full diet free from all fats. While holding the view that most patients were of the psychological type, he admitted that there were a few who were toxaemic and must be treated as such. The need to perform therapeutic abortion seldom arose.

Dr. GIBBON FITZGIBBON thought the psychical element in these cases was very strong. Patients fell into the habit of vomiting, and therefore thought they should vomit. He had found, while Master of the Rotunda Hospital, that patients generally responded to starvation, elimination, and enemata, and he had had to induce abortion in only two cases. In one case, even after abortion, the patient had died. These cases seemed to him to respond to all sorts of treatment, and the more he saw of them the more he was convinced of the psychical element in them. In some cases there was reflex vomiting; sometimes, in cases of retroverted uterus, after the uterus was put back the vomiting ceased. Some patients suffered from excessive salivation, as well as vomiting. He did not think that there was any reason at all for believing in the toxic element in these cases. Vomiting was always more severe in multiparae than in primiparae. In one case he had tried injecting human blood into the patient, but without any result. He thought there was far too much fear of letting these patients carry on, and that pregnancy should be allowed to continue up to the fourteenth or sixteenth week; different methods of treatment should be tried till then to stop the vomiting before abortion was induced.

Dr. D. CANNON asked if any effort had been made by gynaecologists to visualize the mechanism of the stomach in these cases. He had seen two cases which had been investigated on these lines; it had been proved that achlorhydria was present, and that there was not much hydrochloric acid in the stomach. He referred to work by Professor Wilkie in this connexion, and also to a German investigator, who had shown that over-regurgitation of bile into the stomach would cause morning vomiting and other symptoms in these cases, and who suggested the administration

of atropine sulphate. He considered these cases functional in nature, and not toxic. He wondered how a retroverted uterus could cause gastric symptoms, and yet he had often found that simple correction of the uterus did effect a cure in these cases. An American investigator had also proved that duodenal stasis was present.

Dr. G. TIERNEY thought it was very difficult to decide which cases were toxic in origin and which were not. He considered that a number of these cases were associated with a psychic element, as well as with a toxic element. He mentioned a paper recently published by Dr. Leavy of New Orleans, in which it was stated as evidence of toxaemia that acetone was found in the urine, and diminution in the blood sugar and in the CO_2 combining power of the blood. He reported six cases in or about the fourth month of pregnancy. After ineffective treatment on general lines he had treated them with insulin and glucose. One patient who was four months pregnant, and had been vomiting continuously for three weeks, was in such a state that he thought he would have to resort to therapeutic abortion, but after the intravenous injection of insulin and glucose the vomiting ceased, and she went on to full term. The glucose was given in a 10 per cent. solution intravenously.

Dr. E. HARVEY believed that in the cases which were helped by insulin acidosis had been the cause of the vomiting, and therefore insulin would cure them; he did not think that it would necessarily work in other cases in which acidosis was not the cause of the vomiting.

Dr. CASSIDY, replying, did not think the psychical effect of washing out the stomach in these cases would be sufficient to justify the distress which it would cause to patients. Most of these patients were of a neurotic type. In most cases vomiting developed about the eighth week, and improved about the sixteenth week. It seemed to him that as the resisting powers of the body were increased the vomiting ceased. In any case of starvation acetone would be found in the urine, and therefore he did not think that finding it should be taken as pathognomonic of hyperemesis gravidarum. An increase of bilirubin in the serum was, he thought, a sign that the case might be toxic. From the clinical point of view it seemed to him that the important thing was to distinguish between the toxaemic and the purely neurotic case.

MEDICAL ASPECTS OF THE MATERNAL INSTINCT.

AT a meeting of the London Association of the Medical Women's Federation, held on February 22nd, at the British Medical Association House, with Miss E. BOLTON, the President, in the chair, Dr. ELIZABETH CASSON read a paper on maternal instinct in medicine.

Dr. Casson suggested that, while the immense strides made in neurology by the careful observations of facts and their subsequent study were frequently acknowledged, the study of instinctive behaviour was considerably neglected in medicine. Just as in the spinal cord, medulla, and mid-brain certain tracts were laid down in every individual, so certain definite instinctive responses to set stimuli would occur. Although it was not yet known exactly in what area of the brain these neuronic patterns were prepared, yet it seemed certain that they were as definitely laid to develop at various stages in the life of the animal as were the rubro-spinal and pyramidal tracts. A low-grade mental defective had no instinct for obtaining food, no curiosity, and no sense of fear, and had, in consequence, to be cared for as an infant all his life; but the normal infant developed all these instinctive reactions at the right time, and as he grew up, and during his whole life, every activity depended on these same primitive instinctive reactions common to all members of the human race, and, to a large extent, to all mammals. To the modern psychologist the play of primitive instinctive reactions was as unceasing in every activity as was that of the nerves governing the limbs. In every instance of behaviour, normal or abnormal, primitive instinct was demonstrable, and its recognition and study was necessary for diagnosis and subsequent treatment of any abnormal behaviour. McDougall had pointed out that certain unmistakable specific primary emotions could be observed in animals. They were best classified according to the three great ends of the life force—self preservation, race preservation, and the herd instinct. There were also certain other instinctive reactions with less specific ends. These were anger, aroused when any instinct was thwarted; curiosity, with its impulse to investigate anything outside the previous experience of the subject, which formed the basis of all intellectual development and provided the impulse for all research; joy, felt when any instinct was gratified; and grief, when any instinct had failed in its gratification. The best exposition of the parental instinct was that given by McDougall.

Discussing what was meant by the maternal instinct, Dr. Casson remarked that there were three processes in every reaction occurring in the nervous system—stimulus, appreciation, and either action or a strong impulse to action. The appreciation usually showed itself in what was called emotion. The stimulus and the resulting action might vary according to the experience and mental make-up of the individual, but the emotion—for example, of fear—was specific and unmistakable. The emotion specific to the maternal instinct was a yearning to cherish. There was unfortunately no word for it, but it would be heard expressed as an inarticulate sound by the women in a cinema audience when a child suddenly appeared on the screen. The mental patient, whether neurotic or psychotic, was to a physician in the position of a child, and provided a stimulus to the parental instinct. This might be the basis of the resentment felt by the doctor at the slightest interference with his or her treatment. Who had not met the angry parent, when someone suggested that she might bring up her child differently? In suggesting the maternal instinct as a subject for research there were a few points to be noticed—the age at which it appeared, its physical basis, its abnormalities, its relation to infanticide, its absence in advanced states of dementia. Sometimes the return of affection and pity for fellow sufferers or nurses was the first sign of recovery in mental patients. It was not easy to provide suitable stimuli for the maternal instinct in a mental hospital. Babies were scarce, and except for fellow patients there was no one to mother. Dogs and cats were the best substitutes. Where they could not be persuaded to mother people, patients might be able to express the allied instinct of nest-building and home-making in crafts and other branches of occupational therapy. An instinct might be abnormal in its unusual strength—for example, in cranks who kept twenty cats or pestered their friends for subscriptions to antivivisection societies. It might be aroused by an abnormal stimulus, or express itself unusually—Mrs. Jellyby (in *Bleak House*) was a notable example. A patient who had lost a baby, or had been nursing some other relative who had died, might thereafter lavish upon herself all the care and attention she had been giving to the child. Sometimes when the instinct was unsatisfied or repressed, the patients lost all touch with reality: they had babies in fantasy; in a mental hospital one might find an old dement gently nursing a pillow. One of Dr. Casson's patients, who had been aggressive, noisy, and abusive, became a different person after she was given a doll.

The outcome of Dr. Casson's experience was that, while it was not a waste of time to investigate blood pressure and knee-jerks, it was equally worth while to investigate the primitive instincts. If a doctor had been called in to discover early that the instincts of sleep and taking food were deranged in the puerperal cases investigated so carefully later at Broadmoor, then the babies would not have been killed by their insane mothers. If investigations were made of the maternal instincts of disgruntled women patients, much would be discovered. The profession was willing to supply artificial limbs; it might equally well be their job to supply an artificial baby. The maternal instinct was at least as strong as the mating instinct in most women, and the doctors must be on the look-out for its repression or wrong expression. Some women realized their need and knew why they were fretting.

Others did not know what was wrong with them, and did not realize that they needed the natural outlet of devoted service. They were the kind who kept well by doing war work and collapsed when they were left without it. For them a cure must be found; they must be persuaded to adopt a child, or guided into teaching, nursing, police, infant welfare work, management of working-class houses, or even into politics. By this means a selfish, self-centred, miserable woman might sometimes be transformed into a happy, useful citizen.

PATENT VENTRICULAR SEPTUM.

A CLINICAL meeting of the Devon and Exeter Medico-Chirurgical Society was held on March 17th, the President, Mr. A. L. CANDLER, being in the chair.

Dr. F. A. ROPER showed a boy, aged 9, admitted to hospital complaining of shortness of breath; it was stated that he had been "born with a bad heart." The apex beat was in the mammary line in the fifth space; there was a well marked systolic thrill and a loud to-and-fro precordial murmur. The pulse rate was regular at 90, and the blood pressure was 124/52. There was no cyanosis.

Dr. T. R. WHIPHAM said that from the point of view of diagnosis the more such cases were studied the more difficult the interpretation seemed to be. In the present case patency of the ductus arteriosus appeared to be the more probable solution. He based his opinion upon the intensification of the murmurs in the pulmonary area, but said that a previous patient with similar signs had entirely misled him, owing to the fact that the diagnosis was made during the first of two separate residences in hospital when the temperature was afebrile throughout, in contrast with the second period in hospital, when a high temperature and other constitutional phenomena were present. Eventually the case proved to be one of infective endocarditis. The *post-mortem* examination had revealed a clot in the pulmonary artery, but no congenital lesion.

Dr. G. L. THORNTON called attention to the wide disparity in the readings of the systolic and diastolic blood pressures, and asked Dr. Roper if this could be reconciled with a diagnosis of patent ductus arteriosus.

Dr. ROPER replied that he would hesitate before making a diagnosis of patent ductus arteriosus on the grounds that there was no cyanosis; there was no polycythaemia as evidenced by the blood count; the murmurs were spaced rather than appearing as one continuous rumble; there was wide separation of the blood-pressure readings. He suggested that patency of the ventricular septum was the most probable diagnosis.

Syringomyelia.

Dr. R. N. CRAIG showed a case of syringomyelia in a boy, aged 16, with a history of loss of power in both thumbs for some months. Then followed difficulty in holding things and in appreciating heat and cold. There was well marked wasting of the small muscles of both thumbs and the interossei of both hands, which were cold and cyanosed. No other neurological signs were present, and the diagnosis lay between syringomyelia and juvenile progressive muscular atrophy.

Dr. T. R. WHIPHAM did not consider that the tests for heat and cold were sufficiently conclusive in this case to warrant a diagnosis of syringomyelia. The signs present would, in his opinion, fit in quite well with juvenile progressing muscular atrophy.

Dr. F. A. ROPER considered that the juvenile type of progressive muscular atrophy occurring in the hands must be very rare, if not altogether unknown. He had also observed scars on the fingers which might well be attributed to blistering of the skin.

Dr. R. N. CRAIG remarked that there was absence of fibrillary muscular twitching, but did not agree that the age made the diagnosis of progressive muscular atrophy impossible. In addition to the signs already mentioned the boy had a definite scoliosis, which was so often found in association with syringomyelia.

Cerebral Embolism Secondary to Mitral Stenosis.

Dr. CRAIG showed also a boy, aged 16, with cerebral embolism secondary to mitral stenosis, who gave no history of rheumatic fever or other febrile complaint. Two and a half years ago he "fainted" and was unconscious for thirty-six hours; on recovery of consciousness he was found to have paralysis of the right arm and leg. This had gradually cleared up, but there remained wasting of the small muscles of the thumb, and to a lesser extent of the interossei of the right hand. There had been no change in sensation. Examination of the heart showed a characteristic thrill and murmur. The embolus was probably auricular in origin.

Other Clinical Cases.

Mr. G. P. HAWKER showed a middle-aged man with paresis of the right seventh, sixth, and third nerves. There was a fortnight's history of diplopia, and ptosis had been present for a week. Six weeks previously he had complained of pain over the right side of his face, but there was no record of any rash, vomiting, headache, or catarrh of the upper respiratory tract. The pupils were equal, but sluggish in their reaction to light; accommodation was normal. The movements of the right eyeball were very deficient, and of the left unimpaired. Both fundi were normal. The knee-jerks were exaggerated, but there was no inco-ordination or Rombergism.

Dr. CRAIG suggested treatment by a combination of iodides and mercury by the mouth, and neosalvarsan by injection, if a syphilitic diagnosis was established. Mr. HAWKER said he had found potassium iodide and mercury by mouth only, to answer well in similar affections.

Mr. R. WAYLAND SMITH showed, on behalf of Mr. DYBALL, a young unmarried woman with an enlarged submaxillary gland of several months' duration. The swelling varied in size from time to time, but not in relation to meals. The subjective symptoms were slight. The PRESIDENT remarked upon the difficulty in discriminating between an enlarged submaxillary salivary gland and an enlarged lymphatic gland beneath the jaw, and quoted a case where calculi were found on incision of what had seemed to be an inflamed lymphatic gland. Dr. SHAW had seen an obscure case where the correct diagnosis eventually proved to be endothelioma of the salivary gland.

Mr. NORMAN LOCK and Dr. MILLER MUIR showed a woman, aged 68, with atrophic scirrhus of the right breast of some seven or eight years' duration. There was a small lump in the left breast also. In spite of the extensive ulceration of the right breast, there was but slight invasion of the axilla. The patient was being treated by deep *x*-ray exposure. Dr. SHAW inquired if there was any risk of the *x*-ray treatment lighting up the growth. Dr. MILLER MUIR did not think there was any danger as regards stimulating the carcinoma, and he considered that the prognosis was hopeful with continued *x*-ray treatment, the surface being maintained aseptic and the growth at bay.

Mr. NORMAN LOCK showed a girl, aged 6, with ischaemic contraction of the left leg and scleroderma of the arm. The condition was first noticed after whooping-cough in the autumn of 1925; there was no complaint of pain. On admission to hospital the knee was stiff and swollen; there was three-quarters of an inch wasting of the left calf and slight wasting in the thigh also, the muscles of the latter being hard and stiff. There was scleroderma of the right side of the abdomen. Mr. Lock had exposed the external iliac artery, which was found to be very small; the periarterial coat was injected with absolute alcohol. The left arm had become affected last December. The patient was now being treated with radiant heat. Dr. R. N. CRAIG suggested a lesion of the suprarenals as a possible cause. The PRESIDENT commented on the small size of the artery, and said that sometimes it was wise in such cases to ligature the vein coincidently, thus avoiding a reflux through the venous channels. Mr. LOCK thought that the injections of alcohol had resulted in raising the temperature; he suggested a sympathetic cause. Nothing was found to support the possibility of a tumour or lesion of the spinal cord being responsible.

Mr. R. WAYLAND SMITH showed a case of uterine fibroid undergoing mucoid degeneration in a spinster, aged 49, who had suffered from haemorrhage but not dysmenorrhœa. When first seen there was a hypogastric tumour of the size of a five months pregnancy. Eventually the tumour, weighing 5½ lb., was removed, there being considerable oedema in the left broad ligament.

Mr. Wayland Smith showed also a man, aged 56, with osteo-arthritis of the left hip and spondylitis of the cervical and lumbar regions of the spine. Dental treatment, massage, radiant heat, and iodolysin had all proved futile, but marked improvement in movement and relief of pain had followed ultra-violet radiation. Dr. MILLER MUIR stated that, although structurally no improvement could be seen by radiographic examination, yet undoubtedly the symptoms of inflammation had been relieved. Careful dosing of ultra-violet rays was necessary, since otherwise this treatment might actually increase the pain. Mr. WAYLAND SMITH said that benefit had been noticeable after three weeks' treatment.

The PRESIDENT exhibited a fibrosarcoma of the mesentery from a man aged 68. The growth caused intestinal obstruction of a chronic type and was found to arise from the mesentery of the ileum, the mesenteric vessels being thrombosed, and the gut of a plum colour. The President showed also, with Dr. ADDINGTON DATE, a right testicle—becoming gangrenous from torsion—which had been removed from a man aged 52. He was first seen forty-eight hours from the apparent onset and in great pain; the scrotum was red, but the testicle was not enlarged.

THE INCIDENCE OF PNEUMONIA.

AT a meeting of the Section of Epidemiology and State Medicine of the Royal Society of Medicine held on March 25th, with the President, Dr. S. MONCKTON COPEMAN, F.R.S., in the chair, Dr. W. STC. MCCLURE read a paper on the incidence of pneumonia.

Dr. McClure called attention to the heavy mortality due to pneumonia and bronchitis and the unfavourable contrast between the north and south of England in this respect. By means of statistical tables and charts he indicated the correlation between mortality from pneumonia and air temperature, and pointed out that the statistical relation between mortality from respiratory diseases and fogginess was not clear-cut. He referred to the importance of the occlusion of ultra-violet light, quite apart from obvious fogs, which was a disadvantage of many northern cities. Dr. McClure presented much statistical evidence to the effect that domestic overcrowding and overcrowding upon the unit of area were important etiological factors of pneumonia. In his opinion "every additional open space provided in our towns, every slum area demolished, whether large or small, every effort made to clear the centre of our cities and to rehouse under hygienic conditions, will tend to reduce the mortality from these diseases."

In the course of the subsequent discussion Sir WILLIAM HAMER commented upon the analogy between the present position and one of Sydenham's epidemic constitutions. Dr. M. GREENWOOD quoted evidence to the effect that the pneumonia of childhood and adult life, but not of old age, was highly correlated with indices of domestic overcrowding. Dr. G. C. TROTTER thought the importance of nursing, its provision in overcrowded areas, was very great. Other speakers emphasized the importance of habits of life and adequate housing.

JAMES MACKENZIE INSTITUTE.

The Normal Temperature and Pulse Rate.

DR. PATON, on March 8th, read a paper on the normal temperature and pulse. Referring to the common belief that 98.4° F. was the normal temperature of the body, he said that it was not generally appreciated that this figure represented the mean of continuous readings during the twenty-four hours. Morning and evening records, as taken clinically, so rarely reached this degree in health that a reading of 98.4° F. should be looked upon with suspicion. In his school work he recorded the temperature night and morning of any pupil who might possibly have been exposed to infection, and he isolated the child if 98.4° F. was reached, provided any other symptom of departure from health was detected. By this plan he had often segregated cases of the exanthemata before they had given rise to infection, epidemic outbreaks being thus averted. In support of the view that a temperature of 98.4° was rarely recorded in health, the lecturer exhibited charts from sixty-one healthy girls in whom the morning and evening temperatures had been recorded for sixteen days. The temperatures were taken orally with standard thermometers, and the actual observations made numbered 2,169. A reading of 98.4° F. or upwards was obtained only on 225 occasions. Ten of the girls examined did not reach 98.4° once during the sixteen days. This agreed with his clinical observation that a temperature of 98.4° was commonly an early sign of a disturbance of health. The level of temperature in convalescence from illness, usually regarded as subnormal, was the same as that exhibited by these healthy girls. As a result of his observation his considered opinion was that the normal temperature from the clinical point of view must be regarded as nearer 97.4° than 98.4°. He suggested that the most valuable guide in deciding whether a border-line temperature was a healthy phenomenon, or was due to the invasion of disease, was obtained by observation of the pulse. If this was increased in rate, or if respiratory arrhythmia was absent, a temperature of 98.4° could not be regarded as physiological. Charts were shown from cases of measles illustrating the fact that a rise of pulse rate usually accompanied, if it did not precede, the initial rise of temperature, and that an increase of rate persisted after the temperature had reached its natural level in convalescence. Occasionally, however, a rise of temperature might occur before the pulse rate was disturbed. He added that it was obvious from these facts that the increase of pulse rate was not due to the pyrexia alone, but that both were due to the presence of toxins. It would appear that the mechanism regulating cardiac action might be more sensitive to some of these toxins than were the processes regulating bodily heat.

Herpes Zoster.

In a communication to the Institute on March 15th, Dr. BRYSON described a series of cases of herpes zoster which had come under his observation during the past seven years. In contrast to Head's record of age incidence, he had found the condition more frequent in patients over 25. He had found no evidence of epidemicity or relation to chicken-pox. Pain was usually a marked symptom and increased in severity with the age of the patient. The pain might be referred to a position apart from the rash. In one of his cases the attack was heralded by severe pain on the radial side of the left forearm accompanied by hyperaesthesia, whilst the rash appeared on the chest over the distribution of the second and third dorsal nerves. The disease had many years ago arrested the attention of Sir James Mackenzie. The definite skin and nerve lesions with the associated sensation provided peculiar opportunities for the study of symptomatology. If the symptoms of herpes zoster could be accounted for we should be well on the way to explain all symptoms. The lecturer pointed out that all afferent pathways were the afferent tracts of reflexes having some other end-result than sensation; that sensation was the concomitant of a reflex, and that the reflex involved in the nerve lesion was probably a skin capillary reflex. The skin lesion occurred over papillae where the capillaries were most numerous. It was curious that tactile sensation was not interrupted considering the nature of the lesion. Anaesthesia was not a symptom; indeed, hyperaesthesia was usual. Dr. Bryson threw out the suggestion that pain arose on the same reflex to which the thermal sensations were concomitant, in all likelihood a vascular one. Hyperalgesia was due to an interaction occurring in the "neopallium" between the impulses of normal tactile sensation and those arriving from the site of a lesion, not, as has hitherto been represented, occurring in the cord.

THE AUSTRALASIAN MEDICAL CONGRESS
OF THE
BRITISH MEDICAL ASSOCIATION,
DUNEDIN, NEW ZEALAND.

(*Continued from page 587.*)

THE SCIENTIFIC SECTIONS.

THE scientific and clinical part of the Congress programme included meetings of the twelve Sections; fourteen joint meetings, in which several Sections combined; a special evening discussion on the mutual relations of the State, the hospitals, and general practitioners; and clinical demonstrations each morning from 8 to 9.30.

SECTION OF MEDICINE.

In addition to taking part in seven combined meetings, this Section devoted two sessions to renal and blood conditions respectively. In the first of these sessions Dr. W. RAY (South Australia) described an epidemic of streptococcal nephritis, and Dr. S. D. RHIND (New Zealand) discussed renal efficiency with reference to the value of the various tests. The biochemical tests in common use were not very satisfactory in medicine, but served to distinguish between functional and post-nephritic albuminuria, and to assist in regulating the diet in nephritis. In obstetrics they indicated the cases of albuminuria in which pregnancy had to be terminated, and in surgery the suitability for operation in urinary cases. The estimation of nitrogen in the saliva was an easy and rapidly completed experiment from which the blood nitrogen could be inferred with a high degree of accuracy.

Dr. J. V. J. DUHIG (Queensland) dealt with the subject of diet in renal disease.

Professor WITHERINGTON STUMP (New South Wales) demonstrated the process of blood formation. Microphotographs were shown to illustrate the production of white and of red blood corpuscles in the ends of developing long bones. The stages were shown from a syncytial arrangement to a differentiated cell, the nucleus of which underwent changes resulting in the appearance of the red and white cell series. The development of giant cells was also shown. The special cells of developing bone were contrasted with the blood elements.

Dr. D. E. FENWICK (New Zealand) outlined the existing speculations as to the cause of pernicious anaemia, with special reference to the part played by the achlorhydria. A cure could not be claimed unless there was a return of hydrochloric acid secretion, with assurance that it was not merely a prolonged remission. The merits of the different means of treatment were discussed—the administration of sufficient hydrochloric acid, the treatment of focal sepsis, the administration of arsenic, preferably by mouth, and blood transfusion as a means of tiding a patient over a critical period. He doubted the value of splenectomy, but he had had no personal experience of it.

Dr. D. W. CARMALT-JONES (New Zealand) regarded the treatment of pernicious anaemia by repeated blood transfusions of about ten ounces of suitable blood at intervals between two and four weeks, for six months if necessary, as a most important addition to ordinary arsenical medication. A patient who did not show marked and sustained improvement with this treatment was probably suffering from some disease other than pernicious anaemia.

SECTION OF SURGERY.

A discussion on the surgical aspects of goitre was opened by Mr. BASIL KILVINGTON (Victoria), the President of the Section. He said that the surgical treatment of goitres centred mainly around those enlargements associated with toxic symptoms; of these there were two main types—the exophthalmic and the hyperfunctioning adenomas. Toxic goitres, with the exception of very mild forms, had now become entirely a surgical problem; the results of medical treatment were unsatisfactory, since when rest and iodine were stopped the symptoms recurred. He had not seen any benefit from *x*-ray treatment, and thought that subsequent operation was rendered more difficult from fibrosis around the lobe. With proper precautions the operative risk in thyroid surgery was only about the same as that in other major surgical operations. There should be preliminary rest and treatment with iodine, the dose of which varied with the toxicity. The anaesthetic should be nitrous oxide and oxygen. Only in exceptional cases should an attempt be made to remove all the necessary thyroid tissue at one operation. A single lobectomy, though it improved the patient, was never sufficient. Often the patient was satisfied, but she should be urged to have further operation. Removal of a single lobe was always followed by a slow relapse of symptoms, and this might result some years after removal of most of the thyroid tissue. A small amount of thyroid tissue should be left; this should be the posterior strip of the lobes, which distribution minimized the risk of traction and damage to the recurrent laryngeals. An exception to removing more than one lobe was where a hyperfunctioning adenoma was single or, if multiple, the nodules were confined to one side.

Mr. H. C. TRUMBLE (Victoria) dealt with the value of observations of the basal metabolism in the surgical management of goitre. He said that the basal metabolic rate for any organism was the minimum rate of change which could be induced by the exclusion of factors which normally tended to speed up the metabolism. These factors were digestion, exercise, excitement, and menstruation. At the time of estimation of the metabolic rate the state of the subject should approach that attained in peaceful sleep some twelve hours after the last meal. Normally the basal metabolic rate, when properly estimated (and several estimations on different days might be necessary to arrive at a reliable reading), should fall within certain limits. The thyroid gland apparently produced a substance which, when present in the blood, had the property of augmenting the metabolism. In disease of the thyroid gland the secretion might be deficient, or absent, or increased above the normal level. When there was no thyroid secretion the basal metabolic rate fell to about 40 per cent. below normal, and the organism existed at a very low level, both mental and physico-chemical activity being depressed to an extreme degree. A persistent increase in the amount of thyroid activity produced the well known syndrome generally entitled exophthalmic goitre and toxic adenoma of the thyroid gland. The basal metabolic rate might be increased to 100 per cent. above normal. In many cases the diagnosis was not in doubt, and estimations of the basal metabolic rate might be regarded as a luxury. There were many border-line cases where the diagnosis was not clear, and here the accurate measurement of the vital change might establish the diagnosis and direct treatment.

Gastric and Duodenal Surgery.

Mr. H. B. DEVINE (Victoria) gave a very interesting paper on the status of gastro-enterostomy in gastric surgery, illustrated by a cinema demonstration. He compared the views of English surgeons who favoured gastro-enterostomy with those of the Continental surgeons who favoured partial gastrectomy in the treatment of gastric and duodenal

ulceration. In his own opinion the results of routine gastro-enterostomy for gastric and duodenal ulcer were not satisfactory because the operation did not generally lead to the healing of the ulcer, gastro-jejunal ulcers were not a very unusual complication of the operation, and haemorrhage from an unhealed ulcer was fairly frequent. His criticism of the sanguine view of gastro-enterostomy results was that the surgeon often regarded a case as a perfect cure, whereas the patient felt that the operation had been a miserable failure because since his operation he had become afflicted with a train of very unpleasant nauseating but obscure symptoms almost worse than those of the original ulcer. These symptoms, regarded by the surgeon as neurasthenic or negligible, were very real, for when the "successful" gastro-enterostomy was undone the patient was delighted with the relief obtained. It was only fair to point out that the advocates of gastro-enterostomy contended that in such cases the patients had not been properly selected, and there had been an absence of the requisite knowledge of physiology and pathology, and the operative judgement, skill, and precision which were demanded in this operation almost more than in any other. In his view the curative action of gastro-enterostomy depended almost entirely on its effect on the mechanism of retention of the stomach—namely, on its emptying time. It depended also, but to a lesser extent, on the increase of alkaline regurgitation, but this to a large degree went *pari passu* with the emptying time, so that the fundamental physiological aim in gastro-enterostomy was to regulate this evacuation. The emptying time depended upon the "gradient" of the stomach and intestine, and possibly also upon the distance of the stomach from the pylorus. He distinguished two kinds of duodenal ulcer. The very chronic "acid-produced ulcer" occurred in sthenic persons, and was perhaps exclusively due to a very high acidity, the result of disordered gastric physiology. It was the same sort of ulcer as Mann had produced in his experimental dogs. The less chronic "debility ulcer," in which a lowering of resistance played the principal part, was comparable with the experimental ulcer that Rosenow had produced by infection. Mr. Devine thought that in gastric ulcer the acidity was of less importance; gastric stasis and depression of tissue resistance from local or general causes played the major part. In the application of gastro-enterostomy for the cure of ulcer there were two fundamental considerations: the abnormal physiological and pathological conditions which produced the ulcer, and the gross degenerative tissue changes brought about by prolonged secondary infection in the chronic ulcer. These fibrous changes and local devascularization would preclude the healing of an ulcer even in the absence of acid and even under the most favourable physiological conditions which an ideal gastro-enterostomy could give. Of unsuccessful gastro-enterostomies in his own clinic 14 per cent. were due to ulcer formation and 10 per cent. to gastric motility errors. The gastric motility patient was completely relieved of the symptoms of ulcer, but as a direct effect of the gastro-enterostomy he suffered from most distressing symptoms after meals, such as nausea, sinking sensation, vomiting, and, in addition, from diarrhoea with copious "explosive" motions and from great loss of weight and energy. Other errors of motility were attributable to excessive spur formation at the anastomosis, or to twisting in its long axis of a too long or too short afferent loop. Mr. Devine's investigations had led him to believe that an error in gastric or intestinal motility was the fundamental basis of even the "high acidity failures." With regard to his technique in gastro-enterostomy, the following points differed from the usual practice: collapsing the stomach with an air-pump to get in the undistorted stomach the proper point for the stoma; the stoma was curved to get some intestinal regurgitation; he did not use clamps, but prevented leakage by using the electric air-pump aspirator: a three-layer anastomosis with catgut was made. He recommended the following post-operative measures: an x-ray determination of the emptying time; a fractional meal to ascertain reduction of acidity; written instructions to the patient as regards diet.

Mr. ST. JOHN W. DANSEY (New South Wales), discussing the acute perforation of gastric and duodenal ulcers, said that there was probably no condition in surgery where successful treatment depended more on early diagnosis and prompt operation than acute perforation of gastric and duodenal ulcers. In figures taken from the records of the Royal Prince Alfred Hospital for the last ten years, perforation of gastric ulcers occurred in 39 males and 12 females, and of duodenal ulcers in 91 males and 7 females. Perforation of an acute ulcer of the stomach and duodenum hardly ever occurred. The investigation of all gastric ulcers operated on at this hospital during the last ten years showed that the anterior situation was more common in the male in the proportion of four to one. The average age for perforation of a gastric ulcer was 41 years, and for the duodenal between 40 and 49. Acute perforation of malignant ulceration occurred only once in this series of 149 ruptured gastric and duodenal ulcers. After the chronic ulcer had reached the peritoneum, the exciting cause of the rupture might be physical exertion or the powerful contractions of the stomach associated with hunger pain. The treatment of ruptured gastric and duodenal ulcers was essentially surgical. Under medical treatment the mortality was said to be 95 per cent. The abdomen was opened through the linea alba above the umbilicus. The perforation was closed by three mattress sutures of chromic gut. A posterior gastro-enterostomy was performed, except where the condition of the patient was very bad. Clamps were not used. Among fifteen cases of perforation of gastric ulcer treated by closure of the perforation and gastro-enterostomy there was only one death, and no death occurred among forty-one cases of duodenal ulcer.

Genito-urinary Surgery.

The surgery of the epithelial bladder tumours was the subject of a joint paper by Mr. GORDON CRAIG and Mr. R. K. LEE BROWN (Sydney). Tumours of the bladder had been recognized as early as 1551, but no treatment had been thought possible until Sir Henry Thompson, in 1880, removed successfully a growth through a medial perineal cystotomy. French surgeons introduced the thermo-cautery, and later the operating cystoscope was developed. High-frequency currents were first used by Edwin Beer of New York in 1910. The value of radium and *x* rays in this connexion was still uncertain. All epithelial bladder growths were to be considered malignant. Men were more liable than women in the proportion of four to one; infants were never attacked. A few cases in children had been recorded, but the incidence began definitely after the age of 20; it increased in each decade up to the sixties, from which time it declined. In Broders's classification of malignant growths of the bladder into four groups the malignancy was assessed on the proportion of the differentiated cells resembling bladder epithelium to the undifferentiated irregular cells with prominent nucleoli. In most cases of the lesser degrees of malignancy painless terminal haematuria was the first sign of the disease; it was due to portions of the growth being caught in the vesical sphincter at the end of micturition. Large growths were crushed by the bladder contraction and so the urine was never free from blood. With a greater degree of malignancy the tumour might be fairly advanced before blood appeared in the urine. In the less malignant cases surgery held out good hope of cure, though repeated examinations were necessary during the subsequent five years. Small papillomatous growths could be dealt with by diathermy through the cystoscope, except when situated around the vesical neck in men. The more malignant sessile growths gave very poor response to surgical treatment, and diathermy was preferable.

Mr. S. H. HARRIS (New South Wales) gave a cinematograph demonstration of prostatectomy.

SECTION OF OBSTETRICS AND GYNAECOLOGY.

At the first session the President of the Section, Dr. J. W. DUNBAR HOOPER (Victoria), delivered an address on the present position of obstetrics and gynaecology. He was followed by Dr. C. F. MORKANE (New Zealand), who contributed some observations on Rubin's transuterine insufflation. The second session was devoted to a discussion of the problems of Caesarean section. This occupied both

morning and afternoon, and included a paper by Dr. H. JELLETT (New Zealand) on the abuse of Cæsarean section. Professor J. C. WINDEYER (New South Wales) read a paper entitled "The trial labour," and Dr. A. BONAR LINDSAY (New Zealand) discussed pubiotomy. On the following day a cinematograph demonstration of uterine prolapse was given by Dr. NORMAN McARTHUR (Victoria), and Dr. CONSTANCE ELLIS (Victoria) described work in connexion with venereal diseases. On the last day a paper on pelvic lymphangitis was read by Dr. H. H. SCHLINK (New South Wales); in the afternoon a discussion on puerperal sepsis was held, and Dr. MARY DE GARIS (Victoria) read a paper on uterine inertia.

SECTION OF PATHOLOGY AND BACTERIOLOGY.

Dr. C. H. KELLAWAY (Victoria) read a paper on ascending renal infection. He said that the general trend of modern opinion was to regard nearly all renal infection as blood-borne, and in a number of cases the evidence did not admit of any other interpretation. If the bladder innervation was deranged, or if there was mechanical obstruction to the outflow, ascending infection might occur either by lymphatics or along the lumen of the ureter. He described the work of many who had attempted to prove ascending infection, but all this work was inadequately controlled in regard to the possibility of blood infection. His experiments had been performed on guinea-pigs, rabbits, and cats in which partial obstruction of the urethra or disorganization of the nervous mechanism of micturition had been produced. In guinea-pigs micro-organisms were introduced into the bladder, while in other experiments suspensions of "oil-blue" were used. In some of the experiments on rabbits and cats carmine and lamp-black suspensions were used, but later lycopodium suspensions were found to be the most efficient. He described his experiments in detail, and said that it was clear that in cats and rabbits the conditions upon which ascent along the lumen depended were very different from those which obtained in the guinea-pig, in which ascent readily occurred if the nervous mechanism was disorganized. The ascent of organisms was regularly demonstrable in their experiments. With regard to the lymphatics, his experiments with carmine were strongly opposed to the view that ascent in guinea-pigs could be explained in this way, since the particles were invariably found in the lumen of the ureter and pelvis and never in the wall of the ureter and its accompanying lymphatics.

Professor J. B. CLELAND (South Australia) contributed some considerations of the anæmias, leukæmias, leucosarcoma, and other allied conditions. He was unable to throw any further light on the etiology of pernicious anæmia. A high colour index with megalocytosis was diagnostic, the latter being the more important. Carcinoma of the stomach gave rise to an anæmia closely resembling pernicious anæmia. In 1923 a patient in Adelaide Hospital showed a typical blood picture of pernicious anæmia, and at necropsy a large gastric carcinoma was found. For many reasons this case was regarded as one of pernicious anæmia with independent gastric carcinoma. The association of achlorhydria with pernicious anæmia was well recognized, but in very few cases was free hydrochloric acid found. The hæmolytic anæmia of pregnancy was rare, and although it resembled pernicious anæmia closely it appeared to be quite distinct. Several patients had been treated in Adelaide for aplastic anæmia. He had found blood transfusion to be the most beneficial treatment. These anæmias were probably all of toxic origin. There were three views which might be taken as to the nature of leukæmia, taking lymphatic leukæmia as an example. The disease might be: (1) a hyperplasia of lymphoid tissue with eventually an overthrow of cells into the circulation, the result of a dyscrasia; (2) a hyperplasia of lymphoid tissue with overflow due to the stimulant action of some toxin or the establishment of a virus; (3) the leukæmias had been likened to malignant neoplasms, and it had been suggested that they actually did represent such arising in lymphatic tissues or from certain constituents of the bone marrow and spleen. There was, however, a kind of malignant condition—lymphosarcoma—the behaviour of which was quite unlike that of lymphatic leukæmia. He illustrated his remarks with case histories, and said, in conclusion, that he thought the leukæmia picture was only incidental to the disease, and not the essential characteristic.

Poliomyelitis.

Dr. C. M. HECTOR (New Zealand) read a paper on poliomyelitis, with special reference to the outbreak in New Zealand in 1924-25, experimental work at Otago Medical School, and the essential nature of the disease. He said that before the first epidemic in New Zealand in 1914 there had been scattered cases of poliomyelitis, but the second epidemic of 1916 was practically confined to the Wellington district of the North Island, the proportion of non-paralytic to paralytic cases being twelve to one. The 1924-25 epidemic was more extensive, affecting the warmer parts of the country more than the cooler; an account of it had appeared in the *Medical Journal of Australia*. In conjunction with the New Zealand Branch of the British Medical Association the Health Department had published a memorandum on diagnosis, and this, together with preventive measures, resulted in a low paralysis rate, though the case mortality was high. The virulence of the infection was found to increase when restrictive proceedings were imperfect. The percentage of non-paralytic cases increased towards the end of the epidemic, in consequence probably of the better recognition of pre-paralytic cases and the earlier administration of serum. Dr. Hector summarized the replies to the questionary issued by the Health Department in 1925. The average recovery rate of notified cases was found to be 84 per cent. Infection occurred chiefly from personal contact with patients or carriers; there was no evidence of insects being concerned or other intermediate agents. About 89 per cent. of the patients were under 16, and the average estimate of abortive cases was eight to one. No relation to social circumstances or population density was found. Human convalescent serum had proved to be a specific in promoting rapid recovery and in preventing paralysis if given in the pre-paralytic stage. Dr. Hector then described the experimental work in Dunedin, and said that attempts to inoculate monkeys and rabbits with the virus had failed, owing probably to its low virulence. Discussing the nature of poliomyelitis and its relation to allied diseases, he said that it appeared to be distinct from encephalitis lethargica, though the boundary lines were ill defined. He referred to Topley's work on the conditions governing the development of immunity in a limited herd, and to Dudley's discovery of the importance of crowding in relation to infection. Subminimal infective doses might accumulate until they exceeded the minimal infective dose; when they collected faster than the defensive mechanism could resist, disease ensued. With less velocity of infection immunity might be produced without there having been any obvious illness.

Dr. JEAN MCNAMARA (Victoria) and Dr. F. G. MORGAN (Victoria) described the collection of blood from human donors, the preparation of antipoliomyelitic serum, and the results of its employment in treatment.

Resistance to Tuberculosis.

Professor J. B. CLELAND (South Australia) described the tuberculous lesions found in 800 Australian necropsies. During recent years it had been the custom to record at the conclusion of every necropsy whether tuberculous lesions were present, together with full particulars of such lesions. In 800 records the results were: Number of tuberculous foci detected, 527 (66 per cent.); slight lesions present, possibly tuberculous, 43; tuberculous lesions present, 230 (28.7 per cent.); healed calcified tuberculous lesions, 103 (13 per cent.); small quiescent or healing lesions, 11; extensive pulmonary tuberculosis, 51; extensive tuberculosis elsewhere than in the lungs, 7; tuberculous meningitis, 6; miliary tuberculosis, 4; pulmonary lesions, slight or semi-quiescent, death due to other causes, 48. He concluded that tuberculous lesions were less frequent in Australia than in Europe. Nearly half the tuberculous lesions found were small and quite healed. Healed calcified tuberculous lesions of glands in the abdomen or thorax did not necessarily protect against fatal pulmonary

tuberculosis. There was in the community a natural tendency for the patient's tissues to surround and overcome the tubercle bacilli. There was a close resemblance between the nature of lesions due to tubercle bacilli and those due to toxic, non-immunity-producing, colloid silica particles. Tubercle bacilli, coal pigment, and silica particles must always be carried in fluid or in an ingesting cell. Rapid proliferation of firm connective tissue could close all avenues of escape to tubercle bacilli. If these processes could be accelerated the figures of "*healed calcified* lesions" would increase. Calcification occurred more readily in necrosed tuberculous foci than in necrosed silicolic ones. Extensive tuberculous lesions of the lungs did not prevent the successful inoculation by ingestion of the intestines. There was no evidence that the control of the tuberculous process had been due to an immunity response rather than to a fibrosis unrelated to immunity. Susceptibility to tuberculosis was probably due to the possession of a connective tissue which responded too slowly and too feebly to the presence of tubercle bacilli, so that these were carried further afield *before fibrosis could wall* them in.

Various Papers on Pathology.

Dr. C. H. KELLAWAY (Victoria) discussed the specific *localization of streptococci*. His experiments had related to the alteration in the cultural characteristics and specific localizing tendency of streptococci caused by repeated animal passage. He described fully his methods and results, and said that organisms which tended to localize in one tissue might have superadded a tendency to localize in another tissue, while their original localizing tendency remained unaffected.

Professor CLELAND read a paper contributed by Mr. L. B. BULL, D.V.Sc., on the value of comparative pathology in the problems of human disease. Advances in animal pathology had in the past, and would in the future, interact on and profoundly influence human pathology. Investigations of filterable viruses had included those associated with disease in lower animals. One virus which had been closely studied was that causing pleuropneumonia in cattle; Heslop had shown that there were at least two types of this virus present in Victoria. Systematic research into the toxaemias of pregnancy in sheep was very necessary, since it might throw much light on the causation of human disease. Inflation of the udder with air had proved very successful in treating "milk fever," which might possibly be associated with hypoglycaemia. *Lambs were subject to* dysentery of unknown origin, but recent work seemed to point to *B. welchii* as a possible causative factor. He referred to osteo-arthritis in lambs and dealt in some detail with botulism. Every accurate observation of a pathological process in an animal was of value in the study of human disease. This was illustrated by the report of a case of a form of conjunctival granuloma in horses which had been *fully investigated*; a case in a human subject had been subsequently detected.

Dr. E. F. D'ATH contributed a comparative study of the Kahn and Wassermann tests in 6,000 cases. As regards untreated patients there had been total agreement of the results of the two tests *in 5,369* cases and disagreement in 60 cases—an absolute agreement of 98.9 per cent. With patients under treatment there had been absolute agreement in 541 cases, relative agreement in 20, and disagreement in 70—an absolute agreement of 85.7 per cent., and a relative agreement of 88.9 per cent. The main advantages of the Kahn test were its *simplicity* and economy. The disadvantage was that the results were occasionally hard to read and still more difficult to interpret. From his results it would appear to give more false reactions than the *complement fixation test*. In the results obtained in cases under treatment the Kahn reaction became negative first in 41 cases and the Wassermann in 29 cases. He concluded by saying that the Kahn test was a reliable control to the complement fixation test. The latter was the more valuable, but to obtain the best results both tests should be used.

Dr. W. M. MOPPETT (New South Wales) described experiments with an *x*-ray spectrometer and the chorio-allantoic membrane of the chick embryo at eight to nine days' incubation. He had exposed areas of the allantois to small beams of *x* rays of known wave-lengths, scattering being reduced to a minimum. Further incubation for four days was necessary to develop the changes. Such conditions as atrophy, hypertrophy, epithelial invasion, leucocytosis, myxomatous changes, and the formation of fibrous tissue were observed. From his experiments he concluded that certain wave-lengths had the potential properties of affecting living tissues, these properties being antagonized by the presence of other wave-lengths. He added that the *wave-length and homogeneity of a primary beam of x rays* were very important factors.

SECTION OF PREVENTIVE MEDICINE AND TROPICAL HYGIENE.

This Section held three discussions on the school and administrative sides of the work of the public health nurse, epidemiology, and industrial hygiene. It took part in six combined meetings, and, in addition, various papers on special subjects were read.

The Public Health Nurse.

Dr. HARVEY SUTTON (New South Wales) dealt with the school aspects of this subject and said that the school nurse was a home or health visitor, whose duty was to "follow up" children found defective by the school medical examination, thus establishing a personal link with the home. She also visited the school before the doctor, testing the children's vision, and referring any child for medical examination. She also made a "clean survey" for pediculosis and impetigo, visiting and reporting on many homes. *Children notified were later inspected again.* This home visiting was independent of the doctor, and directly related to the head office. Occasionally she was called on to perform special duties, such as Schick-testing and vaccinating. To provide a closer control for infectious diseases and school epidemics more nurses were needed, and the pre-school children should be included under their care; Dr. Harvey Sutton showed how better control of infection would thus result. He outlined a scheme of training for the public health nurse; pre-graduate teaching to include experience in home visiting, district nursing, and in an infectious disease hospital, while the *post-graduate instruction should* consist of specialized work, such as infant and school health. He advocated the drawing up of a definite course for health nurses in Australia and New Zealand.

Dr. M. H. WATT (New Zealand) considered the matter from the point of view of administration. Public health, in the past limited to external sanitation, had now become personal in its application, attention being focused on the individual rather than on his environment. Under the new régime a new link, the public health nurse, was required, as the connecting link between the public health administrator and the home. The most important function of the public health nurse was to ensure the health and well-being of the mother during pregnancy, and of the child during infancy and the pre-school and school ages. Such duties were best performed by a *woman who* had had hospital and midwifery training, followed by a post-graduate course in preventive medicine. For organization he advocated the generalized system of public health *nursing, combining* preventive and curative nursing in restricted, and especially in rural, areas. Dr. Watt gave details of the public health nursing service of New Zealand at the present time.

Infectious Diseases.

Dr. MARY CHAMPTALOUGH (New Zealand) described her investigation with Dr. Baker McLaglan of the incidence of tuberculosis among school children. A group of 1,268 average children, between the ages of 5 and 15 years, in the Wellington and Canterbury districts, had been tested by the Moro percutaneous tuberculin method. Those giving positive reactions (14.1 per cent.) formed a selected group for further investigation by radiologists and chest specialists. Necropsies during the past ten years on children of this age period also *indicated 14.1* per cent. of tuberculous lesions in children dying from other causes. Including those whose deaths were due to tuberculosis, 28.2 per cent. showed lesions. The age incidence varied

with the locality, Canterbury giving a higher incidence in earlier years. Exposure to infection was found to have greater influence than family history. The test did not show that a proportion of children of subnormal nutrition had latent tuberculosis. Of the total group investigated, 9.15 per cent. had active disease, while 2.36 (or 16 per cent. of positive cases) had latent tuberculosis, which might under adverse conditions become an active lesion. These children were being kept under observation, and had been placed on suitable treatment.

Surgeon Commander S. F. DUDLEY, R.N., dealing with the possibility of forecasting outbreaks of diphtheria, said that the Schick test made it easy to determine whether any individual could contract clinical diphtheria when exposed to ordinary doses of the specific organisms. Thus immune and susceptible persons were distinguished—Schick negatives and positives respectively. Similarly a group of people could be considered immune or susceptible according as the percentage of immunes in the group was above or below a certain figure. The spread of parasitic infection depended, not only on the actual density of the susceptible hosts in an area, but also on the ratio which existed between them and the immune hosts in the same area. The Schick-positive percentage also gave the relative number of immunes to each susceptible. When the percentage of immunes was above a certain value, which would vary with every environment and every complex of host and parasite, the resistance of the herd to the spread of symptomatic infection became so high that epidemics were unable to start or continue, even when many susceptible hosts and infecting parasites remained in the environment. This degree of herd immunity, in the case of diphtheria, could be ascertained for certain population groups. Once ascertained Schick-testing would show when an epidemic was to be feared, when a diphtheria epidemic in progress might be expected to cease, and how many individuals in the community must be rendered immune to raise the resistance of the herd to a safe point.

Fatigue in Industry.

Dr. J. S. PURDY (Sydney) considered the question of fatigue in industry. He said that to attain maximum efficiency in industry it was necessary to prevent excessive fatigue beyond the point recoverable by a reasonable period of rest. He had noted the effect of two days' rest weekly, in contrast with one, or with one and a half days' holiday. By means of figures and graphs from Sydney statistics, he showed that where the forty-four hours week obtained, a small reduction in accident incidence followed, and a marked reduction in absence from work through sickness. Overtime, with its resultant over-fatigue, led to increased absence from work, due especially to neurasthenia; two days' rest weekly had resulted in less absence attributable to this cause.

SECTION OF NEUROLOGY AND PSYCHIATRY.

Four discussions were arranged by this Section, the subjects being: the physical basis of mental disorder, the social aspect of mental disorder, the university teaching of psychiatry, and the voluntary patient. At the end of the commencement of the first session, Dr. O. LATHAM (New South Wales) delivered his presidential address on the place of pathology in mental disorder. After some preliminary remarks on the history of the development of pathology in mental hospitals, Dr. Latham referred especially to the work of the late Sir Frederick Mott, the late Professor Kulchitsky, and the late Dr. R. G. Rows. Froude Flashman, after visiting the laboratories of France, Germany, and England, had established the first neurological laboratory in the southern hemisphere. The President then referred in some detail to the need of pathological research in the mental hospitals and the scope of the work; he outlined a course of pathology suitable for candidates who were proceeding to the diploma in psychiatry. He then dealt with the duties and uses of the central laboratory of the mental hospitals. There was a great field for research in the changes that resulted in the nervous system from various forms of poisoning, and the work of Hunter and Royle had greatly stimulated interest in the sympathetic system. Some of the histological work of these two investigators had been carried on in Dr. Latham's laboratory. More attention ought to be given to the basal ganglia, both in connexion with encephalitis lethargica and its sequels, and also to disseminated sclerosis. Dr. Latham concluded that the duties of the pathologist were to aid the psychiatrist in his problems and to help the psychologist to realize how much mental function depended on neuronic activity by providing as many clearly defined pathological specimens as possible, together with histories accurately recording the mental states associated therewith, at the same time respecting the conception of a mental trauma.

The Physical Causes of Mental Disorders.

Dr. G. P. N. PRIOR and Dr. A. L. KINNA (Sydney), in a joint communication, referred to the effects on the mind of physical illness, neoplasms in the cranium, and drugs such as alcohol and opium. They quoted their own experience in the relation of septic foci to mental disorder. By eradicating the foci of infection and administering autogenous vaccines they had obtained good results. They also gave details of cases treated successfully by endocrine therapy, in which the mental disorder seemed to depend on endocrine dysfunction.

Dr. J. BOSTOCK (New South Wales) discussed the "composite" viewpoint in relation to the causation of mental disorder, with particular reference to sepsis and endocrine derangement. He referred to the work of H. H. Cotton and quoted some of his own cases which seemed to support Cotton's view, but an experiment on twenty-five cases of dementia praecox with Plombière douching produced negative results, and his own experience in the main could not support Cotton's results. His attention had then been turned to endocrinology, 40 per cent. of cases in one series showing thyroid deficiency, and he had been led to the hypothesis that thyroid secretion was necessary for the proper functioning of the vagal nucleus, and that possibly this combination also included the thalamus (as the seat of the emotions), giving a thalamo-thyro-vagal balance. Such a conception would account for the fact that in an individual psychosis there might be at the same time changes in the emotions, thyroid gland, digestive system, and circulatory system, together with an obscure reaction to thyroid administration owing to the variety of factors involved, while sepsis might also exist owing to change in digestive system, and accompanied by the presence of indicanuria and intestinal stasis.

Dr. H. M. NORTH (New South Wales) confined his remarks to the "focal sepsis" side of the subject. He reviewed the work of H. H. Cotton, and said that his claims were extravagant and could not be supported by the facts. A carefully controlled experiment by Kopaloff and Kirby failed to show any relation between focal sepsis and the functional psychoses. Dr. North was more in favour of the existence of a specific toxin from a specific organism causing a specific lesion, as in the case of encephalitis lethargica. From his own experience he concluded that patients had received too much surgical attention.

Dr. S. J. MINOGUE (New South Wales) referred to the fact that, though many of the patients suffering from functional psychoses showed evidences of endocrine disturbance, the results of endocrine therapy were very disappointing. The search for the basic factor must be extended further than endocrine disorders. He said that Cotton's dogmatic assertion that focal sepsis was at the bottom of all mental disease could not be established by the evidence adduced in support of it. The riddle of psychosis was still unsolved and the treatment remained empirical and symptomatic.

The Voluntary Boarder System in Mental Hospitals.

Dr. E. JONES (Victoria) quoted from a report of the British Royal Commission on Lunacy and Mental Disorders (1926), and outlined the differences between the British

and Australasian procedure, giving figures to show to what extent the system was in use in Great Britain, Victoria, New South Wales, and New Zealand. He considered that rather more than 50 per cent. of the voluntary boarders could have been certified. It rarely happened that marked cases of mental disorder were admitted as voluntary boarders. The whole movement tended in the direction of facilitating the early treatment of mental disorders and would pave the way towards general hospital treatment.

Dr. RALPH NOBLE (New South Wales) emphasized the advantage which accrued from the operation of the voluntary system in the way of earlier treatment of patients, and discussed the effect of hospitalization of the mental patients. Mental hospitals ought to be run on similar lines to general hospitals. He classified nervous and mental patients into (1) those anxious to receive treatment, (2) those who were indifferent, (3) those who had no insight into their illness. Patients in the first two groups would go to hospital if they were made comfortable in congenial surroundings. Well organized psychiatric clinics would do more than any other procedure to supply treatment of mental illness in its earliest stages and could be a powerful factor in breaking down public prejudice against mental hospitals. Such clinics would also be extremely valuable in the teaching of psychiatry to medical students, and also in the training of social workers. He had found in the Sydney psychiatric clinics that the majority of the patients who presented themselves voluntarily fell into the group labelled "neurasthenia," while there were also many cases of hysteria. There was always a proportion of mental defectives and epileptics; lethargic encephalitis and syphilis accounted for many of the cases of organic lesion leading to mental disorder. Thus these clinics tended to break down the barrier which had so long existed between diseases of the mind and of the body, and gave to psychiatry and neurology their proper place in the field of preventive medicine.

Dr. ST. LEGER GRIBBEN (New Zealand) briefly considered the system from the point of view of the patient, of his friends and the general public, and of the medical practitioner. Regarding the patient, the system was eminently successful because the patient came under treatment much earlier than he otherwise would do, with correspondingly better chances of favourable recovery. The whole outlook in mental hospital administration to-day favoured an extension of the voluntary system. From the point of view of the patient's friends and the public generally, he was convinced that the voluntary system had done much to break down the old prejudices against mental hospitals, which prejudices had only too often resulted in individuals being kept at home so long that their chances of substantial improvement became remote. The system benefited the general practitioner because it furnished a basis on which he could co-operate with the mental hospital authorities in the early treatment, without formality, of those cases which would be most likely to benefit from institutional treatment.

The University Teaching of Psychiatry.

Dr. D. W. CARMALT-JONES (New Zealand) opposed proposals to teach systematic psychiatry to medical students. In his view such teaching was premature and destructive of sound professional training, if given to those who were not well grounded in organic disease. Owing to the difficult nature of psychology it was impossible to give adequate training in the subject during the existing course. No more than a smattering was possible, and a smattering of psychology was that little knowledge which was a dangerous thing; it had frequently led to serious harm being done to patients and contained the risk of an objectionable pruriency. Psychiatry was a post-graduate study for mature minds.

SECTION OF PEDIATRICS.

This Section took part in three combined meetings, and papers were read principally dealing with therapeutics. One afternoon was devoted to a visit to the Karitane-Harris Infants Hospital. Dr. A. JEFFERIS TURNER (Queensland) delivered his presidential address on infant feeding, and another address was given by Sir F. TRUBY KING.

Dr. JEFFERIS TURNER said that the prevention of disease depended on research and the practical application of the results of research. A fairly constant percentage of infants either died early, or survived only as bodily or mental defectives. Ante-natal supervision and treatment should prevent much infant wreckage. Breast-feeding was the most important preventive of infant mortality during the first year, and the infant clinic should be utilized to this end. By the medical inspection of schools and the provision of necessary treatment the State could do much. The establishment of clinics for children under school age was another valuable activity. The methods of the clinic were educative, and for their success three conditions must be observed. Nurses should be thoroughly trained; they should have the necessary medical supervision and assistance, and should co-operate with the medical profession. There should be a medical director of the whole service and medical lecturers at the training school. There should also be a local medical man attached to each clinic, whose duties should be confined to one afternoon a week. The mortality of childhood after the second year depended mainly on infections such as diphtheria, scarlet fever, measles, whooping-cough, tuberculosis, bronchitis, and pneumonia. At this age many defects were due to removable causes such as adenoids.

Dr. E. H. M. STEPHEN (New South Wales), in a paper on blood transfusion in young children, said that in the wards of the Royal Alexandra Hospital for Children at Sydney intraperitoneal transfusions of citrated blood had been given to eleven children for gastro-enteritis. Four had recovered; all were suffering from severe infections. Three marasmic infants who had survived gastro-enteritis had made a rapid recovery in a few days after intraperitoneal transfusion; in two a very toxic condition was present. Very good results had been obtained after intravenous transfusion in these children. Eight children with chorea or acute rheumatism had been favourably influenced. Children with acute rheumatism and persistent anaemia had also been transfused. Enucleation of tonsils had been performed; the patients recovered rapidly. Two choreic patients had been transfused, and an infant of 5 months with idiopathic purpura had been twice transfused and had recovered. Transfusions of the forlorn hope type in a child with a protracted meningococcal meningitis and in a pyaemic infant aged 6 months did not prolong life. A reappearance of blood cells in the urine of an anaemic convalescent nephritic was of short duration.

SECTION OF ORTHOPAEDICS.

This Section took part in three combined meetings for the discussion of cripples in war and industry, spastic paralysis, and cancer. Two sessions were devoted to papers on various subjects, which included muscle tone, the subject of a presidential address by Dr. N. D. ROYLE (New South Wales). Dr. J. RENFREW WHITE (New Zealand) read a paper on visceroptosis, and Dr. OWEN JOHNSTON (New Zealand) dealt with subacute and chronic epiphysitis. The pathology of osteo-arthritis was discussed by Dr. M. RADCLIFFE-TAYLOR (New Zealand) and Dr. K. S. MACKY (New Zealand) described the various disabilities caused by abnormality of the fifth lumbar transverse process.

SECTION OF RADIOLOGY.

The bulk of the time of this Section was devoted to combined meetings, for it took part in no fewer than six. An address on modern *x*-ray technique was delivered by Mr. E. Jerman, director of the Education Department of the Victor X-Ray Corporation, Chicago.

Dr. S. S. ARGYLE (Victoria) gave a presidential address on the progress of radiology. He said that he had been practising radiology for the last twenty-two years, and recounted some of his experiences during that time. He

drew attention to the progress that had been made, and discussed some of the problems that had been overcome. He indicated the direction in which further developments might be expected. During the war he had been particularly concerned with the equipment of an *x*-ray plant for use under service conditions for the air, and had been actively engaged in the Eastern theatre.

Dr. W. R. STOWE (New Zealand) presented three subjects for discussion. He first described two cases of Kümmel's disease (post-traumatic spondylopathy); one showed complete collapse of the first lumbar body on the left side, and in the other there was collapse of the anterior parts of the third, fourth, and fifth cervical vertebrae. In each case there was a previous history of accident corresponding with the original statement of Kümmel, and kyphosis was present. Up to 1921 only eighty-four cases of this disease had been reported. He then discussed a case of diabetes insipidus associated with defects in the skull, and said that only three cases (in children) had been recorded in the literature. The skiagram showed multiple deficiencies of a punched-out circular character in nearly all parts, more particularly in the anterior half of the skull, including the facial bones. The indication was that the skull should be examined radiographically in all cases of diabetes insipidus in children. He also described the *x*-ray treatment of Bockhart's impetigo in the adult scalp. A woman, aged 40, had had the infection for eight years. A powerful tungsten arc yielding ultra-violet rays was used; the treatment was given every other day without success. Epilation of the entire scalp was effected by irradiation, followed by the use of the ultra-violet arc and electrolysis. The hair was growing vigorously, and there were no further signs of the disease.

Dr. H. A. McCOY (South Australia) read a paper illustrated by a number of slides of 5,000 cases of gastric and duodenal ulcer, all unpublished as yet. He believed that the clinical history should be taken by the radiologist, and considered that duodenal ulcer could not be diagnosed by the history alone, but only in conjunction with a positive *x*-ray finding, though this was contrary to the teaching of Moynihan. Dr. McCoy did not agree with Moynihan's statement that a gastric ulcer was very rarely within an inch and a half from the pylorus; he had seen many gastric ulcers in which the crater was in the immediate sphincteric region. In many cases of gastric ulcer high up on the lesser curvature he had found the rhythm symptoms of duodenal ulcer, and he had seen a number of cases of duodenal diverticulum, occurring usually in the second, third, and fourth parts. He emphasized the importance of careful screening in the diagnosis of duodenal lesions, and paid particular attention to the technique of examination, which was similar to that used by Carmen Scott, Vilvandré, and Barclay.

Dr. H. F. PRAAGST (Victoria) discussed two common types of reflex dyspepsia—namely, those due to disease of the appendix and of the gall bladder. He believed that the appendix could be seen in 90 per cent. of all types of patients using the opaque meal. Of his series of 70 cases diagnosed radiologically as disease of the appendix, in 17 per cent. this organ was not seen, but all proved to be pathological at operation. Tenderness was the most valuable single sign; stasis was not by itself diagnostic. He emphasized the importance of the opaque meal investigation being employed only after the whole alimentary tract had been examined so as to obviate errors due to reflex effects on stomach and duodenum. He drew attention to the value of cholecystography by the oral method in determining whether the gall bladder was the cause of a dyspepsia, and showed films to illustrate this technique.

Dr. D. F. MYERS (New Zealand) described a method of examining the colon, utilizing the opaque enema. He gave a detailed account of the preparation and administration of a barium enema and emphasized the importance of screening in the investigation of the colon and the necessity of placing the patient in various positions in order to make a satisfactory diagnosis. He showed a number of very fine photographs reproduced in miniature from films illustrating a wide range of pathological conditions.

(To be continued.)

Reviews.

LISTER IN GLASGOW.

LISTER was born on April 5th, 1827, at Upton in Essex, of English lineage. He first became professor in Glasgow in 1860. The centenary of his birth is to be celebrated next week in London, where his work as a professor ended. It is being celebrated in Glasgow at the end of this week, April 1st, and it is therefore very appropriate that there should have been published in Glasgow two books—the one, *Reminiscences of Lister and of his Work in the Wards of the Glasgow Royal Infirmary, 1860-1869*,[1] by Sir HECTOR CAMERON; and the other, *Lister and the Lister Ward of the Royal Infirmary of Glasgow*,[2] compiled for the occasion by Mr. Ernest Maylard, honorary consulting surgeon to the Victoria Infirmary, Glasgow, Mr. James A. Morris, architect, and Mr. L. W. G. Malcolm, M.Sc., conservator of the Wellcome Historical Medical Museum in London, where a collection of relics of Lister is now on view.

In his preface to the *Reminiscences of Lister*, by Sir Hector Clare Cameron, Sir Donald MacAlister truly says that "the number of those who 'from the beginning were eye-witnesses and ministers' of his beneficent revolution in surgery becomes sadly smaller." Happy are we that so gifted and distinguished a member of the group of disciples who sat at the master's feet in the early days at Glasgow is still with us and able to make a contribution so acceptable as he does in this publication. No other living surgeon knows as much of the successive stages and steps in the evolution of the antiseptic system, from the first successful essay on a compound fracture to the full fruition of the method which banished hospital gangrene and pyaemia from those deadly ground-floor wards of the Royal Infirmary in Glasgow.

Sir Hector reminds us of the conditions of Lister's appointments in Glasgow. Like other Regius Professorships, his chair of Systematic Surgery was conferred upon him by the Crown, and he held it quite independently of the authorities of the Royal Infirmary. But if he wanted to practise what he preached and to afford clinical object-lessons to his students he must make himself so far agreeable to the directors as to induce them to appoint him to the staff of their hospital for five years. The directors were probably more anxious to help in the application of such knowledge of surgery as then existed than to increase and widen that knowledge. Sir Hector tells us a story of Lister's canvass of the directors which bears on this point. A very shrewd and influential tradesman decried the suggestion that the wards might be made use of to test the validity of theories enunciated in the lecture room as "a real Edinburgh idea." In his opinion the Infirmary should be used to cure the sick and not to educate the student. He did not realize that the surgical wards killed many more than were cured, until the "Edinburgh idea" was acted upon by the young Englishman. Although the hospital buildings were then (in 1861) new, they proved to be fearfully insanitary, to a degree remarkable even in those days of unwholesome wards. Sir Hector Cameron tells us that as a student he himself has seen as many as five men die in the same ward in one week of pyaemia following amputation for injury. Surgery in these circumstances was a cause of more grief than satisfaction to a conscientious and sensitive man such as Joseph Lister, and the effect upon him was obvious to a sympathetic observer. The successive steps in the evolution of antiseptic surgery were all watched by the eager student who is now Emeritus Professor of Clinical Surgery at Glasgow, from the crude carbolic acid, the tin-foil cap, the carbolic putty and carbolic oil, to the buried silk, and finally to the absorbable catgut ligature. The further advance to porous dressings was not made until Lister had returned to Edinburgh as professor of surgery. We are perhaps inclined to think of him as a philosophic thinker, which he

[1] *Reminiscences of Lister and of his Work in the Wards of the Glasgow Royal Infirmary, 1860-1869.* By Sir Hector Clare Cameron, C.B.E., LL.D., M.D., C.M., F.R.F.P.S. Glasgow University Publications, VI. Glasgow: Jackson, Wylie and Co. 1927. (6 × 9, pp. 45; 3 plates. 1s. net.)

[2] *Lister and the Lister Ward of the Royal Infirmary of Glasgow.* A Centenary Contribution. Glasgow: Jackson, Wylie and Co. 1927. (6¼ × 10¼, pp. xvi + 132; 27 plates. 12s. 6d. net.)

was, but not as a man of prompt action in emergency, which he also was. Sir Hector Cameron relates two incidents in which he stands out strongly as a man of deeds, in circumstances in which words were out of place, as when he rescued his own coachman from the danger of kicking horses and when he helped to save a delirious patient who had jumped out of a window.

After eight years at Glasgow, when Lister left for Edinburgh "he was able with confidence to ensure that a wound under his care pursued from first to last an aseptic course." None of those surgeons of the Glasgow Infirmary who had advised the directors that there was nothing in the antiseptic method dared give such an assurance.

Sir Hector Cameron reminds us, too, that, thanks to this immunity from suppuration, Lister was able to be a successful pioneer in bone and joint surgery and to correct the deformities due to vicious union of fracture. He left bone chips in a wound, confident that nature would deal with them satisfactorily, although, perhaps, he did not foresee that in the hands of a successor, Sir William Macewen, they would also serve a useful purpose.

In summing up his recollections and reflections Sir Hector concludes that the qualities of outstanding merit which distinguished Lister were his extraordinary powers of patience and perseverance. These, added to his great abilities and industry, carried him to the very summit of achievement accessible to the healer and the practical philanthropist.

The other book relates the efforts that were made some three years ago to save the Lister Ward from destruction and the determination of the directors of the Infirmary to persevere in its demolition. We commented on this matter at the time (BRITISH MEDICAL JOURNAL, October 27th, 1923, p. 776, and February 16th, 1924, p. 288), and after the lapse of more than three years we still wonder at the managers' decision.

Besides dealing with the controversy, in which all the valid arguments seem to be on one side, this book gives an interesting history of the three successive hospital buildings which have been used by the Royal Infirmary of Glasgow on or near the same site during the last 140 years or so.

Mr. Ernest A. Maylard, consulting surgeon to the Victoria Infirmary, Glasgow, who was formerly a manager of the Royal Infirmary, contributes a short but interesting sketch of Lister's career in Glasgow, as well as an account of the "Efforts for the preservation of the Lister Ward," and to Mr. James Morris, F.R.I.B.A., whose public-spirited efforts to secure the preservation of the ward have been beyond praise, we owe the article on the Infirmary buildings, with many interesting illustrations, as well as comments on the demolition controversy.

When the first building was erected the directors had the great advantage of using the designs of the brothers Robert and James Adam, and a handsome and dignified building was the result, to judge by the excellent illustrations which adorn this book. With the growth of Glasgow this building, even when a wing had been added, was inadequate. A new and larger hospital was erected on another part of the ground, and thus there seems to have been no excuse for the destruction of the handsome original building. Possibly those responsible for the mean-looking new building shunned comparisons with the old one, or were simply inspired by the materialistic spirit which moved the destroyers of the western towers of the adjacent cathedral. It was on the ground floor of this new building that Lister's male ward was situated, in which he applied his new method with such striking results. It was in it that he showed surgeons how to abolish hospital diseases, despite the fact that only a few feet distant was a mass of festering corpses which had been hurriedly buried there during a cholera epidemic in 1849. Separated from the other end of this ward block by only a few feet, and aligned at right angles to it, was the "Fever House," in which were treated many of the cases of fever for which Glasgow had formerly a bad name. It would have been hard to find a more severe test of the antiseptic method than was afforded by a ward thus placed.

By the beginning of the present century it became evident that a new surgical block was necessary, and it was decided to pull down the building which was opened in 1861, including the Lister Ward. Appeals for its preservation, although couched in the most respectful and persuasive terms, were all rejected, sometimes on one ground and sometimes on another; the reasons given were not all reconcilable, and none of them were convincing. Then, three years ago, as if to put the matter beyond further controversy, the ward was pulled down as far as the ground level, and in that condition the site remains to-day, unused and unsightly. Luckily the trustees of the Wellcome Historical Medical Museum acquired the materials and furniture of the ward, and the reconstruction of part of it in Wigmore Street is described by the conservator, Mr. L. W. G. Malcolm, M.Sc., in this volume.

The celebration of the Lister Centenary takes place in Glasgow on the first of this month, and we intend to publish an account of the proceedings in our next issue. Members of the medical and other learned professions, as well as many other citizens of that great city, are taking this occasion to show their pride in the fact that it was in Glasgow Lister found opportunity to prove his worth and confer on the whole world his great gift. Lister's tenure of office was by no means easy. It is significant, as Mr. Morris remarks, that so even-tempered and patient a man as he was should have felt compelled to put on record that his work at the time was "often heartbreaking, so as to make me sometimes feel it a questionable privilege to be connected with the institution." When he had succeeded in banishing hospital diseases from his ward, the directors pooh-poohed his system, attributed his success to sanitation, and resented his statement of facts. Their successors seem to have had no appreciation of the inspiration that the preservation of the ward would have been to surgeons, and of the educational value that would have attached to its maintenance in its original state.

SCIENCE AND QUAKERISM.

A COLLECTION of brilliant essays entitled *Common Sense and its Cultivation*,[3] the outcome of a life largely spent in India in an official position—Government analyst at Agra—was brought out last year by E. HANBURY HANKIN. The author is well known for his early work on immunity, of which a reminder occurs in his use of the adjective "alexic" for protective theories made up on the spur of the moment as a defence mechanism in opposition to an unwelcome proposition. Among other topics he deals with the mental ability of members of the Society of Friends, who as a result of their religious tenets were in the past driven to concentrate on business careers, education, and the study of nature. Although a small religious community such as the Quakers, numbering less than twenty thousand in Great Britain in 1900, would not appear likely to form an important recruiting ground for the Royal Society of London, he shows that this indeed is the case. In the period 1851-1900 there were on an average probably 17,000 Quakers in Great Britain, and among them there were nineteen Fellows of the Royal Society, as against 817 non-Quaker Fellows, but per million of the population this works out at the surprising figure of 1,117 for Quakers and twenty-four for others. Taking these figures at their face value Dr. Hankin argues that during the period a man had about forty-six times more chance of election to the Royal Society if he was a Quaker or of Quaker descent than if he belonged to the general population, and that, purely on the consideration of these figures and the rapid rate of increase of Quaker Fellows and the decrease of non-Quaker elections, the Royal Society should become a branch of the Society of Friends. Figures, it is said, will prove anything, and Dr. Hankin, after putting forward this fantasy, fully admits that the small numbers dealt with do not justify such a conclusion. Among the Quaker members of the medical profession, to which their social and intellectual atmosphere specially fitted them, Thomas Young was the most outstanding example of an all-round

[3] *Common Sense and its Cultivation.* By Hanbury Hankin, M.A., Sc.D. With a foreword by C. S. Myers, M.D., Sc.D., F.R.S. London: Kegan Paul, Trench, Trubner and Co., Ltd.; New York: E. P. Dutton and Co. 1926. (Cr. 8vo, pp. viii + 289. 7s. 6d. net.)

genius and the most distinguished man of science who ever became a physician; Lord Lister's is the most immortal name in the practice of surgery, and it is a hundred years ago since he was born to make surgery safe. Others such as Thomas (Baron) Dimsdale, John Fothergill and Lettsom, Thomas Hodgkin, philanthropist and pathologist, and Jonathan Hutchinson have left their impress on the history of medicine.

Miss ISABEL GRUBB has collected a large amount of material for her *Quakers in Ireland, 1654-1900*,[4] which carries on the story told in Dr. Rutty's *History of the Rise and Progress of the People called Quakers in Ireland*, published in 1751, since which date no such connected account appears to have been put before the public. Most of the early Quakers in Ireland went over from England as settlers between 1650 and 1680, and though at first persecuted did much to advance educational and economic progress. A Cork Quaker, William Martin, in 1838 recognized the great possibilities latent in a young Roman Catholic priest, and so at his suggestion Father Theobald Mathew undertook his famous temperance crusade throughout Ireland.

LIGHT TREATMENT.

IN 1907 Dr. L. JAUBERT established at Hyères on the Riviera a heliotherapeutic clinic, which he claims to have been the first in France. Since then he has been actively engaged in studying the effects of natural heliotherapy on the prevention and treatment of disease. He has now summarized his experience in a book.[5]

It seems to us of great importance at this time, when treatment by light rays of various kinds has acquired a sudden and to some extent unjustifiable popularity, that those who have had most experience in this field of work should put forward their views so as to guide and restrain the younger and more enthusiastic advocates of the method.

It is so easy to forget that ultra-violet light is a powerful protoplasmic poison, and like other protoplasmic poisons, such as mercury and arsenic, must be employed with the greatest caution. All the more is this necessary when it is remembered that, unlike the chemical poisons, the dosage of ultra-violet light cannot be measured with accuracy. And even though care is taken to avoid actual burns or other gross effects, we have far too little knowledge at present to state that its action is uniformly beneficial. The Northern races have attained an equilibrium in which the actinic rays of the sun play only a small part, and it is on *a priori* grounds very doubtful whether their resisting power to infection is likely to be materially increased by the almost unlimited exposure that is now being advocated both in medical and lay journals. This is not said to discourage or to depreciate in any way the value of light treatment; it is only to draw attention to our ignorance of the action of light rays on the biological processes of the organism.

One point made by Dr. Jaubert is of profound importance. It is that natural heliotherapy and treatment by artificially generated ultra-violet rays are radically different. To call the latter method "artificial heliotherapy" is a misnomer. The most valuable factor in natural heliotherapy is the free exposure to open air; the direct effect of insolation on the tissues is, he considers, insignificant. On the other hand, phototherapy, dispensing with the action of fresh air currents, relies exclusively on the direct action of the light rays. Though admitting the value of the latter method of treatment in certain conditions, the author has no doubt that it is very much more restricted in its application than is natural heliotherapy.

We would recommend this book to all who are interested —and who is not?—in the sun cure, trusting that it will, by demonstrating how empirical is our present knowledge of light treatment, stimulate many to a more profound and scientific examination of the part played by the actinic rays in the physiology and evolution of living protoplasm.

A second edition of the English version of Dr. ROLLIER'S *Heliotherapy*[6] has now appeared. His work at Leysin and his book giving an account of his work, published for the first time in English in 1923, are so well known that a brief notice and a warm welcome to this second edition are sufficient. A full account of the method of graded exposure to the sun's rays is given, together with details of the special apparatus used in the different deformities. A feature of the new, as of the former, edition is the large number of excellent illustrations demonstrating, not only the cure of the local lesion, but also the remarkable "transfiguration" of the whole body effected by the treatment. Radiographs of bone lesions before and after treatment are also numerous and equally striking. The clinical conditions dealt with are mainly tuberculous disease of bones, joints, and glands; non-tuberculous conditions are dealt with in a separate chapter. There are also short sections on climate, altitude, and the general action of sun rays on the body.

The first edition of a book entitled *Ultra-violet Radiation and Actinotherapy*,[7] by Drs. ELEANOR and W. KERR RUSSELL, was reviewed on April 17th, 1926 (p. 704). We have now received the second edition, which is nearly twice the size of the first, and contains additional information, after a further year of experience, on the value of the various types of lamps now in use. The writers describe themselves as "two medical practitioners," but they may justly claim a special competence in this sphere of practice, and in the ability to make plain a procedure that is more easily seen than appreciated from the printed word.

They have generally found the various types of lamps satisfactory, particularly the air-cooled mercury vapour lamp; the difficulty of the lamp is, not any inability to get sufficient radiation, but in gauging the correct amount required by the patient. The tungsten arc gives off more radiation and is cheaper to install, but upkeep, owing to the high price of tungsten electrodes, is great; also it produces unpleasant fumes, and needs constant hand regulation. The carbon arc is very suitable for hospitals where many patients are treated together. Briefly, the faults of the three are: The mercury vapour lamp, fragile and has a comparatively short life; the tungsten arc, fumes, and the running costs are high; the carbon arc, costly in current. In the new edition there is an interesting chapter on the history of light therapy, and an extended record of types of cases that are benefited by the treatment.

The book may be commended to the attention of practitioners who contemplate making use of this mode of treatment, and they will find in it a clear account of the scientific basis of the treatment and the details of its application.

The appearance of *The Artificial Light Treatment of Children*,[8] by Dr. KATHERINE M. L. GAMGEE, affords evidence of the great popularity of this method of treatment at the present time. Dr. Gamgee relates her experience and results at the Hull Corporation Artificial Light Clinic, especially in conditions of rickets, anaemia, and malnutrition in young children. An account is given of the administrative details of such a clinic and of the various kinds of suitable light apparatus; of the technique of exposure, and of the record of clinical data, along with illustrative notes from a number of case records. The author is convinced of the great value of this treatment, although it is a little difficult for a critical reader to accept all her conclusions from the data given. It would seem almost too good to be true that the use of violet rays in such clinics would do anything more than palliate the evils produced

[4] *Quakers in Ireland (1654-1900)*. By Isabel Grubb, M.A. London: The Swarthmore Press, Ltd. 1927. (Cr. 8vo, pp. 158. 3s. 6d. net.)

[5] *La Cure de Soleil*. Par Dr. L. Jaubert (d'Hyères). Préface du Professor Leriche. Bibliothèque des Connaissances médicales. Paris: E. Flammarion. 1927. (Demy 12mo, pp. 233; 38 figures, 6 plates. 12 fr.)

[6] *Heliotherapy*. By A. Rollier, M.D. Translated by G. de Swietochowski, M.D., M.R.C.S. Second edition. Oxford Medical Publications. London: Milford, Oxford University Press. 1927. (Demy 8vo, pp. 318; 273 figures. 20s. net.)

[7] *Ultra-violet Radiation and Actinotherapy*. By Eleanor H. Russell, M.D., B.S., and W. Kerr Russell, M.D., B.S. With forewords by Sir Oliver Lodge, F.R.S., D.Sc., LL.D., and Sydney Walton, C.B.E., M.A., B.Litt. Second edition. Edinburgh: E. and S. Livingston. 1927. (Demy 8vo, pp. xxxi + 429; 168 figures. 15s. net.)

[8] *The Artificial Light Treatment of Children*. By Katherine M. L. Gamgee, M.R.C.S., L.R.C.P., D.P.H. With an introduction by Professor Leonard Hill, M.B., F.R.S. London: H. K. Lewis and Co., Ltd. 1927. (Demy 8vo, pp. xx + 172; 33 figures, 16 plates. 10s. 6d. net.)

by lack of sunlight and fresh air in the homes of our poor city populations. Natural sunshine together with fresh air is the ideal to be aimed at; and it would be regrettable if excessive enthusiasm about the value of this artificial substitute were to slacken our efforts in working for the radical remedy—which consists in good houses and the introduction of fresh air into the homes and lives of city dwellers.

Dr. E. MAYER'S *Clinical Application of Sunlight and Artificial Radiation*[9] is the kind of book on this subject which is to be welcomed, for the author has had considerable personal experience in the use of ultra-violet radiation in various clinical conditions of tuberculosis. With this foundation and with a long experience of all modern methods of treatment in tuberculosis acquired at Saranac Lake, New York, he has attempted a comprehensive survey, not only of the clinical applications of light treatment, both natural and artificial, in tuberculous conditions, but of the more fundamental and much more important problem of the biological action of light upon human tissues. Such a survey can only be given in a provisional way, but even now its need is being widely felt as a critical check on the extravagant claims that are being made, especially for artificial light therapy. The first part of the book is the more important; it deals with the nature of various forms of radiant energy and with their effects upon animals, plants, and bacteria, and is written with an extensive knowledge of the growing literature on this subject. The sections on the clinical applications of light treatment include, not only his own personal experience in tuberculosis, but also sufficient reference to the results of other workers in Europe and America. The whole book is a well balanced critical account of a large subject, the importance of which is being more and more realized, and for which accurate and scientific data are urgently required.

The book is well illustrated, and is also provided with an enormous bibliography. The latter fills nearly sixty pages, and as not even the majority of these references are quoted in the text it is of little value except that it indicates the enormous output of writing on the subject, much of it, we fear, of very doubtful value. But Dr. Mayer's book will certainly take a much more honourable place in the literature of the subject.

NOTES ON BOOKS.

DUVERGER of Strasbourg and VELTER of Paris have collaborated in writing a textbook of ophthalmic surgery (*Thérapeutique chirurgicale ophthalmologique*[10]) which, within our knowledge, is the best of its kind in French. The whole field is covered. A large amount of space is devoted to the question of anaesthesia; the authors strongly advocate regional applications. They give in minute detail the technique they practise, and express the view that with few exceptions it should supersede the employment of general anaesthetics. A special feature is made of plastic operations on the lids and conjunctiva, to which about a quarter of the book is assigned. The operation advised in those cases of lacrymal disease where nasal drainage is feasible is a modification of the technique of Dupuy-Dutemps and Bourguet. In the surgery of the cornea stress is laid upon the advantage of a conjunctival flap in chronic marginal ulcer, and superficial corneal grafts are suggested as worthy of a trial in some cases of central opacity. Cysts and tumours of the iris which are amenable to local removal are freely excised *in situ* with the surrounding iris tissue after a hemisection of the cornea has been made and the whole half of the cornea has been folded back *en bloc*, exposing the neoplasm "*à plat et au grand jour.*" For such a procedure retrobulbar anaesthesia is necessary. The old-fashioned ways of performing cataract extraction are advocated, and the various methods of intracapsular extraction are dismissed as not compensating for the increase of risk by any theoretical or cosmetic advantages. For acute glaucoma iridectomy, and for chronic glaucoma the technique of Lagrange, are given first consideration. In enucleation regional anaesthesia only is advised. The book is well written, and its most striking feature is its wealth of clearly drawn illustrations; they are much above the average, and, like the illustrations of all surgical textbooks, show how beautiful and easy surgical manipulations really are.

[9] *Clinical Application of Sunlight and Artificial Radiation.* By Edgar Mayer, M.D. London: Baillière, Tindall and Cox. 1926. (Med. 8vo, pp. xvi + 458; 16 figures, 37 plates. 45s. net.)

[10] *Thérapeutique chirurgicale ophthalmologique.* Par Prof. Duverger et Prof. Velter. Paris: Masson et Cie. 1926. (Roy. 8vo, p. 630; 45 figures, 40 plates. 18s. 4d.)

Dr. FRANKLIN H. MARTIN, Director-General of the American College of Surgeons, visited South America in 1920 and 1921, and published an account of his tours in a book entitled *South America from a Surgeon's Point of View*, which we reviewed on March 4th, 1922 (p. 355). Since then other Fellows of this College have paid similar visits, and Dr. Martin has, therefore, revised his original book extensively to include an account of the *Vandyck* cruise arranged by the College in 1922-23, and journeys of Drs. Francis P. Corrigan, W. J. Mayo, A. J. Ochsner, and E. I. Salisbury, with a view to indicating the position to-day of medical practice in the Latin-American countries. The present volume, entitled *South America*,[11] contains an interesting description of each of its constituent countries illustrated by many photographs, and an account of their medical institutions, including their relation to the American College of Surgeons. It is stated that up to the present time the Fellowship of the American College has been conferred upon 265 Latin-American surgeons, in addition to several honorary Fellowships awarded to certain of the more distinguished among them. Dr. Martin has compiled a considerable amount of information which will interest and assist travellers, historians, or medical practitioners who propose to visit South America. An English-Spanish and an English-Portuguese vocabulary increases the value of the book.

Dr. F. F. IMIANITOFF, assistant to the gynaecological research department of the Institute of Anatomy in Brussels, has prepared an English translation of Dr. SERGE VORONOFF'S book on the treatment of old age by grafting, which we reviewed on October 23rd, 1926 (p. 736). This translation[12] is illustrated by photographs, and is printed clearly. The book contains an account of the operative technique in man and monkeys, and a report of the results obtained.

The *Pocket Dictionary for Midwives and Maternity Nurses*,[13] edited by DORA VINE, contains a list of obstetrical and gynaecological terms, with phonetic pronunciations, and a short account of various medicaments used in midwifery. It is, as the title claims, very portable, and should be found useful by midwives, maternity nurses, and students for the C.M.B. examination.

In a small manual entitled *Leadership*[14] Dr. WILLIAM COLBY RUCKER suggests rules of conduct for the younger officers of the United States Public Health Service. He describes in general terms the elements of character and personal behaviour which are essential for professional success, and gives numerous hints as to the way in which the medical officer should deal with his colleagues and the public.

[11] *South America.* By Franklin H. Martin, C.M.G., D.S.M., M.D., LL.D., F.A.C.S. Introduction by William J. Mayo, M.D., D.Sc., LL.D., F.R.C.S.Eng., Edin., Ire., D.S.M. Revised edition. New York, Chicago, London, and Edinburgh: Fleming H. Revell Company. 1927. (4½ × 7¼, pp. xxiv + 411; illustrated. 3 dollars.)

[12] *The Study of Old Age and My Method of Rejuvenation.* By Dr. Serge Voronoff. Translated by Fred. F. Imianitoff, D.S.C., B.A., M.R.C.S. London: The Gill Publishing Company, Ltd. 1926. (5¾ × 8¼, pp. 155; 36 figures.)

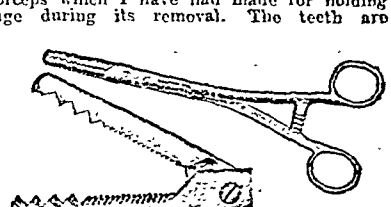
[13] *Pocket Dictionary for Midwives and Maternity Nurses.* Edited by Dora Vine. Nursecraft Series. London: H. Edgar Smithers. 1927. (Fcap. 16mo. 1s. 6d. net.)

[14] *Leadership.* By William Colby Rucker, M.S., M.D., Dr. P.H. New York: The Macmillan Company; London: Macmillan and Co., Ltd. 1926. (Fcap. 8vo, pp. iv + 171. 10s. net.)

PREPARATIONS AND APPLIANCES.

Forceps for Operations on the Semilunar Cartilage.

MR. F. WILSON STUART, M.D., Ch.M. (*Birmingham*), writes: The illustrations show a forceps which I have had made for holding the semilunar cartilage during its removal. The teeth are so fashioned that they crush and grip the cartilage tightly instead of cutting through and breaking it up—an action which allows of continual slipping. The instrument is designedly made long to allow of the hand holding it being well away from the wound.



It has been thoroughly tested, and proved entirely satisfactory. The makers are Messrs. Philip Harris and Co., Ltd., Birmingham.

British Medical Journal.

SATURDAY, APRIL 2ND, 1927.

CERTIFICATION OF THE INSANE AND THE HUME-SPRY CASE.

THE certification as insane of a mentally disordered person has always rightly been regarded as an exceedingly grave matter, and, by the medical men directly concerned, as a painful duty. Deprivation of personal liberty, loss of civil capacity, and real handicap to re-employment after recovery, to mention some only of the disabilities certification entails, carry so much weight that relatives and doctor alike often go very far to avoid this step. But these considerations, however greatly they may delay certification, and (too often) treatment at expert hands during an early and most favourable period, do not expose the real difficulty or dilemma in which the medical practitioner may easily find himself.

As pointed out on behalf of the British Medical Association to the Royal Commission on Lunacy[1] by several high authorities, if the medical practitioner fails to certify a case with suicidal or homicidal tendencies and a tragedy ensues, he may be held responsible; or, if he takes charge of the case *without* certification, Section 315 of the Lunacy Act may be invoked and he be found guilty of a misdemeanour; while if he certifies the case he exposes himself to an action by the patient on recovery. The case Harnett *v.* Bond, heard a year or two ago, has done nothing to allay professional disquietude in this matter, but instead has so considerably increased the reluctance of medical men to handle so many-pointed an instrument as a lunacy certificate that in some districts, it has been said, medical men refuse to certify in any circumstances. In consequence, in these districts there is an increase of the practice of sending patients, not paupers, to Poor Law institutions for certification and transfer to mental hospitals, instead of, as is so much to be desired, to the mental hospitals direct. This is only one example out of several, but in general it may be said that this case has accentuated the need for that " accommodation of legal standards and medical considerations " which the Royal Commission described as the crux of the problem before it.

In such circumstances the result of the Hume-Spry case was awaited by all with anxious interest, and the congratulations which happily we were able to offer to Dr. Percy Smith and Dr. Watson last week must have been echoed by the medical profession as a whole, and also by that considerable body of laymen concerned with and about the care and treatment of the mentally afflicted. So much, however, has public attention been focused on the fifteen days' hearing concluded on March 22nd that the fact may have been overlooked that as far back as January, 1926, the defendants made application to a Master of the King's Bench Division, pursuant to the Lunacy Act, 1890, Section 330, Subsection (2), to stay the proceedings, and that the order of the Master staying the proceedings was affirmed by the Judge in Chambers. Mr. Hume-Spry then appealed to the Court of Appeal, which held, in the light of the affidavits of the plaintiff's expert medical witnesses, that a prima facie case that the defendants had acted without reasonable care had been shown, and consequently the action must proceed and the orders of the Master and the Judge be set aside. An explanation of the ruling of the Court of Appeal will be found in our issue of March 13th, 1926 (p. 508). Put shortly, the Court of Appeal held that the question for decision by the Master under Subsection (2) was not, Did the defendant medical men act in good faith and with reasonable care? but, Has the plaintiff disclosed a prima facie case of negligence? It appears, therefore, that although this subsection may powerfully protect medical men against frivolous litigation, cases in which the plaintiff is able to bring sufficient evidence in support of his claim to disclose a prima facie case of negligence, even when there appears to be a good defence, must go forward to trial under Subsection (1). Where, as in this case, the evidence includes sworn statements by medical men of professional eminence supporting the plaintiff's contention of lack of good faith or reasonable care, it would seem that a prima facie case can hardly be denied.

It may be recalled that the Royal Commission recommended certain amendments of both subsections of Section 330 which would place the onus of proof of bad faith and lack of reasonable care upon the plaintiff, and also would permit the action to be stayed unless the judge and court were satisfied that there was substantial ground for alleging bad faith or want of reasonable care. These recommendations, though they fell far short of the proposals of the British Medical Association, would, if adopted, certainly increase the measure of protection afforded at present. Whether the alterations of Subsection (2) recommended by the Royal Commission would have allowed the action to be stayed at its interlocutory stage may be questionable; but having regard to the serious statements made against several who had the misfortune to be involved, it is now clear that it was far better that this action should have been tried by a jury, and that the same verdict which fully cleared both defendants of the charges of bad faith and negligence brought against them completely vindicated the honour of those aspersed.

It will have been observed by those who have followed the case that at every stage of the action great stress was laid by some of Mr. Hume-Spry's expert witnesses on the necessity of making a full physical examination, without which, they said, the defendants should not have arrived at their conclusion. This contention is untenable. We should be the last to minimize the importance of making the fullest possible physical examination, but—and this cannot be said with too great emphasis—the only criteria for the purposes of certification as insane are psychological, and concern the mind and conduct of the person examined. Moreover, evidence for the defence showed that Mr. Hume-Spry had been under treatment in Ministry of Pensions hospitals for some years, where he had been carefully examined physically; and that not only had both defendants been informed of this fact, and that he showed no signs of any organic disease, but that the actual medical case-sheets were produced to Dr. Percy Smith at the time of his examination of the plaintiff.

Had the case gone otherwise it might have been necessary to examine at some length the suggestion that the defendants acted in bad faith because they did *not* make inquiries of independent persons in a search for evidence corroborative of the plaintiff's delusions. Fortunately it is still not required of the

[1] Report of the Royal Commission on Lunacy and Mental Disorder. Printed and published by H.M. Stationery Office. 1926. Price 3s. 6d.

certifying medical man that—to quote the apt phrase of defending counsel—he constitute himself into a kind of amateur divorce court.

The principal charge made by the plaintiff against the Ministry of Pensions was that a plot or conspiracy existed to separate him from his wife by detaining him in hospitals, and that his eventual certification was the culmination of such conspiracy, and was engineered by headquarters officials of the Ministry of Pensions in conjunction with the plaintiff's wife to cover her alleged misconduct with the medical superintendent of a Ministry hospital in 1920. The evidence showed that these allegations were baseless, and the product of a mind dominated by an inordinate degree of morbid suspicion and jealousy. There was, on the other hand, ample proof that the Ministry of Pensions, in accord with its publicly avowed policy, kept the plaintiff under observation and treatment in its hospitals for some years in the hope of avoiding certification, and that it was only when he was considered to have become potentially dangerous and showed marked deficiency of self-control that legalized detention became essential.

At the judge's direction the documents connected with the case were retained in the custody of the court in order that the Director of Public Prosecutions might consider whether or not he should take criminal proceedings against Mr. Hume-Spry for perjury or such other offence as he might think should be disclosed. If it be true, as was stated during the hearing, that this action was subsidized by a society—the Ex-Services Welfare Society—whose claims, supported by distinguished patronage, are constantly before the charitable public from whom it derives its funds, we can only deplore the fact.

It is always a comforting reflection that out of evil good may come, and if, following the great publicity given to the case and the complete vindication of the defendants, there ensues a greater degree of confidence in the good faith of medical action, and a less suspicious attitude of the public towards its servants acting in the discharge of their often difficult duties, this trial, however considerable the pain to the defendants, may yet prove a blessing in disguise.

PARALYSIS OF THE VOCAL CORD AND OF THE DIAPHRAGM.

APART from their value as experiments in nerve anastomosis, the investigations reported by Sir Charles Ballance and Mr. Lionel Colledge in the current and preceding numbers of the JOURNAL are of physiological interest in that they deal with one aspect of what has been termed "central nervous response to peripheral nervous distortion."[1] The object of their experiments has been to see if a paralysed vocal cord can be so innervated by a motor nerve which normally innervates muscles other than those of the cord that the latter regains its normal co-ordinated activity, moving rhythmically in respiration and playing its part in phonation. Their observations have been carried out on dogs and monkeys, and the essential results were described concisely by Mr. Colledge in this JOURNAL two years ago (March 21st, 1925, p. 547). Certain additional facts concerning the restoration of function in the diaphragm after section, partial or complete, of the phrenic nerve and the anastomosis of its distal end with the descendens hypoglossi are embodied in the present papers, together with a wealth of experimental detail. Also there is the brief account of a human case in which they have applied the method of nerve anastomosis that their animal experiments have shown to be most efficacious. Briefly, the facts of observation are these: Anastomosis of the distal end of the cut recurrent laryngeal nerve with either the vagus trunk or with the descendens hypoglossi restores a tension of apparently normal degree to the paralysed cord, but fails to produce the normal respiratory movement of the cord. Under partial asphyxia the cord does show some adduction and abduction movement, indicating that motor nerve fibres have traversed the suture and gained the musculature—a conclusion confirmed by stimulation experiments—but a useful normally co-ordinated movement of the cord is not restored. Following anastomosis of the distal end of the cut recurrent laryngeal nerve with the proximal end of the cut phrenic nerve, or an end-to-side anastomosis of the former nerve with the partially divided phrenic, there appear after the lapse of some months movements on respiration of normal amplitude and form in the previously paralysed cord. However, these tend with the further passage of time to increase in amplitude so as to exceed those of the normal cord of the opposite side. Further, when a similar nerve division and anastomosis is performed on the opposite side in the same animal, paradoxical movements tend to develop in the newly innervated vocal cords. So that the normal abduction of inspiration and the adduction of expiration are reversed, and stridor develops. In the case of the unilateral operation a similar disorder of movement is apt to appear under anaesthesia.

It would seem from the observations thus summarily stated that while a restoration of muscular contraction in the intrinsic muscles of the larynx can be secured with reasonable certainty by phrenic-recurrent laryngeal anastomosis, the restoration of co-ordinated movement in the cords is a result much more difficult of attainment. As the authors point out, a similarly deficient functional result is apt to follow attempts to re-innervate the paralysed facial muscles by nerve anastomosis, and it is possible that, as with the face so with the vocal cords, re-education exercises may overcome this defect up to a certain point. It is probable, however, that the various movement complexes, voluntary and reflex, in which the vocal cords normally take part are even more highly differentiated than those in which the facial muscles engage, and that in consequence a perfect physiological result from recurrent laryngeal anastomosis will be even more difficult to obtain. After describing the movements of the glottis in simple respiration, Gowers remarks in his textbook: "If the action be thus complex in simple opening and closing the glottis, how much more complex must it be in the delicate and varied actions by which is produced the infinite variety of vocal sounds." And we have also to consider the harmonious co-operation in which the glottis normally works with the other muscles of respiration.

In the endeavour to find an explanation for certain of their observations, the authors wander more deeply into the realms of speculation than the physiologist will be prepared to follow, while they record observations—not, indeed, essential to their main purpose, but made in the course of a prolonged investigation—which he will not be able to accept. Thus it is stated that anastomosis of the distal end of the cut facial nerve with the proximal end of the cut lingual will secure effective re-innervation of the facial muscles, and that a similar sensory-motor anastomosis of the distal end of the phrenic with a cervical cutaneous

[1] Osborne and Kilvington, *Brain*, 33, 1911.

nerve will restore movement to the paralysed half of the diaphragm. These appear to have been isolated observations which, in view of their unusual character, it might have been wiser not to embody in their paper. Further, there is the statement that stimulation of the hypoglossal nerve evokes reciprocal innervation of the hyoid muscles, contraction of the supra- and relaxation of the infra-hyoid. It is clear that the acceptance of this as an accurate observation would involve a revolution in the body of accepted neuro-physiology.

These aspects of their paper do not, however, invalidate its main thesis, and in the discovery of an operation which may with reasonable certainty relieve the subject of a double abductor paralysis from the danger to life in which he stands, the authors have every ground for satisfaction. It seems that in unilateral phrenic (end-to-side)-recurrent laryngeal anastomosis they have devised such an operation. The reader who wishes to ascertain the essential facts of observation upon this, the authors' main purpose in their investigation, may with advantage refer to the earlier paper published by one of them in this JOURNAL and cited above.

THE NEW MIDDLESEX HOSPITAL.

WHEN the authorities decided that the Middlesex Hospital would have to be rebuilt, the appeal to the public for support in this important undertaking mentioned the sum of half a million pounds. This amount, however, represented only the estimated cost of replacing the existing, condemned portion of the hospital, and, as distinct from the "rebuilding scheme," the "development scheme," announced at a meeting of subscribers in November last, including the provision of a new out-patient department, the erection of paying wards, adequate accommodation for the nurses, and certain developments in connexion with the medical school, is dependent entirely upon the special generosity of friends of the hospital. The Ferens Institute of Otology was opened the other day (as recorded in our issue of February 12th, p. 296), and building work in connexion with the Courtauld Institute of Biochemistry is proceeding. Subscriptions towards the sum necessary for the erection of paying wards have already reached the total of £10,000, and more is promised. At the annual court of governors, held on March 24th, Prince Arthur of Connaught was able to announce that yet another important item in the development scheme could now be proceeded with, since an anonymous donor had made the splendid gift of £160,000 for the provision of a complete and up-to-date hostel and training school for nurses. At present the nurses at Middlesex Hospital live in five separate buildings, but thanks to this most generous gift it will be possible to erect a building on a site adjoining the hospital in which the whole nursing staff could be housed under conditions where the necessary comfort and facilities for instruction, recreation, and social intercourse could be realized. This donation has relieved the governors of the hospital of much of their anxiety with regard to the development scheme, for the space in the new main hospital buildings can now be planned to contain all the necessary accommodation and equipment for treatment in one building. The modest donor, whose anonymity is most strictly preserved, was inspired to make his magnificent contribution by the good offices of Mr. A. E. Webb-Johnson, surgeon to the hospital. The nurses of this hospital have again to be congratulated on their good fortune, for it was only a short time ago that Dr. Essex Wynter made the generous offer of his country house and certain cottages, together with sufficient endowment, to provide a home for retired members of the nursing staff.

HARVEY MEMORIAL: REBUILDING HEMPSTEAD CHURCH TOWER.

WILLIAM HARVEY died at the age of 80 on June 3rd, 1657, and his remains were deposited in a vault adjoining the parish church of Hempstead in Essex, seven miles from Saffron Walden and some fifty from London. By the middle of the last century this family vault underneath the Harvey Chapel had become ruinous, and early in 1882 the church tower fell, and is still a heap of stones in the churchyard. On St. Luke's Day, 1883, the body was removed from its resting place and laid in a white marble sarcophagus erected by the Royal College of Physicians of London in the chapel above the vault. As recorded two years ago,[1] a project was set on foot to restore the fallen church tower as a further memorial to William Harvey at an estimated cost of £5,000. This appeal had the warm support of the Royal College of Physicians, and a committee was appointed, including the bishops of the three neighbouring dioceses, the President of the Royal Society, and the President and other distinguished Fellows of the Royal College of Physicians, with Lord Stanmore, treasurer of St. Bartholomew's Hospital, as its chairman. A meeting of the committee of the Hempstead Church Tower Restoration Fund was held recently at the Royal College of Physicians, when the following report was received:

	£	s.	d.		£	s.	d.
Donations received ...	431	10	6	Expenses of appeal...	59	4	10
				Purchase of £360 5% War Stock ...	363	6	9
Interest on investments, etc.	32	2	8	Balance in hand and at bank	41	1	7
	£463	13	2		£463	13	2

There is, in addition, £515 5s. 7d. collected locally previous to this appeal and invested in 5 per cent. War Stock. It was resolved to keep the fund open in the hope of receiving sufficient further support to commence the rebuilding of the tower. Donations from members of the medical profession may be sent to Dr. Sidney Phillips, joint honorary secretary of the Fund, the Royal College of Physicians, Pall Mall East, S.W.1.

THE BEIT MEMORIAL FELLOWSHIPS.

THE administrators of the Beit Memorial Fellowships for Medical Research have resolved to increase their annual value. The change will take effect on October 1st, and will then apply to all fellowships—those now held and such as may be awarded next July. The annual value of a junior fellowship will then be raised from £350 to £400 a year, a fourth-year fellowship from £400 to £500, and a senior fellowship from £600 to £700. This step has been taken by the trustees after consultation with the Advisory Board of the Beit Fellowships and others competent to express an opinion. The necessary expenses of an undergraduate at Oxford or Cambridge cannot be directly compared with those of a Beit Fellow, for the terms cover barely half the year, whereas the science worker must have provision for nearly twelve months. The need for an increase is felt in particular with regard to the junior Fellows, who are practically dependent on the salary. If the Fellow's circumstances are too straitened he or she is discouraged from attempting, during what are very formative years of life, to correct the somewhat intense specialization the work of the fellowship entails by recourse to some broad cultural interest or pleasure. No one can doubt that this risk exists, for even physiology and pathology are breaking up into specialties, so that a neurological physiologist may know very little about biochemistry, and both will tend to limit their general interests in the cultural life about them. Incidentally we may recall that the Rhodes scholarships have recently been increased to £400 a year, and even

[1] See BRITISH MEDICAL JOURNAL, May 9th, 1925, p. 895.

junior Beit Fellowships are held by persons distinctly senior to the Rhodes scholars. An election of junior Beit Fellows will take place in July next, as more fully stated in a notice which will be found in our advertisement columns. The usual tenure of a junior fellowship is for three years, and those elected next July will be required to begin work on October 1st. Forms of application and all other information can be obtained from the honorary secretary, Sir James K. Fowler, at 35, Clarges Street, London, W.1. Applications must be received by him on or before June 1st.

CRÉSOPIRINE.

THE great importance of the coal tar antipyretics and analgesics, and the clinical success of drugs of such comparatively recent origin as acetyl salicylic acid and cinchophen (atophan), make new derivatives of this group of particular interest. Two theses for doctorates at Lille have just reached us dealing with a new derivative—namely, acetyl-ortho-cresotinic acid (1-2-5) ($CH_3.C_6H_3.COOH.OCOCH_3$), which was prepared in 1926 by Professors Carrière and Gérard and named by them crésopirine. The cresotinic acids were investigated by Stockman in 1912 and found to be antipyretic, and acetyl p-cresotinic acid (ervasin) was introduced at that date for the same purpose. In the thesis of Dr. Madeleine Notredame the mode of preparation of the substance is described and a certain number of experiments and clinical observations are reported. M. Serre in his thesis (1927) gives an account of a considerable series of clinical observations made with this drug. Both authors show that crésopirine has an antipyretic and analgesic effect on acute rheumatic fever equal or superior to that of sodium salicylate. Further, they claim that in chronic rheumatism crésopirine has an analgesic action superior to that of aspirin, and often produces benefit when the latter drug fails. They claim also that the toxicity of crésopirine is very low. The group of coal tar derivatives which possess antipyretic and analgesic action is large, and it is particularly difficult to estimate accurately the relative value of these drugs. The theses under discussion suggest, however, that crésopirine is well worth a trial, particularly in refractory cases of chronic rheumatism.

MILK IN HOLLAND AND DENMARK.

LAST year the Health Committee and the Port Sanitary and Hospitals Committee of the City of Liverpool instructed their chairmen, the medical officer of health, and the chief veterinary officer to visit Holland and Denmark for the purpose of studying Continental methods in the production and distribution of milk. The deputation was accompanied by twenty-four other persons, representative of the Liverpool Cowkeepers' Association, of farmers, and of distributing firms. The visit lasted from September 27th to October 3rd. In its report the deputation states that the standard of knowledge and interest in milk amongst producers, distributors, and the general public in the countries visited is high; that more milk per head is consumed than in this country; that the price is regulated according to quality; and that the feeding and management of cattle are more scientifically conducted. The handling and distribution of milk are conducted from large centres, where the hygienic arrangements are all that can be desired. It is admitted that the farms visited were specially selected, and that there are farms in England where the standard of efficiency is as high as in Holland and Denmark. But it is said that the average farmer in this country does not understand the scientific feeding of cows, and that the supervision of small milk dealers is very difficult. The construction of cowsheds in Holland and Denmark is very simple, cleanly, and satisfactory. In one farm in Denmark the cows are fed principally on concentrated food and sugar beet, and are rationed according to the milk yield. In a farm in Holland automatic drinking vessels are supplied, and it has been found that each cow in milk requires about four gallons of water for every gallon of milk produced. When at grass the animals in Denmark are tethered each day, so that they have to eat within their bounds, and the grass of the field is economically consumed. Great care is taken in milking to prevent pollution by excreta, and in some places the tails of the cows are tied by the tip to a wire running the length of the cowshed, so that when the animal lies down the tail, while it can still be used, is raised from the excreta. In several places in Holland electrically driven machines are used for milking. The cows are often groomed night and morning, and the hair on the quarters, udders, and tails clipped. The distributing firms are large, and have well trained staffs and well appointed machinery. The distributing dairy of the Danish Milk Company can deal with 40,000 gallons of milk a day and one ton of butter. In Denmark there are five grades of milk, while in Great Britain, according to the deputation's report, there are only two types—graded milk and "milk." At the Amsterdam University Professor van Leersum told the deputation that exposure of milk to air renders it less nutritious, in that at the end of sixteen hours vitamin C and vitamin A are practically non-existent. The members of the deputation are of opinion that in Great Britain clean milk production is difficult owing to faulty construction of cowsheds, lack of knowledge of modern methods in producers, and absence of distinctive prices for various standards of milk. Their slogan is "propaganda," through the press, by wireless methods, and by clean milk competitions.

OCCUPATION ANALYSIS.

THE National Institute of Industrial Psychology has issued recently a report[1] on occupation analysis, the outcome of team work by the staff of the vocational section of the institute. The introduction of the report is concerned with the definition of terms; and this is very necessary in a comparatively new psychological pursuit. We learn that "occupation analysis" includes every kind of inquiry that the vocational adviser's study of employment entails, and means the analysis of occupations in order to discover the human capacities which are essential to success. It is of use, we are told, in vocational guidance, vocational training, vocational selection, and in industrial psychology. Evidently the method aims at placing on a scientific basis the rough-and-ready methods of trial and experiment hitherto adopted by employers and their workpeople. General and special information about every occupation and each of its processes is collected, and the information recorded under various headings, including a general description of the process, the psychological and physical requirements in the worker, the method of entry into the occupation, and the prospects it offers. The systematic observation of occupation should, it is urged, be carried on by the help of psychological methods; consequently the information under the heading "psychological" is especially complete, and contains a record of the intelligence required, the special abilities that are useful, the degree of manual skill involved—for the estimation of which a system of symbols has been devised—the temperament most suited to the work, and the general or special experience which the worker should possess. The method of recording the information gathered is illustrated by a detailed account of the occupation of laundry work, from the receiving department, through the various processes of washing and

[1] London: Published at the offices of the Institute, 329, High Holborn, W.C.1. 2s.

ironing, to the final stage of packing and dispatching. The reader will learn that in the sorting department a temperament is needed which has "no marked dislike of handling soiled linen." The calenderer must be calm and equable, and able to resist monotony; the ironer should be cautious, while the more "refined" lady in the dispatching department should combine lightness of touch with a pleasant manner. While there is no doubt that the accumulation of these data may bring to light many interesting facts, we are glad to see at the end of the report a suggestion to the vocational adviser that he will more often be helpful to a child if he tells him the kind of process he ought to seek than if he advises definitely one particular occupation. Most of us have known school "duffers" who afterwards, on their own vocational selection, became eminent men. Until occupation analysis becomes an exact science it will be well to leave even the elementary school child of 14 as many loopholes as possible for private vocational selection.

THE NOMENCLATURE OF TEETH.

THE British Society for the Study of Orthodontics recently appointed a committee to consider the present systems of nomenclature in use and to submit proposals for their rectification. The committee's report was presented to a recent meeting of the society by Mr. Norman Bennett. It would sanction a large number of terms for general use, together with alternative terms in a few cases, and reject others which are equivalent but are unsatisfactory or confusing. The term "cervix," for example, as one of the divisions of a tooth is adopted, with "neck" as an alternative; but the terms "fang" and "prong" are rejected in favour of "root" and "apex." The committee found some difficulty in defining the orthodontic term "vault." The definition ultimately framed was "the longest palatal border obtainable through a coronal section of a maxilla," and the term "transpalatine arch" was rejected. A good deal of trouble also was taken over the definition of "occlusion." Ideal occlusion was defined as a hypothetical standard of occlusion based on the morphology of the teeth, and normal occlusion as that occlusion which was within the standard deviations. "Inclination," defined as "the rotation of a tooth around any transverse axis," was preferred to the Continental term "version." With regard to the nomenclature of appliances and treatment, a good deal of discussion took place over "anchorage," defined as the point of attachment at which the force of reaction produces little or no movement. It was desired, said Mr. Bennett, to avoid the fallacy of pretending that anchorage was a fixed point, which it never was. Mr. George Northcroft, also a member of the committee, who had had the opportunity of discussing nomenclature with American orthodontists at the recent conference in New York, said that he had found great difficulty in persuading the Americans that there was no such thing as reciprocal anchorage, and could not be. He had pointed out that if the United States ship *Minnesota* was anchored to the earth, the earth might stabilize the *Minnesota*, but the *Minnesota* would not stabilize the earth. The Americans, however, remained unconvinced, and in respect to appliances and treatment the British and American nomenclatures had to part company. One American orthodontist objected to the term "cheek teeth" (all teeth posterior to the canines), but Mr. Northcroft pointed out to him that it was a term used by the American anthropologist W. K. Gregory of New York, and had come into general use. The alternative term, "teeth of molar series," is, however, to be permitted, but not the term "back teeth." To his surprise the Americans accepted the term "premolar," although in former discussions they had insisted on the term "bicuspid," but with regard to occlusion they fell foul of the British terms "normal," "prenormal," and "postnormal," favouring instead "neutroclusion," "distoclusion," and "mesioclusion." They abandoned the terms "gression" and "trusion," however, in favour of "displacement," as meaning the malposition of the crown and root of an individual tooth to an equal degree and in the same direction. Some discussion took place on the term "orthodontics" itself, and it was mentioned that the original title of the society was a society for the study of "orthodonture," a term of transatlantic origin; the attention of Sir James Murray, of the *New English Dictionary*, was drawn to it, and he suggested "orthodontics," which was adopted, as it was felt that there could be no higher authority.

CANCER COMMISSION OF HARVARD UNIVERSITY.

THE fourteenth annual report of the Collis P. Huntington Memorial Hospital for Medical Research and of the Laboratories of the Cancer Commission of Harvard University covers the year ending June 30th, 1926. There was a slight fall in the number of new patients, due to the opening of other institutions with good facilities for treatment. Numerous investigations were carried on in the hospital and the laboratories during the year under review. A report issued on the course, duration, and termination of one hundred untreated cases of cancer of the breast provides a basis for the comparison of the efficiency of different methods of treatment. The advantages and disadvantages of the newer methods of electro-cauterization and coagulation have also been studied. The value of a liver diet in the treatment of pernicious anaemia was one outstanding line of research, and the relation of the number of leucocytes in the saliva to variations in their number in the circulating blood is believed to be of practical importance in determining the safety of *x*-ray treatment in critical cases of the disease. Another discovery made was that, though a certain race of mice was immune to transplanted tumours, this inherited immunity could be overcome in about 15 per cent. of cases by the addition of a small piece of sterilized flannel to the inoculated tissue at the time of implantation, thereby causing local irritation. An attempt is in progress to repeat and confirm the work of Gye and Barnard. In connexion with the free diagnosis service for the State of Massachusetts, nearly 2,000 tissue specimens of suspected carcinoma were examined during the year.

A HEALTH DEMONSTRATION.

THE League of Red Cross Societies and the Belgian Red Cross, working together, have provided the first object lesson on the health organization of an industrial town in Europe. In the United States a similar experiment had been previously carried out, but the circumstances in these two instances, as might be supposed, differ considerably. The objects aimed at were chiefly these: to complete and co-ordinate the medical and hygienic equipment of a locality, and to interest in this project all kinds of agencies concerned, including the local medical men, in an attempt to provide efficient and up-to-date treatment for all the inhabitants who might require it. The result has been that 40 per cent. of the inhabitants have availed themselves of the preventive hygienic services provided, and that the expenses have not exceeded three francs a head for each inhabitant annually. How this result was achieved, and much other interesting information, is to be found in a report[1] published in Paris by the League of Red Cross Societies, of which Dr. Claude Lillingston is an energetic

[1] Croix-Rouge de Belgique. La démonstration d'hygiène de Jumet. Ligue des Sociétés de la Croix-Rouge. Paris. 1927

officer. Jumet, which has been the scene of this first essay, is an industrial town of 30,000 inhabitants, situated some miles to the south of Brussels, not far from Charleroi. It has had a chequered past, for the neighbourhood has unfortunately been repeatedly the battle-ground of contending armies from the seventeenth century onwards, and no matter whether Austrian, French, Dutch, British, or Prussian gained the day, war always meant misery for the unfortunate inhabitants. At present it owes its prosperity to its coal mines and extensive glassworks. The foundation of the health organization of Jumet rests on the "centres de santé," which may be translated as welfare centres, with their corps of visiting nurses, familiar to us in this country as district nurses; but in its conception the centre de santé is an educative and preventive, and not a curative, institution. Jumet was selected by the Belgian Red Cross for the first experiment because its municipal authorities showed a lively interest in matters of public health. Despite this benevolent predisposition, only a very few families in Jumet could be said to avail themselves of the best and latest treatment, and the vast majority obtained only empirical and imperfect medical attention. All this is changed. Apparently the inhabitants of Jumet, like the patients of Dr. Knock, had to be told that they were ill before they would seek advice. After the establishment of clinics and hospital facilities, and the organization and mobilization of the local medical men, 6,000 (or 20 per cent. of the 30,000 inhabitants) have realized their duty and presented themselves. But these figures, large as they are, do not include the expectant mothers, the children between the ages of 3 and 6 years, or the school children, the addition of which would double the number of cases. The good results of the preventive and curative measures taken in 1925 cannot be appreciated fully for some time to come. The various means employed to bring about these results need not be described at length, but those who are interested in the application of the general principles of social hygiene to a particular foreign industrial town should refer to the very full and carefully compiled report, illustrated by views, charts, and diagrams, which has just been issued by the League of Red Cross Societies. The copy sent to us has been placed in the Library of the British Medical Association.

THE STATISTICIAN AD HOC.

IT is, perhaps, debatable whether specialized institutions should keep their own statisticians. The popular suspicion of statistics is such that it behoves the statistician to try to emulate Caesar's wife. In this belief we are not fully convinced of the validity of the conclusions arrived at in a paper on tuberculosis hospitalization[1] by Mr. Godias J. Drolet, statistician to the New York Tuberculosis and Health Association, and consulting statistician to the Tuberculosis Sanatorium Conference of Metropolitan New York. Mr. Drolet finds a striking correlation between the tuberculosis death rate in various countries and the ratio of beds available. Thus, as he rather quaintly puts it, the "beds available for each ten deaths" in New Zealand, Canada, and the United States are 9, 7, and 7. And it is in these three countries that the tuberculosis mortality per 100,000 of population is lowest. In Japan, with only one tuberculosis bed available for each forty deaths, the mortality is very high, though not so high, we note, as in Czecho-Slovakia, where one bed is available for each ten deaths. It is true that Mr. Drolet guards himself by saying that of course he does not believe that hospitalization is the only factor controlling the tuberculosis death rate. Two other factors which he admits play a very great part are general living and working conditions, and racial resistance, which he believes has been acquired through previous tuberculization of the race or group, the effects being transmissible. Nevertheless, Mr. Drolet thinks that "we must acknowledge that tuberculosis hospitalization would seem to be one of the outstanding factors throughout the world in the control of the white plague." The arguments in the article are too sketchy to enable an opinion to be formed. Mr. Drolet would like a great many more beds for tuberculosis even in the United States, and a much longer term of treatment. But he complains that no answer has been given to the questions whether tuberculosis institutions should be for educational training or for curative treatment, and whether they should treat advanced cases or only early favourable cases. He urges more study of the ultimate results rather than of "the always debatable immediate results" of treatment.

[1] *American Review of Tuberculosis*, December, 1926.

THE DEFENCE OF RESEARCH.

CONFERENCE ON ANIMAL EXPERIMENTATION.

As already announced, the Science Committee of the British Medical Association, by the instructions of the Council, is convening a conference of representatives of medical and scientific bodies in opposition to the Dogs' Protection Bill. It will be held in the Council Room of the Association's House in Tavistock Square, London, on Monday, April 4th, at 4.30 p.m. The universities, medical schools, and other medical and scientific societies have been asked to send representatives, as have the veterinary and dental organizations. The response to these invitations has been highly satisfactory and the conference promises to be a most representative gathering. The lay press also has been invited to send reporters. The chair will be taken by the President of the Association, Mr. R. G. Hogarth, C.B.E., F.R.C.S.

The main purpose of the meeting is to discuss the following three motions:

1. That this Conference, believing that any withdrawal or curtailment of the powers at present granted under licence and inspection will hinder medical research to the detriment of the health and well-being of the community, wishes to enter a strong protest against any bill which has for its object further restrictions upon experimental work on dogs or other animals.

2. That this Conference is of opinion that the existing law should be altered so as to permit, under proper provision for the prevention of pain and for efficient inspection and control, the use, for purposes of research, of some of the numerous stray and unowned dogs now taken up by the police and condemned to the lethal chamber, thus ensuring conditions which are essential to progress and physiological knowledge and to the application of this knowledge to the practice of medicine.

3. That copies of the above resolutions be sent to the Prime Minister and to the Home Secretary, together with a note of the names of those present at the Conference and of the bodies they severally represent.

These resolutions will be moved and spoken to from the physician's point of view by Lord Dawson of Penn, G.C.V.O., M.D.; from that of the surgeon by Sir Holburt Waring, F.R.C.S.; from that of the psychiatrist by Professor George M. Robertson, M.D., President of the Royal College of Physicians of Edinburgh; from that of the investigator by Sir Thomas Lewis, M.D., F.R.S.; from that of the veterinarian by Lieut.-Colonel J. W. Brittlebank, President of the Royal College of Veterinary Surgeons; and from that of the general practitioner by Dr. H. B. Brackenbury, Chairman of the Representative Body of the British Medical Association.

In the meanwhile the Divisions of the Association have been asked to approach their local members of Parliament, explaining to them the attitude of the profession in relation to the Dogs' Protection Bill, and urging them to vote against the bill on second reading.

A petition against the bill has been circulated by the Science Committee among the medical members of university staffs, medical schools, and teaching hospitals, and is meeting with a most satisfactory response.

Canada.

[FROM OUR SPECIAL CORRESPONDENT.]

THE HOSPITAL PROBLEM.

THE recent meeting of the American College of Surgeons in Montreal afforded an opportunity for full and free discussion of the hospital problem, more particularly in Quebec Province. Steady progress is being made in the survey of the hospitals in this province by the American College of Surgeons, the aim, of course, being to bring them all within certain standard requirements. The proportion of hospitals so far approved is 72 per cent. This compares with a percentage of approved hospitals in Ontario of 66.7; in Alberta of 83.3; in British Columbia of 56.3; in Manitoba of 81.8; in New Brunswick of 100; in Prince Edward Island of 100. For the whole of the United States and Canada the percentage of approved hospitals is 75.5.

The situation in Montreal as regards the support of the hospitals is still unsatisfactory. The two largest hospitals here, the Montreal General and Royal Victoria, continue to show large financial deficits each year, which are met mainly by the generosity of private subscribers. It is true that the Provincial Government has done much, especially in contributions towards buildings, and compares favourably with the other Provincial Governments in this respect. But the solution is by no means yet reached. A committee of aldermen has been formed and has devoted much time to the study of the problem, but so far we still await its recommendations. The hospital tax (5 per cent. on meals in restaurants costing one dollar or more) has been in operation for some time now, and has yielded a considerable sum; but naturally it was never expected to furnish complete relief.

A bulletin issued by the Department of Health on Canadian hospitals generally contains a census of the hospitals for 1925, and shows that there are 676 in Canada, not including those for mental patients, or sanatoriums for tuberculosis. Of these 388 are public, 259 are private, and 29 are Red Cross. The number of hospitals and beds in each province is as follows:

Province.	Hospitals.	Beds.
Nova Scotia	29	1,313
New Brunswick	20	933
Prince Edward Island	3	185
Quebec	48	4,012
Ontario	176	9,955
Manitoba...	46	2,872
Saskatchewan	115	2,247
Alberta	132	2,871
British Columbia	101	3,587
Yukon	3	72
North-West Territories	3	29
Totals	676	28,076

The report contains a map of Canada showing the location of each hospital, and this gives a vivid idea of the gradual penetration of hospital facilities to some of the most remote spots.

A similarly unsatisfactory hospital situation also exists in Vancouver. The president of the Vancouver Medical Association, in his retiring address, made a powerful appeal for the support of the profession in working out some plan by which the shortage of beds in the hospitals could be relieved. He impressed upon the local profession the necessity of having something definite to put before the public whenever legislation in hospital matters was brought up, as it seems likely it soon will be.

THE TRAINING OF NURSES.

The nursing profession generally has also had an opportunity to bring forward some of its problems for discussion by medical men. At the meeting of the American College of Surgeons mentioned, one session was devoted to discussion on nursing schools and the treatment of nurses themselves. It was fully admitted that the modern nurse has more demanded of her as regards the technical accessories of medicine, and for this reason it has been necessary steadily to expand her training. But it was also the feeling of some of the leading medical men that there was a danger of nurses being taught too much of scientific details, at the expense of such fundamentals as dietetics for instance.

Those responsible for the training of nurses emphasized the difficulties they had to meet as regards the general education of those they had to train for a profession upon which so many additional demands were being made. These demands made a good general education absolutely necessary. Consequently nursing schools were making unprecedented demands on their hospital boards. Above all, the quarters for the nurses must be as comfortable as possible, as beyond any doubt the quality of the training was becoming a severe tax on the students. It was held by one speaker that small hospitals should not have training schools for nurses unless they could be given the modern type of training. Graduate nurses should be engaged in such instances. It was also shown that the number of nurses is not increasing—partly, it was said, because of the increasing tendency towards specialization in nursing. As an instance of the trend towards more elaborate methods of training in nursing, there is the newly finished nurses' training school at the Montreal General Hospital. It had been found for some years that the living quarters and training school facilities for the nurses were quite inadequate, and indeed were in a state which seriously hampered the development of the hospital. With the very generous help of the Provincial Government (which found its complement in the devoted interest and private gifts from the governors of the hospital themselves) a combined home and training school of the most modern and commodious type has been added. This was formally opened a few weeks ago by the Premier of the province, and the tour of inspection which followed revealed a most striking wealth of detail and technical equipment for teaching. One might well have been permitted at times to ask if this was not, after all, a medical school!

England and Wales.

THE LONDON FEMALE LOCK HOSPITAL.

LORD RADSTOCK opened, on March 23rd, a new unit and operating theatre for the treatment of genito-urinary diseases at the London Female Lock Hospital, erected at a cost of £1,200. Mr. Charles Gibbs, senior surgeon to the hospital, stated that in the new ward it was proposed to treat patients with serious abdominal complications; hitherto such cases had been transferred to Charing Cross Hospital. An x-ray apparatus was still required for the unit. The new ward would also be available for the more serious operative procedures connected with childbirth, and would remedy to some degree the great scarcity of beds in London for genito-urinary diseases in women. Necessitous patients would be admitted free and other patients would be accepted who could afford to pay a small sum each week. Reference was made to the fact that the London Lock Hospital had reached its 180th year.

SUSSEX PROVIDENT SCHEME.

At the annual meeting of the Sussex Provident Scheme on March 19th it was announced that during 1926 payments amounting to £7,750 had been made to various hospitals for services rendered to subscribers to the scheme; the cost of administration had only been £493. During the year under review there had been a net increase of 1,823 subscribers and 2,493 dependants. In-patient treatment had been secured for 1,058 persons for a total of 19,290 days; 3,277 had been treated as out-patients. Since the commencement of the scheme five years previously £23,876 had been distributed to hospitals. Major P. A. S. Crawley, J.P., chairman of the Sussex scheme, commented on the difference in cost between various hospitals as regards both out-patient and in-patient treatment. He thought a considerable reduction in expenditure could be brought about by the hospitals agreeing to amalgamate their out-patient departments and to establish a general centre for out-patients near Brighton station.

FINCHLEY MEMORIAL HOSPITAL.

The medical staff of the Finchley Memorial Hospital has presented Sir D'Arcy Power, K.B.E., F.R.C.S., with his portrait to commemorate his service as consulting surgeon since the opening of the institution. Dr. T. Godfrey, chairman of the medical staff, in making the presentation, expressed the desire of the staff, now that Sir D'Arcy Power had retired from the active work of the hospital, to provide a permanent record of their appreciation of his services and of the affectionate esteem in which he was held. In acknowledging the gift Sir D'Arcy Power referred to the great interest he found in the work of the hospital and in watching its growth. He returned the portrait to the secretary, who, in the absence of the chairman and vice-chairman, accepted it on behalf of the Committee of Management for a permanent place in the board room. As a memento of the occasion a small photographic reproduction of the portrait signed by the medical staff was presented to Sir D'Arcy Power.

Scotland.

NEW REGULATIONS FOR THE EDINBURGH M.D. DEGREE.

AT a meeting of the Edinburgh University Court on March 21st, a regulation for the examination for the degree of M.D. was adopted on the recommendation of the Senatus. The object of this new regulation is to provide an examination suitable for testing either persons who have been in general practice or those who have been occupying their time in research work. The examination is to consist of two parts, a major and minor. For those who have been doing clinical work the major part will be an examination in clinical medicine, including a practical and oral examination and a written paper in medicine and therapeutics, while the minor part will be a special branch of medical science or practice professed by the candidate and to be approved by the Faculty. For those who have been doing research work or engaged in some special employment, the major part will consist of a special branch of medical science or practice professed by the candidate and approved by the Faculty, and the examination will include a practical and oral examination and a written paper in the subject proposed. The minor part for these persons will be an examination in clinical medicine. At the same meeting of the court it was intimated that a grant of £6,500 had been received from the University Grants Committee to be applied towards the extension of the University Women's Union.

POOR LAW REFORM IN SCOTLAND.

The problem of Poor Law reform was discussed by Dr. W. E. Elliot, M.P., Under Secretary of State for Scotland, at Glasgow on March 24th, at a meeting held under the auspices of the Central Division Unionist Association. The speaker said that there was no more thorny set of questions than those bound up in the words "Poor Law," and the difficulties had been accentuated of late with the crisis of unemployment which came upon the country after the collapse of the post-war boom, from which the country had not yet escaped. There was no reason, however, why Scotsmen should not grapple with this question once again. In May of last year the famous circular of the Board of Health had been issued, which was in fact a Cabinet decision, and which stated that at that time it was to be considered that the dependants of people engaged in any industrial dispute should be eligible for Poor Law relief. There had been great apprehension and uneasiness in Scotland that this was a step against national tradition. He himself considered that this apprehension was unfounded, for it was more important to remember that some reform of the Poor Law system was inevitable, and it was necessary, in the steps taken to deal with this emergency, to consider what steps would be likely to be necessary when the recasting of this fundamental social law was brought about. In England the position was more advanced than in Scotland. The essence of the proposals for Poor Law reform in England was the abolition of boards of guardians and the handing over of their duties to county and town councils. The abolition of parish councils in Scotland would require much discussion, for the parish was one of the foundation stones of the whole of their society. People should be making up their minds on the problems that would arise in the course of a year or two in Scotland, and should be able to put constructive proposals before the Government in this matter.

STANDARDIZATION OF DRUGS.

At a meeting of the Pharmaceutical Society in Edinburgh an address was delivered by Dr. J. H. Burn, director of the society's pharmacological laboratories in London, on the nature and scope of the work of these laboratories. During the first fifteen months a controversy of some fifteen years' standing with reference to the action of ergot had been settled. Attempts had been made to set up physiological standards for substances like digitalis, strophanthus, and squills, which, he said, was by no means easy. In the *United States Pharmacopœia* biological tests had been included for such substances, but experience had shown that these would require revision. Preparations of these drugs made by using a definite quantity of the drug might give very serious results. In the case of digitalis, for example, one preparation had been found twice as strong as the standard, while another was 60 per cent. below the standard. This would indicate the need to fix a standard by a biological test. The importance of this work was emphasized by the recent passing of the Therapeutic Substances Act, which schedules drugs requiring to be standardized with the greatest possible care, and he believed that the work of the society's pharmacological laboratories had already been recognized as of great practical value in this direction.

TRAINING AND CARE OF THE BLIND.

A circular has been issued by the Scottish Board of Health to town and county councils directing attention to recommendations in the third report of the Scottish Advisory Committee on the Welfare of the Blind. It is pointed out that the question of home employment should receive more attention from institutions, and that blind persons should be trained either to work in an institution or to become home workers, older entrants being generally trained for the latter purpose. Those who returned to their own homes after training should continue in the employment, and under the supervision, of the training institution under an approved scheme of assistance to home workers. Only one institution had up to the time of issuing the circular submitted a scheme to the Board of Health for outdoor employment, and the board suggests that outdoor societies for the blind, as well as institutions, should consider carefully the possibilities of undertaking or developing this service. Voluntary agencies are reminded that the grant is payable to them by the board in respect of the conduct of such schemes.

PAISLEY MATERNITY AND CHILD WELFARE CENTRE.

H.R.H. Princess Mary on March 19th formally opened the Russell Institute, a maternity and child welfare centre which had been presented to the town by the late Miss Agnes Russell of Muirfield. The Princess was received by Provost Crawford, and showed much interest in the equipment of the institute, devoting special attention to the dental, orthopaedic, x-ray, and artificial sunlight departments. Provost Crawford, in an address of welcome, said that owing to the generosity of the citizens of Paisley, the question had never arisen as to whether infirmaries and other institutions for the treatment of disease should be a charge upon the rates. The present institution was an example of this public-spiritedness, as well as a memorial erected by the late Miss Russell to the memory of her brothers Robert and Thomas, whose business and social interests were centred in the burgh. In June last Miss Russell died in London at the age of 83, just before the date on which she was to have received the freedom of the burgh.

EDINBURGH HOSPITAL FOR WOMEN.

At the annual meeting of the Edinburgh Hospital for Women and Children and of the Elsie Inglis Memorial Maternity Hospital, presided over by Dr. Isabel Venters, Lady Walker, the honorary secretary, submitted the report, which showed that the increase in the numbers attending the women's hospital and dispensaries had been remarkable. In the Elsie Inglis Memorial Hospital there had been 647 births, with 213 attended in the neighbouring district, an increase of 321 on the previous year's figure. In the Bruntsfield Hospital there had been 55 extra patients over those in 1926. In the dispensary ante-natal clinic there had been 3,595 attendances, an increase of 1,524, while there had been 4,546 attendances at the newly developed child welfare clinics. In the venereal diseases clinics the numbers attending had reached 5,680, an increase of 854 on those of the previous year. The ordinary expenditure had amounted to £12,079, and the receipts to £9,300. The cost per bed in the Bruntsfield Hospital worked out at £143, which was £7 less than the figure for last year.

SMALL-POX IN DUNDEE.

An outbreak of small-pox in Dundee has occurred, and by March 25th the total number of cases was reported to be 19. The Lord Provost has issued an appeal to the citizens on the subject of safeguarding themselves by vaccination or revaccination against the spread of the disease. It is noteworthy that all the persons who had taken small-pox in Dundee are children of school age who had not been previously vaccinated.

THE CHURCH AND MEDICINE.

The annual meeting of the Church of Scotland Deaconess Hospital was held in Edinburgh on March 25th. The Rev. Dr. Norman Maclean, Moderator-Designate of the Church of Scotland, presided. Lord Sands, chairman of the board of management, submitted the annual report, which showed that a total of 6,912 persons had received the benefits of the hospital during the past year. The patients had mainly been drawn from Edinburgh, Midlothian, and Linlithgow, but a considerable number had come from various distant parts of Scotland. The speaker pointed out that 1926 was the first year in which the hospital had been faced with a deficit (£1,135) on the year's working. This, however, had been adjusted, leaving only a net adverse balance of £97 to be carried forward, but the board desired to call attention to the fact that they were responsible for providing an income of over £6,000 a year to the hospital. They trusted that the Church would respond, though no doubt the real cessation of their anxieties in regard to funds would be the permanent endowment of all the beds, towards which considerable progress had already been made. The chairman, in an address, said that there was no more beneficial type of work than that done by this hospital in a crowded district like the Pleasance of Edinburgh. He considered that medical men at the present day did not sufficiently study the history of the development of their own profession. The Church was the mother of all hospitals, for at the Council of Nicea in 325 A.D. an instruction was issued that in all cities there must be a hospital for poor and infirm pilgrims. At the present day there were scores of hospitals in France which went back to the ninth, tenth, and twelfth centuries. The Deaconess Hospital was a witness in the midst of Edinburgh to the rock whence all hospitals had been hewed, and when Church union came he thought there would be no more adverse balances, for they would have double constituencies to which to appeal. Mr. A. Logan Turner, F.R.C.S., President of the Royal College of Surgeons, Edinburgh, moved the adoption of the report, which was seconded by the Rev. Dr. Bogle, secretary of the United Free Church of Scotland. The latter remarked that the relation between the Church and Medicine had fluctuated in the course of history, for in the Middle Ages there was no separation between the two professions, and this tradition had survived in many respects. He was afraid, however, that the study of history was not pursued in the medical profession as it might be, and that very excellent traditions were losing much of their force because of ignorance of their origin.

Ireland.

ROYAL VICTORIA HOSPITAL, BELFAST.

THE 134th annual meeting of the Royal Victoria Hospital, Belfast, was held in the King Edward Memorial Hall of the hospital on March 18th. The Prime Minister of Northern Ireland, Lord Craigavon, occupied the chair, and there was a large attendance. The chairman congratulated all concerned on the most satisfactory character of the report, which reflected the highest credit upon the management. The accommodation for both intern and extern patients had been increased by 25 per cent. a year ago; £130,000 was expended out of capital, which meant a depletion of income of nearly £7,000 a year. In addition there was the increased cost of maintenance; so that a sum of about £1,200 was needed to meet the weekly expenditure. And yet at the end of a year characterized by profound depression in local industries and extensive unemployment the account closed with a debit balance of only £1,729. The systematic weekly contributions from workers' committees reached the splendid total of £19,067. Treatment to-day, with all its numerous specialties and research, was very much more expensive than in the past, and yet strict but not undue economy had brought a decrease of £14 in the yearly cost per bed. Lord Craigavon expressed the great regret that all felt that Professor Lindsay, who had been chairman of the board of management for eight years, and had been connected with the hospital in various capacities since 1883, was now retiring. He moved a resolution of thanks to Professor Lindsay for the admirable manner in which he had occupied the chair of the board of management and his devoted attention to the welfare of the hospital. Professor Lindsay was to be succeeded as chairman by the Marquess of Dufferin and Ava. The motion was seconded by Mr. R. E. Herdman, D.L., chairman of the Harbour Commissioners, supported by the Marquess of Dufferin and Ava, and passed with acclamation. Mr. Howard Stevenson, F.R.C.S., honorary secretary of the Medical Board, moved the adoption of the report of the medical staff, and drew attention to the increasing number of those seeking medical advice and treatment at the hospital; all did not realize that the institution was now a congeries of small special hospitals or units, each of which had special work to perform. Sir Thomas Houston, M.D., who seconded, praised the splendid team work carried on. An extension was needed to meet the requirements of people of moderate means, who could not pay the fees incident to private hospitals. He referred with gratitude to the donors of blood for transfusion, but said the list was not large enough yet. A vote of thank to the medical, surgical, dental, and nursing staffs for their services during the year was passed unanimously. Professor Lindsay moved a vote of thanks to the Prime Minister for presiding, and congratulated him on the honour which had lately been conferred on him; the motion was received with applause, and Lord Craigavon briefly replied.

MAJOR J. A. SINTON, V.C., I.M.S.

At the spring congregation of the Queen's University of Belfast, on March 24th, the honorary degree of D.Sc. was conferred on Major Sinton, V.C., I.M.S. The Vice-Chancellor said that Major Sinton's distinguished undergraduate career was followed by one equally distinguished in the study of the science of his profession, and by the highest honour in the field. Major Sinton was received with great applause by the audience, and will have the heartiest congratulations of all who know him. Major Sinton, after holding the offices of house-surgeon and house-physician at the Royal Victoria Hospital, Belfast, was Riddell demonstrator in pathology in the University.

STILLORGAN CONVALESCENT HOME, CO. DUBLIN.

The annual report of the committee of management of the Stillorgan Convalescent Home for 1926 stated that the good work it did had been well maintained. The number of patients admitted during the year was 607. The income

for the year was £2,575 17s. 6d., and the expenditure £2,785 0s. 11d. The extremely high level at which food, fuel, etc., had to be purchased hampered the committee considerably in carrying on the work of the home. In proposing the adoption of the report at the annual meeting Dr. T. Gillman Moorhead, who presided, said that, despite the continual improvement in sanitary conditions, a better system of town-planning, and an improvement in the health of city populations, the larger number of city workers were, as regards health, only C3 instead of A1. In that lay the importance of treatment in the country. At the Stillorgan Convalescent Home the patients got good food, fresh air, and, in particular, plenty of sun. Six to eight hundred city workers were treated annually in this home, and since it was founded, sixty-five years ago, nearly 50,000 people had been treated. Dr. Moorhead referred to the revolution that had taken place in the finances of hospitals in the last ten or twelve years. With the war came higher costs for foods and drugs, and subscribers could not afford to increase their donations in proportion; so the patients who could pay were asked to contribute. During the last twenty-five years, Dr. Moorhead added, no patient recommended by him for the home had been refused. Again and again he had received letters from patients telling him of the benefit that they had derived from treatment at the home. He himself was firmly convinced that, from a medical point of view, convalescent homes were most necessary for the complete return to health of city workers who were recovering from a severe illness. He thought that the public were beginning to wake up to this fact.

Correspondence.

THE USE OF TUBERCULIN.

SIR,—Judging by recurrent references in the press, medical and lay, it would seem that the subject of tuberculin is regarded by many persons as a *terra incognita* which had hardly been explored save by a handful of adventurers who recounted their experiences in not strictly measured language. Is this really the case? Speaking as one who has used tuberculin much and consistently since its introduction in 1890, both for treatment and for diagnosis, I am puzzled to understand the difficulties frequently expressed.

For the last ten years the University of Edinburgh has included in its medical curriculum special training in tuberculosis. The course, which means thirty meetings, is very practical, and is compulsory on all students preparing for graduation. The subject has special consideration in the Final Examination. During the course, which deals with tuberculosis as a general infection and as it manifests itself in the various organs of the body, the properties and value of tuberculin, and the various methods of use for purposes of diagnosis and treatment, are discussed at length and richly illustrated by the exhibition of patients, etc. For tuberculin is in daily use, in one or other fashion, in the several medical institutions which are linked up with the University Department. As the University turns out an annual average of approximately two hundred medical graduates, the number of younger practitioners in Britain and the Dominions who have knowledge of the subject must be very considerable.—I am, etc.,

Edinburgh, March 26th. R. W. PHILIP.

INFLUENZA AND THE HEART: ADMINISTRATION OF RAW ADRENAL GLAND.

SIR,—In your leading article on "Influenza and the heart" (March 19th, p. 527) you speak of the low systolic pressure that characterizes the aftermath of influenza, and after discussing the parts played by the poisoned heart muscle (Dr. Shore's observation in 1918) and by the poisoned vasomotor mechanism (degenerated internal elastic layer and muscle of the media of vessels: Stoerk and Epstein, 1919), you come to Cowie and Beaven's suggestion (1919) that the suprarenal glands are damaged, or, at any rate, fail to function properly, as a result of the influenza poison. "But," you say, "the advantage that has been claimed for treatment with adrenaline and other similar methods has received no great measure of confirmation."

I have not tried adrenaline. I do not know how to use it for a chronic condition. But I have used raw adrenal gland and I find it effective.

For instance, on March 17th a nurse, aged 50, is noted as having a systolic pressure of 92. "I feel good for nothing," were her words, "and don't care what becomes of me." After treatment by raw adrenal gland, and by nothing else, the pressure on March 22nd was 116, and she was bright and fit for some portion of her duty.

Again, a horseman, aged 22, recovered from exceptionally severe and neglected influenza, is noted on March 22nd as "weak," and having a blood pressure: systolic 112, diastolic 68. He takes four pieces of raw adrenal gland in the next twenty-four hours, and has no other treatment. Next day (March 23rd) he "feels much better, much more like doing a day's ploughing," and his pressure is systolic 122, diastolic 72 (mercury instrument, and auditory method).

My experience of using the raw gland is too recent and limited for dogmatism; but I think it works. And I think so with the more confidence because I have had considerably more experience of the use of raw adrenal gland in another condition, asthma. In cases of chronic and intractable asthma, resistant to other treatment, I have convinced myself by a good many months' trial of the reality of the good effect of raw adrenal gland. But that is another story—a story I hope to tell more formally, at more leisure. Your leader constrains me to mention now this simple observation:

If a sheep's adrenal gland, which is a little thing like a reddish-brown bean, or tiny kidney, about an inch long, be cut into six pieces across the length, so that each piece contains both cortex and medulla, and if one such piece be taken, raw, in a teaspoonful of cold water, or in a bit of bread, on an empty stomach, thrice daily, by the patient with post-influenzal debility, the headache and the lassitude clear up and the patient soon approaches normal health.

I must add three notes in a minor key:

(1) I have mentioned asthma. A bit of adrenal gland is disappointing when an attack is on. It will not stop the attack. All I find is that chronic asthmatics, to whom other treatment designed to remove the provocative cause is being given without success, or with very incomplete success, improve when they take the raw gland. Attacks tend to recur when they stop taking it. I hoped that the sheep's gland would awaken the patient's own adrenals to activity. My evidence on that point is incomplete.

(2) One asthmatic patient, on taking about a third of a gland in a single dose, gets distressed. There is nausea and a sense of apprehension. For half an hour the symptoms are severe. This patient, however, persists in taking the gland in small doses because "she keeps freer from asthma when she is taking it."

(3) One post-influenzal patient, after experiencing rapid relief from lassitude during several days in which she took the gland, then had a bilious attack (that is, felt sick and distressed). That soon passed.

I have seen no other ill effects of the use of this remedy (unless a transient attack of gout was due to it, in a patient strikingly relieved by a course of raw gland from the influenzal aftermath). But doubtless any extended use of it should be safeguarded by watchfulness lest haply it provide glycosuria.

There is one thing to add. Sheep's adrenal keeps worse than almost any other part of the carcass. One butcher I know removes the glands "to prevent the meat going bad."

The doctor who uses this remedy will have to find the glands for himself—in the fat above the kidney and not so close to that organ as human anatomy would lead him to expect. The butcher sometimes knows them (some do not), but has no name for them.—I am, etc.,

Holmes Chapel, Cheshire, March 25th. LIONEL JAS. PICTON.

SPASTIC PARAPLEGIA.

Sympathetic Ramisectomy.

SIR,—Most of us who read the first accounts of sympathetic ramisectomy were under the impression that this operation was the outcome of the theoretical, experimental, and clinical work of Drs. Hunter and Royle, and we understood that, while Dr. Royle was concerned more with the experimental and clinical side of the question, he associated himself also with the views, anatomical and physiological, expressed by Hunter. Hunter quite definitely put forward the hypothesis that the functions of movement and posture are performed by entirely different sets of muscle fibres—an hypothesis which in the present state of our knowledge I venture to think cannot be supported.

When I recounted my own small experience of sympathetic ramisectomy to the Neurological Section of the Royal Society of Medicine on February 11th, 1926, I made a few introductory remarks which I did not then think worth elaborating in the *Proceedings* of the society.

For a long time I had been attracted by the hypothesis of the dual innervation of skeletal muscle, and soon after Sherrington's paper on the postural activity of muscle appeared in *Brain* in 1915 I began to make some experiments to see whether division of the sympathetic nerves would have any effect upon the spasticity of hemiplegic limbs. In an anatomy book I found a picture of the brachial plexus receiving a spray of communicating branches from the first dorsal ganglion of the sympathetic and some also from the inferior cervical ganglion, and I was then under the impression that at least a considerable part of the sympathetic nerve supply of the upper limb was derived from these branches. In a typical case of infantile hemiplegia in a youth I removed the first dorsal and inferior cervical ganglia with all their branches. This operation was followed, of course, by paralysis of the cervical sympathetic on that side, but it had not the slightest effect upon the muscular tone or the vascularity of the upper limb.

I was then reminded of the work of Wood Jones, who showed that the communicating branch from the second dorsal nerve to the brachial plexus is composed almost entirely of sympathetic fibres, and he suggested that the vascular symptoms which occur in some cases of cervical rib might be due to pressure upon these fibres as they join the lowest cord of the plexus lying upon the rib. I therefore, in another case of infantile hemiplegia, excised the communicating branch from the second dorsal nerve and also the first dorsal ganglion with its branches. This operation also had no effect upon the muscular tone or the vascularity of the upper limb.

I then turned to Leriche's operation of stripping the tunica adventitia, and with it the periarterial sympathetic plexus, from a section of the main artery of a limb. On theoretical grounds this operation never appealed to me, because I thought that one of the few things we did know about the peripheral distribution of the sympathetic was that the arterial nerve supply is segmental and the periarterial plexus does not in any sense constitute a tract running along the artery to supply the distal parts. I have done Leriche's operation only once, and that was on the brachial artery of a woman with typical hemiplegia, and it had no lasting effect upon either the muscular tone or the vascularity of the limb. I have seen a few other cases in which either Leriche's operation or the injection of alcohol into the sheath of the artery had been done for one reason or another, but I have never seen any permanent effect from either procedure.

It was therefore with great interest that I read the first accounts of Hunter and Royle's work as soon as they were available, and I believe I was one of the first to try the operation of sympathetic ramisectomy in this country, my bias (if any) being all in favour of confirming Royle's results if possible.

But before attempting my first case I had already heard some criticism and counter-criticism of the operation. The defence bluntly amounted to this—that those who had done the operation and had failed to obtain results similar to those of Royle were either careless neurologists who could not recognize the plastic tonus described by Sherrington, or they were incompetent surgeons who thought they had divided the sympathetic rami, but really had not.

I was determined that criticism on these points at least should be out of the question. The cases selected by me were examined by some of the best known neurologists in this country, and they were chosen particularly from the point of view of showing the effect of sympathetic ramisectomy on plastic tonus. The operations themselves were conducted with extraordinary care and deliberation as "demonstration" operations in the presence of highly qualified and very critical assistants. Every step in the operation was verified. When the rami and the sympathetic trunk (in the lumbar operations) had been exposed, a pause was made and these structures were both demonstrated by myself and examined independently by my assistants, so that there should be no possible question of their identity. Each ramus was then picked up in turn, called by name, and when everyone was agreed upon its identity, it was divided in view of those assisting me; and similarly with the lumbar trunk. No case in which there has been the slightest doubt as to the destruction of the sympathetic rami—and the correct ones—has been included in my small series.

I hope that before long Dr. Royle will be able to demonstrate to us here in London that sympathetic ramisectomy produces not only constant results but more pronounced results than were obtained in any of my cases; for I have to confess that even in the "about half" of my cases which gave a positive result the rather slight diminution of muscular tone which followed the operation did not appear to me to be of great benefit to the patients.—I am, etc.,

London, W.1, March 28th. A. S. BLUNDELL BANKART.

CATARRHAL VACCINES.

SIR,—The value of prophylactic vaccines against the common cold and feverish chill is not yet accepted generally as proven. Though there are an increasing number of doctors who believe in and practise this method of preventive treatment, there are probably many more who are waiting for further proof of its efficacy before adopting it or advocating it in their own practice.

Evidence from the clinical side of the value of vaccines can be got through the accumulation of statistics amongst a more or less fixed population, living under similar conditions for a considerable period, and a public school does offer such conditions. In such an institution vaccines cannot be given compulsorily, but only with the parents' consent, and it will probably be found that the relative numbers of acceptances and refusals will be such as to offer a reasonable control experiment, though the word "experiment" is an unfortunate one in this connexion, so far as the public is concerned.

An attempt has been made at one public school during the year 1926 to supply this evidence. Records were kept throughout the year of every boy reporting sick with cold or feverish chill. As at this school the school hospital is the only place where a boy can report sick, the large majority of those affected to any extent are recorded; but it is recognized that some of those with colds only would not come for treatment, and to that extent the accuracy of the figures given below is vitiated.

The vaccine used in almost all cases was the anti-catarrhal vaccine supplied by Parke Davis, prepared by St. Mary's Hospital. Three doses were given at weekly intervals: to those below 15 years 0.25 c.cm., 0.4 c.cm., 0.6 c.cm., to those above 15 years 0.3 c.cm., 0.5 c.cm., 0.75 c.cm.; 170 boys were inoculated in January before returning to school, the remaining fifty in the first three weeks of the Lent term. Ill effects were trivial. Three boys reported a temperature of 100 to 101° for about twenty-four hours. Two felt faint a few hours after the first dose. One had a slight local reaction after the third dose. One reported a cold after the first two doses.

Though the total number of boys in the school remained constant throughout the year, the number of those inoculated varied, as some boys left and new ones came. The following figures therefore are given for each term separately.

	First Term.	Second Term.	Third Term.
No. of Boys in School.			
Inoculated	220	220	200
Non-inoculated	315	315	335
No. of Colds	160	35	86
Inoculated	50=22.7%	10=4.5%	18= 9.0%
Non-inoculated	110=34.6%	25=8.0%	68=20.0%
No. of Feverish Chills ...	33	17	51
Inoculated	10= 4.5%	4=1.8%	16= 8.0%
Non-inoculated	23= 7.3%	13=4.1%	35=14.4%
Days Lost	413	104	980
Inoculated	80. Av. 1.3	19. Av. 1.3	263. Av. 7.7
Non-inoculated	333. Av. 2.5	85. Av. 2.75	717. Av. 7.0
Complications.			
Inoculated (16)	2 Otitis 2 Bronchitis	1 Adenitis	1 Otitis (abscess) 6 Bronchitis 3 Broncho-pneumonia 1 Carditis
Non-inoculated (37) ...	5 Otitis (2 abscess) 9 Bronchitis 2 Broncho-pneumonia	2 Otitis 2 Bronchitis	5 Otitis (5 abscess) 2 Bronchitis 8 Broncho-pneumonia 1 Adenitis 1 Pleurisy

The figures in the group of "days lost" are not quite clear. By the average is meant the days lost by those who had colds or feverish chills in the two groups. If the average of days lost was taken amongst all the inoculated and non-inoculated it would, of course, be very different, and for the whole year would show:

Inoculated	0.36, 0.09, 0.76
Non-inoculated	1.0, 0.26, 2.1

From this aspect the loss of time was nearly three times as great amongst the group of non-inoculated as amongst the inoculated. The rest of the figures show a slight but definite advantage for the inoculated. To the observer this advantage was the more noticeable as regards the complications, the severity of which was much more marked in the non-inoculated.

Another point which cannot be shown statistically is that amongst the inoculated were the large majority of those known to be particularly susceptible to colds and coughs; this would tend to raise the percentage incidence of this group, but observation showed that these "inoculated susceptibles," if attacked by cold or catarrh, were definitely less affected than might have been expected from their previous record and medical history at the school. The suggestion is that their immunity was raised. It will be noted that the complications were more numerous and more severe in the winter term, and the average loss of time very much greater. No doubt the small amount of sunshine during the late autumn delayed convalescence, but it is not unreasonable to suggest that the hypothetical good effects of the vaccine given in January had passed away. Certainly the Lent term was very healthy, and never had the colds and coughs been so few or so slight, and never had so little medicine been used.

During the year 1926 the Medical Officers of Schools' Association issued a circular to a large number of schools on the subject of catarrhal vaccines, and through the kind help of the authorities of the bacteriological department of St. Mary's Hospital got prepared a special "school vaccine" from a large number of swabs sent up from schools in various parts of the country.

This special vaccine was put on the market in December last by Parke Davis, and it is hoped that sufficient use will have been made of it during this year to form an opinion as to its value.—I am, etc.,

March 28th. L. R. LEMPRIERE, Medical Officer, Haileybury College.

HEREDITARY FAMILIAL CONGENITAL HAEMORRHAGIC NEPHRITIS.

SIR,—In his paper, published in the JOURNAL of March 19th (p. 504), Dr. A. Cecil Alport adds some interesting details to the history of the family first described by Leonard Guthrie in 1902 and subsequently by me in 1912. Unfortunately he appears not to have seen a later paper, published in the *Guy's Hospital Reports* for 1923, which contains particulars about the members of the third generation born since 1912. In this paper I also refer to Case No. 6 as being still alive, and I record the fact that Nos. 14 and 15, said by him to be unaffected, had, as a matter of fact, suffered from attacks of haematuria. So far as I can recollect, Dr. Alport is incorrect in stating that Cases 10 and 11 were deaf.

In addition to the cases of familial nephritis collected by Dr. Alport, I referred in my paper of 1923 to three other families. Benson[1] in 1893 reported the case of four brothers and sisters who suffered from acute nephritis in a period of four years, three of whom died; Fergusson,[2] in 1910, described a family in which the father aged 87, the mother aged 78, and eight children, whose ages varied between 45 and 56, had albuminuria unaccompanied by other symptoms; and in 1920 Thomson and MacAuley[3] reported four cases of acute nephritis occurring after influenza in a family of eight children; all recovered completely.—I am, etc.,

New Lodge Clinic, Windsor Forest, March 22nd. ARTHUR F. HURST.

SIR,—Dr. A. Cecil Alport may be interested to hear of a family some members of which have been under my care suffering from haematuria of the same nature as that mentioned in his interesting article (March 19th, p. 504). Fifteen years ago I attended a woman, then aged 34, suffering from haematuria, the cause of which I did not then recognize. Last week I saw her again for the same complaint. Two years ago I was called to a male patient, aged 39, who had severe haematuria; three months later he had another severe attack. I sent him to a surgeon, who eventually removed a cystic kidney (right) weighing 8 lb. Four months after the operation he had another attack of haematuria. As far as I know he has had none since. His father died of "kidney disease." During January of this year a man, aged 46, came to see me complaining of passing blood in his water. This came on after rather a severe blow in the abdomen. There was severe pain in the right loin, but neither kidney was palpable. He was back at work in about a week. As his name was similar to that of the last patient mentioned I made inquiries as to his family history, and elicited the following facts. His father died as the result of a "seizure" seven years previously. He suffered from haematuria, having on an average one attack yearly. Three brothers, aged respectively 40, 48, and 49, all suffered from the complaint. The one aged 49 died suddenly, the cause of death being certified as "haemorrhage." Until I saw the last patient I was not aware that any of these three were related; he informed me that the first patient was his sister and the second his cousin. None of the three patients referred to suffer from deafness. —I am, etc.,

FREDERICK H. RUDGE, M.R.C.S.

Lostwithiel, Cornwall, March 22nd.

THE SURGERY OF GASTRIC AND DUODENAL ULCERS.

SIR,—In the article by Mr. H. S. Souttar in the BRITISH MEDICAL JOURNAL of March 19th (p. 501) on 1,275 cases of gastric and duodenal ulcers admitted to the surgical wards of the London Hospital in 1923-25 he says:

"Of the 1,275 London Hospital cases above referred to, 660 were gastric ulcers with a male incidence of 70 per cent., and 615 were duodenal ulcers with a male incidence of no less than 86 per cent.—figures which agree closely with those found elsewhere by both English and American surgeons."

So far as this statement refers to the male incidence I have no comment to make; but the ratio of gastric to duodenal ulcers does not coincide with our experience in Leeds. In the years 1924 and 1925 there were admitted to the surgical wards of the General Infirmary at Leeds 559 cases of chronic gastric and duodenal ulcers, of which 148 were gastric and 411 duodenal—that is to say, an incidence of 2.7 to 1 in favour of duodenal ulcer; and this

[1] A. H. Benson: *Lancet*, 1893, i, 583.
[2] J. N. Fergusson: BRITISH MEDICAL JOURNAL, 1910, i, 637.
[3] W. W. D. Thomson and H. F. MacAuley: *Lancet*, 1920, i, 431.

preponderance of duodenal ulcers over gastric has held good for many years—in fact, ever since we realized that the dyspepsia associated with haematemesis in young women is seldom due to chronic gastric ulcer. I do not think this accounts for Mr. Souttar's figures showing more gastric than duodenal ulcers, because he gives a male incidence in the former as high as 70 per cent.

There is, however, a possibility of confusing duodenal and gastric ulcers situated near the pylorus; indeed, some Continental surgeons go so far as to say it is impossible to differentiate these with the organs *in situ*. We have become accustomed to rely upon the white line of the pylorus and the pyloric vein as landmarks of sufficient accuracy to enable us to say that an ulcer to the right of these is duodenal and to the left gastric. If the London Hospital statistics are not dependent upon some such clearly defined anatomical differentiation between what is gastric and what duodenal, I can see a good reason for the discrepancy between their recorded results and ours. It is difficult to believe there is really so marked a difference between the localization of ulcers in the north and south of England.—I am, etc.,

Leeds, March 27th. E. R. FLINT.

MALIGNANT DISEASE OF THE THROAT.

SIR,—I heartily agree with Mr. Syme (March 19th, p. 540) that it is much to be desired that patients suffering from, or suspected of, cancer of the throat should see the throat surgeon at as early a stage as possible. I do not think, however, that the general practitioner should bear the entire blame for such belated attendance and for the advanced condition of many cases when first seen by the specialist, since the patient himself is often most remiss and dilatory in going to the practitioner, even delaying until the malady has drifted on to an inoperable condition.

During the last three months I have met with two cases—both in men of over 60 years of age—which plainly point to the dangers, not only to the patient, but to the public. Both were brought at once by their doctors for confirmation of their diagnosis, and were suffering from advanced cancer of the throat, but had been so careless and ignorant that one had arranged to be married at an early date, and the other had been regularly partaking in church of the Holy Sacrament.

My experience is that there has been during recent years a greatly increased vigilance and correctness of diagnosis on the part of the general practitioner; this, I think, is certainly an outcome of greater facilities for post-graduate study, and the pressing and efficient way in which medical journals and literature have emphasized the urgency for improved knowledge on the doctor's part.

With regard to lay enlightenment, however, much yet remains to be accomplished, and I would urge the imperative necessity for an extension of such measures as were recently mentioned by Sir Berkeley Moynihan for starting in Yorkshire itinerant vans with lecturers to give demonstrations all over the country to teach the laity. Lectures might also be delivered by the junior members of the staff of both general and special hospitals on the prevention of disease.—I am, etc.,

London, W.1, March 27th. WILLIAM STUART-LOW, F.R.C.S.

PHARYNGEAL DIVERTICULA.

SIR,—It was my privilege in my earliest days in the dissecting-room to see the dissection of the historic pharyngeal diverticulum described by Morison Watson. I trust my sentimental, in addition to my technical, interest in it may justify my trespassing on your space. It was unquestionably pharyngeal, and air may have entered it in sufficient quantity to give it some claim to the title of aerocele. It is highly improbable, however, that food could have done so in sufficient quantity to cause much distension, in view of the small size of the opening. To my mind it was more likely to be produced by the entrance of pharyngeal secretions, and I think the term "pharyngocele," or Watson's non-committal one of "pharyngeal diverticulum," is the most appropriate. It was no doubt originally a small congenital defect in closure of the second branchial cleft, distended by the accumulation of air and secretions, and, therefore, eventually a pressure pouch.

Godlee's case is more obscure, and the tracing of the pedicle to the thyro-hyoid membrane in association with the increase of swelling when the subject "held his breath and blew," would suggest at first glance a laryngeal origin. It is difficult to give a definite meaning to the somewhat loose expression "held his breath and blew," but with goodwill it might be interpreted to signify that he closed his larynx (by means of the ventricular bands) and made an expiratory effort, or that he closed his lips tightly (with or without pinching the nostrils) and then "blew." Swelling in the former condition would indicate a laryngeal communication, while in the latter it might be pharyngeal. The fact, however, that salivary glandular structures (described with minute detail) were found in the wall of the sac when vouched for by Godlee (and for any who knew him this is conclusive), proves beyond question that the cavity was originally, at least, of pharyngeal origin.—I am, etc.,

London, W., March 25th. JAMES DUNDAS-GRANT.

SIR,—In my letter of January 8th I pointed out that Dr. Irwin Moore was obviously wrong in asserting that the case of pharyngeal pouch so carefully recorded by Godlee and Bucknall was really a laryngocele. The marked dysphagia, the uncomfortable sensation shooting up to the ear on squeezing the sac, and the presence of glands "representing in every detail of their structure a mucous salivary gland," as found in several other cases of pharyngocele, clearly established the fact as claimed by Godlee and Bucknall, that their "pouch was obviously of the pharyngeal variety." The presence of salivary gland tissue alone knocks the bottom out of Dr. Moore's argument that the pouch was laryngeal and not pharyngeal. Dr. Moore now brings forward a "somewhat dramatic story" which he got from Sir Arthur Keith, from which it appears that the latter wrote to Godlee pointing out that the description left no doubt that it was a laryngeal air sac, and that Godlee replied accepting this view. Dr. Moore claims that this settles the question in his favour. It does nothing of the kind, in my opinion, and, moreover, the story has a sequel. Soon after the publication of Halstead's paper in 1904 (*Annals of Surgery*) on diverticula, in which the case under discussion was quoted, I met Godlee and talked the case over with him. He then said nothing about his having abandoned the idea that the air sac was pharyngeal (so that his conversion must have been short-lived and forgotten); but, on the contrary, he pointed out with enthusiasm his gratification that Bucknall (who was responsible for the pathological and literary research part of the paper) had been able to collect at least one British case, similar to theirs, in addition to half a dozen foreign ones (Kostanecki, *Virchow's Archive*, vols. 117, 120, 121). We can fairly conclude that though Godlee was temporarily converted by Sir Arthur Keith to admit the laryngeal origin of the sac to begin with, yet that, on conferring with Bucknall, he reverted to his original explanation of the case, otherwise he would surely have written a correction to the *Lancet*. This case must stand as reported.

Of course, it does not fit in with Dr. Moore's thesis to admit that Watson's case of pharyngeal diverticulum, of presumed branchial origin, was a pouch containing air, so he falls back on the generalization of Keith, that as it originated behind the thyro-hyoid ligament it could not contain air, and Dr. Moore now states that it was a "dilated branchial cleft sinus with a dilated saccular or cystic extremity." The use of the word "cystic" suggests that Dr. Moore is trying to make out this specimen of Watson's to be a true cyst, whereas the clear description of the case shows plainly that it was an undoubted air-containing pouch with a well defined mouth in the faucial region, and not a mere potential space or sinus, nor a cyst. Watson states that the sac terminated "inferiorly in a dilated cul-de-sac, which on being cut discharged a quantity of grumous material"; such material is often found in the cavities of the mouth, pharynx, and oesophagus in dissecting-room subjects, and is not a cystic content. Bland-Sutton, in his Erasmus Wilson Lecture in

1887 (*Journal of Anatomy*), quotes this case as a pharyngeal pouch of congenital branchial origin, and makes no suggestion of its resembling a cyst. This case also stands to controvert the view of Keith and Moore that all cervical air sacs are laryngeal in origin.

As regards Wheeler's case, the description clearly identifies it as a pouch containing only air during the time the patient was under observation and at operation. Dr. Moore asserts that it was a "pressure diverticulum or pulsion pouch." All pouches, without exception, originating from the pharynx must develop by pressure (pulsion), whether congenital or acquired, but some develop through air pressure alone, and others by food pressure combined with air pressure. The evidence that it was not congenital but acquired, and caused by food pressure, or ever at any period contained food, is wanting, though possibly this may have been so, as also may have been the case in the St. Thomas's Hospital specimen, which was figured by Butlin in his communication to the Royal Medical and Chirurgical Society in 1893. I showed a slide of this to illustrate my paper at Nottingham. I admit an element of doubt as to these two cases being pure aeroceles, because of their wide orifices, though their lateral position obviously suggests a congenital branchial origin.—I am, etc.,

London, W.1, March 26th. WILLIAM HILL.

*** Although we had considered that this correspondence had come to a natural end, we feel bound, in justice to Dr. Hill, to publish the above letter, and Sir J. Dundas-Grant adds an interesting reminiscence. We cannot undertake to publish other letters on the same subject.

INFLUENZA AND ALBUMINURIA OF PREGNANCY.

SIR,—Mr. R. H. Paramore, commenting in your issue of March 26th (p. 596) on Dr. Gutch's suggestion (BRITISH MEDICAL JOURNAL, March 19th (p. 543) that influenza and the albuminuria of pregnancy stand to one another in the relation of cause and effect, brings forward a very ingenious mechanical explanation for the cause of the albuminuria when it affects pregnant women during the influenza epidemics, but, unfortunately for his theory, it is based on two wrong assumptions at the outset—namely: (1) That, as Dr. Gutch says, "the pregnant woman only is affected in this way," and (2) that a "terrible cough" (as Mr. Paramore says) is present in these cases. Now, any general practitioner who has a wide experience of influenza knows that not only pregnant women, but non-pregnant women, men, and children of both sexes and all ages are "affected in this way"—that is, are liable to renal complications during the influenza epidemics or, indeed, at any time following an attack of influenza. The following extract from an essay on "Influenza in general practice," which I wrote about eighteen months ago, may be of interest.

"I have noted during the epidemics and in the intervals many cases of pyelitis which were undoubtedly due to influenza; as I am writing this I have a small epidemic of pyelitis, and every case can be attributed to a definite influenza with sore throat, which occurred about fourteen days before the onset of the renal symptoms; it is much more common for the tonsillar cases to be so complicated than those with pulmonary symptoms. I have noted, too, far too frequently for the matter to be considered a coincidence, that pregnant and puerperal women show a decided tendency to pyelitis during the epidemics, and I am convinced that the pyelitis of pregnancy is sometimes influenzal. . . . There is no doubt in my mind of the existence of an influenzal nephritis; I have seen many cases; here, again, the influenza with sore throat is most commonly antecedent."

These statements were based on a study of over 1,700 cases which had been on my visiting lists, and subsequent experience of many more hundred cases has more than justified my remarks. Like Dr. McDougall, I am "surprised that this is not more generally recognized."

Mr. Paramore, however, may not be satisfied with my experience, so I refer him to a short article by Peace (BRITISH MEDICAL JOURNAL, January 2nd, 1926, p. 17), who described some cases of "nephritis following tonsillitis," and another by Cook (BRITISH MEDICAL JOURNAL, December 11th, 1926, p. 1118), on some cases of "acute haemorrhagic nephritis following influenza." There is no mention of pregnant women in either article.

I hope, therefore, that Mr. Paramore will recognize that there are two fallacies in his argument: (1) That the nephritis is not confined to pregnant women. (2) That nephritis follows influenza oftenest when there is no cough, and therefore is *not* the "enormous rise of pressure in the abdomen" of which Mr. Paramore speaks.

I remember seeing in consultation in February, 1923—when influenza was fairly prevalent—a woman in the puerperium who had a high temperature which had failed to react to the uterine douche applied on several occasions. I suggested that the fever was renal in origin, and a microscopical examination of the urine showed it to be teeming with *B. coli*. Potassium citrate brought down the temperature promptly. I also remember an infant of 10 months whom I had seen in my surgery with an influenzal tonsillitis, developing pyelitis a week later; the mother and father were down with influenza at the same time. Here again the condition cleared up with potassium citrate. One reads much of pyelitis being mistaken for influenza. Though the renal changes are often overlooked, they often follow influenza. The influenza germs or toxins must have an effect on the kidney and render it vulnerable to attack by the germ which is constantly in the vicinity—the *B. coli*.

I am not so sure that, as we become more enlightened, we will not find that accidental haemorrhage, eclampsia, etc., are due to the invasion of the body by extraneous organisms of the influenza family, and that there will not come a time when it will be no longer considered old-fashioned to make a diagnosis of influenza during the puerperium. Browne's recent work on placental infarction in connexion with accidental haemorrhage has paved the way for other observers.

A case of that rare complication—suppression of urine after labour—which I reported in the BRITISH MEDICAL JOURNAL of April 14th, 1923 (p. 630), puzzled me at the time. I found out later that I had attended the woman's father in the same house during the same week for influenza with severe delirium and that the puerperal pyelitis case mentioned above was seen in that week. Were these coincidences? I am inclined to think now that influenza had something to do with the suppression.

I suggest that a far more reasonable explanation than Mr. Paramore's of these cases is that they are embolic. I have seen two cases in the last twelve months of nephritis following influenza in which pulmonary infarction followed the nephritis. There is, of course, no reason why the pregnant woman should not be "affected in this way."—I am, etc.,

Aberdare, March 28th. AMBROSE W. OWEN.

SIR,—Mr. Paramore (BRITISH MEDICAL JOURNAL, March 26th, p. 596) attributes the relation between influenza and albuminuria in pregnancy to pathological intra-abdominal pressure. But surely the large bed of fat in which the kidney lies is sufficient to act as a shock absorber. I am quite ready to allow that in pertussis albuminuria is fairly frequent, but naturally most of the observations have been made in children, in whom the fatty bed is not so well developed. Normally great changes occur in the blood during pregnancy—for example, the great reduction in the suspension stability of the red blood corpuscles. It is not unreasonable to expect that the further changes provoked by an infection with the influenza bacillus will occasion such a degree of condensation in the protein particles of the blood that the glomerular membranes will permit the altered protein particles to pass through into the urine.—I am, etc.,

Bristol, March 28th. FRANK BODMAN, M.B.

SPORADIC DYSENTERY IN ENGLAND.

SIR,—The very interesting account in the JOURNAL of March 26th (p. 563) of outbreaks of bacillary dysentery prompt us to send a brief note of a similar small epidemic which occurred three weeks ago in an institution under our medical charge.

[1] McDonagh: *The Nature of Disease*, vol. I, 133.

The outbreak occurred, fortunately, in a small group of children who were at the time isolated in the sanatorium of the institution on account of whooping-cough. The first case, a boy of 4, started with a temperature of 102° F. and profuse diarrhoea, with green stools. In the course of a few hours this changed to blood and mucus. The tenesmus was very severe, and the child was passing small portions of blood and mucus about every twenty minutes. Treatment consisted of a preliminary dose of castor oil and subsequently small doses of Dover's powder. Two days afterwards two other children of the same group developed it, and two days later another two, and two adults who had been in contact with the sanatorium had slighter attacks. The original case is still passing occasional mucus, but all the other cases cleared up in a week. They all started with temperatures of 102° to 103° F. In the case of the youngest children the treatment as in the first case was adopted, and with the older and adults magnesium sulphate was given every two hours, until the motion became normal.

Immediately on the onset of the outbreak the sanatorium was strictly isolated from the main building. All motions were disinfected, and a kitchen was established for the use of the sanatorium alone. No fresh cases occurred either in the sanatorium or in the main building. In view of the possibility of the organism being dysenteric, specimens of the motions were sent direct by car, forty miles, to the nearest laboratory. Four of the cases gave a culture of *B. dysenteriae* "Y." In regard to the origin of the outbreak, water and milk were excluded, and no food had been consumed in the sanatorium which was not common to all the institution.

The matter is still under investigation, but two possible sources have been determined. (1) A visitor to the institution proves to have just returned from abroad convalescent from dysentery, although the type has not yet been discovered. This visitor was in close contact with the original case. (2) The original boy was born and spent nearly two years in India. He may prove to be a carrier.

We should like to express our indebtedness to Dr. J. J. Day, medical officer of health, Eastry area, and Dr. Ponder, Kent county pathologist, for their valuable help in dealing with this outbreak.—We are, etc.,

N. MCCALL-SMITH,
D. M. M. FRASER.

Eastry, Kent, March 26th.

BREATHING EXERCISES WITH MOVING ARMS.

SIR,—Mr. R. H. Paramore, F.R.C.S., in his letter (March 19th, p. 542), commenting on my article (March 5th, p. 422), asks, "Can the doctrine of the reciprocal innervation of antagonistic muscles stand?" This doctrine is generally accepted, and I personally find evidence of it in the healthy man in physical training.

The tension in the opposing muscles described by Mr. Paramore is due to the contraction of the plastic element in the muscle, consisting of the thin muscle fibres of a voluntary muscle innervated by the sympathetic non-medullated nerves, and has nothing to do with the contractile element, which consists of the thick fibres of the muscle innervated by the somatic medullated nerves. The plastic element is merely postural, and does not oppose.

Pulling on the arms in artificial respiration cannot very well be an illustration that movements of the arms raise the ribs, for in this case the arms are passively moved, whereas I speak of actively moving arms. Even in this case artificial respiration depending on passive movements of the arms has been given up for better and more efficient methods.

The only time when the muscles attached to the chest and arms can raise the ribs is when the arms are fixed.

Even if it was granted that movements of the arms created a slight pull which elevated the ribs, the amount could only be negligible, in view of the other detrimental factors to breathing pointed out in my article which occur when the arms are moved. The arms should not be moved during breathing exercises.—I am, etc.,

Portsmouth, March 22nd. HORACE HILL, M.R.C.P.

Obituary.

LOUIS HEMINGTON PEGLER, M.D.ED., M.R.C.S.ENG.,

Consulting Surgeon, Metropolitan Ear, Nose, and Throat Hospital.

THE death of Mr. Louis Hemington Pegler on February 26th, in his seventy-fifth year, has removed one who had held a leading place among otologists and laryngologists.

Mr. Pegler received his medical education at University College, London, and Edinburgh. He graduated M.B., C.M.Ed. in 1878, obtained the diploma M.R.C.S.Eng. in the following year, and proceeded M.D. in 1885. After ten years' service as surgeon to the Clay Cross Colliery Company at Alfreton, he came to London in 1892 to study otology and laryngology. He held the posts of registrar and pathologist to the Central London Throat, Nose, and Ear Hospital from 1893 to 1895, and in 1896 became surgeon to the Metropolitan Ear, Nose, and Throat Hospital, remaining on its staff until 1921, and contributing greatly to its progress. He was honorary consulting laryngologist and otologist to the London College of Music and several other institutions. During the war he acted as surgeon in charge of the ear and throat department of the Mile End Military Hospital. He joined the Laryngological Society of London in 1893, and was later a member of its council. He was secretary of the British Laryngological and Otological Association for three years, and took a prominent part in organizing its international meeting in 1895. He was a Fellow of the Royal Society of Medicine, and had been vice-president of its Laryngological Section. Mr. Pegler was actively concerned in the organization of the Laryngological Section of the International Medical Congress in London in 1913; he was a member of its council and curator of the laryngological museum in connexion with it. Ill health compelled him to retire from practice in 1921, and obliged him to decline the presidency of the Laryngological and Otological Section of the Annual Meeting of the British Medical Association, which he was offered in that year.

He published in 1900 a short monograph on nasal obstruction, and among his other contributions to literature were an article on the pathology of treatment of discrete angioma of the nasal septum, and the elaborate "Map scheme of the trigeminal nerve and its connexions," in which he defined its exact ramifications and anastomoses; this was published in 1913.

He was a great lover of classical music, being particularly interested in the works of Beethoven and Bach. He was also an enthusiastic naturalist, giving attention to botany, geology, and archaeology, and possessing an expert knowledge of mosses and flint instruments. His collections are preserved in the Natural History Museum and the South London Institute. He is survived by his widow, a daughter of the late Mr. Francis Palmer of Bedford.

JAMES LUKE, M.B., C.M.ED.,

Surgeon, Northern Infirmary, Inverness.

THE death took place at Inverness, on March 24th, o Dr. James Luke, after five days' illness from pneumonia Dr. Luke was born in Fifeshire, and studied medicine a the University of Edinburgh. During his undergraduat days he was a well known athlete, being noted as a boxer and being captain of the University Cycling Club at a time when cycle racing was a widely practised form of sport He graduated M.B., C.M. at Edinburgh in 1889.

Immediately after graduation, he acted as house-surgeon to the late Professor Annandale, and afterwards proceeded to Glasgow, where he was house-surgeon to Sir William Macewen. Subsequently he was appointed to the surgical staff of the Royal Hospital for Sick Children in Glasgow, and became an assistant surgeon in the Glasgow Royal Infirmary, where he was attached to the wards of Mr. J. Hogarth Pringle. During the South African war he served with the 2nd Scottish National Red Cross Hospital, which was organized largely from Glasgow, and on his return to this country he was one of those who received the freedom of Glasgow for their services. In 1907 he

went to Inverness, where he built up a large practice, working particularly as a surgical specialist. At the same time he was appointed one of the visiting surgeons at the Northern Infirmary, Inverness, which he served for twenty years, and where he gained a reputation as one of the chief surgeons in the North of Scotland.

Dr. Luke in his spare time was a noted sportsman, being regarded as a first-class shot, and he was also a keen angler in many of the rivers of the North of Scotland. He is survived by a widow, two sons, and two daughters.

THE LATE DR. JOHN BROWNLEE.

DR. A. FREELAND FERGUS (Glasgow) writes: With reference to your very appreciative and excellent article on the late Dr. John Brownlee, contained on page 598 of your issue of March 26th, I have to say that Dr. Brownlee had conferred upon him not the Fellowship of the Royal Faculty of Physicians and Surgeons, but the Honorary Fellowship, an honour very seldom bestowed by the Faculty. At the time of its being conferred I happened to be the president, and therefore I have taken the liberty of communicating this information to your readers.

Dr. ARTHUR GODFREY WILKINS, who died on March 9th, at the age of 50, was the second son of Professor A. S. Wilkins of Victoria University, Manchester, and received his medical education at Owens College, Manchester, and Dublin. He graduated M.B., Ch.B.Vict., with honours, in 1900. After serving as house-surgeon to the late Mr. F. A. Southam, at the Manchester Royal Infirmary, he became senior resident medical officer at the Salford Union Infirmary, from which he went to Manchester as resident medical officer of the St. Mary's Hospital for Women and Children. He then began to practise at Patterdale, on the shores of Ullswater, which involved long daily journeys of more than forty miles. On one of these he was accompanied by the late Sir Robert Morant, who thus obtained an insight into the question of mileage for country doctors. During his twelve years in Patterdale Dr. Wilkins was appointed justice of the peace for Westmorland. At the outbreak of war he disposed of his practice and, after spending some time with the French, received a commission in the R.A.M.C., serving in France and in German East Africa. In 1918 he was appointed a bimbashi in the Egyptian Army, but did not go to Egypt, as the war ended immediately after his appointment. On leaving the army he became chief school medical inspector for the Staffordshire County Council, and was responsible for the establishment of over thirty school clinics and infant welfare centres within eighteen months. Into this work he threw an immense amount of energy and enthusiasm. He subsequently spent two years as a ship surgeon, visiting China and the East Indies, and held the posts temporarily of superintendent of the Staffordshire Infirmary at Prestwood and of the Cheshire Joint Sanatorium at Market Drayton. His last appointment was that of medical superintendent of the Essex County Sanatorium, from which ill health compelled his resignation after about one year's service. Dr. Wilkins was a representative of the Mid-Staffordshire Division in 1921, and a member of the executive committee of the North Staffordshire Division 1923-24. A colleague, to whom we are indebted for the particulars given above, writes: Of fine physique, absolutely unassuming, and of great charm of manner, all classes of persons within ten minutes would be talking to Dr. Wilkins as if they had known him all their lives. He was one to whose kindness and common sense many appealed in times of trouble, and remembered his help with sincere gratitude.

Dr. CHARLES DRUMMOND MUSPRATT of Bournemouth, who died suddenly on March 10th, was born in India in 1859, the son of Mr. Henry Muspratt, I.C.S. He received his medical education at Guy's Hospital Medical School, took the diplomas of M.R.C.S.Eng. in 1884 and F.R.C.S. in 1885, graduated M.B., B.S.Lond. with honours in 1886, and became M.D. in 1889. After serving as house-surgeon at Guy's Hospital and assistant medical superintendent at St. Saviour's Union Infirmary he removed to Bournemouth for health reasons in 1891, and entered into partnership with Dr. J. Douglas. In 1892 he was appointed to the honorary medical staff of the Royal Victoria and West Hants Hospital, and in 1906 was appointed consulting surgeon. In 1919 he had a breakdown in health, which necessitated his retirement in the following year. For many years he was an active member of the British Medical Association, and was president of the Dorset and West Hants Branch in 1916. He was a member of the Ethical Committee of the Bournemouth Division from 1917 to 1923, and chairman of the Division during part of 1923. In 1892 he married the daughter of the Right Hon. Sir H. Knox; she died six years later, leaving three sons, one of whom was killed while serving in France in May, 1918, and another, who had won distinction in the Air Force by bringing down single-handed ten enemy aeroplanes, died through a crash at Martlesham, in March, 1918. Both the sons had been awarded the Military Cross. Dr. Muspratt himself rendered valuable assistance for two months during the war at the Allies' Hospital for French Soldiers at Yvetot near Rouen.

Dr. LEONARD SATCHWELL SMITH, who was killed in Nanking during the disorder consequent upon its capture by the Southern Chinese army, received his medical education at Birmingham and Newcastle-on-Tyne; he graduated M.B., B.S.Durh. in 1900. After holding the post of resident house-surgeon at the Queen's Hospital, Birmingham, he practised for some time in Kobe, Japan, and then moved to Nanking sixteen years ago as medical officer of the Tientsin-Pukow Railway. He also engaged in private practice in Nanking, and was very popular among the Chinese. In 1912 he married Miss May Williams, who with other refugees has reached Shanghai safely.

Universities and Colleges.

UNIVERSITY OF OXFORD.

Fellowship Election at University College.

ARTHUR DUNCAN GARDNER, M.A., M.D., University College, F.R.C.S., has been elected to a special supernumerary Fellowship at University College. Dr. Gardner, who was elected to the Radcliffe Travelling Fellowship in 1914 and was awarded the Radcliffe Prize in 1923, is engaged in research in the Department of Pathology and is bacteriologist-in-charge of the Standards Department under the Medical Research Council.

Radcliffe Travelling Fellowship.

The Electors have notified to the Master and Fellows of University College the election, on March 7th, of Thomas Cecil Hunt, M.A., B.M., of Magdalen College, to a Fellowship on the foundation of Dr. John Radcliffe. Mr. Hunt was an open scholar at Magdalen College, who obtained the Theodore Williams Scholarship in Human Anatomy in 1922, the Theodore Williams Scholarship in Pathology in 1924, and the Radcliffe Scholarship in Pharmacology in 1924.

Radcliffe Prize.

Bernard Warren Williams, M.A., B.M., Exeter College, F.R.C.S., has, on the report of the examiners, been elected by the Master and Fellows of University College to the Radcliffe Prize for a thesis entitled "The importance of toxaemia due to anaerobic organisms in intestinal obstruction and peritonitis."

UNIVERSITY OF LONDON.

MR. W. E. LE GROS CLARK, F.R.C.S., has been appointed, as from September 1st, 1927, to the university chair of anatomy tenable at St. Bartholomew's Hospital Medical College, where he has been university reader in anatomy since the beginning of 1924.

Dr. Hamilton Hartridge, F.R.S., has been appointed, as from September 1st, 1927, to the university chair of physiology tenable at St. Bartholomew's Hospital Medical College. He holds the M.A., M.D., and Sc.D. degrees of the University of Cambridge, is a Fellow of King's, and, since 1919, has been lecturer on organs of special sense and senior demonstrator in physiology at the Cambridge physiology laboratories.

UNIVERSITY OF LIVERPOOL.

THE following candidates have been approved at the examinations indicated:

FINAL M.B., CH.B.—*Part I*: *R. K. Bowes, Gladys A. Coventry, J. H. St.B. Crosby, A. Dala, H. R. Dugdale, R. A. Furniss, K. Jhaveri, E. W. Jones, Mary G. Jones, T. Lotter, Hilda M. C. MacMahon-Garry, J. S. Mather, G. W. Molyneux, Elizabeth B. Robson, J. L. A. Webster, F. J. Welton. *Part II*: I. Lipschitz.

DIPLOMA IN MEDICAL RADIOLOGY AND ELECTROLOGY.—V. Friedland, R. W. Gemmell, T. Harrison, Agnes B. MacGregor, A. M. Robertson.

* With distinction.

UNIVERSITY OF ABERDEEN.

AT the graduation ceremony on March 23rd the following degrees and diplomas were conferred:

LL.D. (*honoris causâ*).—Matthew Hay, M.D., LL.D., professor of forensic medicine in the University of Aberdeen, 1883 to 1926; medical officer of health for the city of Aberdeen, 1888 to 1923.

Sir Frederick Gowland Hopkins, M.A., D.Sc., F.R.C.P., F.R.S.; Sir William Dunn professor of biochemistry in the University of Cambridge.

Sir William Milligan, M.D., C.M.; lecturer on diseases of ear and throat, Manchester University, and consulting aurist and laryngologist, Manchester Royal Infirmary.

D.Sc.—Lieut.-Col. Andrew Gray McKendrick, M.B., Ch.B., F.R.C.P.Ed.

M.D.—*Philip Bayer (commended for thesis).

M.B., B.Ch.—*W. Marshall, *A. S. Paterson, G. J. Allan, A. W. Barlenoch, J. Barclay, Catherine I. A. Craig, J. G. H. Davidson, R. G. Dingwall, P. T. J. Doss, A. D. Duff, G. A. P. Fraser, J. M. C. Gill, J. Leiper, J. W. Lobban, †N. J. Logie, †H. G. McPherson, C. P. Mann, N. G. Marr, J. R. Moir, J. H. Otty, Mary Riddoch, C. C. Ross, C. G. Walker, L. G. Walters.

D.P.H.—Jessie R. G. Dingwall, J. Innes.

* With second-class honours.
† Completed final medical examination with distinction.

UNIVERSITY OF GLASGOW.

THE University proposes to confer at the June graduation the honorary degree of LL.D. upon Sir Charles Ballance, K.C.M.G., C.B., consulting surgeon to St. Thomas's Hospital, London, and to the National Hospital, Queen Square.

SOCIETY OF APOTHECARIES OF LONDON.

THE following candidates have passed in the subjects indicated:

SURGERY.—J. de Rosa, J. A. Fernandez, R. Kahn, A. M. A. Moore, R. C. Pratt, S. Slotar, W. G. H. Warner.

MEDICINE.—G. W. Ayres.

FORENSIC MEDICINE.—G. W. Ayres, A. C. F. Barrow, L. J. Lawrie, G. C. Rhys Jones, H. N. Walker.

MIDWIFERY.—A. C. F. Barrow, W. H. Collins, L. J. Corbett, S. Goldman, H. H. Lakin, W. D. Neill, S. le R. Switzer.

The diploma of the Society has been granted to Messrs. G. W. Ayres, A. C. F. Barrow, J. de Rosa, R. Khan, and H. N. Walker.

Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

AT the meeting of the Parliamentary Medical Committee on March 23rd, Dr. Fremantle presiding, Dr. Roche, an Australian practitioner who had worked with M. Spahlinger at Geneva, gave particulars of cases he had seen under the Spahlinger treatment for tuberculosis. His account of the results was very disappointing, though he would not say that no benefit had been done, and he cast no reflections on M. Spahlinger's personal sincerity. Dr. Roche's evidence conflicted with that of those members of the Parliamentary Medical Committee who had visited M. Spahlinger last year, and his statement was followed by a brisk discussion. During this Dr. Watts and Dr. Vernon Davies declared that they held to the opinions they had formed when they visited M. Spahlinger, and that if they were to be attacked themselves by tuberculosis they would go to him for treatment.

The Medical Committee decided that the urgency for an open lecture to members of Parliament on vaccination and small-pox had disappeared now that Dr. Watts no longer had a good chance to raise the question of vaccination when the House of Commons went into committee on the Civil Service Estimates. The lecture, consequently, was postponed *sine die*, but the Medical Committee considered that in view of recent public discussion on vivisection and the British Medical Association conference to be held on the subject on April 4th, it was desirable to invite all members of Parliament to a lecture on experiments on animals after Easter. Lord Dawson of Penn attended this meeting of the Medical Committee, and it is hoped that he will arrange to deliver the suggested lecture to members of Parliament early in May.

The medical profession has, unfortunately, lost the services of Dr. Haden Guest in the House of Commons. He was elected in the Labour interest for North Southwark in 1923, but, finding himself in disagreement with the policy of that party in respect of events in China, he resigned his seat and was not successful in the by-election, when the constituency was carried by a member of the Liberal party.

At a meeting of the Unionist Associations of the four Scottish Universities, on March 28th, Mr. John Buchan was chosen as a candidate for the vacancy in the parliamentary representation of those universities caused by the death of Sir Henry Craik. Mr. Buchan has accepted the invitation to stand "as a loyal follower of Mr. Baldwin, and believing his creed of voluntary evolution offers the best help for the country."

The House of Commons this week passed the Consolidated Fund Bill, agreed to the Lords amendments on the Poor Law Emergency Provisions (Scotland) Bill, and took the Committee stage of the Army and Air Force Annual Bill. During discussion on the last measure debate arose on the retention of the death penalty in the army for desertion and cowardice in the field. The Nursing Homes Bill, introduced by Mrs. Philipson, was down as second order of the day for April 1st. Debates also arose on the supersession of the elected guardians at Chester-le-Street, and on the encouragement of rural craftsmanship.

Physically and Mentally Defective Children.

When the second reading of the Consolidated Fund Bill opened, on March 24th, Mr. Trevelyan, on behalf of the Labour party, began a debate on education. He complained that when the Minister of Health revised the code of regulations governing elementary schools he had swept away all detailed building regulations, all special requirements as to floor space, playground space, and lavatory accommodation, and had left local authorities to build as they pleased. There were 623 schools which had been absolutely condemned, but not replaced, and 160,000 children in them. Mr. Morrison called attention to the provision made for educating subnormal children. In the case of blind or partially blind children, 2,408 out of 4,694 who in the opinion of the Board of Education might benefit from admission to special schools were either in public elementary schools or attending no school at all. Out of 4,154 totally deaf children in England and Wales, 319 attended ordinary schools. Of 2,170 partially deaf children, 1,632 were in ordinary schools, and 80 not in any school. The Board of Education showed 142,889 physically defective children, including cripples, those suffering from tuberculosis, and those requiring open-air schools. Of them, 94,332 were in public elementary schools, and 18,931 not in any school. Out of 33,000 mentally defective children, 12,470 were attending elementary schools who should not be there. There were 3,872 who were educable, but attending no school, and 110 education authorities had made no provision for teaching mentally deficient children. The Minister of Health had issued a circular saying: "It would not seem prudent to incur heavy expenditure at the present moment on new schools for such children or on enlargements of such schools." Yet the records of the existing schools showed that between 60 and 70 per cent. of the children who passed through these schools were at work two years after leaving them. In England and Wales on March 31st, 1926, accommodation was only provided for 17,154 educable mentally deficient children—about half the accommodation required. A committee on the education of mentally defective children had been sitting for two and a half years. It must be near the end of its labours. Why had the Minister intervened to advise against the construction of special schools? It was nonsense to suggest that the situation could be met by increased zeal on the part of the school medical services in ascertaining children with these disabilities. Lord Eustace Percy intervened to say that what he had declared in a circular was: "It will be understood that the Board do not underrate the value of special schools, but . . . the completion of the school medical service would appear to be of primary importance." Mr. Morrison retorted that the doctor, so far as mentally defective children were concerned, could never do the work of the teacher.

Replying to the debate, Lord Eustace Percy said the explanation of the number of blind children not attending special schools was either the unwillingness of the parents to have their children placed in such schools or the fact that the children had reached an age where the obligation to attend such schools no longer held good. In London there were a large number of physically or mentally defective children whom they could easily classify and bring together into special schools. But the main problem was in the areas where there were only a few defective children, who could only be dealt with by having a class somewhere in connexion with an elementary school, or by sending them to a residential institution. Members who had been to mentally defective schools in parts of the country other than London, and had seen the mixture in one room of widely differing grades and types of mental defectives, must have asked whether it was good for these children to be altogether. Were the Board to use its powers of compulsion with regard to mentally defective children, and dealt with them wrongly, that would be worse than not dealing with them at all. The Board was now for the first time about to present the country with the settled programmes of local authorities, and on these programmes arose the question whether a number of new schools for the mentally defective were to be built. From the beginning of last May the whole work of school building and of placing contracts for school buildings had been seriously affected by industrial disputes. Mr. Morgan Jones referred to the death rate of children under 5, and said some provision should be made to bring children at 4 or 5 into some form of nursery school where their physique as well as their moral training might be looked after. Dr. Menzies, the medical officer of the London County Council, had reported 10,000 children who were or had been suffering from rheumatic symptoms. Having regard to the effects in later life of this disease, there was a strong case for intensifying the medical service attached to educational work throughout the country. The Duchess of Atholl said everyone who had read the last report of the Board's principal medical officer must feel grave concern at the figures there given on the health of children under 5. Nursery schools were doing splendid work in improving the health of small children. Children suffering from heart trouble caused by rheumatic infection were to an increasing extent being admitted to schools for the physically defective. In some areas, thanks to the provision of orthopaedic treatment for the crippled child, increasing space was being found for rheumatic children or for

children who had affected hearts in schools originally intended for crippled children.

The Duchess of Atholl, on March 28th, informed Mr. Harris that the committee on the education of mentally defective children included among its members a Commissioner of the Board of Control, as well as other persons with special knowledge and experience of the subject. The committee had not decided whether to invite evidence.

The Scottish Midwives and Maternity Homes Bill.

A Standing Committee of the House of Commons commenced on March 29th to consider the Midwives and Maternity Homes (Scotland) Bill. Mr. Maxton moved that the section forbidding an uncertified woman to attend women in childbirth should be limited by the phrase "habitually or for gain." He suggested that if this proviso were not inserted any woman who went to aid a neighbour in childbed in the middle of the night when a doctor or nurse could not arrive for an hour or two might be convicted of an offence. Dr. Vernon Davies said such a woman would be completely covered by the provision exempting attendance in sudden or urgent necessity. Dr. Drummond Shiels, after referring to the high rate of maternal mortality in Scotland, suggested that Mr. Maxton's apprehensions would be met by a later amendment. Dr. Fremantle, as one who had administered the old Act in England for a dozen years, said that to prove "habitual" attendance a series of cases had to be adduced, and such a series meant an immense tale of suffering to mothers. In the past it had been almost impossible to get the immense mass of evidence required for the conviction of uncertified women who were practising. Mr. William Adamson said that unless the point made by Mr. Maxton was met an injustice would be done. The proposal of the bill reversed the criminal procedure in Scotland. Dr. Elliot said a point had been brought out in which the majority of the Committee felt that something should be done, and he thought that Mr. Barclay Harvey, who had introduced the bill, should assent to some concession. The position of those attending women in labour had always been specially restricted both in the law of Scotland and in that of other countries. To engage in medical practice without a qualification was not illegal, but to engage irregularly in midwifery was illegal. Mr. Westwood, a Labour member who had backed the bill, said it was not intended as a party measure. Mr. Barclay Harvey said he was ready to accept a further amendment in the name of Dr. Shiels which exempted the unqualified woman if "reasonable efforts were made to obtain the services of a person certified under this Act." Mr. Maxton said that all the untrained midwives who had been in the habit of maltreating the poor women of Scotland were now on the register. Dr. Shiels's amendment did nothing to meet the difficulty. The real trouble was poverty. Mr. Maxton's amendment was defeated by 26 to 12.

Dr. Drummond Shiels then moved his amendment. He said that in many areas in Scotland qualified persons were not available, even although a certain amount of medical assistance was provided by the Highlands and Islands Fund. The purpose of the bill was to see that every woman, however poor, received expert attention in childbed. As Mr. Maxton had said, there was a problem of poverty, but it was possible for any woman, however poor, to get qualified assistance without fees. No doctor, no nurse, no midwife could institute a prosecution under the bill. That would have to be initiated by a public official, the Procurator Fiscal. Mr. Barclay Harvey said there was no reason why Dr. Shiels's amendment should not be accepted. He suggested that it should be altered to read "or that reasonable efforts were made to obtain the services of a duly qualified medical practitioner or of a person certified under this Act." Dr. Shiels agreed, and the amendment was carried.

Mr. Maxton then objected to the proviso in the bill exempting medical students from the provisions against unqualified attendance. Dr. Elliot said that medical students might be a jesting race, but when they went to deal with a matter of life and death they did so with the fullest sense of responsibility. The bill provided that the whole weight of the General Medical Council would regulate the attendance of students in training on these cases. In the earlier cases the student would go with a trained practitioner. Later he would be on the telephone. Dr. Elliot remarked that his experience was that the student was too much disposed to call up his advisers in such cases. Mr. Westwood suggested that the proviso regarding students should be amended by adding "under the supervision of a properly qualified medical practitioner or midwife."

The Chairman, Sir Cyril Cobb, said that it was too late to put an amendment. Dr. Davies said the medical student had to do a minimum of twenty cases. Only towards the end of his course was he allowed to attend normal cases accompanied only by a nurse. If any abnormality occurred he had to report to the hospital at once. The student got his training gradually and the interests of the mothers were safeguarded. Mr. Adamson said an unqualified student was as great a danger as an unqualified woman unless under direct supervision. The Labour party would take the opportunity of the Report stage to deal further with this matter. Mr. Barclay Harvey said it would be wrong to take the responsibility off the General Medical Council and the Central Midwives Board. Dr. Elliot said there came a time in medical training when the trainee must feel the responsibility upon his shoulders. The student taking his twentieth case was as competent as the newly qualified practitioner taking his twenty-first. The clause was added to the bill. On the clause providing for compensation to midwives suspended to prevent the spread of infection, Dr. Davies moved to omit the proviso "if not herself in default." Dr. Elliot resisted the amendment, which was not pressed.

On Part II of the bill, dealing with the registration and inspection of maternity homes in Scotland, Dr. Drummond Shiels moved an amendment providing that sanitation be added as one of the grounds on which the local authority might refuse to approve premises for use as a maternity home. This was accepted. Dr. Elliot moved to provide that applicants should not be registered if "in the case of a maternity home which was not in existence at the commencement of this Act, the person having the superintendence of the nursing of the patients in a home is not either a qualified nurse or a certified midwife." This was also accepted. Further drafting amendments were made. Dr. Davies moved that for inspection purposes patients might be designated by numbers or initials. The chairman said that Mr. Barclay Harvey had a later amendment which provided that the records should only be open to inspection by qualified medical men. Dr. Davies agreed to await this amendment. Dr. Elliot moved to insert an amendment providing that records should be kept "in the case of each maternity home relating to (1) the persons engaged or employed at the home in attending on the patients or infant children; and (2) the patients admitted to the home; and (3) the infant children in the home." He emphasized the phrase "relating to." Widely drawn regulations would be made by the Scottish Board of Health, and would be laid on the table of the House. The Committee agreed to the amendment, and also to Mr. Barclay Harvey's amendment restricting inspection to officers who were medical practitioners.

Dr. Vernon Davies pointed out that the bill would enable local authorities to exempt institutions which were refuges for girls, and where confinements occasionally occurred, as well as hospitals. Dr. Shiels thought that there should be no exemptions. Mr. Barclay Harvey was willing to accept an amendment from Dr. Davies making the exemption run "any hospital or similar institution not carried on for profit and not used mainly as a maternity home." The amendment was accepted. Dr. Shiels moved that all such exemptions should be reconsidered annually by the local authority. Dr. Davies supported. An amendment for a similar purpose was moved by Mr. Barclay Harvey and accepted, Dr. Shiels's being withdrawn. Dr. Elliot moved a new definition, which ran: "'Qualified nurse' means a person registered in the general part of the register of nurses required to be kept under the Nurses Registration (Scotland) Act, 1919, or a person who had, before the commencement of this Act, completed a three years' course of training in a hospital which was during the period of her training or subsequently became a training school approved by the General Nursing Council for Scotland, or the General Nursing Council for England and Wales, or the General Nursing Council for Northern Ireland for the purpose of admission to the general part of the said register."

Dr. Elliot said that nurses registered in England could be added to the Scottish register by a simple arrangement. The section was added to the bill, and the bill was reported to the House.

Scottish Administration.

On March 23rd Sir John Gilmour moved the Reorganization of Offices (Scotland) Bill. He said that in the past the administration of Scotland had been conducted by a system of boards. The bill was to set up in its place a system of departments on the lines of the great departments which existed in England, such as the Ministry of Health. Under the existing system the Board of Health in Edinburgh had a number of advisory committees composed of unpaid outside people skilled in certain interests which came before the Board. Nothing in the bill would lessen the necessity or the opportunity for continuing such boards. Mr. William Adamson moved the rejection of the bill.

The debate was adjourned.

Alcohol and Flying Accidents.

Captain Garro-Jones asked the Prime Minister, on March 23rd, whether he had inquired into the rules governing consumption of alcoholic drink by flying officers, engineer officers, and mechanics during flying hours, and whether he had received any complaints of overwork by flying officers. Captain Garro-Jones explained that he made no charge of excessive drinking. Mr. Baldwin replied that as a suggestion had been made that the consumption of alcohol had some bearing on recent accidents he had made careful inquiries and had satisfied himself that the consumption of alcohol among Royal Air Force personnel in general, and officers in particular, was very small. He had also satisfied himself that there was no evidence that consumption of alcohol had caused or contributed to any accidents, and none that overwork by flying officers had been the cause [illegible] in Garro-Jones insisted that in some cases [illegible] iquor had been consumed immediately befo [illegible] ientific opinion held this to be a contribu [illegible] The Speaker observed that these were r[illegible]

In the House of Lords, on March 23rd, Lord Gorell called attention to the frequency of accidents in the Royal Air Force, and asked why aeroplanes were not fitted with gear to give the pilot warning when stalling was about to occur, and whether the Government was adopting any device to prevent petrol tanks from bursting into flames. The Duke of Sutherland, replying for the Government, said continual efforts were being made to reduce the number of accidents. Pilots were constantly under supervision by senior officers and the Royal Air Force Medical Service. The medical service was alive to the necessity of detecting any incipient physical unfitness, strain, or staleness before harm could be done. Training was progressive and not hurried, and pilots had on an average 100 hours' flying experience before they were posted to squadrons. In no single case had indulgence in alcohol been proved to have caused or contributed to an accident in all the years covered by the official statistics. The average wine bill of pupil officers at the training schools was well under £1 a month.

and that of squadron officers little in excess of the same figure. The anti-stalling gear had been found suitable only for some types of aeroplane. The department was making every effort to find a petrol tank which would give adequate security both in accidents and enemy action. A general policy had been adopted that all personnel in the air should carry parachutes. But only in collision, fire in the air, or aircraft failure at a height could the parachute be instrumental in saving life.

Detection of Tubercle in Milk.—Sir G. Hennessy, replying to Mr. Everard on March 29th, said that various investigations had been promoted during the past few years in the attempt to devise better methods for determining whether milk was tuberculous. One of these, undertaken jointly by workers at the National Institute for Medical Research and at the National Institute for Research in Dairying, made possible a considerable improvement of pre-existing methods. An account of this was published in 1925. Further search would be made for new means of attacking this difficult problem. The reference given by Sir G. Hennessy was as follows: S. R. Douglas and L. J. Meanwell, "A new method for the concentration of bacilli in tuberculous milk" (*British Journal of Experimental Pathology*, 1925, vol. 6, p. 203).

Tuberculosis Treatment.—In reply to Colonel Day, Mr. Chamberlain said the total expenditure in England and Wales on the carrying out of the approved schemes for the treatment of tuberculosis during the last three completed financial years, excluding capital expenditure, was as follows: For the year ended March 31st, 1924, £2,884,062; 1925, £3,034,600; 1926 (provisional figures), £3,157,879.

Light Treatment.—Sir Kingsley Wood, on March 28th, told Mr. Cadogan that the Minister of Health had no authority to make regulations whereby only qualified medical practitioners should be allowed to treat patients with the ultra-violet ray. In cases in which his approval was required to the installation of artificial light apparatus, it was made a condition of approval that the treatment would be given under the supervision of medical practitioners who had experience of this form of treatment. The Minister of Health was informed that a central clinic and training centre where doctors and nurses could be instructed in the use of actinotherapy in the treatment of disease, had been established in London. Mr. Cadogan asked whether actinotherapy could not be placed in the same category as dangerous drugs. Sir K. Wood replied that if a question were put down he would consider it.

Indian Medical Service.—On March 28th Earl Winterton informed Mr. Pethick-Lawrence that the Secretary for India had found it necessary to consult the Government of India further on the question of providing facilities for study leave to Indian officers who entered the Indian Medical Service by competitive examination in London. He hoped that an announcement could be made very soon. In the House of Lords, on March 29th, Lord Lamington asked the Secretary for India what steps were being taken to reconstruct the Indian Medical Service and to provide adequately for the medical needs of the people of India. The Earl of Birkenhead said that he had been in correspondence with the Government of India, which consulted the provincial governments with a view to the future organization of the medical service in that country. He had recently received from the Government of India its final proposals, and his comments on these were forwarded on February 17th. Pending receipt of a reply he was not in a position to give full details of the scheme which it was proposed to adopt. The cardinal features of it were: (1) the retention of the Indian Medical Service and the necessary war reserve of trained medical men; (2) the provision of European medical attendance for European officers of the Superior Civil Service and their families; (3) the creation of provincial medical services, recruitments for which would be carried out by the local Governments. He anticipated that it would be possible to bring the new scheme into operation at no distant date.

Disablement Pensions.—The Minister of Pensions states that 26,200 disablement pensions ceased in 1924, 16,150 in 1925, and 13,150 in 1926. Cases of a wound or sickness breaking out again after a disability pension has been stopped and the statutory year allowed for appeal has passed are comparatively rare and are met by provision of medical or surgical treatment in the course of which the Ministry can judge whether special action is required. Answering Sir Richard Barnett, Major Tryon said he could not give a free choice to the pensioner between metal and wooden artificial limbs, or in any other type of appliance. When the medical officer of the Ministry considered that a metal limb should be given it was issued. The statement that the Ministry was providing wooden stumps was untrue.

Palestine: Quarantine Station.—Mr. Amery, on March 28th, said that the High Commissioner for Palestine reported that there was now no mosquito breeding in the area within one and a half kilometres of the quarantine station at Haifa, and that no anopheline mosquitos had invaded the quarantine station from a swamp, which existed at that distance. Lord Plumer was advised that no more suitable and no healthier site than the present one could be found for the permanent quarantine station.

Sexual Offences and Young Offenders in Scotland.—On March 29th Sir J. Gilmour, replying to Mr. R. W. Smith, who asked if he proposed to introduce legislation dealing with the question of sexual offences against young persons in Scotland, said that he proposed to await the report of the Scottish Committee on Young Offenders now sitting, and to consider the two reports together. He had already taken action on recommendations of the committee which did not require legislation.

Notes in Brief.

On March 29th the Sale of Food and Drugs Bill, which has already passed through the Commons, was read the second time in the House of Lords.

The estimated daily cost of each occupied bed in an army hospital is 13s. 7d., of which 7s. 4d. is for staff and 2s. 6d. for patient's maintenance.

At the end of 1926 there were 99 licensed establishments for pasteurizing milk in England and Wales, and 591 other licensed establishments for the sale of such milk. For certified milk 120 producers' licences were current, for Grade A (tuberculin tested) 131, and for Grade A milk 258.

The Minister of Health does not propose to institute any inquiry into the physical, as opposed to chemical, methods of improving flour. He understands these methods are still experimental.

The Minister of Health has appointed a departmental committee to consider and to make recommendations on the Optical Practitioners (Registration) Bill, which is set down for second reading on May 13th.

Mr. Chamberlain is now considering a recommendation of the Royal Commission on National Health Insurance that the ordinary benefits of health insurance should be provided on a basis of mutual insurance to deposit contributors who, through the state of their health, cannot obtain admission to an approved society.

Commander Kenworthy presented, on March 23rd, a petition, signed by 15,286 persons, praying that vivisection be prohibited by law.

Sir P. Cunliffe-Lister states that the regulations respecting the standard of accommodation for seamen on board ship have not been revised since October, 1923.

Medical News.

THE College of Physicians of Philadelphia has arranged to commemorate the hundredth anniversary of the birth of Lord Lister on the evening of April 6th. The president, Dr. Hobart Amory Hare, will take the chair, and addresses will be given by His Excellency Sir Esmé Howard, K.C.B., the British Ambassador, and Dr. Astley P. C. Ashhurst.

SIR WILLIAM DE COURCY WHEELER presided over the annual meeting and festival dinner, in London, of the Irish Medical Schools' and Graduates' Association on March 17th; about 150 members and guests were present. Colonel G. A. Moore proposed the health of "The Guests" in a witty speech, and replies were made by Vice-Admiral Sir Frederick Field, Sir Squire Sprigge, and Dr. Bertram Watson. The toast of "The Association" was proposed by Dr. Kenneth Fraser, and Sir William Wheeler responded. The arrangements for the evening, which worked out very successfully, were made by the honorary secretary for the dinner, Dr. F. R. Holmes Meyrick.

AT the invitation of Mr. Comyns Berkeley twenty-eight personal friends met Dr. Russell Andrews at the Garrick Club on March 22nd to say farewell to him on his retirement to the country. The company included Mr. J. Banister, Dr. J. Barris, Sir George Blacker, C.B.E., Dr. Bellingham Smith, Mr. Victor Bonney, Mr. A. Bourne, Dr. Darwall Smith, Mr. S. Dodd, Dr. M. Donaldson, Dr. T. W. Eden, Dr. J. Fairbairn, Dr. J. Hedley, Mr. Eardley Holland, Dr. V. Lack, Dr. S. G. Luker, Sir Ewen Maclean, Dr. A. Palmer, Mr. F. Provis, Mr. Carnac Rivett, Sir Henry Simson, K.C.V.O., Mr. T. Stevens, Mr. Clifford White, Dr. A. Willett, Dr. J. Wyatt, and Sir Hugh Rigby, K.C.V.O., and Dr. Lewis Smith, who joined the London Hospital in the same year as the guest of honour. Dr. Eden proposed in most fitting terms the health, long life, and happiness of Dr. Russell Andrews, which was drunk with the greatest enthusiasm, after which Dr. Russell Andrews replied.

SIR ERNEST HATCH, K.B.E., presiding over the annual meeting of University College Hospital last week, referred to the increasing popularity of the infan[illegible]. 100 clinics having been held during the [illegible] attendance of considerably over 5,000. Nearly 10,000 home visits had been paid by health visitors. The present accommodation was inadequate, and he suggested the conversion of a building at the back of the obstetrical hospital into a new infant welfare centre at the cost of £20,000. The number of in-patients in the hospital had increased by nearly 600 over the previous year.

THE Fellowship of Medicine has arranged to supply a comprehensive ticket for a general course of post-graduate work available at any of some fifty London hospitals for any period from one week to one year; the charges range from two to twenty guineas according to the period required, and the holder can thus plan a time-table in accordance with his special requirements. Owing to the Easter vacation the special courses arranged for April will not begin until the last week. The Royal Waterloo Hospital will provide a comprehensive course in medicine, surgery, and gynaecology. A series of eight lecture demonstrations on tropical medicine will be given on Tuesdays and Thursdays, at 2 p.m., at the

London School of Tropical Medicine, beginning April 27th. Dr. Heald will give a series of four lecture demonstrations on successive Wednesdays at the Royal Free Hospital, at 5.15 p.m., from April 27th. Copies of all syllabuses, the *Post-Graduate Medical Journal*, and the general course programme may be obtained from the Secretary of the Fellowship, 1, Wimpole Street, W.1.

A POST-GRADUATE course on infant care, for health visitors, nurses, midwives, superintendents of infant welfare centres, and others interested, will be held at the Infants Hospital, Westminster, from 6.30 to 7.30 p.m. on Mondays, from April 11th to June 27th. This course prepares for the post-graduate certificate of the National Association for the Prevention of Infant Mortality. The subjects include: breast-feeding; feeding of the toddler; common diseases of the skin in childhood; the early education and prevention of crippling; mental and subnormal children; the causes of ear, nose, and throat trouble in young children; diphtheria; sunlight treatment; summer diarrhoea; and the psychology of the toddler. Particulars may be obtained from the secretary of the association, Miss I. Colhoun, 117, Piccadilly, W.1.

THE Joint Tuberculosis Council has arranged a post-graduate course in tuberculosis in Copenhagen in May, under the supervision of Dr. Axel Reyn. The course will include the surgical treatment of pulmonary tuberculosis and the use of *pneumothorax, tuberculosis of the eye and larynx, and an* exposition of the Danish campaign against this disease. Members of the course will leave Harwich on May 7th and return there on May 21st; the approximate cost is estimated as £25. Further information may be obtained from the Honorary Secretary, Post-Graduate Courses, The Larches, Farnham Royal, Bucks.

AT the annual meeting of the Society for the Study of Inebriety (Alcoholism and Drug Addiction), to be held in the rooms of the Medical Society of London, 11, Chandos Street, Cavendish Square, on Tuesday, April 12th, at 4 p.m., a discussion on the Inebriates Act of 1898 will be opened by Dr. R. W. Branthwaite, C.B., late Commissioner on the Board of Control.

THE eighth Salon des Médecine for the exhibition of pictures, engravings, sculpture, and decorative art by members of the medical, dental, and veterinary professions and their families will be held in Paris from April 3rd to 12th. The organizing secretary is Dr. Paul Rabier, 84, Rue Lecourbe, Paris XVe.

THE Astley Cooper studentship at Guy's Hospital falls vacant on July 4th. The present value of the prize is about £150 per annum, with an additional sum of £50 for expenses. Some particulars are given in our advertisement pages, and further information can be obtained from Mr. C. H. Fagge, M.S., Guy's Hospital, S.E.1, to whom applications for the post must be sent by May 31st.

THE Ancoats Hospital in Manchester was founded in 1828 and it is proposed to hold centenary celebrations in August next year. An appeal is about to be launched for funds to construct a new ward containing a hundred beds at a cost of £100,000. The hospital already treats 20,000 accident and casualty cases annually although only a hundred beds are available; two new operating theatres are also required. The hospital is situated in one of the most crowded parts of Manchester, and the demands made upon it are great. Recent additions include a new nurses' home and an extension of the out-patients' department.

DR. WILLIAM EVANS THOMAS of Ystrad-Rhondda has been appointed sheriff for Merionethshire.

ON his retirement from the post of medical officer of health for Canterbury after fifty years' service Dr. Frank Wacher has been presented with an inscribed silver cigar and cigarette cabinet by the officers of the corporation.

DR. RICHARD EAGER, medical superintendent of the Devon Mental Hospital, Exminster, has been presented by the officers and staff with a silver salver to commemorate his twenty-one years' service in that institution.

WE have received a copy of the two hundredth volume of the *Deutsche Zeitschrift für Chirurgie*, the well known German surgical journal which was founded in 1872 by Karl Hüter and Albert Lücke. The volume, which consists of 865 pages, contains a preface and an obituary notice by the editor, Professor F. Sauerbruch of Munich, of the orthopaedic surgeon, Professor Georg Perthes of Wurzburg, with his portrait, thirty-seven original articles by leading German, Austrian, Hungarian, Swedish, Spanish, Greek, Dutch, and Finnish surgeons, and an index for vols. 191–200 inclusive.

AN international congress on goitre will be held at Berne at the end of September.

THE Bureau of the Far East at Singapore reports that for the week ending February 26th there were 18 cases of plague with 12 deaths, 66 cases of cholera with 53 deaths, and 452 cases of small-pox with 150 deaths.

Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to ***The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.***

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The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 4737 Dublin), and of the Scottish Office, 6, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 4361 Central).

QUERIES AND ANSWERS.

HIGH ALTITUDES IN OLD AGE.

"M.B." asks: Is it advisable for a practitioner aged 74 to visit places of the altitude of Murren or Zermatt or to travel in the Dolomites? Quick ascent in a funicular railway has certainly caused some discomfort. Would the same thing apply to a more gradual ascent by rail or car?

*** We have referred this question to Dr. Leonard Hill, F.R.S., who has been good enough to reply as follows:

If a man's heart, blood vessels, and kidneys are in a healthy condition there is no reason why he should not go up to the Swiss resorts at altitudes of some 5,000 ft., even though he be 74 years old. If the rapid ascent in the funicular railway the whole way causes any discomfort let him break his journey half-way up for a night and so become acclimatized.

MORBID SHYNESS IN A CHILD.

DR. R. MACD. LADELL (Birmingham) writes in further answer to "K. H. G.": No psychological analysis is possible either with children or adults until the psychologist has ceased to be a "stranger." In this particular case it is probable that much preliminary time would have to be spent in getting on good terms with the child and in educating the parents, since their reactions to the child are probably faulty.

INCOME TAX.

Contributions to the Press.

"G. R. H." inquires whether a few occasional guineas earned by contributions to the press on (1) medical or (2) other subjects are liable to income tax.

*** We are of opinion that an isolated contribution might not be liable—though that is open to doubt—but it is clear that casual contributions extending over a period would create liability.

Depreciation of Motor Car.

"D." discussed the question of a depreciation allowance with the inspector of taxes about a year ago, who informed him that if he claimed "depreciation" no allowance would be made on the purchase of a new car and suggested that that claim be dropped. It has become probable that our correspondent will retire before he needs to renew his car, and consequently will never be in a position to claim renewal allowance, and he has therefore again raised the depreciation question. The inspector declines to allow any sum for years prior to 1927–8, but takes the annual depreciation into account as from the date of purchase of the car in computing the 1927–28 allowance. Is there any redress?

*** The depreciation is for the year of assessment, and it is an established principle that it must be calculated on the capital value as written down from the date of purchase. The inspector is therefore correct in putting the allowance at £49 for 1927–28. But we suggest that our correspondent has some prospect of success in pressing his claim to add to that sum the £68 and £58 referable to the years 1925–26 and 1926–27. It is true that where depreciation is allowed no claim for "cost of renewal" can hold good, but an "obsolescence" allowance is not excluded, and in this case would have been claimable if the car were replaced. The inspector was therefore not quite correct in saying that if

depreciation were claimed "no allowance could be made in the event of the purchase of a new car," and if our correspondent put it to him that his action in withdrawing his former claim was based on that advice, the inspector might—and we think probably would—agree to the resurrection of the old claim, or in the absence of such agreement it might be authorized by the Board of Inland Revenue.

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LIFE ASSURANCE AND TUBERCULOSIS.

DR. ROBERT CARSWELL (Wandsworth, S.W.18) writes: Mr. Ferris-Scott (JOURNAL, March 19th, p. 552) appears to me to have mistaken the scope of my suggestion that holders of a negative tuberculin test certificate should be accorded specially favourable terms for sickness and life assurance. My suggestion is only concerned at this stage with the public recognition of the broad general proposition that, in the case of holders of such negative certificates, the diminished risk of the multifarious mass of disease due to the mischievous activities of the tubercle bacillus does, in point of fact, merit a diminished insurance premium. Were this proposition generally endorsed by members of the medical profession the insurance companies could be relied upon to work out the figures. As to the question of subsequent infec- [illegible], but individuals who were fortunate [illegible]uble and expense, a negative certifi- [illegible] knowledge of the subject, almost [illegible] guard against subsequent infection. [illegible] a simplified form in, say, five years could be carried out without much trouble or expense, and, as a further point, any such subsequent infection would be detected at an early stage, when it could be comparatively easily dealt with. The commercial value of a negative tuberculin test certificate is generally recognized and utilized in veterinary work. Why not in human? The chief objection seems to be the probably small number of successful candidates; nevertheless, the proposition might usefully be included in an insurance company's list of additional advantages. By so doing the insurance company would tend to foster the ideal of a tuberculosis-free community, and assist in tackling the question at the right end.

OLD MEDICAL BOOKS.

THERE have been up to now few really outstanding rare medical books in the auction sales of the present season; indeed, few old textbooks have come to the hammer at all until recently. Just at present, however, there are some interesting volumes to be found in the auction catalogues. There are, for instance, M. Andry's *Orthopædia; or the Art of Correcting and Preventing Deformities in Children, Translated from the French* (1743); Peter Lowe's *Discourse of the Whole Art of Surgery* (1634—not the first or even an early edition, of course); Christopher Bennet's *Theatri Tabidorum Vestibulum* (first edition, 1654—a treatise on consumption and other wasting diseases); Sir T. Elyot's *Castel of Helth* (1541); Edmund Gayton's *Hymnus de Febribus* (first edition, 1653); these will have been sold before this note is published. In the two following sales at Messrs. Sotheby's, next week and the week after, are a few books of great rarity. Thus Christopher Wirsung's *Praxis Medicinæ Universalis; or a General Practise of Physicke . . . now translated . . . by Jacob Moran* (1598) is one of the only two copies known. Oswald Gaebelkover's *Boock of Physicke . . . nuely translated out of Low Dutch into Englishe by A. M.* (Dort, Isaac Caen, 1599) is one of three copies known. Almost as rare, and much more interesting, is Thomas Willis's *Cerebri Anatomæ; cui accessit nervorum descriptio et usus* (first edition, 1664, with 5 plates of the nervous system after Sir Christopher Wren). Besides these may be mentioned also Robert Grove's *De Sanguinis Circuitu ab G. Harvaeo invento*, 1685; Walter Charleton's Harveian Oration for 1705; Nicholas Monardes on Eastern Medicine, Venice, 1575; Nicander's *Theriaca; ejusdem Alexipharmaca*, Venice (Aldine Press), 1523; Gideon Harvey (senior) on *Smallpox and Malignant Fevers, with an exact Discovery of the Scorvey*, 1685; Thomas Fuller's *Pharmacopœia Extemporanea*, 1709; John Brown's *Elementa Medicinae*, Edinburgh, 1784; and John Aitken's *Principles of Midwifery*, 1786.

THE DETERMINATION OF SEX.

DR. A. P. MURTZ (London, N.4) writes, with reference to the correspondence published in our issues of November 13th (p. 918) and December 18th, 1926 (p. 1205), as follows: I have touched upon this interesting problem in articles published in the *Medical Times*, August 5th, 1916, p. 465, and in the *Lancet*, September 1st, 1917, p. 368. I then mentioned, *inter alia*, that I would publish the result of my future clinical observations on the subject in due time. I stated then that there is no absolute reliance as to the time, pre- or post-menstrual, when male or female issue can be predicted, but judging by my own experience of observations on over 2,500 maternity cases, I think that, as a rule, pregnancies occurring immediately before menstruation produce females, and those within the first week after menstruation males. I have had the confidence of a great many married couples who had followed my advice as to time of coitus. When pregnancy occurs during the second and third week of the interval between the menses there is no probability of sex determination at all. Sex is determined at the mon [illegible] logical differentiation during ovum leads us to nothing for ce [illegible] that logical deductions based on biological knowledge are the only means at our command of establishing some feasible data. Vitality of the spermatozoa or ova, as the case may be, is the only essential in determining sex. The survival of the fittest in the struggle for existence comes here into play. In hermaphrodites of the lower animals, although male and female organs are present on the same creature, passive self-fertilization never occurs. Active copulation with a second individual *must* take place. Even here it is the struggle of [illegible] which determines the very existence o [illegible] —th [illegible] the [illegible] the ovum whi [illegible] congestion of the uterus precedes the menstrual flow exciting the ovaries to discharge their ova to meet the spermatozoa for fertilization, and, if conception happens, the latter occurs in the Fallopian tubes, *there to remain until ready to descend into the fundus* uteri. The menstrual flow does not then occur. At the time of the menses female activity is very great, probably surpassing that of the male—a female survives as the fittest. Coitus immediately after the flow, say within a week, if pregnancy ensues should produce a male. Ovulation may occur at any time during the menstrual interval, but it is less vigorous, and the product of conception should be a male. I can only speak of probabilities, but to me they are sufficiently convincing to advise my patients as to the times of sexual connexions. I have generally been satisfied with the result.

CHLORINATED DRINKING WATER AND PRESCRIBING AND DISPENSING.

DR. JAMES OLIVER (London, W.1) writes: I would like to draw attention to the fact that because it is to-day a common practice to chlorinate our drinking water by the use of chloride of lime and liquid chlorine that in prescribing and in dispensing in any mixture *sodium bicarbonate or potassium bicarbonate* the added water should be distilled. If the water specified or used is merely tap water, then slowly but surely insoluble carbonate of lime is thrown down and what happens to the soda or potassium it is impossible to say at present, as our knowledge of the chemical changes produced in conjunction with the carbonate of lime formation is scanty. Moreover, from a therapeutic point of view there is the question of the carbonate of lime present in the mixture to be considered. Possibly it may, when it enters the stomach, be converted into calcium chloride, or if the mixture containing the bicarbonate is taken by a patient suffering from gastric ulcer in any stage or degree the carbonate of lime may be harmful.

SIR JAMES CRICHTON-BROWNE'S ESSAYS.

MR. FRANK BELBEN, M.B., F.R.C.S. (Bournemouth), writes to recall the old adage, "Always verify your quotations." He is moved to do so by an error in a quotation from *Romeo and Juliet* (v, 3, 88) made in the course of a review last week of Sir James Crichton-Browne's essays. The lines in the *Globe* edition of Shakespeare are thus printed:

> "How oft when men are at the point of death
> Have they been merry! which their keepers call
> A lightning before death. . . ."

MEDICAL GOLF.

THE knock-out tournament of the Medical Golfing Society has now reached its semi-final stage. The following gentlemen are left in the competition: J. Cunning, E. N. Plummer, J. Everidge, and E. Playfair.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 41, 42, 43, 46, and 47 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 44 and 45.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 107.

LISTER CENTENARY.
1827–1927.

THREE DISCOURSES

DELIVERED ON WEDNESDAY, APRIL 6TH, DURING THE LONDON CELEBRATIONS.

LISTER AS A PHYSIOLOGIST.

BY

SIR CHARLES S. SHERRINGTON, O.M., G.B.E., M.D., F.R.S.,

WAYNFLETE PROFESSOR OF PHYSIOLOGY IN THE UNIVERSITY OF OXFORD.

THE invitation has been extended to me to offer a few words about the contributions made by Lister to physiology. Lister's very earliest scientific papers were all physiological. Indeed, he may be said to have entered by way of physiology on his surgical researches, which were to achieve so much.

SMOOTH MUSCLE.

His first paper was on the "Contractile tissue of the iris." Work done with the microscope, which he used for the study of function rather than of form alone, it appeared in 1853 in the first number of the first volume of the now well known *Quarterly Journal of Microscopical Science*. Lister was then 25 years of age, and that his maiden voyage of discovery should employ the microscope was but natural in the son of Joseph Jackson Lister, that remarkable man, who, leaving school at the age of 14 for the business he conducted so successfully, had yet found time to cultivate optics to such purpose as to give the world the achromatic microscope. This, Lister's earliest paper, on the iris, supplied the first full and correct description of the radiating muscle dilating the pupil. It thus made a lasting mark upon its subject.

Lister's second paper, of a few months later, dealt likewise with involuntary muscle; this time in the skin, where Kölliker had recently discovered the arrector muscles of the hairs; this discovery Lister confirmed, and in several respects extended.

We may be struck by the remoteness of these, Lister's first themes, not only from surgery, but, indeed, from actual practice; they are academic. I think we have to picture him a young man to whom what really mattered was engagement on research, and less at that time what in particular the research might be: a young man so ardently curious about nature, especially animate nature, that he turned with enthusiasm to the problem that came first to hand. And these papers in the simplicity of their text recall something of the upbringing in Lister's Quaker home. There is already the sobriety of expression which, characteristic of Lister all his life, made yet the more impressive his own self-restrained statements of his great results later on. No man in his career had more excuse for, more justification for, hyperbole of phrase than had Lister, and no man ever indulged in hyperbole less than did he. It is therefore of significance when in these early papers the young author allows himself an expansive adjective, as for instance when he writes "the grand discovery of plain muscle-cells," "the beautiful muscle of the iris." We feel these expressions to be from him not mere phrases. An abiding interest of these papers is that they reveal points in Lister's so to say original nature; and among these are penetrative and faithful observation, a catholic enthusiasm for research, a restless testing of authority by observed fact, an unhesitating self-submission of opinion to whatever the truth might assert, the fear of nothing except missing the truth.

His third paper, still physiological and on the same theme, smooth muscle, followed some four years later. The cellular nature of that tissue had been denied; Lister returned to its further proof. He furnished it overwhelmingly. Forty years afterwards the then foremost authority on this tissue wrote of this paper of Lister's as being still not only abreast, but in several respects ahead, of other subsequent papers on its subject.

This work was Lister's farewell contribution to that particular theme. Much had by then happened and was happening to him to compel his main interest elsewhere; in short, his scientific enthusiasm had definitely orientated its search in the great field of the unknown. His spirit of inquiry had found a direction of compelling interest to it, a lodestar of overpowering attraction. In his own words, written to his father, he had fallen in love with surgery. And with that wide, though unified, field enchantedly before him, the genius within him pointed to the prime and all-pervading problem in that field as being, not this or that particular skill or operation, but the fundamental process and reaction of inflammation itself.

NERVOUS CONTROL OF ARTERIES.

Henceforward his physiological research became merely collateral to the pathological study engaging his main thought. Thus it was with his paper on the nervous control of arteries, distinguishing between the immediately local and the more distant effects of a stimulus, and especially of an irritant stimulus upon the blood vessels. The local effect, he concluded, was independent of the nervous system, but with a surrounding zone of effect mediated by nerve—a finding closely suggestive of present-day views. Another paper was that on the pigment cells of the frog's skin—those cells on which the animal's well known colour changes depend. Lister concluded the shift of pigment to be a shift of the pigment grains within the cells themselves, and the way in which he consolidated and marshalled his evidence for that is a striking instance of his thoroughness as an investigator. There is little doubt that from detailed study of these pigment cells Lister gained much

of that vivid and intimate conception of cell life struggling against irritant agents which directed his surgical strategy afterwards.

INHIBITORY ACTION OF VISCERAL NERVES.

Another of his physiological investigations concerned the inhibitory nature of certain visceral nerves. He wrote: "I have been led to make an experimental inquiry into this 'so-called inhibitory agency' because it appears to me to have an intimate bearing upon the question how inflammation is developed through the medium of the nervous system at a distance from an irritated part." His main conclusion was that inhibition resulted from more energetic action of those same nerves which when working mildly produce increased action.

Then, more closely related still to his pathological inquiries, followed two papers on clotting of blood, confirmatory, as he himself remarks, of his conclusions arrived at about inflammation. These papers and the year 1863 practically concluded the tale of Lister's researches devoted directly to physiology. Perhaps their main interest now is their revelation of their author in his earliest research career. Conspicuous in them is capacity for noting detail and the rarer power of sifting out from the detail its broader meanings. Another of their qualities is a voracious appetite for seeing for himself phenomena many would be content to take on trust from the excellent descriptions given by others. Lister was satisfied by nothing less than seeing for himself, and his eye never staled. Moreover, even at this stage, though he might appear engaged on diverse problems, he was in fact centred upon one problem, of which from his point of view the several were but several aspects. Thus, these early papers show that in reality quite early in his career he had not only found but had whole-heartedly flung himself upon what was to be his life-work and his life's problem—a problem we may almost subsume under the one broad term "*inflammation*." That was the study which he was to follow to a practical solution so magnificently, and in doing so exhibit what these earlier papers had less opportunity for showing—the splendid power of establishing, and systematically following through its consequences, a great generalization. Hence from these earlier researches we can see spring that triumphant career of experimentation and observation, in the laboratory and the ward, which, with a really surprising speed of mastery, winged Surgery for that which she is to-day—a far-flighted angel of healing the civilized world over.

ANTISEPTIC SURGERY IN PHYSIOLOGICAL EXPERIMENT.

But these papers whose features we have been examining far from exhaust the gift made by Lister to physiology. In addition to and beyond them he enriched it with the contribution of enhanced means towards its own most cherished aims. He put into the hands of physiology for all time a superlative refinement of its method, and made possible observations otherwise impossible. Sir Berkeley Moynihan has eloquently insisted on the importance of surgery as a means of discovery. In physiology, how could Pavloff have achieved his epoch-opening study of the digestive processes except by leaning upon Lister's surgical principles? Ferrier initiated his study of localization of cerebral function by means of Lister's surgical principles. How could the physiologists of Toronto, less than four years ago, have bestowed upon diabetic sufferers that merciful remedy insulin, had it not been for the legacy of operative principle and science bequeathed to them and to the whole world by Lister?

And Lister's own words leave us in no doubt as to what a source of rejoicing it was to him that among benefits accruing from his work was this one, an enhanced scope and power for physiology and experimental medicine. He dwelt both in public and in private upon the need and importance of such experimentation for the progress of knowledge necessary to civilization. He rejoiced that he had contributed to its power. And indeed the experimentalist owes to Lister an instrument of research whose beneficent future the boldest imagination may well halt to set limit to.

And of the gifts of Lister to humanity one which the experimentalist is with especial gratitude ever mindful of is that, while helping man to mastery over disease alike for animal and man, he contributed to free that necessary experimentation from the infliction of pain. Man, sacrificing animal life as he does to satisfy the material needs of humankind, has the right to regard the intellectual need impelling him to search means of saving human and animalkind from disease as justified in its resort to animal experimentation. He does so with the less heart-searching and with clear conscience because largely owing to Lister he can do so without inflicting pain and suppuration.

Thus it is that through years to come, after indeed it may be that the actual papers contributed to physiology by him may have become matter chiefly for the historian and the antiquarian, Lister will still receive unfailingly his meed of commemoration from the *physiologist and* experimentalist, and in a manner which to himself would, of all ritual and offering, have been the most congenial—*namely, in their daily observance* and trust of methods which he discovered and inculcated, and in their practice for the alleviation and prevention of disease. It is therefore with peculiar gratitude that Physiology brings its tribute of admiration and veneration to the memory of one great even among the greatest of the benefactors of humanity, Joseph Lister.

LISTER AS A PATHOLOGIST AND BACTERIOLOGIST.

BY

WILLIAM BULLOCH, M.D., F.R.S., LL.D.,

GOLDSMITHS COMPANY'S PROFESSOR OF BACTERIOLOGY, UNIVERSITY OF LONDON.

WE are met to commemorate the centenary of the birth of Lord Lister, and I have been asked to address this representative gathering on his contributions to pathological science.

Proud as I am of the great honour which has been bestowed on me, I am painfully conscious of my own imperfections and limitations for such a task. My qualifications are twofold. In the first place, I have read all Lord Lister's writings and have made a critical study of some of them, not only to discover their intrinsic merits, but to compare them with similar studies of his predecessors and contemporaries.

In the second place, I had the great privilege of knowing Lord Lister for thirteen years, and in a manner which, considering the great disparity of our positions, was, if I may presume to say so, almost intimate. As bacteriologist to the British Institute of Preventive Medicine I had to visit Lord Lister, the chairman of the Institute, almost weekly in order to report to him the progress of the work in the antitoxin department. After I left the Institute he frequently asked me to call upon him to discuss various scientific problems in which he was interested. In this way I was a good deal in his company, and among the younger men of that day I probably saw as much of him as anyone else.

When I first knew him, in 1895, he was 68, and I frequently saw him down to 1907. I last saw this great man in a bath-chair by the roadside at Walmer on a lovely sunny morning—December 26th, 1909. He was then 82 and was approaching the lonely end of his splendid career. Both then and now he stands out to me as a most impressive personality. I have known very many of

the leaders in our profession at home and abroad during the last thirty years, and have no hesitation in placing him *facile princeps Medicorum*.

Up till old age he continued to be deeply interested in all medical advances and was almost young and boyish in his enthusiasm. Although leading a busy and strenuous life, he was still striving to keep abreast of bacteriological literature, which at the time was pouring forth in an unbroken stream. On several occasions I was hours in his company trying to unravel the intricate papers of Ehrlich and Bordet on the nature of haemolysis or the constitution of diphtheria toxin. Our hour of work finished, he would relax into reminiscences of his life and work, the difficulties he had to contend with, and how he had overcome them. On one such occasion—the date was October 23rd, 1905—he referred in great detail to his work on pigmentation of the frog and on inflammation, and he said to me—I wrote the words down at the time—"If my works are read when I am gone, these will be the ones most highly thought of." These were not the mumblings of senility, for he was still alert and fresh, but I took it to mean that he wished to be regarded as a scientist rather than as a surgical craftsman, notwithstanding his pre-eminence in the latter branch of human activity.

It is therefore a peculiar pleasure to me to have to refer to some of these contributions which he himself prized.

In estimating Lord Lister's scientific work, it is essential to remember that he had no properly equipped laboratory as we understand it to-day. His laboratory was his study in his private home, and perhaps the best part of his scientific work was that done in 11, Rutland Street, Edinburgh, during his first stay (1853-60) in the northern capital. To this period belong the papers on pigmentation of the frog (1857), the function of the visceral nerves (1858), the coagulation of the blood (1858-63), and the early stages of inflammation (1857). The construction of his antiseptic system took place mainly in the Glasgow period, 1860-69, while his chief bacteriological studies are to be referred to the second stay in Edinburgh (1869-77), when he resided at 9, Charlotte Square.

The hours for his scientific work were early in the morning and far into the night, following a harassing day of active surgery in private or in hospital. He undertook his experimental work so that he might speak with first-hand knowledge of the themes he had to teach. Many of the problems, although of paramount importance practically, were obscure and complicated. Some were not capable of solution then, others have not yet been definitively settled.

Coagulation of the Blood.

The coagulation of the blood has at all times excited wonderment, and the theories to explain the process have been innumerable and are still being brought forth. In this country very notable advances were made in the eighteenth century by William Hewson, who unfortunately died before he was 35. He proved that the red blood corpuscles were bi-concave discs; he discovered the white corpuscles and performed a large number of admirable experiments to explain the process of clotting, although he never quite cleared up the mystery of its nature. His successors in the nineteenth century were not more happy. Coagulation was early studied by Lister, as it was constantly being brought to his notice in connexion with closure of the vessels, putrefaction, and secondary haemorrhage in surgical wounds. When Lister began, the prevailing theory was that of B. W. Richardson, who referred coagulation to the escape of ammonia, which was believed in some way to hold the coagulative elements normally in solution. In a long series of experiments conceived and carried out in masterly fashion, Lister showed that the ammonia theory was untenable. He clearly saw the necessity for separating the nature from the cause of coagulation, and while baffled with the former he revealed by his experiments that the latter—the cause of coagulation—is really due to the influence exerted on the blood by the contact, even momentarily, of ordinary matter of some kind. He considered that this contact brings about a reaction between the solid and fluid constituents of the blood, so that the corpuscles imparted to the liquor sanguinis the disposition to clot. As regards the cause of clotting, it cannot be said that we have materially advanced during the seventy years since the publication of Lister's work.

Early Stages of Inflammation.

Another basic pathological process which he studied was inflammation. The extraordinary changes which we call inflammation have always attracted attention, and the explanations given constitute a large part of the history of medical doctrines. When Lister began to study inflammation there was already a considerable mass of accurate knowledge on the subject. The older pathological anatomy, so ably created by Morgagni and followed up by the French school down to the time of Cruveilhier, was being replaced by the new knowledge which accrued from the discoveries of Schleiden and Schwann. At the time Edinburgh was a great centre of medical activity and a nursery of medical talent. Many of her graduates migrated across the border to attain fame in the arenas of the South. I need only mention names like Richard Bright, Hodgkin, Thomas Addison, C. J. B. Williams, Marshall Hall, and two who had a marked influence on Lister's life at University College and afterwards—I refer to William Sharpey and the exceedingly able if eccentric Wharton Jones. Their work was carried forward by Augustus V. Waller and the little known but highly successful worker William Addison. In the inflammatory process the margination of the leucocytes was taught by C. J. B. Williams and W. Addison in 1841. In 1846 Volnay Waller rediscovered the wonderful process of emigration of leucocytes, previously known to Dutrochet (1827). In a most scholarly manner Wharton Jones summed up all the knowledge on inflammation down to 1846, and himself gained the Astley Cooper prize in 1850 for his splendid essay on the pathology of inflammation.

When, therefore, Lister began to study the process he was traversing ground already trodden. He early realized, however, that much that had been done concerned the later stages of inflammation, whereas its real essence was most likely to be found by analysing the earliest changes. Examining the frog's web and the bat's wing, he took elaborate precautions that they should be in a perfectly healthy condition. By the application of irritants he passed to the study of the morbid, and investigated especially the aggregation of the red corpuscles, their increased adhesiveness, and the structure of the arterioles and capillaries. He found that the capillaries alter in size, but referred the change to something inherent in their elasticity. While admitting the existence of contractility in the capillaries, modern writers have not accepted his explanation. Lister regarded irritants as acting in a twofold manner. The primary effect was a dilatation of the vessels, brought about through the influence of the nervous system and not limited to the *locus* of the irritant. The secondary effect, on the other hand, was the direct outcome of the irritamentum itself, in consequence of which the blood becomes altered physically. The red discs become more adhesive, they accumulate in masses, and may bring about a condition of actual stasis. Strange to say, Lister made no reference to diapedesis of the leucocytes, and probably missed it altogether. The earlier discovery of Waller had left, apparently, little impress on the knowledge of the day, so that when Cohnheim described diapedesis in detail in 1867 the discovery was looked upon as something altogether new. It is to Lister's credit that he discussed inflammation from a new point of view, which Cohnheim nine years later carried to a conclusion.

Bacteriology.

When Lister embarked on his extended study on the cause of suppuration and the complications which follow surgical operations, his previous work on blood and inflammation was a great help to him. He was continually groping for the causes of the surgical disasters which were habitually happening, but light began to peer through the obscurity. This was early during his Glasgow term. In

1865 his attention was directed by a colleague to the work which had been done on fermentation and putrefaction by Pasteur from 1857 onwards. This work came upon him as a revelation, and almost at once he grasped the full significance of the Frenchman's discoveries for surgery. Ten years later he tells us specifically that the work of Pasteur "long since made me a convert to the germ theory, and it was on the basis of that theory that I founded the antiseptic treatment of wounds in surgery."

Although he frequently reiterated his indebtedness to Pasteur, it is, I think, a vulgar error to regard Lister as a mere imitator of his great French contemporary. As early as 1861, and before his acquaintance with Pasteur's papers, he was getting near the truth about suppuration, and afterwards he advanced beyond the point where Pasteur had led him. From now on he became ardent in the pursuit of bacteriology. This was about 1870, when the study of microbes had scarcely emerged as a distinct science. At the time there were two conflicting views. The one, supported particularly by the eminent botanist Ferdinand Cohn, held that bacteria exhibited a constancy in form which might be used as a basis of their classification into genera and species.

According to the other view, there is no such morphological stability, but rather a pleomorphism whereby one and the same microbe could assume different forms according to the environment. In his earliest bacteriological work in 1873 Lister ranged himself among the pleomorphists, and it has to be admitted that he suffered shipwreck when he stated that Ehrenberg's and Cohn's classification was "entirely untrustworthy." Lister's mistake was one made by a great many others at that time, and serves but to show how unwary the earlier bacteriologists were of the pitfalls lying in their path. There exists an exceedingly interesting correspondence which passed between Lister and Pasteur on the subject. Pasteur clearly saw where Lister had erred and advised him to repeat his experiments with added precautions. This, Lister did, and, profiting by his new experience, became one of the foremost bacteriological technicians and pioneers of his time. So imbued was he with lofty ideals that, instead of covering up his tracks, he handsomely admitted his error. "Next to the promulgation of truth," he said, "the best thing I can conceive that a man can do is the recantation of a published error." This sentiment was almost exactly that which was given to us sixteen hundred years ago by Celsus, who, however, added that "such a confession is suited only to a great genius whose splendour is such as to survive the sacrifice, especially in the performance of a task which is to be handed down for the benefit of posterity as a beacon of truth to warn them against similar errors." From the theory of Cohn and Pasteur it was to be presumed that in some way—at that time unknown—bacteria might be separated from each other and cultivated in a pure state. The great mycologist Brefeld early pointed out the necessity of raising pure strains or cultures from one single germ. Lister attempted this, and by unsurpassed technique, involving a remarkable understanding of the whole problem, he succeeded in obtaining a pure growth of a microbe which he called *Bacterium lactis*, and which was a cause of the so-called lactic fermentation. He grew the microbe in sterile milk and raised a pure strain, constant morphologically and physiologically, from a single bacterial cell. This was possible by the aid of an ingeniously constructed syringe of his own invention.

He also introduced several of the methods of sterilization which are in constant use to-day. His work on lactic fermentation is a classic, and stands as a model of what a scientific research should be.

Like Pasteur, Lister had the supreme faculty of seeing as if by instinct the exact experiment required to eliminate an element of doubt or to advance ahead. He was a master of the experimental method—a rare and precious gift which the Abbate Spallanzani truly said "has always been confined and always will be confined to the few."

And now I am at the end. No one could come into contact with Lister without being impressed by his noble personality, his magnanimity, his liberality, and his modesty. His aims were of the loftiest kind, and probably no medical man ever kept more steadfastly before his gaze the covenants of the Hippocratic Oath. He venerated his teachers, he taught his art to his pupils, he kept nothing secret from his profession, and followed that system which, according to his ability and judgement, he deemed best in the interest of his patients. With purity and holiness he passed his life and practised his art.

When one looks down the long vista of time and contemplates the art of medicine, three names stand prominent, and we should all feel pride in our English stock which gave birth to Harvey, to Jenner, and to the great Lister—a name to resound for ages.

LISTER AS A SURGEON.

BY

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SELDOM is a great discovery the product of one man's mind. In the work of other men it has ancestors; forerunners possessing one or more attributes whose final and felicitous association within new work constitutes new truth. When that new truth is fully disclosed its relation to many other truths familiar to all for perhaps many years and in many associations becomes clear. The claim may then arise that those who have revealed isolated and antecedent truths have priority in the final discovery. Such truths are, however, only progenitors with no claim to be regarded as their own descendant, the new truth itself.

SURGERY A CENTURY AGO.

The immortality of Lister, whose centenary we commemorate to-day, is due to discoveries which did for the craft of surgery what John Hunter had done for its science. The oldest human remains bear evidence of surgery. Before Lister came operations had been relatively few because of their heavy mortality and their almost insupportable burden of terror and of suffering. Every operation risked the life of the patient from one single cause—putrefaction in the wound. So frequent was this that it was always expected; and whenever it appeared no man might foresee or measure its consequences. Evidence of this we find on almost every page of the old textbooks and in the biographies of the great surgeons. It is startling to read that when, in the year 1821, Astley Cooper operated upon George IV for a small sebaceous cyst on the head, so tortured was he by anxiety lest erysipelas or pyaemia might develop that he sought to put upon others the responsibility of the operation—on Cline, on Everard Hume, on anybody but himself. He speaks of the operation in terms which to us now appear absurd, fearing that "it might by possibility be followed by fatal consequences." He says, "I saw that the operation, if it were followed by erysipelas, would destroy all my happiness and blast my reputation"; and "I felt giddy at the idea of my fate hanging upon such an event"; and again, "I am certain that if anything happened to the King that at any rate I should leave London and live in retirement." It is hard to believe that a surgeon eminent enough to be chosen for service to the King should be so deeply moved at the prospect of what was to him, as to us, technically the simplest of operations. The exercise of the art of surgery brought terror then where it now brings joy, to surgeon no less than to patient.

THE FIRST STEPS.

Lister's discovery was very gradual. His earliest interests in surgical inquiry were concerned with inflammation, its cause, its nature, and possible methods of controlling it. In this, as in many of his earlier investigations, Hunter was both inspiration and guide. His paper "On the flow of the lacteal fluid in the mesentery of the mouse," published in 1857, but based on researches begun in 1853, is an extension of Hunter's experiments on absorption. His studies on coagulation of the blood began with an investigation on the blood in the veins of sheep's "trotters" obtained from the slaughterhouse. By devising neat and critical experiment he was able to carry knowledge of coagulation of the blood far beyond the point which Hunter and Hewson had attained a century before. Yet the methods he employed were clearly modifications of those used by his great forerunner. By such investigations as these Lister was training himself, but his chief interest lay always in the problem of the healing of wounds. When, therefore, he learnt of Pasteur's researches his mind was open to the new truths and expectant of them. Before the British Medical Association in Dublin in 1867 he said:

"In the course of an extended investigation into the nature of inflammation, and the healthy and morbid conditions of the blood in relation to it, I arrived several years ago at the conclusion that the essential cause of suppuration in wounds is decomposition brought about by the atmosphere upon blood or serum retained within them; and, in the case of contused wounds, upon portions of tissue destroyed by the violence of the injury. To prevent the occurrence of suppuration, with all its attendant risks, was an object manifestly desirable, but, till lately apparently unattainable, since it seemed hopeless to exclude the oxygen which was universally regarded as the agent by which the putrefaction was effected. But when it had been shown by the researches of Pasteur that the septic properties of the atmosphere depended not on oxygen or any gaseous constituent, but on minute organisms suspended in it, which owed their energy to their vitality, it occurred to me that decomposition in the injured part might be avoided without excluding the air by applying as a dressing some material capable of destroying the life of the floating particles."

Lister's first step was therefore a realization of the truth that decomposition in wounds depends upon the activity of living micro-organisms; his second, which followed immediately, was based upon the belief that such organisms might be destroyed in the wound, or as they were about to enter the wound; his third and last, which came more slowly, was founded upon the hope that the organisms within the field of operation might be destroyed before they entered the wound.

Around every step of his advance fierce controversy raged. The scepticism and hostility of early contemporaries was stupid, unimaginative, and petty. The history of science is not only the story of new truths and their slow emergence from error, it is a recital of bitter and vexatious opposition from those who should have been the first to acclaim and to welcome the new vision. Only a few weeks ago we learnt once again of the diffidence of Isaac Newton in the publication of discoveries made years before; his reluctance was due in part perhaps to a native modesty and indifference to the applause of others; in part also to shrinking of a sensitive nature from the acrimony and coarseness of controversy.

The rank hostility of Riolan to Harvey, the disdainful incredulity of Liebig at the discoveries of Pasteur, are in direct intellectual relation to the revolt of Calvin at the discoveries of Servetus, the animosities of the Church which martyred Giordano Bruno, the threat of torture which subdued the aged Galileo, and all that long record of sinister events which proclaims the inveterate hostility of impervious minds to novelty. For such minds novelty is always error, truth is bent through an angle of refraction as it enters them. Lister's answer to indifference, opposition, and denial was unfaltering continuance in inquiry and experiment, and in the demonstration day by day and case by case of changed results.

THE PAST RENEWED IN THE WAR.

Few if any now living remember the full horror of the old days. But an experience not dissimilar awaited us in the earliest days of the great war. A pestilence of infection to which we were wholly unaccustomed turned our faces towards the early struggles of Lister. On all sides we heard that our inability to check a raging suppuration in a heavily infected wound proclaimed the failure of Lister's methods. So to Lister we turned again, only to realize much more acutely how the problems which faced us had been his problems; how our experience, horrible in its new revelation, had in the first years of his practice been his daily experience. Reading Lister's works with clearer perception and new understanding of the difficulties by which he was confronted, our admiration of his patience, insight, and courage glowed into greater reverence than ever before. Lip-service we had long given to the founder of the new era; we were now compelled to realize that Lister is indeed the man who has saved more lives than all the wars of all the ages have thrown away; the man who has changed the face of surgery, the one man who has in truth created, if not a new art, at least new and safe, and illimitable opportunities for the practice of the old art.

The *first conception in Lister's mind in respect of treatment* was that the organisms within the wound, and those entering the wound, might be destroyed by some chemical agent the nature of which was to be determined by a series of experiments. From time to time changes were made as search brought to light some new chemical substance more active in destroying bacteria and less harmful to the living tissues of man. The search is not ended yet. Up to this moment it has engaged the interest of such men as Dakin, Browning, and J. B. Cohen, and no doubt it will long continue. The problem, however, is not merely that of accomplishing highest bacterial destruction with lowest cellular injury: it is rather one of augmenting the natural powers of cells and of serum to subdue and destroy bacteria and their poisons. Lister, I feel confident, realized all this to a greater degree than many of his successors. Godlee in his Life of Lister makes this quite clear. Though the earliest efforts were concerned with the abatement of existing decomposition of wound discharges, it was not long before the problem of the prevention of infection became paramount. It is beyond dispute that Lister clearly realized the distinction between the "prophylactic" and the "therapeutic" uses of chemical agents in surgery. We know now that the old quarrel as to the relative merits of the "antiseptic" and the "aseptic" methods was senseless and jejune: for Lister was indubitably the parent of both—if, indeed, there are really two methods. No surgeon ever practised with success a method in which agents for the destruction of organisms were omitted. Aseptic surgery is the wise practice of antiseptic surgery. There is a difference in detail, not in ideal or in fundamental truth.

We have no need to discuss the relative merits and claims of Pasteur and Lister. It is true that without Pasteur there would have been no Lister at the time when Lister was. Pasteur set out to discover the truth as to spontaneous generation, and by crucial and magisterial experiment settled that problem once for all. While at Lille, in the centre of a district of many distilleries, the problem of fermentation engaged his mind, and the assertion of Liebig, foremost among chemists of his day, that it was "a change in organic fluids and tissues set in motion by the access of oxygen" was shown to be incomplete. The genius of Lister lay in immediate realization of the fact that the biological truths established by Pasteur might be applied to other circumstances. His mind was prepared for the new vision by his physiological training. I make no attempt to exalt Pasteur by saying that Lister's work was corollary to his; nor to belittle Pasteur by speaking of his ignorance of the full effect of his work. Let the world be thankful for both. We who are within the profession of medicine have once again to learn that progress depends, not only upon our own efforts in the discharge of our daily task of healing, but upon an association as intimate as can possibly be with every aspect of biology.

THE ANTISEPTIC THEORY AND ITS CONSEQUENCES TO SURGERY.

The consequences of Lister's work are many and far reaching. The immediate result was, of course, the complete abolition of many of the dangers attaching to the most certain and most dreaded peril of all—infection in the wound extending to other parts, causing severe and protracted suffering, even grave risk to life itself. But when the few operations then practised became safe, it was obvious that other operations might be attempted. The result was that procedures condemned as "murderous," the practice of which should, in the opinion of high authority, lay a man open to a charge of manslaughter, were greatly increased in number as soon as it could truthfully be claimed that the risk of operation was definitely less than the risk of inaction. The most exemplary instances were found in the practice of abdominal surgery. Ovariotomy, condemned by highest authority as homicidal (the governors of King's College Hospital in 1877 had forbidden the staff to undertake it), became so safe in expert hands that neither patients nor surgeon hesitated in the choice of operation.

In all new advances in surgery it is only the patient whose disease has reached a high development threatening disability, suffering, or death who is submitted to operation; the cases with the greatest risk already attached to them are the first to undergo adventurous treatment. As the safety of surgery is shown in these, similar cases are treated, but in an earlier stage—a stage in which the surgical risks are less, the convalescence quicker, the mortality lower. Ultimately a fatality occurs only in the exceptional case, from causes connected rather with the original disease than with the operation practised. In my days as a resident in hospital ovariotomy was regarded as an operation of utmost gravity, and was performed with much ceremony in private wards and with special nurses. McGill, who led me by the hand along the path of surgery, always had a Turkish bath in the afternoon of the preceding day, and operated at an unusually early hour in the morning. Some mammoth tumours were removed—tumours which at times greatly outweighed what was left of the patient; indeed, we removed patient from tumour rather than tumour from patient. From ovariotomy an advance was made to the treatment of other pelvic conditions. Fibroid tumours of the uterus were eventrated and a constricting band of metal applied to the cervical stump, which was brought up into the wound. When for the first time I returned the pedicle to the abdomen after the operation of hysterectomy, our obstetric physician, Dr. Braithwaite, quailed with horror at such temerity. The conquest of other disease of the abdomen was soon inaugurated; the campaign owed almost everything to those who had practised what we now call gynaecology. Spencer Wells removed the enlarged spleen from a patient whose tumour he had believed to be uterine, and a condition of tuberculous ascites, miscalled "ovarian cyst," improved so much after the release of the fluid that similar cases were quickly claimed for surgical treatment.

The whole abdomen soon became the province of the surgeon, whose activities also rapidly extended to the cranial and thoracic cavities, so that at the present day neither technical difficulty nor any danger in the trauma inflicted prevents the surgeon from dealing with almost any lesion, wherever it may lie, or whatever its nature. There is scarcely any organ which cannot be attacked; there is no inherent and inescapable risk in any technical procedures.

An extension of safe operative measures within the cavities, especially within the abdomen, has resulted in a complete revision of our knowledge of the earlier structural changes in many organs attacked by disease, and of the clinical manifestations which those changes produce. Surgery has proved an implement of research; it is indeed the most powerful of all, though this fact is not yet fully realized, nor is adequate use yet made of it. In the mortuary period of pathological knowledge only the most advanced stages of disease, those stages which at last proved fatal, could as a rule be examined. The final symptoms of the terminal changes in structure were, not perhaps the only, but they were certainly the chief interest of the clinician; little was known of the dependence of earlier symptoms upon tissue changes. Pathologists and physicians alike were incredulous as to the truth or significance of much of the new knowledge which the surgeon was daily accumulating as the result of his widening observations. Even to-day the physiologist and physician do not appreciate how much is to be learnt at the bedside or in the operation theatre.

As an implement of research, surgery has been generously used by the physiologist in his experiments upon animals. Perhaps the most entrancing exploit of all was that inaugurated in this country by Ferrier and pursued by Macewen, Horsley, Sherrington, and others, by which the functions of the various parts of the nervous system have been elucidated. There is something of enthralling interest in the story of the localization of function in the cerebral cortex, in the realization that in the convolutions of the brain exist allotments each with its own highly specialized and exclusive function. The work of the surgeon upon the abdominal viscera, his discoveries concerning, not only changes of structure in various diseases, but also disorders of visceral reflexes, and symptoms associated with these, have been not less arduous, nor less interesting, and even more fruitful in the clinical study of diseases, and in the relief of human suffering.

The capacity of the surgeon to enlarge the area of his operations has been used with gratifying success in the treatment of accessible cancer. The lines of extension of this disease have been the subject of inquiry by pathological anatomists, who have studied afresh, not only the lymphatic systems of the various organs affected, but also the exact lines along which the cancer cells may drift or grow. The work of Sampson Handley on the breast, and of Ernest Miles on the rectum, are worthy of special commendation. Since we know beyond dispute that cancer is primarily a local disease, we know also that every accessible cancer is curable if operation is practised in the early stages of disease. That is not the least of the debts we owe to Lister. It is his work that has permitted us so to plan our operations that not the growth alone but also all those parts, such as lymphatic glands into which the growth makes haste to extend, can all be removed in one mass, and that infection is now the least of our anxieties.

THE FUTURE.

We may almost claim that the full effect of Lister's work is now accomplished. We know that for all time operations of every kind may be practised without the grave risks that formerly were prohibitive. The art of surgery is far in advance of all the sciences upon which its future progress depends. Until they stand abreast, or even advance ahead, the progress of surgery will be slow. The great search for us all must now be for the methods of applying new discoveries in other sciences, physiology, biochemistry, pathology, physics, and the like, to the study of disease.

Many lines close in the dial's centre. From all the vast periphery of our surgical world messages of gratitude and of homage converge upon Lister to-day. Lister made possible the new surgery, beyond all question the most beneficent art mankind has ever practised. So long as there are men to live and suffer, so long will Lister be there to heal them, to hold the gates of life ajar.

To the honoured dead we raise our monuments, some cast in bronze, some graven in stone: some, like that of immortal Hunter, begun in a man's lifetime, the work of his own hands, are enlarged and lovingly enriched through generation after generation by those who labour in the master's cause. On the roll of honour which in letters of gold bears the names of the saviours of mankind, no man is more worthy of remembrance than Lister. His living and enduring memorial is a great, and ever greater multitude of men, women, children, of every nation, of every race, of every creed, through his mercy and by the skill of his most gentle hand relieved from infirmity and suffering and sorrow, and made for a time triumphant over death itself.

It is immortal Lister we salute to-day, the supreme benefactor of mankind.



THE LISTER FRIEZE IN FAÇADE OF POLICLINICO UMBERTO, ROME.

LISTER:

A HOUSE-SURGEON'S MEMORIES.*

BY

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"During the siege of Paris (1870-71) Nélaton, in despair at the sight of the death of almost every patient after operation, declared that he who should conquer purulent infection would deserve a statue made of gold."—LIFE OF PASTEUR.

ON April 5th, 1827—one hundred years ago to-morrow—Joseph Lister was born, the man who conquered surgical purulent infection for all humanity and for all time. There is an indifferent and somewhat neglected bust of him in Portland Place, but the statue of gold has not yet been erected, although wound infection was conquered in Lister's own lifetime.

Lister achieved more for mankind than all the surgeons from the beginning of history. Before his coming the results of surgical wounds were hardly better than in the Dark Ages, and yet he lived to see his work and teaching result in the saving of more lives than all the military heroes of all the ages had destroyed.

Fifty years ago, this year, he left Edinburgh for London. He was then 50 years of age. On the same day that he entered King's College Hospital as one of its surgeons I entered it as a student—half a century ago.



FIG. 1.—View of Glasgow Royal Infirmary from Kirk Street.

Lister was of pure English stock; his people came from Yorkshire. His father was a prosperous wine merchant in the City of London, and from him he inherited other things beside a competence. Amongst them was a taste for scientific pursuits: the wine merchant was deeply interested in the science of optics; he helped to perfect the microscope, and was a Fellow of the Royal Society. After attending private schools in Hitchin and Tottenham, Lister entered University College, London, in 1844, at the age of 17. In University College Hospital he was present at the first operation performed in this country under ether, by Liston on December 21st, 1846.

As chill penury did not repress his anxiety to see and know the best in the surgical world, he journeyed, in 1853, at the age of 26, to Edinburgh to study under Syme. This great surgeon—to whose memory and teaching Lister always remained devotedly attached—was the man of whom it was said that he never wasted a word, a drop of ink, or a drop of blood. Lister became his assistant, and, a few years later, his son-in-law.

From Edinburgh Lister, at the early age of 33, was called to fill the Chair of Surgery in the University of Glasgow (1861). There he remained until 1869, and it was chiefly during these years that he laid the foundation of antiseptic surgery.[1] In 1869, at the age of 42, he returned to Edinburgh as Professor of Surgery in the University, and there he passed the eight years of his life which he afterwards referred to as the happiest, as they certainly were the fullest and most flowing.

In 1877, exactly fifty years ago, Lister was invited to leave Edinburgh for London. Why did he come south? It was certainly not to hunt for honours and distinctions; his Quaker character thought little of such adornments. It was not due to any mercenary attraction. He was the possessor of a sufficient private fortune, and the commercial side of our profession had no attraction for him. All who knew him are convinced that he accepted the invitation to London simply because he felt that on the larger stage of the metropolis he could so demonstrate his work that he would the sooner fulfil his mission. As his biographer records, "the antiseptic doctrine had been accepted in every part of the world that counted, except London, where alone it made but little way." In taking leave of his class in Edinburgh he announced that it was only a sense of duty which impelled him to leave a school where he had received great kindness, and to take a cold plunge into what he said "might prove to be a sea of troubles."

He was indeed right; a cold and stormy sea of trouble was awaiting him in London—fifty years ago. Lister returned from his professorships in two Scottish universities to his own southern people, and to the city of his birth. Many peoples, in all times, have been addicted to stoning their prophets. England and London half a century ago were not backward in demonstrating that a prophet was not without honour except in his own country.

His first function was the introductory address of the session on Monday, October 1st, 1877. Lister, to most people's astonishment, opened his address by stating that he was going to record some experiments he had made "to obtain some positive and definite knowledge of the essential nature of a class of phenomena which interest alike the physician, the surgeon, and the accoucheur—namely, the changes in organic substance which are designated by the general term fermentation."[2] It was looked on as a bad start, and

* Read before the Royal Society of Medicine, April 4th, 1927.

altogether unsuitable, for it was generally agreed that such an abstract subject as lactic acid fermentation was no concern of a surgeon. But it was at the hospital that Lister encountered his full sea of troubles. He had stipulated that he should be allowed to bring with him from Edinburgh four assistants already trained in his methods and attached solely to his service. Of the four who accompanied Lister from Edinburgh to London one, Dr. James Altham of Penrith, is dead. Of the surviving three, one is Dr. W. H. Dobie, who has long held a high position in Chester. One is Dr. John Stewart of Halifax in Nova Scotia. He is one of the most affectionate pupils of the master, whom he has drawn in many letters and pen pictures. The fourth had been Lister's last house-surgeon in Edinburgh, and was his first in London. He is known to us all as Sir William Watson Cheyne, who succeeded his master as professor in King's College Hospital, became President of the Royal College of Surgeons of England, served his country on land in the Boer war and at sea in the great war, reached the rank of rear-admiral, sat in the House of Commons as member of Parliament, and is Lord Lieutenant of Orkney and Shetland.

The peace-loving Quaker spirit of Lister was also much distressed by the opposition he met with at the hospital from the nursing sisters of St. John. In the days of Sir William Fergusson the teaching was entirely in the wards; he passed from bed to bed, followed by a sister with a towel and basin of water, in which he dipped his hands after examining a patient. Lister upset the pious sisters by copious ablutions and by purification of many pairs of hands before a patient was touched, and many of his cases were carried or wheeled into the theatre as subjects for clinical lectures. These sisters of St. John were opposed to Lister and all his ways, and dealt him those pious and smiling stabs in which women, particularly good women, are so skilful. Lister only showed how he felt them by the little gasping sigh we all learned to know and to respect as his only sign of sorrow or annoyance.

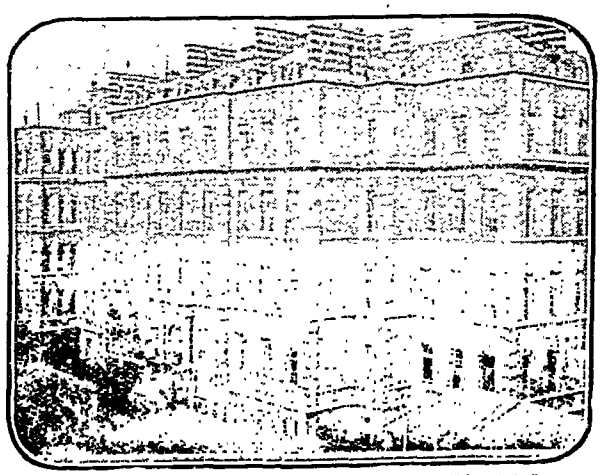


FIG. 2.—Old King's College Hospital, Portugal Street, Lincoln's Inn, London.

Worse than these two gales in his sea of trouble was what John Stewart describes as the "colossal apathy," the "monstrous inertia to the force of new ideas," the inconceivable indifference shown by the students and surgeons of London. Fifty years ago the wards of most of the hospitals in England reeked with the smell of putrefaction—just as they had done for centuries. But Lister's wards were free from what was everywhere accepted as the recognized "hospital smell"; his dressings, when taken off, were free from pus and fetor; they were handed round for confirmation, and I well remember the surprised and approving sniff with which the visitor—generally a foreigner—confirmed Lister's frequent and pleased remark: "You will notice, gentlemen, that any discharge is only serous and is quite sweet." Yet Londoners did not come to see his epoch-making change, to hear, to smell, and to be converted.

In Edinburgh Lister's class frequently numbered 400 students; in London some ten or twenty might turn up, but these gradually fell off. Ten years after his arrival Lister referred to his small classes at King's, after his crowded audiences at Edinburgh, as "a humiliating experience."

To-day, after fifty years, with new conditions and changed mentalities, it is perhaps superfluous, as well as somewhat difficult, to explain this neglect. I think the faulty method of teaching and examination had much to do with it. Lister's teaching did not help a man very much to pass an examination and secure a diploma. He was therefore neglected by the average student, while he cast a lifelong spell over those who, as dresser or house-surgeon, came under the potent power of his personality.

It is more difficult to suggest the reasons why London surgeons neglected or belittled his work. One was that Lister had, by way of experiment, to try many things in his application of Pasteur's principles to wound dressing. In these efforts he moved from carbolic lotion to boracic, or made trials of corrosive sublimate, and then reverted to carbolic. These frequent changes were all causes for stumbling to the average individual who had not grasped the first principles, and was therefore doubtful of a so-called "system" which was not definite or final. (Later in history these frequent modifications were counted to Lister for righteousness, for they demonstrated that it was the principle which mattered and not the method of technique.) Another reason was that the surgeons of the later Victorian period—just like Astley Cooper, Abernethy, and John Hunter—were without Lister's scientific training and Pasteurian knowledge, and looked upon his methods as but another variant of many previous empiric efforts. Lister himself realized this, for in one of his addresses he said: "I venture to assert that no one who has not a belief in the germ theory of putrefaction can ever perform satisfactorily the antiseptic treatment of wounds." How far the London surgeons were from being able to appreciate this is shown by an annotation in the *Lancet* in 1877 (vol. i, p. 361), which said:

> "In many quarters Mr. Lister has acquired the reputation of a thoughtful, painstaking surgeon, and has done some service to practical surgery by insisting on the importance of cleanliness in the treatment of wounds, although this has been done by the glorification of an idea which is neither original nor universally accepted."

Still, making all allowances, it is difficult to explain why London was the last place to accept the new evangel. The BRITISH MEDICAL JOURNAL, which had always supported Lister, wrote "of that great principle in surgery which had been accepted everywhere else almost before it was even listened to in London."[3]

But if students and London surgeons were apathetic over the revolution in surgery being wrought in their very midst, it was not so abroad. Already in 1875, two years before coming to London, Lister, during a prolonged tour in Germany, was received everywhere with enthusiasm. In the words of the *Lancet* (June 19th, 1875), "the progress of Professor Lister has assumed the character of a triumphal march." In 1879 Lister's appearance at the International Congress of Medicine at Amsterdam was, the BRITISH MEDICAL JOURNAL reported, greeted with "an enthusiasm which knew no bounds."[4]

At the next International Congress, in London in 1881, foreign surgeons must have marvelled among themselves when they heard British surgeons still attempting to cast doubts on the principle on which Lister founded his methods, or belittling his results. But let us, in parenthesis, project our attention forward to the following International Congress in London. It was in 1913. Lister had died the previous year, but the light of his good work was shining before all men. As is well known, congresses and such-like events are often commemorated by the issue of a medal. The medal of 1881, when Lister's work was slighted and belittled by his own countrymen, bore the features of Queen Victoria. But in 1913 it was felt in Britain that the one effigy worthy of being stamped on the medal of an International Congress in London was the head of Joseph Lister.

My audience will hardly believe me when I tell them that in my student days the surgeon of one of the largest teaching hospitals—a Fellow of the Royal Society, and a President of the Royal College of Surgeons—frequently

raised an appreciative laugh by telling anyone who came into his operating theatre to shut the door quickly, in case one of Mr. Lister's microbes should come in!

The first case in which Lister wired a fractured patella was in 1877. When I was his house-surgeon I had the honour of bringing together and exhibiting the first six of his seven first cases which he showed before the Medical Society of London on October 29th, 1883.[5] I well remember the astonishment with which Fellows of the society tried to feel the buried silver wire. Others were aghast at the unwarrantable danger incurred in opening a healthy knee-joint. One hospital surgeon, Morrant Baker, asked, "Had not ankylosis, amputation, and death been heard of after its performance?" One surgeon said that if the next case died Lister should be prosecuted for malpraxis; and another exclaimed, "C'est magnifique, mais ce n'est pas la chirurgie."

Although Lister was carrying out operations never before attempted in the history of surgery, it is interesting to record that I never saw him do an abdominal section. During my term of office we never heard the word "appendicitis"; gastric ulcers were diagnosed but never treated surgically; ovarian cysts were tapped and tapped until the patient died; that a calculus could be removed from a ureter or a bile duct never entered the imagination of anyone.

In 1897, the year of Queen Victoria's Diamond Jubilee, Lister was made a peer, his peerage having been the first ever conferred upon a surgeon. In the following May an address and dinner were offered to him by thirty old house-surgeons and one hundred dressers.



FIG. 3.—Pasteur's Jubilee, 1892. Lister greeting Pasteur at the Sorbonne.

In 1892 Pasteur's jubilee was celebrated. Lister was the predominant personality amongst all who came to honour the great French scientist. This event is recorded in a most striking picture (Fig. 3), which not only suggests the one-sided feebleness of the hemiparetic Pasteur, leaning on the arm of Carnot (the President of the Republic), but, in a marvellous manner, the artist, Rixens, gives a most lifelike representation of Lister's features, his figure, and even of his hands, gestures, and gait.

Lister had retired from the active staff of King's College Hospital in 1893 at the age of 66. He was President of the Royal Society from 1895 to 1900. In 1903, for the first time, his stalwart frame was shaken by a threatening of the infirmities of age. His last years were saddened by slowly failing health, and on February 10th, 1912, in his eighty-fifth year, he died peacefully at the little fishing village of Walmer, looking out on the English Channel.

What was the personality of this master of surgery? He was tall, upright, well knit, stoutly built, deep chested; his bearing was dignified, and his manner restrained, courteous, and considerate. His voice was low and musical, but a trifling hesitation in his speech had persisted from childhood. It was very transitory and never embarrassing. Some thought that the extra effort and emphasis required in overcoming this occasional stammer added a little charm to his speech, but he himself was very conscious of it, and referred to it as "a severe thorn in the flesh."

His manner had a certain aloofness about it. His lifelong disciple, Watson Cheyne, confesses that Lister always inspired him with a certain sense of awe. I myself felt that his soul was "like a star and dwelt apart." I can only say that no teacher, no friend, no man I have ever known has left his impress on me as Lister has done. To none of them do I feel the debt I owe to him, for the example of his veracity of thought and word, his patience and constancy in the pursuit of truth, his eagerness to instruct his pupils, his long-suffering with stupidity, his tenderness to the poor, and his gentleness to the sick and maimed.

He was imbued, I need hardly say, with a truly scientific spirit. His studies in physiology and pathology, and their bearing on clinical surgery, will be referred to in addresses by experts during this centennial week. He urged the necessity of experimental and laboratory research. In 1875 Queen Victoria, to whom only one side of the question had been presented, wrote requesting him to take action for the suppression of vivisection. Although he held a court appointment he had the courage to decline an invitation he could not conscientiously accept. He wrote to her private secretary as follows: "I should deeply regret that I cannot see my way to comply with this request, were I not persuaded that my doing so would not promote the real good of the community, which I know to be Her Majesty's only object in the matter."

In the same way, although he used the cases in his service very freely for class demonstration, his patients never resented it—were even proud of it. One of his sayings was, "The individual patient asks to be relieved and not to be studied." This reminds us of the great saying of a Frenchman, "L'amour de la médecine fait le savant, l'amour du malade fait le médecin."

He felt checks and disasters very keenly, but a certain buoyancy soon restored his equanimity and forward-looking temperament. He himself writes thus when on a holiday: "I have the happy faculty of being able to throw off all thoughts of work for the time being." He fished, but, as his biographer remarks, he was a diligent amateur but never an expert. He skated, and could do 8's and 3's—but of small dimensions! He took a fair share of vacation, and on his holidays could be light-hearted and boyish. But complete idleness was not congenial to him; on his holidays there were usually proofs to correct, or addresses to prepare. On the Continent he practised and improved his very good French and German, and in both of these languages I have often heard him speak fluently, easily, and without preparation. He was devoted to walking and excursions. He was interested in botany and bird life; and he could always fall back on a pocket edition of Horace, Dante, or Goethe.

Lister's hand was large and neither graceful nor delicate-looking. He was a steady, firm, and deliberate operator.

It is interesting to visit the surgical block of the great hospital in Rome, the Policlinico Umberto I. The bas-relief in the tympanum over the main entrance shows Lister operating, and wearing a white gown. Now, Lister never wore a white gown, nor a mask, nor gloves. He frequently never removed his coat, but simply rolled his sleeves back, and turned his coat collar up, so that his white starched collar would not be made sodden by the cloud of carbolic spray in which we operated. Sometimes he removed his black frock-coat, and an ordinary towel was pinned across his chest. I myself, for operations, put on an old blue frock-coat which I had worn for years previously in the dissecting room. It was stiff and glazed with dry blood. Yet our cases, as I remember them, healed as rapidly and as smoothly as they do with all the ceremonial and ritual of sterilization and asepsis nowadays.

Lister, this genius, created anew the ancient art of healing. He did more for surgery and mankind in

his lifetime than all the surgeons of all the ages had effected since the days of Hippocrates. I venture to say that, as an instrument in God's hands, Lister has wrought more for the relief of bodily suffering, for the security of life, for the prevention of anxiety, for the conversion of sorrow into joy, for the promotion of happiness, and for the enrichment of the life of mankind than any one man who has ever trod this earth. The history of our world is divided into the two periods, before and since the coming of Christ—B.C. and A.D. The history of medicine and surgery, and of human bodily suffering, will always be divided into the times before and after Lister. He was our countryman, and the greatest of the masters of surgery; we have lived through the golden age when he evolved this miracle of healing which had waited for centuries for his coming, and now can be wrought by every surgeon in every country in the world. Any house-surgeon, any newly qualified doctor, can to-day remove pain, arrest disease, and save life by perfectly safe operations which no man knew of, or, knowing, dare not adventure when Lister came to London fifty years ago.

Those who chanced to come near this great master caught glimpses of such a spirit as is seldom revealed to us. We are fortunate in possessing a perfect portrait of him in an imperishable poem, written by W. E. Henley, who at one time was his patient in the Edinburgh Infirmary:

> "His brow spreads large and placid, and his eye
> Is deep and bright, with steady looks that still
> Soft hues of tranquil thought his face fulfil—
> His face at once benign and proud and shy.
> If envy scout, if ignorance deny
> His faultless patience, his unyielding will,
> Beautiful gentleness and splendid skill,
> Innumerable gratitudes reply.
> His wise, rare smile is sweet with certainties,
> And seems in all his patients to compel
> Such love and faith as failure cannot quell."

Lister was born a Quaker, but he lived most of his life and died a member of the Church of England. He was blessed with a loving and devoted wife, who appeared to have no thought or interest beyond her husband. They were inseparable companions in all his work and in the numerous Continental trips he loved to make. It was while on one of these, in Italy, that his wife died, after a brief illness, in 1893. They had no children, and after his wife's illness Lister was a lonely man. He lies buried beside her in West Hampstead Cemetery.

As illustration of his noble spirit I will give a few sentences from two of his addresses. As a young professor of 33 he told the Glasgow students in his inaugural lecture in 1860 that the two great requisites for the medical profession were—"first, a warm loving heart; and secondly, truth in an earnest spirit." Eighteen years later, in a graduation address to newly qualified students, he said: "If we had nothing but pecuniary rewards and worldly honours to look to, our profession would not be one to be desired. But in its practice you will find it to be attended with peculiar privileges, second to none in intense interest and pure pleasure. It is our proud office to tend the fleshly tabernacle of the immortal spirit, and our path, if rightly followed, will be guided by unfettered truth and love unfeigned. In the pursuit of this noble and holy calling I wish you all God-speed."

In the north transept of Westminster Abbey there is a marble medallion of Lister's bust, placed near to those of the great scientists Darwin, Stokes, Anderson, and Watt. At the public funeral service in the Abbey on February 16th, 1912, there was sung an anthem of Handel's to words so peculiarly applicable to our dear master that I cannot better conclude than by quoting them:

"When the ear heard him, then it blessed him, and when the eye saw him, it gave witness of him; he delivered the poor that cried, the fatherless, and him that had none to help him. Kindness, meekness, and comfort were on his tongue. If there was any virtue and if there was any praise, he thought on those things. His body is buried in peace, but his name liveth for evermore."

REFERENCES.
[1] *Lancet*, 1857, i, 326. [2] BRITISH MEDICAL JOURNAL, October 6th, 1877, p. 465. [3] Ibid., December 13th, 1879, p. 943. [4] Ibid., September 20th, 1879, p. 453. [5] *Proc. Med. Soc. London*, 1834, vol. vii. p. 8.

A CASE OF EXCISION OF KNEE AND ELBOW JOINTS BY LORD LISTER:

CONDITION FORTY YEARS AFTER.

BY

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(*With Special Plate.*)

IN view of the approaching Lister Centenary, I thought that the following case would be of interest. It is that of Arthur Howard, aged 67 (?), cattle driver, who was admitted under my care to the Glasgow Royal Cancer Hospital on April 3rd, 1925, suffering from an inoperable malignant growth of the right orbit. The case was apparently not suitable for radiation treatment either by deep therapy or by radium. The history of the growth Howard gave was that nine years previously he had an ulcer on his right upper eyelid which was excised, but recurred some months later. Three years before admission he had an application of carbon dioxide snow, when being treated in a Glasgow hospital, and he also attended the Glasgow Royal Infirmary once weekly for seventeen months for electrical treatment. The growth, however, continued to enlarge, and he was sent to the Glasgow Royal Cancer Hospital. It is unnecessary to give a description of the case on admission, beyond saying that the mass completely overlaid the right eye, which was entirely hidden, and extended over the bridge of the nose. The tumour bled easily; but there was no glandular involvement. On questioning Howard as to past illnesses, he stated that forty years before (1884) he had had his left knee-joint excised in King's College Hospital by Lord Lister for tuberculosis, as also his left elbow-joint. In addition, the middle fingers of both hands were removed at the metacarpo-phalangeal joints. The knee-joint was excised about three months after the elbow-joint, and the right middle finger was removed at the same time. The left middle finger was amputated when the elbow was excised. (Fig. 1.)

On examination, the left knee-joint was found to be completely ankylosed, there being about two inches of shortening of the left leg. (Fig. 2.) The excision was apparently performed through a semilunar incision. The left leg is in a position of complete extension, and gives the patient perfect support. The patient had good free movement of the left excised elbow-joint. There was a certain degree of lateral and antero-posterior instability, but in spite of this the joint could be actively extended and flexed. (Fig. 3.) The patient could also pronate and supinate the forearm, these latter movements being best performed when the joint was slightly flexed. There were evidently several osteophytic outgrowths present in the neighbourhood of the new joint. The left and right middle fingers had been disarticulated at the metacarpo-phalangeal joints. The affected arm was nearly three inches shorter than the right one.

Skiagrams were taken of the elbow and the knee. Those of the elbow-joint (Figs. 4 and 5) show that the lower extremity of the humerus and the head of the radius have been removed, but the olecranon process of the ulna appears to be intact. The upper extremities of the forearm bones articulate with the anterior of the humerus about one inch above its lower end, the latter thus projecting beyond the joint. The skiagram (Fig. 6) of the left knee-joint shows that the patella, lower end of femur, and upper end of tibia have been removed, and the femur and tibia united by wiring. The line of union between the femur and tibia can be recognized, except over an area of about one inch. On the inner aspect of the upper extremity of the tibia the skiagram reveals a dense opacity, showing no definite structure. This dense shadow is almost completely surrounded by an area of bone, which exhibits marked rarefaction. This shadow probably represents a sequestrum. The skiagram also shows the wire suture in position.

This case has an historic interest, showing us after a lapse of many years the work of Lister as a surgeon; but it has a further interest in revealing the presence of the wire

SIR G. T. BEATSON: EXCISION OF KNEE AND ELBOW JOINTS BY LORD LISTER.



FIG. 1.—Amputation of middle fingers for tuberculosis, by Lord Lister in 1884 at King's College Hospital.



FIGS. 4 AND 5.—Skiagrams (taken in 1925) of the left elbow-joint, showing that the lower extremity of the humerus and the head of the radius have been removed.

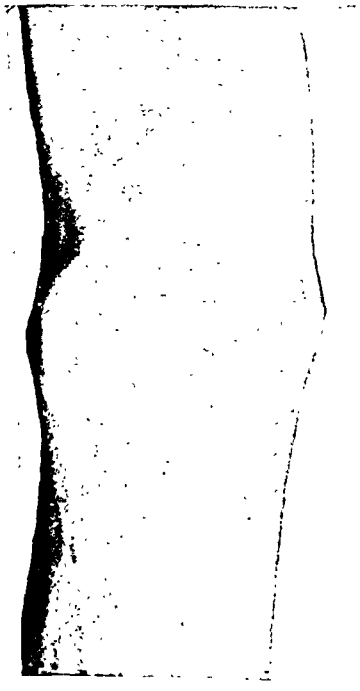


FIG. 2.—Excision of left knee-joint for tuberculosis, by Lord Lister in 1884 at King's College Hospital.



FIG. 3.—Showing left elbow after excision by Lord Lister forty years previously.



FIG. 6.—Skiagram (1925) of left knee-joint, showing that the patella, lower end of femur, and upper end of tibia have been removed, and the femur and tibia united by wiring.



FIG. 3.—*Radiogram of* same patient seven months after grafting. Note that the grafts give the *densest* shadows in the foot.

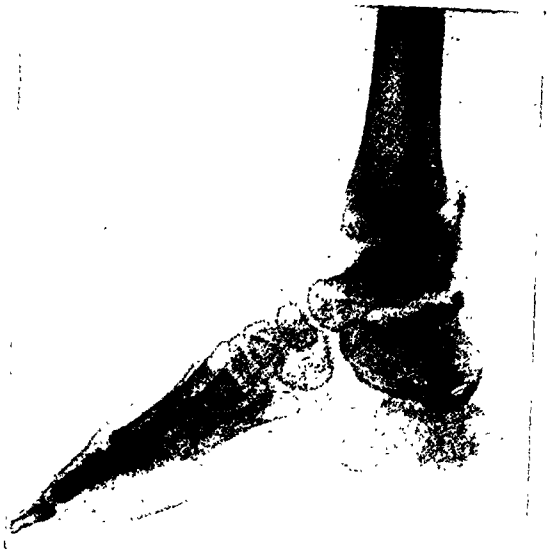


FIG. 4.—Lateral radiogram showing the hinge in the graft at the level of the joint between the os calcis and the astragalus.

[Figs. 1, 2, 5, and 6 are reproduced in the text.]



FIG. 7.—Antero-posterior radiogram of same patient as Fig. 6. The lowest half arrow-head marks the hinge on the fibular side.

R. W. POWER: FRACTURE-DISLOCATION OF THE ANKLE-JOINT.



FIG. 1.—Antero-posterior view of injury, showing displacement of the medial malleolus and fracture of the fibula.



FIG. 2.—Lateral view, showing an anterior dislocation and forward displacement of the medial malleolus.



FIG. 3.—Antero-posterior view the day after the fracture-dislocation had been fixed in a three-piece sectional plaster casing; the alignment was considered satisfactory.



FIG. 4.—Lateral view (taken at the same time as Fig. 3), showing the anterior dislocation and forward displacement of the medial malleolus corrected.



FIG. 5.—Taken eight weeks after injury. Shows the position to be similar to that in Fig. 3.



FIG. 6.—Taken at the same time as Fig. 5. Shows the position to be similar to that in Fig. 4.

suture. When I was house-surgeon with Lord Lister in 1873 he had then begun to extend the scope of his operations, having full confidence in his antiseptic system. The two great objects Lister had in view when he came to Edinburgh in 1869 were, first, the importance of perfecting his technique in the matter of dressings so as to make them reliable for excluding the micro-organisms from the wound during its healing; secondly, he was desirous to increase the scope of his operations so as to furnish further evidence of the reliability of his antiseptic system of surgery. The cases he selected to extend his operative measures were the remedying of bone deformities and the wiring of ununited and badly united fractures. At that time he used silver wire, but was unwilling to leave the wire *in situ* after union had taken place, and it was nearly always removed, as, apparently, he regarded it as a foreign body that might be an irritant and the cause of future trouble. The case reported to-day shows that he had evidently departed from that view, and had had no hesitation in leaving the wire *in situ*. It is interesting to note that he had left intact the olecranon process of the ulna, and I learn from Dr. Stewart of Halifax, N.S., who was then working with him in London, that when that process of bone was not diseased Lister was in the habit of leaving it. It is interesting, too, to note that the articulation of the upper extremity of the forearm bones with the anterior of the humerus about one inch above its lower end allowed the projection of the latter considerably beyond the joint, there being no surface of bone against which it worked, and which would have ensured its attrition.

A HINGED GRAFT FOR UNSTABLE FEET.*

BY

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(*With Special Plate.*)

In February, 1926, Rutherford Morison and W. Mackenzie published a method of treating cases of paralytic foot-drop in children.[1] In children, as in animals, it is notoriously difficult to secure ankylosis by operating on unstable joints without injuring the growing ends of bone. Morison and Mackenzie solved the problem for the ankle by taking osteo-periosteal strips from the tibia and implanting them into beds cut in the bones of the leg and tarsus. The grafts became "osseous ligaments" which completely fixed the joint.

This method of osteo-periosteal grafting is capable of wide application, and takes rank, I believe, with the notable contributions to orthopaedic surgery of the past twenty years. But while these grafts give the best available way of procuring absolute fixation in children with foot-drop, there are many unstable feet in which some movement may with advantage be preserved. Apart from those limbs in which enough contractile force remains to permit of tendon transplantation, there are others with muscles either unsuitably placed or too weak to be used with effect.

Talipes Calcaneo-Valgus.

The deformity of talipes calcaneo-valgus is a case in point, and many imperfect remedies have been proposed for its correction. Transplantation of the peronei is inadequate whether (*a*) their tendons are fixed directly to the inner border of the foot, or (*b*) are used to replace the long extensors of the toes, while these in turn are shifted to a medial insertion.

Tendon fixation is often followed by stretching, and astragalectomy—in young children at least—frequently results in an inward rotation of the front of the foot. At best, too, astragalectomy gives a squat, unshapely ankle. The need, then, in this deformity is for the strongest possible support compatible with useful movement, and this may be obtained by fixing the unstable articulation in bony splints provided with a false joint or hinge.

The Hinged Graft.

My first experience with osteo-periosteal grafting showed me that the method held an unexpected resource. Morison and Mackenzie, intent upon absolute immobility, fixed their cases of "dangle foot" firmly in plaster immediately after operation; the first dressing was done a month later, and the foot was at once put back into plaster for a further six weeks.

In my patient, whose peroneal nerve had been divided at another hospital in the treatment of a tuberculous fibula, there was a healing tuberculous ulcer on the dorsum of the foot which made enclosure in plaster undesirable. After grafting, therefore, his leg was put on a back-splint with the footpiece set at a right angle. In spite of the unpromising skin condition the wound healed by first intention, but bandages, of course, could not give the rigid fixation of plaster-of-Paris. Small movements must have occurred, for after thirty-eight days a few degrees of mobility were present in the ankle. Radiograms showed that the grafts had fused respectively with the bones of the leg and tarsus, but where they crossed the ankle there was in each a small hinge. An opportunity soon occurred for utilizing this chance discovery.

A child, aged 7, who had had untreated infantile palsy for three years, was brought to me with a very marked calcaneo-valgus deformity. The right foot could be dorsiflexed till the instep touched the leg; the outward displacement, too, was extreme. Postural treatment in over-correction did not diminish

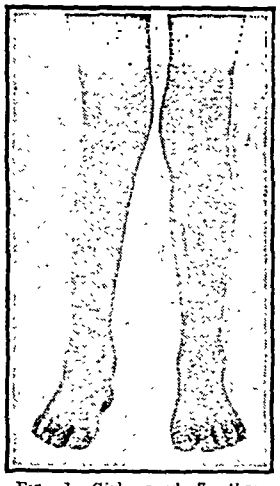


FIG. 1.—Girl, aged 7, three months after treatment of extreme calcaneo-valgus deformity of the right foot by hinged grafts.



FIG. 2.—Same patient as Fig. 1, seven months after grafting, standing on grafted foot.

the deformity, and I determined to try the effect of osteo-periosteal grafts. I employed the following procedure.

After the usual "double" preparation of the skin on two nights preceding operation, an incision was made which curved on to the tarsus behind each malleolus. The knife used for incising the skin was discarded and the skin edges were excluded from the wound by side curtains. (I find in orthopaedic operations which require neighbouring incisions that side curtains are best fixed to the lips of the wound by Michel clips, which occupy less space than towel forceps.)

On the medial side the tendons of the tibialis posterior and the flexor longus digitorum were dislodged from behind the malleolus and raised from the tarsus. On the lateral side the peronei were similarly dealt with. Grooves were then gouged in the beds of these tendons. An incision over the tibia (*Fig.* 1) allowed two grafts to be outlined with a knife on its subcutaneous surface; these were cut with a chisel from the tibia in the form of pliable strips of periosteum encrusted with bone, and were laid with their bony face on the gouged grooves. The displaced tendons were sutured back into position over the grafts and thus held them in place. Neither the grafts nor any part of the wounds were touched except with instruments. Unchromicized (and untouched) catgut was used for suturing, and the knots were tied with forceps. The skin was closed with Michel clips only, exact coaptation being secured by the transverse needle scratches which preceded the incisions.

* A paper read before the Egyptian Branch of the British Medical Association, January, 1927.

After-Treatment.

The limb was bandaged to a long back-splint, with the foot at a right angle to the leg, for one month. At the end of this time there was, as in my first case, a small degree of movement at the ankle-joint. The foot and leg were put into plaster for another month, and the child was allowed to stand on the plaster casing.

Three months after operation radiograms showed the grafts as well defined bony structures on either side of the ankle, with a distinct hinge at the level of the joint. The gait at this time was greatly improved though still rather clumsy.

Six months after operation the child returned for examination, when the photographs and radiograms shown in Figs. 1 to 4 were taken. She could then stand firmly and without deviation



FIG. 5.—Girl, aged 15, before operation, with left calcaneo-valgus deformity and right pes equino-varus (both paralytic).

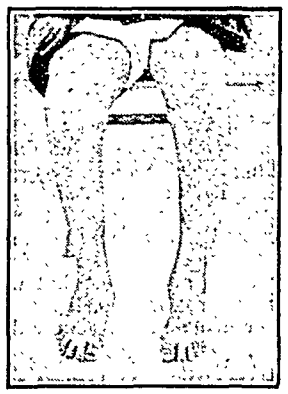


FIG. 6.—Same patient as Fig. 5, nine weeks after hinge-grafting to correct the calcaneo-valgus of the left foot. (The equino-varus deformity of the right foot was treated by tendon transplantation seven weeks previous to the photograph by the method described by Dr. Handousa. (See p. 666.)

on the grafted foot while the other was raised (Fig. 2). Dorsiflexion of the ankle was present to the extent of 35 degrees, and there were 13 degrees of plantar flexion. The gait would have been normal but for a slight rotation inward of the untreated left leg.

I have since repeated this procedure in a girl of 15 with a paralytic calcaneo-valgus deformity in the left foot.

The right foot was fixed by contracture in the exactly opposite position—that is, in equino-varus (Fig. 5).

I first operated on the calcaneo-valgus deformity, using two osteo-periosteal grafts in the way I have described. I then over-corrected the opposite deformity in the right foot by manipulation and afterwards transplanted the tibialis anterior and extensor hallucis longus to the outer side of the foot, using a technique for joining and fixing the tendons recently suggested by Dr. Ahmed Handousa, surgical registrar at Kasr el Aini, in the Surgical Unit, whose method is described, with figures, at page 666.

I mention the second intervention because of necessity it prevented weight-bearing on the grafted foot, and so caused such rarefaction of the grafts that at the risk of disturbing the transplanted tendons I made the patient stand for short periods on the plaster casing. After three weeks recalcification of the grafts was well marked, and her left foot was stabilized with a range of about 20 degrees of vertical movement at the ankle.

The strengthening of these grafts with use, shown in the figures of Morison and Mackenzie, who have observed some of their cases for five years, is in contrast to the weakening and stretching which are the end of so many alluring orthopaedic methods.

The hinged osteo-periosteal graft thus has the following advantages in the treatment of talipes calcaneo-valgus:

1. It promises a stability which depends upon function.
2. It requires a much shorter and less complex after-treatment than do tenoplastic methods.
3. It allows useful movements to persist.
4. It does not disfigure the ankle (see Figs. 1, 2, and 6).

Apart from their own peculiar value in calcaneo-valgus deformity, I would suggest that it may be possible by the aid of these grafts to extend the scope of tendon transplantation. The most fruitful cause of failure after this operation comes of stressing the tendons too much or too soon, and I believe that once hinge grafts have splinted a foot so as to prevent lateral or medial deviation the residual muscular force may be exploited with the greatest economy and effect. Thus a peroneal muscle which is too weak to procure both inversion and dorsiflexion (say in a case of equino-valgus) by suitable insertion may be made the dorsiflexor of a foot where deviation is prevented by hinged bony splints. We hope to investigate this suggestion more fully in the Surgical Unit at Kasr el Aini Hospital.

I am indebted to Dr. R. A. Gardner for the radiograms which illustrate this paper.

Summary.

A method is described of splinting an unstable foot by means of hinged osteo-periosteal grafts which allow a useful degree of mobility. The hinge is procured by conniving, during after-treatment, at slight movements.

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1 An Operation for "Dangle Foot," *Surg., Gynecol. and Obstet.*, xiii, p. 178.

THE TREATMENT OF FRACTURE-DISLOCATION OF THE ANKLE-JOINT BY THE THREE-PIECE SECTIONAL PLASTER.

BY

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(*With Special Plate.*)

THE treatment of fractures has in many cases become standardized and the results so perfect, when the treatment is efficiently carried out, that normal anatomical union and full function can almost be guaranteed. Fractures of the clavicle treated by Sayre's method, of the shaft of the humerus in Jones's humerus extension splint, those of the elbow in full flexion (with the exception of fractures of the olecranon), fractures of the shaft of the femur by extension, and of the neck of the femur by extension and full abduction in a long spica plaster, are fractures which are treated by a universal method, and, generally speaking, the results are good. There remain others which are treated by various methods, and it is little wonder that the results are not uniformly successful. Fracture-dislocation of the ankle-joint is one which comes in this category, as proved by the numerous splints that have been used in its treatment. The box splint, the blanket splint with two lateral wooden splints, the pillow splint, also with two lateral wooden supports, a posterior moulded plaster splint, Volkmann's trough splint, Dupuytren's, and Syme's horseshoe splint are some of the more popularly used, and are recommended in modern textbooks and writings.

To procure a freely movable ankle-joint with the patient walking without pain after a fracture-dislocation of the ankle is indeed a great accomplishment, but in what percentage of such patients can we claim this? Writing on Pott's fracture Sir Robert Jones[1] states, "Pott's fracture has been generally looked upon as a most disabling accident, and many surgeons of experience complain that perfect function is rarely restored to the ankle." And again, to quote Sir William Wheeler,[2] " . . . yet the treatment and the results are far from being universally satisfactory. It is the old story: Want of proper reduction at the time of the injury and want of precautionary measures to prevent displacement when weight-bearing is permitted." The difficulties appear to be threefold: first, in obtaining accurate reduction; secondly, in maintaining the position over a period of several weeks; and thirdly, in the after-treatment.

Accurate reduction is usually a simple matter, provided a general anaesthetic is administered; the main difficulty arises in maintaining the corrected position. I think it is the experience of most surgeons that the treatment of

these fractures by splints is a most unsatisfactory procedure, and I agree with Cochrane[1] when he writes:

"The ordinary means of splintage, as in the use of the box splint or in the special splints which have been devised from time to time, are too haphazard in this respect; while one of these means is being employed, the fracture redisplaces, or does so subsequent to the patient's return to bed. All the work of reduction and the risk of the anaesthetic go for nothing, and the patient is in the unfortunate position of having to subject himself to another attempt at reduction, with the certainty of the same thing happening again."

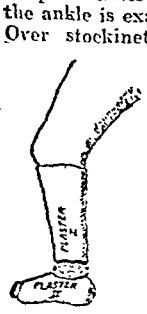
Hey Groves,[4] after discussing the treatment of these fractures by various splints, comes to this conclusion: "But if the plaster is applied only after full correction of the deformity and with due regard to the position of the foot, and is removed for massage and movements from the first, nothing can be better." Cotton,[5] writing on these fractures, states: "If the lesion is promptly recognized, there is no difficulty in holding it. I have found it necessary to use plaster-of-Paris from the first, and have employed a position of maximum dorsal-flexion to prevent redisplacement." And again, Roberts and Kelly[6] write: "If anatomical apposition of fragments is known to be present, the foot and leg are placed in a gypsum case, extending from the toes to just below the knee." Finally, Page and Bristow[7] condemn splints in the treatment of such fractures, and state, "Fixation is best secured by means of plaster-of-Paris." I would venture to say that fixation in plaster is the only certain method of maintaining the corrected position of fracture-dislocation of the ankle.

The answer to the question why all fracture-dislocations of the ankle are not treated in plaster casings is twofold: first, the erroneous feeling of the "unknown" beneath a plaster when *x* rays are not easily accessible; and secondly, the results have not been sufficiently good to justify it becoming a standardized form of treatment. The difficulty arises in *maintaining the corrected position* during the application of the plaster, for with the slightest alteration of position or movement of the hands the dislocation recurs. This is practically unavoidable in the application of a one-piece plaster; momentary slackening of the hands must occur to make way for the turns of the plaster bandage around the foot, and it is at this moment that the dislocation recurs. This range of movement is generally so slight that it is impossible to detect it until the ankle is *x*-rayed, and we find our labours all in vain. Cochrane showed us the way out of this difficulty when he advocated the three-piece plaster of Fiske in the treatment of these cases.

This method was originally advocated by Fiske in the *treatment of congenital club-foot*, and Cochrane has successfully applied it to the treatment of fracture-dislocations of the ankle. Since then Wheeler and others have advocated it with equal success in the treatment of fractures of the lower third of the leg. I have treated twenty cases by this method, and have found the results exceedingly satisfactory; in no case has the dislocation recurred during the application of the plaster.

The Method.

Full muscular relaxation is essential, either by general or spinal anaesthesia. After a preliminary *x*-ray inspection the ankle is examined and the fracture-dislocation reduced. Over stockinette and a single layer of wool-wadding, *plaster 1* is applied, extending from just below the knee to about one inch above the ankle-joint. Here I depart from the customary procedure of bringing the plaster above the knee. Provided the wool is *not* too thick and the plaster is well moulded below the knee, I have not found this detrimental to the ultimate result; on the contrary, it facilitates the movement of the patient during his convalescence, and he maintains a freely movable joint all through. Plaster 2 is next applied to the foot, extending from the toes to about one and a half inches from the lower end of plaster 1. It is advisable to mould this plaster well around the heel, otherwise it is apt to slip off the foot during the final adjustments. If the assistant holds the foot in as near the corrected position as possible during the application of plaster 2, the risk of pressure sores will be greatly reduced. This is specially liable to occur on the dorsum of the foot at the upper end of plaster 2 when the foot is finally dorsiflexed. The plaster should be trimmed at this point and the wool turned back over it before applying plaster 3.



When plasters 1 and 2 have dried the operator takes the *foot and makes the final adjustments*. In doing so he must direct his attention to three cardinal points: first, the complete correction of the dislocation; secondly, the accurate apposition of the medial malleolus; and thirdly, the accurate apposition of the torn deltoid ligament. To fulfil the first the ankle is dorsiflexed to its full degree. In order to accomplish this the knee must be flexed to slacken the tendo Achillis and counter-pressure applied to the leg while the operator lifts the ankle well forward. The *medial malleolus will come very nearly into line during* this manipulation, and a little moulding will *get it into* perfect position. The foot is finally inverted to secure apposition of the deltoid ligament. While the operator holds the foot in this position the assistant applies plaster 3. The ankle is *x*-rayed the following day in both planes, and *if the position is satisfactory* and no swelling or discoloration of the toes be present the patient is sent home on the *third day* and encouraged to get about on crutches. Like most fractures, once perfect apposition is secured the patient complains of little pain.

After-Treatment.

The plaster should remain in place for two or three weeks; at the end of this time it is bivalved and the anterior half discarded. Massage and movement are then commenced and carried out daily. The posterior plaster splint should be retained for a further period of four weeks; it fits the foot and leg like a glove, and no substitute in the way of a splint will ever take its place, for while it is worn we are assured that displacement cannot occur. Six weeks after the injury the posterior half may be discarded, but weight-bearing is not permitted for a further two or three weeks. When this is commenced the inner side of the boot is raised half an inch by the usual method; this boot is worn for at least six months. In heavy subjects it is advisable to support the ankle with an outside iron and inside T-strap over the same period.

Report of a Case.

A man, aged 57, slipped off a haystack, falling about eight feet and landing on his left foot. The foot gave way beneath him and he was unable to rise from the ground. The ankle was found to be greatly deformed, the foot was markedly inverted, swollen, and dislocated laterally.

The man was removed to hospital and *x*-rayed. The skiagram (antero-posterior view) showed marked displacement of the medial malleolus with the usual fracture of the fibula (Fig. 1). The lateral view showed an anterior dislocation and forward displacement of the medial malleolus (Fig. 2).

A general anaesthetic was administered within an hour and a half of admission to hospital, and the fracture-dislocation put up in a three-piece sectional plaster casing.

Radiographs taken the next day showed the bone alignment to be satisfactory (Fig. 3), and that the anterior dislocation and displacement of the medial malleolus had been corrected (Fig. 4). The following day the patient was discharged to his home on crutches. He was radiographed eight weeks later and the positions were found not to have altered in either case (see Figs. 5 and 6).

The patient did not bear weight until ten weeks had *elapsed*, by which time he had a freely movable ankle-joint. Seen three months later he was walking normally and without pain.

Conclusions.

1. Plaster fixation is the only certain and satisfactory *method of maintaining the corrected position of fracture-dislocation* of the ankle.

2. The three-piece sectional plaster casing assures the maintenance of the corrected position during the application of the plaster, which a one-piece plaster *fails to do*.

3. The patient can be discharged from hospital on the third day on crutches with the assurance that the position cannot alter during his absence.

REFERENCES.

[1] Jones: *Injuries to Joints*, p. 176. [2] Wheeler: *Lancet*, 1925, ii, p. 536. [3] Cochrane: *Brit. Journ. Surg.*, vol. xii, 1924, p. 215. [4] Hey Groves: *Modern Methods of Treating Fractures*. [5] Cotton: *Dislocations and Joint Fractures*, p. 625. [6] Roberts and Kelly: *Fractures*, p. 653. [7] Page and Bristow: *The Treatment of Fractures and Dislocations in General Practice*, p. 24.

British Medical Association.

CLINICAL AND SCIENTIFIC PROCEEDINGS.

EGYPTIAN BRANCH.

A CLINICAL meeting of the Egyptian Branch of the British Medical Association was held in Cairo on January 16th in the Physiological Department of the Royal School of Medicine, Kasr el Aini, with Dr. R. J. COLEMAN in the chair.

Cases and Radiograms.

Professor A. BIGGAM showed typical cases of Egyptian splenomegaly, pellagra, and ankylostomiasis. He also showed a case of congenital heart disease with normal temperature, no clinical signs of lung involvement, and sputum negative to tubercle, in which *x* rays indicated diffuse tuberculous pulmonary disease. A case of aneurysm of the aortic arch was also shown. The heart was markedly displaced downwards, and to the right of the sternum was an expansile pulsating swelling the size of a hen's egg, which had eaten its way through the fourth costal cartilage. *X* rays showed this to be a sacculation from a large clotted aneurysm of the arch. The patient had experienced no pain or discomfort at any time, and only came to hospital because he noticed this local swelling.

Dr. R. A. GARDNER showed a series of slides made from skiagrams taken in the radiological department of Kasr el Aini Hospital. They included a case of ventriculography, where the method had been successful in correcting a clinical diagnosis of frontal tumour by demonstrating an infratentorial lesion. Skiagrams from a patient showing Madelung's deformity of the wrist (unilateral) also showed an arrest of development of the fourth metatarsal, but no definite sign of rickets was found in the usual sites. Slides were also shown of a large aortic aneurysm projecting through the anterior chest wall without symptoms other than those due to the external local swelling. Pyelograms were shown of a case where, in addition to the usual appearances, an irregular shadow in the iliac region communicated by a narrow short connexion with the normal ureter and suggested an accessory kidney and ureter. A striking case shown was that of a boy suffering from congenital heart disease who had not, nor so far as could be found had ever had, any symptoms of pulmonary disease, yet whose lung skiagram gave a picture indistinguishable from that seen in miliary tubercle. Slides from several other cases were shown, including a normal cholecystogram, a fracture of the spine demonstrated with lipiodol, a case showing multiple bone metastases, and a large calcified renal tumour.

Dr. SHAHEEN BEY showed specimens of foreign bodies removed from the oesophagus.

The following cases from the surgical unit, Kasr el Aini Hospital, Cairo, were shown:

Professor A. K. HENRY showed: (1) A case of rectal prolapse treated by a modification of Lange's method of shortening the rectum from behind after removing the coccyx. (2) A case of shoulder-drop treated by slinging the scapula to the vertebral spines with two strips of fascia lata. (3) A case of talipes calcaneo-valgus stabilized by hinged grafts. (This case is recorded in detail at p. 663.) (4) A case of luxation of both shoulders, after birth palsy, in a girl aged 11, with a cinematograph film showing the skilled movements of the feet, with which she was able to feed herself and to sew.

Dr. AHMED EL SAYED HANDOUSA (Resident Surgical Registrar) showed slides to illustrate a simple way of fixing the tendons transplanted for varus deformity. Dr. Handousa's description of the device was as follows:

> The best way of fixing a transplanted tendon is to pass it through a hole in bone (Gallie and Le Mesurier, *British Journal of Surgery*, 1924, xii, 289). As the tibialis anticus is too short to be passed through the base of the fifth metatarsal bone in cases of varus deformity of the foot, the following device has been carried out to compensate for that shortness and to secure a very strong insertion to the outer side of the foot.
>
> The extensor hallucis longus, which Jones and Lovett recommend as an auxiliary, being a long tendon, is detached from its insertion and transferred to the outer side of the foot. It is drawn through a hole in the base of the fifth metatarsal bone, and its end is split into two limbs, as shown in Fig. 1. The two limbs are passed through a hole in the short tendon of the tibialis anticus, looped back and sutured to themselves and to that tendon. The extensor hallucis longus is again sutured to itself at A and B (Fig. 2). The ends of the two tendons, being now firmly attached to one another, are buried under the periosteum of the cuboid bone.

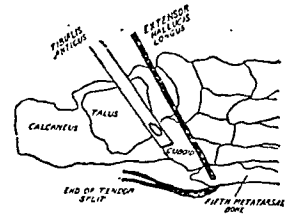


FIG. 1.

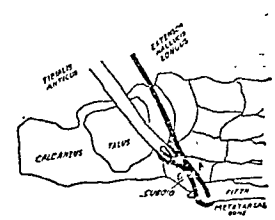


FIG. 2.

I am indebted to Professor A. K. Henry, director of the surgical unit, Kasr el Aini Hospital, who used this method for the *right* foot of the girl shown in Figs. 5 and 6 of his paper on hinged grafts, for permission to publish it. (See p. 664 of this issue.)

Reports of Societies.

THE ACETONE BODIES IN DIABETIC COMA.

AT a meeting of the Section of Pathology of the Royal Academy of Medicine in Ireland on March 18th, Dr. R. J. ROWLETTE in the chair, Dr. A. R. J. DUNGAN read a paper on the part played by the acetone bodies in diabetic coma.

Dr. Dungan gave a brief review of the literature to show that the actual part played by the acetone *bodies* in producing the symptoms of diabetic coma was very unsettled. Experiments were then described which indicated that dogs and cats could be free from symptoms while having in their blood concentrations of aceto-acetic and β-hydroxybutyric acids greater than those commonly found in human diabetic coma; it was concluded, therefore, that neither of these acids was likely to exercise a direct toxic effect in this condition. The experiments also showed that with the former acid, and probably also with the latter, when sufficient had been administered to a dog there resulted a curious delayed intoxication, leading to prostration and death, the latter commonly occurring at a time when the acetone bodies had almost disappeared from the blood. One feature of this intoxication was a resistance to the action of insulin, such as occurred in human diabetic coma. It was suggested that this latter condition might possibly represent a similar "indirect" intoxication with one or both of these acids. Further experiments with acetone were described which showed that the effects of this substance were totally different from those of aceto-acetic acid.

Dr. A. R. PARSONS said that he had always had great difficulty in getting oxybutyric acid in the urine, and asked if there was any danger of producing hypoglycaemia in a case of diabetes by pressing insulin, when the urine was full of acetone and diacetic acid, but only a very slight amount of sugar was present.

Dr. H. R. MICKS referred to the resistance to insulin which was sometimes met with apart from ketosis, and asked what caused this resistance. He mentioned a case recently reported, in which insulin had done very little towards lowering the blood sugar, and said it looked as though there was something else in the body, not a ketone, in diabetic cases which interfered with the action of insulin.

Dr. E. T. FREEMAN asked what was the behaviour normally in diabetic dogs in regard to the formation of ketone bodies, and if the effect of the ketone bodies in dogs in the advanced stage of diabetes was at all comparable with what it was in human beings, and if ketone bodies formed as rapidly in dogs as they did in human beings.

Dr. DUNCAN replied that cases of diabetic coma had been rather rare in the hospital in which he had worked in America; when they did occur the patients were given massive doses of insulin, and ketosis disappeared almost immediately. Large doses of insulin should not, in his opinion, be given to a patient who had acetonuria but was not in definite coma. He did not know what caused the resistance to insulin in some patients, unless it was gross pancreatitis, or carcinoma. He referred to the peculiar resistance of dogs to the action of narcotic drugs.

Aneurysms of Abdominal Arteries.

Dr. W. D. O'KELLY showed a specimen from a case of ruptured aneurysm of the iliac artery. A woman, aged 68, while in a tram one morning, became weak, went home, and died that evening. The necropsy showed a ruptured aneurysm of the left common iliac artery. Haemorrhage had apparently occurred first into the retro-peritoneal tissues; the peritoneum had later given way, resulting in extensive intraperitoneal haemorrhage. The heart was enlarged, and showed evidences of coronary disease, but the valves were comparatively healthy. There was atheroma of the aorta with the linear cicatrization typical of a syphilitic lesion.

Dr. T. T. O'FARRELL referred to a case of aneurysm of the coeliac artery, in which it had not been possible to make the diagnosis for some time after the man had been in hospital. He had been admitted as a case of anaemia, but ultimately the aneurysm was found, and he lived for about three weeks.

Dr. R. J. ROWLETTE considered aneurysm of the iliac artery comparatively rare. It was interesting that the patient had lived for ten hours after the rupture. Dr. H. F. MOORE asked if a Wassermann test had been performed, and Dr. A. R. PARSONS inquired whether a Wassermann test after death was reliable. Dr. O'KELLY stated that he did not attach much value to the Wassermann test performed on serum collected at *post-mortem* examinations.

Haemangio-endothelioma.

Dr. A. HALPENNY exhibited specimens of haemangio-endothelioma taken from a child, aged 8 months, who was admitted to hospital with two tumours, one above the superior angle of the left scapula and the other over the right deltoid. The former was about the size of a walnut, and was surmounted by a cutaneous naevus. The latter swelling was smaller, and the skin over it was normal. On palpation the tumours were found to be lobulated, and had the consistence of sebaceous cysts. The patient's mother stated that she had first noticed the swellings when the child was a week or ten days old; within the past two months they had noticeably increased in size. The tumours, which lay in the subcutaneous tissue, were removed, and the affected portion of skin over the larger growth was excised; they were solid, and were separated by a capsule from the surrounding fatty tissue. On microscopic examination of sections both tumours were found to have a fibrous capsula surrounding lobulated processes, and the periphery of the lobules presented the typical appearance of haemangioma hypertrophicum, showing proliferated capillaries forming columns of cells several layers deep, with a central lumen. The individual endothelial cells were rich in cytoplasm, and had roughly circular nuclei. The centre of the lobules had undergone endotheliomatous degeneration. The cells were no longer arranged in columns, but lay very much closer together, forming a conglomerate mass, and the more numerous nuclei almost filled the cells. There was no attempt at lumen formation.

TREATMENT OF MENORRHAGIA.

AT a meeting of the Liverpool Medical Institution, on March 17th, Dr. R. E. ROBERTS and Mr. ST. GEORGE WILSON contributed a joint note on the treatment by x rays of certain menstrual disorders, especially menorrhagia, with a report of thirty-four cases.

Emphasis was laid on the difference in technique adopted in patients of different age. In older patients the aim of treatment was to bring about an artificial menopause, while in patients under the age of 40 the aim was to avoid, if possible, any interference with fertility and to perform castration only as a last resort. Attention was drawn to the fact that a castration dose in a patient over 40 years would not be effective in a younger woman, thus increasing the margin of submaximal dosage in the latter; in a young patient the process of castration would take longer. In the group of older patients a permanent amenorrhoea was successfully brought about by x rays in every case; in younger ones amelioration of symptoms was produced in most of the cases by submaximal dosage, and it was rarely necessary to proceed to complete castration. Most of the cases had been treated unsuccessfully by other means before employing x rays. Reference was also made to the irradiation of the spleen as an adjunct to the treatment of excessive bleeding, and to the irradiation of the ovaries by very small stimulating doses in dealing with primary amenorrhoea.

Psoriasis.

Dr. R. W. MACKENNA, in a paper on psoriasis, regretted that, though psoriasis was one of the most ancient of all diseases, there was, as yet, no certain means of curing it. Its cause was still unknown, though a definite familial tendency to it was undoubtedly traceable in about 30 per cent. of cases. The determining cause of the first outbreak was usually some slight trauma, but after the first attack a patient was likely to suffer from recurrences for the rest of his life. The psoriasis papule, which was the initial lesion, was a characteristic pathological entity, and it should be possible to diagnose psoriasis from it. The appearances produced by systematic curetting (grattage) were extremely characteristic. The anatomical conditions on which these phenomena depended were demonstrated by a microphotograph of a section of a papule. The paper was illustrated by lantern slides and many coloured illustrations, and Dr. MacKenna gave an account of a series of experimental observations which had been carried out in his clinic at the Royal Infirmary, with the help of Dr. *Elizabeth Hunt*. They had not, however, succeeded in discovering any new and certain method of curing the disease.

JAMES MACKENZIE INSTITUTE.

ON March 22nd, at the James Mackenzie Institute for Clinical Research, St. Andrews, Dr. N. MCLEOD read a paper on abdominal pain and hyperalgesia, and dealt with some points in connexion with the actual state of affairs found within the abdomen in cases where there was disturbance of the viscero-sensory and viscero-motor reflexes. He divided the causes of pain in intra-abdominal disorders into two main groups, the mechanical and the inflammatory. The first group included the muscular movements of the gastro-intestinal tube, and he described two cases to illustrate the different types of pain experienced in disordered peristalsis as compared with exaggerated peristalsis. Referring to the production of abdominal pain by traction on the peritoneum by peritoneal bands and adhesions, he quoted cases of abdominal pain where such dragging had occurred but where the nature of the symptoms could only be explained by assuming that the cause lay in the exaggerated muscular movements in the wall of the intestine. He mentioned one case in which it was possible to assume definitely dragging or adhesions to parietal peritoneum though no symptoms had arisen. In the inflammatory group he discussed the mechanism of production and the localization of pain in local peritonitis, both visceral and parietal. Apparently the viscero-sensory reflex was similarly disturbed in both varieties, but in the case of parietal peritonitis there was an additional factor—namely, the involvement of the cerebro-spinal nerve endings in the extra-peritoneal tissue by direct spread of the inflammation. He concluded that in cases where the visceral peritoneum alone was involved the symptoms were those referable to the organ which was covered by the inflamed peritoneum, while in local parietal peritonitis pain was localized over the area of peritoneum affected.

three lemons is swallowed daily. Curetting, we learn, is a humiliating and unnecessary operation—inject lemon juice and attend to the diet. Lemon juice is the most marvellous disinfectant yet "unknown" to medical science. It cures piles, syphilis, and cancer; so that many pages of dictionary might have been saved by mentioning lemon juice under one heading: "panacea."

MEMORIAL VOLUME TO SIR WILLIAM OSLER.

LAST year Bulletin IX of the International Association of Medical Museums formed a memorial number to Sir William Osler; it contained numerous appreciations from his friends and admirers, more than a hundred successful illustrations, mainly of Sir William and of the title pages of his published books and papers, and an elaborately classified and annotated bibliography of his writings occupying 130 pages. This volume of more than six hundred pages, most successfully edited by Miss MAUDE ABBOTT, was published privately and noticed in these columns (1926, i, p. 879). The 1,500 copies of the first impression were exhausted within six months, and to meet the continued demand a second impression[10] became necessary. This opportunity has been taken to add ten appreciations and reminiscences, a new sonnet, "The Healer," by Marion Osborne, and three new illustrations, including a fine colour print of J. S. Sargent's great picture of Osler, W. H. Welch, W. S. Halsted, and Howard Kelly.

Among the new appreciations are contributions from Sir E. Sharpey-Schafer, Dr. L. G. Rowntree, and two from Dr. Lawrason Brown of Saranac Lake, a short one entitled "Osler and Trudeau," and an address delivered at the inaugural dinner of the Osler Club, Saranac Lake, N.Y., on December 9th, 1925, with many interesting personal reminiscences. Like Dr. Rowntree and many others, Dr. Lawrason Brown caught the habit of book collecting from his former teacher and friend.

As before, this interesting memorial to a great and deeply regretted personality is attractively got up, and it is clear why Miss Maude Abbott's real labour of love has been so entirely successful.

NOTES ON BOOKS.

IN his contribution to the study of heredity in tuberculosis[11] Dr. R. PLA Y. ARMENGOL, whose essays on tuberculosis were noticed some time ago (JOURNAL, September 27th, 1924, p. 579), maintains that tuberculous infection of the foetus is very frequent, if not constant, in cases of active tuberculosis in the mother, while children whose fathers are suffering from active tuberculosis present a specific predisposition to develop the disease. On the other hand, the inheritance of tuberculous infection or the predisposition to tuberculosis is not equivalent to disease, so that the aim of the practitioner should be to increase the resistance of the individual with a tuberculous inheritance or predisposition and enable him to transmit his resistance to his descendants.

In *The South American Handbook*[12] for 1927, edited by Mr. J. A. HUNTER, the would-be tourist or emigrant can obtain a wealth of information. The first chapter describes the continent, its seasons, its health, its lack of roads, and its facilities for travel, with a glossary of Spanish and Portuguese terms, a list of weights and measures, and the text of the Monroe Doctrine. A brief description of the places of interest at the ports of call on the voyage out leads to an alphabetically arranged account of the various republics and countries of South America, with their products, resources, and tours that may be made in them. The chapter on the Falkland Islands includes an account of Sir Doveton Sturdee's action in 1914, and the interesting information that the Argentine Government does not recognize the British occupation, and presents an annual protest against it. The emigrant to South America is warned to take special precautions, especially if moneyless, and speculative emigration is discouraged.

[10] Bulletin No. IX of the International Association of Medical Museums and Journal of Technical Methods. *Sir William Osler Memorial Number: Appreciations and Reminiscences.* Second impression. Edited by Maude E. Abbott, M.D. Privately issued at 836, University Street, Montreal, Canada. 1927. (6½ × 9½, pp. xxxix + 634; 103 illustrations.)

[11] *Contribucion al estudio de la herencia en la tuberculosis.* By Dr. R. Pla Y. Armengol. Barcelona: Tipografia Emporium. 1926.

[12] *The South American Handbook, 1927.* Edited by J. A. Hunter. London: South American Publications, Ltd. 1926. (Cr. 8vo, pp. lxviii + 645; with maps. 2s. 6d. net.)

THE AUSTRALASIAN MEDICAL CONGRESS
OF THE
BRITISH MEDICAL ASSOCIATION,
DUNEDIN, NEW ZEALAND.

(Continued from page 628.)

THE SCIENTIFIC SECTIONS.

COMBINED MEETINGS.

FOURTEEN combined meetings were held during the Congress in order to enable the various sides of different medical problems to be considered. Dr. L. E. BARNETT, President of the Congress, took the chair at the sessions in which goitre, spastic paralysis, and cancer were the subjects of discussion.

Goitre.

The Sections of Medicine, Surgery, Radiology, Preventive Medicine, and Pathology met together to consider goitre, Dr. H. SUTTON (New South Wales) being the opening speaker.

Dr. Sutton said that enlargement of the thyroid had a district incidence in Australia. Similar geographical, geological, and rainfall conditions were associated throughout, goitre being limited to the coastal plains with heavy rainfall. The incidence in heavy rainfall areas was explained by the withdrawal of iodides from the soil. No information was available with regard to goitre in animals. While the evidence was in favour of the soil theory, the study of the water supplies in the northern tableland and north-west slopes in New South Wales suggested associated water supplies, tank or surface but not artesian water being concerned. In school children goitre was associated with good health; the incidence was well distributed throughout the population, and no association with previous illness had been detected. The lack of association with toxic thyroid meant that prevention had not been emphasized or even tested in New South Wales. The best test of a goitrous area was the incidence of the disease in boys, in whom it was always abnormal. Simple enlargement of the thyroid and exophthalmic goitre were to be clearly distinguished, no relation between them having been established.

Dr. C. E. HERCUS (New Zealand) had found goitre most abundant on the more or less gravelly plains and river flats, and along the narrower flood plains of the large rivers. District incidence was an established fact. The occurrence of simple and toxic goitres constituted a serious problem in many districts. From the study of the iodine content of some 500 samples of soil obtained from all districts in the Dominion, it was found that the amount of iodine in the soil bore an almost inverse relation to goitre incidence. Sedimentary soils, especially if sandy or gravelly, contained least iodine. A general survey of the iodine content of foodstuffs had been undertaken, and a comparative study made of the goitrous and non-goitrous districts. The foods richest in iodine content were edible seaweed, sea-fish, eggs, wholemeal cereal products, leafy vegetables, and milk. The findings had been checked by clinical studies of iodine excretion in goitrous and non-goitrous districts, and were in favour of the view that goitre was caused by an iodine intake deficiency. The problem was to meet this biological deficiency in such a manner as to be harmless. The universal use of salt containing 1 part of potassium iodide in 250,000 parts was recommended as a compulsory preventive measure.

Professor A. M. DRENNAN (New Zealand) dealt with the pathology of goitre and showed a series of illustrative slides of different types of pathological changes. He gave the results of work by C. S. Hicks, K. C. Roberts, and himself on the iodine content of normal and pathological thyroids obtained by operation or at necropsies. He showed how similar changes occurred as regards the histology and iodine content in *post-mortem* glands and in specimens obtained by operation, but insisted that the difference was one of "mass." The gland excised for clinical goitre was larger than a gland obtained at a necropsy, showing similar

changes causing no clinical symptoms. He described some work on the iodine content and histological structure of animal glands which indicated that in endemic areas the gland was poor in iodine as compared with the non-endemic districts. He showed how the hyperplastic, secretory, or active type of tissue was lower in iodine than the colloid, or resting type, and how a clinically "toxic" goitre might be a diffuse colloid of high iodine content, or a nodule goitre with active areas, the active parts being low in iodine, the colloid parts higher. A scheme of goitrous derangements of the thyroid was presented, based on the total mass of the gland, its histological structure, iodine content, and the pathological changes correlated with clinical disturbance. Deficiency of iodine was the most important initial factor. The thyroid exposed to such deficiency must respond in one of two main ways to maintain the necessary supply of hormone. It might uniformly increase the storage area to accommodate a larger supply of colloid which was at a lower iodine concentration. This produced the simple colloid goitre, a common response in the endemic form; it was a compensated gland, and might remain quiescent indefinitely. If the deficiency was marked the gland continued to enlarge and became noticeable. It was adapted to a low iodine intake; if excess of iodine was supplied it became overcharged with hormone, and toxic symptoms might appear. The condition then became a diffuse colloid toxic goitre. The gland might respond also by parts hypertrophying or by parts becoming "active secretory," discharging the hormone as it was made; so arose the nodular or adenomatous goitre. Iodine given to such a patient might, if the mass effect was sufficient, produce definite "toxicity"; the secretory areas making the iodine into hormone, and passing it into the circulation. The whole gland might become active secretory, perhaps compensating, but producing no reserve store. Any extra demand for hormone meant a larger active gland, the primary exophthalmic goitre. Iodine exhibited in this case was of temporary benefit, but did not effect a permanent cure. The place of iodine was in prevention, and the earlier it was used the better.

Dr. R. R. STAWELL (Victoria) distinguished simple goitre, adenoma in simple goitre, adenoma with hyperthyroidism, and exophthalmic goitre as suggested by Plummer. In simple goitre, the endemic type, symptoms were rare; the patients were occasionally either hypothyroid or showed nervous symptoms, but the basal metabolic rate was not raised. They could be treated with iodine, or with thyroid extract, or thyroxine controlled by determinations of the basal metabolic rate. The treatment of adenoma, whether simple or toxic, was surgical. There was often heart failure with auricular fibrillation, for which digitalis and quinidine were of doubtful value. The characteristic symptoms of exophthalmic goitre were not those of increased metabolic rate, such as tachycardia, but eye signs, nervousness, and crises (Plummer). They were attributed to the production of a hypothetical iodine-free product of the thyroid, and the condition was termed "dysthyroidism." In Graves's disease hyperthyroidism and dysthyroidism were both present. Medical treatment was unsatisfactory and Dunhill's subtotal thyroidectomy was the correct practice. Iodine was of value in the form of Lugol's solution; this was given in 10-minim doses, but a massive dose of 100 minims distributed over two hours was given in the case of a crisis. The cause of the disease was unknown; until it was understood surgical treatment was necessary.

Dr. CARRICK ROBERTSON (New Zealand) dealt briefly with the pathology of goitre, including the simple, adenomatous, adenomatous with hyperthyroidism, and exophthalmic forms. He recommended that every cardiac decompensation case should be thoroughly examined for thyroid enlargement. Adenomata and their cystic degenerations called for surgery. The whole thyroid should be exposed or palpated at the operation in order that smaller adenomata in other parts of the gland should not be missed; if they were overlooked they would grow and cause the so-called recurrence. Occasionally a wandering adenoma was found, usually under the sternum. In Graves's disease surgery was indicated, good technique being essential. Much loss of blood was serious; perfect haemostasis and gentle operating were essential in securing a low mortality rate. The exhibition of iodine for a short period before the operation, and for a few days afterwards, made for safety. The best time to operate was usually about a week after the course of iodine had been begun, in the "iodine remission." When it was necessary to operate after *x*-ray treatment, the fibrosis increased the difficulty of the operation.

Dr. C. C. ANDERSON (New Zealand) considered that radiologists could safely take up the position that radiotherapy was indicated as the main line of treatment in goitre, following the usual medical treatment. It could be employed no matter how bad the condition of the patient: the slight early cases produced the best results, although desperately ill patients often gave the most startling ones. A diffuse goitre of the colloid type did not always respond favourably to radiation, whereas in the ordinary parenchymatous type irradiation was useless, although these patients would probably give better results if an operation followed one or two applications of the rays. Another type of case—namely, that in which, despite operation, the condition had recurred—might receive some assistance from the radiologist. Until recently Dr. Anderson had used a current of 10 milliamperes, with 3 millimetres aluminium filtration, an alternate spark-gap of 6½ inches, and a focal skin distance of 12 inches. Each side of the gland was treated for four to five minutes, the thymus being included. The patient was observed until no further improvement followed, when the next dose was given; usually up to six doses would be employed in the course of twelve months, and this would be sufficient. Radium had not proved so successful, but was sometimes useful for treating the very nervous patient. The advantage of *x* rays lay in the great variety and shade of penetration and quantity of radiation which could be used, allowing of almost perfect accommodation to individual needs. Rest was an important factor and enhanced the action of the *x* rays.

Metamorphosis of Simple to Toxic Goitre.

This subject was discussed by the Sections of Medicine and Pathology, Dr. D. GIFFORD CROLL (Queensland) taking the chair.

Dr. S. V. SEWELL (Victoria), opening the discussion, referred to the extreme vascularity of the thyroid. It was possible, he said, that one duty of the thyroid might be to act as a detoxicating mechanism for the blood passing through it. Any physiological stress, such as menstruation, might be met by increased vascularity in a healthy gland, but if the gland was unhealthy hyperplasia might occur. An adenoma might be formed, and in later life, when the gland was atrophied, this adenomatous tissue might, if the occasion arose, produce thyroxine and hyperthyroidism result. Toxins, iodine treatment, and psychic stimulation were some of the many factors which might cause this hyperthyroidism. He then referred to the striking effects produced by the exhibition of adequate doses of iodine in cases of exophthalmic goitre. He mentioned Williamson's work, and said that should it prove to be substantially correct it would in no way invalidate Plummer's conception of the dysthyroidism of Graves's disease and its possible causal association with the presence of an incompletely iodized thyroxine in the blood stream.

Dr. A. H. TEBBUTT (New South Wales) read a paper on the morbid anatomy of tumours of the thyroid gland. He first dealt with the embryology and life-history, and gave an account of the orthodox view. He next discussed aberrant and accessory thyroid tissue and the tumours concerned, illustrating his remarks by numerous microphotographs. He showed four cases of lateral cervical thyroid tissue, all of which were pathological. In three no connexion with the thyroid gland proper could be established, and in three there was no evidence of pathological change in the gland itself. He suggested that in the earliest embryonic stage the thyroid cells were migratory, and established outlying nodules which came into close association with the cervical lymphatic system and lost their connexion with the thyroid gland. One interesting feature was the fact that in his cases the appearance of lateral cervical thyroid tissue was restricted to one side.

In support of Ewing's view that tumours of the thyroid might be embryonic or adult growths, and that both groups included adenomata and carcinomata, he showed specimens of various forms of malignant and benign tumours all of which appeared to be of the adult type. He demonstrated that the adenomata passed from the simple replacement of alveolar cells by lymphoid tissue through various stages up to the typical Riedel struma.

Dr. F. T. BOWERBANK (New Zealand) emphasized the great importance of the basal metabolic rate in relation to disease of the thyroid (1) in diagnosis, (2) to estimate the progress of the disease and the result of medical and surgical treatment, and (3) to determine the time to operate and the extent of operation. After mentioning briefly the methods of determining the basal metabolic rate, he showed several lantern slides of graphs illustrating his remarks. In conclusion, he stated that the basal metabolic rate was the most consistent of all the signs and symptoms of hyperthyroidism or thyrotoxicosis. Taken in conjunction with the clinical signs and symptoms it was a valuable guide in diagnosis, in the progress of the disease, and in estimating the time and extent of an operation, if required. A patient who gave a reading of over 115 (100 taken as zero) on two consecutive days had hyperthyroidism. The closed method was most suitable for the use of medical practitioners; its use, especially where operation was contemplated, would lower the mortality rate.

Dr. W. SUMMONS (Victoria) dealt with goitre in Gippsland, the wide littoral of the eastern portion of Victoria. Most of the thyroid enlargement discovered had conformed to the simple parenchymatous type. None of the children exhibited evidence of hyperthyroidism; the physical development was up to standard, and no defects were found that separated them in any way from children in other localities. He concluded that in Gippsland among school children of either sex endemic goitre of a simple parenchymatous type was prevalent. There was no associated undue prevalence of toxic goitre, but there was some inconclusive evidence that the thyroid hyperplasia might be an effort to counteract a state of hypothyroidism. An investigation was being conducted of the iodine content of water and food.

Diet.

Dr. E. W. GIESEN (New Zealand) took the chair for a combined meeting of the Sections of Medicine and Preventive Medicine to consider questions relating to diet.

Dr. P. H. BUCK (New Zealand) opened the discussion with a paper on the food of the Maoris. He said that before the colonizing expedition of 1350 A.D. the Maoris were in what was termed the food-gathering stage. The food-producing stage was marked by the difficulty of growing foods such as the kumara, which were of tropical origin. Mammalian food was scarce, almost the only land mammal eaten being man himself. Fish and shellfish were eaten whole, and with the liquid contained in the shell formed the staple food supply. They were gathered in their proper seasons, and some of them were preserved by drying. Almost every kind of bird was eaten, the principal ones being the wood-pigeon, the parrot, and the tui. The entrails were cooked and eaten with the bird. Birds were preserved in their own fat for reserve supplies. The cooked and beaten rhizome of the New Zealand bracken was the most important source of carbohydrate. It was chewed and the fibrous material was rejected. For green vegetables they used the top of the taro, the sow-thistle, and leaves of *Solanum nigrum* and of other plants. Fruits and berries of the karaka, tawa, and hinau were also used. Food was cooked by means of the earth oven, a process which amounted to steaming; grilling was also used. There were two meals a day—one in the morning and one in the late afternoon. For variety of food an interchange was often made under the form of gifts. Fresh stream or river water was the only beverage. The Maori had to procure his foods for himself, his foods were hard and fibrous, and thus arose the necessity for chewing. The result was a magnificent bodily physique.

Dr. R. W. CILENTO, Director of Public Health in the Territory of New Guinea, reporting on diet and nutrition in Northern Melanesia, said that the native diet had been shown by analysis to be deficient in protein, fat, in vitamins A and C, and in salt; only irregularly were there additions which compensated for these deficiencies. There was, moreover, an increasing diminution in the supplies of flesh foods. He correlated these deficiencies with the poor physique of the natives, and with the high death rate from respiratory and intestinal diseases. He considered that the racial susceptibility to disease was due to dietary deficiencies rather than to any inherent lack of racially acquired immunity. In support of this he stated that the tendency to tuberculosis disappeared when the natives emigrated to a land where food supplies were more adequate. But for the liberal supply of sunlight the conditions would be much worse.

A paper on the relation of gastric function to the chemical composition of the blood, prepared by Dr. F. L. APPERLY (Victoria), was read by a delegate. It was stated that the existence of a relation between blood chemistry and gastric function was probable. If the bicarbonate content of the blood was increased the tone of the stomach muscle was also increased. In hyperpnoea from cardiac and other causes the alveolar carbon dioxide and plasma bicarbonate were low, and anorexia and vomiting were common. He had found that the plasma bicarbonate varied directly with the total chloride of a test meal, up to one and a quarter hours. Since gastric tonus varied with total gastric chloride it must also vary with the plasma bicarbonate. Also high acidity led to rapid emptying of the stomach, and a high plasma bicarbonate was found at the same time. The chloride of the blood appeared to vary inversely with that of the stomach, and patients with gastric hypotonus had low plasma bicarbonate and high chloride. Injection of ammonium chloride reduced the plasma bicarbonate and also gastric acidity and tonus, while rebreathing did the reverse. These experiments had therapeutic applications.

Professor H. P. PICKERILL, C.B.E. (New Zealand), in a paper on diet as a cause of sepsis in the alimentary canal, said that highly prepared, non-sapid carbohydrate food underwent lactic acid fermentation in the mouth, and failed to stimulate the alkaline saliva which would neutralize and wash it away. Taste was important in digestion, and non-sapid food did not stimulate the glossopharyngeal nerves. Organic acids were required for this, and they were lacking in such food; much alkali was present in food and used in drugs. Such food led to salivary stasis and bacterial growth. He thought that the toxins produced stimulated the sympathetic, which would explain the syndrome of intestinal toxaemia.

Dr. S. A. MOORE (New Zealand) believed that the "optimum tonic diet" excluded all denatured food; included abundance of the protective foods, such as contained fat-soluble A, calcium, no excess of muscle, but included the viscera of animals; and provided raw food as a salivary stimulant at the end of the meal. The errors in modern diet might not lead to obvious effects, but they tended to the gradual deterioration of the individual or of the race, providing fit soil for the incidence of the more conspicuous diseases. He testified to the value of the optimum tonic diet in cases of alimentary, renal, and other disorders, and hoped that the next congress would deal with the parts played in health by exercise, ventilation, rest, psychology, posture, and diet.

Dr. T. RUSSELL RITCHIE (Samoa) attributed the splendid physique of the Samoan to the plentiful food supply and to the hard work necessary to secure it. The diet was largely vegetarian, with occasional additions of fish and meat. There were no deficiency diseases among the Samoans, but it remained to be seen what effect would be produced by the recent tendency to eat imported foodstuffs. If there had been any deterioration in physique it had been due to hookworm, which was now, however, being controlled. The danger age for children was between 6 and 18 months, when marasmus was common through the sudden transference to adult diet, but by public health advice on diet the infant mortality had been reduced from 200 to 120 per 1,000 in two years.

Dr. ELIZABETH GUNN (New Zealand) said that she had held six health camps, each of between four and six weeks' duration, for a total of 550 children suffering from malnutrition. The general principles on which the camp was

run included the supply of plain but wholesome food and the keeping of regular hours, with plenty of sleep. Children who on arrival were nervous, food-faddy, and irritable put on weight and improved in general health in an astonishing manner. Some, previously regarded as mentally backward, were now up to their average age in classwork. She had had remarkable results with a milk class, where fifty undernourished children were each given half a pint of milk a day.

Pulmonary Tuberculosis.

Dr. G. J. BLACKMORE (New Zealand) opened a discussion on pulmonary tuberculosis in infants and children at a combined meeting of the Sections of Pediatrics and Radiology. He said that in the course of seventeen years out of 1,800 patients with pulmonary tuberculosis only thirty-seven were below the age of 13. No great difference existed as between adults and children; the same diagnosis applied equally to both. In dealing with diagnosis he emphasized the fact that infection could be proved by reactions to von Pirquet's and Moro's tests. The relative frequency of bovine and human infection varied greatly in different countries. Tuberculosis was essentially a disease contracted in childhood, the adult being relatively immune to infection. When it became manifest in an adult it was in the great majority of cases a recrudescence of disease contracted in childhood. Infection occurred almost entirely indoors; it was therefore the home conditions during childhood which they had to consider if infection was to be prevented. They must deal with the child if they wished to prevent the infection from becoming a serious disease and to abolish adult tuberculosis.

Dr. C. C. ANDERSON (New Zealand) exphasized the fact that in radiography error was caused by comparing the appearances in the chest of a child with those of an adult. Pulmonary tuberculosis could be shown once the tubercles began to form, but the difficulty was to know how to distinguish the early pathological appearances from those of the normal or average chest. He believed that lesions commenced in very young children in the lower lobe and spread centripetally to the hilum; cases of miliary type were rare. He showed various radiographs to illustrate the difficulty in making a diagnosis, and suggested that the radiographs of New Zealand chests differed from those of the Old World chests on account of the greater acuteness of the infection met with in the former country.

Dr. J. F. MACKEDDIE (Victoria) gave a demonstration to a meeting of the Sections of Medicine and Radiology of artificial pneumothorax, which was illustrated by cinematograph films. He said that the long-delayed acceptance by British workers of this means of treatment was due to division of opinion as to the class of case most suitable for it, and to the dangers attendant upon it. Less harm would result from its more frequent use than from wholesale neglect of it. It required unsparing x-ray help; and before practising it the operator should have a sound knowledge of anatomy and pathology derived from necropsy experience. The cinematograph film showed Lillingston's apparatus and the detailed method of performing the artificial pneumothorax. An account of the difficulties encountered and the means of dealing with them was followed by x-ray pictures illustrating the use of artificial pneumothorax in breaking down adhesions, in performing simultaneous filling and evacuation, and in the treatment of lung abscess. The question of refills, the rate of compression, the optimum compression point, the choice of gas and of needle, and the use of lipiodol by the laryngeal or preferably by the tracheal route, were fully discussed.

Hydatid Disease.

A combined meeting of the Sections of Medicine and Radiology was held to consider the medical aspects of hydatid disease, the performance of artificial pneumothorax, and some points in connexion with the examination of the cerebro-spinal fluid.

Dr. R. R. STAWELL (Victoria) opened the discussion on hydatid disease by enumerating the criteria on which diagnosis was based; these included the toxic (anaphylactic) symptoms, the x-ray examination, the complement fixation test, the Casoni test as interpreted by the Melbourne workers, and the occasional presence of eosinophilia and of hydatid hooklets. The toxic symptoms and the manner of their production and manifestation were fully discussed with reference to differential diagnosis. The "hydatid diathesis" was contrasted with the anaphylactic condition. The physical signs and symptoms which should make the physician suspect and link up the diagnosis, and the pitfalls in complicated cases, were mentioned. By using all diagnostic resources the error of diagnosis in Melbourne Hospital had been reduced from 40 to 2 per cent. Since the infestation occurred during childhood directly from dogs, which had been infected from eating the raw offal of sheep, the only plan of prevention was to prohibit the feeding of dogs with hydatid-infected raw material.

Dr. H. R. DEW (Victoria) said that the toxic manifestations following rupture or puncture of a hydatid cyst were to be attributed to anaphylaxis; they could not be due to that small amount of ergotoxin-like substance which was present in hydatid fluid, for the absorption of quite minute amounts could produce the symptoms. The initial absorption which produced the sensitization probably occurred in the early stages of embedding of the parasite before it became walled off from the surrounding tissues. This sensitization was present in 90 per cent. of cases (as determined by the Casoni test), but varied greatly in degree. Leakage due to trauma, puncture, or surgical intervention produced anaphylactic symptoms of benign, severe, or of the gravest character, depending on the amount and rapidity of the absorption and the degree of sensitization. The type and range of symptoms—cutaneous, gastro-intestinal, respiratory, cardio-vascular, and nervous—were described. He stated that general anaesthesia greatly reduced or abolished the anaphylactic state, but after the anaesthesia had worn off symptoms might occur. It was important to remember that the exploratory puncture of even a small cyst was dangerous, and that the degree of sensitization varied greatly. An operation under local anaesthesia was not without risk. The mode of reaction to the Casoni test might prove to be a useful pre-operative guide.

Dr. NEIL GUTHRIE (New Zealand) dealt with the x-ray examination of intrathoracic and subdiaphragmatic hydatid disease and its complications. He said that though he was especially interested in the x-ray aspect, he advocated a combination of all resources in diagnosis. Contrary to textbook impressions, pulmonary cysts were not always readily seen. Uncomplicated cysts might be masked by the heart or might be mistaken for pleural effusion or hyperplasia with a primary or even a secondary sarcoma. The difficulty was increased by complications such as suppuration, spontaneous rupture into the pleural cavity with or without cicatrization, and rupture from an exploratory needling when there had been no previous radiographic examination. Abdominal cysts might be seen if they were on the upper surface of the liver or spleen; a lateral as well as an anterior or posterior view was required. They might be missed after rupture or suppuration, or might be confusing if calcification had occurred. Use might be made of pneumo-peritoneum or of the displacement of a cyst by the barium-filled stomach or intestine.

The diagnosis and surgical aspect of hydatid disease formed the subject of another combined meeting, in which the Sections of Surgery, Radiology, and Pathology took part.

Dr. C. H. KELLAWAY (Victoria) opened the discussion with an account of the diagnostic tests in this disease, with special reference to investigations of the immunological aspect of hydatid infestation in progress at the Walter and Eliza Hall Institute, at Melbourne, of which he is director. In the earliest stage of the disease the only test likely to be of value was the intradermal, which might give a delayed as well as an immediate response; eosinophilia might also be present. At a later stage, when there was a large uncomplicated cyst, with intact laminated membrane and thickened adventitia, there was, as a rule, no eosinophilia, but both phases of the skin

reaction were observed, except in rare cases when the cyst fluid was of low antigenic power. With the formation of daughter cysts, eosinophilia might be present; there might be a reaction to the complement fixation test and often a high titre of antibody might be revealed. The Casoni test might for some time give only an immediate wheal, though later both phases of the skin reaction might be found. Rupture or suppuration might be quiet, with continued absorption of the antigen for long periods, or they might occur suddenly with the production of anti-anaphylactic phenomena due to the outpouring of antigen. The complement fixation reaction was usually positive, indicating a high titre of circulating antibody. The intradermal test might fail, though the appearance of the immediate wheal without any delayed response was common. After some months, when the absorption of antigen had greatly increased, both the immediate and delayed reactions occurred. After death of the parasite or cure by operation, the amount of complement fixation might be small or absent, though the result of the Casoni test, both immediate and delayed, would continue for some years, the delayed response usually being the first to disappear. The Casoni test was of little value when there was a previous history of hydatid infestation, but it was most valuable in early and uncomplicated cases. In complicated cysts, or in cases of recurrence, or of residual cysts, the complement fixation test was of the greatest value. The simple precipitin test of K. D. Fairley was useful where there was no accommodation available for the employment of the complement fixation test.

Dr. P. CAMERON (New Zealand), speaking from the radiological standpoint, referred to intrathoracic and abdominal diagnosis; he emphasized the necessity of correlating a clinical examination and the clinical test for hydatids with the *x*-ray evidence in making a differential diagnosis. Mention was made of the therapeutic value of *x* rays in preventing transplantation following operation; this was not practicable in the liver region.

Sir GEORGE SYME (Victoria) dealt briefly with the history of the treatment of hydatid disease. The ideal treatment consisted in completely extirpating the parasitic cyst with its contents and pericyst entire, closing the incision without drainage. In cysts in the kidney and spleen he recommended Bond's operation, and for the majority of liver cysts Hamilton Russell's operation.

The Cancer Problem.

Professor P. MACCALLUM (Victoria) opened a discussion on the present position as regards cancer; all Sections concerned were invited to take part. He referred to the great public interest in the cancer problem, which indicated the magnitude of the effort being made to solve it. Statistical records showed a steadily increasing cancer death rate in many countries, but this could be explained by better diagnosis and the survival of more people to the cancer age. Though there had been a steady increase in the cancer group, some individual cancer types had actually shown a definite decline. He referred to Miss Slye's work on heredity in relation to cancer, and to Dr. Gye's work on the filter-passing virus and chemical specific factor. Tissue culture studies were yielding results of great importance, notably Warburg's research into the metabolic processes of cells, and Heaton's investigation of the factors affecting the multiplication of fibroblasts and epithelia. Efforts directed especially to treatment had received much attention; he mentioned Blair Bell's lead treatment, Lumsden's immunological work, and the radiological investigations. The search for a general clinical test that would be of value in the diagnosis of cancer had so far been comparatively unrewarded. Botelho's serum reaction had so far proved the most successful of a number which had been elaborated; none so far had been found to have any dependable value as a clinical aid. There was much need for the dissemination of knowledge of early symptoms.

(To be continued.)

Lister Centenary Exhibitions.

WELLCOME HISTORICAL MEDICAL MUSEUM.

IN the Hall of Statuary of the Wellcome Historical Medical Museum in Wigmore Street, London, a remarkably full collection of objects of interest connected with Lister's career has been brought together by the conservator, Mr. L. W. G. Malcolm, and was opened on Monday last. This consists of photographs and portraits of Lister, of his family, and of the houses he lived in, testimonials and diplomas, etc., and instruments used in his researches, together with specimens of the various dressings and ligatures introduced and used by him at various times. There are also many photographs of his associates.

Portraits and Groups.

Of the portraits the most striking is the oil-painting of Lord Lister painted by J. H. Lorimer, R.S.A., which has been lent by the University of Edinburgh, to whom Lister bequeathed it. It was presented to him by his former colleagues and pupils of the University in July, 1895, on his retirement. Another most interesting oil-painting, by Gsell, has been lent by the French Government. It represents the embrace of Pasteur and Lister on the occasion of the celebration of the jubilee of the former in Paris in 1892. The likeness of Pasteur is striking, but the face of Lister is not visible. This is a much more realistic representation of the group of chief actors in the memorable scene than that in the large, almost panoramic picture (see p. 659) of the whole assembly at the Sorbonne, of which also a reproduction is exhibited. Among many other portraits the silhouettes of members of Lister's family are interesting, and particularly so is the original of the delicate and charming portrait of his mother, drawn by his father, which was reproduced in Sir Rickman Godlee's biography. The painting of Upton House, West Ham, where Lister was born, and a number of other views of the house and grounds remind us of the vast changes that have occurred in the neighbourhood of all great towns in the last hundred years. Relics of his funeral are shown, lent by the Glasgow Lister Memorial Committee.

Photographs illustrating his professional and academic career are also exhibited. Lister was an honorary fellow or member of nearly every society interested in natural science or medicine or surgery in the world, and the diplomas and certificates which accompanied these honours cover a large space of the wall of the exhibition room. Here are portraits of a large number of those whose names were best known in surgical circles in all countries in the last century, as well as of those less celebrated whose privilege it was to act as his assistants, house-surgeons, and dressers.

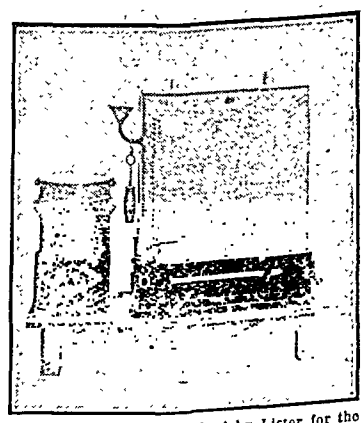


FIG. 1.—Machine as devised by Lister for the preparation of antiseptic gauzes.

Early Apparatus.

In cases on the floor and sides of the hall are some of the original apparatus which Lister used in his investigations, or facsimile reproductions of them, such as his machine for preparing sterile antiseptic gauze. By means of this apparatus, which is shown in Fig. 1, the gauze was

sterilized by heat and the antiseptic substances or liquids diffused throughout its substance. In Fig. 2 is shown the "hot-box," as Lister called it, which he devised for the incubation of microbes. This rudimentary apparatus was the forerunner of the incubator or autoclave of the present

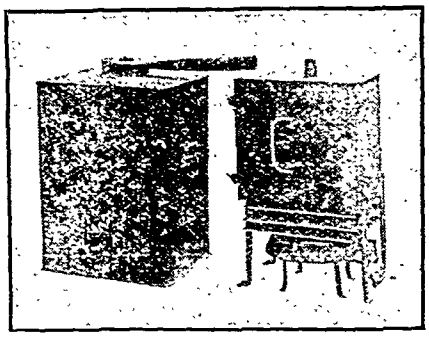


FIG. 2.—Lister's hot-box.

day. It had no thermostat by which the heat could be regulated and kept at any desired point on the thermometer. It was heated by a gas-ring, the flame of which was kept from contact with the box by several thin metal plates or false bottoms, which may be seen in the figure.

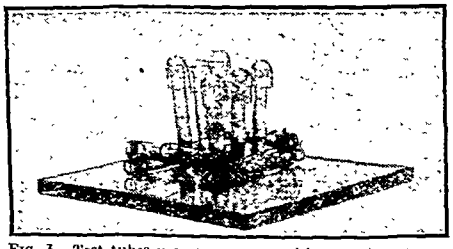


FIG. 3.—Test tubes used by Lister in his experiments on lactic fermentation.

Apparently the only means of keeping the temperature nearly constant was the tap on the gas supply. Rudimentary and rough as this apparatus was, some very good work was done with its help. Fig. 3 shows a group of glass tubes covered by loosely fitting glass caps, but not really sealed in any way. In these, after many trials, Lister succeeded in keeping milk free from fermentation without the aid of chemicals or heat. With their aid he studied the phenomena of lactic acid fermentation.

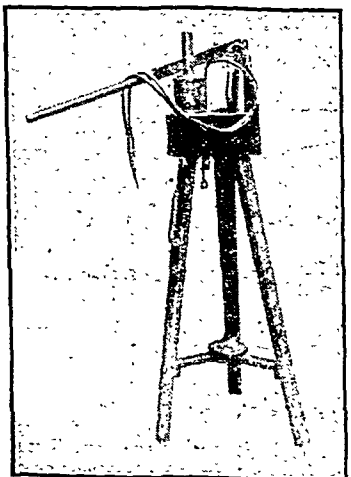


FIG. 4.—Pump spray ("donkey engine") as used by Lister.

Soon after he began to use the carbolic spray during operations, he found that the hand spray, which had been devised by Sir Benjamin Ward Richardson as an ether-freezing apparatus, was inadequate, and that it put the neuromuscular systems of his dressers to too severe a test. He then devised what became known as his "donkey engine," which is shown in Fig. 4. It will be seen that this was worked by a lever in the hands of an assistant, somewhat after the fashion of a primitive fire-engine. He also used a spray worked by foot-bellows, a specimen of which is in this exhibition. The steam spray was the last stage in this evolution, two of the earlier types of which are shown in Fig. 5. Still larger and more elaborate engines were finally employed, but they did not differ in principle from these two. Specimens of his catgut ligature containers are also among the exhibits.

We are struck by the simplicity but practical usefulness of some of these things; by studying them and the collection of dressings and chemicals the evolution of antiseptic surgery may be followed step by step. Although some, like the carbolic spray, whether worked by hand, foot, or steam, have been left behind in the ascent, yet they had their uses in the successive stages of the arduous climb towards that perfection which is not likely ever to be quite reached.

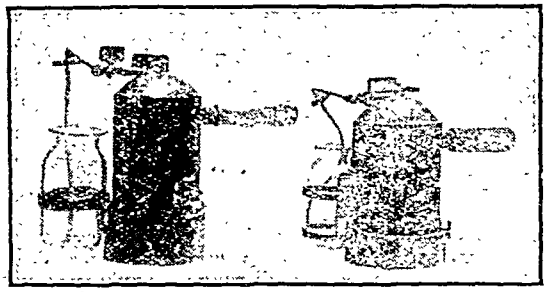


FIG. 5.—Steam sprays as used by Lister.

The Patents of Baronetcy, of Barony, and of Arms of Peerage of the Realm are also exhibited, with the proud motto: "Malo mori quam foedari," which may be freely rendered as "Death before dishonour."

The Lister Ward.

The greatest triumph of this remarkable exhibition is the reconstruction of the essential part of the Lister Ward at Glasgow out of the original materials and with much of the original furniture and equipment, which preserves indefinitely the scene where pyaemia and other hospital diseases were once rampant, where "Died" was a much commoner end of the clinical record than "Discharged" until Lister's antiseptics banished those scourges from it. Besides this section of the actual building (of which a photograph is reproduced at p. 685), a remarkably effective diorama gives the onlooker a very realistic impression of the whole ward.

We are informed that the exhibition, which on Thursday last was the scene of a reception at which Sir StClair Thomson and Professor A. Young gave addresses under the Presidency of Sir W. Watson Cheyne, is to remain open until May.

The photographs illustrating this article are the copyright of the Wellcome Historical Medical Museum.

THE LISTER INSTRUMENTS AT THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

This collection of instruments which had been Lister's was bequeathed to the College by his nephew and biographer, Sir Rickman Godlee. Besides the customary armamentarium of a surgeon the collection includes a number of appliances which were devised for special purposes by Lister himself. His abdominal tourniquet, which he had made for use in a case of iliac aneurysm in which he assisted his father-in-law, Syme, in Edinburgh, was very efficient, but he was not satisfied with this first pattern and modified it again and again. It was not till some time later that he found that he had been anticipated in the invention by Pancoast of Philadelphia. His sinus forceps, which has become a standard instrument, was devised for extracting small sequestra and for the introduction of drains of various kinds. These may almost be called delicate instruments, and they require excellence of material and workmanship for efficiency. His urethral forceps for the removal of calculi from the prostatic portion of the urethra was a very efficient and well devised

instrument. One of its chief merits was that when the blades were separated and the calculus was grasped, the shank took up less room in the urethra than when the blades were closed. This gave the operator more freedom of manœuvre than an ordinary forceps would allow. The lithotrite which he used was copied from one exhibited by Bigelow when he visited London. He had a special hook made, which he inserted into the tendon of the quadriceps cruris, just above the upper fragment of a fractured patella, with which he drew it down into apposition with the lower fragment before twisting his wire sutures. His work in the treatment of fractures and diseases was that of a pioneer. The long steel or iron pegs which he used as a temporary means of fixing fractured bone ends in position are remarkable from the fact of their being square in section. They were driven into round drill-holes, and he considered that they were easier to insert than round pegs or nails. Also their shape left room for the escape of blood or serum from the bone.

Lister had his own form of hernia knife and special retractors to be used in suprapubic lithotomy, which he did much to reintroduce. He devised modifications of cleft-palate needles and urethral sounds for the dilatation of strictures.

An account of these instruments at the Royal College of Surgeons of England has been written by Mr. C. J. S. Thompson for the Lister Centenary celebrations this week at Boston, Massachusetts.

A LETTER BY LISTER.

THE letter reproduced in facsimile on this page was written by Lord Lister in his own hand to the Editor of the BRITISH MEDICAL JOURNAL on the day following the publication of the *Lister Jubilee Number*, which bore date December 13th, 1902.

Joseph Lister passed the examination for the degree of Bachelor of Medicine of the University of London in November, 1852, and was admitted a Fellow of the Royal College of Surgeons of England on December 9th of that year. It was therefore thought appropriate to celebrate the jubilee of his entrance into the medical profession by publishing a special number of the BRITISH MEDICAL JOURNAL which should contain some tributes to his great service to surgery, and through it to suffering humanity, and some account of the steps by which these great results were attained. That issue included as frontispiece a reproduction of the portrait by Hugh Riviere, for which Lord Lister gave the artist several special sittings; the original is in the possession of the British Medical Association, and hangs in the Hastings Hall of its House at Tavistock Square.

Several distinguished foreign surgeons contributed valuable papers to the special issue of December 13th, 1902, including Ernst von Bergmann, Professor of Surgery in the University of Berlin; M. Lucas-Championnière, Surgeon to the Hôtel-Dieu, Paris; Oscar Bloch, Professor of Clinical Surgery in the University of Copenhagen; Professor von Mikulicz-Radecki, of the University of Breslau; and Professor Francesco Durante, Director of the Surgical Clinic in the University of Rome.

12, PARK CRESCENT,
PORTLAND PLACE.

14 Dec 1902

My dear Dr Williams.

I must tell you how very much the Jubilee number has gratified me. It pleases me not only because "dulce est laudari", but much more because it seems to me calculated not only to interest but also greatly to profit many of your readers.

Your editorial words are enough to make me blush, and you must allow me to express my admiration of the way in which you have managed this by no means easy undertaking.

Believe me
very sincerely yours
Lister

Dr Dawson Williams
British Medical Journal
429 Strand
W.C.

Other tributes to Lister and his work were contributed by Mr. Howard Marsh, Surgeon to St. Bartholomew's Hospital and afterwards Professor of Surgery at Cambridge; by Sir Alexander Ogston, Regius Professor of Surgery in the University of Aberdeen and President of the British Medical Association in 1914; by Dr. D. Berry Hart, Professor Thomas Annandale, and Professor John Chiene of Edinburgh; by Sir Hector C. Cameron of Glasgow; and by Sir William Watson Cheyne, a successor of Lister in the Chair of Clinical Surgery at King's College, London.

British Medical Journal.

SATURDAY, APRIL 9TH, 1927.

"LET US NOW PRAISE FAMOUS MEN."

THIS exhortation from the ancient commendation of benefactors has been duly observed recently. The celebration of the two hundredth anniversary of the death of that intellectual giant Newton is scarcely over when we find ourselves commemorating the centenary of the birth of Joseph Lister. Some of Newton's earlier researches were concerned with the refraction of light, the problems of achromatic vision, and the production of achromatic lenses for telescopes. It was reserved for Lord Lister's father, Joseph Jackson Lister, to solve these problems as regards the microscope, and to establish claims to scientific eminence which had been almost overlooked in the brilliance of the achievements of his distinguished son until Lord Lister himself did them justice in the *Dictionary of National Biography*. Newton and Lister were both men of modest disposition, not quarrelsome, although not to be shaken in the convictions which they had arrived at by experiment and their powers of reasoning. Lister feared no man or woman, and when Queen Victoria, by the pen of one of her court, wrote strongly urging him to denounce the practice of vivisection, he replied with an outspoken defence of experiments upon animals, couched in the plainest and most uncompromising language, which remains one of the best statements of the case for experimental physiology ever written. Newton had to contend against the overweening claims of that erratic genius Hooke and the criticism of others, but he so much disliked controversy that he long deferred publication of some important discoveries. Lister, in his long and hard struggle to convince contemporary surgeons of the truth of his contentions and the enormous value to mankind of his discoveries, did not become bitter, nor even lose that sweet reasonableness which was inherent in his disposition, and was doubtless fostered by his upbringing in the Society of Friends and by the example and teaching of his Quaker parents. The impressions of his youth were indelible, and although he formally left the Society on his marriage, he did not abandon some of their fundamental principles or their forms of speech.

Not long ago, in considering Sir Berkeley Moynihan's Hunterian Oration ("Hunter and Lister," BRITISH MEDICAL JOURNAL, February 19th, 1927, p. 343), we referred, as did Sir Berkeley Moynihan, to Lister's work in physiology, for not only was he a distinguished physiologist, but one of the founders of the modern science of bacteriology. Throughout the most active part of his career, when his time was much occupied in the practice and teaching of surgery, he, with prodigious industry, continued his exact and careful researches into the nature and growth of fungi and the problems of lactic and some other fermentations. Small wonder if, as his biographer, Sir Rickman Godlee, has told us was the case, his private practice suffered from his lack of punctuality. The number of his achievements has to some extent obscured their importance. His work as a physiologist on inflammation and on the coagulation of the blood was notable enough of itself to have secured him fame. Equally notable were his investigations in micro-pathology and fermentation. The advances he made in operative surgery, and especially in the surgery of bones and joints, were numerous and important enough to have made the reputation of any hospital surgeon; but all these were overshadowed by his great achievement in the control of diseases and septic processes, and in the invention of the aseptic absorbable ligature, the use of which made secondary haemorrhage after the tying of arteries a surgical rarity, instead of an ever to be dreaded accident in all cases of amputation.

Lister was ever ready to sacrifice his personal comfort and pecuniary advantage to what he felt to be his duty to his fellow creatures. As Professor of Clinical Surgery in Edinburgh he held a position which left little or nothing to be desired. A large private practice, a great reputation, splendid hospital opportunities, and the love and admiration of a great class of students who hung upon his words—all were his. The death of his father broke the last strong bond that bound him to London; but he doubtless felt that the leaders of surgery in London would not be converted until he could place a great object-lesson before their eyes, and that to do so he must sacrifice much in order to return to the scenes of his youth. A chilly welcome awaited him in some quarters. Instead of the crowds of enthusiastic students and practitioners who listened to him and watched his practice in Edinburgh, he had to be content with the attendance of a bare dozen at his lectures and operations. His colleagues on the staff of the hospital were at best coldly and critically courteous, and a section of the medical press was decidedly hostile; but we are proud to recall the fact that this JOURNAL urged the authorities of King's College to make the appointment, and when they had done so we wrote (BRITISH MEDICAL JOURNAL, October 6th, 1877, p. 490): "The selection which the authorities of King's College have made has done honour to their judgement and will add largely to the usefulness and lustre of their school; while it adds also to the glory and the greatness of the surgical profession in London, from which Mr. Lister sprang and to which he returns." Two years later, in commenting on the discussion opened by Sir William (then Mr.) MacCormac, at a meeting of the South London District of the Metropolitan Counties Branch of the Association, we wrote as follows: "We heartily congratulate ourselves and the profession that Mr. Lister's coming to London has been so speedily followed by a signal triumph of that great principle in surgery which had been accepted everywhere else almost before it was even listened to in London. It was with the conviction that this necessary triumph would follow that we strongly urged the authorities at King's College to put aside small traditions and petty jealousies, and to invite the great London surgeon, who had succeeded Syme in Edinburgh, to assume the mantle which had fallen from the shoulders of Fergusson in London. In doing so, the authorities of King's College had to brave much opposition, to have the courage of their opinions in the face of objections and deprecatory communications from persons eminent in professional standing; but they obeyed what we believed then, and are still convinced, to have been a sound law, and set an example which we hope will have a permanent influence in elevating the tone and strengthening the principles of responsibility in public appointments in London hospitals. Mr. Lister has been but two years in London, and already he may say that he 'came,

saw, and conquered'; for the principle of antisepticism has now so strongly asserted itself in London hospitals that it is bound to make its way and to establish itself here as firmly as elsewhere throughout the world. . . . this meeting will remain an historic event in the records of British surgery."

Glasgow, of which the hospital authorities did not show a due appreciation of Lister while they had him on the staff of the Royal Infirmary, last week celebrated his centenary with enthusiasm, tempered no doubt with regret that a few obstructives had destroyed the ward in which his first victories were won. Glasgow's loss is London's gain, for all that is left of the ward has followed its hero hither, and as reconstructed has been seen by hundreds at the Wellcome Historical Medical Museum during the celebration this week. Not only did Lister revolutionize the treatment of wounds and immeasurably enlarge the frontiers of the realm of surgery throughout the world, but we believe that he has changed the attitude of surgeons towards natural science and widened their views, so that they now approach surgical problems in a very different spirit from that of some of the leaders of the profession sixty years ago. Surgery when Lister went to Edinburgh was still, as it had been for many centuries, to a great extent a handicraft. He applied the experimental method to it and gave it an insight into the discoveries of Pasteur and an interest in scientific discovery which it has not lost, and, we feel sure, never will lose. Truly he was a great and good man, and we may say with one of his patients, W. E. Henley:

> "We hold him for another Herakles
> Battling with custom, prejudice, disease,
> As once the son of Zeus with Death and Hell."

THE MANY-SIDEDNESS OF LISTER.

THE three discourses delivered during the celebration in London of the centenary of the birth of Lister by three of our leaders in physiology, pathology, and surgery are published in the opening pages of this issue of the JOURNAL. In the article immediately preceding this we remark on the number of branches of scientific research in which Lister distinguished himself, and refer to his work in physiology, to which he made valuable contributions at an early age. It is satisfactory to find so high an authority as Sir Charles Sherrington dwelling on the importance of Lister's physiological researches and praising the skill with which he carried them out. These physiological investigations had no obvious bearing on the great work which was to follow, but they were not only evidence of his acumen, but also afforded him valuable experience and self-training in scientific method. At this time, notwithstanding the fact that he had been educated in what was then one of the most inspiring of the London medical schools, surgery had not fired him with enthusiasm. It was not until he had been some time at Edinburgh working under Syme that he wrote home to his father that he had fallen in love with surgery; but physiology was certainly his first love. In his work on the muscle of the iris, on the skin and hair follicles, and on smooth muscle, that clearness and simplicity of language and restraint of statement is evident which distinguished his work throughout his career. The Quaker training, with its respect for the injunction, "Let your communication be. Yea, yea; Nay, nay," may have had something to do with this by strengthening his innate love of precision and exact truth, and his fear of nothing except of missing the truth. His investigations into the nervous control of arteries in the living frog and bat no doubt led up to his work on inflammation and coagulation of the blood. When we remember that he also investigated pigmentation in the frog and the inhibitory action of visceral nerves, we realize how much he accomplished in the few years during which physiology claimed his attention, but by no means all his time, for he was then busily occupied in surgical work under Syme. There seems no reason to doubt that had he devoted his career to physiological research alone, his would have become one of the greatest names among the searchers out of the secrets of living structures. But this was never likely to follow, if Sir Charles Sherrington is right in thinking that all the time Lister's interest in physiology was really part of his interest in morbid processes and repair, in fact, in inflammation in its widest sense, to the study of which he afterwards devoted those qualities of insight, grasp of detail, and determination to see for himself—to take nothing on trust—which led him on to such beneficent success.

This success in the surgery of the human body has obscured some results of which Professor Sherrington reminds us. By showing the world how to get rid of suppuration in wounds intentionally inflicted he benefited physiology to an extent beyond calculation. When thereby experimental operations upon the lower animals could be undertaken with the assurance that they would heal aseptically, pain could be eliminated in such procedures, carried out, as they are in this country, under anaesthetics, for, as millions of human beings must have found, the healing of an aseptic wound is not painful. Not only has the brute and bird creation profited, but the physiologist is saved the pain and disappointment of seeing his experiments vitiated by suppuration and all its train of consequences. Pavlov's work on digestion, Ferrier's on the localization of cerebral function, and the discovery of insulin, with all that connotes, were only possible in the aseptic conditions which Lister introduced. Therefore, as Sir Charles Sherrington says, it is "with peculiar gratitude that the physiologist brings his tribute of admiration and veneration."

Professor Bulloch's discourse is of special interest, for not only is no man better qualified than he to estimate the value of Lister's work as a pathologist and bacteriologist, but he was closely associated with him for a dozen years in London. Few will gainsay his estimate of Lister, among all the distinguished men of our profession whom he has known, as *facile princeps medicorum*. In estimating Lister's achievements in pathology and in bacteriology, in which latter science he was a distinguished pioneer, it must be remembered that he had no well equipped laboratory with its instruments of precision at hand. His work was done in his study, and his instruments were largely devised by himself. His daylight hours were taken up by other work, and only in the evenings and far into the small hours of the morning could he work at his self-appointed tasks, in which he was cheerfully seconded by his devoted wife, who gave herself ungrudgingly to be his assistant and note-taker with an enthusiasm and patience which well became the daughter of James Syme. This work was undertaken, not only in search of new knowledge, but in order that he might speak to his class with first-hand knowledge of the facts he taught. The problem of the cause and process of coagulation of the blood was closely associated with that of the cause and manner of production of inflammation, for both of them

had to do with the production of suppuration. It is curious, as was remarked by Sir Rickman Godlee and others, that so acute an observer, whom little escaped, should have missed the phenomenon of diapedesis of leucocytes, which had been observed independently by two physiologists years before; their work was overlooked or forgotten till at last the process was described by Cohnheim. It is a somewhat remarkable fact that coagulation, which has been such a commonplace occurrence and has been studied for centuries, should still remain something of a mystery, so that, as Professor Bulloch tells us, it cannot now be said that we have materially advanced in a knowledge of its cause during the seventy years since the publication of Lister's work. It is always interesting to know of a great man's estimate of his own work. Professor Bulloch puts on record Lister's statement, made in 1905, that "If my works are read when I am gone, these" (on pigmentation of the frog and on inflammation) "will be the ones most highly thought of." Most of us will suspect he was mistaken, for his work on bacteriology was of great importance, and his "unsurpassed technique" enabled him to elucidate the problem of lactic acid fermentation. Yet he was not infallible, and when at Pasteur's suggestion he repeated an experiment in a different way and found his error, he freely acknowledged it, for, as he said, "Next to the promulgation of truth the best thing I can conceive that a man can do is the recantation of a published error."

In his address on Lister as a surgeon, Sir Berkeley Moynihan has enlarged on the parts which referred to Lister in [illegible] Hunterian Oration (BRITISH MEDICAL [illegible], 19th, 1927, p. 313). He recalls the state of things in the surgical world before Lister waved an enchanter's wand over the evil spirits of suppuration, pyaemia, and their train, and tells us how terrified Astley Cooper was lest erysipelas should attack George IV after the removal of an insignificant cyst from his scalp, and how helpless he was to prevent infection. This dread of erysipelas in such cases persisted long after Cooper's day. That distinguished surgeon Timothy Holmes, in his authoritative book on surgery,[1] solemnly warned his readers of the danger, related a dramatic story of a fatality, and even suggested the use of caustic instead of the knife when erysipelas was rife. It is a striking example of the backwardness of London surgeons in antisepsis that Mr. Holmes made no allusion to the method as useful in such a case, although the book was published six years after Lister left Glasgow. If such a leader as Holmes was thus blind, what could be expected of the average surgeon?

Sir Berkeley Moynihan emphasizes the important services which, owing to asepsis, surgery is now able to offer to pathology, substituting the living body for the cadaver in the mortuary. Lister, as he says, was as much the parent of asepsis as of antisepsis, if, indeed, they are really two methods. His great discovery was that of the part played by micro-organisms in the production of sepsis. Whether they are destroyed or their numbers are reduced to a negligible figure in the wound or in its immediate neighbourhood is a comparatively small detail. It is due to Lister that the great cavities of the human organism have been laid open to the surgeon and the gynaecologist, so that it is now hard to realize that only fifty years ago, in the year that he came to King's College Hospital, the governors of that institution had forbidden the staff to undertake ovariotomy. To-day the lay public recognizes the curative value of surgery, and Lister's work has brought even the dread and widespread scourge of cancer within the reach of cure by early and extensive operations, so planned as to include all diseased tissue and prevent recurrence.

There is no possibility of estimating the debt which mankind owes to Joseph Lister, and never has the Crown more truly interpreted the wishes of the nation than when it made him a peer.

[1] *Surgery: its Principles and Practice*, London, 1875, pp. 928.

DERMATOLOGY AT THE GENERAL INFIRMARY AT LEEDS.

THE development of the department for the treatment of affections of the skin at the General Infirmary at Leeds presents some points of interest, especially when viewed in connexion with the changes which have been decided upon by the board, and which include the appointment of a new honorary officer whose work will be confined to this department. When, in 1884, the appointment of assistant surgeons was followed by the appointment of assistant physicians, an informal arrangement was come to by the two newly appointed assistant physicians that the skin cases should gravitate to one and the throat cases should fall to the other. For many years the skin cases were thus seen along with the other out-patients on the days of one of the assistant officers. With the increase in the work it was found advisable to segregate the skin cases and to see them on a separate day, so that the honorary officer had three days of out-patient work, one being devoted to diseases of the skin. This plan has prevailed for about twenty-eight years, and under it the department has developed greatly, so that during the year ending December, 1926, 1,247 new cases were seen and the total attendance was 7,258. The board has now decided to appoint a physician in charge of the dermatological department. He will be required to have the qualifications necessary for a physician to the Infirmary, which are the possession of a degree in medicine of a university of the United Kingdom and either the Fellowship or Membership of the Royal College of Physicians of London. He will be placed in complete charge of the department, for which adequate accommodation is to be provided, and he will have placed at his disposal six beds for adults—three male and three female—and four cots, a total of ten to start with. In all probability the new officer will desire to see out-patients two days a week, and there is no doubt that the numbers mentioned above will tend greatly to increase, not only by the transfer of cases to a greater extent from the other departments of the Infirmary, but by an increase in the number presenting themselves for treatment at the institution. This is an almost invariable experience in connexion with similar developments of any department. The relation of the new department to the electro-therapeutic department and to the venereal department has been the subject of careful consideration. Arrangements have been made for the development of a self-contained electro-therapeutic department, so that the officer in charge may follow out the treatment of his cases without their leaving his immediate supervision, or may have them transferred to the general electro-therapeutic department. A similar arrangement is to prevail in the case of the relation with the venereal department. Facilities will also be provided for the officer to perform any operations he may desire, and he will have the services of one of the house-physicians to attend him at his ward visits and during his out-patient work. As the appointment of a special dermatologist is a new departure, the board has decided, not merely to advertise the appointment, but to put off doing so until there is reason to feel that there are one or more suitable candidates. Everyone in

connexion with the Infirmary is desirous of making the department a success, and any newcomer will be sure of a cordial welcome from his colleagues on the honorary staff.

THE CRISIS IN SHANGHAI.

THE following cable from Shanghai, received by the British Medical Association on March 31st, is, in its breathless telegraphese, more eloquent than any paraphrase or extension:

> British Medical Profession here requests your help persuade Government give no consideration Chinese assurances protect British lives property. Nationalist Army violently anti-foreign and when victorious becomes organized for plunder murder. Nationalist leaders swollenheaded by unresisted victories over Northern Army and by easy possession British concessions and property without struggle. Negotiations present time futile dangerous. Any concession regarded as signs weakness fear. Cold-blooded murder Doctor Smith Nanking and violence to women confirm opinion previously universal our only safeguard protection Navy Army against similar atrocities here.

This leaves no doubt that our brethren in Shanghai have thoroughly approved the action of the British Government in ordering out a brigade of infantry and ancillary units to reinforce the Shanghai Defence Force. In the ancillary units are included an R.A.M.C. company, a hygiene section, a sanitary section, medical mechanical transport, and a vast medical depot unit. The telegram was communicated to the press and sent at once to the Foreign Office, and the Council on April 5th directed that a telegram be sent to the profession in Shanghai informing them of the cordial sympathy of the Association and telling them what had been done.

IMPRISONMENT IN 1925-26.

THE annual report of the Prison Commissioners for 1925-26[1] contains matter of great interest in every page. Naturally certain parts—Section XIII, and Appendix No. 1, being the report of the Medical Commissioner, Dr. G. B. Griffiths, and Appendix No. 2, containing extracts from the annual reports of prison medical officers—which deal with the great problem presented by the law-breaker from the medical point of view, engage our first interest. Dr. Griffiths well describes a prison as it ought to be as "a place for hard work, discipline, and education with a view to rehabilitation on completion of sentence." When this ideal has been realized, as in time it will be, the problem must remain largely psychological as well as sociological; but to-day, as a perusal of this report shows, a considerable part still belongs to the domain of abnormal psychology. To this we return below, but first must glance at the size of the problem as revealed by official statistics. The total number of prisoners received under sentence during the year was 54,737. Truly a great number, but less by 882 than the receptions during the previous twelve months. This total, of course, does not represent the number of persons concerned, many of whom were convicted and imprisoned more than once during the year; thus, on analysis the total number of 42,844 receptions on conviction during the year represented actually 34,396 persons, the balance being caused by the repeated convictions of 6,455 persons. Nevertheless, it is gratifying to note that the decrease recorded in last year's report is continued in this, though at lessened rate. The comparative figures for the past quarter of a century, given in tabular form, are striking. The average yearly total receptions on conviction for the quinquennium ended 1903-4 amounted to 167,100; rose to 186,569 during the next five-year period; and in the five years immediately preceding the war numbered 158,782. An abrupt fall to an average of 53,068 marked the years of warfare (covered by the five years ended 1918-19), and since 1924 there has been a yearly decrease to the present figure. The Commissioners furnish a tabular comparison of the principal offences in respect of which prisoners were received in the last pre-war year, 1914, and the year under review, which shows the following remarkable decreases: Murder, manslaughter, wounding, etc., fell from 474 to 448; burglary, housebreaking, etc., from 1,960 to 1,685; larceny, embezzlement, receiving, etc., from 19,126 to 11,277; assaults from 8,666 to 3,087; drunkenness, etc., from 51,851 to 10,698; breach of police regulations from 8,661 to 1,757; prostitution from 7,952 to 1,060; and begging and sleeping out from 15,019 to 2,714; that is, the annual receptions into prisons for indictable offences have fallen since the last pre-war year from 21,560 to 13,410, and for non-indictable offences from 82,149 to 19,343. The Commissioners consider that the effects of probation, allowance of time in which to pay fines, and the operation of the Mental Deficiency Act have been the chief factors in this progressive diminution, but that industrial training during imprisonment and the increased efficiency of the agencies for the assistance of prisoners on discharge have had their effect. Of the whole number received on conviction during the year, 22,988, or 66 per cent. of the men, and 6,840, or 86 per cent. of the women, had been previously convicted, and of these 9,200 of the men and 4,583 of the women six or more times. It is again gratifying to compare these numbers with the year 1913-14, when no fewer than 28,000 men and 15,000 women had incurred six or more previous convictions. Even though the Commissioners are careful to point out that as these figures do not deal with the whole mass of recidivism in prison their value is limited, and also bearing in mind that they must be correlated with the great numbers of offenders otherwise dealt with, there seems to be room for the hopeful inference that, on the whole, we are steadily becoming a more law-abiding nation. The hope for the future lies in the increasing development of preventive measures and the treatment of the young offender. In this connexion two of many highly important matters discussed in this report may be mentioned. The first is the short sentence, which, the Commissioners again say, remains an outstanding defect in our penal system. "There is no doubt," they say, "but that the prospect of prison has a strong deterrent effect on those who have never yet passed its gates; nor that, once the disgrace of imprisonment has been incurred, much of that effect has been lost"; whilst the medical officer of Lincoln Prison says that the mere fact of committal to prison brings about a complete revolution in orientation, morally bad. The most hopeful prospect, the Commissioners say, lies in the development of the probation system, by which a point may be reached when many offenders can be so well supervised "in the open" that if they fail a period of custodial training of substantial length will be justified. The second point concerns a matter of high importance and much difficulty—the proper treatment of the mentally defective delinquent. Dr. Griffiths, in his report, refers to the application of the Mental Deficiency Act as having resulted in the permanent diminution of the prison population by a large but unknown number—possibly 200 daily; but there remains a large contingent of weak-minded habitual petty offenders who cannot be certified under the Act as it stands at present, who are unsuitably treated in prison, and who unfavourably affect the discipline, work, and training of their fellow prisoners. Medical officer after medical officer, writing with long experience of this unfortunate class of prisoner, urges the need for special provision, with due safeguards, of the indeterminate detention under non-penal conditions of these at present uncertifiable feeble-minded

[1] Report of the Commissioners of Prisons and the Directors of Convict Prisons for the year 1925-26. H.M. Stationery Office. (Pp. 83. Price 1s. 6d. net.)

offenders. To send them to the workhouse is futile, says one medical officer, and the medical officer of Holloway Prison says that if provision were made for these uncertifiable cases a large part of that establishment might be closed. They include large numbers in which the existence of mental deficiency "from an early age" cannot be proved or maintained; also cases of epilepsy and encephalitis lethargica. The need is obvious and pressing, the remedy equally obvious, and it is greatly to be hoped that if the Mental Deficiency Bill, recently introduced, becomes law, it will be found to permit the continued care and control, in non-penal institutions and colonies, of the defective prisoner who cannot be certified to-day, and whose life, spent largely between prison, workhouse, and a doubtful freedom, is a long punishment to himself, a trial to his friends and fellows, and a burden to society.

FRENCH NATIVE SCHOOLS OF MEDICINE.

THE shortage of European medical men in the oversea possessions of France has prompted the Government of that country to organize, in the colonies themselves, a staff of native assistants who are intended primarily to practise medicine among the native population. Their training for these duties is provided in native schools of medicine, of which Pondicherry, geographically situated in the presidency of Madras, is the oldest. This school confers a diploma of native health officer, which is described as equivalent to those granted by the medical schools of Madras, Calcutta, and Bombay. The number of medical students who have attended the courses since 1863 is 110, and the number of diplomas granted 65. Of the young diplomates some go into private practice; others enter the colonial service. It is now proposed to utilize them also for medical work in the French settlements of Oceania. Inoculation students and student midwives are also trained. The former are useful as vaccinators; the latter encounter some difficulty owing to questions of caste, and also because they refuse to practise abortion, but they are nevertheless making headway. The native school at Hanoi in Tongking dates from 1902. Its first head was Dr. Yersin, the discoverer of the plague bacillus. Its medical students are drawn from all the countries which constitute Indo-China. In the session of 1923-24 those who enrolled for the five years' course numbered 91. The Madagascar school is at Antananarivo. Its course is of four years' duration, preceded by two years of preliminary study. Its students are mostly Hovas. Up to 1920 diplomas as native assistant doctors had been granted to 336 students. Four diplomates have since qualified in medicine at Montpellier. One was sent to Paris to study dental surgery, and is now in practice as a dentist at Antananarivo; 208 diplomas have been issued to native midwives. The West African school is at Dakar. Its head is assisted by an advisory council presided over by the Inspector-General of Public Health. At present it has 40 students of medicine, 6 of pharmacy, 11 veterinary students, and 41 student midwives. They are drawn from Dahomey, the French Sudan, Senegal, Guinea, and the Ivory Coast. Liberians may attend, but are classed as aliens. This school is associated with an Institute of Social Health, and with the Dakar Institute of Biology, at which important work on tropical diseases is being carried on. Besides these four schools of medicine proper, subsidiary educational centres have been set up at Guadeloupe in the West Indies for midwives, and at Réunion near Madagascar for pharmacists. This record of the French native medical schools, set forth in a recent paper by the League of Nations, is one of considerable interest. Their finished product, the native health officer, though he cannot possess the experience and attainments of the graduate educated in Europe, fills nevertheless a useful place in the field of medical service. In some respects, indeed, he has special opportunities. His acquaintance with the customs and languages of the people may enable him to cope with age-long prejudices which bar the way to the European, and to diffuse some knowledge of hygienic methods of living among those with whom he has to deal. In British India, as in the French colonies, native medical assistants have done good work.

HISTORY OF THE MAYO CLINIC.

THE Mayo Clinic has been visited by so many British medical men, and is so universally known, that the *Sketch of the History of the Mayo Clinic and the Mayo Foundation*[1] will be widely welcomed. The biographical account of the Mayo family shows that it includes John Mayow (1643-1679) of Oxford, the famous physiological chemist. William Worrell Mayo (1819-1911), the father of the present famous surgeons, was born near Manchester and educated at Owens College, being a pupil of John Dalton. In 1845 he went to New York as a chemist, and, after graduating in medicine in 1854, settled the following year in Minnesota, and in 1863 moved to Rochester. A destructive cyclone in 1883 led to the establishment of a hospital, of which Dr. W. W. Mayo was in charge. Out of this grew the Mayo Clinic, which until 1900 was surgical; then Dr. H. S. Plummer organized the medical service and the *x*-ray department, and in 1905 Dr. L. B. Wilson became pathologist, and the special departments came into existence later. The figures of operations—495 in the year 1893, as compared with 23,628 in 1924—show the phenomenal growth of the activities of the famous clinic. There is a list of the medical men bearing office in the clinic. The establishment of the Mayo Foundation for Medical Education and Research and its affiliation with the University of Minnesota in 1915, which eventually involved the gift, "unique in the annals of American education," by W. and C. H. Mayo, greatly increased the facilities for graduate medical education. In 1920 the Mayo Properties Association was incorporated with the object of facilitating the use of the properties of the Mayo Clinic, which is described as "a medical democracy composed of the members of the permanent professional staff, each of whom has a vote in the management of its affairs." It is noteworthy that surplus earnings are pledged to the support of the educational and research work.

SCIENTIFIC AND INDUSTRIAL RESEARCH.

THE report of the Committee of the Privy Council for Scientific and Industrial Research for the year 1925-26[2] shows that, even in these days of economy, the Government cannot be accused of failing to support research. Estimates for expenditure, which in 1923-24 amounted to £276,863, have reached £442,877 for 1926-27. At the same time, the committee does not seem quite satisfied with the results of its efforts. It finds "some evidence that British industry has not hitherto paid sufficient attention to the need for the same accuracy of scientific control and the same spirit of research" in utilizing the results of scientific inquiries in industrial production "as are expected in the laboratory. . . . The nation will not gain anything if the department publishes the results of industrial research which our friendly foreign competitors are in a better position to take advantage of than British industry." The department wisely sets out to stimulate rather than to displace private enterprise, and to promote research which

[1] *Sketch of the History of the Mayo Clinic and the Mayo Foundation.* From the Division of Publications, Mayo Clinic. Philadelphia and London: W. B. Saunders Company. 1926. (Med. 8vo, pp. x + 185; 16 illustrations, 19 charts. Price 16s.)

[2] Cmd. 2782. London: H.M. Stationery Office, 1927. 3s. net.

is practical in aim. It encourages the formation of research associations, and gives grants both to such associations and to individual workers. During the past year a research association for the preserved food industry has been formed, to work in close co-operation with the Research Association for the Cocoa, Chocolate, Sugar Confectionery, and Jam Trades. The Advisory Council of the department is of opinion that in pure science too many men are encouraged to specialize in chemistry. Of the 700 students to whom maintenance allowances have been given during the last seven years, nearly 400 were students of chemistry. The biological sciences, on the other hand, are short of investigators; and the demand for men who combine chemistry with such subjects as agriculture, biochemistry, and botany exceeds the supply. At the same time, there is little or no sign at present of atrophy of the brain of the country in pure science. In applied science the Advisory Council finds that many prominent industrial firms are rapidly developing scientific organizations; but that in the interests of the country far greater expansion is necessary, and far greater co-ordination of effort. It is thought that these aims should be achieved either by the formation of large industrial combines or by the encouragement of co-operative research amongst small independent firms. The Advisory Council holds the opinion that in certain matters research on a national basis is necessary. Thus it welcomes the recent rapid expansion of scientific research by the service departments. In other types of research the results are not only of importance to the manufacturer and the user, but are also essential to the progress of pure science. These researches, it is said, cannot be left to private initiative. They include the maintenance and improvement of standards and methods of measurement; the determination of the fundamental properties of materials, such as iron, steel, alloys, and lubricating oils; the protective qualities of materials for the safety of *x*-ray workers; the thermal properties of non-conducting materials for refrigerating plant. Finally, the department deals with researches into such matters as fuel, forest products, building construction, and the preservation and transport of foodstuffs.

PRINCIPLES UNDERLYING TUBERCULOSIS SCHEMES.

THE County Councils Association recently adopted certain resolutions with regard to the principles on which schemes of local authorities for the treatment of tuberculosis should be conducted, and a circular (No. 771) was issued by the Ministry of Health on March 31st giving the Minister's views on the various points. The circular is addressed to county boroughs, county borough councils, and tuberculosis joint committees in England. The primary duties of tuberculosis officers should, it is stated, be diagnosis, consultations with general practitioners, search for and examination of "contacts," general supervision of patients who do not require active treatment, "following up" of those who cease attendance, advisory assistance in after-care, and education of the general public. Actual treatment should be limited to patients whose treatment requires special knowledge or technical skill, and to those who are unable to obtain adequate medical attendance. The giving of medicines and cod-liver oil should be discouraged; and stress is laid in the circular on teaching patients to value advice and hygienic instruction instead of relying on drugs. Extra nourishment should not be given to those who can pay for it themselves, or to those who should be dealt with by the machinery of the Poor Law. In the Minister's opinion, the patients most suitable for extra nourishment are those who have had adequate sanatorium treatment and, with additional food, may be expected to recover full working capacity, and those waiting for admission to sanatorium treatment in whom arrest of the disease may reasonably be anticipated. While residential treatment for a short time is frequently of value in restoring working capacity to patients with slowly progressive pulmonary tuberculosis, the Minister of Health has been advised that much importance should be attached to the provision of residential treatment for advanced and acute cases. Local authorities are reminded of their compulsory powers under Section 62 of the Public Health Act, 1925, for the removal from their homes of infectious cases of pulmonary tuberculosis. They are advised also to combine the institutional treatment of surgical tuberculosis with the treatment of crippling by other diseases in children from child welfare authorities and local education authorities, in an orthopaedic hospital which may serve the areas of several authorities. Children suspected of definite tuberculosis should only be admitted to sanatoriums for a brief period of observation with a view to the establishment of a definite diagnosis. "Pre-tuberculous" children should be left to the care of the local education authorities. The points in the circular of chief interest to the medical profession are, perhaps, the emphasis laid on residential treatment for advanced cases, and the procedures mentioned as special treatment. Both points illustrate the prevailing haziness in methods of dealing with the disease. The sanatorium superintendent is anxious to fill his institution with very early cases and to show a high percentage of cures. The Minister of Health wishes to segregate late cases to prevent infection. In either case the cost of institutional treatment is prohibitive so far as dealing with all the patients in either category in this country is concerned. As for the special treatment by tuberculin, the circular gives no indication for what cases it is used, with what object in view, how far its use is general, and under what method of dosage it is given. And we are unaware of any authoritative pronouncement on these matters from any other source.

THE BRITISH INSTITUTE OF PHILOSOPHICAL STUDIES.

THE elucidation of many problems requires a careful study of underlying principles, and speculation often paves the way for new discoveries. Both considerations are admittedly important in the advance of medical science, and therefore the letter on page 699 commending the aims of the British Institute of Philosophical Studies will have a special interest for medical practitioners. It was founded in London to bring leading exponents of the various branches of philosophy into closer contact with the general public, so that obscure issues in human life might be subjected to comprehensive consideration. Courses of lectures are delivered, tutorial classes are arranged, a quarterly philosophical journal is published, and research is encouraged. During the present session (1926-27) among the subjects under consideration are various philosophical questions, such as the relation of mind and matter; the development of philosophy since Kant; psychology, including its application to medicine, industry, and education; the world of values; and the philosophies of social life and religion. Each lecture is followed by discussion for one hour. The importance of the comprehensive view in the solution of a difficult problem needs no emphasizing at this moment, when the world is recalling with gratitude the services rendered by Lister, who by studying the process of fermentation revolutionized the practice of surgery. The medical practitioner and the student of natural philosophy are so closely akin that the present opportunity for co-operation in study cannot fail to be welcome to many; it may well prove to be fruitful in new discoveries.

THE LISTER CENTENARY CELEBRATIONS IN GLASGOW.

THE celebrations of the centenary of Lord Lister's birth, which were held at Glasgow on April 1st, were not unworthy of that great surgeon whose memory they were designed to honour, or of the town which had the singular good fortune to be the scene of his momentous discoveries. The city of Glasgow, which had already in 1908 expressed its appreciation of Lord Lister by conferring its freedom upon him, the University of Glasgow which he served with such distinction for nine eventful years, the Royal Infirmary in the wards of which his great work began, and the Established Church of the land which he adopted for a time, united with representatives of other Scottish universities, hospitals, and medical schools, with scientific and medical associations of high repute, great commercial trusts and corporations, and men of note in various departments of activity, to play their respective parts in a stately ceremonial which was aided by weather of tempered brightness appropriate to the occasion. A mild sun, warm enough to comfort, and a light breeze, sufficiently cool to promote heat-loss and stimulate metabolism, seemed to fit in well with Lord Lister's gentle spirit and keen creative mind. The season of spring, with the round of the year beginning afresh and life stirring visibly in the trees by the University where his statue is set, was aptly symbolical of his benign genius, from which, it may be said, in the world of surgery,

Magnus ab integro saeclorum nascitur ordo.

COMMEMORATIVE SERVICE IN THE CATHEDRAL.

The celebrations began with a public commemorative service held in the Cathedral of Glasgow. The representatives of public bodies assembled at 10.45 a.m., in the spacious Pathological Department of the Glasgow Royal Infirmary, and walked thence in processional order through the Infirmary by way of the South Gate to the Cathedral.

In advance of the procession went the Halberdiers of the City, followed by the Right Rev. J. D. McCallum, D.D., Moderator of the Church of Scotland, the Rev. W. M. Clow, D.D., Principal of the United Free Church College of Glasgow, and the Rev. Lauchlan MacLean Watt, D.D., Minister of Glasgow. Next came the civic mace of Glasgow and the mace of Glasgow University.

The procession in chief was headed jointly by Mr. David Mason, Lord Provost of Glasgow, and Sir Donald MacAlister, Bt., K.C.B., Principal and Vice-Chancellor of the University.

Following the Lord Provost were the Deputy Chairman of the Corporation, Councillor Stark Brown, and representative magistrates, including Bailies Mrs. Bell, Gillespie, Mrs. Barbour, Dunlop, and Archibald. Following the Principal came Sir Hector Cameron and the Court and Senate of the University. The Court was represented by Dr. David Murray, Mr. William Brodie, Dr. J. Bruce Murray, and Professor T. H. Bryce. Among members of the Senate present were Professors R. Muir (Pathology), J. Graham Kerr (Zoology), J. H. Teacher (Pathology), T. K. Monro (Medicine), W. K. Hunter [illegible] urgery), P. Paterson (Surgery), E. T. [illegible] Cormack (Engineering), and J. R. C [illegible]

Sir Thomas Paxton and Sir W. M. Montgomery attended as ex-Lord Provosts. The Royal Faculty of Physicians and Surgeons of Glasgow, represented by Dr. R. M. Buchanan (President), Mr. G. H. Edington, Dr. Freeland Fergus, and Dr. James Adams, came next in order, succeeded by the overseas delegates, including Emeritus Professor Irving H. Cameron of Toronto and Professor F. de Quervain of Lausanne. The University of St. Andrews was represented by Professor F. J. Charteris, Edinburgh University by Professors J. Lorrain Smith and John Fraser, and the University of Aberdeen by Professor Ashley Mackintosh. Professor G. M. Robertson attended as President of the Royal College of Physicians of Edinburgh, and Dr. A. Logan Turner as President of the Royal College of Surgeons of Edinburgh.

To these succeeded the delegates of the Royal Technical College of Glasgow, the Faculty of Procurators, the Institute of Accountants and Actuaries, the Clyde Navigation Trust, the Merchants' House, the Trades House, the Chamber of Commerce, the Glasgow Parish Council, the Glasgow Education Authority, and the Royal Philosophical Society of Glasgow. Among the representatives of the press was Sir Robert Bruce of the *Glasgow Herald*.

Governors and officials of the great Glasgow hospitals came next. The Glasgow Royal Infirmary was represented by Dr. James Macfarlane, chairman, and Dr. Ian Grant; the Western Infirmary by Colonel J. A. Roxburgh, V.D., D.L., LL.D., and Colonel D. J. Mackintosh, C.B., M.V.O.; the Victoria Infirmary by Mr. William Gray, chairman; the Royal Samaritan Hospital for Women by Dr. J. Nigel Stark; the Royal Maternity Hospital by Mr. James Thomson, director; the Royal Hospital for Sick Children by Professor L. Findlay; the Glasgow Eye Infirmary by Dr. A. J. Ballantyne; and the Ear, Nose, and Throat Hospital by Dr. J. Galbraith Connal.

The hospitals were succeeded by representatives of the extramural schools of medicine in Glasgow, the Anderson College and St. Mungo's College; these were followed in their turn by the Glasgow Royal Medico-Chirurgical Society, the University Medico-Chirurgical Society, the Presidents of the Students' Representative Council, the University Union, and the University Athletic Club, and representatives of the principal medical societies in Glasgow, including Dr. W. D. Macfarlane for the Obstetrical and Gynaecological Society.

The British Medical Association was represented by Dr. George A. Allan, F.R.F.P.S.G., a member of the Central Council of the Association, and the Glasgow and West of Scotland Branch of the Association by Dr. J. P. Brown, D.S.O., President, Dr. Hill, President-Elect, and Dr. J. G. McCutcheon, Secretary.

Among others who participated in the day's proceedings were Sir John Bland-Sutton, Bt., Past President of the Royal College of Surgeons of England; Emeritus Professor Murdoch Cameron of the University of Glasgow; Mr. A. E. Maylard, lately surgeon to the Victoria Infirmary; Dr. A. S. M. Macgregor, Medical Officer of Health for Glasgow; Dr. A. K. Chalmers, lately Medical Officer; Colonel T. Kay, D.S.O., representing the Royal Army Medical Corps; Sheriff Principal A. O. M. Mackenzie; Sir John S. Samuel, K.B.E.; Sir Frederick Gardiner, K.B.E.; Sir Charles Cleland, K.B.E.; and Sir D. M. Stevenson.

The service in the Cathedral, which began at 11.15, was conducted by Dr. MacLean Watt, assisted by Dr. McCallum and Principal Clow. The congregation, in prayer, thanked God for His servant Joseph Lister, commemorating now his labours.

THE CIVIC LUNCHEON.

At one o'clock the Lord Provost and Corporation of Glasgow entertained a party of 350 persons to luncheon in the City Chambers.

Sir JOHN BLAND-SUTTON, Bt., proposed the illustrious memory of Lord Lister. He recalled that in the course of the Latin war when Aeneas was wounded in the thigh the physician Iapyx, after extracting the missile, instilled into the wound a tincture, prepared from dittany and rendered potent by Venus, which stanched the blood, relieved the pain, and restored the hero to vigour. In 1866 a patient was admitted into the Glasgow Royal Infirmary with a compound fracture of the leg. The Professor of Surgery, Joseph Lister, adopted the principles of Iapyx, but instead of tincture of dittany he instilled into the wound a solution of crude carbolic acid. The issue was successful, and it was of much importance, for it laid the foundations of the glorious edifice of antiseptic surgery. The treatment adopted by Lister in that instance was no sudden inspiration. Confronted with the endemic post-operative sepsis of these times he had come to the conclusion that infection was derived from instruments, sponges, and fingers, and had selected carbolic acid for the purpose of destroying the morbific agents. Pasteur's demonstration that putrefaction was caused by the growth of microbes in putrescible substances was a welcome confirmation of his views. As Pasteur revolutionized the winepress and the brewery, so Lister transformed the methods of operative surgery. Antisepsis in due season developed into asepsis, and the surgical shambles of 1860 were now replaced by operating rooms of spotless purity, where all concerned were clothed from nose-tip to toe-tip in sterilized linen garments, and the theatrical silence was only broken by the rhythmical breathing of the patient or an occasional utterance from a nervous operator. The end, however, was not yet. Surgery must now proceed to cure morbid growths by chemotherapy and physical agents, and

there were clear signs of the dawn of such an era. Be that as it may, Lord Lister had had the rare privilege of living to see his principles adopted by surgeons throughout the world. The bronze statue in Kelvingrove Park exemplified his steadfastness in the pursuit of truth. It was an expressive tribute to the great surgeon whose influence would remain as long as surgery was practised as an art, and the conquest of sepsis would continue to be a blessing on every race of mankind.

The toast was honoured in silence.

Dr. A. LOGAN TURNER, President of the Royal College of Surgeons of Edinburgh, proposed the toast of the Medical School of Glasgow. He said that during the two hundred years which had elapsed since the Glasgow and Edinburgh medical schools were founded there had been a number of happy interchanges of personnel, thus forging links of mutual benefit. Yet the closest bond of union was formed in the person of him whose ineffaceable memory they were met to do homage to. The same spirit which in the industrial world had given to Glasgow such proud distinction had conferred upon her medical school a foremost place in the development of medical services.

Principal Sir DONALD MACALISTER, who replied, said that he was bred to the medical profession in Cambridge and London and not in Glasgow, and so could view the medical school of Glasgow from a comparatively detached standpoint. The almost unbiased verdict was that the Glasgow school was not inferior to any in the country. With ten or eleven clinical hospitals, voluntary and municipal, at its disposal for clinical instruction, it was in that respect perhaps superior to any. Every year added to its resources in equipment and in staff, thanks to the liberality and generous devotion of Glasgow's citizens. Its motto was "Science with practice." Pasteur's science, combined with Lister's practice, had transformed the surgery of the world. The Royal Infirmary was fully re-established as a clinical school of the first order, and all mankind was united in acclaiming the birthday of the benefactor whose untiring devotion to the improvement of the surgical practice of his time, and whose unfaltering faith in science as a foundation, made the medical school of Glasgow the seed-bed of a mighty harvest for the healing of the nations.

Dr. R. M. BUCHANAN, President of the Royal Faculty of Physicians and Surgeons of Glasgow, proposed the toast of the Corporation of Glasgow. He referred to the part played by the magistrates and corporation of Glasgow in facing the great epidemic scourges of other days, now happily under control. The beds for infectious disease in Glasgow now were ten times the number available in Lister's time. Lister in his work observed three principles: prevention of infection, elimination of infection, should it occur, and the maintenance of the non-infected state. These same principles were applied by the corporation in the field of public health, and he expressed the hope that the results of their efforts would at no distant date be as substantial as those achieved by Lord Lister.

The LORD PROVOST, in reply, said that it was fitting that the corporation should honour the memory of Lord Lister, whose wonderful experiments, carried on in the city, had ripened into a glorious success.



Photograph by] [*Annan and Sons.*

THE LISTER STATUE IN KELVINGROVE PARK, GLASGOW.

CEREMONY IN KELVINGROVE PARK.

After the luncheon there was an impressive ceremony at Lord Lister's statue, an imposing seated figure on a granite pedestal, placed in Kelvingrove Park near the right bank of the River Kelvin. The rising ground behind the statue is crowned with a fringe of trees which showed a faint veil of green. Beyond the trees the high tower of the University looked down on the memorial of her world-famed teacher. The representatives of various bodies paying homage to Lord Lister's memory took up their position in front of the statue. The Lord Provost placed a wreath at the base of the statue on behalf of the corporation and citizens. Sir Donald MacAlister performed a similar office in the name of the University of Glasgow; and other wreaths were placed in position by representatives of the Royal Faculty of Physicians and Surgeons of Glasgow, the Royal Army Medical Corps, the Royal College of Surgeons of Edinburgh, the British Medical Association, the Royal Infirmary of Glasgow, the Faculty of Procurators of Glasgow, and the Royal Philosophical Society of Glasgow.

RECEPTION AT THE UNIVERSITY.

At 8.30 p.m. a reception was held in the Bute Hall of the University. The occasion was remarkable for its personal links with the memory and work of the master. Short addresses were delivered by Sir Donald MacAlister, Bt., K.C.B., Principal of the University; Sir Hector Cameron, C.B.E., sometime Lord Lister's house-surgeon in Glasgow; Sir George Beatson, K.C.B., sometime his house-surgeon in Edinburgh; Professor Irving H. Cameron, Toronto; Emeritus Professor Murdoch Cameron, sometime Lord Lister's dresser in Glasgow; and Professor Archibald Young, the Regius Professor of Surgery.

Sir DONALD MACALISTER said:

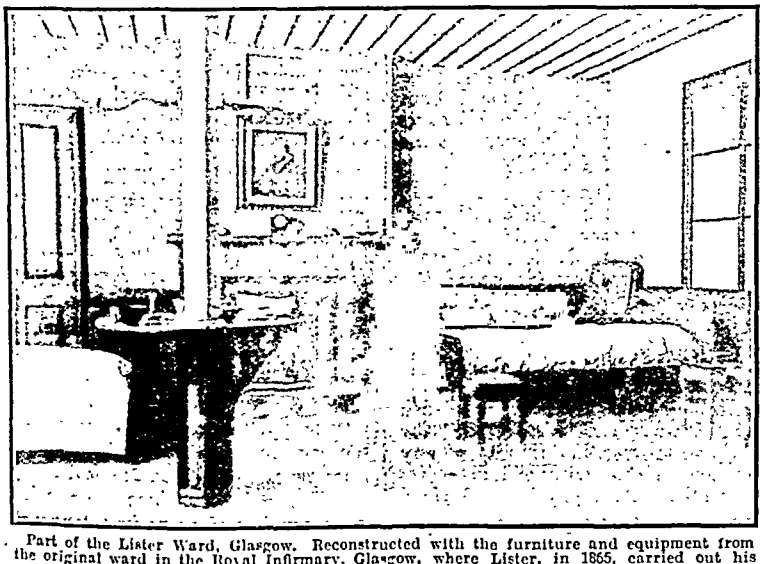
It is my privilege, in the name of the whole University, to offer a grateful welcome to the guests who to-night join with us, Lister's contemporaries and Lister's heirs, in celebrating his hundredth birthday, and, in common with the whole world, offering our tribute of blessing and honour to his venerated name. By four days we anticipate his actual centenary, but I do not apologize for that. It is fitting that Glasgow, which saw the first beginnings of his beneficent labours in the Regius Chair of Surgery and in the wards of the Royal Infirmary, should give a lead to other cities and universities in voicing his praise.

Here he sowed the rich harvest which all mankind has reaped and is still reaping. Here, in ground that was not without its storms and stones, he planted in faith the seed which has multiplied a hundredfold in every region of the earth where the art of healing is practised with knowledge. Here he elaborated with patience, and with conviction that his foundations were well and truly laid on the bedrock of scientific truth, the method of treatment which transformed surgery from a perilous adventure into a safe and saving intervention in aid of *vis medicatrix naturae*.

And note that Lister's innovation did much more than

ensure the clean healing of such wounds as accident or the merciful knife inflicted under the limitations to which surgery was then subject. He dispelled what were regarded as the inevitable dangers, not of the operating table, but of the ward set apart for recovery. He wrought hope of healing to old regions that were too often but valleys of the shadow of death. But, in addition, he opened up, like a surgical Columbus, whole continents for surgical exploration and life-saving endeavour. The surgeons of his day knew well that in the brain, in the abdominal cavity, in the limbs and joints, the seeds of death and disablement were lurking, and in due time would bear their fatal fruit. If only these weeds could be extirpated in time, life and health might still be saved. But to the pre-Listerian operator these regions were barred as by a flaming sword—the deadly sword of septic inflammation. The needful operation might be dared in half despair, but none was so bold as to promise either to himself or to his patient that recovery would ensue. Lister turned aside and quenched the flaming sword, and to-day the village doctor in the cottage home, the ship surgeon in a tossing cabin, can venture into the arcana of our frame with hope and confidence, and snatch a life from the very jaws of death.

In the weeks to come the work of Lister will be rehearsed in many lands and in many tongues. Of our guests here many will proceed to other centres to take part in these commemorative festivals, whose testimony will be borne to the vast sweep of Lister's discoveries and their influence on the relief of human suffering. These guests and delegates will be able, by reason of their own slightly ante-natal commemoration, there to testify also that in Glasgow, where Lister's revolution was cradled, the inheritors of his teaching were the first to raise the chorus of thanksgiving and veneration in this centennial year; that here, in the city of which he was a freeman and in the University in which he first held a professorial chair, his name and fame are cherished with pride and enthusiastic gratitude.



Part of the Lister Ward, Glasgow. Reconstructed with the furniture and equipment from the original ward in the Royal Infirmary, Glasgow, where Lister, in 1865, carried out his researches and first put into practice his antiseptic principles. (Wellcome Historical Medical Museum copyright.)

In the halls of the University of Glasgow are set up the memorial images of the benefactors of mankind and of human civilization whereof we make our special boast—Adam Smith, James Watt, Lord Kelvin, Lord Lister, these four: but the greatest of these, for us here and now, is Lord Lister.

Sir HECTOR CAMERON, Lord Lister's beloved disciple, who quoted from Ecclesiasticus, "Let us now praise famous men," asked what there had been in Lister's life-work and its consequences to warrant such a universal and unanimous acclaim. Had he added to the armamentarium of surgery or to its usefulness as a beneficent art? Yes, but many others had done the same. Was he a more deft operator than others? Many, he believed, were more skilful exhibitors of what he might call surgical carpentry. The reason was that by his genius he had introduced an absolutely new era of surgery, changing its character from the very bottom upwards. When, many years ago, a great French surgeon, Dr. Lucas-Championnière, stated that there were only two eras in surgery, that before Lister and that after him, everyone recognized the truth of the pronouncement. He accomplished that which all the centuries that preceded him had failed to do. Lucas-Championnière came to Glasgow in 1868 when a very young man, when Sir Hector was house-surgeon to Lister. He later became a surgeon of the old Hôtel-Dieu, and succeeded in changing the character of his wards by banishing sepsis from them. Another youthful visitor who came to Glasgow in 1869 was Dr. Warren Collins of Boston, who about two years ago wrote him of his contact with Listerian principles that "after studying medicine and surgery at the great sources for three years he had been confronted with a new doctrine which necessitated a complete revision of medical science. It had been, as it were, like suddenly stepping out through a door from an old era into a new one." Thus was the revolution seen at an early period, and recognized almost at sight, by two particularly well educated young foreigners. Since those days great progress had been made, until now the avoidance of sepsis and its consequences in all wounds was a matter fully understood by every surgeon. No human mind, however, could compute the pains which had been relieved, the lives which had been saved, or the tears which had been averted. Lister had studied sepsis before 1860, during the currency of Liebig's view which implicated the oxygen of the air. This hypothesis he could not accept, but Pasteur's researches suggested to his mind the likelihood of a microbic origin. Pasteur furnished him with the scientific clue, following which he instituted the methods of treatment which have made his name renowned. But, as Clifford Allbutt had observed, "he saw the importance of Pasteur's work because he was watching on the heights, and watching there alone." Lister reposed a steady confidence in the mind of youth. In his hours of trial, when surrounded by hostility, he felt sure that his students would carry on his principles. "I have always," he used to say, "had youth on my side." When God smote him he threw his torch to the youth of the world. The problem of cancer awaited solution. It was for youth to assail it. As they followed the quest let them emulate Lister in his truthfulness, modesty, avoidance of contention, perseverance, and patience.

Sir GEORGE T. BEATSON said that when Lister went to Edinburgh from Glasgow in 1869 he had three objects in view. The first was to perfect a simple and efficient dressing; the second, to enlarge the field of operative surgery; and the third, to convince the medical profession that his antiseptic system was sound. He found his surgical colleagues in Edinburgh as sceptical as those whom he had left behind. The *odium medicum* against him was strong among the wise men of the east, and one professor dismissed his claims with the comment that his work would be found unreliable, as he was swayed by the bias of a fixed theoretical preconception. In 1871, 1872, and 1873 Sir George worked under Lister as his dresser, clerk, and house-surgeon. He saw the gauze absorbent dressing and was familiar with the carbolized spray. Henley was in the wards during his term of office. He had lost one foot from tuberculosis and the other had been condemned. Lister operated with success, and the grateful patient enshrined his benefactor in his vivid and well known verses. Sir George Beatson recalled Lister's unflinching courage, his enthusiasm, his modesty, his unruffled temper, and his handsome, thought-lined face. He appeared to stand,

like Aaron, between the dead and the living. Through his great work the art of surgery entered on a new career.

Dr. IRVING H. CAMERON, Emeritus Professor of Surgery at the University of Toronto, stated that while his seniors had scouted antisepsis he himself had been one of its early supporters. He referred to the two visits paid by Lord Lister to Canada and the United States. He quoted a number of interesting extracts relating to Lord Lister from a Canadian medical journal.

Emeritus Professor MURDOCH CAMERON, who had been one of Lister's dressers in the Glasgow Royal Infirmary in 1867-69, described in picturesque terms the internal conditions and surroundings of the Infirmary at that time. He spoke of the ravages of typhus fever, and of knives handed direct from the sharpening stone to the surgeon. He recalled, he said, with special pleasure a letter which he had received from Lord Lister in later years, congratulating him upon his Caesarean sections, and inquiring what methods he had pursued. His reply had been, "I pursued the methods which I had learned in your wards." Lister's sympathy was wide and human, and his pity tender and true. The death of his coachman, who was killed in front of his ward, had affected him most profoundly.

Professor ARCHIBALD YOUNG, Lord Lister's successor in the Regius Chair of Surgery, proposed a vote of thanks to the previous speakers, who had helped him to see Lister plainer, and paid homage to the master and Sir Hector Cameron, his beloved disciple.

The processional and other arrangements of the day were made and supervised by Sir John S. Samuel, K.B.E., and Mr. G. H. Edington, surgeon to the Western Infirmary and lecturer in surgery at the University, who acted as joint honorary secretaries of the organizing committee, and to whom much credit was properly ascribed by all, for the precision and smoothness of the proceedings.

THE LISTER CENTENARY CELEBRATIONS IN LONDON.

RECEPTION OF DELEGATES BY THE KING.

THE first event in the official ceremonies of the celebration in London of the centenary of Lord Lister's birth was the reception by the King in the Throne Room of Buckingham Palace of the delegates who have assembled from all parts of the civilized world. The Minister in attendance was the Home Secretary.

ADDRESS BY THE ROYAL SOCIETY.

After the King had received and shaken hands with each delegate an address was presented by the President of the Royal Society (Sir Ernest Rutherford). In it Lord Lister was described as one of the greatest benefactors of the human race. His brilliant powers as an investigator and his single-minded devotion to science had enabled him, in applying to the problems of surgery the discoveries of his great contemporary Louis Pasteur, to lay bare the hidden causes of septic inflammation, and to discover means for its prevention, thereby inaugurating a new epoch in the science and practice of surgery. "It may well be doubted," the address continued, "whether the scientific activity of any one man had achieved so much for the saving of human life and for the prevention and relief of the physical sufferings which afflict mankind."

THE KING'S REPLY.

I thank you for the address which you have presented. It is with pleasure that I receive the delegates who are present here to-day, and so take part in the centenary commemoration of Lord Lister's birth. Any country might be proud to claim Lord Lister as its citizen; and I and my people heartily welcome the representatives of medical and surgical science, both from the Overseas Dominions and from all parts of the civilized world, who have come to join us in honouring his memory.

You have truly said that Lister ranks among the greatest benefactors to mankind. Of all the many changes in the last hundred years, none is more striking than the revolution in thought concerning surgery. It is hard now to realize the dread and apprehension with which formerly even a minor surgical operation was regarded. This change in our ideas is due partly to the discovery of anaesthetics and perhaps even more to Lister's work. Lister removed the horror of sepsis from surgical operations, and for this he is rightly described as the father of modern surgery. The principles discovered and laid down by him are to-day being worked out by his successors and are still fruitful of new applications.

Naturally a layman looks first at the ultimate success and beneficent effects of Lister's work. These, however, were not the outcome of happy accident or sudden inspiration, but of long and patient study, of continuous experiment, and finally of a wide knowledge and penetrating insight, enabling him to discern the importance and practical bearing of observations which, to some minds, might have remained a piece of academic research.

It is my earnest desire and hope that the Lister centenary celebrations may be in every way successful, and that this gathering of men of science from every quarter of the globe may conduce to foster and to strengthen the co-operation of all nations in the accumulation of scientific knowledge for the common benefit of the human race.

RECEPTION OF DELEGATES AT BRITISH MEDICAL ASSOCIATION HOUSE.

THE PRIME MINISTER'S TRIBUTE.

THE Great Hall of the British Medical Association House in Tavistock Square was a fitting scene for the reception by the Prime Minister on Tuesday morning of the delegates attending the Lister celebration. The official delegates themselves formed a considerable audience, but many other members of the profession and the public were present, and the fact that the date coincided with that of the Council meeting of the British Medical Association made it possible for most of the members of Council to be present. A very large number of those in attendance wore academic dress, and the costume of some of the delegates from foreign universities struck an unusual, almost a gorgeous, note.

The chair was taken by Sir ERNEST RUTHERFORD, O.M., President of the Royal Society, and chairman of the General Committee of the celebration. He was supported by Mr. Robert Hogarth, C.B.E., President of the British Medical Association, Sir John Rose Bradford, President of the Royal College of Physicians, and chairman of the executive committee in charge of the arrangements, Sir Berkeley Moynihan, President of the Royal College of Surgeons, Sir James Berry, President of the Royal Society of Medicine, Sir Charles Sherrington, Sir Humphry Rolleston, and others.

Mr. Baldwin, who was very cordially received, delivered a brief but eloquent appreciation of Lister, and afterwards shook hands with not far short of one hundred official delegates, and listened to two discourses, by a distinguished Frenchman and a distinguished German, dealing with the effect of Lister's work on surgical and pathological science and practice in their respective countries.

CHAIRMAN'S INTRODUCTION.

Sir ERNEST RUTHERFORD welcomed Mr. Baldwin, whose presence at that gathering, he said, showed that the State was not unmindful of the debt it owed to one of its greatest sons. This was a memorable occasion on which honour was being done to the memory of one of the greatest figures in the history of the application of science to surgery. It fell to few men to leave behind them, as

Lord Lister had done, such a splendid and permanent memorial of personal achievement. In the course of the celebrations some of the most distinguished men in the field of science in which Lister laboured would give appreciations of Lister's services to science and humanity. He himself had no claim to speak with authority on these matters, but it was not necessary to be a specialist to recognize what a debt the whole world owed to the discoveries of Lister and to his single-minded devotion to the cause of suffering humanity. As President of the Royal Society—an office which Lister himself filled with such distinction—he valued very highly the privilege of presiding on that occasion, and of extending a cordial welcome to the delegates who had assembled from many quarters to do honour to Lister. In addition to the addresses which would be presented formally by the delegates, some messages had come to hand from others who, by reason of distance, were not able to attend.

Those telegraphing messages of congratulation and homage included the following:

From the Imperial Academy of Tokyo,
From the State Institute of Experimental Medicine, Leningrad, and
From Semmelweis's Fatherland (sent by Dr. Emile de Grosz, President of the Hungarian Post-Graduate Committee).

MR. BALDWIN ON "A MAN OF REAL GREATNESS."

The PRIME MINISTER said:

Sir Ernest Rutherford, you have bestowed upon me a very high honour to-day in asking me to be present to receive the delegates who have come from all parts of the world to do honour to one of the greatest Englishmen of all time. In welcoming the delegates, I would say only a few words to them before I have the pleasure of receiving them personally. To-day the boundaries of all the nations are broken down in this hall. It is only fifty years ago that Joseph Lister came to London to convert his own people. It was two years after that, before he had attained that recognition here which subsequently was lavished upon him, that at an international congress in Amsterdam he was greeted by his colleagues in the profession from all over Europe in words uttered by the chairman on that occasion which we may well recall to-day: "Professor Lister, it is not only our admiration that we offer you, it is our gratitude and that of the nation to which we belong." These are words which found their echo years afterwards, not from the lips of an Englishman, but from the lips of a great American, showing how world-wide was his constituency, when at a dinner of the Royal Society that great ambassador, Mr. Bayard, in proposing Lister's health, said: "My lord, it is not a profession, it is not a nation, it is humanity itself which with uncovered head salutes you."

I cannot think that such a gathering as this would have been possible had it not been that in Lister there were all the complementary parts that go to make a man of real greatness. There was in him that to which you can testify with more authority and with more knowledge than I. I come here to greet the memory of the great master workman in his own craft, the man who pursued his science empirically and also by applying the newly discovered knowledge of his age to practical problems, and by devoting years of his life in that pursuit—the master workman who by that work of his brought more relief, more comfort, to the human race than almost any man who has ever lived. But there is also the other side—there is the man himself. To that I think it is allowable for a statesman to pay his tribute as much as for anyone of Lister's own profession, because in him there were those very things we most admire when we see humanity raised to its highest point. There was the wonderful simplicity and integrity of his nature—a man truth-loving, truth-seeking, and truth-living, a gentle man, filled with charity and with devotion, a man with never a mean thought. These things we find allied and brought to supremacy in his own work.

I would say only this further, that no more fitting words could have been uttered of him than the words which were sung at the great memorial service in Westminster Abbey fifteen years ago, to the music of one who himself brought the nations together—the great Handel, who might be called both a German and an Englishman. The words were these:

"When the ear heard him then it blest him, and when the eye saw him it gave witness of him. He delivered the poor that cried, the fatherless, and him that had none to help him. Kindness, meekness, and comfort were on his tongue. If there was any virtue, and if there was any praise, he thought on these things. His body is buried in peace, but his name liveth for evermore." (Loud applause.)

RECEPTION OF DELEGATES.

The following delegates, representing foreign countries, overseas dominions, and British seats of learning, medical societies, and hospitals, were then presented to the Prime Minister, to whom many of them handed addresses from their respective bodies commemorative of Lister's work:

Dr. Otto Stapf (Austria), Professor A. Krogius (Finland), Dr. P. Bazy, Professor Hartmann, and Dr. P. Vallery-Radot (France), Professor von Gruber, Professor A. Kossel, and Professor Max Rubner (Germany), Professor C. F. A. Koch (Holland), Professor Johan Nicolaysen (Norway), Professor C. Kostanecki (Poland), Sir Arthur Schuster (Spain), Professor S. G. Hedin (Sweden), Professor de Quervain (Switzerland), Professor Melvin S. Henderson, Professor de Witt Lewis, and Professor W. G. Maccallum (United States).

Professor Kerr Grant and Mr. Hamilton Russell (Australia), Professor Irving Cameron and Professor S. B. Whitnall (Canada), Major-General J. B. Smith (India), Professor D. Colquhoun (New Zealand), Dr. Watkins Pitchford (South Africa).

Sir John Rose Bradford (Royal College of Physicians, London), Sir Charles Sherrington (Royal Society), Sir Berkeley Moynihan (Royal College of Surgeons of England), Professor G. M. Robertson (Royal College of Physicians, Edinburgh), Mr. Logan Turner (Royal College of Surgeons, Edinburgh), Professor Andrew Fullerton (Royal College of Surgeons in Ireland), Dr. G. H. Edington (Royal Faculty of Physicians and Surgeons of Glasgow), Sir George Newman (Royal Society of Edinburgh and Ministry of Health), Professor Graham Kerr (Royal Philosophical Society of Glasgow).

The following representatives of Universities: Sir Archibald Garrod (Oxford), Sir Humphry Rolleston (Cambridge), Professor Percy Herring (St. Andrews), Professor Archibald Young (Glasgow), Professor John Marnoch (Aberdeen), Sir Harold Stiles (Edinburgh), Sir William Taylor (Dublin), Sir Holburt Waring (London), Mr. Grey Turner (Durham), Professor Craven Moore (Manchester), Professor A. W. Sheen (Wales), Professor Leonard Gamgee (Birmingham), Professor Thelwall Thomas (Liverpool), Professor Kay Jamieson (Leeds), Professor E. Mellanby (Sheffield), Professor E. Fawcett (Bristol).

Surgeon Vice-Admiral Sir J. Chambers (Navy Medical Service), Lieut.-General Sir Matthew Fell (Army Medical Services), Air Vice-Marshal D. Munro (Royal Air Force Medical Services).

Sir Walter Morley Fletcher (Medical Research Council), Lord Somerleyton (King Edward's Hospital Fund for London), Dr. E. M. Callender (Medical Society of London), Mr. R. G. Hogarth (British Medical Association), Sir James Berry (Royal Society of Medicine), Sir Cuthbert Wallace (Association of Surgeons of Great Britain), Professor E. H. Starling (Lister Institute), Sir Frederick Andrewes (Pathological Society), Sir David Wallace (Medico-Chirurgical Society of Edinburgh), Dr. J. A. Murray (Royal Microscopical Society), Sir Frederick Fry (Merchant Taylors Company), Mr. Alfred Hepburn (Society of Apothecaries), Professor J. P. Hill (University College, London), Dr. Ernest Barker (King's College, London).

Also the following representatives of hospitals: Dr. H. Morley Fletcher (St. Bartholomew's), Mr. Charles Gibbs (Charing Cross), Mr. Walter Fedden (St. George's), Mr. F. J. Steward (Guy's), Mr. Arthur Cheatle (King's College), Professor W. Bulloch (London), Dr. C. M. Wilson (St. Mary's), Dr. E. Pearce Gould (Middlesex), Mr. Cyril Nitch (St. Thomas's), Dr. A. M. H. Gray (University College), Mr. William Turner (Westminster), Lady Barrett (London School of Medicine for Women), Dr. George Mackay (Edinburgh Royal Infirmary), Dr. W. G. Black (Glasgow Royal Infirmary), and Colonel Donald Mackintosh (Western Infirmary, Glasgow).

A FRENCH APPRECIATION.

Two discourses by eminent foreign delegates, one from France and the other from Germany, were then delivered.

Professor HENRI HARTMANN of Paris, who addressed the gathering in French, said that when the Académie de

Médecine appointed him to represent it at the centenary of Lord Lister he gladly accepted the honour because of the opportunity it gave him of expressing the homage of the French medical profession to one who had wrought a revolution in surgery. In the middle of the last century one of their greatest surgeons, Nélaton, wrote that if a man could discover a means of suppressing purulent infection he would deserve a statue of gold. Such a statue Lister had merited. Before his work all interventions with the knife were threatened by the most dangerous complications. The fear of erysipelas caused the surgeon even to refrain from incising an abscess; he preferred to await its spontaneous opening. But from the day when the ideas of Lister came into practice the aspect changed completely—interventions with the knife lost their immense risk, and surgical procedure was revolutionized.

Previous to Lister several French workers, Déclat, Lemaire, Maisonneuve, Demarquay, had been using carbolic acid in the dressing of wounds. The results obtained had been mediocre. But Joseph Lister, employing the same agent, the disinfecting action of which on sewage had already been proved, obtained results beyond anything which had been suspected, and the method as he employed it was not an empirical one, but rested upon a scientific basis.

From 1860 to 1866 Pasteur, by a series of carefully conducted experiments, had established his great work on fermentation—had shown that the various fermentations, instead of having a spontaneous generation, depended upon organisms conveyed in the air. To Lister must be given the immense credit of seeing the value of these experiments in their application to the treatment of wounds. Adopting the ideas of Pasteur, and repeating his experiments in a somewhat modified form, he came to the conclusion that the complications seen in wounds were due to infection by germs introduced in this way.

In 1867 he began the series of papers which immortalized his name. He had not simply come upon an effective disinfecting agent; he had constructed a method. He showed that to avoid wound infection the wound must be protected from the entrance of germs, that care must be taken to disinfect everything that touched the wound—the hands, the instruments, the sponges, the dressings—also that by the operation of a carbolic spray the germs in the surrounding air must as far as possible be destroyed. At the same time, he substituted for the ligatures formerly in use a new absorbent ligature, and he followed a carefully thought out practice with regard to reunion of the wound and to drainage. The results were now a matter of history. In the Glasgow Royal Infirmary the mortality following compound fractures fell on the adoption of the Lister method from 40 to 3 per cent. Erysipelas, purulent infection, septicaemia, hospital gangrene, and other complications disappeared from the wards.

An Ardent French Disciple.

A year after the publication of Lister's first paper (continued Professor Hartmann) a young hospital resident physician of Paris, Just Lucas-Championnière, visited Glasgow. He saw there, to his great astonishment, wounds healing without suppuration, reunion obtained by first intention, with a rapidity which he had not thought possible. He saw no erysipelas, no septicaemia, no purulent infection, no hospital gangrene, no suppuration even. *Returning full of enthusiasm, he published, in January,* 1869, the first French article on Lister's method, then unknown in most countries. Subsequently he preached Listerism and succeeded in inducing a number of surgeons to follow the practice of Lister in their hospitals. When Lucas-Championnière himself became the head of a hospital service he applied in the most exact manner the Lister method. The difference between the results of the old method and of the new was apparent to all eyes. In 1876 this disciple published his *Chirurgie antiseptique*, the first didactic work to appear on the method of Lister. Thus France was one of the countries where the method of Lister was most rapidly accepted.

Its adoption made a veritable revolution in surgery. This could be gathered from a study of the Bulletins of the Société de Chirurgie, which furnished a record of surgical progress in France. From the year 1875 the discussions differed altogether from those which had appeared previously. The procedures of surgical intervention with the knife in various directions entered upon a new phase. Surgery was wholly transformed by the safety of the Lister method. The new fields which opened out in consequence were the subject of numerous communications to the society, and the successes obtained by surgeon after surgeon appeared the more astonishing when contrasted with what had taken place before.

After recalling how Lister was acclaimed in Paris when he visited that city, and what eagerness there was to see the man who had so profoundly modified the practice of surgery, the speaker mentioned that in 1882, when he himself was a resident physician in a hospital, he made a pilgrimage to this country, as Lucas-Championnière had done fifteen years before, and saw Lister, who was then at King's College Hospital. He would ever retain the feeling of admiration which he, a young student, felt at that time for this great master.

Surgery, since Lister's discovery, had continued to evolve. Asepsis had succeeded antisepsis. For the destruction of germs by carbolic acid there had been substituted their destruction by heat, which produced an absolute sterilization, and was free from the inconveniences which attended, in certain circumstances, the contact of the antiseptic with the living tissue, and less importance was attached now than formerly to germs contained in the air. Nevertheless the principles propounded by Lister remained, a permanent acquisition.

In conclusion Professor Hartmann said:

"Aussi le nom de Lister restera-t-il dans l'histoire comme celui de l'homme de génie qui, en appliquant au traitement des plaies un méthode reposant sur un base scientifique, a permis à la chirurgie de faire, en une courte période d'années, des progrès tels qu'on n'en avait jamais vu de pareils dans les siècles antérieurs." (Loud applause.)

Listerism in Germany.

The second discourse was delivered by Professor Max Ritter von Gruber of Munich.

Professor von Gruber said that the work of Lister was a memorial which proclaimed more impressively than any other achievement the blessings of science, and disclosed to the eyes of all nations what immeasurable advantage scientific discovery and method in a humane direction could bestow upon the world. The greatest triumphs in the prevention of disease and its eradication were the introduction of vaccination by Jenner, the work done on puerperal fever by Semmelweis, and the antiseptic treatment of wounds by Lister. Lister's achievement, over and above its immediate practical utility, represented also a great gain from the point of view of intellectual development. While the first two achievements just mentioned were the result of empirical discovery, Lister's method was the result of theoretical insight following from the deductions of experimental natural philosophy. Lister's glory was also the glory of Pasteur, for Lister built his practice upon the scientific foundations which Pasteur had laid. Pasteur proved that materials liable to putrefaction never putrefied by themselves, but only when microbes multiplied in them, and that these microbes were originally introduced from without. He proved also that when materials liable to putrefaction came into contact with the air and putrefied, the cause was not the oxygen or other constituents of the air, but the germs which the air contained. These facts, established by Pasteur, convinced Lister that putrefaction in wounds was due to the entrance of germs, and that therefore it must be possible to take measures to prevent such complications. The report from Carlisle regarding the treatment of sewage by carbolic acid led Lister to employ this agent in order to cleanse the wounds of germs which might be already present and to disinfect the surrounding parts, the hands of the operator, the instruments, and the dressings. At the same time he tried to protect the wound from invasion of micro-organisms from without

by the use of special dressings. After many years of tireless work Lister perfected his method, which he thought out to the minutest details. The results of his meditations and endeavours surpassed his boldest hopes.

No doubt very few of those present had seen, as the speaker had seen, a surgical ward where the old-fashioned pre-Listerian methods were employed. Those who had not had that experience could scarcely imagine what awful things there met the eye. Only the great war brought back a resemblance to those long-forgotten horrors. In those old days nobody ever expected any large wound to heal without lengthy suppuration and copious scar-formation. So long as nothing worse than this happened the surgeon was satisfied and happy. He (Professor von Gruber) could see those patients still before his eyes, the septicaemic, the pyaemic, the tetanic, the patients with erysipelas, their heads and faces irrecognizably swollen. He could see the pads of lint dripping with pus taken out of the large caverns of the abscesses, the glowing iron by the help of which the surgeon tried to master the gangrene of the wound while sacrificing sound tissues irretrievably. And the people thus suffering were not by any means all of them old and debilitated; many were young soldiers, and not all of them had extensive lacerations of open bone fractures or other wounds which in all circumstances, and even to-day, were dangerous from the point of view of infection; most of them had been carefully operated upon. Even this was not the worst that might happen. Hospital gangrene might claim large numbers of cases. He recalled how it raged in the Munich surgical hospital in the early seventies. In 1874 no less than 80 per cent. of all those wounded or operated upon fell victims to gangrene. The smallest puncture, a corn-cut which had gone a little too deep, a cupping spot, a leech-bite, even a blister produced by a vesicant, could become gravely dangerous for limb and even for life. Out of sixteen amputation cases eleven died of pyaemia. And yet in that very same hospital Professor von Nussbaum could show his students, one day in 1875, but a few weeks after he had begun to "lister," as they said in Germany, that at the moment there was not one new case of pyaemia or of gangrene there, but that all the wounds were healing faultlessly and quickly.

The Slow Progress of Lister's Method.

Perhaps the present audience (Professor von Gruber continued) might be surprised to hear that in 1874, seven years after Lister's first publication, his method was not employed everywhere in Germany. But even in Great Britain things were not very different. That many years had to elapse before Lister's discovery came to be universally put into practice was not to be attributed merely to human blindness in the face of all that was new, or to vanity and jealousy of colleagues; there were more substantial reasons. The corroboration by microscopical or cultural proof of Lister's teaching as to certain micro-organisms being the cause of wound infections was not forthcoming for a long time. A still greater hindrance was the fact that Lister's method as first published was not the fully developed method; it was improved and developed by Lister himself when he brought forward his so-called permanent dressing in 1871. The subtle manipulations which his method required had to be learned most exactly and carried out most punctiliously, for defective execution brought many failures. The procedure was also very expensive. The use of concentrated solutions of carbolic acid produced severe poisoning, and even the inevitable breathing in the carbolic vapour was dangerous. For all these reasons the new treatment of wounds only slowly won its way.

Some prominent German surgeons were among the first to appreciate the greatness of Lister's invention. In 1871 Surgeon Major A. W. Schultze visited Lister in Edinburgh to learn his method at first hand, and in the following year, in the *Deutsche militärärztliche Zeitschrift*, he reported what he had seen there. It was the first time that exact details about the new treatment were made known in Germany. Professor v. Bardeleben, in Berlin, and Professor Volkmann, in Halle, were the first to begin at once to treat according to Lister's prescriptions. The latter in 1871 had been so distressed by the cases he had seen in his own hospital that in despair he was considering closing his hospital altogether. Professor von Nussbaum was the third clinician to take up the method after his assistant Lindpaintner had been Lister's scholar in Edinburgh.

The town from which the speaker came, Munich, was the first to proclaim the immortal glory of Lister. He was received there in 1875, and reverence was paid to him then as one of the greatest benefactors of mankind.

The Triumphal March of Listerian Surgery.

It would be erroneous to suppose that previous to Lister no means of preventing these wound infections was known. When he himself was a student in Billroth's clinics in Vienna the so-called "open-wound treatment" by Weber and Billroth was practised for years, and worked excellently in the treatment of such operations as could be ventured in those days. It was in itself a kind of antiseptic method. But what did the boldest surgeon venture at that time? To-day the great probability—almost the certainty—of avoiding wound infection by careful operation had opened fields to surgery which were undreamed of fifty years ago. Under Lister's banner surgery began an incomparable triumphal march, and greater conquests were made in two decades than had been made in two millenniums before. True, many of the original precautions practised by Lister in the treatment of fresh wounds had proved to be superfluous. Infection from the dust in the air was not so greatly feared, and the aseptic method, which avoided as far as possible the contact of the wound with chemicals, had been substituted for the antiseptic. But the principles of Lister remained unshaken. His discovery was and would be the ground-work of all wound treatment. It was also of great biological importance. Formerly the living organism had seemed to be a very frail structure, its organs extremely susceptible to mechanical disturbance. Only after Lister's work did it become evident to what an astonishing extent the organism reacted in the direction of the preservation of life, and how capable it was of regeneration.

In conclusion, Professor von Gruber said that thirty years ago he had the fortune to enjoy close intercourse with Lord Lister for some days. The thought that he had been of use to mankind was the greatest happiness of Lister's life. The beauty and nobleness of his appearance were in complete accord with the harmony and magnanimity of his character. The tender glance of his blue eyes was not to be forgotten by any who met it. Lister was one of the most glorious blossoms the tree of mankind had ever borne. He believed, and worked in the belief, that there was no more sublime aim for human striving than to discover ways and means to diminish the sum of sufferings and augment the joys of mankind. Very often when they felt driven to despair in the face of human vileness the memory of Lister came before the mind as a shield from pessimism. The thought of this great and pure soul would always make them hope anew. (Loud applause.)

VOTES OF THANKS.

Sir ERNEST RUTHERFORD, in thanking the Prime Minister, said that he did not know whether Mr. Baldwin ever met Lord Lister, but he was sure they would have delighted in one another's company. He also thanked the two speakers. All those present were sensible of the great debt which the whole world, and Lister himself, owed to the great Frenchman Pasteur. Lister knew that his own work rested on the pioneer experiments of Pasteur on fermentation. They also appreciated the debt that admirers of Lister owed to Germany and to France for the way in which those countries took up at an early date Lister's discoveries. Further, he had to thank Mr. Hogarth, as President of the British Medical Association, for lending the beautiful and appropriate hall of the Association for the ceremony.

MEMORIAL MEETING AT KING'S COLLEGE HOSPITAL.

TRIBUTES BY FORMER PUPILS.

THE Listerian Society at King's College Hospital, London, of which Lister was President in 1877, just fifty years ago, celebrated the centenary at a large meeting on Monday afternoon, when addresses were given by Sir W. Watson Cheyne, Bt., and eight or nine others who had been closely associated with Lister, especially during the years at King's College. The chair was taken by Mr. ARTHUR CHEATLE, president of the society, who said that King's College Hospital kept that day with gratitude and pride—gratitude that such a man as Lister was ever born into the world, and pride because he was a fellow-countryman and closely attached to the hospital as surgeon and consulting surgeon for thirty-five years. To help them celebrate their centenary they welcomed Sir Watson Cheyne, Lister's chief apostle and a "King's" man.

Sir WATSON CHEYNE spoke of Lister as a man rather than as a scientist. Fifty years ago Lister received an urgent invitation from the authorities of King's College Hospital, then in the vicinity of Lincoln's Inn Fields, to come to London to fill the place in that hospital vacant by the death of Sir William Fergusson in the preceding year. The request came as a thunderbolt to Lister. He had settled down in Edinburgh, and was supremely happy there, where he had friends who loved and admired him, and where he had very large classes of enthusiastic students whom it was his joy to teach. At first he declined the proposal, but renewed requests were made, and he ultimately agreed to come to London, being chiefly influenced by the argument that his views and methods of treatment would spread more quickly from the metropolis than from Edinburgh, and by the fact that, although eleven years had elapsed since his first publications, really very few surgeons in London had taken up his methods. Before Lister made his final decision he came to the Infirmary early one morning and woke up his house-surgeon (the present speaker) to ask him whether he would go to London with him. Three other students were also asked to go as clerk and dressers, and the four of them were naturally very much excited and pleased at the prospect of following the master. They felt very much as the old crusaders must have felt. In London Lister missed sorely the numbers of students who followed him and filled the lecture room at Edinburgh. When the students at King's, at that time quite a small school, attended his lectures in small numbers and looked bored, he was very pessimistic, and for some years the speaker tried to attend his lectures whenever he could manage to do so because he knew how much the presence of senior men pleased and comforted him. For some time it appeared as if they had struck a poor type of student at King's, but later it was discovered that the examining bodies did not favour "Listerism," and that the students were afraid to introduce the subject, desiring, in fact, not to learn Lister's views until they had passed their examinations. One of the greatest characteristics of Lister was his extreme conscientiousness. His care in his papers and addresses to ensure as great accuracy as possible had the curious result that when he had to deliver any important address he was almost certain to arrive late at the meeting, the explanation being that, on going over the points of his discourse before leaving home, something had occurred to him as not sufficiently proven to justify a positive statement, and he would, even at the last moment, set to work to look into the matter. When about to deliver before the Royal Society the Croonian Oration on the coagulation of blood, it was said that a point struck him after he had left his house, and he turned into a slaughterhouse and had an animal bled in order that he might make the necessary observation. His conscientiousness was shown also with his patients. If they complained of pain or discomfort he would set to work to rearrange dressings, splints, and pillows, irrespective of other engagements, thereby making himself late for appointments. For this reason—the likelihood of appointments with busy practitioners not being punctually kept by him—he never had a large private practice. When asked to give an opinion in a case on which he was not himself to operate he was troubled a great deal. In many cases the opinion that he felt to be the correct one might depend entirely on whether the wound would remain aseptic or not. If he advised an operation in which asepsis was essential, and the operation was not done by him, or by someone who believed in and practised asepsis, his opinion, if acted on, might practically condemn the patient to death. In this transition period, therefore, he quite rightly looked on an opinion given by a surgeon as applying only to his own handling of the case afterwards, and he was very much against those who gave advice after they had ceased to operate. The speaker also mentioned Lister's sympathy with sufferers, and his readiness to help, sometimes much abused. In spite of numerous ovations, Lister remained throughout life a humble and unaffected man. He appreciated all his honours, but they made no difference in his relations with other people, nor did he show that he was conscious of meriting any special respect.

Sir GEORGE LENTHAL CHEATLE said that Lister was in every way the greatest man he had met. Lister's devotion to his work and his great courtesy had caused all who had come in contact with him to revere him. To Lister the hospital was a temple, and he would endure no infringement of its sanctity. On one occasion he performed a brilliant operation in thirty-two seconds, and when the onlookers cheered him he turned round and said, "Gentlemen, remember where you are." Lister would not tolerate inefficiency, and had never made an inaccurate statement. On one occasion he told the speaker that he did not wish to retract anything he had said or written. The legacy which Lister had left to mankind would be everlasting. Those of his fellow-men who had felt his personal influence knew that the place filled at his birth and left vacant at his death could never be filled by anyone else.

Colonel BOND told many personal reminiscences of Lister, and gave instances of how he had benefited by having learned at his feet. He recalled how at the Medical Congress of 1881 well known surgeons from all parts of the world had come to listen to Lister, and described how, by the use of Lister's methods, Sir Thomas Crawford and himself had saved numbers of cases in the Egyptian campaign and the Boer war which otherwise would have surely proved fatal. No proof was needed of the boon and blessing which Lister had been to surgery.

Sir STCLAIR THOMSON said the "old antiques" on the platform could go back to the time when most of the hospitals in the country reeked with the stench of putrefaction, and he himself could remember when he had been temporary house-surgeon at King's Lynn, at which time the only operations carried out there had been amputations, and underneath each stump used to be placed a tin tray to collect the dripping pus. The wounds were dressed with oakum, and from the gaping wound there used to hang the hemp ligatures, used before the days of catgut. Those who came in contact with Lister for ever remembered his magical influence and extreme modesty. Like all great men, Lister was very particular about details. He used to show students how, in bandaging a chest, the turns of the bandage above and below the breast had to be fixed with a safety-pin; otherwise they drifted apart, and, in order to impress that upon his hearers, he used to tell the incident of how he had had on one occasion to open an abscess in the axilla for Queen Victoria. All had gone well, but on reaching the railway station to go home he suddenly remembered that he had forgotten the safety-pin. He immediately returned to Balmoral Castle, and explained the oversight to Queen Victoria and the necessity for making her undress so that he might put in the safety-pin. Some surgeons would perhaps have chanced that safety pin.

Mr. R. HAMILTON RUSSELL, F.R.C.S. (Melbourne), remarked that Lister appeared to one in various guises—first, as an operating surgeon, secondly, as a most delightfully lucid lecturer, and thirdly, and greatest of all, as supreme and without rival as a dresser of wounds at the bedside. He had been putting together a short time ago a few reminiscences for the Edinburgh Memorial Volume, and it had occurred to him to estimate what

proportion of Lister's teachings to his students had consisted of the art of dressing wounds; he had come to the conclusion that, on a rough calculation, 75 per cent. of Lister's teaching had been devoted to that art, and 25 per cent. to what might be called ordinary textbook surgery. It was very rarely nowadays that the Lister anæsthesia was referred to; it had been a side-interest of Lister's, which had been completely obliterated by the greatness of his supreme achievement. Nevertheless, Lister had been a great scientific experimenter in anæsthetization; he had written in Holmes's *System of Surgery*, 1883, the best articles on the practical administration of chloroform that had ever been published. Sir Watson Cheyne had put the question, In what did the genius of a man like Lister consist? It was exceedingly difficult to answer such a question, but whenever one met a man with superlative ability of intellect or nobility of spirit, or both combined, as in the case of Lister, one was certain to experience extraordinary interest and great moments. In reply to a compliment, Lister had once said, "Yes, that is a thing which will rejoice the heart of any man who loves his fellow-men," and he had never known any man other than Lister who could have said that and have conveyed conviction of the genuineness of his feelings on the subject. Lister had really loved his fellow-men; he had had, in fact, the philanthropic temperament. He was a great lover of children. At a clinical lecture Lister was once discussing the treatment of the patient, who happened to be a little child, and he said, "We must always remember that when the patient is a child it adds to our responsibilities. An adult is able to decline any treatment suggested, and the patient, therefore, in that case can share the responsibility with the surgeon; but in the case of a little child it is absolutely at our mercy, and that should make us all the more cautious about anything we undertake to do to their sacred little bodies."



Dr. H. P. WARD said he well remembered his first impression of Lister's outstanding personality, and his fine physique and noble physiognomy. All knew what strength he could exert if necessary, and his powers of endurance. When one studied his features, who could doubt that there was intellect above the average? His strength of mind and purpose was indicated by his noble spreading forehead, his deep clear eyes, and thoughtful but benign expression of countenance. Work had been Lister's life occupation —work done with the noblest of all objects, namely, the relief of human suffering. To his example and teaching of truth and sincerity and the sacredness of human life, his kindness and consideration to all his patients, his hard work and attention to detail, those who were his pupils owed whatever of those excellent qualities they had exhibited during their professional careers. He for one looked back on his years of guidance under Lister as his most precious years of experience, and he voiced his sincere gratitude to his teaching and influence.

Mr. L. V. CARGILL called to mind Lister's noble presence, his quiet dignity, and his earnest teaching and constant example, which created amongst those who worked with him an atmosphere which brought out one's best efforts to attain the sort of standard and high ideals and unstinted service which Lister would wish. Remarks had been made about examination and teaching. He could recall how Lister used to regret the time which men seemed to find it necessary to give to that form of teaching which was specially adapted for the examination room. The teaching that Lister gave was of a kind which was of the greatest use to his pupils, not perhaps for the mere purpose of examination, but for the purposes of life after the examination was concluded. Lister reminded him of Shakespeare's lines:

> "What a piece of work is man! How noble in reason! how infinite in faculties! in form and moving, how express and admirable! in action, how like an angel! in apprehension, how like a god!"

Dr. H. DISTIN described how being attached to Lister used to have its drawbacks. His fellow-students used to say that if one dressed for Lister one never learned anything, because he did not teach one any surgery; that whereas the other surgeons in the hospital did brilliant operations, Lister's cases were all chronic patients whom he kept in the ward for six or nine months. Time had proved that such scepticism of Lister's principles had been wrong, and no one would say now that Lister had not taught surgery. It had certainly been trying for anyone attached to Lister to have to go round the wards with him accompanied by only the dressers while other surgeons were accompanied by crowds of students. But besides his dressers Lister used to be accompanied by numbers of German and French doctors, who treated Lister as a sort of god. The dressers used to have to listen to long dissertations in French and German by Lister, and as few of the students understood a word of it that was probably one reason for the prevailing unpopularity of serving with Lister. Lister had taken a long time to become popular owing, among other reasons, to the ultra-conservatism of the London surgeons, who could never learn anything from the provinces or other places. An incident which showed Lister's strength of character was as follows. The anti-vivisectionists of the day had induced Queen Victoria to instruct her secretary to write to Lister, asking him to denounce vivisection. If anyone desired to read Lister's courageous reply they could do so in Sir Rickman Godlee's *Life of Lister*, where they would see how he had said that he would be lacking in his duty to humanity if he protested against animals being experimented on. When it came to a question of conviction Lister was no courtier, and he had simply told Queen Victoria that he would not

do what she asked him to do. Just as the history of England was written in two parts—the nebulous part prior to the Norman conquest, and the more precise part since, so the history of British surgery would be divided into two parts—the pre-Listerian era and the period subsequent to that time.

Dr. H. PERRY paid a tribute to Lister's outstanding charm of personality. He was a man of very deep religious convictions, but absolutely free from any form of bigotry. He had said on one occasion that if a man did his duty on this earth he had nothing to fear elsewhere. He was a brave man, but infinitely cautious, studying a major operation as though he had never done such an operation before. Personally he sometimes wondered whether Lister's personality was not even greater than his vast achievements.

Dr. A. BOUSFIELD said he had come in contact with Lister at the very end of his active hospital career, but his interest in every detail of his cases had not abated in the very least on the last day he went round the wards.

The CHAIRMAN, before closing the meeting, announced that he held in his hand a unique record of Lister—namely, an *x*-ray picture of Lister's hand. It was the most intimate relic existing of Lister.

UNIVERSITY COLLEGE HOSPITAL.

Two laurel wreaths were placed over the Lister memorial tablet at the main entrance of University College Hospital on the morning of April 5th, as tributes from the general committee and the Medical Society. Sir ERNEST HATCH, chairman of the hospital, who presided over the ceremony, gave a short account of Lister's connexion with the hospital, which he entered in 1844. Five years later he was appointed house-physician, and the year 1851, when he became house-surgeon, brought with it the fulfilment of the desire Lister had expressed in boyhood—namely, that he wanted to be a surgeon. He published two important papers in early life; one was written in the hospital in 1853, and received high commendation by distinguished authorities. The first operation in London under an anaesthetic was performed by Robert Liston, another member of University College Hospital, and Lister was invited to be present. Soon after this he left the hospital to pursue his life's ambition in Edinburgh, and, later, in Glasgow. Sir Ernest Hatch added that while Lister was at University College Hospital he had the good fortune to be instructed by Wharton Jones, professor of surgery, and William Sharpey, professor of physiology, the former of whom was then making his celebrated investigations into the circulation of the blood and the phenomenon of inflammation. Sir Ernest Hatch expressed his belief that these two great professors were the presiding geniuses over Lister's early career and the inspirers of his subsequent triumph.

ROYAL SOCIETY OF MEDICINE.

A SOCIAL evening was held at the Royal Society of Medicine in connexion with the Lister centenary, when the numerous guests were received by the President and Lady Berry. Relatives of Lister were present, and delegates from the United States and Continental countries. Sir STCLAIR THOMSON delivered an eloquent address based on his recollections of his experience as one of Lister's house-surgeons. This address, which is published at page 659, was illustrated by a series of photographs of Lister at different ages, and of some of the institutions where he worked, a pleasant feature being the careful arrangement by which demonstration of the lantern slides did not interrupt the speech, but served to illustrate its cardinal points. Various exhibits lent by the Wellcome Historical Medical Museum were on view in the library.

THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

A CONVERSAZIONE given by the Royal College of Surgeons of England at Lincoln's Inn Fields on the afternoon of April 5th was largely attended. Among the guests were a number of delegates who had been presented to the Prime Minister in the morning. Besides the library and the portraits and busts which much interested the visitors, the collection of instruments once belonging to Lister, and of his letters and notebooks and other documents, attracted a crowd of surgeons and their friends. The instruments are referred to in some detail in another part of this issue (p. 675).

MERCHANT TAYLORS' COMPANY.

IN 1903 the Merchant Taylors' Company, the successor of the Guild of Merchant Taylors of the Fraternity of St. John the Baptist in the City of London, admitted Lord Lister to its honorary freedom, in recognition of the long and valuable services rendered by him to the country, and particularly to surgery, by the discovery and application of the antiseptic treatment. It was appropriate, therefore, that the Company should take a share in the celebrations of this week. On Tuesday evening it entertained a large company to dinner in its beautiful hall, which still stands on the site in Threadneedle Street which the Guild acquired in 1347. After the Master, Mr. A. L. F. Cook, had given the loyal toasts, he proposed the health of the Lord Mayor, Sir Rowland Blades, Bt., M.P., who, in replying, spoke warmly and with knowledge of the great services Lister had rendered to surgery. The "Memory of Lord Lister," briefly proposed by the Master, was drunk in silence. The Earl of Crawford and Balcarres, K.T., F.R.S., then proposed the toast of "The Delegates," who, he said, had come from all parts of the world to recognize Lister's great work in physiology and pathology. Within the lifetime of many of them, he continued, there had been very great progress, both in medical science and the philosophy of the hospital. All present were proud to belong to an age which had witnessed marvels in the relief of human suffering and their diffusion throughout the world. Speaking for the public, he would say that it wished the surgeons, physicians, and pathologists who were concerned in that progress all success in the future. The toast was acknowledged by Professor J. Nicolaysen of Oslo (Norway), who, after some general observations, said that Lister's methods had been an inspiration to all in all countries and had stood the test of the war. Dr. Irving H. Cameron, Emeritus Professor of Surgery in the University of Toronto, also responded; he said that the cogency of Lister's observations and the theory founded upon them had received early recognition in Canada. Finally, Sir John Rose Bradford, President of the Royal College of Physicians of London, and chairman of the executive committee by which the arrangements for the celebration had been so well made, proposed the toast of "The Master." The occasion, he said, had received recognition at all hands: first by the King, who had received the delegates on Monday morning; then, that morning, by the large medical audience which assembled in the Hall of the British Medical Association to witness the reception of the delegates by the Prime Minister; and next by the chief magistrate of the City of London, who had addressed the company that evening in the ancient and beautiful hall of one of the oldest and greatest of the city companies. The Master, in a brief reply, expressed his own pleasure and that of the Company he represented in being able to pay a tribute to Lord Lister, who had been one of its most distinguished members. Among the company, in addition to those whose names have been mentioned above, were many representatives of science, medicine, and literature, including, in addition to the foreign delegates, the Minister of Health (Mr. Neville Chamberlain), the President of the Royal Society (Sir E. Rutherford, O.M.), the President of the British Medical Association, Sir Watson Cheyne, Sir Berkeley Moynihan, Dr. Andrew Fullerton (President of the Royal College of Surgeons in Ireland), Sir Arthur Keith, Sir George Makins, Sir Charles Sherrington, Sir Walter Fletcher, Professor G. M. Robertson (President of the Royal College of Physicians, Edinburgh), Dr. R. M. Buchanan (President of the Royal Faculty of Physicians and Surgeons of Glasgow), Sir William Taylor (Dublin), the Bishop of Birmingham, the Lord Provost of Glasgow, Sir Edward Gosse, Sir George Frampton, R.A., Professor E. H.

Starling, Sir R. Havelock Charles, Major-General J. B. Smith (I.M.S.), Sir David Prain (Treasurer of the Royal Society), Sir Richard Gregory (editor of *Nature*), Sir James Berry (President of the Royal Society of Medicine), Sir Thomas Barlow, Bt., M.D., Professor J. Marnoch (Aberdeen), Professor A. W. Sheen (Cardiff), Sir George Newman, and Professor Elliot Smith.

MEMORIAL SERVICE IN WESTMINSTER ABBEY.

ADDRESS BY THE BISHOP OF BIRMINGHAM.

THE memorial service in Westminster Abbey on Wednesday morning, at which an address was given by the Lord Bishop of Birmingham (Right Rev. E. W. Barnes, F.R.S.) was attended by the official delegates, most of whom wore academic costume and were accommodated in the nave, and the rest of the building was filled in every part by members of the general public. Viscount Hampden attended as the representative of H.M. the King.

The service included Handel's anthem, "When the ear heard him," which had been rendered fifteen years previously on the occasion of Lister's funeral. The Prime Minister had quoted the words of this anthem in his speech on the previous day. A special collect was said for the Presidents, Councils, and Fellows of the Royal Societies, and the lesson, read by the Dean of Westminster, was from St. Luke ix, 19-23, in which is described Christ's commendation of His miracles of healing to John the Baptist as evidence of His divine mission.

The BISHOP OF BIRMINGHAM said that they had met in the Abbey, where but for his own desire Lister might have been buried, to give thanks to God for the benefit which this great surgeon had conferred upon humanity. That was not the occasion on which to discuss the technical aspects of his discoveries or to delimit the range of his genius. Such a task was more rightly undertaken by members of Lister's own profession. He was more concerned to commemorate the personal qualities of the man, the religious principles which fortified his character and guided his actions, the patient enthusiasm which served his genius, and especially the inestimable value to humanity of his life-work.

The steady persistence with which Lister pursued a single great aim throughout his career was remarkable. As a medical student at University College, London, he read a paper on hospital gangrene; and at the end of his professional life he was still endeavouring to perfect the details of the great aseptic method of treatment which had revolutionized modern surgery. Lesser men might have been intoxicated by fame, but Lister preserved a humility which was singularly attractive; he sought truth patiently; he was ever willing to examine the new theories and methods which might lead him to modify his earlier conclusions; he had, in a word, the true scientific spirit, and with it the insight of genius. Whence came his quiet pertinacity, his steady trustworthiness? He owed much to his Quaker ancestry. It was not fanciful to see in the practical ability of his father and the gifted imagination of his mother the sources of some of his own remarkable qualities. In his early home life, with its traditions of self-discipline and high endeavour, there were influences which made his character the worthy servant of his mental gifts. He combined piety, gravity, reverence, and hopefulness; he was pure-minded and conscientious, convinced of the power of goodness, and a loyal servant of truth; and he who could show such qualities and preserve such an attitude of mind was not far from the Kingdom of God.

The preacher then passed in brief review the principal features of Lister's career, touching also upon the discovery of chloroform by Simpson. Even after Simpson the operation table remained as dangerous as the field of battle until Lister worked out his great discovery. He was led to his experimental use of carbolic acid as a dressing for wounds by a study of Pasteur's work. To praise Lister was in no respect to belittle Pasteur. By 1865 the idea of antiseptic treatment seemed to have shaped itself in Lister's mind. The scientific principle which guided him was of transcendent importance. The chemical substances he used were but a means to an end, and had now to some extent gone out of use; but the change from antisepsis to asepsis was an improvement in technique rather than an alteration in principle. From Germany, subsequent to the Franco-Prussian war, came a new type of hospital cleanliness and method which made its way to England, and when it arrived in this country there were some who, eagerly embracing the new methods, excused their indifference to Lister's teaching by proclaiming the inferiority of antisepsis to asepsis. But on the Continent the leaders of medical thought and progress had no hesitation in assigning to Lister the praises which he merited. London was for a time apathetic. Once again it appeared that a prophet was not without honour save in his own country. But after the triumphant welcome and enthusiastic homage which Lister received in 1879 at the International Medical Congress in Amsterdam his fame was secure. Thenceforth to disparage Lister or to belittle his achievements was to confess oneself prejudiced and ignorant. Of the new era Lister was hero and pioneer. It might with truth be said that he made surgery safe for humanity. Henceforth he was to receive almost every honour the gratitude of society or the esteem of men of science could confer.

"When we think of such a discovery as we associate with the name of Lister," said Dr. Barnes in conclusion, "we wonder how many more such discoveries shall yet be made by humanity. Thanks to Lister, the surgeon and the physiologist can now work hand in hand. The origin of pathological changes can be investigated. Shall we in the end discover how we may prevent the onset of disease? The question cannot be answered, but we need not hesitate to affirm that man's future triumphs in the war against disease will surpass the victories already won. Sometimes when we speculate on the future of humanity we think of the highly evolved forms of life that lorded this earth in past ages and disappeared. Why did they disappear? Probably, I suppose, minute organisms swept them away. Either the virulence of such organisms increased, or the animals attacked lost their power of resistance. Is such an end to be the fate of humanity? Many a zoologist would say so. Yet man differs from all other animals that have come from earth's teeming womb in the characteristic development of the powers of his mind, in some quality of personality and survival value different from that of the lower animals. Is it possible that by virtue of those same mental powers with which he is endowed man will in the end conquer disease and pain, and thus prepare the way for the Kingdom of God upon earth? Will physical and moral victories combine to make human life nearer to human hopes and dreams? None can say. We build for an unknown future. Yet the achievements of the leaders of human progress give substance to our hopes. We thank God for the master builders whom He raises up. We believe that there is something in their work which will never perish. To-day we thank God for Lister, for the relief from pain and disease which he brought to mankind; and no less do we give thanks for his single-minded devotion to science, which will inspire others following his work for the welfare of the human race." After the sermon the choir and congregation joined with fervour in the hymn "Now thank we all our God," the English version of Martin Rinckart's fine song of praise.

Although it was not found possible to arrange for the Council of the British Medical Association to attend the Abbey as a body, the President, Mr. R. G. Hogarth, was present as representative of the Association, and some other members of Council attended in their individual capacities. On behalf of the Association Mr. Hogarth placed a beautiful wreath beneath the medallion of Lister.

LISTER MEETING OF THE ROYAL SOCIETY.

THE THREE DISCOURSES.

THE Barnes Hall of the Royal Society of Medicine was crowded by the Fellows of the Royal Society and their friends, who met together on Wednesday afternoon to listen to the three discourses with which this issue opens. No orators could have been selected so well fitted—none certainly more fitted—for the tasks assigned to them. It would be difficult to ascribe to any one of the three

ascendancy over his fellow speakers. The discourses of Sir Charles Sherrington and Professor Bulloch were both of great literary merit as well as of high scientific value, and Sir Berkeley Moynihan concluded his discourse with a peroration couched in beautiful English and inspired by the brightest hopes for the future of medicine and surgery.

The President of the Royal Society, Sir Ernest Rutherford, in introducing the speakers, said that he would point out, and indeed emphasize, that Lister's establishment of antiseptic surgery was one of the most striking examples of the power of the scientific methods in advancing knowledge and also one of the most useful illustrations of the mental and moral qualities required to wrest secrets from nature. Professor Nicolaysen, on the previous evening, had said that the idea on which Lister worked did not in a sense come as a haphazard inspiration. Lister, even in his undergraduate days, had been greatly interested in the subject of hospital gangrene, and later, when he became professor of surgery, he continued to give a great deal of time and thought to experiment on the problem that impressed him—namely, inflammation and suppuration and the methods of controlling them. After many years of patient thought and experiment there came the illuminating results. Starting from Pasteur's work on micro-organisms as the cause of fermentation, Lister at once saw the possibility of the theory that the cause of suppuration was the introduction of some unknown micro-organism, and guided by that idea he subsequently developed his wonderful method. While he continued his investigations to prove the truth of this hypothesis he at the same time developed the technical methods to ensure success. In Lister there was the most unusual combination of a man of philosophic outlook endowed with great power of experiment and having the direct command of technique which was essential if his method was to be successful.

At the end of the discourses Sir Ernest Rutherford said that, like himself, the audience, he felt sure, had never passed a more interesting and enthralling afternoon. He thanked Sir Charles Sherrington, a great leader in physiology, for his address. The audience had been fortunate, too, in having Professor Bulloch, who knew Lister well owing to the position he held at the Lister Institute in the early days; the audience were grateful for the way in which he had treated the subject. What, he asked, could he say of Sir Berkeley Moynihan, of his eloquent address, and of the great knowledge he displayed of the possibilities and limitations of the art in which he excelled so much? On behalf of all present he desired to thank the three orators for their addresses.

THE ROYAL SOCIETY'S CONVERSAZIONE.

THE Royal Society held a conversazione on Wednesday evening (April 6th), which was attended by a very large number of guests, who had an opportunity of seeing many things of interest, old and new, for the Society displayed a selection from its muniment room. Of the new things the most striking was the cinematograph film shown by Dr. R. G. Canti of St. Bartholomew's Hospital. Two audiences witnessed in this film the behaviour of the living cells cultivated *in vitro*. The photographs were taken from connective tissue (periosteum of the chick) and cancer tissue (Jensen's rat sarcoma). The method is being employed to investigate the effect of irradiation on tissue cells. The pictures showed the migration of the cells from the original implant, the intracellular structures, and mitotic division. Dr. Canti described the method employed for the production of the film, to which great labour had gone. Exhibits from the Strangeways Research Hospital at Cambridge further illustrated work of this nature. Dr. J. A. Andrews and Dr. Honor B. Fell demonstrated the method of dark illumination of tissue cultures *in vitro*. The intracellular structures were well shown, and the active movements of the cells grown from malignant tissues could be compared with the slow movements of fibroblasts. Dr. Canti and Dr. Malcolm Donaldson illustrated the effect of radium on mitosis by tissue cultures exposed to the gamma rays of radium in a lead incubator. The earliest observable effect is the cessation of mitosis; this is followed by the appearance of "breaking down" cells, arrest of outwandering, and the death of the tissue. Dr. F. G. Spear and Miss D. Strangeways exhibited diagrams illustrating the quantitative effect of radium irradiation on mitosis of cells grown *in vitro*. It appeared that in order to obtain the same biological effect with a small intensity of irradiation as with a large one, it is necessary to increase the time of exposure more than would be expected by physical considerations. The apparatus used for these investigations was shown. Dr. Fell also exhibited stained microscopic specimens of the cytology of Jensen's rat sarcoma cultivated *in vitro*. Sir Almroth Wright with Mr. Alexander Fleming, F.R.C.S., and Dr. Leonard Colebrook demonstrated the methods of studying the defensive powers of the organism and testing the effect of therapeutic agents. It was pointed out that serum fails to furnish cultures when implanted with ordinary (non-serophytic) microbes, and exerts a bactericidal effect upon some of them; on the other hand, it furnishes a favourable culture medium for a special class of microbes (serophytic microbes), which are killed by blood containing leucocytes. The demonstration included an account of the agencies which can be employed to reinforce or replace the bactericidal powers of the organism; these were: first, immunization with vaccines by the administration of chemical agents which increase the number of leucocytes, and light treatment; secondly, the use of antiseptics which destroy the bactericidal power of the leucocytes, blood fluids, and blood; and thirdly, chemotherapeutical agents, which can confer bactericidal power for serophytes upon the blood fluids, and may, when the dose administered is tolerated by the leucocytes, increase the bactericidal power of the blood. A new type of electric discharge was shown by the British Thomson-Houston Company; Dr. Langmuir and his fellow workers had discovered that when into an arc produced in a hot cathode discharge tube tungsten vapour was introduced, special phenomena appeared. The British Museum had a display of oceanic angler fishes by Mr. C. Tate Regan, F.R.S., and of mimicry in insects by Mr. G. J. Arrow. Among the exhibits of historical interest from the collection of the Royal Society itself were the mace of the Society, presented to it by Charles II in 1663; the Charter Book of the Society containing the signatures of founder, patrons, and Fellows from 1662 to the present day; the official certificate of candidature for Fellowship of the Royal Society in favour of Lord Lister (1860); and the medals of the Society, including the Copley, awarded to Lister in 1902, and the Royal, given to him in 1885. Among other exhibits of this order were copies of telescopes made and used by Galileo; a set of Napier's bones, either used by Napier of Merchiston or early copies; a line-dividing engine made by James Watt in 1774; Joule's original electro-magnet and his water friction apparatus for determining the mechanical equivalent of heat; and, bringing things down almost to the present day, a set of apparatus illustrating the development of the microphone.

COMMEMORATION AT LISTER'S BIRTHPLACE.

UPTON HOUSE at Upton in Essex, where Joseph Lister was born on April 5th, 1827, is now the vicarage of St. Peter's, Upton Cross, in the County Borough of West Ham, and on the afternoon of Tuesday, April 5th, 1927, a commemoration service was held in the church.

The procession, headed by choir and clergy, which formed at the vicarage, included the Lord Provost of Glasgow, the mayors of West Ham and other Essex boroughs, with their town clerks and medical officers of health, the chairmen of neighbouring urban district councils, and justices of the peace, the chairman of the Essex County Council Public Health Committee, and the county medical officer of health, together with many members of the medical profession and representatives of the hospitals in the district. The service was taken by the Vicar of St. Peter's, the Rev. A. J. Parry, assisted by the Vicar of West Ham; the Rev. R. Rowntree Clifford (President of the West Ham Free Church Council) read the lesson from Ecclesiasticus xxxviii. The sermon was preached by the Right Rev. Guy Warman, D.D., Bishop of Chelmsford, and Sir Humphry Rolleston, Bt., K.C.B., Regius Professor of Physic in the University of Cambridge, delivered an address.

The BISHOP OF CHELMSFORD described Lister as a teacher of hope and an inspirer of love for the age in which he lived. He was also a man of faith; his faith in the discovery he had made was part of a greater faith, for his religion was part of the working apparatus of his life. Lister was also a man of persistent toil, and he found life hard work; with him, as with others, the reward of a thing well done was to have done it.

Sir HUMPHRY ROLLESTON, after recalling briefly the parentage of Lister and the early influences that surrounded him, said that the two great events in the history of surgery were the introduction in 1846 of anæsthetics, which made surgery possible, and had been called "the death of pain," and the discovery of the antiseptic and aseptic method, dating from 1867, which made surgery safe for humanity, and might, in like manner, be termed "the death of infection." Lister had long been thinking and preparing how to obviate the risks of the diseases which attacked patients after operations, but the discovery in 1864 that germs of micro-organisms caused putrefaction was made by the great Louis Pasteur. Most surgeons, if they heard of Pasteur's researches, would have been mildly interested in them, but Lister was able to grasp their significance, and henceforth devoted his life to applying this principle to the prevention of post-operative infection. His brilliant imagination, philosophic insight, untiring industry, and unflinching courage overcame the antagonism, not to mention ridicule, that his life-saving work provoked, and he finished his task. In 1867 Lister published his first papers on antiseptic surgery, and from that time he continued by most careful and indomitable research to improve the methods. The history of surgery had indeed been divided into two periods—that before and that after Lister's methods became adopted. Before his discovery as few operations as possible were done because of the risk that they would be followed by erysipelas, blood poisoning, pyæmia, hospital gangrene, tetanus, and death; abdominal operations, such as are so constantly done now for appendicitis, were practically unknown; to open a large abscess was almost certainly to sign the patient's death warrant. Hospitals, indeed, were spoken of as "houses of death." Lister, who was Professor of Surgery in Glasgow from 1860 to 1869, became Professor of Clinical Surgery in Edinburgh, and there continued to practise, preach, and perfect the doctrine of antiseptic surgery. Like most great advances and reforms, this life-saving discovery met with much opposition and criticism, and in order to overcome these adverse influences, and to spread the knowledge of the correct method of carrying out the antiseptic treatment, he accepted in 1877, when 50 years of age, an invitation to be Professor of Clinical Surgery in King's College, London, for, be it said with regret, his native city was the stronghold of antagonism. His London life fell into two almost equal periods: From 1877 to 1893 he was a busy hospital surgeon, gradually convincing all of the inestimable value of the antiseptic methods; in 1893 his retirement from the hospital, on account of age, and the sudden death of his devoted wife, leaving him a childless widower, entirely altered his life. Henceforth, with rare nobility of character, he devoted himself to public duties until his death on February 10th, 1912.

"Like Pasteur," said Sir Humphry Rolleston in conclusion, "and more fortunate than many reformers and pioneers, Lister lived to see his work bear fruit exceedingly, and died full of years and loaded with honours from all countries; but it is as the greatest material benefactor of the human race, who made surgery safe, and thereby did more than any other man to prevent suffering and save life, that we regard him with deep gratitude and thankfulness."

SOME OTHER CENTENARY CELEBRATIONS.

WE have received brief notes of celebrations of the centenary of Lord Lister from other places, and we feel sure that there are more to come. We are indebted to Professor I. H. Cameron for the information that on Tuesday last Dr. William James Mayo, surgeon and chief of the staff of the clinic which bears that name, was to deliver a lecture in Toronto, in which he proposed to commemorate the centenary of Lister and to discuss the relation of the basic sciences to surgery. Dr. Donald C. Balfour, who graduated at the University of Toronto in 1914, and is now specialist in the surgery of the stomach at the Mayo Clinic, recently endowed an annual lectureship, and this was the first of the series.

At Carlisle last week Dr. Norman Maclaren, surgeon to the Cumberland Infirmary, delivered an address to the Rotary Club, in the course of which he dealt with the achievements of Lord Lister, who, he said, belonged to a family settled in Bingley in Yorkshire. His mother, who was born at Maryport, Cumberland, was the daughter of Anthony Harris, a member of a family which came from the Allerdale Ward, about the lower reaches of the Cumberland Derwent. After describing how before Lister's great discovery the surgeon was dogged and hampered by sepsis, Dr. Maclaren recalled that Lister had himself stated how in 1864 he had been much struck by reading an account of the remarkable effects produced by carbolic acid on the sewage of Carlisle, a very small proportion not only preventing all odour from the lands irrigated, but destroying the parasites which commonly infested cattle fed upon such pastures. Lister visited Carlisle as the guest of Dr. Robert Elliot, the first medical officer of health of the city, by whom he was informed that in 1843 George Stephenson had made reports on the disposal of the city's sewage to the mayor and corporation, and in 1849 Robert Rawlinson to the General Board of Health. The use of carbolic acid for disinfection of the sewage was already working with some success in 1864. It was, Dr. Maclaren said, greatly to the credit of the municipality of Carlisle that it should have so early given attention to the disposal of sewage and so incidentally suggested to Lister a method of applying the principles he had evolved for the treatment of wounds, principles which had proved of such inestimable benefit to mankind.

England and Wales.

THE GENERAL INFIRMARY AT LEEDS.

THE one hundred and fifty-ninth annual report of the Leeds Infirmary was presented to a meeting of the governors held under the chairmanship of the honorary treasurer, Mr. T. F. Braime, on March 30th. Each year it is recorded that the Infirmary is working at full pressure, and yet each year some increase is noted. The total number of in-patients admitted during 1926 was 12,688, as against 12,083 during 1925. This is accounted for by a considerable increase in the medical cases, and especially in the aural department, and an increase in the number of accidents admitted, many of these being motor accidents. In the out-patient department the increase is very much greater, for here the limitations imposed by space do not tell to any extent. In the radiographic department the number of new patients seen was 11,752, as against 11,221 in 1925. In the electro-therapeutic department the new patients have gone up from 1,125 to 2,012, and the attendances from 33,184 to the enormous total of 59,222. An examination of these and of other figures brings it home to the mind that the voluntary hospital accommodation provided by Leeds is inadequate when viewed in relation with the large area it serves, with its importance as a medical centre, and with the fact that the Infirmary is the only general hospital in Leeds. If any doubt existed as to this, an inspection of the long waiting list would convince the most sceptical. The great necessity for an increase in the accommodation was emphasized by the chairman at the meeting, and the question of providing paying wards was mentioned and will engage the early attention of the board. Those who are sanguine can see on the vacant space within the grounds of the infirmary two new three-storied blocks containing about one hundred beds each, one at least of which would be devoted to paying patients and would be self-supporting. In this way a great need would be in some measure met and the pressure on the general wards lessened. There is no doubt that at present a large number of beds are occupied by those who certainly

cannot afford the great expense involved by medical and surgical treatment in a nursing home, but who ought not to be treated gratuitously, and there are many of them who do not wish to be so treated. Not only in Leeds but all over the country this is a crying need of the times. The financial condition of the Infirmary is causing the board great anxiety. Compared with 1914 the expenditure has more than doubled, while the regular income has not increased to anything like the same degree. This is not the place to enter into details of finance, but it is clear that the time has come when a great effort must be made to increase the regular income of the Infirmary and to provide the necessary accommodation for the efficient carrying on of the work. The unofficial union of the Infirmary with the University has been strengthened during the year. A site has been provided by the Infirmary for the building of a properly equipped dental hospital and school. The University, of course, confers degrees and grants diplomas in dentistry, and the school of dentistry has developed on sound lines since it was started some twenty-five years ago. At first it found good accommodation in the newly erected buildings of the public dispensary, but more recently it has required to seek temporary new quarters. These have been provided by the Infirmary, which placed at the disposal of the dental board the large out-patient room, which has been fitted up, and which fills the purpose excellently, as a temporary place of accommodation. The new dental hospital is approaching completion, and the large amount of space which will be set free in the Infirmary by the transference of the dental work to its own premises will, it is hoped, be utilized for the development of the department for massage and therapeutic exercises. Another very important development, which it is hoped will soon be completed, is the instructional block at the Infirmary. In 1922 (see JOURNAL for January 7th, p. 21, and May 27th, p. 844) some account was given of the methods of teaching in medicine and surgery and of the alterations which it was deemed wise to carry out in view of the report of Sir George Newman on medical education. These involved the appointment by the University of three whole-time tutors and certain other officers, and it was pointed out that a great advance would be made by the provision of a properly equipped instructional block. This has been in part secured, and it is hoped that the University will, in the interests of the teaching for which it is responsible, complete this, and so secure for Leeds what it is believed will form one of the best teaching departments in the country. The fuller development of the skin department is referred to elsewhere (see p. 679).

THE L.C.C. AND PAPWORTH COLONY.

The London County Council a few weeks ago instructed its Public Health Committee to report on the Papworth Institution (or the Cambridgeshire Tuberculosis Colony), with a view to the possibility of the Council establishing a similar institution under its own control. Dr. Noel Bardswell accordingly visited the colony, and his report, with the conclusions of the committee, was submitted to the Council on April 5th. Papworth comprises both a sanatorium and an industrial settlement, but the relatively small number of patients who can be absorbed annually as permanent settlers is a limiting feature of this kind of institution which has to be taken into account. Since Papworth was opened about ten years ago 193 patients have been sent there for treatment under the Council's scheme, but of this number only 20, on completing treatment, were transferred into the settlement. One of these has since died, another has been readmitted to the sanatorium, and the remaining 18 are still resident and employed. The total number of settlers is 160. Every patient admitted to Papworth and every one of the 200 sanatorium patients to-day working in the various workshops is a potential settler, but few have in fact any prospect of becoming permanent residents. Papworth, as a complete entity, with its sanatorium, industries, estate, and settlement, at present approximately pays its way, but no charge is made for interest upon the capital sunk in the undertaking; a public authority running a similar institution would be in a much less advantageous position as there would be interest and redemption charges to meet. Institutions combining treatment and training were undertaken, in the first instance at all events, for the benefit of tuberculous ex-service men, and a considerable proportion of the capital expenditure was obtained from voluntary contributions subscribed for their benefit. An ex-service man, by reason of his disability pension and the provision made for his dependants, is in a favourable position for taking full advantage of any portion of the tuberculosis scheme, and the absence of these considerations in the case of civilians places the problem on a different footing. The conclusion of the Public Health Committee of the Council is that every credit is due to the medical superintendent of Papworth and those associated with him for their successful efforts, and that institutions on the Papworth pattern are suitable objects for philanthropic interest and support, but that such enterprises cannot offer a solution of the problem of providing suitable employment or occupation for urban tuberculous persons after discharge from sanatoriums. It is not prepared, therefore, to advise the establishment of a similar institution by the Council.

THE PRINCE OF WALES ON MENTAL AFTER-CARE.

Wordiness at public gatherings is a frequent matter of lament, but the extreme in the opposite direction was surely reached at the Mansion House of all places, that home of national oratory, on Thursday of last week at the meeting to further the work of the Mental After-Care Association. The Prince of Wales, who is the patron of the society, was present, the platform was occupied by a number of distinguished mental specialists and social workers, the Lord Mayor and Sheriffs were the hosts of the occasion, and a gathering of several hundreds of people were in their places in the Egyptian Hall for half an hour before the meeting was timed to begin. Yet the whole proceedings, which included four speeches, occupied barely ten minutes, and the meeting was over before some realized that it had begun. The Prince said that, although the association was founded nearly half a century ago, it was only within the last ten years or so that the general public had come to realize the great importance of its work. One of the legacies of the war was the care of a large number of men whose disability was not physical but mental. The urgent need of helping such men had led the medical profession to speed up its study of mental infirmity generally, so that this particular branch of medical science had made very great progress, and had brought home to the general public the fact that mental trouble was just as much a disease as any of the more familiar physical illnesses. No one knew better than himself with what wonderful generosity the public always responded to an appeal for the physically infirm, but that day, as patron of the association, he asked for a similar measure of generosity for those mentally afflicted. For forty-eight years the association had carried on its work in the face of many difficulties. Many patients had been restored to normal health when, but for the association, they would have remained always a charge on their relations or on the State. The Prince summarized briefly the objects for which the association worked: it facilitated the discharge of patients from institutions by acting as an intermediary between the hospital and the patient's home or by offering accommodation in a cottage home when the friends of the patient were unable to receive him; it consolidated recovery by providing for convalescence at the seaside or in the country, or by helping the sufferers to obtain suitable employment, and, finally, it prevented relapses by the personal supervision of specialists or by the provision of such extra nourishment or surgical appliances as the circumstances might require. The association was often also able to give help to prevent threatened cases of mental infirmity developing. He assured the association of his warmest sympathy and his wishes for the success of the appeal on behalf of the funds of the association which had lately been made to the public. Dr. R. Percy Smith announced that as a result of this special appeal the amount to hand was £8,436; a large contribution to this total was due to a broadcast talk on behalf of the association. The Lord Mayor proposed a

vote of thanks to the Prince of Wales, and this having been seconded by Sir Charles Wakefield, and carried with much acclamation, the proceedings terminated.

KENT COUNTY OPHTHALMIC AND AURAL HOSPITAL.

Following the opening of the new aural wing of the Kent County Ophthalmic Hospital at Maidstone by Lady Harris, it has been decided to change the name of this institution to the Kent County Ophthalmic and Aural Hospital. The new wing, which has been erected at a cost of upwards of £10,000, includes a children's ward, with accommodation for eight patients, a single private ward, and an operating theatre with sterilizing and anaesthetic rooms. Two consulting rooms have been provided on the ground floor, with good waiting rooms and dispensary accommodation; there is also a dark-room for examinations, a casualty and emergency operating room, a main sterilizing and isolation room, and a canteen. The extension increases the number of beds of the institution to seventy-two, and greatly improves the facilities for dealing with out-patients. Mr. J. Aldington Gibb, senior honorary aural surgeon, gave a brief account of the history of the hospital since its foundation eighty years ago, and stated that over 15,000 patients required treatment each year. In 1926 more than 1,000 operations had been performed. At the annual meeting of the hospital held before the opening ceremony, it was announced that the number of in-patients during 1926 was 913, the number of new ophthalmic out-patients 5,201, and of new aural cases 3,814; in addition 1,091 casualty cases had been dealt with during the year. Lord Harris referred to the very satisfactory result of the work of the Weekly Subscribers' Fund, which had made the receipts for the hospital larger than those of 1925, despite substantial decrease in the annual subscriptions and donations. He added that the hospital set an example to other institutions in the country in the success it had achieved by arranging for a wider distribution of its appeal, and by extending to a greatly increased number of people the benefits of its services in return for a small subscription.

Scotland.

SCOTTISH UNIVERSITIES SEAT.

THE Unionist associations of all the four Scottish Universities have unanimously adopted Mr. John Buchan, the well known novelist and writer on historical subjects, as their candidate for the seat in Parliament rendered vacant by the death of Sir Henry Craik. Mr. Buchan is a graduate of Glasgow and Oxford Universities, and acted as private secretary to Lord Milner in South Africa. The two present members are Sir George Berry and Mr. D. M. Cowan. The Liberal organization has decided not to nominate officially any Liberal candidate, and Sir John Collie has now announced that in order to avoid a three-cornered contest he has withdrawn his name. Action has been taken by the Scottish Executive of the Independent Labour party, Glasgow University Labour Club, and the Socialist Teachers' Society to nominate a Socialist candidate for the vacancy. The name of Mr. H. N. Brailsford has been mentioned, but he is said at the present time to be in Russia and unlikely to return to this country for some time. Other proposed Socialist and Communist candidates include the names of a Glasgow teacher and a Glasgow doctor. A meeting is to be held shortly for the adoption of a candidate.

MUIRHEAD CHAIR OF OBSTETRICS AND GYNAECOLOGY, GLASGOW.

The Board of Curators has appointed Dr. James Hendry, M.A., B.Sc., M.D., F.R.F.P.S.G., to the Muirhead chair of obstetrics and gynaecology in Glasgow University, rendered vacant by the appointment of Dr. John M. Munro Kerr to the Regius chair of midwifery. Dr. Hendry, who was born in 1886, is a graduate in arts, science, and medicine of the University of Glasgow. Immediately after graduation he visited gynaecological clinics at Berlin, Leipzig, Munich, and Vienna, and spent three months in the Cliniquo Tarnier at Paris. Returning to Glasgow in 1914, he was appointed second assistant to the Muirhead professor and dispensary gynaecologist to Glasgow Royal Infirmary. Among more recent appointments held by him were those of physician to the Royal Maternity and Women's Hospital at Glasgow, assistant gynaecologist to the Royal Infirmary, and consulting obstetrician to the Lock Hospital, Glasgow. In 1916 he proceeded to service in France. He is the joint author with Professor Munro Kerr of *Notes on Midwifery*, and with Professor Munro Kerr, Dr. James Haig Ferguson, and Dr. James Young of a *Combined Textbook on Obstetrics and Gynaecology*. He has also contributed numerous articles to current medical literature.

GLASGOW ROYAL CANCER HOSPITAL.

At the annual meeting of the Glasgow Cancer Hospital on March 20th, Dr. Buchanan pointed out that solution of the problem regarding cancer would depend, not only on the physician and surgeon, but largely on the co-operation of the public. While ordinary bacterial diseases were of the nature of an accident, cancer was more subtle and took its origin most frequently as the result of some long-continued irritation. Its cure at the present time was dependent on early treatment, and it was here that the co-operation of the public would be of essential help, not only to the individual but to preventive medicine, if persons over 30 years of age were encouraged to submit themselves to annual examination. It was not yet possible to assign any one cause to cancer, although evidence existed in regard to some cancers in favour of their being due to an organism. He thought that the people of Glasgow owed a debt of gratitude to the directors and staff for promoting the research side of the institution's activities. Professor Archibald Young said that research required money and plenty of it, and it lay with the public to see that this research was not stinted or checked for lack of funds. Sir George T. Beatson also spoke, and agreed that irritations seemed to be the common basis upon which researchers into this malady were now working. A biochemical change appeared to be the cause.

ABERDEEN INFIRMARY SCHEME.

Only a small part of the Royal Infirmary and Aberdeen joint hospitals scheme has so far been begun; this consists of the erection of buildings for the new Hospital for Sick Children, towards which £100,000 has been secured. The whole scheme aims at raising a total sum of £400,000, of which £300,000 is intended for the erection of the new infirmary, and £100,000 to increase the endowment fund. The Lord Provost has already been promised £200,000 for the Royal Infirmary, of which £100,000 was contributed by four friends of the scheme. Various donations, ranging from £1,000 to £10,000, have also been intimated, and the subscription list includes a sum of £11,200 from the Cruikshank Trust and £30,000 from the Miss Fraser Trust. The Lord Provost, speaking recently at a meeting of the Royal Hospital for Sick Children, said that the Royal Infirmary was as much in need of extension and ought to be built in the neighbourhood of the Children's Hospital. He thought that it was highly desirable that the Royal Hospital for Sick Children, the Royal Infirmary, the University pathological department, and, he trusted, the city's public health department, should all be built together at Forresterhill, and negotiations towards that end were progressing satisfactorily.

WORK AMONG THE DEAF AND DUMB.

At the annual meeting of subscribers of the Edinburgh Deaf and Dumb Benevolent Society, on March 29th, the Lord Provost Stevenson, in moving the adoption of the annual report, said that for eighty-six years the society had been carrying on its work with increasing activity and efficiency. In the past year it had spent £670 in relieving deserving cases. The financial position was also satisfactory, and it had a small surplus on the year's working. The society was about to purchase an ideal spot at Hawthornden which would provide a rest home for beneficiaries.

Correspondence.

CERTIFICATION OF THE INSANE.

SIR,—Your leading article *re* the Hume-Spry case will doubtless be widely read, and medical men will be grateful for your clearly expressed view of the difficulties which beset any who, in the course of their practice, are called upon to certify a patient as insane and a fit and proper person for care and treatment.

I do not think I am overstating when I say that, in this special case, several leading articles might be written on various aspects of the evidence given before the court during the fifteen days of the trial, but as a prosecution is threatened against the plaintiff, many common-sense opinions might be taboo.

There is, however, one aspect of the case upon which you do make a short observation, but which, to my mind, should have been much more emphasized: that is the action under Section 13 of the Lunacy Act of 1890. Under this section, upon information being given to a relieving officer or the police that a person of unsound mind is likely to be dangerous to himself or others and is not under proper care or control, either of these officials informs a magistrate, who, if he thinks it necessary, makes an order for two medical men to visit, examine, and, if necessary, certify such person, and, presuming he is satisfied that these certificates prove that the patient is insane and needs care and treatment, he makes the order. On the latest ruling of the Law Lords, medical men so acting under an order by a magistrate cannot be proceeded against and automatically the action is stopped.

Had Dr. Percy Smith recognized his possible danger in this specific case and refused to examine the patient or certify, except under an order by a magistrate as described in Section 13, I take it that this case would never have been heard of. It is interesting to note that the advice to act under this section was given to Dr. Dill by the relieving officer, as stated in the case of de Freyville *v.* Dill.

Unfortunately, the committee of medical men appointed by the British Medical Association to watch this 1890 Lunacy Act, upon which I sat, overlooked part of Section 13—namely, that persons so certified have to be sent to the county asylum, from which, of course, they can subsequently be transferred to a registered hospital or a private mental home or single care.

It has long been brought home to me that this ruling is pernicious and prevents the section being more used. In my suggestions to the Royal Commission on Lunacy I pointed out that, if the relatives of the patient have arranged for some registered hospital or private mental hospital to receive the patient, he or she should be taken direct to such institution and not to the county asylum.

In more than one case recently I have been able, by sane, reasoned persuasion, to get the magistrate to make an order direct to the place chosen by the relatives, on the ground that a county asylum would not be a suitable place for the specific case.

I had hoped that the Royal Commission on Lunacy would have taken much more notice of very urgent alterations in many sections of the present Lunacy Act—alterations which would have greatly benefited the insane and all those concerned with their care; and I was very disappointed when, on reading their invaluable report, I found these very necessary alterations were not even commented on.

I hope the British Medical Association will do all in its power to get this 13th Section altered as suggested, for I feel confident that, by utilizing this section, many of these legal actions would never come into being.

In concluding this letter, may I touch upon an inconsistency in the legal mind which, in both these recent cases, has come vividly before me, and, to my knowledge, before the minds of many of those called by the press "the man in the street"? Have not these judges trying these cases quietly swallowed and noted down evidence, as proof of an unsound mind, which if brought before them as a defence in a criminal case they would, metaphorically speaking, have laughed out of court.—I am, etc.,

Bournemouth, April 3rd. LIONEL A. WEATHERLY, M.D.

SIR,—While agreeing entirely with your leading article on this subject, I believe that many of the profession will think the suggested remedies insufficient, and that it is time the profession took a very definite and strong line to obtain complete protection for the medical man who undertakes the unpleasant duty of certifying. Of all the persons necessarily concerned in such proceedings, he is the only one who stands to be shot at. The justice of the peace, the relieving officer, the police, and the relatives all go free, but the unfortunate doctor has legal proceedings taken against him. Even when these fail, as they usually do, the anxiety and loss of time, and perhaps of practice, are immense.

It may be argued that the patient must be protected, and of course he must. The justice is supposed to be the patient's protector, and in my experience (and I certify some hundreds of cases annually in the course of my duties) he is usually an efficient protector and needs reasonable common-sense evidence placed before him before he signs an order of committal to a mental hospital. But if more safeguards are desired it would be easy to devise them. For example, additional medical certificates could be demanded; or special boards or courts for certification could be set up, of any constitution desired, with a strengthening of the lay element if thought fit; and a special panel of medical men could be drawn up to make the medical certificates of lunacy, such medical men to have had special experience in mental disease. No doubt other methods could be suggested. The point is that, proper safeguards having been provided, the medical man should be as safe as the other persons taking part from vexatious persecution afterwards. I believe the public would support a strong line on the part of the British Medical Association to have this matter put on a proper footing.—I am, etc.,

J. C. MUIR,
Medical Superintendent, Whipps Cross Hospital, London, E.11.

April 1st.

SIR,—It is to be hoped that a result of the Hume-Spry action will be to discourage one of the varieties of evidence which has figured so largely in such trials.

Any doctor who writes a certificate about the condition of a patient, whom he has not recently seen, is rebuked, with dire penalties. But he may, in a witness-box, make an authoritative statement about a case which he has not seen at all, or which he sees, for the first time, years after the alleged condition occurred. Such proceedings do nothing to help the cause of justice, they do no good to the profession, and they often cast an undeserved aspersion on the general practitioner who alone knew the facts of the case.—I am, etc.,

Wanstead, E.12, April 3rd. A. CAMPBELL STARK.

TRAUMA AS A CAUSE OF AURICULAR FIBRILLATION.

SIR,—The paper by Drs. Hay and Wallace Jones on this subject (March 26th, p. 559) is important, and the opinions expressed in it will receive due respect. As I said in my book *Incapacity or Disablement in its Medical Aspect*, "I have never met with a case in which auricular fibrillation could be attributed to sudden strain [I meant in a healthy or a diseased heart], and I should be very unwilling to believe that strain could cause it." My difficulty in the matter lies in the fact that auricular fibrillation is not uncommonly present in workers without their having any knowledge of it or any discomfort from it. I have on several occasions found it when the complaint has been nothing to do with the heart, in old workers in cotton-mills and in business men; and I hear from a medical friend, who sees many workmen in a big engineering works, that he is surprised how often he finds it in men actually working when they are examined for some reason or other not connected with the heart, and how they keep on at work with it. How, then, can we be sure that the auricular fibrillation found after some strain was not present unsuspected before it, unless the case was examined before the strain and auricular fibrillation found to be absent? The more I see of heart affections the more astonished I am

to find how some people will notice and worry over single premature systoles, and others will be quite unconscious of and continue at work with the "delirium ventriculi" of auricular fibrillation. Drs. Hay and Jones recognize a group of cases in which the date of onset cannot be determined, and, therefore, in which fibrillation was present unsuspected for some time previous to being found. My point exactly.

I can quite believe that the condition can be caused in a normal heart by severe electric shock, as in the case he refers to; violent electric stimuli can affect and disturb seriously the neuro-muscular conducting system of the auricle. In Case II I should think that the good supper, by distending the stomach, would be likely to cause or contribute to upsetting the rhythm of the heart, as this organ has such a great influence over the action and rhythm of the normal or diseased heart. It is the commonest cause of auricular premature systoles. At necropsy I have found lumps of meat in it, which have caused pain and fatal syncope when the man was hurrying along after a heavy meal and there was no lesion of the heart.

One of the best methods of dealing with heart disease, even anginal pain of any form, is to avoid exercise after meals, and especially not to hurry after breakfast; to take small substantial meals, and, again, especially a small breakfast. That the fibrillation might have been present before the strain is suggested by the fact that it has persisted for fourteen years after the trauma. How can it be proved that it was not present before the strain? Cases III, IV, and V are unconvincing, because again there is no proof that the fibrillation was not present before the strain.

I must confess, however, that I am inclined to believe that strain affecting an already diseased ventricle or a heart with some abnormality might induce auricular fibrillation secondarily, but proof is difficult. No heart that fibrillates is normal, even if the auricular fibrillation is only paroxysmal.

However, these are only my opinions: my friendly critics, who told me of their views before publishing them, hold others, and I respect them as I have no doubt courts of law will.—I am, etc.,

E. M. BROCKBANK, M.D., F.R.C.P.

Manchester, April 1st.

SIR,—The very interesting statements made by Drs. Hay and Jones (March 26th, p. 559) can hardly be allowed to pass unchallenged.

They state that in four of the five men in whom fibrillation started as the result of an accident there was no evidence that the heart was either diseased or abnormal, notwithstanding we are told that Case V had suffered from rheumatic fever "twenty years ago," and that Case IV had been in hospital for some heart affection. What evidence is there that these two cases had not suffered periodically, without realizing it, from some form of cardiac irregularity? Do not many people put down many of their precordial disturbances to indigestion, and in so doing are quite right as to the cause although ignorant as to the medium whereby they are made to realize that disturbance?

Case III suggests a very close connexion between a "good" supper of pastry and buttermilk and the heart disturbance: had this man become disabled at work it would be interesting to know to what extent personal indiscretion would be to blame for this attack. Indiscretion is a form of contributory negligence which would have to be taken into consideration should the case go to arbitration. The heart of a person predisposed to these disturbances cannot be said to be normal, nor can that person be said to be healthy. The myocardium in such cases generally shows evidence of the effects of some poisoning which is quite consistent with auto-intoxication.

Elsewhere I have drawn attention to the fact that the history of stomach troubles is more often present in cases of heart disease than even rheumatic fever. An examination of a large number of so-called "healthy men" will reveal the presence of carious teeth and puffy inflamed gums, and it will be found that their food is poor and badly cooked, whilst the ruddy glow can be traced to the cup that both cheers and blears. These are the conditions which readily conduce to auto-intoxication, and in the near future all employers will find it remunerative to have their men carefully examined on starting work as well as to take an active interest in the housing and feeding conditions of their workers, if only to discount the serious effects of applications for compensation on account of the fibrillation suggested by Drs. Hay and Jones.—I am, etc.,

Swansea, March 26th. G. ARBOUR STEPHENS.

BRITISH INSTITUTE OF PHILOSOPHICAL STUDIES.

SIR,—There is evidence that what are termed generally philosophic studies would be of advantage to many medical men, both by expanding and defining their outlook in relation to general or individual experiences and by affording assistance in the solution of practical difficulties. The need for clear thinking was never more apparent than it is to-day, when our expanded range of knowledge adds constantly to a stock of exact information, the bearings of which cannot be confined to any one branch of science, but make themselves felt in every field. "What is it all about?" is a question that every well informed man asks himself when a mental problem, perhaps with a direct reference to action, presents itself to him in a form that is not dictated by his particular equipment. And the more well informed he is, the more clear will it be to him that he needs fundamental guidance. In other words, he desires help in clear thinking.

The recently formed British Institute of Philosophical Studies exists in order to afford this help to those who need it. The general object of the Institute is stated thus: "To bring leading exponents of various branches of philosophy into direct contact with the general public with the purpose of satisfying a need, felt by many men and women in every walk of life, for greater clearness and comprehensiveness of vision in human affairs."

Medical men and women are to-day meeting many difficulties that are arising through the vast development of their science—developments of knowledge, of technique, and of administration; these are being accompanied by a broadening of view in their ranks, and also by a multiplication of the relations of medicine to society brought about by far-reaching changes in the law. The position must therefore often arise when medical men or women need clearness and comprehensiveness of vision. They would benefit by an opportunity of taking counsel with those in other sections of activity, who may be meeting their own problems from a different angle or who may be able to give an opinion on medical problems which gains in breadth and public influence through its detachment from medicine.

Further, medicine by co-operation can confer on those other sections of activity the advantages of sharing considered medical opinion and of learning the arguments relied upon for its establishment.

Sociological and psychological questions arise constantly out of all medical practice, and not only out of those sides of medical practice apparently concerned with mental disease or moral conduct, while metaphysics must play a part in any comprehensive attempt to distinguish between normal and abnormal conditions, physical or mental—indeed, between health and disease. A general philosophical equipment will be of great use to the practitioner as a supplement to all detailed scientific knowledge, for it will conduce to clear thinking.

For these reasons we advocate the claims on members of the profession of the British Institute of Philosophical Studies, the temporary offices of which are at 88, Kingsway. The honorary secretary would be glad to give any information desired. The subscription payable by members of the Institute is only £1 1s. per annum.—We are, etc.,

DAWSON OF PENN.
THOMAS HORDER.
HENRY HEAD.
T. W. MITCHELL.
WILLIAM BROWN.
H. CRICHTON-MILLER.

88, Kingsway, London, W.C.2, March 31st.

MIGRAINE.

SIR,—The discussions at the last Annual Meeting of the Association[1] and at a meeting of the Section of Medicine of the Royal Society of Medicine,[2] and the letters that have appeared in the JOURNAL during the last few months, have shown two wholly different conceptions as to the nature and treatment of migraine. The letters have been from medical men, mostly sufferers themselves, who have given us the benefit of observation and experiment on their own persons.

These all maintain that faulty metabolism and hepatic deficiency are the important causes of migraine, and have satisfied themselves that for its prevention and control abstention from certain articles of diet and attention to the action of the liver and bowels are the important points. Dr. P. J. Cammidge[3] adduces evidence from the laboratory that during attacks of migraine the urine frequently contains acetone bodies, and that hypoglycaemia may be present. Attacks of migraine may be benefited by glucose, because its administration "enables the defective liver cells to carry out their functions more efficiently." On the other hand, Professor E. Bramwell in his opening paper, and subsequent speakers at the Annual Meeting, attached but the slightest importance to food poisoning or derangement of liver as a cause of migraine. In his recent paper at the Royal Society of Medicine Dr. C. P. Symonds only mentions cursorily that "other toxins derived from faulty metabolism of fats, sugars, or proteins may be responsible," while he lays greater stress on other points. Of a dozen speakers who followed only two remarked on the importance of diet as the cause.

For many years I have been convinced that attacks of migraine point to some metabolic defect, whereby food poisons are allowed to enter the circulation. When these have accumulated to a certain extent an attack is determined. The periodicity of migraine has been emphasized by several of your correspondents, and is difficult to explain by any ocular condition, or by changes in the pituitary gland, or by other suggestions made at the meetings. Not only this, but some sufferers find that the headache is on one side in one attack and on the other side for certain in the next. Further, an attack definitely and constantly follows the taking of particular foods and drinks which experience has shown to be harmful.

Experiment is usually required in each case to ascertain what are the causative articles. One man's food is another man's poison, but in general my practice has been to follow Alexander Haig, and begin by cutting off all meat, meat soups and extracts, eggs, tea, coffee, and all alcohol, and to restrict sugar, chocolate, and animal fats. In a large proportion of patients this reduction produces an obviously good effect, and it is only necessary to modify the diet subsequently according to observations. In a small proportion fish and fowl, many fruits, and all sweets and jams may have to be excluded. The patient may be restricted to breads, biscuits, cereals, milk, milk cheeses, and certain vegetables and nuts, etc. Few persons will persist with such limitation, but they will have discovered what are their particular enemies, and they will know that the control of symptoms is in their own hands.

Though diet is the most important cause, other factors have, of course, to be taken into consideration. I assume that there is an exalted sensibility of some part of the brain. This may be what is hereditary, and probably explains the pathognomonic constancy with which women have their attack of migraine before or during the menstrual period, when their nervous systems are disturbed. Excitement, worry, and overwork are mentioned by several writers, and generally allowed to be powerful factors. The effect of eye-strain perhaps may be explained by this abnormal excitability of the brain. Migraine is sure to follow in many persons a train or motor journey or a visit to a cinema from the fatigue of the eyes caused by watching rapidly moving objects, and in some cases from the vibration. The correction of errors of refraction certainly helps many sufferers, but I think that the majority had already discovered for themselves that overuse of the eyes was their trouble. A large proportion of the population have some amount of astigmatism and do not suffer from migraine, while others find that errors of diet are more important than slight errors of refraction. Dr. G. Maxted kindly sends me the following information. Of 1,000 consecutive private patients, thirty complained of migraine. Of these seven had no error of refraction, while the remainder had astigmatism—mostly slight. Ten had myopic astigmatism, the others hypermetropic. Though all the twenty-three persons were asked to report on themselves, only four did so. Of them, three had found relief from the use of glasses, and the fourth stated that she was not relieved.

Most of the drugs found useful in migraine are nerve sedatives, such as luminal, bromides, and the phenacetin class. Others, such as sodium salicylate, are thought to help elimination of poison. For the attack itself Fairre cachets have seemed to me to be especially efficacious, but aspirin is the most useful drug in some cases.

Apart from causes acting directly through the nervous system, cold, bad air, and excessive exercise may be mentioned. Some patients find that they are worse in a too bracing or stimulating climate. Cold checks the action of the liver, and a hot bath is helpful to some sufferers. Exercise probably stirs up toxins which had been stored away. It is generally agreed that the amount of meat consumed by these patients must be particularly attended to, but I think that low living is as common as high living amongst them, and that they are drawn from all classes of society. I find them characterized by low rather than by high blood pressure, and of spare rather than of plethoric build. But the two opposite types of constitution are seen in sufferers from migraine.

These rough observations leave several points wholly unexplained. Why is the headache one-sided? Why do the same things produce an attack in one person and relieve it in another, or do each at different times? Tea, coffee, champagne, and calomel are examples of this double action.

Amongst my cases I have looked up those of three doctors who consulted me for migraine some years ago, and have asked them for their final conclusions. The first tells me that after he had been subject for years to an attack every week, he went six months without one while he abstained from all red meat. Latterly he has relaxed, and has had some return of slight attacks. He knows that whisky will bring on his migraine, as noted by "Consulting Surgeon" in his letter to the JOURNAL, and that he has no ocular cause. The second doctor writes: "Without any question I am the better for giving up all meat; even a fried egg or some vegetables fried in lard will produce genuine migraine." Raw apples have the same tendency. After mentioning such recognized causes as nerve strain and bodily fatigue, he goes on to refer to overuse of his eyes, and states that this does not bring on genuine migraine unless he has also transgressed dietetically. The third doctor is satisfied that his migraine is chiefly attributable to taking certain articles of diet. He names apple first, and says that a mouthful will bring on an attack in a few hours. Chocolate, cocoa, eggs, and meat, except in very small quantity, are found to act as poisons. If he is tending towards an attack a glass of champagne will precipitate it, but if he is throwing an attack off more champagne will help him. Beer is poison to him, as to many such patients, and to a less extent sherry and other wines. He is better from the use of spectacles, but he lays less stress on them than on diet. He says that aphthous stomatitis is often associated with attacks of migraine.

The articles of diet mentioned by my patients correspond closely with those found to be provocative of migraine by your correspondents. I also find mention in my notes of their more anomalous symptoms of migraine—exaggerated sense of smell and of hearing, difficulty in speech and confusion, pain in one or other arm, and weakness of the right arm.—I am, etc.,

F. W. BURTON-FANNING, M.D., F.R.C.P.

Norwich, March 20th.

[1] BRITISH MEDICAL JOURNAL, October 30th, 1926.
[2] Ibid., February 26th, 1927.
[3] Ibid., January 1st, 1927.

THE SURGERY OF GASTRIC AND DUODENAL ULCERS.

SIR,—I have read with considerable interest Mr. Flint's comments on Mr. Souttar's figures of gastric and duodenal ulcers, for I have on many occasions pointed out that my own figures differed from those usually published.

Up to the time of my last analysis, some three or four months ago, the figures for the cases of chronic ulcer upon whom I have personally operated privately and at the London Hospital are as follows:

Uncomplicated lesser curve ulcers	278
Uncomplicated duodenal ulcers...	278

It is curious that the numbers in these groups should be identical, but as to their nature there can be no question. The lesser curve ulcers are never nearer than 1½ inches to the pylorus, and are often very remote. In addition to these groups it is my custom to distinguish pyloric ulcers as a separate variety—a custom with which all surgeons will not agree. My reason for so doing is that any ulcer which involves the stomach, even in a small part, has a tendency—although it may be a very slight one—to become carcinomatous, while duodenal ulcers have not this tendency. Hence, any ulcer which even in part passes over the pyloric white line, or over the pyloric vein, is grouped as "pyloric" and not as "duodenal." In this group there were 162 cases. Even if these were grouped as duodenal it would only cause the proportion of duodenal and gastric to be about 3 to 2, which varies considerably from Mr. Flint's proportion. Moreover, these are only the *uncomplicated* cases, and there are not included hour-glass stomachs, ulcers found on the lesser curve after gastro-enterostomy performed elsewhere, perforated ulcers, etc. The figures for the completed groups are:

Duodenal ulcers	278	
Perforated duodenal ulcers	23	
Gastro-jejunal ulcers	33	
		334
Lesser curve ulcers...	278	
Hour-glass stomach	49	
Perforated gastric ulcers...	36	
After operation elsewhere, etc....	72	
		435
Pyloric ulcers	162	

So that if the pyloric are not included there is a considerably greater frequency of gastric over duodenal. Even if the 162 pyloric are added to the duodenal group the figures very nearly approximate. The difference between my figures and those of Mr. Flint can hardly be accounted for by a place distribution, for my cases have come from all parts of the globe, and even those operated on at the London Hospital have been sent from widely distributed areas. It is probable that they are simply the accidental differences found in dealing with relatively small groups of cases, for my own—of just under 1,000 cases—is much too small for vital statistics. That this is probably so is shown by the sex differences. In my own series all ulcers have been more common in men. Of the total of 931, 716 were males and 215 females. All observers agree that duodenal ulcers are more common in men, but in my series this was also true of the lesser curve ulcers, although many—especially the Continental surgeons—have had a different experience. In my uncomplicated group of this variety there were 211 males and 67 females. Even if the 49 cases of hour-glass stomach—a condition only found in the female—are included, these figures are 211 and 116, thus still giving a marked preponderance in the male. —I am, etc.,

A. J. WALTON.

London, W.1, April 1st.

ALBUMINURIA IN INFLUENZA.

SIR,—Having occasion to examine for physical fitness a large number of prospective employees annually, I have often found a varying trace of albumin in the urine of men who have recently had influenza. I have always regarded this as of toxic nature. In a recent case, whose certification I have postponed for review in three months, quite a heavy trace was noted. On referring to an old edition of Osler I found that nephritis is mentioned as one of the rarer complications of influenza.—I am, etc.,

FRANK B. SKERRETT, M.B.Lond.

London, E.15, April 2nd.

"BIRTH CONTROL."

SIR,—In the course of Dr. Dunlop's letter (March 26th, p. 597) he states that at the present day only a very small proportion of couples can get really sufficient food for themselves and more than three children. This, unfortunately, is all too near to the truth. But when he ascribes it to slow increase of the world's food supply he is assuredly straying from the facts. Now every mouth born into the world is born with a pair of hands, and the resources of Nature are inexhaustible and indestructible. Though it is undoubtedly all too true that willing hands, here and there up and down the globe, often cannot get ready enough access to Nature's resources, none the less foodstuffs are without question produced to-day in greater quantities proportionately to the population living than ever before.

In one of the latest publications from the League of Nations (the "Memorandum on Production and Trade," Geneva, 1926) it is shown that between 1913 and 1925 the population of the world increased by 5 per cent., but the production of foodstuffs (meat excepted) increased by 13 per cent., and the total production of raw materials by 17 per cent.

The productiveness of decent agricultural land has been increased at least seven to eight times in the last 150 years by the advances in scientific knowledge and in the intensive use of land. Lord Bledisloe at a British Association meeting last autumn pointed out that the wheat area had trebled in the United States of America during a period in which the population had trebled, but that the production of wheat had more than trebled.

The causes of poverty, involving insufficiency of food for the many, lie in other directions than a deficiency of the world's production of foods. It can be admitted, however, that not only are foodstuffs, like other commodities, badly distributed, but also produced in much less quantities than they would be if fuller advantage were taken through wider education, etc., of the potentialities of to-day. In this connexion two factors of importance to your readers come in, because both have to do with matters of public health and sanitation, and they are: (1) Over-urbanization. Wider support should be given to the garden city movement, which includes the plan of the appropriation by the community of community-created ground rents. And (2) the waste of nitrogenous manures which goes on year by year in most civilized lands through our present methods of the disposal of human corpses and human excreta. We cast £20,000,000 worth of nitrogenous manure into the sea each year around our own shores. If the earth is robbed of her natural food, which should automatically increase with every increase of population, she will not respond automatically to provide an increased food supply, and can only behave in niggardly fashion in spite of increase of knowledge and more scientific agriculture.—I am, etc.,

S. VERE PEARSON.

The Sanatorium, Mundesley, March 27th.

THE MORTALITY OF ACUTE APPENDICITIS.

SIR,—I endorse the article by Mr. Hunter on mortality from appendicitis (March 19th, p. 508).

One point is rarely mentioned in discussions on the question—a point which further weights the argument in favour of operation. To anyone trained to think analytically and statistically it must be clear that to the mortality from appendicitis treated by delay must be added the deaths from other surgical conditions which were more urgently in need of operation—for example, delayed operation which still has to be done for internal strangulation of bowel, perforated duodenal ulcers, and intestinal obstruction.

Surely deaths from these conditions should figure under deaths from "treating appendicitis by delay." They really

figure under deaths from the true cause found at operation too late. Similarly, to be fair, a death (much rarer) from pneumonia which simulates appendicitis so that a mistaken operation is performed, should figure as a death from an operation "for" appendicitis.

It is poor consolation to a patient treated medically for a few days, who then has to be operated upon for internal strangulation, and dies, to be able to reflect: "Ah, but I didn't have appendicitis! I had, statistically speaking, an internal strangulation."—I am, etc.,

Liverpool, March 24th. FRANK JEANS.

RESISTANCE TO QUININE IN MALARIA.

SIR,—The point raised by "I.M.S." in your correspondence columns of March 19th (p. 542) has already been discussed by others. Perhaps my own experience may be of interest. I first contracted malarial fever in the Shan States in 1897. I found powders, pills, and tablets of quinine sulphate useless, and the acid solution made me vomit; I was able to retain the powder dissolved in brandy, and soon got rid of the fever. Later on, when I was staff surgeon in Mandalay, I had a similar experience with many officers and their wives. This experience was repeated in the Punjab and again in the Northern Transvaal. It was not until I served in Macedonia during the war that the superiority of quinine hydrochloride was brought to my notice. I found it was not necessary to give intramuscular injections of quinine if the hydrochloride could be obtained, and was administered by the mouth. During the last five years I have treated a good many relapses of malarial fever in England. The records showed that the patients had previously been on the intensive course of quinine sulphate (the method usually prescribed). Under the hydrochloride every patient soon recovered, their blood films being all negative. I have heard from some of them since who have been free from fever for four or five years, and so I consider these cured.

In my opinion there can be no doubt that "I.M.S." is correct in suggesting that the so-called resistance to quinine is merely lack of absorption, as the sulphate has always been the chief preparation used everywhere on account of its cheapness.

The comparative value of the two salts is shown in the following table (after Manson).

Sulphate of Quinine.	*Hydrochloride of Quinine.*
Percentage of the alkaloid in the salt ... 73.5	Percentage of the alkaloid in the salt ... 81.8
Solubility in water ... 1 in 800	Solubility in water ... 1 in 40

Hale-White's *Materia Medica* gives the solubility as follows:

Sulphate:	*Hydrochloride:*
1 in 800 of water.	1 in 35 cold water.
1 in 65 of alcohol (90%).	1 in 3 of alcohol (90%).

I always give these preparations of quinine dissolved in alcohol in bad cases.—I am, etc.,

R.A.M.C., DIPLOMA IN TROPICAL MEDICINE.

March 28th.

THE OPERATION OF TONSILLECTOMY.

SIR,—Presumably laryngologists will agree that in tonsillectomy an ambidextrous technique is desirable. But I think that neither of your correspondents (Mr. Lodge, BRITISH MEDICAL JOURNAL, January 8th, p. 56, and Mr. Roe, March 26th, p. 564) goes far enough, since they confine their remarks to the guillotine method. In enucleating tonsils by dissection, ambidexterity is at least quite as useful. For if the same hand be used for both tonsils, either the operator must change his position for one less comfortable, or else either his hands or instruments must be awkwardly crossed in or near the patient's mouth.

Personally I aim at being as ambidextrous as possible in every kind of surgical manœuvre. And in tonsillectomy, whether by guillotine or dissection, I have for years been so completely comfortable with either hand that at any moment it is a matter of indifference to me which one I am using.—I am, etc.,

H. LAWSON WHALE, M.D., F.R.C.S.

London, W.1, March 28th.

SIR,—I was so impressed with the similarity of the method of tonsillectomy described by Mr. A. J. S. Roe in his memorandum appearing in your issue of March 26th (p. 564), with my description of this same operation entitled "Tonsillectomy by propulsion and avulsion," which appeared in the *Practitioner* for August, 1925, that I would like to flatter myself with the belief that Mr. Roe had read that article; in any case I am glad to know that there are at least some others besides myself who appreciate the supreme advantages of ambidexterity and team work in carrying out the safe and rapid enucleation of the tonsils with the blunt guillotine in *all* cases. Personally I think the adenoids should on no account be removed until the tonsillectomy having been carried through on both sides, the patient is lying in the lateral (Sims) position, in which the air passages form an inclined plane, with the mouth in the most dependent position, the advantages of which are obvious.—I am, etc.,

J. B. HORGAN, M.B., Ch.B., D.L.O.,
Honorary Laryngologist to the North Charitable Infirmary, Cork.

March 29th.

THE VALUE OF ULTRA-VIOLET RADIATION IN SURGICAL TUBERCULOSIS.

SIR,—Dr. J. Hunter is reported, on page 567 of the BRITISH MEDICAL JOURNAL (March 26th, 1927), as having said, at a meeting of the Forfarshire Medical Association, held in Dundee on February 16th, that when ultra-violet radiation was used in Dundee "in tubercle of bones, joints, and spine the effects were not good."

Professor Reyn of the Finsen Institute, who has had the greatest experience of actinotherapy, has frequently stated that the results obtained by the application of carbon arc light baths in the treatment of surgical tuberculosis are brilliant; and the published results of the Finsen Institute confirm this statement. Seventy-seven per cent. of the cases of "closed" surgical tuberculosis were cured and 83 per cent. of the cases with sinuses or abscesses.

The cause of these contradictory results is, I think, found in another remark of Dr. Hunter's—that "erythema and pigmentation should not be produced." As Professor Reyn has said, "A poor equipment will give poor results, and so will even the best equipment if the technique be faulty."—I am, etc.,

Newcastle-on-Tyne, March 26th. W. KERR RUSSELL, M.D.

THE MODERN TREATMENT OF HERNIA.

SIR,—Mr. Geoffrey Keynes (March 26th, p. 595) does less than justice to his powers of exposition. His meaning was abundantly clear; I only took leave to doubt, on the strength of the experimental work quoted, whether the union of flap and ligament would be strong enough to prevent the formation of a hernia which would otherwise develop; and I think the question still remains open.

The remarkable case of femoral hernia that he records is most interesting, and illustrates well the elasticity of Gallie's method in meeting all kinds of difficulties in the treatment of hernia. Its bearing on the question of clearing the sac (from above or below) is not so obvious. I should have guessed that it would be easier to free such a sac from above than to deal with the usual type with a narrow neck by the inguinal route. But the case is hardly relevant to the discussion of the routine method of dealing with the sac in ordinary cases. Mr. Keynes distinctly implies in his paper that it should be done from below; I venture to question that, and I think most surgeons who are familiar with the Lotheisen method will agree with me.—I am, etc.,

Brighton, March 29th. M. FITZMAURICE-KELLY.

BILHARZIA OVA AND THE TEST TUBE.

SIR,—In your issue of March 5th (p. 418) Dr. Christopherson stated that I have assailed the statement "that antimony tartrate kills the ova deposited in the tissues during treatment for bilharzia disease."

This statement is incorrect. My article referred to by

him (which was a criticism of Christopherson's previous work) dealt only with the action of tartar emetic *in vitro*, and not with its action on ova inside the body. The experiments described in that paper in 1921 and the conclusions arrived at have been confirmed by other workers. The action of tartar emetic on bilharzia ova in water or saline solution in a test tube has no relation whatever with its action inside the body. The results observed are adequately explained by the physical phenomenon of osmosis. This is not a unique example, for emetine *in vitro* has not the specific action it has on the *Entamœba histolytica*.—I am, etc.,

M. KHALIL, M.D.; Ph.D., M.R.C.P.Lond.,
March 19th. Professor of Parasitology, Faculty of Medicine, Cairo.

Obituary.

DAVID MacEWAN, M.D., LL.D.,

Emeritus Professor of Surgery, University College, Dundee.

DR. DAVID MACEWAN, Emeritus Professor of Surgery in University College, Dundee, died at his residence in that city on March 31st. Professor MacEwan, who was in his eighty-first year, had been in failing health for a considerable time. He was born in Kinross-shire, and was educated at Perth Academy. He received his medical education in the University of Edinburgh, and graduated M.B., C.M. in 1867, and proceeded M.D. in 1880. After graduation he acted as house-surgeon at the Royal Infirmary of Dundee. In 1870 he commenced practice on his own account in that town, and for some time lectured on operative surgery. In 1898 he was appointed professor of surgery in St. Andrews University, a post which he held for twenty-two years, retiring in 1920, when he was succeeded by Professor L. Turton Price. He had already retired, in 1910, from the post of surgeon to Dundee Royal Infirmary, and on that occasion received a handsome testimonial and was entertained at a public dinner. Though he held the position of consulting surgeon to the Infirmary, he resumed active service during the war, operating with all his old skill. After his retirement from the chair the honorary degree of LL.D. was conferred upon him in 1921 by St. Andrews University. He was president of the Dundee Branch of the British Medical Association shortly after its formation, and he delivered the address in surgery at the Annual Meeting in Carlisle in 1896. Respected for his intellectual gifts, Dr. MacEwan was loved for his qualities of heart; his wide sympathy and quiet service endeared him, not only to his patients and students, but also to his colleagues.

He was the author of several contributions to current medical literature, including "A series of abdominal cases," "Treatment of surgical tuberculosis," and "Bier's treatment by venous congestion." He was held in great respect by all classes of the public in Dundee, where he enjoyed a large practice. He had been twice married, and is survived by a widow and by a son of his first marriage.

C. H. WATTS PARKINSON, M.R.C.S., L.S.A.,

Formerly member of the Council of the British Medical Association.

WE regret to record the death of Dr. Charles Henry Watts Parkinson on March 29th, at Wimborne, aged 80. He was the son of the late Dr. Charles Parkinson, who had practised in Wimborne before him. He received his medical education at Guy's Hospital, and obtained the diplomas M.R.C.S.Eng. and L.S.A. in 1869. He afterwards commenced practice in Wimborne, where he was appointed medical officer of health, having obtained the D.P.H.Ed. in 1889. He retired from practice about 1900.

Dr. Watts Parkinson had been an active member of the British Medical Association, and from 1899 to 1902 was joint honorary secretary, with the late Dr. Vawdrey Lush of Weymouth, of the Dorset and West Hants Branch, of which he was president in 1891 and a member of the Branch Council from 1909 to 1913. He was honorary secretary of the Bournemouth Division from 1904 to 1905, vice-chairman in 1907, and chairman in 1908. From 1899 to 1900, and again from 1907-8, he was a member of the Central Council of the Association, and attended its meetings regularly; he had served previously on the Parliamentary Bills Committee.

Dr. Parkinson was for many years coroner for East Dorset; this appointment he held at the time of his death, being then one of the oldest coroners in England. He formerly held a commission in the Volunteers, and was awarded the V.D. Besides these Dr. Parkinson had many other activities: he was a justice of the peace, a member of the Wimborne Board of Guardians since 1903, and the senior member of the governing body of Wimborne Minster. He was also a prominent and much respected Freemason, having taken the deepest interest in the craft for the past fifty-six years. At the time of his death he was Provincial Grand Mark Master of Dorset.

DR. HORACE EYRE HAYNES, who died on March 12th, was born at Evesham in May, 1846, the son of Dr. J. B. Haynes. From Epsom College he went to St. Bartholomew's Hospital. He took the diplomas of M.R.C.S. and L.S.A in 1869, and afterwards joined his father and eldest brother in a very extensive practice. He left Evesham in 1900, and subsequently paid special attention to the treatment of mental cases at a home he established at Brentwood. In 1917 he retired to Brighton, but in 1923 returned to Evesham, where he died. Dr. Haynes took a prominent part in the public affairs of his native town, and was elected mayor of Evesham in 1884 and again in 1885. He showed a keen and practical interest in the old Volunteer movement, was granted a commission in the Worcestershire Volunteers in 1872, received the Volunteer Decoration, and retired after many years' service with the rank of lieutenant-colonel. He was a good rifle shot and won the Licensed Victuallers' Cup in 1875 and the Beauchamp Cup in 1887 and in 1889. He was vice-president of Epsom College and an ex-president of the Worcester Medical Society.

Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

THE House of Commons has this week discussed the Landlord and Tenants Bill, the Architects Registration Bill, and other measures, and has also debated problems of unemployment and of British policy in China.

The text of the Trades Disputes and Trade Unions Bill, introduced by the Government, has been issued, and the second reading is to be taken after Easter. The bill, among other objects, proposes to except from the protection of the Trades Disputes Act, 1906, a general strike or sympathetic strike calculated to coerce the Government or intimidate the whole or a substantial part of the community.

On April 5th the Unionist Health and Housing Committee, with Dr. Fremantle presiding, heard from Mr. Sutcliffe and Mr. Barber, representing the Joint Council of Qualified Opticians, a statement of the case for the Optical Practitioners Bill. *The Government has appointed a select committee to investigate the same matter.*

Bill for the Registration of Nursing Homes.

In the House of Commons, on April 1st, Mrs. Philipson moved the second reading of the Nursing Homes (Registration) Bill. Its principle, she said, had already been approved by a Select Committee, and, as the Committee had recommended, the bill proposed that the local supervising authority should be the county council or the county borough council. Persons carrying on nursing homes were required to apply for registration. In homes already in existence registration would not be refused if the person in charge was unqualified, but the person superintending the actual nursing must be a qualified nurse. The bill proposed to repeal Part II of the Midwives and Maternity Homes Act, 1926, thereby bringing maternity homes within the purview of this general measure. Although inspection was to be by officers of the local authority, the bill contained a proviso designed to prevent inquiry into the medical records of individual patients. Other clauses defined "nursing home" and redefined "qualified nurse." Mr. G. Hurst, in seconding, said that as the law stood at present the words "nursing home" had no legal significance. The abuses in some nursing homes had not been realized by the public before the publication of the report of the Select Commitee, but the Select Committee desired that the inspecting officer should be, as in the case of maternity homes, the local medical officer of health, assisted by a qualified nurse to deal with all questions of nursing and a sanitary officer to deal with sanitation. Evidence before the Select Committee had satisfied all its members, including the medical members, that abuses were rife in homes

run by doctors as well as in homes run by unprofessional persons. No doctor of any standing would object to having his home registered. Registration conferred a status, not a stigma.

Mr. A. V. Alexander asked if "nursing home" included "convalescent home."

Mr. Hurst said that if in a convalescent home nursing was given that home would come within the definition.

Sir Douglas Newton moved the rejection of the bill, which would bring undue centralization. Non-county boroughs should not be shut out from its administration. Mr. Harrison seconded. Dr. Drummond Shiels said that until he served on that Select Committee he had not known that a bill of this kind was so much required. What most impressed the Committee was the number of cases of chronic senile poor people who were kept under deplorable conditions. It would be far better that these unfortunate people should be cared for by a public authority. He would seek to have Scotland included in the benefits of the bill. Sir Richard Luce, who had also been a member of the Select Committee, said he had come to the question with an open mind. The evidence given had caused him rapidly to change his views, and he now recommended the bill. When the original bill was projected some two years ago there had been considerable objection from the medical profession, which had not realized the seriousness of the question. The point the profession made of the sanctity of professional secrecy between patient and doctor had been fairly met in the present bill. With the evidence obtained by the Select Committee before them doctors no longer demanded the inclusion of a clause exempting from inspection those homes under the charge of medical practitioners. The bill would bring about a necessity for reasonable co-ordination between maternity and general nursing homes under registration. It would guarantee a reasonable standard of nursing. Proprietors of nursing homes and doctors had given evidence that the supervising authority should be an entirely independent body. The Committee felt that the authority should be wide, with a whole-time officer to do the inspection. He pointed out a drafting defect by which a clause in the bill appeared not to allow patients in maternity cases in nursing homes to be attended by a doctor. He drew attention to the provision that the supervising authority might pass by-laws requiring notification of any death in a nursing home with statement of its cause. He declared that it was not part of the duty of a nursing home to give the cause of death.

Dr. Elliot, speaking for the Government, said it was reasonable that the bill should be read a second time and become law. Differences existed between England and Scotland, and should be recognized by separate legislation. The principle of registration and inspection was accepted on all sides of the House; the question of the powers of non-county boroughs could be further considered in Committee; the recommendation of the Select Committee need not be taken as prejudging the issue. Sir Cyril Cobb, who had been chairman of the Select Committee, said that most cases had to be sent to a nursing home in a sudden emergency by relatives, who had to take the nursing home practically on chance. Dr. Vernon Davies said that the bill would remove a great scandal. Until the Select Committee sat the medical profession as a whole had no idea that inspection and registration of all nursing homes would be required, but after reading the evidence it had no objection to legislation for the inspection of medical men's own homes. Amendments might be moved in Committee to further safeguard the interests of nurses.

The motion for rejection was not pressed, and the bill was read a second time without a division.

Lead Poisoning.

During the discussion of the Civil Estimates, in the House of Commons on March 31st, Mr. Rhys Davies renewed the discussion on the British Government's decision not to ratify the Geneva Convention prohibiting the use of white lead in paint. He referred to the resignation of Sir Thomas Legge from the post of Chief Medical Inspector of Factories at the Home Office in protest against this decision, and congratulated Sir Thomas Legge on his courage. Mr. Rhys reminded the House that fifty operative painters died each year in this country from lead poisoning through the use of white lead in paint, and 200 were always suffering from lead poisoning. He protested that the Government had, through the India Office, invited the Bombay Government to "torpedo" the White Lead Convention in India. Replying for the Government, Captain D. King said Sir Thomas Legge had reached the pensionable age nearly four years before resigning. There was no obligation on the British or on any other Government to ratify the draft Convention. Since the Government had issued regulations governing the use of white lead paints, these regulations had been accepted by the appropriate trade joint council with very small alterations which would be adopted by the Home Office. Mr. Wallhead said that as a practical man he did not think the regulations could be made effective.

Refacing the Houses of Parliament: Sandstone and Silicosis.

On a vote for expenditure on the buildings of the Houses of Parliament, which was carried by the House of Commons on March 31st, Captain King explained that £20,000 was asked for the repair of the stonework. On expert advice the repairs were to be executed in Stancliffe stone. Mr. Gardner objected. He said this stone came from Darley Dale. The Office of Works paid an extra sum per hour to men working in that kind of material because of the danger involved. Sir Thomas Legge had written that the quarrying and dressing of sandstone in Derbyshire, Yorkshire, and round Edinburgh had cost a multitude of lives. In Derbyshire the death rate from phthisis was high in the sandstone areas, low in the limestone. Mr. Gardner said that according to an inquiry by the medical officer of the Derbyshire County Council, the death rate per 1,000 in the years 1901 to 1910 in the areas from which this stone came was 13.7 from phthisis among 124 gritstone workers. Among 426 stone workers, some in gritstone, some in limestone, in the two Matlocks and the two Darleys the death rate was 7 per 1,000. Among persons employed in and about limestone quarries and works it was 1.71 per 1,000, among limestone workers 1.52, and among persons employed in and about coal mines in the same district 0.68 per 1,000. The standard phthisis death rate was 0.77 per 1,000, and the death rate among Portland stone masons was 1.4 per 1,000. Dr. Brown, a medical officer of the Home Office, had reported that silicosis advanced by slow stages, and the men affected appeared to be unchanged, but ultimately they died very quickly of it. Mr. Gardner declared that the pneumatic tool expedited the disease. Portland stone was now being used for building even in sandstone areas. Lord Hartington thought Mr. Gardner had slightly exaggerated the risk to the workers in gritstone. Captain King said that to reface the Houses with Portland stone would cost over £3,500,000. Sandstone quarry owners in Derby had decided in 1922 to have all their operatives examined by the medical officers of health. Of 291 operatives, 5 were found to be suffering from silicosis and 7 from lung diseases; 84 of the men were between 40 and 49 years of age; 51 between 50 and 59; 21 were 60 years or over. The medical officer of health for the North Darley Urban District also supplied figures showing that in 1919 the death rate from phthisis was 0.34, and the only death from phthisis was that of a woman. Captain King admitted that silicosis existed among workers in sandstone. The Office of Works and Home Office had carefully considered that point and intended to take every possible precaution to secure the health of those who worked on this stone by damping the stone and in other ways. The workshops to be erected within the precincts of the Palace of Westminster would have roofs which could be opened completely in fine weather. Dr. Vernon Davies said Mr. Gardner was confusing the work of the mason with that of the quarryman. There was no danger to any mason who used stone of this description, either in preparing it for building or in building.

Colonel Lane-Fox, replying to Dr. Vernon Davies, on April 5th, said that silicosis was not, in general, a disease which it was required to report. Detailed information could not therefore be given as to the number of cases among stone workers for the last three years for which statistics were available, or as to the number of deaths, or the number of cases which developed pulmonary tuberculosis and died therefrom. The kinds of stone most liable to produce silicosis were the more siliceous sandstones and granite. More information would be available on this point when the results of a medical inquiry into the dust danger among workers in sandstone, which had been instituted by the Home Secretary, were known. The Mines Department was collaborating in this inquiry. Before deciding whether silicosis should be scheduled as an industrial disease the Government must have the report.

Another Mental Deficiency Bill.—The Mental Deficiency (No. 2) Bill, presented by Mr. Rhys Davies, [illegible] the Labour party proposals for amendment of the [illegible] 1913. It proposes to redefine idiots, [illegible] persons, and moral defectives, inserting in [illegible] "from birth or from an early age, or in consequence of physical injury or sunstroke or encephalitis lethargica." In the case of persons under 14, "that they by reason of such defectiveness appear to be incapable of receiving proper benefit from the instruction in ordinary schools" is added as a reason for classification as feeble-minded, in addition to "that they require care and supervision for their own protection or for the protection of others." Additional safeguards are proposed on the placing and retention of defectives in homes or institutions. A clause, which is said to be in accordance with the recommendations of the Royal Commission on Lunacy, proposes to dissolve the Board of Control for the purposes of the enactments relating to lunacy as well as for the purposes of those relating to mental deficiency, and to set up a new board. This is to consist of a chairman appointed by the Home Secretary, one legal commissioner, one medical commissioner of either sex, appointed by the Home Secretary, and one female commissioner. The Home Secretary is to have power to appoint two medical commissioners instead of one. Of fifteen assistant commissioners five are to be medical. (It may be found that a clause proposing to alter the Lunacy Acts is out of order in a bill whose title restricts it to mental deficiency.) The bill proposes that where mechanical means of bodily restraint are applied to a defective in an institution or certified house a certificate signed by a qualified medical practitioner, describing the means used and why, shall be forwarded to the Board, any restraint otherwise applied to be a misdemeanour. Many minor amendments are proposed in the principal Act.

Young Offenders.—The report of the Departmental Committee on the Treatment of Young Offenders has been issued. The Committee recommends that immediate steps should be taken to deal with the serious lack of accommodation for mental defectives; that the Mental Deficiency Act, 1913, should be amended to remove the difficulty caused by the words "from birth or from an early age" (a bill proposing this is now awaiting report in the House of Commons), and that persons suffering from the after-effects of encephalitis lethargica should not be dealt with as criminals, but placed in suitable institutions as subjects for medical care. The bill also recommends that the juvenile court should have jurisdiction to deal with all offences, except homicide, committed by persons under 17. No child under 8 should be charged with any offence. Much better facilities, it is considered, are required for the examination and observation of young offenders under 21, in order to estimate personal factors, especially mental and

physical health. The Committee remarks that the increase in encephalitis lethargica has emphasized the need for careful examination. "All the resources of approved medical science in relation to the functions of the mind should be available under any system of observation." The Committee states that in existing places of detention for persons under 16 little is done in the way of special medical examination. In many cases the juvenile courts have no regular way of ensuring medical examinations. At least three observation centres or central remand homes should be provided by the State. There should be a medical examination in all cases in which it is proposed to inflict whipping, but the courts should be able to order a whipping for any serious offence committed by a boy under 17. (Three members of the Committee dissent from this last recommendation.) Imprisonment should be abolished for young persons between 16 and 17, except where a certificate of unruliness or depravity is given. The distinction between reformatory and industrial schools should be abolished. Sentence of death should not be passed on any person under the age of 18. Recommendations are made for after-care and for dealing with cases of neglect.

Vaccination.—On April 4th Mr. Groves asked the Minister of Health whether he was aware that the medical officer of health for Southport received a letter from the Ministry of Health stating that the severity of the vaccination reaction reported from Southport had been noticed in other districts, and appeared to be caused more by the technique used in vaccinating than by the virulence of the vaccine lymph, and suggesting that a single incision four-fifths of a centimetre long should be made and no criss-cross incision. Sir K. Wood replied that the Minister was aware that a letter was written by a medical officer of the Ministry (after having made a local inspection) to the medical officer of health for Southport, generally on the lines set out in the question, except that it was made clear that four marks should be made, each by a single line incision, not four-fifths of a centimetre, but 4 to 5 millimetres long. The official view of the department was set out in the instructions to vaccinators under contract, and the suggestions made in the letter were consistent with that view.

Notes in Brief.

On April 4th Earl Winterton informed Mr. Lansbury that the Indian Lepers Act provided that compulsory segregation of pauper lepers might be enforced in areas to which the Act was made applicable by the local provincial government. He understood that there were dispensaries in many places for the treatment of early cases of the disease.

Mr. Chamberlain, on April 4th, stated that he was considering whether a public inquiry should be held into the report of the special committee by the board of guardians on the Swaffield Road Institution, Wandsworth, as to the alleged maladministration of the infirmary wards.

In the twelve months ended February last about 2,000 war pensioners with below-knee amputations had been fitted with metal limbs. At one of the largest limb-fitting centres more complaints were received from pensioners wearing the metal limb than from those wearing the wooden type.

The Minister of Health has given provisional figures showing that 27 men and 61 women over 100 years of age died in England and Wales between 1922 and 1926.

During the twelve months ended last February 22 men and 4 women died from natural causes when under detention in prisons in England and Wales.

Veterinary staffs in countries under the Colonial Office were increased in 1926 as follows: Nigeria 2, Sierra Leone 1, Kenya 2, Tanganyika 2, Bechuanaland 3, Straits Settlements and Federated Malay States 2, Fiji 1.

Within the area of the Surrey Local Education Authority in 1926 were 259 ascertained educable mentally defective children. Of these, 41 were at special schools, 133 at public elementary schools, and 3 at other institutions.

The last revision of the medical scales for merchant ships was issued in 1924.

Medico-Legal.

LUNACY CERTIFICATION.

De Freville v. *Dill.*

IN the King's Bench Division on March 29th, before Mr. Justice Avery and a special jury, the hearing was begun of an action in which Mrs. May de Freville, the wife of Mr. G. P. H. de Freville, claimed damages for alleged negligence in certifying her to be insane on June 9th, 1926, from Dr. A. V. Dill, a medical practitioner, of Stroud.

The defendant pleaded the protection of Section 330 of the Lunacy Act, 1890, as he signed the certificate in good faith and acted with reasonable care; his conclusions regarding the plaintiff's condition at the time he certified her were correct.

The Plaintiff's Case.

Mr. Cremlyn, in opening the plaintiff's case, said she married in 1917, and lived with her husband in London for nearly twelve months, and in 1918 a son was born. The marriage became very unhappy because her husband did not like children. In 1922 the company of which her husband was manager failed, and the only home he could offer her was Oakridge Vicarage, near Stroud, the residence of his father, the Rev. F. de Freville, who had vehemently objected to the marriage. On May 29th, 1926, the plaintiff visited her own father at Wokingham, appearing then as normal as she had always been. On June 7th she saw her brother in London; on June 9th she discussed her affairs with a Stroud solicitor. On May 11th she saw the defendant, Dr. Dill, for the first time. She had just "told her husband what she thought of him," and his mother rang up Dr. Dill, who, without any introduction, entered the bedroom where she was packing, preparatory to leaving the house. Dr. Dill then suggested to her that she was very excited, but she denied this and said she was leaving because of her husband. On May 15th her husband called on Dr. Dill and consulted him about her "periodic attacks of excitement," but Dr. Dill then said she was not certifiable and suggested she should become a voluntary boarder in a mental institution. On June 9th, after seeing the solicitor, she returned to the vicarage and went into the library, where she saw her husband, her father-in-law, and her son. The boy ran to her, but the vicar snatched him away and the child was removed from the room. Then the vicar said to his son: "Put her out," and the plaintiff became very angry, and, possibly, excited. Her husband seized her and threw her out of the front door; she tried to get back through a French window, but a sister-in-law slammed the window in her face, breaking the glass. She then got into the servants' hall, but the vicar locked the door leading to the kitchen. Eventually she heard the vicar telephoning to Dr. Dill to come immediately because she was "in a great state of excitement." Dr. Dill saw her alone in the servants' hall; she told him that all she wanted was to see her son and that she would then leave the house. Dr. Dill and her husband's family then had a consultation, which she interrupted, and there was a scene. Dr. Dill telephoned to the relieving officer, who came to the vicarage, and a little later a policeman took her to the Gloucester County Asylum. On the way they visited the house of a magistrate, who signed a summary reception order. Counsel urged that none of what took place on that night was strictly authorized by any section of the Lunacy Act, 1890. The following morning the plaintiff was seen by two other doctors, who stated that she was not of unsound mind. Dr. Dill's certificate said that Mrs. de Freville was very excited, talked wildly, threatened to kill her husband, refused food, would not sit down, insisted on seeing her son, although the child cried and obviously did not want to see her, and was in a state of acute mania.

The plaintiff, in evidence, said she might have been excited, but the other statements were untrue. Her child was not in the room when the doctor was at the house. The certificate also stated that she had ordered goods without reason or authority, and had had the bills sent to her mother-in-law. In ordering these goods, witness said she was acting on her solicitor's advice to order such clothes as she thought necessary and to send the bills to her husband.

Cross-examined by Mr. Singleton, K.C., the witness agreed that she had begun an action against her father-in-law alleging false imprisonment, though she admitted that he had been very kind. About eighteen months before June, 1926, she summoned her husband for desertion. A letter from her husband to her father, dated June 4th, 1926, in which he referred to her as "one who is so good at heart when she is herself," was only partly sincere. She denied the suggestion that before Dr. Dill came she rushed at her father-in-law shouting that she would kill him, or that she struck the vicar in the eye with her clenched fist. She did not attack her husband and tear his coat. She agreed that they were always unhappy at the vicarage.

Asked why Dr. Dill, who had only seen her once before, should certify her unless he believed her to be of unsound mind, she replied that it was because her husband wanted to get rid of her. This was a conspiracy between her husband, his father, his invalid mother, and the doctor—his mother mostly.

Mrs. de Freville denied that she threatened to protest in her father-in-law's church if he tried to preach. She agreed that for four years the vicar provided the means for her and her husband and her child to live. She denied saying, on June 9th, 1926, if she had a revolver she would "shoot them all," or that if she had a knife she would "cut all their throats." She never told her sister-in-law that she had most terrible nightmares, or that she thought of committing suicide. She never threatened to throw her son under a tramcar; such a suggestion was false and horrible. She never assaulted the vicar, although she admitted having been bound over on that charge.

Evidence on behalf of the plaintiff was given by Mr. R. E. Stuart, solicitor, of Stroud; Miss Warner, matron of the Gloucester County Mental Hospital; Miss Hunter, nurse at the hospital; Dr. John Marnan, medical superintendent of the County Asylum, Gloucester; Dr. Thomas C. Smith, senior medical officer at the Second County Mental Hospital, Barnwood, Gloucester; Mrs. Sleep, the plaintiff's sister; Mr. P. A. G. Bishop, the relieving officer at Stroud; Dr. T. B. Hyslop, and Dr. J. Risien Russell.

Both Dr. Marnan and Dr. Smith, in evidence, said when they examined the plaintiff on June 10th she was quiet and mentally normal. If she had been in a state of acute mania at 10.30 on the previous night they would hardly have expected her to be in the condition in which they found her the following morning.

Mr. Bishop, in his evidence, said he was called to the vicarage by Dr. Dill on June 9th. Dr. Dill filled up and signed the medical certificate on the statutory form, and the witness filled up the statement of particulars, obtaining some from the husband and some from Dr. Dill. When he was about half-way through the filling up of the form the plaintiff came in very excited, talking and throwing her arms about. She came over to the witness with her arms in the air and asked who he was and what he was doing there, and ordered him out of the house. She said she had come down for her child whom the family had refused to allow her to see. She kept on talking and shouting in the library, and Dr. Dill and the witness went into the hall to complete the form. Mrs. de Freville refused to come with him, and therefore a policeman and the witness took her by the

arms and Dr. Dill saw them into the car. They called at the house of Mr. Aldridge, a magistrate, and he signed a reception order. The magistrate did not have a chance to talk to the plaintiff as she was talking all the time. Cross-examined, the witness said that when he saw Mrs. de Freville he formed the opinion that she was temporarily of unsound mind. She became quieter on the journey.

Dr. Hyslop said he saw the plaintiff on March 2nd and March 7th, 1927, and she gave a rational, coherent, and calm explanation of the circumstances giving rise to the allegations. He did not think that the certificate was a proper one to make. "I should have adopted the same course as the person at Gloucester Mental Hospital and said she was unjustly detained and not a proper person to be kept under care and treatment." In reply to Mr. Singleton, who asked if a doctor found a patient raving, if in his presence she assaulted one or more persons and threatened to kill one or more persons, was it not his duty to send for the police and the relieving officer? the witness said "No; he should send for nursing aid and treat the patient on the premises if possible to prevent her being sent to an asylum, and ascertain whether the condition is evanescent. It is a doctor's duty not to be precipitate in these cases."

Dr. Risien Russell, in his evidence, said that facts communicated by others should not be used without confronting the patient with the persons making the statements. The statement as to refusing food was untrue, and it was therefore a false certificate. Cross-examined, Dr. Russell said that he knew of no state of insanity lasting only a few hours.

Case for the Defence Opened.

Mr. Singleton, in opening the case for Dr. Dill, said no one would be more pleased than the defendant and his advisers if they could believe that the plaintiff was now and would remain sane. The jury had not to try whether the plaintiff was sane now, nor even whether she was sane on June 9th, 1926.

Dr. Dill, in his evidence, said both the vicar and his wife had been his patients. He first saw the plaintiff on May 11th, 1926, when he was called to the vicarage. She told him things were quite impossible at the vicarage, and she was packing to leave. She refused treatment, and said that she was sorry he had been sent for. He had been told that the plaintiff had had a row with her husband. The husband came to see the witness, and told him that she had attacks about once a month, and seemed to be getting worse. The husband said that she had thrown a knife at him, and had threatened to throw her child under a tramcar. On June 9th he went to the vicarage in response to an urgent telephone call. The plaintiff was in the servants' hall, walking up and down in a very excited state, with a blood-stained handkerchief tied round her wrist. She talked excitedly, and did not wait to answer his questions. She wanted to see her son and to go into the village to get a bed. She said she did not know when she had had food last. She then had a cup of tea, and he got her to take a tablet on the understanding that she should see her son. When the vicar came in she said: "There you are, you holy man," and added that if he tried to preach next Sunday she would certainly get up and protest. The vicar then showed the witness his eye, which had a small bruise on the eyeball. The witness did not think it desirable that the plaintiff should see her son or take him away. In the witness's presence the plaintiff struck Miss de Freville in the face with her closed fist, and he heard her exclaim to her husband, "My God! I could kill you." Witness decided that it was undesirable that the plaintiff should remain at the vicarage, both for her own sake and also for the sake of the other people who were in the house, for he did not know to what extent she would go on injuring, or attempting to injure, others, including her own child.

Cross-examined, Dr. Dill said he never asked Mrs. de Freville whether her husband's statements about her were true. He had no opportunity; she could not answer even simple questions. Asked why it was necessary to send Mrs. de Freville into an asylum to get her away from the environment of the vicarage, he said he saw no other alternative. He watched the plaintiff thoroughly for five hours, and her actions were entirely consistent with unsoundness of mind.

Counsel: Can you refer me to any textbook which says, as you have, that acute mania is liable to clear up very rapidly?—I am not conversant with the textbooks. It is eleven years since I qualified.

You have told us that you are a general practitioner with little experience in mental cases, and you say that it was not necessary to take a second opinion?—It was sufficiently obvious to me what she was suffering from.

Was she suffering from acute mania?—As I meant it.

Was she suffering from acute mania as that term is known to the medical profession?—Possibly not.

The Jury Discharged.

At this stage of the case the jury informed the judge that they had arrived at a conclusion adverse to Dr. Dill, and asked whether they could stop the case.

Mr. Justice Avory said the jury had come to a premature determination adverse to Dr. Dill without hearing the end of his evidence, and also most material evidence that was to have been tendered on his behalf. Unless Dr. Dill was prepared to submit to judgement, the proper course was to discharge the jury from giving a verdict.

Mr. Singleton said Dr. Dill could not consent to judgement, as the evidence of the witnesses who would have been called from the vicarage was as important as, if not more important than, Dr. Dill's evidence.

Mr. Justice Avory: I shall take the responsibility of discharging the jury without giving a verdict.

The jury were, accordingly, discharged.

Universities and Colleges.

UNIVERSITY OF LONDON.

Delay in Registration after Passing Qualifying Examination.

ON January 29th (p. 213) we published a letter from "Senior" stating that a young practitioner whose name appeared on the pass list of the London M.B., B.S. on December 8th, having forwarded a fee for registration to the General Medical Council on the following day, found later on that he could not be registered until January 26th—that is, seven weeks after the publication of the list and after complying with what was required. Having on January 16th given a death certificate he was informed by the General Medical Council that his degrees could not be registered because the University of London had not sent the necessary information to the General Medical Council. We communicated with the Registrar of the General Medical Council, who informed us that representations had already been made to the University authorities, but he was good enough to take the matter up again and to enlist the interest of the representative of the University of London on the Council; by his efforts a new ordinance has been passed as follows:

> That the Vice-Chancellor be empowered to attach on behalf of the Senate the seal of the University to the pass list of the M.B., B.S. Examination for Internal and External Students after the lapse of a fortnight from the date of the examiners' meeting in cases where the pass list cannot be approved by the Senate within that period; and that this be deemed to be a case of urgency within the meaning of Standing Order No. 134

Consequently it may be hoped that the hardship to which attention has been called will not arise in future.

UNIVERSITY OF DURHAM.

THE following candidates have been approved at the examination indicated:

THIRD M.B., B.S.—*Pathology and Bacteriology; Materia Medica, Pharmacology and Pharmacy; Public Health; Medical Jurisprudence*: M. J. Arnott, T. L. Kelly, H. D. Ord. *Pathology and Bacteriology; Materia Medica, Pharmacology, General Principles of Therapeutics, and Pharmacy; Public Health; Medical Jurisprudence*: *C. Goldstein, *J. M. Tait, *H. G. Ungley, H. M. Brown, D. S. Buchanan, W. C. E. Diamond.

* With second-class honours.

UNIVERSITY OF LIVERPOOL.

THE following candidates have been approved at the examinations indicated:

DIPLOMA IN TROPICAL MEDICINE.—C
J. D. Bilimoria, W. M. Burns, E
M. Farid, *A. M. [illegible] E. [illegible]
N. M. Hodivala, L. [illegible] Y. S Maclay,
Johnson, J. S. K[illegible] L. Malhotia,
H. G. Maguire, [illegible] H. M. Nevin,
B. S. Manghirmalani, J. N. Mehra, A. J. Murray, [illegible]
N. T. Olusoga, D. B Parakh, M. R Peters, *R. S. Rao, S. R. A. Shah,
J. F. Southward, Frances C. Thompson, B. J. van de S. de Villiers,
R. Walkinshaw.

DIPLOMA IN TROPICAL HYGIENE.—T. A. Austin, B. Barrowman, W. W. Besson, J. C. St G Earl, J. Hamilton, C F. McCoa, Winifred H. Mitchell, R. Nixon, W. S. Ormiston, A. Robertson.

* Recommended for the Milne medal.

UNIVERSITY OF MANCHESTER.

T. N. FISHER, M.B., Ch.B., has been approved at the examination for the certificate in school hygiene.

The following awards have been made: Dauntesey Medical Junior Scholarships: (1) C. H. T. Wade, (2) R. V. Wright and Florence Nightingale divided. Sidney Renshaw Prize in Physiology: M. C. G. Israels and W. W. Kay divided.

UNIVERSITY OF DUBLIN.

SCHOOL OF PHYSIC, TRINITY COLLEGE.

THE following candidates have been approved at the examinations indicated:

FINAL M.B., PART I.—[illegible] P.
prudence and Hy [illegible] rd,
[illegible] on,
[illegible] P.
I [illegible] J. A. Dowds, I. le Roux.
Meiring, J. E. Wells.

PART II.—*Medicine*: *R. A. Q O'Meara, M. Gerber, W. F. Lane, M. F. N. Griffin, R. W. T. H. Stewart, R. S. F. Hennessey, G. S. Smith, R. D. Whitecare, C. F. Cope, P. Brangan, S. D. K. Roberts, G. O. Taylor, E. A. Ellis, C. L. Day, N. J. U. Mather, M. Sherowitz, S. B. Dairymple, S. R. Elmes, M. G. J. Booysen, Norah W. Brown, W. F. Knobel, C. de W. Meintjes, A. C. C. Charles, D. M'M Casson, H. C. Weir. *Surgery*: S. Behr, G. O. Taylor, G. S Smyth, S. Gurevich, P. M. Garry, G. D. Edwards, M. G. J. Booysen, M. Gamsle, [illegible] *Midwifery*: *P. M. Garry, *E. M. Gamsle, [illegible] R. M. Moore, J. R. Hanna, H. Dundon, [illegible] thaus, I. le Roux.

D.P.H., PART I.—*Chemistry; Bacteriology and Parasitology; Physics, Meteorology, and Climatology*: M. Halligan, Brenda M. Young, Sarah M. Coghlan, J. V. M'Nally, Kathleen M. Ball, Kathleen M. Kennedy, Margaret E. Pedlow.

PART II.—*Sanitation (including Sanitary Construction); Public Health Administration; Hygiene and Epidemiology; Sanitary Law and Vital Statistics*: Anna M. Allen.

DIPLOMA IN GYNAECOLOGY AND OBSTETRICS.—Anne Sivet, P. Mehta.

* Passed on high marks.

ROYAL COLLEGE OF PHYSICIANS OF IRELAND.

AT the monthly business meeting, held on April 1st, the President admitted the following candidates, who had been successful at the spring final examination under the conjoint scheme for Ireland, to the licenses in Medicine and Midwifery of the Royal College of Physicians of Ireland:

W. Burgess, E. P. Carroll, Bridget Crawford, A. Fung, A. F. E. Harbord, C. P. Hearty, J. Kenny, W. G. Myers, A. P. McEvilly-Jordan, J. F. McGeough, P. O'Callaghan, Philomena T. M. Pierse, T. Simpson, H. T. G. Westropp, D. P. Rudstein.

THE following candidates, possessi[illegible] approved for the M.D. degree at the [illegible] the winter-session just ended: S. S. Bhatnagar, H. N. Warner Collins, Gladys H. Marchant.

Medical News.

A POST-GRADUATE course for general practitioners will be conducted by the staff at the James Mackenzie Institute for Clinical Research, St. Andrews, from June 14th to 28th. It will bear on the recognition and treatment of the early stages of disease. Lantern demonstrations will be given by the honorary director and members of the clinical staff, anatomical demonstrations by Dr. Kirkpatrick, physiological lectures and demonstrations by Professor Herring, and chemical demonstrations by Dr. Hynd; Dr. Matthew Fyfe will deal with clinical pathology and Mr. Smith with radiology. Clinical lectures will be given at the Dundee Royal Infirmary, when Professor Patrick and Professor Price will deal with surgical and medical subjects respectively. The fee for the course is £5 5s. Further information can be obtained from the Secretary of the institute.

THE Fellowship of Medicine announces that owing to the Easter vacation the special courses in April will not start until the end of the month. A three-weeks' course in medicine, surgery, and gynaecology at the Royal Waterloo Hospital for Children and Women commences on April 25th. On April 26th will be given the first [illegible] demonstrations on tropical diseases, on [illegible] 2 p.m., at the London School [illegible] Medicine. Four lecture demonstrations on electro-therapy will be given by Dr. C. B. Heald at the Royal Free Hospital on Wednesdays at 5.15 p.m., beginning on April 27th. Copies of all syllabuses, the general course programme, and the *Post-Graduate Medical Journal* are obtainable from the Secretary of the Fellowship of Medicine, 1, Wimpole Street, W.1.

AT a meeting of the Medical Society of London, held on March 28th, the following were elected honorary Fellows: Professor Irving Cameron (Canada), Professor Sir Charles Sherrington (Oxford), Professor H. C. Jacobaeus (Stockholm), Professor K. F. Wenckebach (Vienna).

SIR CHARLES SHERRINGTON, G.B.E., O.M., M.D., F.R.S., Sir Henry Head, M.D., F.R.S., Sir George Newman, K.C.B., M.D., and Professor C. J. Martin, M.D., F.R.S., have recently been elected Fellows of the New York Academy of Medicine.

THE Savill (Memorial) Oration of the West End Hospital for Nervous Diseases will be delivered in the house of the Royal Society of Medicine by Dr. Gordon Holmes on Thursday, April 21st, at 5 p.m. The subject is local epilepsy, and the chair will be taken by Dr. Percy Smith. Members of the profession and medical students are invited to attend. The Savill prize (offered biennially, value £15) will be awarded at the end of this year; full particulars can be obtained from the secretary at the hospital (Welbeck Street, W.1.)

THE annual meeting of the Royal Medical Benevolent Fund will be held at 11, Chandos Street, Cavendish Square, W.1, to-day (*Friday, April 8th*), at 5 p.m.

SIR JAMES BERRY, President of the Royal Society of Medicine, has been elected a member of the Athenaeum Club under the provisions of Rule II of the club, which empowers the annual election of a certain number of persons of distinguished eminence in science, literature, the arts, or for public service.

THE house and library of the Royal Society of Medicine will be closed from Thursday, April 14th, to Tuesday, April 19th, both days inclusive.

THE Robert Jones medal and prize offered by the British Orthopaedic Association for 1926 has not been awarded.

AT St. Thomas's Hospital at noon, on April 26th, the St. Thomas's House (a residential club for students) will be opened and a war memorial unveiled by the Archbishop of Canterbury.

HELP was given to nearly 500 mothers and children by the National League for Health, Maternity and Child Welfare during 1926, and the annual report contains details of many emergencies overcome. Although the annual expenditure is approximately £5,000, the annual subscriptions are under £600, the balance being obtained from the activities of the society, which are largely self-supporting. Holidays and convalescent treatment were provided for many mothers and children and several health lectures were delivered, the physical training cinematograph film prepared by the league proving very popular. Over 429,000 copies of publications by the league were distributed, with considerable benefit to its finance.

A NEW edition has been issued of the *Handbook of the American Medical Association of Vienna*. This contains information about various facilities for medical post-graduate work in this city, and will be found very useful by all proposing to study there. It may be obtained free of charge from Dr. A. I. Haskell, VIII, Alserstrasse 9, Vienna, Austria.

THE second international course in gynaecology and cardiology at Franzensbad will be held from May 22nd to 26th, 1927.

DURING the celebration in 1930 of the French occupation of Algiers an international congress on malaria will be held, when the discovery of the parasite of malaria by Laveran at Algiers in 1880 will be commemorated.

THREE congresses at Vienna this year will deal respectively with psychiatry, microbiology, and neurology. At the first, from April 21st to 23rd, the programme will include the psychology of schizophrenia and the care of psychopathic patients. The secretary is Dr. G. J. Ilberg, Sonnenstein, Pirna, Saxony. At the second conference, from June 7th to 9th, the subjects will be experimental cancer and protective inoculation; further information may be obtained from Professor R. Kraus, Zimmermanngasse 3, Vienna IX. The third conference, from September 15th to 17th, will include a discussion on the anatomy, physiology, and pathology of the sensory nervous system. Inquiries should be addressed to Dr. K. Mendel, Augsburgstrasse 43, Berlin.

THE centenary of the birth of Vulpian will be celebrated in Paris at the same time as that of the death of Pinel, on the occasion of the annual meeting of the Société de Biologie and the eighth international neurological congress (May 27th to June 2nd). Further information can be obtained from Dr. H. Colin, 22, Rue Gay-Lussac, Paris V^e^.

PROFESSOR JULES BORDET, director of the Institut Pasteur at Brussels, has been nominated a corresponding member of the Royal Academy of Spain.

THE population of Italy has increased from 25 million in 1862 to 42 million in 1926 in spite of the losses caused by earthquakes, influenza, war, and the fall of the birth rate. The average duration of life has risen to 53, and the mortality, which was 30 per 10,000 in 1880, has fallen to 16 per 10,000.

ACCORDING to recent statistics, the number of insane persons in different parts of Italy is 59,393, or 1.5 per cent. of the population.

THE medical faculty of Freiburg University has conferred the distinction of doctor *honoris causa* on Tatsukichi Irisawa, professor of internal medicine at Tokyo and one of Naunyn's former pupils.

THE following changes have recently occurred in the German medical faculties: Professor G. von Bergmann has succeeded Professor Kraus in the chair of internal medicine at Berlin; Dr. Franz Volhard, professor of internal medicine at Halle, has succeeded Professor von Bergmann in the corresponding chair at Frankfort; Professor Hans Wintersten has succeeded Professor Karl Hürthle in the chair of physiology at Rostock; and Professor Otto Pankow has succeeded Professor Opitz in the chair of obstetrics and gynaecology at Düsseldorf.

PROFESSOR EMILE DE GRÓSZ has been appointed president of the committee on post-graduate study in Hungary, Professor Cornelius de Scholtz vice-president, and Dr. Béla Johan secretary. During 1926 ten post-graduate courses were arranged in Budapest, Szeged, and Debreczen, and eight numbers of a periodical devoted to medical education were published.

AN anonymous donor has put the sum of 100,000 francs at the disposal of the Société de Neurologie of Paris to be awarded to the discoverer in the course of the next two years of a certain cure for disseminated sclerosis. Candidates must be members of the Société de Neurologie or at least of French nationality.

THE late Dr. T. Claye Shaw, who died at Cheltenham in January last, left estate valued at £53,854.

Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to ***The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.***

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the BRITISH MEDICAL JOURNAL alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the BRITISH MEDICAL JOURNAL must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the JOURNAL, should be addressed to the Financial Secretary and Business Manager.

The ***TELEPHONE NUMBERS*** of the British Medical Association and the BRITISH MEDICAL JOURNAL are *MUSEUM 9861, 9862, 9863,* and *9864* (internal exchange, four lines).

The ***TELEGRAPHIC ADDRESSES*** are:

EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology Westcent, London.*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westcent, London.*

MEDICAL SECRETARY, *Mediocra Westcent, London.*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 4737 Dublin), and of the Scottish Office, 6, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 4361 Central).

QUERIES AND ANSWERS.

DR. JEANIE MACRAE (Mallaig, Inverness-shire) asks for suggestions for the treatment of a patient who is suffering from hyperpiesia (blood pressure 170–180), accompanied by excessive secretion of frothy saliva. The nose is blocked, and this necessitates continual spitting, particularly during a continued conversation.

MORBID SHYNESS IN A CHILD

"E. C. M." writes: I would suggest to "K. H. G." to invite other children into the house—one, two, or more—say, twice daily, and talk and play with them naturally, disregarding completely the child's existence during these times. No attempt should be made to include her and not the slightest notice taken of her shy habits. I believe that gradually the child will venture to join in on her own account. The mother's anxiety is reflected in the child's inability to do what is expected of her.

DR. B. E. COOK (Doncaster) writes in reply to "K. H. G.": May I recommend him to read Cameron on *The Nervous Child?* I would suggest that if the child's mother were to see a medico-psychologist (such as the one whose address is reported in the JOURNAL for March 26th on page 582) she would probably receive the necessary help in what is, after all, a problem for the home rather than the surgery.

"HONG-KONG DOG."

"M.D." asks for information about the disease colloquially called "Hong-Kong dog."

*** "Hong-Kong dog" is the local name given to a diarrhoeic condition which attacks most newcomers to Hong-Kong shortly after their arrival. It was formerly attributed to alcoholic indulgence, but this is definitely not the case. It is most common in the earlier months of the year, and may recur year after year, and in some, fortunately few, instances, after a succession of such attacks, the condition does not clear up, but seems to pass imperceptibly into true sprue.

LETTERS, NOTES, ETC.

THE UREA CONCENTRATION TEST IN NEPHRITIS.

DR. J. BARKER SMITH (London, S.E.) writes: The authors of the article in the BRITISH MEDICAL JOURNAL of January 8th (p. 51) have given a valuable and simple test for ascertaining renal function. But I am somewhat puzzled that the mere percentage of urea should mean so much. The technique mentioned there is to me somewhat obscure. My difficulty in understanding and suspicion, however, arise in the most simple, and therefore most valuable, statement under section *(a)* at the end of the article: "An analysis of the urea content of a series of specimens of ordinary urine. If these show an adequate urea percentage, then obviously a urea concentration test is not necessary." It seems to me that "adequate urea percentage" is left to the personal experience of the reader for interpretation. In the absence of estimating the day's output of urea we are compelled to consider "adequate" the amount of urea relatively to the specific gravity of the sample passed. I find in the examination of some hundreds of samples of urine, excluding those which are albuminous or saccharine, that the output of urea approximates, or is *en rapport* with, the specific gravity of the urine. So for other ordinary constituents of urine. If we make a ratio of the urea per thousand by multiplying by a hundred and dividing by the two last figures of the specific gravity the quotients or ratios would approximate for samples from sp. gr. 1010 to 1030—say a ratio about 70. I should be very sorry for this valuable article to be passed over because of any obscurity and not put into practice.

DR. ARCHIBALD CAMERON.

"H. G." writes: There are degrees in everything, even in treason, and had Dr. Cameron been content, as most of his fellow rebels were, to accept the verdict of "Drumossie," he might have returned in due course to his native land and ended his days in peace. But, as "Nomadic Doctor" properly states, he went about his "royal master's business," and it is important to know what that business was. It was neither more nor less than the kidnapping of the Royal Family, for that is what the Elibank conspiracy aimed at. The Government had full knowledge of this, but thought best not to make it public—probably from the desire to avoid shedding more blood. Hence the ignorance prevailing up to recent times of the true reason for the execution of Dr. Cameron.

WIRELESS MEDICAL CONSULTATIONS AT SEA.

DR. W. H. BROAD (Liverpool) writes in reply to Dr. D. D. F. Macintyre's invitation for suggestions (JOURNAL, March 12th, p. 493) to be embodied in the new edition of the *Ship Captain's Medical Guide:* As a preliminary measure might I suggest that the items in Scale III be numbered? The general consideration of the whole subject is one which will require much discussion and cannot for a moment be so summarily treated as suggested by Dr. F. F. Bond in his letter of March 14th (BRITISH MEDICAL JOURNAL, March 19th, p. 542).

LONGEVITY IN A FAMILY.

A MEMBER of the South Australian Branch of the British Medical Association (Adelaide) refers to recent notes on unusual family longevity (JOURNAL, 1926, vol. ii, pp. 236 and 365), and states that his wife's grandparents, who were pioneers of South Australia, had eleven children; two out of three who died were then 81 and 64, while eight are living, their present ages being 86, 83, 82, 80, 76, 74, 71, and 67. Six of these, who reside in South Australia, regularly visit an aunt, who is just reaching her 100th birthday. This aunt landed in South Australia on December 28th, 1836, the day it was proclaimed a British province. She is a great reader and corresponds with many friends, taking a keen interest in all that is going on. She was the youngest of a family of nine. Two brothers met with accidental deaths; one sister died at the age of 90 and two at 82, while three brothers died at the ages of 97, 90, and 65.

FOREIGN BODY IN RECTUM.

DR. M. HONIGSBERGER (Birmingham) writes: The following case is so unusual that it may possibly be of interest to record it: I was consulted by a man of 65 years, a miner, who complained that he had been awakened at 3 a.m. by profuse diarrhoea without pain or vomiting, but when he got out of bed he could hardly walk because of a severe pain in his rectum, neither could he sit down. Having known of a similar case where the cause was a fish bone in the rectum, I expected to find this the cause, and on rectal examination I found something resembling a fish bone, but it was bent at such an angle and non-flexible and so impacted in the rectal wall that I had great difficulty in extracting it. Instead of a fish bone, however, the foreign body proved to be a bent twig of a tree 2¼ in. long and almost 1/4 in. diameter. The twig was unbendable. The patient was unable to explain how it got there. He is not a mental case, nor a drunkard, and it seems almost inconceivable that a twig of such a size and so unflexible could be swallowed and the swallower not be aware that something abnormal had been gulped down; moreover, the twig must have been propelled throughout the entire length of the alimentary tract (except the last part) in its longitudinal axis, for the patient has had no abdominal pain lately.

THE CHEWING OF GUM.

DR. W. J. BURNS SELKIRK (Birmingham) writes: Falling into thought, I surmised that there must be some reason for the chewing of gum, even though it be not formulated. Experimenting, I find it has a decided sedative action; hence, perhaps, its abounding utility in the land of hustle. Presumably, it is analagous in effect to the baby's comforter. It seems capable of producing even the state of mind of the ruminating cow and its Buddhistic calm. With it one may endure a prolonged surgery attendance with good-humoured tolerance, and the evil chances of the putting green cease to irritate and become curiously amusing, to the extent almost of inducing a dual personality. I would not be surprised if it could relieve even the hard-pressed surgeon of the necessity for expletives. It may be offered as a substitute to the excessive cigarette smoker, and for the chocolate habit; for frayed nerves and insomnia as a sedative. The material has a considerable sale even in this country. Why?

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 46, 47, 48, 49, 52, and 53 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 50 and 51.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 126.

An Address
ON
HEART DISEASE AND PREGNANCY.

DELIVERED TO THE NEWCASTLE-ON-TYNE DIVISION OF THE BRITISH MEDICAL ASSOCIATION

BY

SIR THOMAS OLIVER, M.D., F.R.C.P.,

CONSULTING PHYSICIAN TO THE PRINCESS MARY MATERNITY HOSPITAL, NEWCASTLE-ON-TYNE.

IT is now several years since I first became interested in the subject of heart disease and pregnancy. In the early part of my professional career pregnant women were not supposed to be admitted into the wards of the Newcastle Infirmary, so that my experience was mostly gained in outside consulting practice. Recently greater facilities have been afforded me of studying the problems in a practical manner in the Princess Mary Maternity Hospital with its eighty beds. My desire is to create among the younger members of the profession interest in one of the complications of pregnancy worthy of their attention and well deserving of study. Death in maternity, from whatever cause, is a tragedy of womanhood. The high death rate of women during and shortly after the puerperium is a cause of public uneasiness and calls for abatement, but I do not intend to discuss the subject of septic infection.

Although in the main a physiological state, pregnancy is beset with many possibilities which tend to endanger the life of mother and child. Severe haemorrhage, for example, may occur before or after parturition, from which the patient may apparently recover; yet in many of these women, on auscultating the cardiac area, there will be heard, years afterwards, a soft mitral systolic murmur which was not present before the excessive loss of blood. In other words, as the result of the haemorrhage the heart has remained enlarged, and, being badly nourished, has never quite regained its normal size—a circumstance which will materially affect the course of succeeding pregnancies and increase the risk of the puerperium.

The Condition of the Heart in Pregnancy and the Effect of Pregnancy upon the Heart.

As far back as 1825 Larcher, who was then an interne in the Paris Maternity Hospital, drew attention to the relationship of the two, basing his opinions upon the examination of the heart of 130 patients who had died in the hospital, most of them of puerperal sepsis. It may be taken for granted that in most of the patients the heart had been healthy except so far as it might have been influenced by the puerperal fever. It was his opinion that the human heart becomes normally enlarged during utero-gestation, that it is mainly the left ventricle which is affected, the right heart showing few if any alterations, also that during lactation the heart tends to return to its normal size unless subsequent pregnancies follow each other in rapid succession.

It is possible, as Angus Macdonald,[1] writing in 1878, maintained, that Larcher exaggerated the cardiac condition. On the other hand, it is generally admitted that pregnancy influences the quantity and quality of the blood in the body, and that there is thrown upon the vascular system increased work in order to meet the requirements of the mother and the foetus *in utero*. Larcher's views did not meet with general acceptance even by his own countrymen. One of his strongest opponents, however, was a German, Herman Lohlein, who stated that the average weight of the heart in pregnant women is not greater than that of their non-pregnant sisters. On the whole the consensus of medical opinion is that in pregnancy there is a slight increase in the size and weight of the heart, and my own experience confirms this. The average weight of the female heart between the ages of 20 and 25 years is, according to Peacock, 8¼ oz., while in the case of pregnant females it is over 9 oz. In addition to the increased weight of the heart, the blood pressure must be considered. This becomes raised, and is frequently associated, as pregnancy advances, with conditions that are dangerous. The systole of the ventricle becomes stronger and its contents are discharged under higher pressure. This physiological condition is necessitated by the maternal and foetal requirements. Obstetricians recognize that in abnormal circumstances a rising blood pressure may be the forewarning of eclampsia. At any rate, where the blood pressure rises above 150 mm. of mercury the patient should be watched, carefully dieted, and the emunctory organs maintained in good order. The blood pressure rises and wanes with the pains during the first and second stages of labour, and declines in a normal case three or four days after the confinement.

It is after the supervention of pregnancy that many women, hitherto unaware of having experienced any inconvenience in walking or taking gentle exercise, become conscious of a sense of breathlessness on exertion, and since in pregnancy there is usually a tendency for the body weight to increase, for the volume of blood to become greater, and the size of the uterus larger, this raises the question whether there is an increased cardiac output. It is this problem which Stander, Duncan, and Sisson[2] set themselves the task of investigating. The new physiology, with its carefully-thought-out methods of research and instrumental equipment, has given a fresh impetus to the study of medical problems and has compelled us to approach these in a manner impossible to be done four decades ago. The experimental method was made use of by the research workers just mentioned, dogs, non-pregnant and pregnant, being employed. Six female dogs were carefully trained so that they were completely under control, and were unlikely therefore by movement or otherwise to vitiate the results aimed at. Two of the dogs became pregnant. The results of the experiments are interesting, for the investigators found that of the four non-pregnant animals kept under observation for more than a year the heart output varied very little, also that the "minute volume" had a more constant value than the "systolic output." One circumstance particularly worthy of mention is that during oestrus the cardiac output was increased and therefore resembled in a miniature manner what takes place in pregnancy. These observers found that during gestation the cardiac output kept gradually increasing all through, until shortly before delivery the output had increased 53 per cent., and that after delivery it slowly returned to what might be regarded as the normal. The conclusion was that the cardiac output is increased by one-third to one-half during the later months of pregnancy, and since during the whole period of utero-gestation there is never a fall of the arterial blood pressure, the heart is really called upon to perform a greater amount of work. This raises the question whether this is accomplished by the heart becoming hypertrophied or simply by the organ calling upon its latent reserve. Opinions differ, as I have incidentally stated, in regard to the occurrence of hypertrophy of the left ventricle of the heart, but there is not the least doubt "that some mechanism must be called into play to meet the increased demands of pregnancy." Given a healthy heart and a normal pregnancy, the heart is capable of rising to the occasion, but it is another thing for a woman who has a cardiac valvular lesion and whose myocardial fibres are not typically sound; how will her heart bear the additional strain which pregnancy is likely to impose upon it?

Some Statistics.

Taking the records of the Princess Mary Maternity Hospital for the last three years, I find that 9 pregnant women with heart disease were admitted in 1924; 3 were cases of mitral stenosis, 3 of mitral incompetence, and 1 of aortic regurgitation, while 2 suffered from myocardial weakness. All the patients successfully passed through the process of parturition, and were able to return to their homes. During 1925 the cardiac patients admitted numbered 16; 2 were suffering from mitral stenosis, 6 from mitral incompetence, 3 from aortic regurgitation, and 5 from cardio-valvular defects, not stated, and myocardial feebleness. Three deaths occurred: one woman, the subject of aortic regurgitation, developed anginal pains, and died a few hours after her admission, undelivered; one woman was admitted in a moribund condition with mitral regurgitation, six and a half months pregnant—she died nine and

a half hours after admission, undelivered; another woman, the subject of mitral regurgitation, died a few hours after admission. There were 13 cardiac patients admitted during 1926; 8 suffered from mitral stenosis, 3 from mitral incompetence, and 2 from aortic regurgitation. One patient, a 3-para, aged 37, the subject of mitral stenosis, died ten days after her confinement from pulmonary embolism. Of the 38 patients 13 suffered from mitral stenosis, 12 from mitral regurgitation, and 6 from aortic regurgitation. Four patients (10.6 per cent.) died in the hospital. It is more than likely that in some of the patients tabulated as mitral regurgitation, stenosis was present as well.

As a contrast I will take the number of similar cases admitted into a general hospital—the Western Infirmary of Glasgow. Dr. R. A. Currie of that city has been good enough to send to me, with Professor T. Monro's permission, the number of patients admitted into Professor Monro's wards during the last ten years. The total number for that period is 27. Of these, 7 were cases of mitral stenosis, 7 of mitral regurgitation, 3 of aortic valvular disease, and 6 of auricular fibrillation. Three of the patients died, all of them from mitral stenosis and auricular fibrillation (11.1 per cent.).

There is a general feeling that, apart from myocardial failure, mitral stenosis is the cardiac lesion which gives rise to the greatest danger in pregnancy, both during and after parturition. In mitral stenosis there is the possibility of auricular fibrillation and its accompaniment—diminished heart output. H. R. Schmidt,[3] dealing with the subject of heart failure in pregnancy, reminds us that many patients are unconscious of the fact that they are the subjects of heart trouble until after parturition. Baisch examined 200 patients. He found that 50 per cent. of the women remained well, 45 per cent. suffered from failure of compensation, and that 5 per cent. died. Schmidt reported 38 cases of heart failure in 10,027 patients (0.38 per cent.): 5 of these died in hospital during the puerperium, and 5 within a year and a half after parturition. Of 12 patients with mitral stenosis, 6 died immediately after labour, the most serious cases being those with signs of myocardial degeneration, attended by irregularity of the pulse and stasis of the circulation. In heart disease and pregnancy we have to remember that the function of the heart is less deranged by the mechanical conditions incidental to pregnancy than by the consequences of decompensation—that is to say, failure of compensation where there is a valvular lesion. Failure of compensation may occur even in the early months of pregnancy and be the result of inability on the part of the heart to deal with the increasing volume of blood, so that in consequence of embarrassment of the organ the question of the advisability of terminating the pregnancy may have to be considered.

It is difficult to obtain statistics of large numbers, for, after all, the cases are comparatively few, varying from 0.38 per cent. in Schmidt's experience to 1.06 per cent. in G. A. Wagner's; and while we cannot but admit that heart disease in pregnancy is a serious complication, yet here again, as to its seriousness, reliable information is scanty. Wagner's cases numbered 80 in 8,000 pregnant women: 14 of these 80 women died directly or indirectly of heart lesions, but in 12 of these 18 women pregnancy had to be terminated as they were showing such signs of failure of cardiac compensation as cyanosis, dyspnoea, small radial pulse, tachycardia, and prostration. In many of the cardiac patients treated in the Princess Mary Maternity Hospital the second stage of labour has been rapidly gone through, sometimes occupying not more than five minutes, so that, owing to the comparatively rapid emptying of the uterus and the fall in the abdominal pressure, there is a rush of blood to the splanchnic vessels, with the possibility of fatal cardiac failure, such as has been known to occur shortly after surgical removal of a large ovarian cyst.

Heart Disease and Marriage.

Since heart disease may become a serious complication of pregnancy, we are occasionally consulted as to whether women who are its subjects should marry and thereby incur the risk of pregnancy, with its attendant dangers. There will always be a certain number of married women who do not become pregnant, but in the circumstances of a normal married life there is the possibility. Our experience is that while a cardiac patient may pass successfully through two or three pregnancies and be little the worse for the event, yet with each succeeding pregnancy the heart becomes less and less able to bear the strain—it dilates, and its musculature becomes less efficient. There is always the tendency, too, for the pulmonary circulation to become embarrassed, especially where the lesion affects the mitral orifice. When a single woman has already suffered from haemoptysis and dyspnoea, these circumstances of themselves should be a reason for the discouragement of marriage. Professor Peter of Paris was of the opinion, in view of the pulmonary complications which were likely to arise, that women with heart disease should not marry, but one of his contemporaries, Professor Jacoud, regarding the statement as too sweeping, maintained that at any rate many women could pass successfully through three pregnancies, including one or two miscarriages, without their health becoming seriously impaired. When, therefore, our advice is asked, we must carefully consider the condition of the heart, the presence or absence of dilatation of the organ, also the regularity and rapidity of its beat, the history of haemoptysis and dyspnoea, as well as the social and economic status of the patient and her prospects. Irregularity of the heart's action is one of the main dangers to pregnant women. It was the sudden death of a young expectant mother during parturition which led Sir James Mackenzie, when a general practitioner in Burnley, to study more assiduously diseases of the heart. The real danger of heart disease in pregnancy, he too thought, was not so much the existence of a particular valve lesion as the condition of the myocardium. Mackenzie regarded breathlessness and pain as indications of failure of the heart to respond effectively to effort, and he added that these are really not heart symptoms at all, but are produced outside the heart, in the lungs and nervous system.[4]

The Danger of Pregnancy to a Woman with Damaged Heart.

Apart from the effects of previous endocarditis caused by rheumatic fever, intracardiac conditions may arise during pregnancy which may render the organ incapable of carrying the patient through parturition and the puerperium. Although cardiac irregularity was the predominant feature in the Burnley patient just alluded to, it became clear to Mackenzie that there must be various types of irregularity, and that all are not equally dangerous. It is common knowledge that some women with irregularity of the heart's action can pass through the processes of parturition with apparently no ill effects, while in the case of others life is seriously endangered or suddenly brought to a close.

Recent advances in cardiology have confirmed the views, more than once expressed, that life is mainly threatened by myocardial conditions, and in these are included changes in the sino-auricular node, auriculo-ventricular node, and the bundle of His. Such secondary effects as pulmonary congestion and right-sided cardiac dilatation are also of importance. I need only briefly mention the two special nodes of tissue, the sino-auricular node close to the base of the auricles, also the auriculo-ventricular with the bundle of His running down in the myocardium and dividing into two branches, one for each of the ventricles. The impulse to rhythmic cardiac contraction originates in the tissue of the sino-auricular node, and is transmitted by the muscular fibre of the auricular walls to the auriculo-ventricular node, and therefrom by the bundle of His to the ventricular walls. The heart is supplied by branches of the vagus and the sympathetic system of nerves; branches of both of these reach the sino-auricular node, also the auriculo-ventricular, while the substance of the cardiac muscle is capable of originating beats of its own. When through disease the sino-auricular node ceases to function the auricles pass into a condition of fibrillation, but the ventricles still continue to beat at a rate and with a rhythm special to themselves. One of the results of alteration in the rhythmic discharge of impulses from myogenetic and cardiac nervous mechanisms is the occurrence of extra-systoles or of tachycardia. The

former may be traced to defaults in (1) auricles, (2) auriculo-ventricular node, or (3) the bundle of His and its branches. An extra-systole is but a single contraction due to the impulse which produces it being discharged earlier than those normally emerging from the sino-auricular node. On the other hand, what is meant by "heart-block" is an irregularity of rhythm due to some defect in the auriculo-ventricular node, or the bundle of His, whereby impulses from the sino-auricular node are not conveyed to the ventricles, and as a consequence the ventricles commence to beat spontaneously.

Cardiac Lesions Separately Considered.

The cardiac lesions met with in women are mostly mitral stenosis and regurgitation—especially the former. It is the effects and the associates of this lesion which obstetricians find play such a harmful part in the later months of pregnancy, also during the second stage of labour and afterwards. As the end of term approaches, the uterus has risen high up in the abdominal cavity, the movements of the diaphragm are impeded, for the midrib cannot contract so well as formerly, and as a consequence there occurs increased venous pressure towards the heart, with circulation stasis, attended by cyanosis and a degree of dyspnœa. The flow of blood through the right heart is delayed. In mitral stenosis in a non-pregnant woman there is usually dilatation of the left auricle and an overfilling of the pulmonary capillaries, followed by compensatory changes in the right heart. That such occur similarly in pregnant women is shown by the fairly free haemoptysis observed in many women prior to the onset of labour. When the breath is held in inspiration during the expulsive stage of labour, and the abdominal and uterine muscular contractions are strong, and when it almost seems as if the right heart could hardly empty itself, relief is brought to the overdistended organ by impulses carried centralwards by the vagus from the overfilled auricles through acceleration of the cardiac beat. The impulses referred to induce, as Bainbridge experimentally demonstrated, cardiac quickening, either by reducing the tone of the cardio-inhibitory mechanism, or by throwing the cardio-accelerator nerve centres into action. By means of this cardiac reflex there is not the least doubt that much maternal suffering and impending danger are averted.

A similar remark applies to mitral regurgitation. Instead of having, however, a small left ventricle, as in cases of uncomplicated mitral stenosis, this chamber is hypertrophied and dilated. The condition enables the heart to cope with the increased quantity of blood poured into it during diastole, so that in pregnancy, given a heart in which compensation is well established, the patient may pass fairly comfortably through the ordeal of parturition; but if, on the other hand, the mitral reflux is fairly free, there will be a degree of backward pressure towards the lungs with inefficient emptying of the right heart, so that the secondary effects come to resemble those met with in mitral stenosis.

In aortic regurgitation it is the left ventricle which claims our attention. Whatever may be the degree of blood pressure during quiescence before the onset of labour pains, the subsequent uterine contractions and those of the abdominal muscles induce a rise of the general arterial tension, and while Marey taught that increase of arterial pressure is followed by slowing of the pulse, this can hardly be said to be quite true of events occurring in the second stage of labour. As already mentioned, during the expulsive stage of labour the breathing is suspended in the inspiratory phase, and this, in conjunction with the muscular contractions, causes an increased flow of venous blood to the right heart. It is then that the Bainbridge reflex comes into play and, by accelerating the pulse rate, tends to maintain the output per beat of the left ventricle at its normal value. Nature has thus provided against serious overdistension of the heart by quickening the pulse and shortening the diastolic period. More and not less blood will thus be expelled from the left ventricle, and the circulation through the coronary arteries, which is the essential requirement, will be maintained. This is probably the explanation of how patients who are the subjects of aortic regurgitation pass through pregnancy and parturition with less risk than might be expected. In aortic incompetence the left ventricle is hypertrophied and dilated, so that the heart of a pregnant woman accommodates itself to the increased inflow and acts in accordance with Starling's "Law of the heart," whereby the energy set free by the cardiac muscular fibres when they contract varies in proportion to their muscular length. When, therefore, in aortic regurgitation with hypertrophied left ventricle the elongated muscular fibres contract they liberate more energy, there is greater endocardiac pressure, the aortic valves open earlier, the period of expulsion is probably lengthened, and the pulse quickened.

Time will not permit me now to deal with the development of heart affections after the menopause, yet probably related to child-bearing.

Treatment.

The treatment of the pregnant woman with heart disease resolves itself into treatment during pregnancy, parturition, and the lying-in period. If the cardiac lesion is well compensated, and there is no embarrassment of breathing—if, in a word, the patient differs in no respect from a healthy woman similarly circumstanced, then all that is necessary is to keep her under observation, diet her, regulate her exercise, and keep the emunctory organs in good condition. If the blood pressure remains in harmony with that of the average of healthy women, the chances are that the patient will pass through pregnancy and the puerperium without risk. The cases which make us anxious are those in which towards the end of pregnancy the pulse becomes rapid, feeble, flickering, or irregular, but even for such patients much can be done by keeping them in bed and giving digitalis in increasing doses if required. The first stage of labour, if not unduly prolonged, may not be more oppressive than in other patients, although the accoucheur must be on the lookout for signs of fatigue. It is the second stage which calls for careful attention on the part of the obstetrician, so that he may shorten it by the application of the forceps, if there are signs of fatigue or of cardiac failure; or if there is difficulty of breathing, that he may administer oxygen and give hypodermically strophanthin, digitaline, or strychnine, and on the expulsion of the placenta see that abdominal pressure with the hand is maintained. The anxiety of the accoucheur is considerably relieved once parturition has been successfully passed through, but, during the lying-in period, cardiac patients, particularly those with mitral stenosis, require watching for a week or two.

It is desirable that the women of the working classes, particularly those who are the subjects of heart disease, should, if they become pregnant, report themselves at an ante-natal clinic, and, before the end of term, enter a maternity hospital, where, under the supervision of a resident medical officer, eventualities of all kinds may be anticipated and dealt with. I can speak most encouragingly of the good results which have accrued from following out this recommendation. In a general way, even women who are believed to be healthy would benefit, where circumstances permit of it, by reporting themselves at an ante-natal clinic one month before the expected termination of their pregnancy. Where there is no clinic or maternity hospital close at hand a woman who is the subject of heart disease should certainly see her own doctor shortly after she believes herself to be pregnant, and obtain from him advice as to what her line of life should be, what she ought and what she ought not to do; for if her condition, cardiac and general, is such as to cause anxiety and is likely to be attended by risk to her own life, the doctor might, by keeping her at rest at home and treating her with heart tonics, help to carry her safely through her confinement; or—and this might often be better—arrange for her admission into a maternity hospital, where she would have the prescribed rest and medical attention. A pregnant woman with heart disease need not wait until "quickening" takes place before reporting herself to a doctor.

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An Address
ON
PROFESSIONAL REGRETS.*

BY
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I WAS asked some months ago to take part in a discussion on "Professional regrets," and agreed to do so. A fortnight ago I was rather staggered by a request from your secretary that I should open the discussion—a very different matter. I take it that my duty is to say a few words on each of a series of subjects that may be discussed by those who follow me, and to point out traps for the unwary. I hope that none of my remarks may give any offence. If they do I shall have added yet another to my professional regrets.

Pre-cancerous conditions or very early carcinoma of the uterus.

A case which caused me very great regret was the following:

A woman, aged 57, three years after the menopause, had had for about a year a good deal of vaginal discharge, with sometimes slight bleeding on douching. The vaginal mucous membrane was normal, the external os small, virginal. There was a small, raw-looking patch on the vaginal portion of the cervix. The body of the uterus was distinctly enlarged. I could not cause even the slightest oozing of blood. I wanted to explore the interior of the uterus, but she was a very busy woman, and begged to put it off. She promised to let her doctor know, and to submit to dilatation of the cervix and exploration of the interior of the uterus, if there was any return of bleeding. I heard nothing more of her for thirteen months, when she came back to me. She had quarrelled with her doctor soon after I saw her, and had seen no other doctor, in spite of having had practically continuous slight bleeding ever since I saw her. I found that she had extensive carcinoma of the body of the uterus. I regretted that I had not insisted on her having the interior of the uterus explored, even if it meant telling her that I feared malignant disease.

This was rather an exceptional case. I have generally found that, if a patient gives a definite promise that she will come back if symptoms recur, one can rely on her to do so, but there is always a danger of a patient changing her doctor and telling the new one nothing. I very much regretted that I had not been firmer with this patient.

Not examining under an anaesthetic.

If one does not feel reasonably certain about a patient's condition one ought to insist on an examination under an anaesthetic. This is almost axiomatic. In hospital practice examination under an anaesthetic is an everyday occurrence, and one has often had two or three examinations under anaesthetics at the end of a long operation list, but it is not always easy to insist on in private practice. It is specially important in any painful or acute abdominal trouble occurring during pregnancy when one is handicapped, not only by the tenderness, but by the presence of a large tumour. One ought to insist on an anaesthetic, and to say that one is so much handicapped that a definite opinion cannot be given without it. In one case in which I thought that the patient was suffering from red degeneration of a fibroid during pregnancy I foolishly agreed to a policy of "wait and see," as she was tremendously keen on having a living child and afraid that any interference, however slight, might bring the pregnancy to an end prematurely. I waited too long, and found eventually that the "tumour" which I had noticed was due to volvulus. Examination under an anaesthetic two days earlier would have shown that the tumour had no intimate connexion with the uterus, and would have led to immediate and probably successful abdominal section.

Another case in which I ought to have examined under an anaesthetic is worth quoting at some length.

In 1906 a patient, aged 31, came to me for advice about an abdominal tumour which had been diagnosed by her own doctor and by a well known gynaecologist as uterine fibroids. There were two large, hard, round swellings, one behind the uterus and the other on top of the lower one, reaching up to 1½ inches below the umbilicus. She had no symptoms of any sort. I agreed that the tumours were uterine fibroids, and told her that operation would probably be necessary later, but was not specially indicated at that time. In 1914, eight years after I had first seen her, she was seized with abdominal pain. I opened the abdomen, and found that each tumour was an extraordinarily large pyosalpinx, filled with a putty-like matter, infected with *B. coli communis*. The right one had just begun to leak. I left both ovaries and the uterus behind. She made a perfectly smooth recovery, and is in excellent health now, but I felt that I had let her run an absolutely unnecessary risk. A history of an illness at the age of 6 suggested that she had had tuberculous peritonitis, and that the tubal trouble was tuberculous in origin.

Not having the rectum and bladder emptied in a difficult case.

I think that regrets connected with full bladder and imperfectly emptied upper part of the rectum and sigmoid colon are probably associated with early days in practice, because most men learn then the dangers of the bladder-and-faecal-masses-trap and avoid them carefully afterwards. In the women's medical wards at the London Hospital there was for some years a rule that if a request note was sent to me to see a patient she must be given an enema at once, before I came, as otherwise I should probably say that I refused to give an opinion until this had been done. I was once just saved from opening the abdomen for what seemed to be the most perfect case of cornual pregnancy that I have ever seen. The rectum was empty when I saw her, but she was given an enema later because she was to have an operation. The doctor was so much struck by the aged appearance of a scybalous mass removed by the enema that he asked me to examine her again before she went to a nursing home. I did so and found a normal pregnancy. I was brought up to empty the bladder and to examine per rectum in every doubtful case, and this early training has saved me from many regretful occurrences, though once, to my shame, I opened the abdomen for a bladder which had been distended for at least a fortnight in a medical ward. I can only plead that I was very young at the time, but I was old enough to have known better, in spite of regular micturition. The value of routine rectal examination was well shown by one case in which I was asked to give an opinion. I examined the patient and said that she had two large hard faecal concretions in the rectum. I was then asked, "What about the uterine fibroids?" I said, "She has not got any." The retort was, "She is going to have abdominal hysterectomy for fibroids to-morrow." The upshot was that I removed the faecal concretions with a lithotomy scoop and she was allowed to keep her uterus.

Induction of premature labour.

Here again I may get myself disliked, but I cannot help it. I have been asked to talk about professional regrets, and I must be truthful, nothing extenuating nor setting down aught in malice. *The* essential after induction of premature labour is that nature should be interfered with as little as possible, any unnecessary intervention being likely to be dangerous to the life of the infant. Artificial rupture of the membranes, because the progress is slow, is a most dangerous procedure. The head is not meant to act as a dilator of the cervix—the bag of membranes is there for that purpose—and the head ought to be spared any unnecessary pressure. Delivery with the forceps three or four weeks before term, unless only by gentle coaxing, is a dangerous procedure, as an amount of compression that would do no harm to the fully ossified skull may cause fatal damage to the imperfectly protected brain, while moulding due to the natural forces, spread over a few hours, is unlikely to be harmful. If one does not know from experience that the patient's doctor in the country is a man with sufficient knowledge of midwifery to look on, to treat the labour with masterly inactivity—in other words, a man who realizes that patience is the most important quality in the make-up of an accoucheur—it is one's duty to insist on the management of the case oneself. Do not think that I often insist on this; on the other hand, I have never done so, but I have twice regretted it deeply, as the

* The opening paper in a discussion at the Chelsea Clinical Society.

baby was killed by unnecessary use of the forceps before the natural forces had been given a chance. What I regretted was that I had not rubbed in the virtues of patience—a difficult thing to do when dealing with a man who had probably attended more confinements than I had. I have sometimes regretted that I had not induced labour prematurely, but I have never regretted inducing it. I think that it is a method of immense value in the treatment of minor degrees of contraction of the pelvis.

Not giving sufficiently definite instructions as to treatment after operation in strange nursing homes.

Surgeons are sometimes accused of being fussy and disobliging because they are unwilling to perform severe operations in any nursing home which they do not know well. They ought not to be blamed for this, as it is usually done entirely in the interest of their patients. I have several times regretted that I had gone to a strange nursing home at the request of the patient or her doctor. In one case I performed Wertheim's hysterectomy for extensive carcinoma of the cervix in a very fat woman. We left her in a warm bed in a warm room at 10.30 a.m. with a good pulse, and the doctor, the anaesthetist, my assistant, and myself were all very well satisfied with our work and considered that the patient had at least a 20 to 1 chance. I was telephoned to soon after 2 p.m. and told that the patient had died suddenly. I went straight to the home and was told that the patient came round well from the anaesthetic, with a good colour and a good pulse, and that as she was rather restless and uncomfortable they propped her up in bed with four pillows. Directly after they had propped her up she died suddenly. Was this to be wondered at when she had just had a severe operation, and had been in the Trendelenburg position for about an hour and a quarter?

I was rung up a few hours after a hysterectomy during pregnancy, and told that the patient was very much collapsed and that they were very anxious about her. I was too far away to get there in time to do anything, so I asked about her position, and was told that she had two pillows. I said that they must be removed and the foot of the bed must be raised. A few hours later I was told that her condition was excellent. In any of the homes in which I am accustomed to operate the first patient would probably have lived and the second would have caused no anxiety, as common-sense after-treatment would have been looked on as a part of the nurse's duty, and I should have known that all the nurses were competent; but in these two cases I regretted that I had not given definite instructions, even at the risk of causing offence to an experienced nurse. In strange nursing homes I have sometimes regretted that I had not inspected the patient's room before the operation. If I had done so the patient would not have been taken from a warm theatre, on a cold day, to a room with a miserable fire and both door and windows open. One may find the patient before operation, clad in a Gamgee jacket and a dressing-gown, with thick stockings on and a blanket wrapped round her thighs and legs, enjoying the fresh cool air, but during the operation the bed and the room ought to be warmed thoroughly.

On another occasion my anaesthetist helped to take a patient back to bed, removed several hot-water bottles, and said that they were not to be replaced until she asked for them. I followed him up and repeated his instructions. When I inquired from her doctor a few days later about her progress he said, "She has done very well, but she has a horrible burn over almost the whole outer surface of her right upper arm and forearm." I said, "How on earth could she get burnt when both my anaesthetist and myself made certain that no hot-water bottle was in the bed?" He answered, "Oh, soon after we had all gone they put a hot-water *bed* under her!" Some people consider that a nurse is a nurse, and do not agree that there are nurses and nurses, and even in a fairly good home one may find on inquiring that a special nurse, an absolute stranger, has been engaged to look after the patient, arriving about an hour before the operation and allowed to act on her own responsibility. If this is found out in time very definite instructions indeed are given, feeling one's way so as not to give offence if the nurse is competent; but if it is not found out in time there may be many regrets. There is the very uncomfortable feeling that the patient has put herself in one's hands, and that one has let her down if all the arrangements are not perfect.

Not taking one's own anaesthetist and assistant to a difficult case.

I realize that I am treading here on rather dangerous ground, but feel that I ought to have the pluck to say something on this point. I wish to say first of all that among my general practitioner friends are some of the best anaesthetists and assistants with whom I have the privilege of working; but there are others! An anaesthetist is born, not made. I have had perfect anaesthetics given to my patients by newly qualified men of very small experience, and have laboured, toiled, and been filled with anxiety and dread as to the immediate and after results of anaesthetics given by men who have studied the matter deeply and done their utmost to improve their skill in the art of inducing anaesthesia. To insist on having one's own anaesthetist may require some moral courage, and may give offence, but it is one's duty to stand out for it if it be considered, from past experience, that the patient's safety is jeopardized. The difficulty of the operation, especially if it entails deep pelvic work, is enormously increased if the patient strains and coughs throughout, and the wear and tear to the operator is doubled or trebled if he has intestine shooting into the pelvis whenever he has a sharp instrument inside that cavity. Apart from the increased danger of the operation, the patient will suffer far more from vomiting, distension, and abdominal discomfort during the first few days, and will run risk of bronchitis. When I have been weak enough to accept a second-rate anaesthetist or assistant I have regretted it bitterly, because of the exhausting fatigue and anxiety caused to myself, even although my anxiety about the patient has been of short duration as I heard that she was doing very well. Team work produces the best results, and the operator ought not to have to worry about the anaesthetic, or about the asepsis of his assistant. To look up in the middle of a difficult job and see his assitant arranging, with his gloved hands, his spectacles and the mask through which he has been breathing for half an hour, adds greatly to the worries and anxieties. Unlike the art of inducing anaesthesia, an aseptic technique is never inborn, but has to be learned by experience and instruction. I think that some men who do not operate themselves are rather inclined to consider an operator to be fussy and neurotic if he expects an anaesthetic to be perfectly given, and that he ought not to take it as more than a "rub of the green" if gag, tongue forceps, and throat swabs are used throughout, with artificial respiration only at infrequent intervals. This sort of anaesthetic would not matter much if a toe was being amputated; it is not only disconcerting but really desperately dangerous in abdominal and pelvic surgery. I have not really had much to complain of recently, as most men are very sensible on these points, but I have had some regrets in the past.

Not reopening the abdomen soon enough when symptoms of intestinal obstruction come on a few days after an abdominal operation.

Intestinal obstruction is not as common after gynaecological operations as it was formerly, because an attempt is always made to cover up with peritoneum any raw surface or stump and to prevent any oozing after operation, but in some cases, particularly old pyosalpinx cases, it is difficult to find any peritoneum loose enough to be sutured over a raw surface. I can remember five cases of intestinal obstruction after operation. The first was after myomectomy from the posterior surface of the uterus. Practically the only symptom of which the patient complained was pain. As she was having a monthly period, and always had severe dysmenorrhoea, I was deceived, and delayed opening the abdomen for too long, and she died

soon after the second operation, in which a coil of small intestine was freed from an adhesion to the suture on the uterus. Delay is most dangerous, if not fatal, in such a case. The surgeon has a natural objection to reopening the abdomen, and is tempted to delay and hope for the best, but the proper treatment is to harden one's heart and explore as soon as suspicions are aroused. The other four cases—in three of which I had performed the first operation myself, while in the fourth the first operation had been performed by one of my colleagues—were ovariotomy, pyosalpinx with terrible adhesions, pyosalpinx, and severe bleeding from an ovary. Profiting by my experience in the first case I lost no time in operating on these four, and they all recovered. I have never ceased to regret that I had not sufficient common sense to explore the abdomen of the first patient as soon as she looked ill and complained of pain, as, if I had done so, she would almost certainly have lived, as the adhesion was easily dealt with.

Not strapping the abdomen when a patient has a cough during the first fortnight or so after an operation.

I have regretted bitterly that I had not reinforced the stitches, or the recently united tissues after removal of stitches, by carefully applied strapping, when a patient has developed a cough after an operation. If the cough is violent the abdomen is strapped almost as a matter of routine, but it is important to remember that a patient who has a mild, fairly harmless cough may cough violently once or twice when she wakes up after several hours' sleep and finds some tenacious mucus in her throat, difficult to dislodge. I can only remember two cases in private practice in which patients have burst the wound open by coughing. I ought to have strapped the wound in both, and have regretted ever since that I did not do so. One patient died a fortnight later, the other recovered.

There are some cases in which I have had *no regrets*. In some of these I have told a patient that in my opinion no operation was necessary, and have later heard that she went on to someone else, who sent her into a nursing home immediately and operated the next morning. I find that I spend a good deal of my time in advising patients to avoid operations. Some of them are exceedingly grateful, but some go straight to another man. One case in which I was given most fulsome thanks may be worth a detailed account as showing how difficult it is to prophesy what a patient will do.

A man, whom we will call Mr. H., rang me up on the telephone and said, "What would you charge to operate on my wife?" I naturally said, "What is the matter with her?" He answered, "It is the womb." I said, "I am afraid that I cannot give an opinion without seeing your wife." He replied that he thought that I would be able to suggest a fee without seeing her, so I said, "If you telephoned to a bootmaker and asked how much he would charge to mend your boots, would he not say, 'Let me see your boots?'" "Doctor, there is something in what you say; I will bring my wife to-morrow." I examined her, a multipara of 54, some years after the menopause, with a very loose abdominal wall, backache, and dragging sensation, with several small fibroids and retroversion of the uterus. She had seen many gynaecologists in Germany, some of whom had advised operation while others had advised against it. The patient said that she wished to avoid an operation. I suggested that an abdominal belt might give her a great deal of comfort, and she said that she had had one which had done her a lot of good, but it was worn out. The husband said, "Doctor, you are a British sport. Before the war I used to say, 'Go to the Continent for an opinion,' but since the war I say, 'No, stick to your own men!' No one has asked the questions that you have asked, no one has taken so much trouble, no one has suggested a belt. Doctor, I thank you, you are a British sport; we will go and get a belt." Two days later I met a medical friend who said, "You remember Mrs. H.?" I said, "Yes, she's going to try an abdominal belt." He said "No; she went on from you to Y, and then to Z, who put her straight into a nursing home and operated on her yesterday morning!"

TREATMENT OF ENCEPHALITIS LETHARGICA BY THE REMOVAL OF POSSIBLE ETIOLOGICAL FACTORS.

BY

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PART 1, BY A. L. YATES.

SOME four years ago I began an investigation of the nasal ciliary mechanism, and found that the ciliated epithelium formed definite tracks which functioned in a backward direction so that mucus rolled over any particles introduced within the nose, and conveyed them backwards into the nasopharynx along certain definite paths.[1] This led to a further investigation of the ciliary and secretive mechanism, and the nasal mucous membrane in inflammatory states, and it was found that four groups of conditions could be observed—namely:

1. Those in which mucous secretion was excessive and the cilia active.
2. Those in which mucous secretion and the cilia remained active, and to the mucus was added serum and leucocytes, forming yellow muco-pus. In neither of these conditions was there any alteration in the staining power of the mucus, nor could the micro-organisms which were visible microscopically in the mucus be cultivated.
3. A condition in which the mucus became altered, apparently as a result of the action of the bacterial ferments, so that the mucus stained with aniline dyes, such as indigo-carmine. In this group cases were met with where the cilia were more than normally active, and where the mucus was conveyed backwards into the nasopharynx, causing in and around its path a chronic inflammation of the mucous membrane, and thus producing laryngitis, tracheitis, and oesophagitis. In another group of cases the cilia were less than normally active, and the altered mucus remained in the sinuses and in the nose. In Types 1, 2, and 3 an anterior nasal discharge appeared when mucus or muco-pus was greater in amount than the cilia could convey away into the nasopharynx.
4. In this group I found cases in which the cilia and mucous secretion were paralysed, so that the organisms which can often be obtained in pure culture from the interior of the sinus were present in a brownish watery solution containing the remains of leucocytes—that is to say, of water-soluble pus.

Certain cases in Group 4 showed the presence of toxic absorption and suffered from various complaints, such as periarticular rheumatism, neuritis, neurasthenia, skin complaints, and similar conditions. Other cases in this group showed no such signs of toxic absorption.

In order to determine the reason why some of the cases in this group had toxic absorption and others not, a solution of 0.4 per cent. indigo-carmine or 0.01 per cent. phenol-sulphonephthalein was placed in the sinus. In the cases which showed signs of toxic absorption of nasal origin this dye appeared in the urine in from ten to fifteen minutes. In cases without toxic absorption, or in cases in which the sinuses were all relatively normal, or if swallowed, the dye did not appear in the urine.

Toxic absorption from the mucous membrane would therefore appear to be prevented in the early stages of inflammation by mucous secretion, and in the late stages by deposit of fibrous tissue.

The Nasal Condition in Encephalitis Lethargica.

Various writers on encephalitis lethargica have drawn attention to the presence of nasal and buccal discharge in practically all cases, and I found paralysis of the cilia and mucous secretion in fully developed cases in the posterior portion of the nose—that is to say, in the ethmoidal recess, the posterior ethmoidal sinuses, or the sphenoidal sinus—and that such inflammation tended to spread both forwards to the mucous membrane of the nose

and downwards to the mouth, causing an excess of mucous secretion in both these situations.[3] The dye, if it could be placed in the affected area, appeared in the urine in about fifteen minutes.

This condition could be brought about either by a single acute nasal infection of the type known colloquially as influenza, in which it could be demonstrated that the mucous membrane of the nose passes in a few days, or even hours, from the normal to a condition of paralysis of the cilia and mucous secretion with toxic absorption, or by a chronic inflammation producing a like result in months or years. Cases of encephalitis lethargica give a history which will correspond either with an acute attack of influenza or a chronic type of nasal infection, but due regard is to be paid to the fact that both influenza and chronic rhinitis are very common conditions.

Dr. Stanley Barnes[3] made the suggestion that it was this permeability of the nasal mucous membrane which permitted the virus of encephalitis lethargica to enter the tissues and to reach the nervous system, probably by the perineural lymphatics. A critical review of this work appears in the *Bulletin of Hygiene*.[4]

Treatment of the Nasal Condition in Encephalitis Lethargica.

It was clear that if this hypothesis was correct any treatment which diminished the permeability of the mucous membrane to toxins would have the effect of diminishing the absorption of the virus of encephalitis lethargica into the tissues, but that it would have no effect upon any areas in the brain already destroyed by the virus, and therefore that the most that could be expected as a result of such treatment would be that in chronic cases recrudescences of the disease could be prevented, and in acute cases at best the damage to the brain could be limited to such areas of damage as had been total and had occurred before sinus treatment was adopted.

Method.

The nasal mucous membrane having been anaesthetized by spraying with 5 per cent. cocaine in 1 in 1,000 adrenaline, a cannula of a diameter of a millimetre or less and suitably curved is, under direct vision, passed over the middle turbinate and thus to the front of the sphenoidal sinus. On rotating the cannula gently the end can be felt to slip into the sphenoidal sinus; a syringe is then attached and by suction some of the contents withdrawn for cultivation. The sinus is then thoroughly washed out with saline. The posterior ethmoidal sinus can also in some cases be reached. In a certain number of cases even with full cocainization it is not possible to pass a cannula between the middle turbinate and the septum; it is then necessary to pass the cannula beneath the middle turbinate and thus reach the spheno-ethmoidal recess. By this route the sphenoidal sinus can occasionally be reached, but this is not generally the case.

Treatment consists of giving a vaccine in increasing doses and washing out the sinuses again if the patient ceases to improve. Improvement on washing out the sinuses is often marked, generally after a few days, but the patients tend to relapse, and on the average the washing out must be repeated every month or six weeks. In addition to the above the patient uses a douche consisting of menthol 2 grains, eucalyptol 20 minims, and liquid paraffin to 4 ounces. A medicine dropper full is injected into each nostril three times a day while lying on the back with the head thrown well back.

Relative Value of Various Treatments Used.

It is difficult to arrive at a conclusion as to whether the washing out of the sinuses or the use of vaccines produces the greater effect, but many patients have stated that the most marked improvement has followed the washing out. It appears to be doubtful whether an autogenous vaccine produces more effect than simple protein shock, but an autogenous vaccine has been given in all patients who were the subject of this investigation. In those who gave a history of chronic and intense rhinitis for some years bacteriological examination showed either the bacillus of Friedländer or the pneumococcus; in those in which encephalitis lethargica followed an acute or influenzal rhinitis the *Staphylococcus aureus* alone or together with the pneumococcus was generally found.

The postural deformity of encephalitis lethargica has apparently some bearing on the course of the more chronic forms of the disease, for patients in whom the postural deformity is not dealt with by remedial exercises appear to reach a stage in which, although the mental symptoms, etc., have ceased, the patient still has a Parkinsonian gait and posture.

For a year all patients have been taught exercises, which they do in their own homes, or, in the more severe cases, under the guidance of a masseuse; these exercises have effected a marked improvement in their condition, both in preventing the ready fatigue from which these patients suffer, and in enabling them to get rid of the difficulty in balancing which is such a marked feature in many, so much so that it has seemed that in the patients in whom imbalance was most marked the faulty position of the labyrinth relative to the remainder of the body was a factor in the production of symptoms. The exercises, in addition, train to the highest point of efficiency such nervous structures as remain undamaged, and thus reduce the deformity caused by a deficient action of the areas of the brain which have been destroyed.

PART II, BY G. EDEN.

The diagnosis of many cases of epidemic encephalitis in the acute stage is often very difficult, and in the less severe cases of a chronic nature must be a matter of opinion, as, up to the present, we have no means of absolute proof of the correctness of the diagnosis. But there can be little doubt in those cases in which Parkinsonian symptoms develop, either after an acute febrile illness with gross disturbance of sleep, paresis of an ocular muscle, diplopia, or loss of accommodation and retention of the light reflex.

Though the Parkinsonian form of encephalitis lethargica is the most liable to be progressive and the most resistant to treatment, our description of the results of washing out the sinuses in the chronic cases has been limited to cases of this type. One advantage of this limitation is that almost all the patients had previously had several, if not all, of the many treatments usually advocated for the sequelae of encephalitis—for example, tonics, belladonna, massage, hyoscine, protein shock, etc. The only essential difference in our treatment has been the washing out of the sinuses, and the regular use of nasal antiseptics, but the majority had weekly doses of an autogenous vaccine prepared from the organisms found in the sinuses. The washing out was repeated in many cases, a return of drowsiness, headache, and apathy being the usual indications.

Striking and immediate improvements were often observed as a result of the first washing out, and patients generally volunteered the statement that the washing out of the sinuses caused greater improvements than the use of vaccines. The fact that almost any new treatment for encephalitis often produces a short temporary improvement has not been lost sight of, and the writing of this paper has been delayed until the effects of washing out the sinuses had been observed for a period of at least three months in any one case; in the majority of instances cases have been observed for over a year after treatment was begun.

It is not claimed that this is a cure, but it appears to us to be a remedial measure of great value in association with drug treatment; where drugs alone have been useless, a washing out, followed by the same drugs, often produced a good effect.

The frequency with which patients relapse, and the fact that these relapses are improved or prevented by one or more washings out, suggests that the absorption of toxins is interfered with, and to a great extent prevented, by disinfection of the nasal mucous membrane. The usual results of washing out the sinuses has been almost immediate improvement in the patients' symptoms. They feel brighter, find themselves capable of doing more for themselves in their homes, become less rigid, and the face becomes less mask-like. There has seldom been any marked improvement in the mental condition of the chronic cases.

The following are typical of the results obtained in many chronic cases.

Case 1.—A woman, aged 23; an extreme case with well marked Parkinsonian symptoms. Two years earlier she had had an acute illness with great drowsiness, and diplopia followed by rigidity of all limbs. A year ago she was considered a hopeless case by several competent authorities; for six months she had been unable to feed herself, and for over a year had not been out of bed.

Four days after a washing out she was able to feed herself slowly and with difficulty, and three weeks later she walked out of hospital. Her expression was less wooden, though all muscles were still spastic.

Case 2.—A woman, aged 19, with a history of acute febrile illness eighteen months earlier, with extreme insomnia, sialorrhœa, and marked alteration in character. She had a well marked Parkinsonian mask. All movements were slow and stiffly performed. She improved in all respects after the sinuses were washed out. She regained normal sleep, salivation decreased, and her expression was less wooden.

Case 3.—A woman, aged 23, who two years and nine months earlier had an acute illness; she was unconscious for twelve weeks. When first seen she had much salivation, was very lethargic, had a mask-like appearance, and was said to have violent fits of temper. She was discharged from hospital after a washing out; a month later she was much improved in appearance, both mentally and physically. Her bad temper became less obvious, the salivation was cured, and her whole outlook on life seemed altered.

Case 4.—A woman aged 23. A very advanced case dating back two years. It would be difficult to imagine greater rigidity of all muscles. She was unable to stand or to feed herself and could hardly speak. She had seen twenty-eight medical men before she came to us. A washing out caused a rapid and definite change in her condition. Four months after discharge from hospital she could walk two miles a day—doing the distance in less than an hour—could feed herself, and read aloud for an hour at a time.

Case 5.—A male, aged 24, in March, 1923, had an acute febrile illness lasting three weeks, with severe insomnia, diplopia, and delirium; no diagnosis was made at that time. Seen in August, 1925, he had a definite Parkinsonian mask, and some rigidity of the right arm. His brother stated that he had altered in character very considerably. After the first washing out he expressed himself as feeling much better. Concentration, which had been much impaired, began to return, the face became less mask-like, and the arm less rigid. In October, 1925, he stated that he was free from symptoms and that mental power had been completely regained; he returned to research work of a very intricate nature.

Case 6.—A woman, aged 32, gave a history of eighteen months' illness, starting with fever, diplopia, and drowsiness. She had the Parkinsonian mask, left ptosis, marked tremor of the right hand and arm, which were useless for all practical purposes. After a washing out she was discharged; a month later she was much improved, the tremor had almost ceased, the grip was good, and her expression was brighter.

In addition to these cases one patient recovered to a great extent, but had a severe relapse six months after discontinuing treatment. Another patient of feeble physique and in a very advanced state made no appreciable progress. Five out-patients, all of whom are improving, are unanimous in ascribing the change to the washing out, and are most emphatic on this point.

We have also had many patients under similar treatment suffering from the cardinal symptoms of encephalitis with the exception of a mask, but the absence of this renders the diagnosis incapable of proof. For the most part they have been less advanced cases, and the improvement after washing out has been considerably more marked than that which has occurred in the majority of patients described above.

We have had little opportunity of treating cases in the acute stage, and none of them has developed a mask.

Acute Cases.

1. A woman, aged 34, was sent to hospital as a case of encephalitis with a four weeks' history of extreme drowsiness and diplopia. She was washed out twice; when seen six months later she said she felt perfectly well, and was bright and cheerful in appearance. She had no tremors, mask, or spasticity of limbs, and vision was normal, but she owned to being more irritable than before her illness.

2. A woman, aged 20, gave a history of three weeks of pyrexia and sleeping "nearly all the time." There were no other symptoms, but she was sent to hospital as a case of encephalitis in the midst of an epidemic. She was discharged ten days later, after a washing out, and is now back at her work, apparently completely cured.

3. A man, aged 35, was admitted with six days' history of unexplained fever, severe insomnia, tremor and spasticity of hands, and feet in position of tetany, fixed expression, and irrational speech. Two days after a washing out the temperature fell to normal, his mind became clearer, and the limbs which had been spastic became looser. The expression returned to his face, and he was able to get up two weeks after admission.

The total number of cases treated has been 64, and of these 45 have had a Parkinsonian mask.

CONCLUSIONS.

1. It is suggested that the infection in encephalitis lethargica is a symbiotic process, that in the first place the nasal mucous membrane is damaged by one of the catarrhal group of organisms, and that subsequently the virus of encephalitis is inhaled, passes through the damaged mucous membrane, and thus enters the tissues, reaching the brain possibly by the perineural lymphatics.

2. In support of this there is a fair amount of evidence that for the transmission of the disease from one individual to another the virus of encephalitis lethargica must fall on mucous membrane previously altered by inflammation of such a character that its power of absorption of fluids in contact with it is greatly increased.

3. The initial damage to the nasal mucous membrane is generally remediable by treatment, and if remedied it would appear that the virus of encephalitis cannot pass into the tissues, and patients become more susceptible to treatment by drugs.

4. Nasal treatment aims, not at curing encephalitis lethargica, but at preventing admission of fresh virus into the tissues.

5. In those cases where actual destruction has occurred in the central nervous system (a system in which regeneration is impossible) the most that can be claimed for washing out the nasal sinuses is that further irreparable damage is hindered, and in many cases appears to be prevented.

6. The Parkinsonian gait and posture is rarely completely removed without the use of remedial exercises.

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APPARENTLY COMPLETE RECOVERY FROM ENCEPHALITIS LETHARGICA OF THE BULBAR TYPE.

BY

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NOTWITHSTANDING the large number of cases on record, knowledge of encephalitis lethargica is too recent to permit neglect of any clinical material which might serve to illustrate points of diagnostic or prognostic importance. The following case, which was of a very severe type, recovered without any special treatment, and will be found to present some interesting features.

A man, aged 33, was admitted to the Eastern Hospital, London, on April 3rd, 1926. There was a history of two days' illness, which was suddenly ushered in by severe headache with nocturnal delirium. Vomiting and constipation were also complained of, and his medical attendant regarded the case as one of influenza. His condition on admission was as follows. Tongue lightly coated; fauces conges[illegible] of mucus in the pharynx; left side of the f[illegible] ntracted, but no strabismus. He could answ[illegible] but cerebration was delayed. No pain was [illegible] had some difficulty in deglutition. The knee-jerk was exaggerated on the right side, and right ankle clonus could be elicited. Babinski's and Kernig's signs were not present. Examination of the heart and lungs revealed nothing abnormal. The bladder was distended, and 38 ounces of urine were drawn off by catheter. The temperature was normal. The symptoms became more marked the next day, with ptosis, inability to swallow, stertorous breathing, and complete unconsciousness. The cerebro-spinal fluid was under slightly raised pressure. The optic discs were pale and sharply defined. Nasal feeding was resorted to. By 10 p.m. the patient appeared to be *in extremis*. Rectal saline with 4 per cent glucose was ordered.

Throughout the night the patient's condition remained so grave that recovery seemed to be out of the question. He began to improve the next day (April 5th); he became partially conscious, and was able to protrude the tongue, though not to speak. There was incontinence of both urine and faeces. The Parkinsonian facies was very obvious, and the arms were crossed on the chest and paralysed, the right completely; temperature 99.8°. Fibrillary twitching in the muscles of both legs and pharyngeal paresis developed later in the day, followed by an epileptiform seizure of ten minutes' duration.

The next day (April 6th), when ankle clonus was elicited on both sides, clonus was sustained for some seconds on the left side after removal of the stimulus. The temperature was 100.6°. Progress was uninterrupted and rapid, till by April 12th all paralyses had passed off. He had apparently made a complete recovery, and was discharged on May 20th.

The diagnosis of the case presented considerable difficulty at the outset. A consulting neurologist, who saw the

patient on April 4th, inclined to the view that tuberculous meningitis might be a probable explanation of the symptoms, though he had in mind the possibility of lethargic encephalitis. In the light of the subsequent history of the case he fully concurred with the ultimate diagnosis. The prognosis in the early stages of the disease was considered to be hopeless by a number of medical men who saw the patient.

As almost every feature which previous observers have regarded as of grave import was present in this case, the patient's complete recovery must be deemed remarkable. The sudden and severe onset indicated an unfavourable prognosis, as H. F. Smith found a mortality rate of 60 per cent. in cases with sudden onset. The severity of the general symptoms was also of unfavourable omen, as, from a study of the official records of the Ministry of Health, Parsons concluded that cases with marked general symptoms were more fatal than those in which the local symptoms were more prominent. Hall states that sudden death is not uncommon in cases, such as the foregoing, where bulbar symptoms were a prominent feature. Edwin Bramwell has emphasized the gravity of the prognosis in cases where previously deepening lethargy was accompanied by such symptoms as a rising temperature, profuse sweating, and incontinence; sweating, however, was not noticed in the case here recorded. Most observers agree that a severe attack is not necessarily followed by residua, and up to the present none have manifested themselves in this case. In view of the frequency with which cases are recorded as illustrative of the beneficial action of some particular remedial measure, it is significant to observe that a case of the gravest type may recover without any special treatment.

I am indebted to Dr. J. Wilkins, medical superintendent of the Eastern Hospital, for permission to publish this note, and to Dr. G. W. Ronaldson for directing my attention to the literature of lethargic encephalitis.

THE EXPERIMENTAL PRODUCTION OF STONE IN THE BLADDER.*

BY

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THE EXPERIMENT.

EARLY in 1926 young rats to the number of 120—66 females and 54 males—aged between 60 and 90 days, were fed on a diet consisting of tinned Scotch oatmeal 636 grams, linseed meal 240 grams, tinned cornflour 300 grams, sodium chloride 12 grams, calcium phosphate 12 grams, and distilled water 450 c.cm. The ingredients were mixed together and made into cakes by baking in a slow oven. The animals were given as much of this diet as they cared to eat. Distilled water was provided for drinking purposes. One half of them (33 females and 27 males) were given iodine in the drinking water, in the proportion of 0.1 mg. to the litre; the other half were given no iodine in the drinking water. The presence or absence of iodine in the water made no difference to the results in so far as stone in the bladder was concerned.

During the course of the experiment it was observed that the diet was very faulty: the young rats failed to grow normally, cannibalism was frequent, and the animals suffered from a variety of diseases, of which one was urolithiasis, another a severe anaemia resembling "pernicious anaemia" in the human subject. When the experiment had been in progress for one month 16 rats were killed by chloroform and subjected to *post-mortem* examination; similarly, 16 were killed and examined at fortnightly intervals up to the end of the eighth week. Stone in the bladder was not found in any of them. The experiment was then carried to the death of the remaining 72 animals, the last rat dying on the 157th day. Complete *post-mortem* examination was made in each case immediately after death. The present note deals with those animals found at *post-mortem* examination to have been suffering from stone in the bladder.

The chemical composition of the diet is given in the following table.

Table showing the Composition of the Diet used in the Experiment.

Constituent.	Percentage	
	Expressed on Original Sample.	Expressed on Moisture-free Sample.
Moisture	20.50	—
Mineral matter	5.73	7.20
Ether extractives	10.45	13.14
Crude protein	9.705	12.26
Crude fibre	1.05	1.32
Carbohydrates	52.555	66 08
Total	100.00	100.00
Albuminoids...	9.36	11.77
Insoluble mineral matter	0.37	0.465
Soluble mineral matter	5.36	6.735
Total	5.73	7.20
Soluble silica	0.0363	0.0456
Phosphoric acid (P_2O_5)	1.451	1.82
Iron oxide (Fe_2O_3)	0.046	0.058
Alumina (Al_2O_3)	0.366	0.462
Mangano-manganic oxide (Mn_3O_4)	0.0014	0.00176
Lime (CaO)	1.08	1.38
Magnesia (MgO)	1.05	1.32
Potash (K_2O)	0.21	0.264
Sulphuric acid (SO_3)	0.19	0.23
Chlorine	0.396	0.49
Soda and undetermined (by difference) ...	0.533	0.664
Total	5.36	6.735

The table shows that the protein content of the diet was relatively low; the absence from it of protein of animal origin (milk) was a serious fault. The oatmeal contributed approximately 5.67 per cent. of the total protein, the linseed meal 5.21 per cent., and the cornflour 1.37 per cent. A further fault was deficiency of vitamin A. The sole source of this factor was the oatmeal and the linseed, the amount provided by the cornflour being negligible. All seeds are deficient in vitamin A to a greater or lesser extent; in comparison with others, oats is relatively poor in vitamin A, linseed relatively rich in it. The experimental diet, therefore, though not devoid of vitamin A, did not contain a sufficiency of this factor; the failure of the animals to grow normally and their susceptibility to various infections were due in part to this cause. The diet was not deficient in vitamin B, nor did it appear to be deficient in vitamin E, but it was, no doubt, deficient in vitamin D, although the animals presented no clinical signs of rickets. A further fault in the experimental diet was its richness in phosphates, and in lime, magnesia, and chloride; it contained approximately twice as much phosphorus (P_2O_5), three times as much calcium (CaO), and six times as much magnesium (MgO) as is present in the average well balanced human dietary. To these faults there was possibly added a toxic action of the diet itself on the urinary tract.

* An abstract, published by permission of the Director-General Indian Medical Service, of a paper which will appear in full, with additional illustrations, in an early issue of the *Indian Journal of Medical Research*.

RESULTS OF THE EXPERIMENT.

Of the 72 animals fed on this diet for longer than fifty-six days, 21 were found at *post-mortem* examination to have stone in the bladder—17 females and 4 males; a case incidence of 29 per cent. The incidence of the disease varied in the two sexes, being 40 per cent. in females and 13 per cent. in males. In two other cases in females an intense cystitis, but no stone, was present; in one of these there was some earthy incrustation around the neck of the bladder. Haemorrhage from the bladder was occasionally observed during life. In males protrusion of the penis was a constant symptom in those suffering from stone.

In 18 cases in which stone was found, a greater or lesser degree of cystitis was present; in these the bladder was

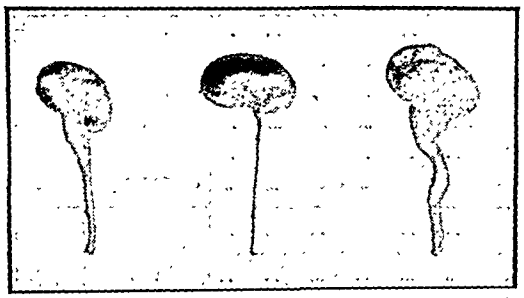


FIG. 1.—Kidneys, with ureters, from two cases of experimentally produced stone in the bladder in rats. The middle kidney (with ureter) is from a healthy control animal.

usually greatly distended and congested. In 3 cases there was no cystitis, showing that the deposition of the phosphatic calculi was not secondary to inflammation of the bladder. In 8 cases the left ureter was much dilated with associated pyonephrosis or hydronephrosis (the fluid was not examined for pyogenic organisms). The photograph (Fig. 1) shows the ureters in two affected animals and that of a control animal for comparison. Earthy deposits, but no formed stones, were present in the kidney in 4 cases. The stones in the bladder were either single or multiple, as many as five being found in one bladder (see Fig. 2); they were of a dirty white colour and their surfaces were rough and jagged. Occasionally formed stones were not found, or if

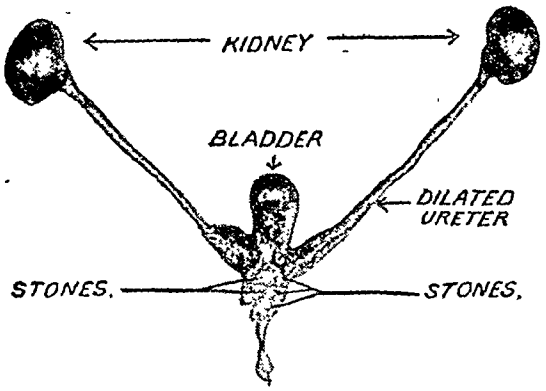


FIG. 2.—Experimental production of stone in the bladder in rats. The diet was the same as that described in the text, except that whole wheat flour was substituted for the oatmeal. Each ureter also held a small stone; there were five in the neck of the bladder.

found were so minute as to be more properly called "gravel." Earthy incrustations around the neck of the bladder were sometimes present. The stone, stones, or gravel varied in weight in individual cases from 17 mg. to 27 mg. in males, and from 8 to 42.6 mg. in females. The largest single stone weighed 35 mg.; a stone of proportionate size in man would have weighed about one pound. Chemical examination showed the calculi to consist mainly of earthy phosphates (calcium and magnesium) along with traces of calcium oxalate. Stone was found only in animals which died between the 84th and the 157th day of experiment; the diet did not appear to cause the disease until after fifty-six days of its use.

During the 157 days this experiment lasted 340 *post-mortem* examinations were made in rats which had been fed in various other ways. In none of these was stone in the bladder present. The stock diet in use in my laboratory does not give rise to calculus in rats; it consists of whole wheat chapatties, milk, butter, sprouted pulses, green vegetables, raw tubers, fresh meat in small quantities once a week, and water. Nor do synthetic diets deficient in vitamin B, but complete in other respects, cause stone in the bladder in rats; nor diets whose sole fault is deficiency of suitable protein or of suitable salts; nor synthetic diets whose sole source of vitamin A is 8 per cent. of pure Lucca oil. It seems, therefore, that the diet used in the present experiment was productive of calculus because of the peculiar combination of its faults—deficiency of vitamin A, absence of animal protein, richness in earthy phosphates, with possibly a toxic action of the ill-balanced diet itself on the urinary tract. This tentative interpretation of the results observed is to be considered in connexion with the recently reported observation of Fujimaki (1926) that stone in the bladder and kidney can be produced in rats by feeding them for long periods on synthetic diets deficient in vitamin A. The experimental production of stone in the bladder by means of an ill-balanced diet composed of foods in common use by man would appear to confirm and to extend the observation of Fujimaki, although it raises other considerations which require further investigation for their elucidation.

CONCLUSIONS.

1. Stone in the bladder has been produced in rats by means of an ill-balanced diet composed of foods commonly used by man. The stones were of the phosphatic variety.

2. The main faults of this diet were: (*a*) absence of protein of animal origin; (*b*) deficiency of vitamin A; and (*c*) excess of earthy phosphates. To these faults there may possibly have been added a toxic action of the diet itself on the urinary tract.

REFERENCE.
Fujimaki (1926): *Japan Medical World*, February 15th, vi, 2.

ACTINOMYCOSIS IN THE BRAIN OF A CHILD.

BY
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AND
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ACTINOMYCOSIS is sufficiently rare to warrant a record of the following case in a child, aged 11, in which the brain was affected.

Actinomycosis, first reported by Bollinger in bovines in 1877,[1] and in man by Israel in 1878,[2] and by Porfick in 1879, is rather rare, and this appears to be the only instance of its occurrence in the brain of a child. Records of English cases appear to be limited to that described very fully by Delépine in 1889[3]; the patient was a decorator, 65 years of age.

Moersch in 1922[4] reported from the Mayo Clinic seven cases affecting the brain, all of which were secondary infections, the youngest being aged 20 and the oldest 41.

In the United States Sanford and Voelker collected (1925) 670 cases.[5] Among 574 in which the ages are known, there were 14 under 10, and 89 between 10 and 20. Of 588 cases where the location was known, there were only 9 in which the brain was affected: of these the youngest was 24 years of age, and the oldest 63.

A boy, born on January 15th, 1915, was admitted to the Booth Hall Infirmary for Children, Manchester, on September 27th, 1926. The history was that he had been quite well until March, 1925. He then complained of pain in the right side, and had twitching of the right arm and leg, of which he also lost the use. Later on he complained of headache and vomiting, and was admitted to the medical side of the Manchester Royal Infirmary, being transferred to the surgical side on July 26th, 1926, as a case of left cerebral tumour with increased intracranial tension. He then had left-sided headache, and the right arm showed flaccid paralysis. Vomiting, unaccompanied by nausea, was present. Sensation was unimpaired, but there was bilateral optic neuritis.

Operation.—On July 28th Mr. C. Roberts, F.R.C.S., performed left parietal decompression; considerable bulging of the brain was noticed when the dura was opened, but no localized tumour could be detected, and when the wound healed there was still bulging.

After-History.—On admission to Booth Hall Infirmary there was a large swelling over the left parietal area—4 inches by 2 inches; the skin in one part was broken down, and there was a purulent discharge. The right foot was in the position of talipes equino-varus. The wrists were hyperflexed, but could be extended voluntarily. The oculist reported slight blurring only of the disc edges; the vessels were not engorged. The Wassermann test was negative, and general examination, including x-ray examination of the thorax, did not afford any evidence indicative of tuberculosis. The diagnosis was cerebral tumour, not syphilitic, and probably not tuberculous. The child remained comfortable, and gained 2 lb. in weight until the second week in November, when he was reported as not so well; there was oozing of cerebro-spinal fluid and oedema of feet and scrotum. Albumin, half a gram to the litre, was present in the urine. Diarrhoea commenced a week later, and vomiting started the day following, death ensuing in a couple of days (November 24th, 1926).

Post-mortem Examination.—This was performed on the following day. Dr. Dawson reported as follows: "Beneath the fluctuant swelling on the left side of the head was an abscess the size of a Tangerine orange in the brain substance, containing greenish pus. Pus of the same kind was free at the base of the brain. The liver and spleen, the latter fixed by dense fibrous adhesions to the stomach, contained very extensive suppurating areas with a honeycomb appearance, with pus of the same greenish colour. The base of each lung was similarly affected, but to a small extent only. No other organs were found to be affected. Microscopically, sections of isolated nodules from the liver and spleen showed granulomatous lesions, including one or more typical actinomycotic colonies.

"Diagnosis: Actinomycosis, with extensive metastasis. The site of the original infection is not clear, but may have been gastric."

Thorough inquiry into the history shows that the patient had nothing to do with horses or grain, but regularly carried straw from banana crates. This is the only suggested means of infection.

Thanks are due to the librarians of the Manchester Medical Society and of the British Medical Association for their assistance in an extensive search of the literature, to Mr. Charles Roberts for the use of his notes, and to others for the assistance they have given.

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PERNICIOUS ANAEMIA IN ELDERLY PEOPLE.

BY

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LONDON, N.

PERNICIOUS ANAEMIA is regarded generally as a disease of middle and later life, and it does not seem to be as generally recognized that it may occur in persons of 70 years and over.

Cabot[1] makes the striking statement that pernicious anaemia is a disease of elderly people, its incidence being not far different from that of cancer; and Eason,[2] working on the figures of the Edinburgh hospitals, concludes that senility is a much more important etiological factor in the production of the disease than has been hitherto recognized. He finds, too, that the rate of incidence in the sexes varies with age. Under 50 the rate of incidence is higher in females than in males; over 50 the reverse is true. Ward[3] could find in the literature four other cases besides his own in which the disease had been recognized in patients over 70 years (70, 73, 76, and 80), and his own patient was 85 when she died.

The following notes refer to two women over 70 who both died of the disease. In one (Mrs. B.) the disease undoubtedly began after she had passed her 75th birthday, and in the other (Mrs. M.) probably at the age of 67 or thereabouts. The fact that the disease may have commenced at a much earlier age and undergone long remission has not been forgotten, but a careful inquiry into the history does not reveal any evidence to support this view, and both patients were under the supervision of the same medical attendant for many years.

CASE I.

Mrs. B., aged 75, was operated on for double hernia when over 70 years of age. She was very feeble for several years before the symptoms and signs of severe anaemia appeared, and was thought to be suffering from general arterio-sclerosis, but no focal lesions were observed and her blood pressure was below normal. She had a good appetite, slept well, and complained of little until three or four months before her death, when she showed the typical lemon tint of the skin, developed complete anorexia and obstinate constipation, and died from progressive weakness. A blood examination, which was repeated, showed:

Red cells	850,000 per c.mm.
Haemoglobin	30 per cent.
Colour index	1.7
Leucocytes	2,000 per c.mm.
Differential count:	
Polymorphs	30 per cent.
Small lymphocytes	69 ,,
Normoblasts	1 ,,

There was marked poikilocytosis and anisocytosis.

CASE II.

Mrs. M., aged 70, was always pale but had no severe illness before three years ago, when some grave form of anaemia was suspected. No blood examination was made, and the patient was able to go about her household duties fairly well until about six months before her death, when she complained of sensory changes in the fingers and toes, described as tingling, burning, and numbness. Later loss of temperature sense was noted, but at no time was there evidence of involvement of one big toe. She had tract except for involuntary twitching of one side of the face, for a peculiar interrupted form of speech, cog-wheel in type, for which no explanation could be found by the laryngologist or neurologist who examined her. A blood examination showed the following:

Red cells	1,500,000 per c.mm.
Haemoglobin	28 per cent.
Colour index	1+
Leucocytes	5,000 per c.mm.
Differential count:	
Polymorphs	32 per cent.
Small lymphocytes	64 ,,

Poikilocytosis and anisocytosis were present.

Three weeks later the red cells fell to 900,000 per c.mm., whereas the haemoglobin was if anything higher, in the region of 30 per cent., giving a colour index of 1.6.

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ANEURYSM OF POSTERIOR TIBIAL ARTERY CAUSED BY FRACTURE OF THE TIBIA AND FIBULA.

BY

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MAJOR R.A.M.C.; SPECIALIST IN SURGERY TO THE CENTRAL PROVINCES DISTRICT, INDIA.

CASES of aneurysm of the posterior tibial artery of traumatic origin are of sufficient rarity to justify the publication of the following notes.

A native cavalry soldier, aged 26, was admitted to hospital, having fallen and broken his left leg, both bones being fractured at about the junction of the middle and lower thirds. Radiological examination showed no points of special interest, the fracture being transverse with little displacement and separation. The limb was treated by fixation on a back splint, with footpiece and side splints. I was asked to see the man four months after the accident as there were no signs of union. I found him to be a healthy man with no venereal history; the limb was considerably wasted. Radiological examination showed the fragments to be in good position. There were no signs of callus or reaction at the ends of the bones. I recommended that the limb be re-splinted, and the patient given a liberal diet, a course of tonics, and potassium iodide. His Wassermann reaction (seven weeks after the accident) was negative on two separate dates. Three weeks later (seven weeks after the attempt at union. I now found a pulsating expansile swelling in the calf opposite the point of fracture; it was the size of a hen's egg and in the line of the posterior tibial vessels. A loud blowing systolic bruit could be heard over the tumour; this disappeared on compressing the main vessel above the mass. The pulse at the ankle could not be felt, but the circulation in the foot appeared to be normal. There was some irregularity and a very accentuated first sound. I wondered if these physical signs were the so-called "tumultuous action of the heart" described by Makins in cases of consisting of marked disordered action of the heart, aneurysm of peripheral vessels. A diagnosis of arterio-venous aneurysm was obvious, and, as the swelling at the end of a week appeared to be rapidly enlarging, I decided to operate.

Operation.

The operation consisted in applying a tourniquet and excising the sac, tying the vessels above and below it. Posteriorly the sac was covered by fascia and skin only, any muscle tissue having entirely disappeared; the fascia was stretched and thinned out over it. Anteriorly the sac was very adherent to periosteum, and had hollowed out the tibia, forming a smooth cup-shaped depression

through which ran the fracture. The sac, on being opened and the clot turned out, showed the openings of seven vessels into its wall. I had at first contemplated plating the fracture as a second stage of the operation, but, owing to the fact that the patient did not take the anaesthetic well, and that the dissection took longer and was more difficult than I had expected, I decided to abandon plating until a later date. The ends of the fragments were curetted. The cavity made by excising the sac having been obliterated by deep catgut sutures, the wound was closed, and the limb was then put back on the original type of splint. The wound healed by first intention, and the circulation in the limb appeared normal. Six weeks later there was good union. The patient was discharged from hospital, and is now doing his duty. The excitable heart condition improved and disappeared.

Fractures of the tibia and fibula in this position, due to indirect violence, are so common, and injuries to the vessels so rare, that at first I wondered if there might not have been some direct violence (kick) damaging the vessels. The violence was, however, of a twisting nature. The foot caught against an irregularity in the ground, and the man, half turning round, fell down. He was emphatic that there had been no kick or direct violence.

Aneurysms of the posterior tibial artery are rare. Crisp,[1] in his table of 500 aneurysms, reports only two cases of aneurysm of the posterior tibial. The India catalogue of the library of the Surgeon-General, U.S.A., gives a list of eighty cases of aneurysm of peripheral vessels, of which only one—a case of diffuse aneurysm of the anterior tibial artery—was due to fracture.[2]

Treatment by operation in this case was most successful. Digital or instrumental pressure was not attempted in view of the complicating fracture and the rapidly increasing size of the tumour. In this case there can be no doubt that the posterior tibial vessels received an injury at the time the fracture was incurred. It is a remarkable fact that the vessels escape as often as they do. The failure to unite was certainly caused and aggravated by the presence of the aneurysm; the surrounding tissues were very dense and fibrous, and showed considerable peripheral connective tissue hyperplasia, which interfered with the nutrition and bone-forming units at the ends of the fragments. There were no signs of general vascular disease. The man was young, healthy, and, as far as shown by the Wassermann test, free from syphilitic taint.

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[1] *Diseases and Injuries of the Blood Vessels*, Jacksonian prize essay.
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Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

LOCAL ANAESTHESIA IN SUBMUCOUS RESECTION OF THE NASAL SEPTUM.

SUBMUCOUS resection of the septum nasi gives good results in suitable cases, but it is not an easy operation. A high authority has, indeed, stated that in any case in which it proves easy it was not needed, and the difficulties natural to it are greatly increased by the use of general anaesthesia, however skilfully administered.

After a long and mainly disappointing experience of many varieties of local anaesthesia I have found a method which permits of the most extensive resection without pain, haemorrhage, or the need for hurry. It is as follows.

One hour before the time fixed for operation the patient receives half a grain of morphine by hypodermic injection. When upon the table he is assured that no pain will be inflicted. The nasal mucosa is then very gently but very thoroughly gone over with a cotton mop repeatedly dipped in a solution of adrenaline. This is massaged into every part of the nasal cavities that can be reached, half a drachm of adrenaline being used. Five minutes at least are devoted to the application, after which anaesthesia is induced by the surface application of cocaine. Three grains of cocaine hydrochloride crystals are measured into a porcelain capsule, and a cotton-tip, wet with adrenaline solution, is loaded with the solid cocaine; the nasal cavities are then massaged with it until the whole of the cocaine has been applied. It is important to leave no area of the nasal mucosa untreated. The operation can then be undertaken.

The completeness of the anaesthesia is unbelievable until one has had experience of it, and the absence of haemorrhage eliminates the chief difficulty of the operation. During the past few months I have employed the method in thirty-eight cases, and find it incomparably superior to any means of inducing local anaesthesia by injection. The entire absence of toxic symptoms may be attributed to the thorough application of adrenaline, which is an indispensable preliminary. I owe my knowledge of the method to the kindness of Dr. Dan McKenzie, who demonstrated it to me last year at the Central London Throat and Ear Hospital.

Leigh Infirmary, Lancs. F. PEARCE STURM.

HENOCH'S PURPURA IN AN ADULT SIMULATING "ACUTE ABDOMEN."

THE report of a case of Henoch's purpura in an adult by Dr. Alex. G. MacGillivray, in the JOURNAL of February 12th (p. 279), prompts me to record the following case.

A single woman, aged 19, was admitted to Lincoln County Hospital on November 23rd, 1926, complaining of pain of two weeks' duration in the lower abdomen, vomiting, and diarrhoea. The diarrhoea ceased in a week, but intermittent vomiting and pain continued up to the day of admission. There was no history of epistaxis or headache, etc.

The patient looked extremely ill; the tongue was furred and the breath foul. The temperature was 102°, the pulse 80, and respirations 24. The chest was normal. The abdomen was not distended, but did not move well, and there was tenderness and rigidity in the lower half, more on the right side than the left. On rectal examination no mass could be felt, but there was tenderness. The urine contained a slight trace of albumin.

The low pulse rate was difficult to interpret, but in view of the signs of peritonitis it was decided to operate. The abdomen was opened by a median incision, and the pelvis was found to contain several ounces of blood-stained fluid. The ovaries, tubes, and uterus were normal, as were the caecum, appendix, and ileum. The greater part of the jejunum was found to be swollen and intensely hyperaemic, with patchy effusions of blood. No ulceration was discovered, and there were no signs of strangulation, intussusception, or volvulus. The serous coat of the jejunum and ileum were normal, and Peyer's patches were not enlarged. The blood-stained fluid was mopped out, and the abdomen closed, Henoch's purpura being diagnosed. On the next day the temperature fell to normal and the patient was much better. There was some black vomit on November 25th, but after that the patient took food well.

On December 4th a typical purpuric rash appeared on her arms and legs. This soon disappeared and the patient made an uneventful recovery.

This case illustrates the well known fact that abdominal symptoms may appear before the purpuric rash, that intestinal obstruction or appendicitis may be simulated, and that the effusion of blood may produce peritonitis and further complicate the diagnosis. The normal pulse rate was also a feature of Dr. MacGillivray's case.

I am indebted to Dr. Watkins, surgeon to Lincoln County Hospital, for permission to publish this case.

Edinburgh. JOHN A. HADLEY, M.B., B.S.

TREATMENT OF INFLUENZA.

DURING the great influenza epidemic in 1918 I found the following treatment useful in cases with pyrexia or epistaxis and pulmonary complications.

Amm. chloridi	3 jss
Liq. amm. acetatis	3 vj
Tr. euonymi	3 ij
Tr. nucis vomicae	3 jss
Ess. pepsinae	q.s. for 3 iv

One teaspoonful in a wineglass of water every two hours until better, then every four hours until well.

This treatment is based upon the experience of 1,972 cases, most of them in the crowded districts of Boston. There was no available nursing and the hospitals were overcrowded. Most of our physicians were at the front, and of those at home many were ill themselves.

In the gastro-intestinal form with anorexia and emesis the addition of one ounce of milk of bismuth was effective. The ensuing complications of bronchiolitis or lobular pneumonia responded equally well. The addition of strophanthus in long cases marked by cardiac failure was necessary.

Boston, U.S.A. I. EUGENE REID, M.B., C.M.Ed.

British Medical Association.

CLINICAL AND SCIENTIFIC PROCEEDINGS.

SOUTH WALES AND MONMOUTHSHIRE BRANCH.

A meeting of the South Wales and Monmouthshire Branch at University College, Cardiff, on March 31st, the President, Dr. R. PRICHARD, in the chair, Dr. HERBERT T. EVANS read a paper on paroxysmal tachycardia.

Dr. Evans said that though paroxysmal tachycardia had been recognized so far back as 1867, it was only clearly defined about twenty years ago, mainly in consequence of the electro-cardiographic work of Lewis. In this condition the auricles and ventricles contracted in their usual sequence at a rate of 110 to 200 per minute, which contrasted with the auricular rate of over 300 per minute encountered in auricular flutter, the ventricular rate in this condition being 240 to 250. Dr. Evans described the normal cardiac cycle, and said that in paroxysmal tachycardia the stimulus did not start in the sino-auricular node, but in a new spot usually situated in the auricle or auriculo-ventricular node. The new rhythm thus initiated was characterized by its sudden onset and cessation; its regularity; and the absence of change of rate after exercise, alteration of posture, emotional manifestations, and the use of drugs such as atrophine and digitalis. The duration of the tachycardia was usually short; it was accompanied generally by palpitation, shortness of breath on exertion, and nervous excitability or anxiety. Precordial pains had been noted, and gastric symptoms were common. Prolongation of the paroxysms was liable to produce acute cardiac failure, but sudden death was rare; nevertheless, the prognosis should be guarded in the case of patients known to have other forms of heart disease, and when the lesion could be associated with paroxysmal tachycardia, attacks were frequent and severe. No constant heart which often started in an apparently sound heart; children and young adults had been reported to grow out of this condition. The treatment was symptomatic, and morphine and chloral should be safely given.

The paper was illustrated by several electro-cardiograms.

Lupus Vulgaris.

Dr. J. BEATTY showed twelve cases of lupus and described the treatment adopted in each. He said that out of eighty patients treated by him during the last four years, two had developed epithelioma and one tuberculous abscesses. In another case pyrogallic ointment had been effective, though the condition had lasted for seven years, and large areas of the thigh, arm, and face were affected. After application of the ointment for four years the disease was replaced by large, white, pitted, and supple scars. This treatment was not suitable for general use in an out-patient department because it was slow and caused much pain. Little benefit had followed the use of x rays, but salicylic and creosote plaster was valuable when patients could only attend at long intervals. The prolonged use of ultra-violet rays had been helpful, but the treatment found most serviceable had been the application of alkaline phenol, followed by a hypertonic dressing.

Syphilitic Ulceration of Trachea.

Dr. D. P. PATERSON showed a specimen of syphilitic ulceration of the trachea in a West African seaman, aged 29. Death had been due to the large amount of watery mucus in the lower part of the trachea and large bronchi. The illness was said to have lasted six weeks, the chief symptom being noisy breathing during sleep; there was no stridor when the patient was awake, and the voice was unaffected. The larynx was normal, except for injection of the whole of the subglottic area. There was no pyrexia and the Wassermann reaction was negative. At necropsy the posterior wall of the trachea was found to be ulcerated just below the glottis; the bronchi were filled with watery secretions; parts of the lungs were oedematous; the mediastinal glands were enlarged; gummata were present in the liver; and there was fibrous thickening of the testes.

Paroxysmal Tachycardia.

Mr. Lambert Rogers read a paper on the diagnosis and treatment of various types of goitre. He said that valuable diagnostic aid was provided by determining the basal metabolic rate, and by the test devised by Emil Goetsch of Boston, which was based on the fact that in thyrotoxicosis the sympathetic nervous system was hypersensitive to adrenaline. He divided thyroid enlargement into the diffuse and nodular types. In the first were comprised the non-toxic physiological enlargement of the gland at puberty, the endemic parenchymatous non-toxic variety, and exophthalmic goitre. Nodular goitres might be solid or cystic, and single or multiple; iodine should never be given to patients with nodular goitre. Malignant disease scarcely ever commenced in a previously healthy thyroid gland. Mr. Lambert Rogers discussed the indications for the surgical treatment of goitre and said that in competent hands the mortality was now lower than that of abdominal surgery. Before an operation an x-ray photograph should be taken of the neck to define the position and condition of the tracheal shadow. Other essentials were an electro-cardiogram, a daily record of the larynx, a skiagram of the thorax to show the shape and size of the solid shadow, a report of the Goetsch test, estimation of the basal metabolic index, and a complete blood analysis.

Diagnosis and Treatment of Goitre.

Reports of Societies.

VENESECTION.

At a general meeting of Fellows of the Royal Society of Medicine, on April 7th, with Sir STCLAIR THOMSON in the chair, a discussion on "blood-letting" was opened by Mr. WALTER G. SPENCER.

Mr. Spencer ascribed the disuse of venesection, especially in private practice, mainly to the existence of certain prejudices; he traced the historical origin of the practice and of the feeling against it. The theories concerning the efficacy of the loss of blood had a prehistoric origin; the relief afforded by haemorrhage from the nose or piles was frequently quoted, and such natural occurrences probably suggested the undertaking of venesection as so well established as looked upon the use of venesection as so well established as to need only casual references. Asclepiades and Themison recognized the secondary benefits afforded by bleeding. Celsus advocated moderation, and Galen, while stating the average amount of blood usually allowed to flow, boasted of extreme quantities which had been let out. The Arabians extracted blood from a spot as far away as possible from the supposed seat of the disease, advocating the theory of "revulsion" as against "diversion"—that is, the withdrawal of blood from as near the seat of disease as possible. These two theories gave rise to a violent controversy, the Paris school following the Arabian physicians, while the Royal College of Physicians in London held to "diversion." The custom of periodically bleeding healthy persons was a mediaeval one and, incidentally, favoured the rise of the Guild of Barbers. However, certain influential opinions began to be expressed against the traditional ideas on venesection, and John Hunter was one of the first to break with tradition. Marshall Hall, while still in Edinburgh, wrote on some of the dangers of repeated bloodletting, and ten years later, in 1844, Copland's *Medical Directory* omitted all mention of venesection. Hughes Bennett compared cases of pneumonia treated in hospitals in this country by blood-letting and by diet only, with results very much in favour of the latter method. The capital indication for venesection, proceeded Mr. Spencer, was impairment of the pulmonary circulation, and he quoted early experiments on animals with regard to asphyxiation and blood-letting. Sydenham had observed that venesection served instead of a tracheotomy in some cases. In asphyxiation experiments the sudden fall in pulmonary blood pressure produced by venesection caused reflex stimulation of the respiratory centres, leading to better oxygenation of the blood. The speaker next dealt with certain states of grave urgency threatening death

from impairment of the pulmonary circulation in which venesection saved life. Dealing first with pulmonary and cardiac affections he quoted from publications by Henry Sutton and Pye-Smith, and lectures by de Havilland Hall and Hale-White. The effect of venesection on the over-distended heart had in very recent times been observed directly on the x-ray screen by B. Gordon. Cases had been recorded in which air embolism occurring during the induction of an artificial pneumothorax had been prevented from causing death by immediate venesection. Children suffering from scarlatinal nephritis with threatening uraemic coma were greatly benefited by venesection. In young children with the so-called "suffocative catarrh" it was sometimes difficult to open a vein, and cutting across the radial artery to secure the rapid loss of about 100 c.cm. of blood was said to be beneficial. Mr. Spencer then gave details of cases of apoplectiform seizures, status epilepticus, and heat-stroke all treated with great benefit by venesection. He pointed out the distinction between what could be achieved at an organized hospital and the venesection which was capable of immediate application in the absence of other remedies. In cases of asphyxiation by non-irritant gases—carbon monoxide for example—venesection would serve to start natural respiration when artificial respiration, including the administration of oxygen, had failed. Venesection was also of great value in irritant gas poisoning, Schafer having recorded that free blood-letting was the only remedy producing an immediate beneficial effect in dogs poisoned by chlorine gas. Acute poisoning—for example, by alcohol, carbolic acid, mushrooms, etc.—had frequently been treated successfully by blood-letting. Certain chronic affections were also benefited. The headache from high blood pressure and the pain of an aneurysm could be relieved by bleeding, and polycythemia caused by over-production of red blood corpuscles was greatly improved by venesection. Chlorosis had also been treated by blood-letting, especially in Germany.

Dr. HERBERT FRENCH dealt with the use of venesection for certain chronic conditions. The first of these was rare: polycythaemia with splenomegaly. This condition was treated in various ways, but nothing benefited these patients as much as venesection, and no case failed to respond. The second chronic condition was much commoner, but difficult to define. It was closely related to "raised blood pressure," although a rise in blood pressure was not an essential part of the clinical features. Bleeding gave relief, not by lowering the blood pressure, for this might remain at the same level; but the procedure was definitely beneficial nevertheless as gauged by the patient's own feelings. The age of the patients in this group was about 45 to 55; they were usually busy, overworked, and of the intellectual type, with too little exercise, who had always been very energetic in youth. Such a patient complained of vague symptoms, such as giddiness, and that his brain was not working so well. On examination it was usually found that his heart was not working so well either. After bleeding, such patients felt much better, could resume their activities, and they frequently returned to be bled again and again. In women a similar state of affairs was associated with the menopause, and a patient of this type complained of a feeling of increased pressure in the head. Such women all emphatically benefited from venesection, and this should be done much more frequently. Dr. French then gave his views as to why bleeding helped such people. He admitted that there was no satisfactory scientific explanation. Physiologists taught that venesection was useless, since the fluid element of the blood was almost immediately replaced from the tissues, and the other constituents were more gradually replaced in the course of about a fortnight. The speaker thought that in these individuals he had been describing blood destruction was delayed, and bleeding led to the removal of a certain amount of stale blood, which was replaced by fresh blood, and the patient was to a certain extent rejuvenated. He believed that in the past blood-letting had not been sufficiently employed because of the mess it made. He demonstrated a method by use of a special cone-shaped needle and bottle, which enabled a pint of blood to be removed in about five minutes.

Dr. R. FORTESCUE FOX said that in his younger days he had been much impressed with the effect of venesection in certain acute conditions. The pulse almost always became slower and fuller, and the circulation became tranquillized. Later on he (the speaker) became attached to certain water health resorts, where he met frequent "candidates for illness," middle-aged persons on the verge of breakdown, with considerable disturbance of the circulation. He quoted one such case in a woman, aged 70, stout and plethoric, who had a cerebral haemorrhage and became comatose, but recovered after immediate venesection. Cases of apoplexy at spas appeared to be common, and Dr. Fox thought that ingestion of water in certain cases might lead to a dangerous increase in the amount of fluid in circulation. He dealt more fully with the use of venesection in hyperpiesia, mentioning the two well known types—the one well fed and florid, and the other pale and anxious. He thought that hypertensive disturbances were common at certain periods—the menopausal time in woman and a corresponding period in man—and he considered that the essential factor in the production of high blood pressure in these cases was, not structural disease of the arteries, but some disordered nervous mechanism. Dr. Fox then described in detail certain cases of high blood pressure where bleeding had been performed at the onset of certain "pressure waves" when definite rise in blood pressure occurred. The various classical symptoms of these hyperpieties were, in his opinion, better indications for bleeding than the actual height of pressure present. He added that death from cerebral haemorrhage was becoming increasingly more common, especially in brain-workers and public men, and he thought it could be prevented in many instances by timely venesection. In treatment of high blood pressure cases it was necessary to follow the venesection with a period of other depletive measures, such as starvation, rest, and purgation. In conclusion, Dr. Fox protested against the teaching that venesection did not affect blood pressure. This was founded on physiological experiments in the healthy, and there was much clinical evidence to show that results were altogether different in diseased persons.

Sir WILLIAM HALE-WHITE began by stating that if the discussion had taken place eighty to ninety years previously several hundred people would have been bled in the afternoon in London, since every person who looked after his health in those days was bled every spring and autumn. In 1840 a doctor was charged with malpraxis for failing to bleed a patient with pneumonia, but there had been a great change, especially since the great blood-letting controversy of 1850-60. Before that date venesection appeared to be carried out for no other reason than that it was fashionable. Dealing next with the modern indications for blood-letting, the speaker said that the cases above all others which benefited were those in which the right side of the heart was overfilled. The guide should be, "Is the patient livid?" It was found that after venesection in such cases digitalis acted better. In pneumonia bleeding was indicated only if the cases were livid. In apoplexy bleeding should only be performed if there was respiratory embarrassment, and the same remarks applied to status epilepticus and sunstroke. In uraemia not much permanent good resulted unless the patient was livid from convulsions. Bleeding relieved the pain of aneurysms and was beneficial in polycythaemia. Lastly, the speaker mentioned two practical points. The patient should always be bled sitting up, so that he could be placed flat if fainting occurred. Secondly, care must be exercised in bleeding the young or very old patients.

Sir JAMES DUNDAS-GRANT described certain cases where venesection had been very useful. A case of severe uraemic coma in a girl after scarlet fever was cured completely by a timely venesection. A boy who had been resuscitated after drowning was found with a purple face and great respiratory embarrassment. He recovered completely after venesection. Another case of severe puerperal eclampsia was also benefited.

Sir WILLIAM WILLCOX said he had early been interested in the subject of blood-letting, since he had been a disciple and pupil of an ardent believer in the procedure, Dr. David Lees. He considered that it was indicated in five classes of cases: (1) Those in which the right side of the heart was dilated. (2) Convulsions, especially status epilepticus, which it would almost always stop. In uraemia

it was of most use in temporarily acute conditions with convulsions, such as in eclampsia. (3) Heat-stroke. In 1917 he had seen many cases of this condition, and venesection alone did most good in cases with cyanosis and convulsions. (4) Polycythaemia, where venesection was a very important form of treatment. (5) Certain medico-legal cases, such as forms of violent asphyxia from drowning or hanging. In high blood pressure cases with definite "pressure waves" a timely venesection was most beneficial. Dr. H. Letheby Tidy summed up the conditions in which venesection should not be employed as chronic anaemias and low blood pressure, especially in elderly people. The indications upon which most people appeared to be agreed were polycythaemia and certain cases of high blood pressure among the chronic group and acute conditions associated with lividity and right heart dilatation. In uraemia there appeared to be two groups: acute cases in which venesection did good, and chronic cases in which it should be not performed. It was also agreed that it was beneficial in sunstroke.

ORAL SIGNS OF GENERAL DISEASE IN CHILDREN.

The Sections of Odontology and of Disease in Children of the Royal Society of Medicine combined on April 6th for a discussion on "Oral manifestations of general disease in children." The chair was taken by Mr. J. B. Parfitt, president of the Section of Odontology.

Mr. A. T. Pitts, dealing first with osteomyelitis of the maxilla in infants, asked what was the nature of this condition. Was it a true osteomyelitis or an antral infection? As the maxilla in infants was a thin shell of bone containing the developing teeth, the tooth crypts soon became infected, and such cases often came within the scope of dental surgery. Treatment should be cautious and limited. Such cases of tuberculosis of the jaw as he had seen had been in the mandible. Did the condition occur in the maxilla, and was it always secondary to tuberculosis elsewhere? Could it occur in a clean mouth, or was it grafted on an existing dental infection? With regard to localized suppuration of the jaws of non-dental origin, although the teeth might be free from caries and appear healthy, a dental cause could not be excluded without a radiograph in addition to clinical examination. Necrosis following scarlet fever, once common, now appeared to be rare. Did this imply that the cause was a lack of oral hygiene which predisposed to infection, and that its present rarity was due to greater attention to hygiene of the mouth as part of the treatment of all illness? Speaking of the teeth in congenital syphilis, he pointed out two features of Hutchinsonian teeth: (1) alteration in architecture so that the sides converged towards the cutting edge, whereas in normal incisors the sides diverged from the gum margin to the cutting edge; (2) an area of badly formed enamel on the cutting edge or an actual deficiency of enamel, leading to a notch. He had never seen Hutchinsonian incisors in deciduous dentition. He believed Hutchinsonian teeth absolutely specific, and his experience confirmed Hutchinson's statement that when perforation of palate occurred the teeth were not affected. He also dealt with some anomalies of eruption and development, and asked whether there was any evidence of the teeth being affected in cases of precocity. In one case which he had seen, in a child of 4 with marked precocity, the dentition was several years in advance of her age. Finally, Mr. Pitts touched on oral manifestations due to vitamin deficiency, as in scurvy and rickets, and asked whether there was any support for the view that follicular stomatitis in children might be due to lack of water-soluble B.

Dr. Robert Hutchison, opening the discussion from the medical side, said that affections of the jaw in general disease were more surgical than medical. General hypoplasia of the skeleton, however, such as occurred in some forms of infantilism, affected the jaws as well as the bones. It was tempting to speculate in this connexion as to the part played by endocrine disturbances. Over-action of the anterior lobe of the pituitary, for instance, caused an overgrowth of the lower jaw in acromegaly, and it was possible that pituitary deficiency might result in under-development of the jaw during the period of growth. In cases of dyspituitarism such an under-development did not appear to occur. There was even less reason to believe that a deficiency of vitamin B could interfere with the development of the jaw. Rickets possibly acted in this way, though he thought it did so to a less degree than might be supposed. The teeth seemed to be more affected than the jaw by general diseases. Their appearance in rickets was delayed. Possibly the teeth were a better index to the real age of the patient than ossification of the epiphyses. In a case of precocious puberty at the age of 3, though the skeletal development was that of a child of 12, he found the milk teeth still present. The influence of general disease on the calcification of the teeth was well seen in rickets, and the observations of Mrs. Mellanby pointed to a deficiency of vitamin A as the cause. The effect of inherited syphilis on teeth was also well recognized. Anything which impaired the general health also might interfere with the laying down of enamel, and a groove more or less broad, or a succession of grooves, with healthy enamel between, might mark attacks of grave illness at that level of enamel formation. Variations in the reaction of the saliva in consequence of affections of the general health might possibly affect the enamel, though little attention had been paid to this subject. Indeed, the whole question of the relation between departures from good general health and a predisposition to dental caries was very obscure. Apart from alterations in its reaction, an increased viscidity of the saliva, the result of a disproportionate "sympathetic" secretion, might be expected to favour caries by interfering with the washing away of food particles. Such an increased viscidity was apt to occur in nervous children. The cause of grinding of the teeth was obscure; it might be merely a bad habit, but it was also met with in many mentally defective children, and in those who suffered from dyspepsia and perhaps from worms. Staining of the teeth was a rare and curious phenomenon, met with when there was circulation of a pigment in the blood whilst the teeth were developing. "Pink" teeth were met with in cases of congenital haematoporphyrinuria, and "green" teeth in jaundice. The gums, being highly vascular structures, usually became affected in diseases of the "haemorrhagic" class, such as scurvy, the lymphatic leukaemias, and purpura. It was possible, even probable, that impairment of general health might, by lowering resistance, favour the occurrence of gingivitis and pyorrhoea, but on this point, as on the influence of the common health on the production of caries, there was no very definite information. Hypertrophy of the tongue was met with in cretinism, and to some extent in mongolism, and in the latter condition fissuring of the organ became pronounced as the child grew. Affections of the mucous membrane of the mouth were, in the speaker's view, for the most part purely local, and not indicative of any general disorder. This was certainly true of the common forms of stomatitis; in the ulcerative, and especially in the gangrenous form (noma), enfeeblement of the general health played a large part, though he thought it very doubtful whether vitamin deficiency was a factor. Speaking generally, Dr. Hutchison was of opinion that the oral manifestations of general disease in childhood were, except as affecting the teeth, neither numerous nor important, just as the alleged effects of oral disease on general health tended to be over-stated.

The Chairman said that he rather gathered from the remarks of Dr. Hutchison that the oral manifestations of general disease were neither marked nor of very great value for diagnostic purposes. The reason for this must be connected with the great resistance of the oral tissues to trauma and to bacterial invasions of all kinds. He wished to point out the service that an ordinary dental surgeon could render in the course of his work—he meant the dental surgeon who corresponded to the general practitioner in medicine. The dental surgeon did not see children very early, and he practically never saw them in an active stage of illness, but he might see the beginning of a growth or of some abnormality, hypertrophy or something of that kind, and this, of course, he would properly point out to the medical man. The speaker referred to

three conditions which the ordinary dental surgeon treated in children. The first was dental caries. Recent research seemed to prove beyond doubt that caries was due to the presence of certain organisms, but this was not a sufficient factor, otherwise every tooth would become carious. There was an unknown factor behind, possibly some endocrinal disturbance upsetting the ordinary immunity to bacterial infection. The second condition was periodontal disease. Here again there was a suspicion that something more lay behind the actual infection—something in the "soil" or "climate" as distinct from the "seed." The third condition was dental-facial irregularity—the particular department of the orthodontist. This condition might arise accidentally, or might be due to some fundamental disturbance of growth. Orthodontists told them that the more one looked for these innate disturbances of development the younger were the children in whom they were found. If the separation which normally occurred between the temporary teeth was retarded the child would have an irregular set of permanent teeth, but what the retarding condition was it was difficult to say; it must be something of a general nature. One of the greatest services a dental surgeon could render was to keep a careful watch on the development of the children who came to him from time to time, and to report anything abnormal to the parents or to the medical man.

Dr. H. C. CAMERON said that so far as it was possible to classify children into types—and the types were mainly determined in inherited peculiarities, assisted no doubt by faults in hygiene and diet—a distinction could be made between two common types of children, in one of which the teeth were found almost habitually faulty, and in the other the teeth, though with many exceptions, were usually well formed and well erupted and with good enamel. The type of child in whom caries was prone to occur was the child with a high content of lymph in the body, a round, plump child, often with very highly coloured cheeks, and a considerable tendency to overgrowth of the lymphatic structures. Such a child was specially likely to have inherited a tendency to catarrhal infections, and he thought the repeated catarrhs, acting on the erupting processes carried on in the normal organ, did from time to time result in that normal organ working badly, and caries was the result. It was very common in these children to find the molar teeth, not erupted vertically, but almost lying on their side, so that the grinding surfaces met at their edges and not surface to surface. The other type of child—the child who always seemed to have good teeth—was the child of intellectual inheritance, with metabolic instability, an ancestry of gout, migraine, asthma, and eczema, very often a pale, thin child, and much subject to vomiting and like troubles. This type of child seemed to have, as a rule, good teeth, with good enamel. A further point was with regard to the use of the jaws. Mothers were commonly instructed at the health centres to allow their children to bite hard food, but it always seemed to him that the child who developed well, who learned to walk early and speak early, learned also to bite and use the jaws early, whereas the child whose infancy had been punctuated by catarrhal complaints was likely to walk late, talk late, and also use the jaws late. In corroboration of this was the fact that children who had brain affections, having perhaps suffered cerebral injury at birth, and on the neuro-muscular side were very slow, nearly always gave an immense amount of trouble on account of their teeth.

Dr. DAVID NABARRO confined his remarks to teeth in congenital syphilis. He said that when people talked of Hutchinsonian teeth they usually had in mind the obvious appearance, and such instances were really quite common, but there were also other less marked types of Hutchinsonian teeth which were not at all uncommon but often escaped recognition. Often in children on whom, on account of suspicion arising from some other circumstance, a Wassermann test had been done and had proved positive, he had found on making a closer examination that the teeth were partially Hutchinsonian. In his experience also, when the Hutchinsonian teeth were found in the upper incisors, the lower incisors also had a very characteristic appearance, small, with a convex anterior surface, and spaced often like little tombstones sticking out of the jaw. The records of 208 cases of congenital syphilis in children over the age of 7, obtained at his hospital, showed that 32—about 15 per cent.—had typical Hutchinsonian teeth, but of the whole 208 only 93 had normal teeth, so that in more than half the cases there were teeth which made one suspect the presence of disease. He had had twelve cases of ulceration of the palate during the last twelve years, so that this was not a common condition though it was characteristic when it occurred. In only one of these twelve cases did he find Hutchinsonian teeth though in two others there was a "tombstone" appearance. The positive Wassermann reaction was very persistent in these cases of ulceration of the palate.

Mr. F. N. DOUBLEDAY mentioned a case in which an abscess on a temporary tooth had caused infection of the crypts of the permanent teeth beneath. This condition was not really osteomyelitis of the jaw in the sense in which one looked upon that condition in the adult, but he mentioned this occurrence of infection of the crypts in the hope that someone might have had more success than he in dealing with it. He also described a case of infantilism in a woman 18 years of age, who had all the appearance of a child of 7 or 8. She played with childish things, her stature was that of a child, and she had a childish dental condition. The speaker sent her to a medical colleague, who put her on dried thyroid extract, and she began to grow, and the teeth erupted perfectly well. In his mind one of the most serious manifestations of general disease in the mouth of a child was dental caries. This was often directly induced by bad advice given by medical practitioners. Mothers often quoted to him a medical practitioner as their authority for giving their children sweets. The practitioner had told them that this was an easy means of raising the carbohydrate part of the diet. He believed that the result was gastro-intestinal stagnation, and that such stagnation accounted for a large number of the cases seen in out-patient departments. It was very largely brought on by an overloading with sugar from youth up.

Dr. ALEXANDER LIVINGSTON remarked that there were two types of gum margin inflammation, one of them purely local, and the other, in his opinion, part of a general lowering of resistance, accompanied by constipation or diarrhoea or other systemic upset. Gum marginal redness was largely a local condition, but a certain group of children presented the more general state which he thought might be attributed to one or more of four causes: generally lowered resistance, calcium shortage, vitamin or sunshine deficiency, or Vincent's fusiform and spirochaete infection. Occasionally the condition went on to a gingivitis or stomatitis, and sometimes to noma. The teeth of children, the speaker added, were extraordinarily interesting and important. The teeth of a child of 6 might be said to give the child's past history, and the mucous membrane of its gums its present condition.

Mr. HAROLD CHAPMAN regarded irregular teeth as an ill development of the maxilla and mandible. There had been an increasing tendency in recent years to regard irregular teeth as one sign of some more deeply seated abnormality, but if there was any foundation for such a view it was particularly appropriate that it should be considered by the two Sections now meeting. What were the causes of irregular teeth, and were such causes also indicative of other physical defects? Were irregular teeth oral manifestations of other diseases in children? Irregular teeth occurred in children of all classes of society, but their incidence in families was peculiar. In some families certain children had irregular teeth and others perfect teeth from the point of view of regularity. In another family all the children might have irregular teeth. The most perfect regularity of teeth in all the members of the same family which he had ever seen was in a family of nomads, who lived under as primitive conditions as one could find in this country to-day.

Dr. ROBERT HUTCHISON, in his reply, took up the question of the effect of sugar on teeth. He was prepared to admit theoretically that sugar might be expected to be a factor in the production of caries, but sugar was an

extremely valuable food for the child, and it might be worth while to pay the price in a certain amount of dental caries. To say that sugar caused gastro-intestinal stagnation was, from a medical point of view, "bosh." Whatever else this unfortunate article of diet could do, it could not do that. One speaker had described a new variety of marginal gingivitis which apparently was due to all the pathological fads separately or collectively, including vitamin and sunshine deficiency—the *dernier cri*—calcium shortage, and Vincent's condition. He was extremely doubtful about *plural causation—and such causation!*

THE MEDICAL SERVICE IN WAR AND PEACE.

AT a meeting of the War Section of the Royal Society of Medicine, on April 11th, Major T. J. MITCHELL, R.A.M.C., read a paper on man-power and the medical service in relation to some of the principles of war.

Major Mitchell discussed the part played by the medical service in war with reference to the concentration of superior force, moral and material; economy of force; mobility, and co-operation. Its duties extended beyond the care of the sick and wounded, the preservation of the health of the troops, replenishment of medical stores and equipment, and the collection and evacuation of sick and wounded; they included also the decreasing of the number of deaths from wounds, reducing the number of permanently disabled men who would become a justifiable expense to the State, the shortening of the time spent in hospital, and promoting the speedy return to duty of as many men as possible. (The cost to date in payment of pensions and the administration of the Ministry of Pensions was over £665,000,000.) An efficient medical service resulted in a considerable saving to the State of both men and money. The medical service in an army, though wholly *humanitarian*, was yet of great military importance, since it played an active part by supplying reinforcements. Statistics showed that at one time or another during the great war the medical service was called upon to deal with the sick and wounded of a force with an average *strength*, including labour units, of nearly 3,500,000. Moreover, operations were conducted in every variety of country and climate, and in Eastern theatres of war in particular an important factor contributing to the success or otherwise of the campaign was the number and well-being of native followers. Broad questions affecting recruiting, billeting, training, rations, the provision of hospitals and other essential medical units opened up a field of research. Specialized types of transport and equipment must be considered to meet the varying needs of different theatres of war. Admissions for disease far outnumbered those for wounds in Eastern countries. Native followers, their needs and customs, afforded scope for a sociological study of far-reaching importance if campaigns in tropical countries were to be carried on without an extravagant expenditure of men and money. Practical application of the principles of medical organization in the field produced better moral among the troops; increased mobility of the army; the early return to duty of trained men who had been slightly wounded, thereby assisting in the concentration of superior force; monetary saving to the State; *and increased confidence* among relatives at home. To attain these ideals, however, there must be co-operation between the medical service and the general staff and other branches of the army. Certain obstacles always confronted the medical staff officer: the secrecy maintained by the general staff *on matters* affecting medical arrangements; its unwillingness to estimate the probable number of casualties and where they might be most numerous; and the locating of medical units. The ability of the medical service to help the general staff, their men, and the State depended upon the information given. For the supply of extra units and personnel, close co-operation was required with the adjutant-general's branch of the staff, and with "Q" branch on matters of transport. It was the duty of the medical service to make it clear that their requirements were not made haphazard but were calculated on definite factors, such as estimated battle and sick casualties, the rate of evacuation, and a small percentage for "crisis" expansion. Failure to appreciate this need for expansion, in the matter of transport, usually led to a breakdown of the medical arrangements, disorganization, and the evacuation overseas of slightly wounded trained soldiers, with consequent loss to the army and expense to the State. From the point of view of man-power the number of men returned to duty in the theatre of operation was all-important. The better the arrangements to collect cases without delay, and the more adequate the provision for their reception, treatment, and evacuation, the greater would be the mobility of the army and the economy of force. The medical statistics of the Western front had shown that the admissions to hospital numbered almost two million wounded and over three million for other causes; of these admissions, roughly 80 per cent. wounded and 93 per cent sick returned to duty in some capacity. The total returned to duty was equivalent roughly to sixteen armies. These figures bore eloquent testimony to the value of the practice of surgery and medicine and the allied special branches, as well as to the undoubted benefits of measures to prevent disease in an army; here success was limited by knowledge and the application of methods. While other branches of the army usually included in their paper schemes definite medical proposals, in actual preparations for war they found it difficult to apply these proposals. Bitter experience in Mesopotamia proved the inadequacy of the regulation that the officer commanding a unit or force was responsible for the sanitary conditions of that unit or force. Diarrhoea, colitis, and dysentery were among the greatest causes of sickness in that campaign, despite the constant issue of orders on the preventive measures required. When attacking troops captured a Turkish position they usually encamped on its site, one of the foulest spots imaginable; consequently the admission ratio for these diseases grew greater than that of battle casualties. It was not the decision to encamp on that position that was questioned, but the fact that all knew the inevitable results, were content to let them ensue, and, it seemed, were still content to let the same thing happen again. It was too much to expect tired troops to make a camp sanitary, but insanitary conditions could be made good if a fresh sanitary battalion were hurried to the spot. When it was realized that in Eastern theatres of war, if not in all, disease was a greater enemy than the human foe and took a greater toll of casualties, both men and money would be saved by proper equipment to fight against it. It was the plain duty, therefore, of the medical service in times of peace to try to convince others by hard facts, to examine their teaching and training, and to be ready to ease the suffering and save men for the fighting forces.

CROWN GALL AND CANCER.

A LABORATORY meeting of the Section of Tropical Diseases and Parasitology of the Royal Society of Medicine was held at the London School of Hygiene and Tropical Medicine on April 6th, with the President of the Section, Professor R. T. LEIPER, in the chair.

During the evening Professor WILFRID ROBINSON read a paper on some features of crown gall in plants in reference to comparisons with cancer. From time to time, he said, comparisons had been made between tumour-like growths in plants and tumours in animals and man. Such comparisons on analysis proved to be more apparent than real, if only because of the profound differences in cellular construction and manner of growth. In recent years, however, Erwin Smith in America had expressed the opinion that the characteristic growths in plants known as crown gall were comparable to malignant tumours, particularly as he had observed what he considered to be metastases in this condition. Although he had isolated bacteria from these tumours, Smith had failed to locate them in the diseased tissues by direct microscopical observation. More recently, Blumenthal and other German workers has isolated from the margin of human tumours a bacterium apparently identical with that responsible for the plant condition (*Bacterium tumefaciens*), and at least one of his strains had proved capable of producing crown

gall on sunflowers. Moreover, Blumenthal claimed to have produced tumours in healthy animals by inoculation with the same organism. Using a strain of this organism isolated from chrysanthemums, Mr. Walkden and Professor Robinson had carried out experiments which suggested that Smith's comparisons could not be accepted as valid and which showed why Blumenthal's work could not be accepted as proving that a similar organism was responsible for malignant diseases in man and animals.

The secondary growths described by Smith did not occur naturally on plants, but resulted only from experimental inoculation. The natural growths were globular swellings with a rough surface bounded by superficial layers of dead cells, and the bacteria were present in abundance on the surface. The organism could only produce galls after wounding. It entered the intracellular spaces and, adjoining the lines of invading bacteria, cells and tissues, normally inactive, were stimulated to repeated division. Control shoots cut similarly did not thus grow. In these rough-surfaced galls the later development of the swelling was partly due to the active presence and multiplication of *Bacterium tumefaciens* on the rough external swelling of the gall. The so-called secondary tumours arose when the inoculations were made by needle-pricks near the growing points of actively growing shoots. A number of leaf-rudiments were affected by the needle-prick, and as the growth of the plant proceeded the injuries which developed galls became widely separated from one another. Many such galls had a rough surface, but some were smooth. They were not due to tumour strands, as Smith suggested, but to the presence of bacteria in the air spaces. The bacteria were either carried by the growth of the plant to some distance from the original point of entry or migrated actively in the intracellular spaces. Although regions infected by the migrating strands of bacteria superficially resembled invasive tumour strands, the cells were merely altered *in situ* and there was no migration of cells. This could be observed with particular ease in tobacco plants. Other features of crown gall, such as the apparent teratomas, and the apparent transformation of the structure of one organ into another as a secondary effect of bacterial activity, were equally invalid for comparison with malignant tumours in animals and man. Riker and Kustur had reached similar conclusions, but others had drawn the amazing conclusion that *Bacterium tumefaciens* or similar organisms occurred in human tumours, and that when isolated these organisms could produce not only galls on plants but tumours in animals. In no case, however, had these workers succeeded in isolating the organisms anew from the tumours of the diseased animals. That it should be possible to isolate organisms similar to *Bacterium tumefaciens* from the necrosing margin of tumours was not surprising in view of the large number of different bacteria there.

There thus, continued Professor Robinson, seemed little if any justification for Smith's comparisons or for Blumenthal's conclusions that some connexion existed between crown gall and animal tumours. There were, however, certain features which plant and animal diseases had in common. In both cases cells and tissues were stimulated to active atypical proliferation, and a real insight into the nature of these changes in crown gall might throw light on the changes taking place in the cells of animal tumours. Warburg held that this problem was essentially one in cellular physiology. He had studied the energy-liberating reactions in rat sarcomas and carcinomas, and in fowl sarcoma measured the fermentative changes in the tumour tissue. He found that this fermentative activity resulting in lactic acid production was a property of all non-necrosing tumour tissue, and that such tissue showed this property irrespective of the presence of oxygen. In the absence of oxygen all body cells showed fermentation, but only embryonic tissues showed fermentation at all comparable in magnitude with that of tumour tissue; this was masked in the healthy embryonic tissue by active respiration. Warburg concluded that in tumour tissues the oxygen respiration of growing cells was electively injured, while the fermentative activity still proceeded. Poisons and other injurious substances acted similarly and *in vitro* tumour cells occasionally arose. Usually, however, the effect of injuring respiration was to cause the death of the tissue. In plants lack of oxygen often resulted for a time in cell proliferation, and it might be of significance that *Bacterium tumefaciens* was strongly aerobic. Thus it was possible that in the intracellular spaces it modified the oxygen relations of the cells and caused proliferation. Whether the metabolism of the plant tissues in crown gall was similar to that in animal tumours had still to be seen, but it appeared possible that in their cellular physiology plant galls might have at least some points in common with animal tumours.

Dr. ARCHIBALD LEITCH thought that comparisons between plants and animals were rather illusive. He considered that the most that Blumenthal had ever done was to produce a granuloma, and a poor granuloma at that. It was even doubtful if his organism was the same as that of Smith. He agreed with Professor Robinson that there was no analogy between crown gall and animal tumours.

INFLUENCE OF RADIATION ON THE GROWTH OF TUMOURS.

AT a meeting of the Section of Electro-Therapeutics of the Royal Society of Medicine on April 8th, Dr. G. B. BATTEN presiding, three communications were made describing experimental work on the growth of tumours in tissues exposed to *x* rays and radium.

Professor SIDNEY RUSS spoke of some work which he and Miss G. M. Scott had done in the Cancer Research Laboratories of the Middlesex Hospital. He said that it was known from previous experiments that rats which had been exposed to repeated small doses of *x* rays and afterwards had been inoculated with Jensen's rat sarcoma did not grow the tumour as quickly as non-irradiated rats. One investigator, Murphy, had found that after purely local irradiation of the skin of mice, intracutaneous inoculations of the tumour rarely grew, but with subcutaneous inoculations there was very little difference between the growth in the treated mice and in the controls. As these observations had some bearing on the therapeutic use of *x* rays and radium, Dr. Russ and his colleague made further experiments from which again it seemed clearly indicated that the implanted sarcoma of the rat did not grow at the normal rate in the area which had been given a suitable dose of radiation. These experiments, which he described in detail with the aid of graphs, had been continued. Young rats had been inoculated on the flank with small pieces of Jensen's rat sarcoma, and three or four days later the graft was covered with a lead disc and the surrounding tissue exposed to a square radium capsule for varying periods in different cases. Half-way through each exposure the capsule was turned through an angle of 45 degrees so that the irradiated area might be more or less circular. In some cases control tumours were grown in the same rats, in others in different rats, but in all cases the control tumours were the larger. The series of observations on more than 100 rats suggested that radiation of the skin distinctly hindered the growth of the tumour. Finally this was tested in a more exact fashion. Each rat was covered with lead thick enough to stop the *x* rays used in this experiment, except over two areas. The rats were then exposed to moderate doses of the rays while under an anaesthetic. In some cases they were inoculated with Jensen's rat sarcoma before the *x*-ray exposure, but in most cases this was done three or four days afterwards, and the inoculation was made as nearly as possible in the middle of the screened area directly between the two exposed sectors. Jensen's rat sarcoma was found to grow much more readily in the normal areas, and in many cases where the irradiated area was eventually invaded by the tumour the growth was much flatter than in the normal regions. The tumour in its growth avoided the irradiated areas. All the rats in these experiments were inoculated in the flank. Normally Jensen's rat sarcoma in this position grew more or less spherically, with perhaps a tendency to track into the axilla and towards the chest, but one *x*-rayed sector was between the nodule and the axilla and the other directly below it, and the tumour grew more

readily towards the chest and avoided the x-rayed area near the axilla. The general result of the experiments was to show that the tumour grew more readily in normal tissues than in irradiated ones, irrespective of position.

In a further communication Professor Russ and Miss Scott described some work on the action of "radon seeds" on tumour and liver cells of the rat. The term "radon seeds" denotes a small glass tube, 3 to 4 mm. long, filled with radium emanation. The glass walls are very thin, so that not only do all the gamma rays get through, but a large proportion of the beta rays also. Jensen's rat sarcoma and the normal rat liver were used, and the seeds inserted for varying periods vertically and into the surface of the liver, leaving the top point just visible. These experiments were again described and illustrated in detail, and the general conclusions of the investigators were that limited regions of destruction were caused by inserting "radon seeds" into tumours and livers of rats, that the extent of the damage depended much more on the amount of energy absorbed than on the actual intensity of the radiation, and that the cells around the blood vessels appeared to be protected to some extent from the damaging effects of the radiation.

Dr. J. C. MOTTRAM, director of the Cancer Research Department, Radium Institute, London, also brought forward a contribution describing somewhat similar experiments, and bearing out the contention that tumour cells did not grow as well in irradiated tissues as in non-irradiated. He said that since radium and x rays were first used for medical treatment about twenty years ago a large number of facts had been accumulated, but so far no satisfactory theory which would string together a great number of these facts and possibly assist the clinician. Now that he had a theory had been propounded. He thought The theory was that the observed effects of the radiation on living tissues were to be explained by adding together the results of direct action on the cells and of interference with the blood supply. Radiation, he said, had a profound effect on the blood vessels. This could be demonstrated by a simple experiment on the ear of a rat or a rabbit. If one ear of the animal was given a two hours' exposure to beta radiation no effect would be observed during the first two days following the radiation, but on the third day the ear which had been exposed would be at once pinker and bluer than the other ear, and after pressure the blood would return more quickly. After five days the only change would be a remaining blueness, and after six or even days there would again be no difference between the ears. Fast-growing tumours were much more sensitive to radiation than slow-growing. The question was whether this difference was due to any greater sensitiveness of the cells of the tumour or to some other reason. He proceeded to describe experiments in which small pieces of tumour had been taken out and irradiated between mica and then put into mice. The result of the radiation was to cause the tumours to grow very much more slowly, but the tumours so treated were much less sensitive to a second dose of radiation. The changes seemed to be explicable, not by increased sensitivity of the cells to radiation, but by some other factor, probably the blood supply. There was no evidence that tumour cells were necessarily more sensitive to radiation than normal cells, and indeed the evidence of one observer, not perhaps convincing, was that actually the tumour cells were more resistant. The other factor was the vascular supply, which, if it were interfered with by radiation, might be expected to operate more severely in tumour tissues than in normal tissues. Such interference also was likely to influence more profoundly the fast-growing than the slow-growing tumours. To measure the vascular supply of a tumour was not easy. In slow-growing sarcomas one found quite a large number of well formed vessels running through the tumour. This factor might be held to explain the difference in the effect of radiation on tumours of various kinds, non-malignant and malignant, and situated in different regions, vascular and relatively avascular. A great number of clinical and experimental findings might be correlated with this idea that it was not only or chiefly the sensitivity of the cells which explained the action of the radiation, but the interference with the blood supply to the growth.

ULTRA-VIOLET RAY THERAPY.

AT a meeting of the Brighton and Sussex Medico-Chirurgical Society on April 7th, with the President, Dr. E. RIVAZ HUNT, in the chair, Dr. J. STANLEY ELLIS, in a paper on ultra-violet therapy, gave a brief history of the development of treatment by natural and artificial sunlight, and discussed the advantages and disadvantages of both methods. He concluded that artificial sunlight therapy bore the same relation to natural sunshine that synthetic drugs had to the crude drugs. The various wave-lengths of the electro-magnetic spectrum were shown, and the characteristics of the ultra-violet range were considered in detail. The definite photo-electric, photo-chemical, and fluorescent effects of the rays on the tissues were the basis of the profound physiological changes now demonstrable. After citing the effects of the rays on cholesterol, on the nerve endings, and on the production of pigment, all of which were concerned in the beneficial action of light therapy, the various conditions which responded to treatment were shown to fall naturally into four or five groups where the above physiological changes and others were most marked. Dr. Ellis added that certain drugs and endocrine extracts were activated by the rays in the human body, and emphasized the need of collaboration between the physician and actino-therapist. He feared that this form of treatment was in danger of discredit owing to the too ardent claims of enthusiasts: it was not a cure-all, but in the great majority of cases it was essentially an auxiliary procedure.

Diarrhœa in Tabes.

Dr. ROWNTREE CLAPHAM showed a woman, aged 37, who two months previously had come to hospital complaining of chronic diarrhœa of three years' duration which had become much worse in the previous six weeks. There were about nine motions during the day; they were quite painless, but she was losing weight rapidly. Examination of the abdomen and rectum revealed nothing except slight weakness of the sphincters. Examination of the nervous system, however, showed that this was a case of tabes with Argyll Robertson pupils, loss of ankle- and knee-jerks, and commencing perforating ulcers of both feet. The gait was normal, Romberg's sign was absent, and there was no inco-ordination. There was some analgesia and paræsthesia of the feet, the outer side of the legs, and the inner side of the arms. The Wassermann reactions of the blood and cerebro-spinal fluid were positive; the spinal fluid cells numbered 200 per cubic millimetre, globulin was in excess, and the colloidal gold reaction was 4332210000. Under antisyphilitic treatment the diarrhœa had improved, and the patient now had only two motions a day.

JAMES MACKENZIE INSTITUTE.

Delayed Resolution.

ON March 1st Dr. MAIR read a paper on delayed resolution in pneumonia. He distinguished an alveolar and an interstitial type of lesion, the former being characteristic of unresolved and recurrent pneumonia, while the latter was represented by pulmonary fibrosis. The symptomatology of unresolved pneumonia in the adult was reviewed, the lecturer specially emphasizing the loss of weight, even amounting to emaciation, which might result from this disease process. Illustrative cases from the Institute records were quoted. In one of these the signs of unresolved pneumonia were still evident, both clinically and radiologically, five months after the onset of illness. The symptoms in children were somewhat different from those found in the adult, the cardinal symptom being paroxysmal cough, often associated with cyanotic attacks. Failure of nutrition and some degree of exhaustion were almost constantly present. Cases of unresolved pneumonia and of recurrent pneumonia in children were reported, and the lecturer stated that danger to life appeared to arise, not primarily from the pneumonia, but from the repented strain on the heart. One child died of exhaustion in its fifth attack. The difficulty of recognizing cases of interstitial fibrous pneumonia was emphasized. Symptoms might be almost lacking in this disease, beyond slight cough and some loss of efficiency, unless the condition was of such long standing that cardiac displacement had resulted.

Reviews.

LISTER AS SEEN BY A STUDENT.

DR. JOHN RUDD LEESON entered as a student at St. Thomas's Hospital, London, in 1871. After two years in its medical school he, on the advice of Dr. Murchison, migrated to Edinburgh. In *Lister as I Knew Him*[1] he now records the impressions made on him by his service in Lister's wards of the Royal Infirmary. No greater contrast could well be imagined than that offered by the conditions under which Dr. Leeson worked in the two institutions. St. Thomas's Hospital had just been erected, almost regardless of expense, in an open situation, with every improvement that commended itself to the late Sir John Simon, then the leading authority on all questions of hygiene, including hospital construction. The nursing was carried out by Florence Nightingale's own nurses. Everything seemed to be in favour of the patients' quick recovery from injuries and operations. Yet it was found that the new surgical pavilions at Lambeth were little if any more healthy than the ancient wards of the old building in the Borough of Southwark. On the other hand, Lister's wards in the Edinburgh Royal Infirmary were ill ventilated, ill lighted, crowded, and not over-clean. The building had not been designed for a hospital but for a school. It was old, situated in a low and crowded poor district, and, in short, seemed to be as ill suited to its purpose as St. Thomas's was well suited. The nursing staff had little training, and its members were ill educated and uncultured, unlike the trained and refined ladies of Miss Nightingale's school. In fact, a good deal of the nursing was done by the surgeons' dressers and clerks, of whom there were fifteen besides a house-surgeon. Yet the diseases which at St. Thomas's rendered the surgeons' efforts vain were banished from Lister's wards. The contrast was naturally staggering to the English student, who soon became one of the devoted band of dressers, and afterwards clerk. Lister's care of detail extended beyond the operating theatre, and he himself attended to much that would now be left to a nurse. This was one of the great secrets of his success, and the neglect of this, as well as misunderstanding of principles, was the secret of the failure of many of his contemporary surgeons in Scotland as well as England to obtain good results from the antiseptic method. Dr. Leeson tells us that although at almost every visit Lister was accompanied by foreign surgeons, eager to note every detail, his senior colleagues on the staff of the Infirmary took no interest and never entered his wards. London surgeons have no cause to look back with pride on the reception accorded to Lister and his methods by their predecessors, but Glasgow and Edinburgh are in no position to throw stones. It is clear from Dr. Leeson's pages that Lister, with all his kindness of heart, was a shy man, and that he never succeeded, even if he wished to do so, in breaking through the veil of constraint which separated him from his pupils, who nevertheless revered him, although their reverence was not untinged with awe.

This interesting book is well illustrated, some of the plates being taken from the late Professor John Chiene's book *Looking Backwards*.

PYORRHOEA ALVEOLARIS.

IN his work on *Pyorrhoea Alveolaris*[2] Mr. STEADMAN retains the old and oft-abused nomenclature because "it is exceedingly difficult to find a name which is really suitable, and the old term 'pyorrhoea alveolaris'—bad as it is—appears upon the whole to be as good as any other." Most medical practitioners will agree that even a bad name is better than another change, and will be grateful to Mr. Steadman for acknowledging that he, at any rate, can invent no better term. The author, who lectures on bacteriology at the Royal Dental Hospital, London, would divide pyorrhoea into (1) the germ-carbohydrate-stagnation type; (2) the atrophic type; (3) the acute infective type. While we acknowledge the simplicity of such a classification we cannot agree that he makes out a good case. The third type, by common consent, stands apart as a fuso-spicillary infection, but the first two "types" so commonly coexist, or in course of time develop one into the other, that no clinical distinction of type can be made.

In the etiology of pyorrhoea the author finds a place for "traumatic occlusion," but we should have preferred an example in which the affected teeth were regularly placed. Again, peri-apical infection through the blood stream does not seem to have been proved in the case quoted by the author: extremes meet, and we should have been at the other extreme (local peri-odontal infection) in explaining the clinical course of the case quoted. The importance to the dentist of substantiating the existence of traumatic occlusion and of peri-apical infection through the blood stream must be our excuse for direct criticism of these points.

The major part of the book is devoted to a discussion of the sequelae of pyorrhoea, and here the author seems to have forgotten he started out to discuss pyorrhoea and (greatly, we think, to the reader's advantage) has included all sources of dental sepsis. He has a wide clinical experience, and keeps careful notes, with the result that diseases as divergent as alcoholism and cancer have their appropriate clinical illustration. Syphilis is relegated to a minor place in the causation of chronic glossitis, and in general we may say that the author has a very just appreciation of the part played by dental sepsis in the production of disease, and presents his case in a restrained, and therefore the more convincing, manner. The pages on insanity might perhaps be curtailed.

In the chapters on treatment the author begins with the preventive treatment of the expectant mother, and carries the argument runs through infant-feeding, adenoids and mouth breathing, regulation of teeth, to the actual treatment of the condition when present. In adults we gather that the author is inclined to radical treatment.

Dr. Murray Levick adds a note on the value of ultra-violet radiation in dental sepsis, especially in raising the immunity of the body to bacterial invasion.

We wonder what "negatory" (p. 153) means, and we wonder how removal of teeth accounts for the incidence of pyorrhoea in childhood (p. 14).

The book will stimulate thought and interest in the problems of dental sepsis, both among medical and dental practitioners.

THE EVOLUTION OF MAN.

WE welcome a second edition of Professor ELLIOT SMITH'S essays on *The Evolution of Man*[3]; the first edition was published less than three years ago, and the volume had to be reprinted within six months.

In the new edition certain parts which were regarded by the author as not relevant to the general purpose have been omitted, but additions, both considerable and highly important, have been made. In the course of a most interesting discussion of the question of right- and left-handedness, it is indicated how the asymmetry of the human cerebral hemispheres "confers upon one hand, usually the right, a greater aptitude for the attainment of skill than the other." The author also marshals in orderly sequence the factors which led up to the adoption of the erect posture, and shows that it was not the cause of man's intellectual pre-eminence, as has so often been assumed. The erect attitude, as Professor Elliot Smith so definitely establishes, was itself made possible by cerebral development.

Perhaps the most valuable and fascinating addition is a very full consideration of the acquisition of skill and its significance and influence upon the evolution of man. Evidence is presented to prove definitely how the ability to perform skilled movements emerged, and how, having been established, it exerted profound influences upon the further development of the neopallium.

[1] *Lister as I Knew Him.* By John Rudd Leeson, M.D., C.M.Edin., M.R.C.S., F.L.S. London: Baillière, Tindall and Cox. 1927. (Demy 8vo, pp. viii + 242; 7 plates. 8s. 6d. net.)

[2] *Pyorrhoea Alveolaris: Its Ætiology, Pathology, Symptoms, Sequelae, and Treatment.* By F. St. J. Steadman, D.P.H., L.R.C.P.Lond., M.R.C.S., L.D.S.Eng. London: Henry Kimpton. 1927. (Roy. 8vo, pp. xv + 263; 42 figures, 36 plates. 25s. net.)

[3] *The Evolution of Man: Essays* by G. Elliot Smith, M.A., M.D., Litt.D., D.Sc., F.R.C.P., F.R.S. Second edition. London: Milford, Oxford University Press. 1927. (Demy 8vo, pp. xii + 165; 47 figures. 12s. 6d. net.)

References to recent advances in knowledge and anthropological discoveries have been incorporated, and a very complete account of the Taungs ape is presented. The number of illustrations has been tripled in this second edition; they are all exceedingly clear and of high quality, and enhance appreciably the value of the book. The general descriptions and discussions are so simple, and technical terms have been avoided wherever possible with such remarkable skill, that the essays may be followed readily by the interested layman, as well as by the biologist and the anthropologist. The first edition has already proved itself to be a popular and valuable textbook, both in this country and abroad, and the new edition is likely to have an even wider circulation, and can be recommended most warmly to all interested in man's pedigree.

ALLERGIC DISEASES, INCLUDING ASTHMA.

DR. W. W. DUKE'S book, the first edition of which was reviewed last year (1926, i, 290), on *Allergy: Asthma, Hay Fever, Urticaria, and Allied Manifestations*,[4] has already passed into a second. In the brief preface he not only expresses his "sincere thanks to the editors and physicians who have so kindly reviewed this little book," but obligingly points out some of the additions necessitated since it first appeared. Among them are almost a hundred recent references added to the existing thirty odd pages of the bibliography. Considerable importance is attached to the observation that most normal persons can be passively sensitized locally by an intracutaneous injection of the serum of a hypersensitive individual, and that this sensitiveness is specific for the substance to which the donor is sensitive—for example, if the recipient takes an article of food which affects the donor, the area of skin sensitized, and that part only, responds. He also describes very briefly his modification of E. W. Phillips's intracutaneous treatment with pollens for hay fever, and states that it was always and rapidly successful.

Dr. Duke has done much work on the reactions caused specifically by physical agents, such as light, heat, cold, mechanical irritants, and indirectly by the effect of mental or physical effort. The illustrations of urticaria thus produced are very striking. Reference to the work on these lines by Sir Thomas Lewis and his collaborators during the last two years should find a place in the next edition of Dr. Duke's useful book.

GUY'S HOSPITAL REPORTS.

THE first quarterly instalment of the seventy-seventh volume of the *Guy's Hospital Reports*,[5] edited by Dr. ARTHUR F. HURST, now with the help of Mr. W. H. OGILVIE as assistant editor, contains eleven articles. One, entitled "Cases from Clinical," deals with eight cases of interest; five of them, being by the "clinicals" or student contributors, serve a valuable educational purpose not only to the readers but to the writers. The longest article, occupying nearly a third of this instalment, is that on extrauterine gestation at term by Mr. S. N. Evans, who from an analysis of 33 cases published in the five years 1920-24 concludes that the etiological factor in 67 per cent. of the cases is infection due to a previous pregnancy or abortion, and that in the remaining 33 per cent. there is only the rather unsatisfactory postulation of developmental defects and anomalies. Mr. A. W. Ormond reports cases of disc-like degeneration of the macula, occurring at about the age of 70, and due to senile failure of the capillary circulation in the retina; the article is illustrated by six coloured representations of the change. A form of encephalitis lethargica characterized by unequal pupils and loss of accommodation without any severe constitutional disturbance and without any other nervous symptoms is described by Mr. O. Gayer Morgan and Dr. C. P. Symonds. Mr. W. H. Ogilvie reports two cases of squamous-celled carcinoma occurring simultaneously in different parts of the body, and appends a list of papers dealing with two independent malignant growths in the same patient. Mr. E. H. Richards has investigated the microscopic conditions of the tonsils and the posture in forty-two children; he finds that hyperplasia of the tonsils is associated with a generalized hypotonic condition, whereas a purely inflammatory change is a comparatively local affection; his results confirm those of Misses L. Wills and J. Warwick. Dr. Arthur Hurst's activity and influence are extremely obvious; he contributes two papers on remedial exercises in asthma and on so-called gastric hypertonus and gastroptosis, and atonic dilatation of the stomach. Dr. F. A. Knott's article on the part played in pernicious anaemia by achlorhydria and intestinal infection deals with thirty-seven of the editor's cases, and Dr. J. A. Ryle's record of an instance of oesophageal spasm with severe anaemia (Plummer-Vinson syndrome) is clearly inspired by his senior's example.

VERTIGO.

DRS. J. LÉVY-VALENSI and E. HALPHEN have written a small volume with the title *Les Vertiges*,[6] which summarizes in convenient form the main facts concerning this interesting and difficult subject. The book is one of a series dealing with neurological and psychological subjects published under the direction of Professor Henri Claude and Dr. Lévy-Valensi. Vertigo is defined as an error of sensation under the influence of which the sufferer feels as if he himself or surrounding objects were animated by a gyratory or oscillating movement. All true vertigo they regard as directly or indirectly vestibular in origin, whether the cause be an organic change in the vestibular mechanism itself or a systemic toxin indirectly affecting this mechanism.

After a short description of the anatomy and physiology of the vestibular apparatus and its nervous connexions, a considerable part of the book is devoted to an account of the standard methods for the examination of labyrinthine function. The various clinical conditions in which vertigo is a prominent symptom are then discussed seriatim and their differential diagnosis is considered. The accounts of primarily labyrinthine, nervous, and general conditions associated with vertigo are brief and clear, and the volume is an excellent guide to the subject.

NOTES ON BOOKS.

THE demands made upon the nursing profession have undergone a profound change; the cause is probably twofold. In the first place, during the war, in the times of stress, sisters and nurses had to perform duties and undertake responsibilities which they had hitherto never been called on to discharge. Since the war the advent of women into the medical profession has broken down many old prejudices and stimulated a keener interest and sense of rivalry among the nurses themselves. For this reason we can recommend Mr. RUSSELL HOWARD'S book on *Surgical Nursing*,[7] which appears in its fifth edition and is brought up to date. The foundation of the book is a series of lectures on surgical nursing given to the probationers of the London Hospital. It gives a brief and concise account of the principles upon which modern surgical treatment is founded, especially from the nurse's point of view, and we may add that many medical students and junior qualified men would find its contents extremely useful to them in the wards. The active strides being made by surgery, with its tendency towards greater specialization, demand an ever-increasing knowledge on the part of the nurse, and it is essential that the nurse should understand the principles upon which the surgeon is working, so as to be the better able to render him efficient aid. Apart from carrying out instructions, the nurse must be prepared in cases of emergency to act and apply such treatment as may be possible until the arrival of the surgeon. Moreover, it is becoming more customary for nurses to carry out the preparation of the patient without special orders, and also to modify diet as circumstances demand.

[4] *Allergy: Asthma, Hay Fever, Urticaria, and Allied Manifestations of Reaction.* By William W. Duke, Ph.B., M.D. Second edition. London: H. Kimpton. 1927. (Med. 8vo, pp. 344; 75 figures. 25s. net.)

[5] *Guy's Hospital Reports*, Vol. 77 (Vol. 7, Fourth Series), No. 1, January, 1927. Edited by Arthur F. Hurst, M.D., and W. H. Ogilvie, M.Ch. London: The *Lancet*. (Med. 8vo, pp. 1-126; 2 *coloured plates*, 32 figures. Annual subscription £2 2s. for volume of 4 parts; single numbers 12s. 6d. each.)

[6] *Les Vertiges.* Par J. Lévy-Valensi et E. Halphen. Bibliothèque de Neuro-Psychiatrie. Paris: A. Maloine. 1926. (Imp. 16mo, pp. ii + 118; 41 figures.)

[7] *Surgical Nursing.* By Russell Howard, C.B.E., M.S., F.R.C.S. Fifth edition. London: E. Arnold. 1926. (Cr. 8vo, pp. xx + 320; 27 figures, 12 plates. 7s. 6d. net.)

The thirteenth edition of *Madeira, Canary Islands, and Azores*[8] has been revised and brought up to date, and the author, Mr. A. SAMLER BROWN, is to be congratulated on improving still more a very valuable and interesting guide-book to these islands, which are rightly increasing their popularity as health and holiday resorts. The climate, history, geography, social conditions, means of transport, and such matters are dealt with comprehensively, and the book is illustrated with photographs, maps, and diagrams. Special attention has been given to the requirements of invalids of different kinds, and medical practitioners who wish for information in this respect will find the book helpful. It may be suggested that the subject of pronunciation deserves a little more attention, two short paragraphs on an otherwise blank page being intriguing, but inadequate for those who would like to arm themselves with a few phrases in Portuguese or Spanish before landing.

The second edition of Dr. HARRY MERRALL's little work on *Resistance to Disease*[9] differs from the first, which appeared about two years ago (JOURNAL, May 16th, 1925, p. 931), by the addition of a new preface and the prescriptions for some throat pigments.

[8] *Brown's Madeira, Canary Islands, and Azores.* By A. Samler Brown. Thirteenth and revised edition. London: Simpkin, Marshall, Hamilton, Kent and Co., Ltd. 1927. (Cr. 8vo, pp. xx + 380; 22 maps and plans. 7s. 6d. net.)

[9] *Resistance to Disease.* By Harry Merrall, M.B., Ch.B. Revised, enlarged, and cheaper edition. London: Williams and Norgate, Ltd. 1927. (Cr. 8vo, pp. xxxv + 181. 6s. net.)

THE HEALTH OF THE ARMY.

ANNUAL REPORT FOR 1925.

IN March, 1925, we reviewed the report on the health of the army for the year 1922, and drew attention to the delay in the issue of these annual reports. Since then, and within a space of little over twelve months, the reports for 1923, 1924, and 1925 have appeared, an achievement on the part of the Medical Department of the War Office which merits grateful recognition by all who peruse these reports before the interest in them has subsided. The report for 1924 came under review only nine months ago, and we have now received the report for 1925.[1] In this respect the Army Medical Service has forged ahead of the Royal Navy and the Air Force, and has drawn level with the United States Army Medical Department.

The 1925 report is similar in character and extent to that of the previous year. Both at home and abroad the health of the army continues to be satisfactory, reductions being noticeable in the admission, death, invaliding, and constantly sick rates.

The admission rate for officers, with a strength of 9,909, was 296.3, and the death rate 4.44 per 1,000, as compared with 284.4 and 5.86 in 1924. The corresponding rates for other ranks, with an average strength of 193,597, were 446.2 and 2.35, as compared with 484.7 and 2.8 in the previous year. The invaliding ratio was 11.12, as compared with 13 per 1,000 in 1924 and 14.5 in 1923. The constantly sick rate—25.7 per 1,000—also showed a decrease from 27.11 in 1924.

Among the causes of admission to hospital, malaria (10,019 cases) heads the list as in previous years, but the ratio has fallen from 71.0 to 51.8 per 1,000 of strength. Venereal diseases (8,591 cases) come next, and show a decrease of 600 on the admissions for 1924. Tonsillitis (6,008 cases), inflammation of areolar tissue (4,582), bronchitis (3,286), influenza (3,047), sprains (2,592), and sandfly fever (2,397) follow, in practically the same order as in the previous year, as the chief causes of admission, influenza alone showing any marked decrease in the ratio.

With the exception of the small garrison in West Africa, no command showed a ratio of admissions amounting to 1,000 per 1,000. In West Africa it was 1,016.8. The most marked reduction is in the Army of the Rhine, where the ratio fell to 289.7 per 1,000 from 345.9 in 1924 and 466.5 in 1923. The decrease cannot be attributed, as in the previous year, to a great reduction in venereal diseases, although the latter have decreased from 38.4 per 1,000 in 1924 to 30.7 in 1925. The health of the Army of the Rhine in 1925 was only equalled by the health of the comparatively small garrisons of Bermuda and Mauritius, and with the exception of these two shows the lowest admission rate of any other command.

The report contains many interesting notes on the chief diseases. Again we find that the amoebic type of dysentery preponderates. Of the total admissions for dysentery 67.9 per cent. were diagnosed as amoebic; but the report draws attention to the fact that special bacteriological investigations have resulted in more precise differentiation of the types of the disease. At the same time, it is difficult to get away from the impression that amoebic dysentery is the prevailing type east of Suez and bacillary the type west of Suez. In Egypt, for example, in 55 out of 62 admissions, 40 were bacillary and 15 amoebic, whereas in India 438 of a total of 725 admissions were diagnosed as amoebic. Against this, however, it must be noted that in one district, Poona, bacillary infection was the main cause of admission. Much stress is laid in the report to the importance of the investigations in relation to principles of prevention and treatment. It may be noted in this connexion that the prevention of bacillary dysentery by prophylactic vaccines has not yet become a practical proposition in the army; and that both forms of the disease are considered to be largely due to contamination of food by flies.

There were 218 admissions for enteric fevers, 184 of the cas occurring in India. Little light, however, is thrown on tl effects of prophylactic inoculations. Reports in this respe refer only to 5 cases at home, none of whom were inoculate and 9 cases abroad, exclusive of India, of whom 5 had bee inoculated. The only information regarding cases in India the statement that 86.5 per cent. of the officers and 95.3 pe cent. of other ranks had prophylactic inoculations; but to wha extent the 184 cases occurred amongst the non-inoculated is no recorded.

Venereal diseases, which in recent years have remarkabl declined in the army both at home and abroad, show a sligh further decline in 1925. The ratio for the whole army wa 44.4 per 1,000, as compared with 47.8 in 1924. In the home commands alone it was only 22.3. The chief cause of admission was gonorrhoea, admissions for other types of venereal disease being insignificant. Some interesting observations on the value of preventive measures are recorded. In Malta a decrease in the admission ratio from 41.4 in 1924 to 24.8 in 1925 is attributed to the establishment of preventive ablution centres in certain streets; and in Quetta, out of 6,057 men who used a central prophylactic treatment room in the bazaar, only 8 are stated to have developed venereal disease subsequently. Considerable research work in connexion with gonorrhoeal vaccines is also recorded in the report.

The only other group of diseases that are extensively dealt with are diseases of the digestive system. They formed the subject of special investigations by all modern methods of diagnosis and treatment. The number of admissions for gastritis, indigestion, duodenal and gastric ulcers, and appendicitis was formidable, and was responsible for a high constantly sick rate. The investigations were carried out in connexion with them by fractional test and barium meals, presence of occult blood, fluoroscopy, and radiography, and the results correlated.

As in previous reports since the war, special notes are included in the report for 1925 on the work of the departments of medicine, surgery, hygiene, and pathology. These are now a feature in the annual reports on the health of the army, and should be an encouragement to young medical men who are anxious for opportunities of good scientific and professional work to adopt an army career. A short account of dental work in the army is also of interest, and shows how this important service is growing.

The section dealing with the medical examination of recruits gives the number examined as 57,447, of whom 20,405, or 355.19 per 1,000, were rejected or discharged within six months of enlistment. The ratio in 1924 was 393.49. The chief causes of rejection, as in previous years, were deafness and ear diseases, loss or decay of many teeth, defective vision, heart diseases, and defects in lower limbs. As regards invaliding, middle ear diseases accounted for the majority of the cases, tuberculosis and valvular disease of the heart coming next in order. Other sections of the report comprise detailed statistics and notes on the health of the troops in each command at home and abroad, of gentlemen cadets, the boys' technical school, Beachley, and the women and children on the strength of the army.

[1] *Report on the Health of the Army for the Year 1925.* Vol. lxi. London: H.M. Stationery Office. 1927. (8vo, pp. iv + 152, with 73 statistical tables and 2 charts. Price 3s. 6d. net.)

British Medical Journal.

SATURDAY, APRIL 16TH, 1927.

THE PREVENTION AND CONTROL OF RHEUMATIC INFECTION IN CHILDHOOD.

IN the SUPPLEMENT this week is published the second report presented to the Science Committee of the British Medical Association by the Subcommittee set up in January, 1924, "to inquire into the steps which have been, and are being, taken in relation to the prevention, detection, and treatment of cardiac disease in children, and to make proposals in connexion therewith." The first report of the Subcommittee, which was published in the SUPPLEMENT for July 3rd, 1926, laid down certain general principles for the prevention and treatment of rheumatic heart disease in childhood. The present report furnishes the application of those principles to practical politics. Its object is to suggest in a more detailed form the steps which any national campaign against this disease should follow. In preparing these suggestions the Subcommittee had the valuable assistance of Dr. C. O. Hawthorne (Chairman of the Science Committee) and Dr. H. B. Brackenbury, and of Dr. J. Alison Glover of the Ministry of Health. Besides the material collected for the first report the Subcommittee examined a large mass of additional information prepared by its Honorary Secretary, Dr. Reginald Miller, who presents it in a summarized form in an appendix to the new report.

The reader of this second report cannot fail to be struck by two things. First, it deals rather with treatment than with prevention. This does not imply an underestimation of the supreme importance of prevention. It merely reflects the imperfect state of our knowledge of the causes predisposing to rheumatic infection, confessed by Dr. G. F. Still in his summary of the recent Medical Research Council report on the same subject.[1] It is possible that further research into environmental conditions may bring to light more definite bases for a policy of prevention. For the collection of the data necessary for such an investigation the Subcommittee favours voluntary effort rather than compulsory notification, having regard to the difficulties, administrative and clinical, by which the latter course would be hampered. In the meantime the Subcommittee has expressed in action its declared belief in the importance of preventing damp in dwellings by taking into counsel the Royal Institute of British Architects, who will doubtless report on the matter after giving it due consideration.

It is in the proposals for dealing with children already injured by the disease that the second great feature of the report stands out—namely, its preference for the co-ordination of existing agencies over the establishment of any new *ad hoc* service. Those agencies are the family practitioner, the school medical service, and the voluntary hospitals. The onus of making an early diagnosis falls especially on the first and the second of these, while the third can help here also by offering expert assistance. There is no need to set up new machinery for dealing with this part of the task. Indeed, the report emphasizes the unwisdom of any plan which would hand over the diagnosis of rheumatic infection in childhood to a specially appointed service of officers working in isolated clinics.

In the treatment of the disease, however, it is clear that the existing machinery is inadequate. Increased knowledge of the pathology of rheumatic heart disease has taught us that the infection tends to persist, often in a latent form, for periods of years. To meet this tendency the report proposes that a register of rheumatic children shall be kept so that the children may be re-examined periodically as far as is thought necessary. This is in accordance with the general trend of hospital policy in this country, and even more in America, where the "follow-up" organization is regarded as an essential part of every efficient hospital.

The final paragraphs of the report deal with another means of prolonged treatment in which America has taken the lead—more, we believe, owing to circumstances over which we have no control than to blindness or lassitude on the part of British clinicians. As long ago as 1912 Dr. F. J. Poynton, to whose unwearied labours on behalf of the rheumatic child the whole world stands in debt, said, at the Liverpool meeting of the British Medical Association, that he looked forward to the foundation of proper homes for the convalescence of the rheumatic child. So far as this country is concerned, however, these hopes were soon to be destroyed, or at all events deferred, by the European war.

The Subcommittee's first report included a valuable summary by Drs. G. A. Allan and A. P. Thomson of the provision already made in this country for the organized after-care of rheumatic children. From a perusal of this it is clear that there is as yet little accommodation for the prolonged institutional treatment of these children, and that the Subcommittee was justified in pleading for its rapid expansion. In the second report the lines upon which such accommodation should be provided are suggested: close touch with the existing voluntary hospitals, provision of means of education to run concurrently with treatment, and union with similar institutions treating other crippling diseases of childhood. No one expects to see miracles achieved by these methods, yet those who are most experienced in the treatment of rheumatic heart disease in childhood have borne witness to the possibility of arrest, and even of cure, in an appreciable proportion of cases if early diagnosis is made and treatment carried out over an adequate period. It is to the provision of these two essentials, chiefly by the co-ordination of means already in being, that the bulk of this eminently practical report is devoted, and we are confident that the medical profession in this country will not be slow to adopt its recommendations.

[1] See BRITISH MEDICAL JOURNAL, March 12th, 1927, p. 480.

STONEMASON'S LUNG.

AN interesting turn was given to the discussion on the perilous state of the stonework of the Palace at Westminster in the House of Commons on March 31st, when three Labour members raised the question of the effect on the health of the quarriers and dressers of the hard siliceous Darley Dale sandstone, recommended for the repairs by the Office of Works. A million pounds and more is to be expended over a period of fifteen years. The debate made a picture of what must have been the ordinary procedure in any guild-hall in the Middle Ages when an important building was to be erected, because we had an architectural sculptor, a builder, and a carpenter expressing

their views, the result of practical knowledge, on the importance of avoiding in the future the glaring faults of the past.

After the Thames itself, it is the Portland stone, of which practically all the public buildings except the Houses of Parliament are built, that gives London one of its chief beauties. Barry's design for a Gothic pile unfortunately required a stone which lent itself to elaborate undercutting and carving of statuary, pinnacles, and other ornament. He therefore discarded Portland stone, preferring a magnesium limestone from Anston in Yorkshire. Subsequently almost every mistake that could be made with this stone was made, such as face bedding—that is to say, placing the horizontal bed of the stone in a vertical position. The sculptors carved too well, and the smoky atmosphere of London, charged with sulphuric acid from the combustion of coal, shows no mercy to delicate stone tracery, with the result that, as a purely "safety first" measure, £37,000 has been spent simply on "hand-picking" the decayed portions. Portland stone was advocated by the Labour members, not only for its durability, but also because, as a limestone, it is innocuous, or nearly so, to the lungs; whereas sandstone is notoriously the building stone most productive of silicosis. Some interesting figures comparing these two classes of stone were given. Thus, as compared with a general phthisis death rate of 1.4 per 1,000 in the years 1901-10, the rate was 13.7 among 124 gritstone workers in Derbyshire and 7 per 1,000 among 426 stone workers (some in limestone) in the two Matlocks and Darleys. Among colliers in the same district it was 0.68. The Registrar-General's comparative mortality figures for phthisis for 1910-12 were also quoted—142 for all males between 25 and 65 years of age, 127 for granite dressers, 129 for limestone workers, and 451 for sandstone masons.

Nowhere in the memorandum drawn up by the Office of Works is the question of the healthiness or otherwise of working these stones mentioned, presumably because that aspect never entered the minds of the responsible parties. Attempt was made on behalf of the Office of Works to maintain that the figures were based on the census of 1910, and therefore could not be taken as reliable to-day. This is a familiar way of shelving an awkward question. Clinical symptoms do not alter when conditions remain the same, and it is an unfortunate fact that no means external to the worker—conditions, that is to say, over which he can exercise control—such as flexible ducts connected with fans to take away the dust, have been introduced into stone-cutting operations. It may be possible, however, to adapt the pneumatic tools now increasingly used to consume their own dust by means of the exhaust for the compressed air.

At any rate, the ventilation of this subject in the House of Commons will ensure now that the best brains are brought to bear on this very difficult problem. For a dozen years or more some scores of sandstone masons will be working within the precincts of the Palace of Westminster—ideally near the Chamber, therefore, for complaints to be heard and attended to. How many other dangerous trades would wish to be similarly placed!

It must have been obvious to those who raised the discussion that a self-denying ordinance in the case of the Houses of Parliament against the Darley Dale stone was illogical, if its use was not to be prohibited altogether. It was alleged, too, that Portland stone would cost three times as much. Still, Government departments have a way of cheapening at one end and making dearer at the other. It will be interesting to see if the official assurance is borne out: "We do not think that any injurious effects to the workmen will ensue from the use of this stone."

THE ACTION OF SALICYLATES.

THE value of the salicylates is apt to be underrated because these drugs are used for a wide variety of purposes, and the full importance of the aggregate of their actions and uses is not immediately obvious. They are, in fact, one of the most widely used and important groups of drugs in medicine. Acetylsalicylic acid, for example, is used for self-drugging more extensively than any other substance in the *Pharmacopœia*, if we except alcohol and caffeine. Again, the importance of rheumatic fever as one of the chief causes of permanent heart injury can scarcely be overestimated, and the salicylates are still our chief remedy in this disease. Finally, chronic muscular rheumatism is one of the commonest causes of partial disability, and here again the salicylates are the chief palliatives we possess. The real importance of these drugs in this last connexion was probably brought home to many during the first years of the war, when the supply ran short and regimental medical officers had to face sick parades with scarcely any salicylates available.

Dr. P. J. Hanzlik, Professor of Pharmacology, Stanford University, California, has recently published a monograph[1] on the action and uses of the salicylates and cinchophen in medicine, which is of particular interest because he has himself carried out extensive researches on the subject and can base his judgements on first-hand knowledge. Cinchophen, which is best known in this country by trade names, such as agotan or atophan, shows close affinities to the salicylates in its pharmacological actions, and although its most specific action is its power to increase the excretion of uric acid, yet its effect in relieving chronic rheumatism is important and perhaps more generally useful. Professor Hanzlik has collected all the evidence available, and a bibliography of some eight hundred references bears testimony to his industry. Nevertheless the outstanding impression left after a study of all he has to tell us is that our ignorance regarding the mode of action of this important group of drugs is still astonishingly great. This ignorance involves problems of both practical and theoretical importance. For example, clinical workers are almost unanimous in their opinion that the administration of sodium bicarbonate with full doses of salicylates lessens the toxic action of the latter; but apparently most of the controlled observations have failed to confirm this opinion, and Professor Hanzlik quotes an opinion to the effect that this practice rests on tradition rather than on reason. Similarly, the action of salicylates in relieving the symptoms of rheumatic fever is one of the most striking therapeutic effects seen in a hospital ward, and yet we know really nothing of the means by which this effect is produced. Hanzlik is emphatic that it is not a specific action, and concludes: "Hence, it appears that the relief of rheumatic fever by salicyl and cinchophen is mediated through the antipyresis and analgesia produced by these agents, which act rather efficiently, permitting

[1] *Action and Uses of the Salicylates and Cinchophen in Medicine.* By P. J. Hanzlik, M.D. Medicine Monographs, Vol. IX. London: Baillière, Tindall and Cox; Baltimore: The Williams and Wilkins Company. 1927. (Med. 8vo, pp. 290; 12 figures. 16s. net.)

comfort and rest while the joint symptoms disappear spontaneously and gradually."

Probably these conclusions will be doubted by many clinicians, but even if they are accepted they do not carry us very far, because we do not know the mode in which these drugs exert their antipyretic and analgesic actions. Barbour has advanced the theory that these effects are secondary to blood dilution, but Hanzlik appears to doubt the accuracy of this conclusion.

Since uncertainty exists regarding the most obvious and definite actions of the salicylates, it is needless to say that our ignorance is even more complete regarding their less dramatic effects. Most of the important actions of salicylates unfortunately cannot be tested by animal experiments, and will have to be solved by the more difficult method of clinical observation. In spite of the extensive literature on the subject, nearly all the questions of prime importance are unsolved, and the mode of action of the salicylates still offers a very profitable field for clinical research. If Professor Hanzlik's summary of our current knowledge—or rather, perhaps, of our current [illegible] the mode of action of these drug[s] investigation it will have served a very useful purpose.

INTERNATIONAL ANATOMICAL CONGRESS, LONDON.

ON April 11th, 12th, and 13th the Association des Anatomistes held its annual meeting, under the presidency of Professor Brachet, conjointly with that of the Anatomical Society of Great Britain and Ireland, under the presidency of Professor Elliot Smith, at University College, London. This is the first occasion on which such a meeting has been held in England, and it attracted a large gathering of anatomists from France, Belgium, Holland, Spain, Portugal, Italy, Switzerland, Poland, and Czecho-Slovakia, as well as from most of the British medical schools. There was a very full programme of communications and demonstrations, and the discussions were marked by a zest and geniality that revealed the deep interest in anatomical research and the reality of the anatomists' *entente*. Professor J. T. Wilson showed preparations suggesting that maternal haemopoiesis took place in the placenta. Some of the famous early embryos of man and other vertebrates were shown by Professors J. P. Hill, Teacher, and Bryce, and several others. A large part of the programme was devoted to cytology, the constitution of the cell, the processes of oogenesis and spermatogenesis, and fertilization, a remarkable demonstration by Professor Dalcq of Brussels of the processes of fertilization in the frog's egg, and Professor Parat's (Paris) account of the respective roles of mitochondria, the Golgi apparatus, and lipoids in oogenesis, arousing special interest and lively discussion. The Golgi apparatus in particular seemed to provoke the sharpest differences of opinion amongst those who specialize in that elusive study. Several communications were devoted to the sympathetic nervous system, of which the most noteworthy was Dr. Woollard's beautiful demonstration (by means of the methylene blue stain) of the existence in the striated muscles of mammals and birds of the two sharply contrasted types of muscle fibres and nerve endings to which the late Professor Kulchitsky called attention in reptiles (BRITISH MEDICAL JOURNAL, February 7th, 1925, p. 340)—that is, the existence of very fine muscle fibres innervated by non-medullated nerve fibres ending epilemmally in numerous grape-like terminations, sharply contrasted with the hypolemmal end-plates of the medullated fibres in the coarser muscle fibres. Professor Veuwiller (Zürich) gave a very startling exhibition of the internal structure of living plants and animals as revealed by a modification of the ophthalmologist's slit-lamp. But the communications were so many and so varied that it is impossible to summarize them. The meeting has demonstrated how much more living the subject of anatomy is becoming, and revealed the vital interest that anatomists are taking in the new vision of their subject which improved optical devices, radiology, and experimental methods are providing. During the meeting a conversazione was held at University College, at which demonstrations of x-ray cinematography, and a series of anthropological, histological, and embryological specimens of exceptional interest were shown, including microphotographs of Mr. Thorton Carter's sections of the enamel of a variety of vertebrate teeth, Professor J. P. Hill's early embryos of monotremes, marsupials, and of the rabbit, microphotographs of the late Professor Kulchitsky's exquisite preparations of the nerve endings in muscles, and Dr. H. A. Harris's radiological demonstration of the records in the bones of living people of their life-histories—the lines due to cessation of growth caused by illness or malnutrition. A reception was held at the Wellcome Historical Medical Museum. The Zoological Society also gave the visitors the opportunity of visiting its gardens and aquarium. On April 13th the members of the congress dined at King's College, and were honoured by the presence of the French Ambassador. On April 14th the foreign visitors go to Cambridge as Professor Wilson's guests.

THE LISTER CENTENARY IN LONDON.

NOT much remains to be added to the very full account of the Lister centenary celebrations in London published last week. We then mentioned that the Royal College of Surgeons of England gave a conversazione on the afternoon of April 5th, which was very largely attended; but the hospitality of the College did not quite end here, for on the evening of April 7th the President and Lady Moynihan gave a dinner in the library of the College. The occasion was remarkable, if not unprecedented, as the guests included ladies and men in about equal numbers. The guests sat at a number of round tables, and the proceedings were of an intimate and informal character. The chief guests were the Prime Minister and Mrs. Baldwin, but we will not attempt to enumerate the many other distinguished persons who were present. Sir Berkeley Moynihan gave the toast of "The King," but no speeches were made, and the guests were liberated early to inspect the collection of personal mementos of Lord Lister and of instruments and scientific apparatus used by him, of which some account was given last week (p. 675), as well as the more familiar objects always displayed in the various rooms of the museum. On the same evening a large number of guests were received at the Wellcome Historical Medical Museum, when Sir W. Watson Cheyne, who was in the chair, demonstrated some of the apparatus Lister used in his bacteriological investigations, as described and illustrated in these columns last week. Sir Watson Cheyne mentioned some of the difficulties Lister encountered in his pioneer work and the way in which he overcame them, and concluded by a reference to Lady Lister, who had been Lister's devoted helpmeet and amanuensis; they had been everything to one another, and her death was a crushing blow to him. Professor Archibald Young, Regius Professor of Surgery in the University of Glasgow, said that he spoke as the substitute for Sir Hector Cameron, who was to have represented the University, and whose long and faithful service to the master and to his memory would have rendered him peculiarly fitted for that duty on this occasion. The collection formed in the museum by the enterprise of Mr. Wellcome well illustrated the progress of Lister's ideas and the evolution of his method, and made it possible to study them in a way which neither oral narration nor written

description could permit. Professor Young quoted figures showing the mortality of major operations in the Glasgow Royal Infirmary in 1825, 1853, and 1925, which showed the comparative infrequency of that confession of failure, amputation, since the introduction of antiseptic surgery. Glasgow was proud of the fact that in the wards of its infirmary Lister elaborated his system and brought it to the test, which it so triumphantly stood. Sir William Macewen, the speaker's predecessor in the chair of surgery, was one of Lister's students, and carried some of his principles of surgery further than Lister had done. Indeed, it might be said of him that he was "Ipso Listero Listerior." The Glasgow students' hearts and heads were quickly won by Lister, for when, after one year in Glasgow, he became a candidate for the post of surgeon to the Infirmary, they took the very unusual course of drawing up a petition to the managers in his favour. This petition, which was on view in the Wellcome Museum, was signed by 161 out of 180 students. Lister always referred warmly and gratefully to the support he had from his students, and also to that of his father-in-law, Syme. Sir StClair Thomson said that Lister's personality had a good effect on his neighbours, who could not feel mean or do a mean thing in his presence. His gentle patience and sweet reasonableness won over adversaries—such, for instance, as Bryant and John Wood—and made of them friends and supporters. Much had been heard during the week of Lister's virtues. He had tried to think of his weaknesses, but all he could mention were his unpunctuality, mentioned by his nephew Sir Rickman Godlee, and another, often falsely attributed to Scotsmen, though Lister was not a Scot, that he "joked wi' deefficulty." Lister never felt the pinch of penury, and so was able to devote many years to the training and education of his own mind. He was not a success as a consultant, partly because of his uncommercial attitude to the question of fees, and partly because his personal devotion to the details of dressing wounds was apt to remove the case from the hands of the general practitioner. But his was a detached and lofty soul. Sir John Samuel of Glasgow proposed a vote of thanks to the speakers, which was seconded by Pasteur's grandson, Dr. Pasteur Vallery-Radot of Paris, who, in an excellent speech in French, recalled the cordial relations which existed between Pasteur and Lister and the interdependence of their work. If Lister depended on Pasteur, Pasteur in his turn also depended on another Englishman—Jenner. On the suggestion of Sir StClair Thomson, a telegram of thanks for his hospitality was sent to Mr. Henry Wellcome.

IMHOTEP: THE PHYSICIAN-ARCHITECT.

INTEREST in the contribution made by ancient Egypt to the history of medicine has been greatly stimulated by the light recently thrown on the life and achievements of Imhotep, the famous architect and physician of King Zoser, who reigned about 2980 B.C. Imhotep has long been recognized as the builder of the earliest pyramid—the Step-Pyramid at Sakkarah, not far from Cairo. During the last two years, however, extensive clearances and excavations at the base of this pyramid, directed by Mr. C. M. Firth, have brought to light some remarkable temple buildings which were also constructed by Imhotep, probably at the same time as the pyramid. Amongst these discoveries is a beautiful colonnade eighty-five yards long, composed of forty-eight columns of white limestone arranged in pairs and forming the main approach to the pyramid enclosure. These columns are fluted, and carry remarkable foliage and papyrus capitals, thus revealing an architectural style which archaeologists had not previously met with until a thousand years later. There are also halls finely decorated with blue tiles and exhibiting curious false doors, each ornamented with portraits of King Zoser in different costumes and attitudes. Even more recent than the discovery of these extensive temple buildings is the finding of a mastaba or grave close to the Step-Pyramid, which it is suggested may perhaps be the actual tomb of Imhotep himself, of the great architect and physician who so impressed his fellow countrymen with his skill as a healer of disease that after his death he was raised first of all to the status of medical demigod, and subsequently to that of full deity of medicine. Whether this surmise is true time only will show, but if the adscription should prove to be correct an interesting chapter could be added to the history of Imhotep which has recently been told us by Dr. J. B. Hurry in his illustrated volume published by the Clarendon Press, and reviewed in our columns on October 16th, 1926 (p. 692). Owing to the climatic conditions of Egypt, further excavations must be postponed until next winter, when possibly important revelations bearing on the early history of medicine may be forthcoming. Already, however, enough is known of Imhotep, "the first figure of a physician to stand out clearly from the mists of antiquity," to raise the question whether he, a man of flesh and blood, should not be substituted for his younger and semi-mythical rival Asklepios as the patron deity of medicine.

PRISON PSYCHOSES.

THE morbid mental states included in the category of prison psychoses have been well discussed by Dr. H. T. P. Young, medical officer to H.M. Convict Prison, Parkhurst, in a recent issue of the *Journal of Mental Science*. He defines prison psychoses as special types of mental reactions developing upon conflicts which arise as the result of imprisonment, and possibly from the shock attending the criminal act, trial, and conviction. Among approximately 300 convicts placed under medical observation at Parkhurst recently, disordered states of the prison type were observed in 19. The mental condition in these cases resembles Kraepelin's mild form of paranoia of psychogenic origin. The delusions manifested are of a combined grandiose and persecutory type, based, as a rule, upon a belief in their own innocence and wrongful conviction, and are directed towards police and prison officials. This type of disorder is most commonly met with in recidivists, whose recurring convictions give them a familiarity with police and penal methods. The symptoms do not as a rule develop rapidly; usually a period of six to eighteen months is required. In first offenders the psychosis tends to assume the features of an anxiety neurosis of traumatic origin, and in recidivists that of systematized delusional insanity. As might be expected, the symptoms frequently disappear when the prisoner regains his freedom—that is to say, when he is removed from the traumatic situation which has provoked them. It should be understood that at Parkhurst are concentrated all those convicts whose mental state, at any time subsequent to arrest, has given rise to doubt as to their fitness for ordinary convict conditions. It is thus evident that the proportion of psychoses in convicts which is attributable to the specific effects of the prison environment is small (19 in 300). No doubt the improved conditions under which convicts are now dealt with are responsible for the diminished incidence of the "prison psychoses." Dr. Young is of opinion that impaired health, often due to chronic focal infections, is one of the factors which favour the development of a prison psychosis. An impairment of health appears to exert a definite influence on the minds of certain persons, leading to the production of those fantastic conceptions through which a failure of adaptation may be diverted from reality. Monotonous occupations are also liable to stimulate the tendency to fantasy formation, and Dr. Young states that since the character of prison labour has been altered there has been a diminu-

tion in the intensity and frequency of the prison psychoses. Convicts who are compelled, by reason of some physical defect, to work at the less productive or interesting tasks are, on the whole, more liable to develop morbid states of mind than those whose tasks more closely approximate to the work to which their class is accustomed outside prison. This clinical study has naturally a particular interest for those concerned with the care of convicts who exhibit mental disturbances. It should enable them to seek out and remedy as far as possible those features in the prison environment which appear to be instrumental in the production of psychotic symptoms. The study also has a general psychiatric interest. The prison psychosis would appear to belong to the category of cases to which the terms "psychogenetic," "situation," or "reaction" psychoses have been applied. Instances were sometimes observed in soldiers about to proceed to the front (anticipation psychoses) or who had been in action, and they also occur in civil life in prisoners awaiting trial, or in persons faced with situations calculated to provoke a profound emotional upset—such, for instance, as the discovery of a condition of pregnancy in an unmarried woman. In such cases, where the psychic trauma is sudden and intense, rather than prolonged and insidious as in the prison psychoses, the symptoms take the form of confusion and stupor, or of a "wish-fulfilment" delirium. It is not to be wondered at that individuals faced with situations which threaten their life, involve them in social disgrace or the loss of their liberty, should manifest psychotic symptoms; rather is it surprising that relatively few of them do so. The fact that the incidence of such cases is comparatively small makes it evident that the most important causal factors in the psychoses as a whole are not to be discovered in external circumstances, but in defects of the personality or in morbid states of the organism.

MILD SMALL-POX ON SHIPBOARD.

On February 25th, 1926, a steamer sailed from London for Sydney, New South Wales, with a complement of 1,203 souls, being 231 of a crew and 972 one-class passengers, mainly emigrants. She touched at Las Palmas, Capetown, Adelaide, and Melbourne, and reached Sydney on May 3rd. On her arrival at Adelaide on April 10th the quarantine officer picked out four missed cases of mild small-pox (alastrim) from the muster of her passengers. At Melbourne two more missed cases were found, and six fresh ones developed. Two further cases, which occurred among the passengers detained in quarantine at Adelaide, raised the total to fourteen. The original case of the outbreak was an English passenger from Consett, county Durham, where the disease had been epidemic. He sickened on March 6th, when ten days at sea, and was logged as suffering from bullae, but was not isolated. The second case, probably infected by the first in the eruptive stage, sickened on March 29th, and was logged as febricula. The third case, who sickened about the same time as the second, did not report sick. The fourth case, who sickened on April 1st, was logged as catarrh and pustular eruption. Two further cases on April 5th complete the number infected from the first case. The remaining group of eight cases sickened from April 13th to 23rd. The diagnosis of the early cases was complicated by the concurrent prevalence on the ship of influenza, measles, and impetigo contagiosa. Two cases occurred in one cabin; three in another; for the rest contact may be presumed. Of the fourteen cases, ten had never been vaccinated, and four had been vaccinated in infancy only. Infection followed the line of greatest opportunity of contact, and selected the unvaccinated to a significant degree. The control measures adopted included vaccination in terms of the Commonwealth Quarantine Act; 1,072 persons were vaccinated, 111 were exempted for cause shown, and 6 conscientious objectors were detained, prosecuted, and fined. The work was got through by one operator at the rate of 100 vaccinations an hour. The methods adopted were: for 90 of the crew scarification, for 150 passengers linear incision, and for the rest acupuncture. The results were uniformly successful. This outbreak of alastrim, which is of interest as occurring in a closed community, is described in a recent report of the Commonwealth Department of Health. The report presents also a review of the results of the vaccinations carried out on persons previously unvaccinated and vaccinated once and twice or oftener, at various age-periods, with respect to the occurrence of the immunity reaction, the accelerated reaction in its two grades, and the typical Jennerian reaction. The protection afforded by previous vaccinations was observed to decrease with the lapse of time.

THE NATIONAL PHYSICAL LABORATORY.

THE report of the National Physical Laboratory at Teddington for the year 1926 is a bulky document, containing accounts of much experimental work in many branches of physics. Amongst matters with a medical interest it is noted that the number of clinical thermometers received for testing again shows a small fall, and that a specially designed x-ray equipment is in use for distinguishing different kinds of glass used for the stems of the thermometers. It has been found that the only satisfactory measurement of x-ray intensity and dosage involves the use of an ionization chamber. Amongst the hospitals inspected to fulfil the recommendations of the X-Ray and Radium Protection Committee, the report makes special mention of the new radiological department of the Edinburgh Royal Infirmary as the largest and most up-to-date x-ray department attached to any hospital in this country, or probably elsewhere. It is proposed to use photo-electric methods of spectrophotometry in measurements of ultra-violet light. Work for the Dental Investigation Committee has been continued at the laboratory for the purpose of throwing further light on the phenomena of dental amalgams, and the ageing phenomena in silver-tin alloys and certain analogous alloys of gold. The bulk of the report is concerned with researches in aerodynamics, metallurgy, electricity, and metrology.

POST-GRADUATE TOUR TO AMERICA.

FURTHER details are now available with regard to the post-graduate tour in Canada and the United States of America which is being arranged by the Section of Surgery of the Royal Society of Medicine. Starting from Southampton on August 20th, Quebec will be reached on August 28th, and the following towns will be visited; Montreal, Ottawa, Toronto, Chicago, Rochester, Grand Rapids, Ann Arbor, Detroit, Cleveland, Washington, Baltimore, Philadelphia, New York, and Boston. On the return journey the party will sail from New York on September 24th, Plymouth being reached on October 2nd. The estimated minimum cost of the tour is £138, together with about £25 for out-of-pocket expenses. Fellows of the society other than members of the Surgical Section can join the tour on being nominated by the Tour Committee, but members of the medical profession who are not Fellows of the society, and who wish to accompany the party, must be nominated by two members of the Surgical Section. All those who wish to participate must pay a deposit of £6 on or before May 1st, after which date reservations cannot be guaranteed. Full details may be obtained from Mr. C. Max Page, 134, Harley Street, W.1.

AT a statutory meeting of the Royal College of Physicians of London on April 11th, Sir John Rose Bradford was re-elected President for the ensuing year.

Nova et Vetera.

THE BLACK DEATH.

FEW will fail to admit the fascination exercised by even a second or third hand account of a great pestilence. "Fear," says a character in one of Stevenson's tales, "is the strong passion; it is with fear that you must trifle if you wish to taste the intensest joys of living." It is the dramatization of fear in its grimmest form, panic fear, that we discover in any good account, above all in a contemporary account, of a great pestilence. One wonders whether, if the great pestilence of our own day had not come upon a Western world whose emotions of fear had already been stimulated almost to the point of exhaustion, there might not have been a strange contemporary story to record of panic and horror.

The great pestilence of 1348-50 has been well described by several modern authors; two of the best accounts, those of Cardinal Gasquet and Dr. Charles Creighton, were originally written in English, while Hecker's story—uncritical, indeed, but learned and well written—has long been available to English readers in translation. To those who can read German, Heinrich Haeser's account (in the third volume of his *Lehrbuch der Geschichte der Medicin*, a book which, whether in point of scholarship or literary charm, has seldom been surpassed) can be recommended as never likely to be improved upon. All these writers—especially Haeser, who gives a very useful collection of the most important records—quote eye-witnesses copiously, but they did not confine themselves to the compilation of such records nor seek to be exhaustive in this respect. Further, the most recent of the books quoted was published more than thirty years ago; since then a certain amount of important historical information has been brought to light, while the reappearance of bubonic plague on a large scale in countries accessible to scientific investigation has led to discoveries completely revolutionizing our doctrines of the epidemiology of the disease.

The author of the book which has recently appeared in an English translation with the title *The Black Death: A Chronicle of the Plague*[1] has profited by the former but very little by the latter additions to knowledge. We do not know whether Johannes Nohl is a medical man, and, it is not always easy to distinguish between his own views and those of his authorities, but there are some passages—for example, on pp. 112-113—which suggest that his acquaintance with modern work is rather superficial. Even from the historical point of view, the book is open to criticism. It is a little disconcerting to find, at the beginning of the first chapter, the unqualified assertion that "The name 'Black Death,' which was commonly given to the plague of 1348, must be regarded as the expression of the horror aroused by this uncanny disease. Popular imagination depicted it as a man mounted on a black horse, or else as a black giant striding along, his head reaching above the roofs of the houses." As a matter of fact, Gasquet pointed out that the name Black Death, *atra mors*, is not older than the seventeenth century. It is also strange to find Defoe's interesting fiction termed "a masterly history of the Plague of London in 1664 and 1665." Finally, although a bibliography is appended, it is impossible to connect passages, even when cited between inverted commas in the text, with the sources from which they come.

It would be unfair to judge the original by a translation, and we have not seen the original, but if the translator has done his author justice, we cannot say that Mr. Nohl is of the class, including Hecker, Haeser, Hirsch, and Sudhoff, which made Germany superior even to France in the field of medical-historical scholarship. Still, it would be unjust and ungrateful both to Mr. Nohl and his translator not to say that this book does bring together in a convenient form a great deal of painfully interesting information. Many examples are given of the horrors of the persecutions of the Jews, and a graphic account of the experience of Suso, a South German mystic, sent on the business of his convent with a half-witted servant into Alsace in 1348. The idiot's foolish talk aroused suspicion that he was one of the well-poisoners; he was haled before the provost, and to save himself asserted that his master (who was carrying a mail bag) was the culprit. Suso, on returning to his inn, hearing that his servant had been arrested but nothing of the rumour, hurried to the provost, secured his servant's release, and was then set upon by a howling mob, from whom he escaped with his bare life. In Rostock, a priest who had been tending the sick was suspected of plague-making. He was imprisoned, bound and gagged, for twenty-six weeks, and tortured in various ways. When, ultimately, he was acquitted he was required to swear that he would make no complaints of his treatment. The torturing to death of a barber in Milan, not in the Middle Ages but on July 17th, 1630, is a hideous story. This man and a commissioner of the health office were thus treated.

> "First they were placed upon a cart and driven to the place of execution. On the way they were pinched with glowing tongs at every place where poison had been smeared; before Mora's house they both had their right hands cut off, and subsequently they were both broken on the wheel, being placed living on the wheel and strangled after six hours, their corpses were burnt with fire, their ashes strewn upon the water, Mora's dwelling was pulled down and in its place a column of disgrace was erected with the following inscription:
>
> "'On this spot stood the barber's shop of John Jacob Mora, who conspired, together with William Platea, an official of the public health offices, during an epidemic of plague, by smearing mortal ointments to contrive the cruel death of many.'"

Long after, this document, dictated to a confessor, was published:

> "In the name of Jesus, the 31st July, 1630,[2] I, Jacobus Mora, barber, enter protest against my sentence to death and, as I do not wish to leave this world with a weight upon my conscience, I once more protest and declare in this document that all who in the course of this trial were accused by me to have been concerned in the manipulation of pestilential ointments are completely innocent. I write this in the presence of the Capuchin fathers and witnesses for the salvation of my soul."

Such instances are examples of the purely horrible effects of fear. Of the grotesquely horrible atmosphere of plague times an instance may be given. It is from Regensburg, apparently at the end of the seventeenth century.

> "A street-sweeper of the name of Zacherl was appointed gravedigger at the pest house; he was at constant loggerheads with the cook. When the latter died of the plague he laid her over his shoulder and carried her to the plague burying ground; he stripped her naked of her clothes and, as he only found one single small coin on her, he tore a strip from her chemise, rolled it up like a sausage and inserted it in her uterus,[3] the coin he thrust into her nostril, and, hurling her into the trench, he said: 'Lie there, you beast; you never would cook me a good soup.'"

These are neither the most gruesome nor the most grotesque stories in the book. Perhaps for grotesqueness we should give the palm to remedies against plague, often prescribed by members of our faculty. "A wash with urine," says one pundit, "does more than any other preventive, more particularly when, in addition, the urine was drunk." We, however, have no sure remedies against pestilence, and probably we too should come under the empire of fear if such a mortality as that of 1348-50 were pandemic. But it is reasonable to believe that our fear would not find such horrible methods of expression as it found in civilized societies even much later than the reign of Edward III.

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[1] *The Black Death: A Chronicle of the Plague.* Compiled by Johannes Nohl from contemporary sources. Translated by C. H. Clarke, Ph.D. London: George Allen and Unwin. 1926. (Demy 8vo, pp. 284; illustrated. 12s. 6d. net.)

[2] Cited from Nohl, p. 178, but on page 176 the execution is said to have taken place on July 17th.

[3] As the German text is not before us, we cannot determine whether this is correctly translated.

THERAPEUTIC SUBSTANCES ACT.

ISSUE OF DRAFT REGULATIONS.

THE aim of the Therapeutic Substances Act, which became law on August 7th, 1925, is to provide for effective control of the quality and the authenticity of such therapeutic substances as cannot be adequately tested by direct chemical means. This it seeks to do by regulating their manufacture, testing, sale, and importation. Substances of this kind fall into three categories. The first includes such biological preparations as vaccines, serums, toxins and antitoxins and antigens; the second, the group of synthetic products comprising salvarsan and its analogues; and the third consists of insulin and preparations of the pituitary gland intended for use by injection.

An article summarizing the main provisions of the Act, and describing the circumstances that led to the placing of this much-needed measure on the Statute Book, appeared in the SUPPLEMENT of September 12th, 1925, p. 105. The Act, which applies to England, Scotland, and Northern Ireland, declares that the manufacture of the scheduled substances is to be conducted only by persons and on premises specially licensed for the purpose, and under conditions laid down by the Licensing Authority, such authority being: for England, the Minister of Health; for Scotland, the Secretary of State for Scotland; and for Northern Ireland, the Minister for Home Affairs. The duty of defining standards, and thus securing uniformity, was entrusted to a Joint Committee consisting of the three authorities named, or their deputies, and acting after consultation with an expert advisory committee. The advisory committee consisted of Sir George Newman (chairman), representing the Ministry of Health; Mr. John Jeffrey, Scottish Board of Health; Sir Thomas Houston, the Ministry of Home Affairs in Northern Ireland; Dr. H. H. Dale, Medical Research Council; Sir Nestor Tirard, General Medical Council; Dr. C. O. Hawthorne, British Medical Association; Dr. J. H. Burn, Pharmaceutical Society of Great Britain; and Dr. J. F. Tocher, Institute of Chemistry.

The Joint Committee was empowered, after consultation with its advisory committee, to make Regulations prescribing the standard of strength, quality, and purity of any substances to which the Act applies, the tests to be used to determine whether that standard has been attained, the units of standardization to be employed, the form of the licences, and the conditions of their issue. The Joint Committee may also, by regulation, add to the schedule of the Act any therapeutic substance whose purity or potency cannot be adequately tested by purely chemical means. All imports must be consigned to a person duly licensed, and must satisfy the authority that they comply with the standards in force for the home products. The application of the Act was restricted in three directions. Medical practitioners were left free to prepare any of these substances for the use of an individual patient; special licences to import were to be issuable to persons engaged in research, such licences allowing the import for experimental purposes of substances not complying with the standards laid down; and power was given to the Joint Committee to exclude from the application of the Act substances intended for veterinary use alone. Lastly, the Act prescribed that the Regulations made under it should be laid before both Houses of Parliament and subject to modification or annulment under the ordinary procedure on presentation of an address by either House.

The Therapeutic Substances Regulations, 1927.

The Joint Committee, after consultation with the advisory committee, has now issued draft Regulations,[1] to come into force on August 6th next. These prescribe the conditions under which licences will be issued for manufacture and importation, and deal in detail with standards of strength, quality, and purity and with such matters as containers, labels, and so forth. The work incidental to the determination of the required standards has been carried out by the Medical Research Council or under its direction.

Part I of the Regulations is concerned with their interpretation, etc. Part II governs the issue of licences to manufacturers, and specifies the general conditions to which every licensee shall be subject, in addition to the special conditions, if any, set out in the relative schedule. These general conditions relate to the provision of adequate staff, premises, and plant for testing strength, quality, and purity, including proper housing for animals used for such tests; to the keeping of permanent records of the details of manufacture of each batch and its testing; to the provision of facilities for inspection of premises, plant, and processes of manufacture and testing; and to the furnishing of samples. Where a licensee contravenes or fails to comply with some condition of his manufacturer's licence, or with any of the Regulations, but not so as to justify its revocation or suspension, the Licensing Authority may compel him to submit a sample of every batch of the substance, and forbid him to sell or offer for sale any batch without a certificate authorizing him to do so.

Part III directs *inter alia* that if any of these therapeutic substances is advertised or sold as a proprietary medicine the "proper name" of the substance as given in the schedule must appear on the label. The sale of any substance after the date stated on its container is forbidden, except where a medical practitioner, being aware of the date, is satisfied that the sale is required by the urgency of the case. No substance is to be sold except in sterilized glass containers adequately sealed, and stringent conditions are laid down regarding the particulars to be entered on labels. Part IV is concerned with standards of strength, quality, and purity, and with tests for determining whether these standards have been attained. Such standards and tests are specified in the relative schedules. Detailed instructions are given regarding tests for the presence of living aerobic or anaerobic bacteria, the procedure to be adopted if a growth of micro-organisms is visible at such examinations, and the testing of substances, by inoculation into mouse and guinea-pig, for freedom from abnormal toxicity.

Part V lays down the conditions to be observed by persons licensed to import therapeutic substances for purposes other than those of scientific research, and Part VI deals with research licences. Part VII exempts from the application of the Act and Regulations any therapeutic substance labelled "to be used solely for veterinary purposes" and intended to be so used.

Schedules to the Regulations.

The first schedule sets out forms of application and forms of licence for the manufacture and import of therapeutic substances.

The second schedule sets out the provisions applicable to (1) the production of bacterial vaccines and vaccine lymph; (2) the reagents used in the Schick test, and the testing of diphtheria prophylactic; (3) tuberculin and other preparations from *B. tuberculosis* and its cultures; (4) the production of all serums from living animals, and of particular serums and antitoxins. The special provisions apply respectively to antimeningococcal serum and other serums for which no potency test is prescribed, to antidysentery serum (Shiga) and other antidysentery serums, to diphtheria antitoxin, and to tetanus antitoxin.

The third schedule sets out general provisions applicable to salvarsan and its derivatives, together with special provisions applicable respectively to salvarsan, neosalvarsan, sulphuro-salvarsan, silver-salvarsan, neo-silver-salvarsan, and to derivatives of salvarsan other than those specified.

The fourth schedule lays down the conditions required in respect of insulin, which is defined as "the preparation of the specific antidiabetic principle of the pancreas"; and the fifth schedule deals in corresponding terms with pituitary (posterior lobe) extract, defined as "the watery extract prepared from the separated posterior lobe of the pituitary body."

[1] Draft Rules and Orders, 1927. Therapeutic Substances. London: H.M. Stationery Office. 9d.

THE AUSTRALASIAN MEDICAL CONGRESS

OF THE

BRITISH MEDICAL ASSOCIATION,

DUNEDIN, NEW ZEALAND.

(Continued from page 671.)

THE SCIENTIFIC SECTIONS.

COMBINED MEETINGS.

Treatment of Crippling Due to War and Industry.

THE subject of crippling resulting from war and industry was considered by a combined meeting of the Sections of Naval and Military Medicine and Orthopaedics.

Dr. H. S. NEWLAND (South Australia), opening the discussion, said that prior to the last war orthopaedics had not been linked in any way with military surgery. During the first eighteen months of the war it became evident that soldiers with certain types of injury needed special treatment, and hospital accommodation was reserved for them; a little later on the need for the establishment of orthopaedic hospitals became urgent. At first about 250 beds had been provided, but by the end of the war the number of these had increased to 30,000. A considerable amount of preventive work was possible, and the orthopaedic service of an army should ensure the exclusion from the combatant forces of men with certain forms of physical unfitness; many of the remediable conditions could be treated before enlistment. During the battle period the orthopaedic service should maintain the efficiency of the men, both at the base and also with the advanced units. Excision of the contaminated tissue surrounding wounds had been the most important measure for preventing deformities, but it must be early in order to prevent sepsis, which was the chief cause of deformity and loss of function. Shock and haemorrhage had, therefore, to be promptly and efficiently treated, tourniquets being avoided as far as possible, and bandages applied with very great care. Foreign bodies and fragments of bone should be removed before the soldier was transferred to the base. The use of the Thomas splint had produced better results in the healing of fractures and in the alleviation of pain during transport. Before its employment became general the mortality among men with fractured thigh bones in the casualty clearing stations alone had been nearly 50 per cent.; this had been reduced to 15.6 per cent. Amputation of the limbs had been necessary in only 17.2 per cent. of the wounded as the result of skilled orthopaedic treatment of the soldier at the base, and subsequent shortening of the limb after fracture of the thigh had been diminished to a surprising extent.

Dr. R. B. WADE (New South Wales) dealt chiefly with treatment of the crippled soldiers in civil life, and spoke in high terms of the value of the work of Sir Robert Jones and Mr. Hugh Owen Thomas. Considerable difficulty in stimulating interest in the treatment of war cripples had arisen from the lack of accurate figures of the numbers in the community handicapped in this way. According to American statistics—which provided the most accurate figures at present available—there were 6 cripples per 1,000 of the population, 30 per cent. being less than 21 years old; 74 per cent. of these were under 6 years old, 18 per cent. between the ages of 6 and 14, and 7 per cent. between the ages of 15 and 19. Crippling was due to disease in 69 per cent. and to accident in 4 per cent., while deformity was congenital in 25 per cent. Infantile paralysis and spastic paralysis were responsible for 67 per cent. of the deformities. Dr. Wade thought that the American figures were approximately correct for Australasia, and it would therefore follow that there were in New Zealand about 9,000 cripples, of whom 3,000 were under the age of 21. In Australia there would be 36,000, including 12,000 under 21 years old. He believed that adequate surgical provision existed, but no means were available for education or vocational training. Since the illness usually occurred early in life and lasted through the main school years, the majority of these children were at the best only partially educated. The speaker pleaded that orthopaedic surgeons should therefore unite in a campaign for educating public opinion. Although it was the function of the State to tackle this problem, there seemed to be no hope of State intervention until public opinion had been stimulated by voluntary organizations. He recommended, therefore, the provision of adequate orthopaedic treatment, district visitors being employed to encourage patients to take advantage of it. Educational training should be established for children in hospitals or attending as out-patients, while special accommodation for crippled children should be attached to general schools. Convalescent homes and vocational schools were also required, and arrangements should be made by unions and arbitration bodies whereby a worker, slow through crippling, should be enabled to obtain a living. Legislation should be introduced to enable the State to provide money for surgical treatment and education.

Parasitology in the Tropics.

Hookworm, trematode infections, and yaws were discussed by a combined meeting of the Sections of Pathology and Preventive Medicine.

Dr. T. R. RITCHIE (Samoa) opened with an account of the control of hookworm in a native community. He said that in 1923 a campaign against this parasite had been begun in Samoa based on the work of the Rockefeller Foundation. Each night a lecture was given on the village green, with lantern slides or portable cinema, and early next morning the whole population was dealt with, mass treatment being given as over 90 per cent. of the population harboured the parasite. Systematic treatment had been continued since 1923, everyone being given the opportunity of having treatment at least once a year. A vigorous educational policy had been pursued, special attempts being made to interest the women; committees were formed and duties were assigned to them. An article on hygiene was supplied to every issue of the school journal. The question of the type of latrines had been difficult. At first drop latrines over the sea and pit privies in inland villages had been built; these were being, or would be, replaced by water-carriage systems where piped water supplies became available. In mass treatments they used a mixture of carbon tetrachloride three parts, and oil of chenopodium one part, the dose being 0.12 mils. (2 minims) per year of age, with a maximum dose of 2 mils. (35 minims). This combination removed *Ascaris lumbricoides* as well as hookworm.

Dr. G. A. M. HEYDON (Queensland) dealt with the influence in hookworm infection of the species of worm and of the race of man, and on the characters of the larvae as a means of determining the species distribution. He said he had been much impressed by the elusiveness of hookworm disease in New Guinea. The clinical signs and symptoms were conspicuous by their absence, and it was impossible to determine from these whether a patient had a thousand worms or only a few. In North Queensland the picture was different. The infection rate was far lower, but several cases of severe hookworm disease with advanced anaemia had been investigated in white adults. The cases of serious disease seen so far had been caused by *Ancylostoma duodenale*. The worm count method was the only available way of finding out the species distribution of hookworms in a country. Many practical difficulties arose in a white community, and this procedure could not be applied on a large scale even to native races. He gave a detailed account of a method of examination of larvae from faecal cultures. He emphasized the fact that the two species of human hookworms had not the same pathogenic importance; there was great need to determine the prevalence and distribution of each.

Dr. R. W. CILENTO (New Guinea) discussed trematode infestations in Northern Melanesia. He said that last year paragonimiasis had been discovered in a native recruited from a distant and rarely visited native village. The disease was dangerous, and as the patient had never been away from his village in his life previously there must be effective intermediary hosts for paragonimiasis in New Guinea. This was the first case found in the Pacific anywhere south of the equator. The symptoms, pathology,

and transmission of the disease were detailed. In New Guinea the local molluscan genera had not been described in readily available papers, but it was obvious that some local species must be capable of transmitting the parasite. Dr. Cilento asked members of the Congress who were practising in the Polynesian Islands to endeavour to determine whether trematode infestations were locally present, so that measures might be introduced to combat what might otherwise become a menace.

Dr. T. R. RITCHIE (Samoa), introducing the subject of yaws, said that systematic work for the control of this condition in Samoa had been undertaken in 1923. The district to be treated was divided into areas which could be readily dealt with in five treatment days. Treatment was given at five selected points in the area with novarsenobillon, and on the sixth day the party retraced its steps to the point of commencement of treatment. Second and third injections were given at the same points during the second and third weeks; thus each case received three injections at weekly intervals. The majority of primary and secondary lesions cleared up with three injections. The administration was not particularly anxious to cure thoroughly every patient. As all adult Samoans had had yaws in their early youth, they were immune from further attack. To treat them thoroughly for tertiary yaws would be to withdraw that immunity, and so render them liable to contract the disease again. Until primary and secondary infections were reduced to a negligible number, the acquired immunity of the adult was better left alone. Meanwhile the children were growing up free of the condition. Cases of syphilis were not seen among Samoans, probably because yaws conferred some immunity to syphilis; to eradicate yaws completely might be dangerous until syphilis was under control.

Delinquency.

The Sections of Neurology and Preventive Medicine united in a discussion of various aspects of delinquency.

Dr. HARVEY SUTTON, dealing with delinquency in New South Wales, included truancy, because it was inseparable from the major problem. Every child that came before the children's court was given a complete medical examination, and it was found that all forms of physical defects were in excess, as compared with the usual finding in the child population. Defects of the nose, throat, and ear were especially prominent, and appeared to intensify maladjustment with the school and everyday life. Parental failure seemed to be the main factor in causing delinquency; industrialism with its overcrowding, poverty, and intemperance formed the background. At puberty a marked rise in minor offences occurred in boys, but in girls the rise was in serious offences—a secondary sex phenomenon shown by the relative frequency of gonorrhœa in girls. Feeble-mindedness was important as a causative factor, but should not be overestimated. Dr. Sutton then referred to the programme for the future, and pleaded for reorganization, so that every delinquent should be examined by a psychiatrist, a psychologist, and a social worker (probation officer).

Dr. S. J. MINOGUE (New South Wales) raised the question of crime and insanity, and divided insane criminals into congenital mental defectives and those with other forms of mental disease. In his experience about 50 per cent. of all insane criminals in New South Wales were mentally defective. Their detection was an urgent and much neglected necessity in Australia, and those discovered should be treated in colonies or mental hospitals. Among prisoners suffering from mental diseases other than mental deficiency he found generally that the crime committed was the direct result of the mental disease present. Very few criminals became insane while in prison. Dr. Minogue then discussed the moral imbecile and the victim of irresistible impulses, and the problem they presented in treatment. After referring to legal responsibility of the criminal insane and outlining the procedure adopted in New South Wales, he concluded with some remarks on the attempts now being made in America to reform prisoners by complete and thorough psychological examination and treatment.

Dr. ST. LEGER GRIBBEN (New Zealand) confined his remarks to the adult delinquent. He said that the importance of a knowledge of the offender's mental standing was being increasingly recognized; the International Prisons Congress in England last year had passed a resolution that every person convicted of a crime should be mentally examined before sentence was passed. Dr. Gribben considered that the three essentials for successfully dealing with a delinquent were classification, individualization, and a practical knowledge of the criminal mind and outlook. The question of criminal reform had been much before the public during recent years. The greatest incentive to a criminal to reform would be the realization that it would pay him to do so. He had had some experience of the "honour system," and the results had been highly encouraging; he felt sure that it would be extensively used in the near future. He concluded with a eulogy of those workers engaged in easing the way back to civil life of persons who had fallen under the ban of the law.

Dr. BUCKLEY-TURKINGTON said that medical tests had been performed on infirmary boys in South Australia, and many physical defects, especially of the nose and throat, had been found. In many cases sent by magistrates for medical examination physical defects were in great evidence. Dr. MOORE eulogized the work of Dr. Gribben in prison reform, and said that he had created an impression of discipline in the prison, any prisoner who wished to reform being now given every opportunity to do so.

Spastic Paralysis.

The Sections of Medicine, Neurology, Surgery, and Orthopaedics held a combined meeting for the discussion of spastic paralysis.

Dr. S. V. SEWELL (Victoria) first gave a brief review of the proprioceptive nervous system, outlining the three main pathways of afferent impulses originating in muscles, the first level arc, the second level tonus and posture maintaining arc, and the third, the plastis arc. He also mentioned the cerebellar-cerebral connexions, emphasizing the fronto-pontine fibres. Experimental investigations had shown that the spasticity due to lesions in the internal capsule was caused by the simultaneous involvement of these fronto-pontine fibres, and not by the involvement of the pyramidal tract. Conditions like paralysis agitans, post-encephalitic rigidity, and Wilson's disease were probably instances of disease destroying the inhibitory mechanism of the striate level. It was possible that tonus-maintaining impulses, associated with the maintenance of posture, initiated from the emotional or striate level, found their final common pathway by way of the sympathetic outflow to the muscles: this would account for the slight improvement reported after sympathectomy in cases of post-encephalitic rigidity.

Dr. N. D. ROYLE (New South Wales) gave a cinematographic demonstration on ramisectomy.

Dr. H. R. G. POATE (New South Wales) gave his personal experience of Royle's operation of sympathetic ramisection. He had had under his own immediate care twenty patients on whom the operation had been done, and he had seen many of Dr. Royle's patients both before and after the operation. After dealing with the indications for the operation, he reviewed the operative results, from the point of view both of the observer and of the patient, and gave figures showing that in the main they agreed. In no case was there a failure to obtain a physiological result. This was noticed by the patient immediately he recovered consciousness. The most noticeable post-operative feature in cases in which the lower limbs were affected was the restoration of balance. There was often also some amelioration of the obstinate constipation, and relief from chilblains. In his experience the best results had been obtained in cases of spasticity following cortical injury, and in an occasional case of post-encephalitic rigidity.

Osteitis Fibrosa and Osteitis Deformans.

Inflammations and tumours of bone were discussed by a combined meeting of the Sections of Pathology, Surgery, and Radiology.

Dr. H. R. SEAR (New South Wales) expressed the opinion that osteitis fibrosa and osteitis deformans merged into one another. One of the greatest difficulties that beset a radiographer was the absence of confirmation of many of his

diagnoses. Other workers had since reported cases showing apparently the two lesions in the same patient. He had seen well over two hundred patients, and thought that the lesion of osteitis deformans was much more common in Australia than in other countries. He reviewed a number of cases, and concluded that under the two headings of osteitis deformans and osteitis fibrosa they were dealing with one pathological entity. He considered that the radiological appearance of the skull did not assist in forming a diagnosis.

Various Neurological Subjects.

A combined meeting of the Sections of Neurology and Medicine was held to consider the sequels of encephalitis lethargica and the localization of spinal tumours. A cinematograph demonstration of the teaching of neurology was given by Dr. J. F. MACKEDDIE (Victoria).

Dr. H. F. MAUDSLEY, *M.C.* (Victoria), in a paper on the neurological aspects of the sequels of encephalitis lethargica, said that in the chronic form this disease affected the extrapyramidal motor system, and was generally progressive; Parkinsonism, its commonest form, was due to *lesions in the substantia nigra. The corpus striatum gave* a non-voluntary component to voluntary movements by tracts passing through the substantia nigra. If this were damaged the involuntary component was lost and bradykinesia, as, for instance, the loss of arm-swinging in walking, ensued. The cause of increased muscle tone was still debated, but increased sympathetic action seemed evident. Many other parts of the brain, such as the pyramidal tracts, the bulb, and the medulla, might be affected and show symptoms. There was no specific treatment, but rest and hygiene were useful, and hyoscine was a valuable drug; he had seen no good from ramisectomy.

Dr. W. MARSHALL MACDONALD (New Zealand) remarked that the disease was important, because it was now playing a considerable part in filling hospitals for chronic cases. The slow evolution of the original disease led to a multiplicity of lesions or sequels. The commonest sequel was Parkinsonism, the mask-like face of which was attributable to the retention of the voluntary with loss of the emotional or automatic movements. He described the physical signs and symptoms that might be elicited and the tests that might be performed. A list was given of the mental, or rather the moral, changes in children, and for these psychotherapy was of little use, but much might be achieved by careful parental control. The moral changes were of special interest to those occupied in medico-legal and pensions work. The forms of treatment were mentioned. He enumerated the resemblances between the mental sequels of lethargic encephalitis and the symptoms which occurred in the ordinary psychoneuroses. He suggested as a field for histological research a possible origin of the psychoneuroses in the excitations and inhibitions due to vascular changes in the mid-brain consequent on nasopharyngeal infections, fevers, or influenza.

Dr. J. F. MACKEDDIE (Victoria), discussing the localization of spinal tumours, said that the discovery of lipiodol with its special properties had rendered possible the exact localization of tumours of the spinal cord, and had thus limited surgical procedure to an exact field where formerly it had been undertaken in too exploratory a fashion. Lipiodol injected into the cisterna magna was held up by any compression area in the spinal cord. The indication for its injection was Froin's syndrome. The harmlessness of the preparation had been amply confirmed. The method of puncture of the cisterna magna was then described in detail. There followed a demonstration of *x*-ray photographs where lipiodol had been successfully used. Recent acquaintance with the new preparation, "lipiodol ascendens," had indicated the ease of its administration and its harmlessness.

Dr. J. RENFREW WHITE (New Zealand), continuing the discussion of the localization of tumours of the spinal cord, said that the non-neurological evidence was obtained by examination of the cerebro-spinal fluid and by radiography. The evidence obtained by lumbar puncture included Froin's syndrome, and measurement of the pressure of fluid in different regions by multiple punctures until the different pressures indicated the site of the block. The injection of substances into the subarachnoid space for radiographic purposes was valuable, but lipiodol had been known to become encysted, and its use was therefore not without danger. Pneumography, in which the cerebro-spinal fluid was replaced by air below the lesion, seemed to obviate this. Ordinary radiography would reveal exostoses, spinal tuberculosis, syphilis, and cancer. Compression from osteo-arthritis might simulate a tumour.

Dr. OLIVER LATHAM (New South Wales) contributed some observations on the examination of the cerebro-spinal fluid to a combined meeting of the Sections of Medicine and Radiology. He described the method of withdrawal and the necessary precautions, giving suggestions as to procedure in connexion with bacteriological and pathological diagnostic requirements. The naked-eye appearances which aroused suspicion of lethargic encephalitis, tuberculous meningitis, and other conditions were mentioned. Bacteriological examination entailed such practices as grouping the meningococci present. The cells should be counted soon after withdrawal. The procedure for investigating the organisms and the cytology was described and the results *correlated with the respective diseases. Emphasis was laid* on the value of testing for specific proteins in certain diseases, both qualitatively and quantitatively. The gold-sol test had been found eminently useful as being almost pathognostic of general paralysis. The value and applications of the Bordet-Wassermann test, the estimation of chlorides in suspected tuberculous meningitis, and the procedure for glucose and urea estimations were given with deductions. Use was made of a table of the clinical states, the tests used, and the reactions commonly found.

(To be continued.)

ROYAL MEDICAL BENEVOLENT FUND.

THE annual meeting of the Royal Medical Benevolent Fund was held in the rooms of the Medical Society of London on April 8th, with Sir THOMAS BARLOW, President of the Fund, in the chair.

Sir CHARTERS SYMONDS, the treasurer, in presenting the financial statement, said that the investments in the general annuity fund, apart from special named bequests, now stood at £96,205. The income derived from invested property during the year was £4,718, as against £4,550 the year before, and the income from subscriptions and donations £7,250, as against £6,685. An increased number of new subscriptions, accounting for £1,050, was noted. The sources of income remained very much the same except for £500 allocated from the Charities Fund of the British Medical Association, for which the committee of the Benevolent Fund was extremely grateful. If this was all new money it was most satisfactory. A generous donation, amounting to £525, had again been received from the Medical Insurance Agency, together with 100 guineas towards the Christmas Gift Fund. Another thing for which the Fund was indebted to the British Medical Association was the suggestion which that Association had made to its members when sending their annual subscriptions to add a certain amount for charity. The sum received as a result of these reminders in 1926 was £1,141, being £51 more than in the previous year. One increasing source of annual income was subscriptions from Panel Committees and local bodies of medical men. The highest subscription in this category was £50, from the Leicester Union of Medical Practitioners. An interesting subscription had come from as far away as Thursday Island, from which outpost a medical officer wrote that he had read with interest and sympathy the accounts of the work of the Fund appearing in the BRITISH MEDICAL JOURNAL, and hoped to send a yearly cheque. On the disbursement side the number of persons who received relief in 1926 was 622, an increase of 52 on the year before, and the relief given had been in 444 cases by means of grants, and in 178 by means of annuities. The amount expended in grants was £5,934, an increase of £563, and in annuities £4,836, an increase of £965.

Dr. NEWTON PITT, one of the honorary secretaries, said that the income was still insufficient for the demands made

upon the Fund. Many of the grants were quite inadequate. It had come within the knowledge of the committee that there were a number of medical men, from 50 to 65 years of age, who lost their practice during the war and had been unable to recover it or to find more than casual employment; some of them were practically starving. During the past year there had been an increase of 52 in the number of applicants for assistance, and not only so, but the distress in individual cases was more acute than formerly. The total number of annuitants had been increased by 11, and the Fund now maintained 26 annuities of £40, 24 of £30, 44 of £26, and 54 of about £20. Dr. Newton Pitt, like his colleague, referred appreciatively to the efforts put forward by the British Medical Association, though he thought the Association would find it by no means an easy matter to secure and maintain any large addition to subscriptions over and above the sources which the charities had already tapped, but the help that was being given was most valuable, and much was hoped from it. Dr. HOWARD STRATFORD said that he believed the British Medical Association was well aware of the difficulty of geting fresh subscription revenue, but it was being encouraged in its efforts.

Sir Thomas Barlow as President, Sir Charters Symonds as treasurer, and Dr. Newton Pitt and Mr. Handfield-Jones as honorary secretaries, were all re-elected, with thanks for their past services, and the committee of management was reappointed, with some slight variations in personnel. Speaking to one of the resolutions of thanks, Dr. C. O. HAWTHORNE said that, although the Fund made its principal appeal to members of the medical profession, contributions from laymen and lay bodies were occasionally received. It sometimes happened that a patient, when he came to pay his doctor's bill, was struck with the disparity between the amount he was asked to pay and the benefit he had received, and in that case a further contribution on his part to the Benevolent Fund would be a tactful and much appreciated way of further discharging his obligation.

New South Wales.

CHAIR OF PSYCHIATRY.

AT a meeting of the Senate of the University of Sydney held in December, 1926, Dr. William S. Dawson was appointed to the professorship of psychiatry rendered vacant by the retirement of Sir John Macpherson. The new professor is a graduate of the University of Oxford (B.A. 1914, M.A. 1918, M.B., B.Ch. 1918, M.D. 1923), is M.R.C.P. London, and holds the Diploma in Psychological Medicine of the University of London. He served for a period of three years in the great war. Dr. Dawson is at present a lecturer in clinical psychiatry in the University of London and senior assistant at the Maudsley Hospital, London, where he has been engaged in teaching students, graduates, and medical officers of mental hospitals. He has had an extensive experience in early cases of mental disorder, and has written papers bearing on psychiatry. He recently spent ten months in the United States as Rockefeller Research Fellow, studying the psychiatric training and the organization of social workers, but principally engaged in research in clinical psychiatry under Professor Meyer at the Phipps Psychiatric Institute, Johns Hopkins Hospital, Baltimore, where he also acted as instructor in medical psychology.

CANCER RESEARCH.

The Cancer Research and Treatment Organization of the University of Sydney has issued a pamphlet containing information for intending applicants for the post of director. A seven-year whole-time appointment is offered at an annual salary of £2,000. The director will be required to have qualifications in some branch of cancer research or treatment; he must be able to take a broad view of the various problems of cancer, have a grasp of the fundamentals of such sciences as are applicable to some of these problems, and possess administrative and organizing ability. A short account is given of the progress made since the beginning of 1921, when a Cancer Research Committee was appointed by the Senate of the University. During the last three years work has proceeded along three main lines—namely, the biophysical, biochemical, and the biological and pathological. A biophysical laboratory has been established, and the effect of homogeneous radiations upon living tissues is being investigated by biologists, physicists, and clinicians, with a view to improving radiotherapeutic technique. Biochemical investigation of malignant tissues and of the body fluids, and of cancerous patients before and after different methods of treatment, is being carried on in the University and the hospital laboratories. The organization is now undertaking treatment as well as research, and is urging the Government of the Commonwealth of Australia to establish a radium bank with a stock of eight grams of the radium for Australian use. In the middle of 1926 an appeal was made for £100,000 to endow research and treatment, and £130,000 has already been received.

Scotland.

SCOTTISH UNIVERSITIES PARLIAMENTARY REPRESENTATION.

A MEETING representative of the Socialist Teachers' Society, the University Labour Club, and the National Labour party was held in Glasgow on April 6th. Mr. Hugh B. Guthrie, M.A., was adopted as the Socialist candidate for the vacancy in the parliamentary representation of the Scottish Universities. Mr. Guthrie accepted the invitation to stand as Socialist candidate and delivered an address to the meeting.

LECTURES ON MENTAL DEFICIENCY.

The Scottish Association for Mental Welfare has arranged a course of lectures on mental deficiency for medical practitioners, more especially those who are engaged as school and parochial medical officers. The course is the first of its kind that has been attempted in Scotland, and the success which has attended those arranged by the Central Association for Mental Welfare in London encourages the Scottish Association to hope for similar success in its venture. The value of such a course to those whose work lies in this direction cannot be doubted, and the eminence of the lecturers whose services have been secured ensures that the various aspects of the subject will be adequately dealt with. The course will be held in Glasgow during the first week in May, and particulars may be had from the secretary, Mr. A. Wright, Education Offices, Paisley.

SMALL-POX IN DUNDEE.

At Dundee, on April 3rd, three lascars in the crew of the liner *Macharda* were found to be suffering from a mild form of small-pox and were removed to the Isolation Hospital. The steamer was on a voyage direct from Calcutta to Dundee with a cargo of jute, and it appears probable that a similar case (or cases) which had not been notified was the original cause of the outbreak in the town. On April 5th sixty-six persons were known to have suffered from small-pox, and sixty were in hospital; the other six were discovered only after recovery, and were in a reception house. The medical officer of health has reported that up to this date 8,200 school children had been vaccinated at the request of their parents. In the diagnosis of cases, the test elaborated by Dr. M. H. Gordon, F.R.S., of London has been used with success. With the exception of four adults who had been vaccinated in infancy, all the cases of small-pox occurred among unvaccinated persons, chiefly children. A house-to-house visitation is being carried out in the infected area, which is confined to the east end of the city, and a special staff is engaged on vaccination work. Lymph sufficient for 16,000 persons has been issued, and centres for vaccination have been established. Arrangements are also being made for the vaccination of employees at works and of the inmates in institutions as well as children at the schools.

Difficulty is experienced in recognizing some of the cases on account of their extreme mildness, and also in differentiating cases from chicken-pox, which has now been made generally notifiable throughout Scotland. Vaccination with ordinary calf lymph appears to afford protection both against ordinary small-pox and this mild variety. The convener of the public health committee has stated that even if the outbreak were to come to an end immediately it would have cost the municipality at least £10,000, which represented 2d. in the £ on the rates.

INSTITUTIONS FOR MENTAL DEFECTIVES.

At the sixty-sixth annual meeting of the Royal Scottish National Institution for Mental Defectives at Larbert, Stirlingshire, the directors reported that it had been necessary to realize most of the investments in order to take advantage of the opportunity to acquire the Larbert estate, which was near the institution and eminently suitable for the colony which it was proposed to build and equip for 300 adult mental defectives. A further sum of £70,000 would be required within the next two years to complete the buildings. The institution at Larbert was the only voluntary one at present existing in Scotland for the care of all classes and all grades of juvenile mental defectives. It was essential for the welfare of many of these that accommodation should be provided where they could be kept on and trained as adults to do some useful work under safe conditions. This would be achieved by the new colony. The Edinburgh District Board of Control is taking steps for a new institution for the treatment of mental defectives at Gogarburn. This is intended to accommodate about 1,000 patients, and will be available for patients from the south-east of Scotland area. The first step in the development of the new institution was taken on March 28th, when the first sod of a new roadway in connexion with the institution was cut by Mr. William Elliot, chairman of the District Board of Control. A beginning is to be made next month with the building, which is the first part of the scheme, and which it is expected will be completed in about three years.

NEW EDINBURGH DENTAL HOSPITAL.

The annual meeting of the Edinburgh Dental Hospital and School was held on March 31st. Dr. William Guy, dean of the school, who was in the chair, said that in his opinion the institution did more than any other agency to prevent the incidence of disease among the Edinburgh public, and yet when it appealed to the generosity of that public for support it received in the course of twelve months contributions amounting to about £60. It was high time that the general public realized that what had been done during the past generation was due to self-denying work by members of the dental profession. Otherwise the hospital would not now have been in existence. The income derived from the students had been used to build up the extension and equipment of the present hospital, but it must get in the immediate future between £10,000 and £20,000 for the support of the new building. Bailie T. G. Nasmyth, M.D., in moving the adoption of the annual report, said that the past year had been one of great activity and progress; the hospital practice had been attended by 144 students, and nearly 26,000 dental operations had been performed during the course of 1926.

GLASGOW HOSPITAL FOR WOMEN.

At the fiftieth annual meeting of subscribers to the Glasgow Hospital for Women, on April 7th, the Earl of Home, K.T., who presided, traced the history of the hospital from its beginning in 1877 in a small house as a hospital for women and children; since 1888 it had confined its activities to the care of women, and it had now become one of the most important institutions in the city. It had had a struggling existence for a long time, but in recent years its financial position had become secure. Lord Home paid a warm tribute to the services of the matron and staff, and in the name of the directors and staff presented Dr. G. Scott MacGregor, the senior surgeon, who has been connected with the institution for the long period of thirty-four years, with a canteen of cutlery and a gold cigarette case.

PERTH ROYAL INFIRMARY.

The eighty-ninth annual report of the Perth County and City Royal Infirmary showed that the number of cases treated throughout the year in all the departments was 4,051, as compared with 3,752 in 1925. Lord Forteviot, who had already met the cost of building the new maternity ward, had signified his intention of giving also the medical equipment and instruments. The late Mrs. C. A. Murray of Taymount bequeathed £5,000 for the endowment of a ward in memory of her late husband.

PUBLIC HEALTH INSTITUTES IN LANARKSHIRE.

The Middle Ward district committee of the county of Lanark contemplates the provision of five public health institutes in its area. The first of these, on the site of the county housing scheme at Johnson Drive, Cambuslang, was opened last month. The building cost about £7,500, and is intended for the treatment of children up to 5 years of age, nursing and expectant mothers, tuberculosis, and general infectious diseases of the skin. The second public health institute was opened the following week at Station Road, Shotts; the cost of this building is about £4,000, part of which is met by a Government grant. Other similar institutes are to be established at Blantyre, Larkhall, and Bellshill.

CENTRAL MIDWIVES BOARD FOR SCOTLAND.

At a special meeting of the Central Midwives Board for Scotland for the hearing of penal cases, Dr. James Haig Ferguson in the chair, a certified midwife was cited to appear for failure to take and record the pulse and temperature of her patients, and for other breaches of the rules. Miss Barker, assistant inspector of midwives for Glasgow, was present in support of the charges. The board found the charges to be proved, and instructed the secretary to remove the name of the midwife from the roll and to cancel her certificate. At the same sitting another certified midwife was charged with being guilty of negligence, breaches of the rules, and that she had proved herself incapable of carrying out the same, and, further, with failure to intimate intention to practise as required by the Act. The board found the charges to be proved, and instructed the secretary to remove her name from the roll and to cancel her certification, and, further, to prohibit her from attending women in childbirth in any other capacity.

Ireland.

LOCAL AND PART-TIME MEDICAL REFEREES.

AT a recent meeting of the Tyrone Division of the British Medical Association, Dr. Thompson, who was in the chair, said that it had been called to consider the attitude to be adopted towards the proposal of the Northern Government to appoint part-time local medical referees to review the medical certificates for sickness benefit under the National Health Insurance Act. Such medical referees would be in competition for private practice with the doctors whose certificates they were appointed to review. The matter, he said, had been considered at a meeting in Belfast of the Ulster Branch council of the British Medical Association, when it was decided to call a meeting of the Branch to consider the question, which was of vital interest, not only to the medical profession, but also to the poor. Dr. Thompson strongly disapproved of the proposition as being opposed to the best interests of the doctors and their insured patients. He urged that if the principle was once admitted of permitting local doctors to review other local doctors' certificates, and this without any special remuneration to the latter, two of the chief rules guiding doctors in their relationship would go by the board. In the South of Ireland the difficulty was solved by the appointment by the Government of three whole-time medical referees, and if three were enough for the South of Ireland, two referees should be enough for the Ulster six counties. A long discussion took place. Dr. Lagan

mentioned a case where a referee examined a delicate patient with heart disease and certified him fit for work. Dr. Lagan, who had been attending the case for weeks, had a different opinion, and this patient was later examined in his presence by another medical referee, and Dr. Lagan's opinion was confirmed—the patient being certified unfit to work. Dr. McAllister thought that the appointment of local referees was a good idea, but that efforts should be made to allow no local referee to come within ten miles of another medical practitioner who was also a medical certifier, to review his cases. Dr. Patrick proposed that the Tyrone doctors should vote against the appointment of local and part-time medical referees, and Dr. Lyle seconded. A motion to the opposite effect was proposed by Dr. McAllister, and seconded by Dr. Cunningham, but this was rejected by fourteen votes to three. The original motion was then put and carried by the same majority. A deputation, including the chairmen of the Ulster Divisions of the Association, was appointed to wait upon the Minister of Labour and to protest strongly against the appointment of part-time medical referees, as any arrangement by which local medical practitioners would review the patients of their colleagues was professionally objectionable, and unfair to the insured.

MEDICAL INSPECTION OF SCHOOL CHILDREN.

At a recent meeting of the Dublin Borough Commissioners Dr. Dwyer (City Commissioner) submitted a report recommending a preliminary scheme for the inspection and treatment of school children. The medical officer of health (Dr. Russell) had previously recommended the appointment of two assistant medical officers of health to act as school medical officer and assistant school medical officer respectively, together with two nurses. Dr. Dwyer recommended the immediate appointment of two permanent whole-time assistant medical officers of health, one to act as school medical officer at a salary of £700-£40-£900, the other as assistant school medical officer at a scale of £500-£20-£700, and two nurses at a salary of £182 10s. each. Dr. Russell advised that the school medical service might with advantage be co-ordinated with the working of the maternity and child welfare scheme, with the object of securing a uniform system of treatment. This would result in the compilation of a complete record for each child from the date of birth to the end of school life. Dr. Dwyer fully endorsed this view, and recommended that the school medical officers be also required to undertake medical work in connexion with the child welfare scheme, and that their salaries be charged equally against the two services. The report was adopted.

England and Wales.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL.

IN connexion with the rebuilding scheme of the Royal Westminster Ophthalmic Hospital a reception was held on April 6th in the Westminster City Hall. The Mayor of Westminster, Councillor Bucknill, who opened the proceedings, referred to the founding of the hospital in 1816 by Mr. Guthrie, an army surgeon, in his own house in Berkeley Square, whence it was later moved to King William Street. Like the other notable charities in the city of Westminster, the work of the hospital—curative, educational, and scientific—was not confined within the boundaries of the city, but was of benefit to the whole world. In particular the valuable ophthalmic and aural work now done among school children was instrumental in reducing the number of street accidents, due so often to defective sight and hearing. The Earl of Desart, chairman of the rebuilding fund, said that the object of this meeting was to lay before the public the first special appeal launched by the Royal Westminster Ophthalmic Hospital for thirty years. The rebuilding of the hospital was forced upon them; the present building was no longer adequate for their work. A very good site had been found, and the present site favourably disposed of. Various generous donations had already produced £18,000, but the sum of £60,000 was still required. The new building would contain beds for paying patients, as well as increased accommodation for nurses and students. He appealed to those present to help them, not only with subscriptions, but by giving the appeal all the publicity in their power. Mr. H. Percy Adams, the architect of the new building, plans of which were exhibited in the hall, described some of the special features of the new hospital. The great aim was to make the hospital as light and cheerful-looking as possible. Mr. W. H. Macmullen, surgeon to the hospital, opened an address on ophthalmic surgery by a reference to Lord Lister, whose discoveries had been of such value to all surgery. Ophthalmic surgeons, however, were often debarred from the use of ordinary chemical antiseptics, which would injure the surface of the eye. A bacteriological examination, therefore, was made before any operation. The most common ophthalmic operation was the removal of cataract. Very erroneous ideas existed as to this condition, which, contrary to lay opinion, could usually be treated quite successfully by surgical means. A much more difficult condition was glaucoma; Mr. Macmullen described several methods of operating on this disease, and also various ways of fixing artificial eyes. Sir Richard Cruise then demonstrated some of the instruments used in the routine examination carried out daily in the hospital, including the giant magnet used for removing foreign bodies from the eyes, the ophthalmoscope, whereby the whole cavity of the eye could be illumined, and the slit-lamp. He pointed out that much interesting and sometimes surprising information as to a patient's condition was derived from an ophthalmological examination.

ROYAL VICTORIA AND WEST HANTS HOSPITAL, BOURNEMOUTH.

At the annual meeting of the Royal Victoria and West Hants Hospital, on March 30th, it was stated that out of 18,372 patients treated during 1926 nearly 4,500 had come from outside the boundaries of Bournemouth. Further extension of the hospital was required in several directions; the provision of a second operating theatre had become urgently necessary in view of the large increase in operations now being performed, and several additional one-bed and two-bed wards were needed for special cases, which could not be satisfactorily accommodated in larger wards. The ultra-violet light and *x*-ray departments were quite inadequate for the great amount of treatment that was now being given, and the work of the dental department was badly handicapped by being carried on in temporary quarters. The chairman of the board of management announced that the question of further extension of the hospital was being carefully considered by a special committee, and that sketch plans were being prepared. Though there had been a small deficit of £35 on the annual turnover of £34,000 during 1926, the treasurer anticipated that satisfactory improvement in this respect was probable in the coming years, provided that the support of the outlying districts could be obtained, in view of the fact that so many of the patients of the hospital resided outside the Bournemouth area. The cost of maintenance of patients had decreased by about 12 per cent., the only increase in any direction being attributable to the industrial dispute.

HEALTH OF SCHOOL CHILDREN IN GLOSSOP.

In his annual report as school medical officer for 1926, Dr. E. H. Marcus Milligan describes a method he adopted successfully to deal with the serious outbreak of diphtheria in Glossop during last summer and autumn. Out of the total 65 cases, 45 occurred in school children, and three schools were mainly affected, the infection being almost entirely limited to one side of the borough. All class contacts in these three schools were examined and some carriers were found, including two children from a farm which supplied milk to the affected area, and two children of one of the caretakers. The contacts were repeatedly swabbed, the carriers isolated, and, in addition, many children were treated with prophylactic serum without any special ill effects. Dr. Milligan supports the suggestion of Surgeon Commander F. Dudley that diphtheria may be effectively combated by immunizing large numbers of those likely to be infected, the bacillus losing its virulence by transmission through immunized carriers. He has also for

some time taken special interest in goitre, and now reports that this disease is milder and less prevalent among the children in Glossop since the adoption of systematic examination for thyroid enlargement and their prolonged treatment by iodostarin or by tablets containing 1/10 grain of iodine. Improvement was slow under this treatment, and Dr. Milligan thinks that the dose of iodine might safely be increased or augmented by the use of thyroid extract. He notes that goitrous children were frequently found to have nasal catarrhs, sore throats, or other septic infections. The examination of 1,000 children for rheumatic nodules, cardiac defects, and diseased conditions of the ear, nose, and throat showed that rheumatic stigmata were present in at least 10 per cent. of them at all ages.

Correspondence.

CARCINOMA OF THE HEART.

SIR,—Dr. Thomas Lindsay's report of a case of "Carcinoma of the heart" (BRITISH MEDICAL JOURNAL, February 19th, p. 325) in an old woman who had a nodule of squamous-celled carcinoma in the interior of the left ventricle is very interesting. It is quite obvious, however, that primary squamous-celled carcinoma is not the right term to apply. A squamous-celled carcinoma originally must come from a squamous-celled surface, and whether the primary growth has been found or overlooked does not matter very much—it must be somewhere. There is not the slightest doubt that emboli from primary carcinomatous growths become sown throughout the body, but the delicate cells will not grow in every locality; in certain organs, such as the liver, they grow readily, while in others, like the muscles, they seldom will. The reason for this is not known. One of the curious facts in connexion with it, however, is that squamous carcinoma of the tongue will very often give rise to secondary growths in the heart. This is not generally known, but struck me very forcibly in looking up the literature lately. Secondary growths from carcinoma of the tongue are seldom mentioned, since autopsies on these patients are not common when death takes place at home, and usually only early cases die in hospitals. In some institutions, however, autopsies may be met with and the figures can be obtained. Thus, in the *post-mortem* examinations of the Middlesex Hospital the heart was found affected on two occasions, the liver on eight, and the lungs and pleura on eleven, while in the literature on the subject frequent mention is made of secondary nodules in the heart. Thus, almost offhand, I can mention the following instances: Féré[1] records three nodules, one in the wall of the left, and two in the wall of the right ventricle, in a man aged 64. Godlee[2] notes an instance in a man aged 56, and Weil[3] and Jeanne[4] each record cases.

One can only wonder if the tongue in Dr. Lindsay's case was carefully examined. The commencing degeneration mentioned in the tumour is often seen in secondary growths from the tongue.—I am, etc.,

London, W.1, April 5th. DUNCAN C. L. FITZWILLIAMS.

THE SURGERY OF GASTRIC AND DUODENAL ULCERS.

SIR,—In his letter in the issue of the BRITISH MEDICAL JOURNAL of April 2nd (p. 643) Mr. E. R. Flint takes exception to my statement that, of 1,275 cases of gastric and duodenal ulcers admitted to the surgical wards of the London Hospital in the three years 1923-25, 660 were gastric and 615 were duodenal, and implies somewhat directly that the surgeons at the London Hospital are unable to distinguish between a gastric and a duodenal ulcer.

I think that his implication is probably entirely correct, and that the disability is shared by other surgeons if they would only admit it. It is perfectly true that, as he says, the white line and the pyloric vein define with considerable accuracy the anatomical position of the exit of the pylorus, but in a large number of cases there is no means of judging the extent of an ulcer, or even its precise situation from the external appearances of the pylorus and the duodenum. There will therefore be a large proportion of cases in which the question of whether the pylorus is or is not involved remains a matter of some doubt, and as it is the custom of some surgeons to classify as gastric all cases where they suspect the pylorus to be involved, there is room for a very wide variation in statistics.

Thus Walton states that among his own cases the numbers of uncomplicated lesser curve and duodenal ulcers are exactly equal, whilst Eggleston,[1] in a series of 500 cases, allots 415 to the duodenum and 85 to the stomach. W. J. Mayo has in various papers given an incidence of duodenal ulcers at figures varying from 60 to 73 per cent. Pannett places an incidence of 57 as the generally accepted figure.

The *post-mortem* records at the London Hospital, which surely cannot lie, give 68 gastric ulcers and 55 duodenal over a certain period, but this cannot, of course, be accepted in the same category as operation statistics, as the question of mortality enters into the calculation.

In the last 100 cases on which I have myself personally operated I consider that 54 were gastric ulcers and 46 duodenal. When I was in charge of the surgical unit at the London Hospital we paid special attention to this very point, and the cases operated upon by myself and my assistants were distributed as follows: 47 were gastric ulcers, 53 duodenal, and 17 pyloric.

The question whether in any specific case an ulcer should be described as duodenal or pyloric is often exceedingly difficult to answer, as the few statistics I have quoted are sufficient to indicate. The question can only be settled, if it can be settled at all, by a larger series of gastro-duodenectomies than has yet been published.—I am, etc.,

London, W.1, April 9th. H. S. SOUTTAR.

THE NUMBERS OF THE PROFESSION.

SIR,—The glut in women doctors still continues. A single advertisement inserted in the BRITISH MEDICAL JOURNAL produced forty-eight women applicants for two posts—namely, those of senior and junior resident medical officers to a children's hospital in the North of England, the salaries being £120 and £100. Recently a like advertisement brought forth only twelve male candidates for the post of house-physician at our general hospital.

None of the former applicants gave her age as over 29. Thirty-eight of the candidates had held previous hospital appointments lasting from two to fifty months. Many had gone from post to post. All the applicants were university graduates except one, who held the conjoint diploma of the London colleges.

Twenty-three had English qualifications, 21 Scottish, and 4 Irish (one from Northern Ireland and 3 from the Free State). The 23 English women had degrees from: Oxford 1, Durham 4, London 10 (University 9, Conjoint Colleges 1), Birmingham 1, Liverpool 3, and Manchester 4. The 21 Scottish graduates were: 3 from St. Andrews, 6 from Edinburgh, 8 from Glasgow, and 4 from Aberdeen. The Irish graduates were: 1 from Belfast and 3 from Dublin.

The large number of Scottish applicants was out of proportion to the numbers qualifying across the border. Of over 2,000 new names added to the *Medical Register* last year from Great Britain, two-thirds were from England and one-third from Scotland, although Scotland has only one-seventh the population of England.

As regards the excessive number of graduates (men and women) entering the profession in face of the falling sickness rate—the *Medical Register* already contains over 53,000 names—it is said that out of every three qualifying in Ireland two must emigrate; the proportion must be higher from Scotland. Abernethy, at the first meeting of his annual class of medical students, once exclaimed, "Good

[1] Féré: *Bull. de la Soc. de Anat.*, 1880, lv. 512.
[2] Godlee: *Trans. Path. Soc.*, 1881, xxxii. 27.
[3] Weil: *Gaz. hebd. de méd.*, 1837, 570.
[4] Jeanne: *Gaz. hebd. de méd.*, 1837, 737.

[1] *Journ. Amer. Med. Assoc.*, December 6th, 1920, p. 1542.

God, gentlemen, what will become of you all?" We may say the same to-day.

Some of the best American universities (Pennsylvania, Baltimore, etc) restrict their medical students to a fixed number which can be adequately taught the practical side of their work, some of them admitting less than a quarter of the applicants, and selecting only the best after inquiry and examination.—I am, etc.,

Sunderland, April 7th. W. ROBINSON.

CERTIFICATION OF THE INSANE.

SIR,—Your admirable leader on the Hume-Spry case leaves an important point undeveloped which nevertheless adds to the danger to the general practitioner in certifying mental cases. I refer to a statement emphasized by Sir James Barr at the annual meeting of the Royal Liverpool Infirmary on March 31st last. "The medical man knew that an individual with money could sue him and always command expert evidence that he was sane." This is surely a serious accusation.

In the case under consideration the judge and jury made short shrift of such evidence—evidence be it remembered given by "experts" who did not see the patient at the time he was certified. In a later case (de Freville *v.* Dill) the following quotations from the *Times* report speak for themselves:

Mr. Maitland: If a doctor has left any stone unturned, is it proper to give a certificate of insanity?—No.
Mr. Singleton: Is not that for the jury?
Mr. Justice Avory: I think the answer means that no doctor should ever give a certificate of insanity unless he has consulted Dr. Hyslop.

And further, from the *Times* report of Dr. Risien Russell's cross-examination:

Mr. Singleton: Do you say, because Dr. Dill said that she refused food, that he wilfully made false statements to strengthen a medical certificate?
Dr. Russell: He made the statement to strengthen the certificate. He either did it wilfully, or he is very ignorant of what is required in a medical certificate. He himself says that she had a cup of tea.
Mr. Justice Avory: May not a reasonable man think that a cup of tea is not food?
Dr. Russell: Not a medical man, my lord.
Mr. Justice Avory: I said a reasonable man. (Laughter.)

I think we may all join in the laughter.—I am, etc.,

F. E. H. DAUNT, L.R.C.P.I., L.R.C.S.E.

London, S.W.9, April 5th.

"BIRTH CONTROL."

SIR,—In the letter (April 9th, p. 701) combating my contention that the world's food supply is increased so slowly that only a very small proportion of couples in the world can get really sufficient food for themselves and more than three children, Dr. S. Vere Pearson quotes from a League of Nations publication that between 1913 and 1925 the world's output of foodstuffs was increased by 13 per cent. This important estimate that the world's food supply is only being increased at a rate of about 1 per cent. per annum precisely accords with my contention. It indicates that if all are to be adequately fed the world's inhabitants cannot have a birth rate of much more than 20 per 1,000, and this implies that the great majority of couples cannot have more than three children.—I am, etc.,

London, S.W.7, April 9th. B. DUNLOP.

Obituary.

DR. JAMES HARRIS GARCIA WHITEFORD died suddenly on March 26th at his residence at Greenock. Dr. Whiteford, who for a considerable time had been medical officer of health to the burgh of Greenock and physician to the Greenock Infirmary and Fever Hospital, was a son of the late Dr. James Whiteford of Greenock, where he was born in 1865. He graduated B.A. at Cambridge in 1886, and M.B., C.M. at Edinburgh in 1891, and took the diploma in public health at Cambridge in 1900. At one time he served on the town council; he took a great interest in Freemasonry and in the local Territorial Force, attaining the rank of lieutenant-colonel R.A.M.C. Dr. Whiteford is survived by his wife and two daughters, one of whom is a medical practitioner in Greenock.

DR. WILLIAM HAMMOND HODGSON, whose death is recorded at the age of 45 years, was born at Poulton, the son of Alderman William Hodgson, J.P. He was educated at the London Hospital and the University of Cambridge, took the diploma of the English Conjoint Board in 1907, and graduated B.A.Camb. in 1902, and M.B., B.Ch. in 1911. He served as house-physician, senior clinical assistant to the ear, nose, and throat department, and resident anaesthetist to the London Hospital, and after working in London for a time removed to Blackpool, where he carried on a successful practice. He joined the Victoria Hospital in 1914, to which he was surgeon at the time of his death, and in 1921 was elected the representative of the medical board on the board of management. During the war he served for twelve months in Mesopotamia, and subsequently took charge of the Station Road (South Shore) Auxiliary Hospital, Blackpool. Dr. Hodgson was a member of the Blackpool Division of the British Medical Association. He is survived by his widow and a young daughter.

DR. EDWARD JOHN JOSEPH QUIRK, M.B.E., who died on March 24th, received his medical education at Charing Cross Hospital, where he obtained the diplomas M.R.C.S., L.R.C.P. in 1908. After serving as house-surgeon and house-physician to Charing Cross Hospital, and house-anaesthetist to the Royal Dental Hospital, he was appointed to the West African Medical Service in 1912. In the late war he received a commission as captain and was attached to the West African Field Force from 1914 to 1916, and to the Nyasaland Field Force from 1917 to 1918. He was mentioned in dispatches and awarded the M.B.E. A colleague writes: By his death the staff has lost one of its most promising officers. A sound physician and an expert anaesthetist, Dr. Quirk was also very efficient at administrative work, so that he was marked out for early and high advancement in the service. As regards his personal character, he was kindness and generosity personified. These qualities, added to his never-failing fund of wit and tact, endeared him to all.

DR. JOHN THOMAS CROWLEY, who died on March 18th, at the age of 28, received his medical education at University College, Dublin, where he graduated M.B., B.Ch., B.A.O. in 1921. He was then appointed resident surgeon to the Mater Misericordiae Hospital in Dublin, and in 1922 obtained a commission in the Irish Free State Army. He held the position of command medical officer in Cork until April, 1924, when he was promoted to the rank of commandant on the inspection staff. Ill health compelled him subsequently to resign his commission.

FREDERICK BELDING POWER, Ph.D., LL.D., who died on March 30th at Washington, was born in 1853 at Hudson, New York, and began life as a practical pharmacist in Chicago and Philadelphia. In 1876 he went to study at the University of Strasbourg, where he took his degree in 1880, after acting as assistant to Professor Flueckiger. Returning to America in 1881, he became in turn professor of analytical chemistry at the Philadelphia College of Pharmacy, and of pharmaceutical chemistry and materia medica at the University of Wisconsin. In 1896, at the invitation of Mr. Henry S. Wellcome, Dr. Power came to England as first director of the Wellcome Chemical Research Laboratories. Under his direction 168 scientific papers from these laboratories were communicated to learned societies, and during this period Dr. Power gained a wide reputation as a research chemist, particularly in the field of plant chemistry. One of his most important researches was an investigation of the constituents of chaulmoogra and hydnocarpus seeds. In 1914 Dr. Power returned to America as director of the Phytochemical Laboratory of the Bureau of Chemistry at Washington, a post he held

until his death. In 1908 the University of Wisconsin conferred on him the honorary degree of Doctor of Laws, and in 1913 he was awarded the Hanbury gold medal. In 1921 Mr. Wellcome presented him with a commemorative gold medal. Dr. Power was an honorary member of many scientific societies and institutions, a former vice-president of the Society of Chemical Industry, and served on the committee of the United States Pharmacopoeia; in 1920 he was elected vice-president of the United States Convention.

The following well known foreign medical men have recently died: Dr. ANTONIO CARDARELLI, professor of *clinical medicine* at Naples, aged 96; Professor PERTHES, director of the Tübingen Surgical Clinic; Dr. JEANNE, professor of clinical surgery at the medical school at Rouen; Dr. ZOEGE VON MANTEUFFEL, extraordinary professor of surgery at Dorpat, aged 68; Professor RIELÄNDER, a Marburg gynaecologist, aged 48; Professor SPIEGEL, who discovered the alkaloid yohimbin; Dr. GIOVANNI D'ABUNDO, professor of clinical neurology at the University of Catania; Dr. J. SINGER, formerly professor of internal medicine at Prague, aged 72; Professor A. VALENTA EDLER VON MARCHTURN, gynaecologist at Laibach, aged 57; Dr. PAUL CORNET, general secretary of *Paris médicale;* Dr. PAUL RIBIERRE, a Paris cardiologist, aged 52; Dr. LANGLET, national associate of the Académie de Médecine, and formerly mayor of Rheims; Professor J. CURTILLET, dean of the faculty of medicine of Algiers, aged 64; Professor GAVELLO, *director of the öto-rhino-laryngological clinic* at Turin; and Dr. LÉONCE PIERRE MANOUVRIER, director of the laboratory at the Collège de France and professor at the Ecole d'Anthropologie.

The Services.

Brevet Colonel William Westropp White, C.B., *C.M.G., Bengal* Medical Service (ret.), died at Cove, Bampton, Devon, on March 21st, aged 64. He was born on June 10th, 1862, the eldest *son* of the late John Carpenter White of Cork, and was educated at Queen's College, Cork; he graduated as M.D., M.Ch., and M.A.O., of the Royal University, Ireland, in 1887. He entered the I.M.S. as surgeon on October 1st, 1887, he became lieutenant-colonel after twenty years' service, and received a brevet colonelcy in 1915. He retired on August 2nd, 1921. He had a *long* record of war service—North-West Frontier, Hazara campaign of 1891, medal with clasp; Chitral, 1895, relief of Chitral, medal *with* clasp; Tirah, 1897-98, operations on the Samana range and in the Kurram Valley, and in Buner, two clasps; China, 1900, relief of Pekin, mentioned in dispatches in *London Gazette* of May 14th, 1901, medal with clasp. He also served throughout the recent war, in France, Mesopotamia, and Palestine successively, was four times mentioned in dispatches (1915, 1916, 1918, and 1919), and received the C.B. on January 1st, 1916, and the C.M.G. on June 3rd, 1919.

Lieut.-Colonel David MacDonald Davidson, C.I.E., Bengal Medical Service (ret.), *died at Lahore on March 13th, a few days before* his sixty-second birthday. He was born at Antananarivo, in Madagascar, and was educated at Aberdeen, where he graduated M.B. and C.M. with honours, and gained the Murray scholarship in 1897; he proceeded M.D. in 1896, and took the D.P.H. of the Glasgow Colleges in 1897. He entered the I.M.S. as surgeon in October, 1887, became lieutenant-colonel after twenty years' service, and retired in October, 1923. After two years' *military* duty he entered civil employment in the Punjab, where he was for many years civil surgeon, first at Delhi and afterwards at Lahore, *and in* December, 1914, was appointed professor of midwifery in the Lahore Medical College, in addition to his duties as civil surgeon. On his retirement he came home, but after a short period in Europe returned to India and settled at Lahore, where he served as a municipal commissioner. *He received the C.I.E. in* January, 1921. He was the author of the article on dysentery in his father's well known work, Davidson's *Hygiene and Diseases of Warm Climates,* published in 1893

Major Roger Durrant Willcocks, Indian Medical Service (ret.), died on January 9th, aged 50. He was educated at Liverpool, where he graduated M.B. and Ch.B. of the Victoria University in 1901, and entered the I.M.S. as lieutenant in January, 1902. He attained the rank of major on July 29th, 1913, and retired on October 12*th*, 1920. He served in the recent war.

Major Sorab Dinshaw Billimoria, Indian Medical Service, died *on February 2nd,* aged 41. He was born in 1885, and was educated at the Grant Medical College, Bombay, where he obtained the *diploma* of L.M.S. in 1910. He joined the I.M.S. as a temporary lieutenant on January 4th, 1915, and received a permanent commission, ranking from his original date of entry, in November, 1920. He served throughout the great war, in Egypt in 1915-16, and in *Mesopotamia in 1918, and was mentioned in* dispatches on August 15th, 1917.

Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

ON April 7th the Parliamentary Medical Committee visited the National Research Institute, Hampstead, and the Mill Hill experimental farm. The Committee were very favourably impressed by the organization at both. All departments were visited, special attention being paid to the research into rickets and to the section of applied physiology. At Mill Hill the *Committee saw the arrangements for the investigation of* distemper in dogs and of Johne's paratuberculous disease in cattle, and also the ultra-microscopic work of Dr. Gye and Mr. Barnard, for which a special building has now been provided.

The Budget.

Mr. Churchill presented in the House of Commons, on April 11th, the Budget for 1927-28. This showed an estimated expenditure for the year of £833,390,000, *including* a provision of £65,000,000 for Sinking Fund, and an estimated revenue of £796,850,000 on the basis of existing taxation. Mr. Churchill proposed to increase this revenue to £834,830,000. An additional £14,800,000 is to be obtained by collecting income tax under Schedule A for 1928 in one instalment next January, and £12,000,000 will be *transferred from the* Road Fund reserve to general account. New duties are proposed on imported tableware, on imported motor tyres, and on British wines, and the *duties on "fortified" foreign* wines are increased. No change is made in the rates of income tax nor in the motor car duties, but the Chancellor announced important changes *in income tax administration to take effect* next year. Taxation under Schedule E (salaries) will be transferred to the basis of the previous year; supertax and income tax are to be harmonized into a *single graduated tax on income,* and taxpayers will make a single annual return for all purposes of the total income for the previous year. Mr. Churchill further announced that the Government had decided to abolish the Ministry of Transport, Mines Department, and Department of Overseas Trade, and to slow up the rate of entry for the civil service.

At the close of the day's sitting a resolution giving the force of law to the duty on "patent" medicines was carried by the House. The debate on the Budget duty was resumed on April 12th and 13th.

Landlord and Tenants Bill (No. 2).

On April 7th the Home Secretary, Sir William Joynson-Hicks, moved the second reading of the Landlord and Tenants *Bill (No. 2),* which would entitle the tenants of leasehold business *premises* to compensation for goodwill and for improvements made after the passing of the bill, or alternatively to renewals of *their leases.* The bill also proposes to set up a tribunal of arbitrators to deal *with questions* in dispute between landlords and tenants. Mr. Dalton, moving an amendment on behalf of the Labour party, regretted that the bill was limited to business premises. A large number of doctors, dentists, and other professional people were liable to suffer from confiscation by their landlords, when their leases fell in, of the goodwill which they had added to their practices. In the poorer parts of London doctors had built up considerable practices. When their leases fell *in they* must be turned on the streets or in the alternative pay a grossly excessive rent to the landlords who were aware of the amount of goodwill that had been created around these practices. Mr. MacLaren, seconding the amendment, said it was laid down in law that professional men had their goodwill assessable for Probate Duty and other purposes. Mr. Ellis Davies said the solicitor as a rule was not entitled to goodwill in respect of the premises which he occupied, but the doctor's connexion was much more personal and therefore the doctor ought to be included within the scope of the bill. Dr. Graham Little urged the extension of the provisions of the bill to the professional premises of doctors. Two classes of doctors were concerned. The first were the consultants who were resident in London. Under the present law a surgeon would take a house for a short period, would establish a great reputation, and at the end of some years would be faced with the necessity of removal or of renewing the lease. The landlord understood it was a damaging thing for that man to remove from the neighbourhood, and the lease would immediately go up to an extortionate value. *Unless the bill applied* to professional premises it would make leases more difficult to obtain. The inland revenue regarded a doctor's house as business premises. The general medical practitioner would be, perhaps, more hardly hit. He read a resolution by a meeting of general practitioners urging the Government to make provision in the bill for the security of tenure of practitioners who had been in many instances compelled to build on leasehold premises to comply with the requirements of the National Health Insurance Act. The Solicitor-General, Sir Thomas Inskip, said Dr. Little's suggestion that doctors' goodwill should be made the subject of compensation was purely a question for the Committee stage. The Government had no desire to reject reasonable proposals for making the bill more effective. The second reading of the bill was carried by 240 to 83.

Shop Hours.

At the first sitting of the Committee which has been appointed to inquire into the working of the Shops Acts of 1920 and 1921 and to consider whether they should be made permanent, and, if so, whether with or without modifications, evidence was given by Mr. A. Larking, secretary of the Early Closing Association. He recalled the history of the early closing movement, and said that the habit of late shopping by the public had entailed suffering on the young people behind the counters. All over the country shops were open from 7.30 or 8 in the morning to 10, and midnight on Saturday, and the hours of assistants ranged from eighty to one hundred a week. The only safeguard was for all shops to be closed at a prescribed time, whether employing shop assistants or not. An additional reason for continuing the Shops Act of 1920 was its value in connexion with the Summer Time Act, which afforded time for outdoor recreation every evening of the week, instead of, as previously, only on the half-holiday.

Replying to Miss Margaret Irwin, a member of the Committee, the witness said that he had medical evidence that long hours were injurious to the health of women and men employed in shops.

The Chairman (Sir W. W. Mackenzie) said the Committee would like medical evidence since 1912. The witness said that since 1912 the number of hours worked had been much reduced, and the half-holiday and the Shop Seats Act considerably lessened the hardships of shop assistants.

The Chairman said if the evidence showed the injurious effect of long hours before the Shops Acts were passed it would not be very material. The witness replied that the hours to-day were not sufficiently long to warrant medical evidence against long hours. He could bring medical evidence that if the Shops Act of 1920 were discontinued, and things went back to the old state of affairs, keeping open to 9 or 10 at night, the effect on young people, especially girls, would be most injurious.

Replying to Miss Irwin, the witness said that work in shops at any time with artificial light was far more exacting than working in ordinary light. In some shops the sanitary conditions left a good deal to be desired.

The Committee adjourned till Thursday.

Opium and Drug Addiction.—Mr. G. Locker-Lampson denied that the League of Nations Advisory Committee on Opium and Drug Addiction had stated that in Europe 700,000 men and women were engaged in the illicit sale of morphine, heroin, and cocaine, a good percentage being employed in Great Britain. The statement was without foundation and had not been made by any responsible body.

Mr. Amery, replying to Mr. Gardner on April 11th, said that opium consumers were not registered in the Straits Settlements or Federated Malay States, though the Governments of those territories had put into operation measures designed to lead up to registration of consumers when possible. The Government of North Borneo had recently introduced an experimental and tentative system of registration of consumers of opium.

Cholera in India.—On April 11th Earl Winterton informed Mr. Short that the epidemic of cholera in the Bombay Presidency appeared to have started in the Dharwar district in February last and had spread to three other districts. Figures relating to these outbreaks had not yet been received. The measures taken to arrest the spread of the disease were a matter for which the local Government was responsible, but the Secretary of State had no reason to suppose that all possible steps to this end were not being taken. The Belgaum district was freshly infected on March 19th, and on March 26th the disease was spreading in that district.

Infantile Mortality in Palestine.—Mr. Amery has stated that the infant mortality rate per 1,000 births in Palestine was 184.83 in 1924, 188.64 in 1925, and 163.15 in 1926. Twenty-nine non-Government infant welfare centres had been established in Palestine, to many of which the Government centres had been established where addition, two Government centres had been established where training by experienced British nursing sisters was given to women who wished to take up infant welfare work. A training centre for midwives had been established, at which forty-three women had already qualified, and a scheme was on foot for establishing nursing clinics in a number of villages.

Poisons and Pharmacy Acts.—On April 11th Captain King told Dr. Fremantle that traders engaged in the sale of poisons, both by wholesale and retail, were represented on the committee which was investigating the working of the Poisons and Pharmacy Acts. He was unable to say when the committee's report might be expected. Lady Astor asked whether whisky was classed as a poison for the purpose of this inquiry. No answer was returned.

Notes in Brief.

The Home Secretary is about to make a scheme under the Workmen's Compensation Act which will embrace all the metal grinding industries, including the edge-tool trade.

The Ministry of Labour estimates that on March 21st last 10,702,000 insured persons were employed in Great Britain, as against 9,677,000 in July, 1922.

The Minister of Health is of opinion that the re-issue in casual wards of unwashed night clothing does not satisfy the existing regulations.

Material will be contributed by the Ministry of Health to the next Health Yearbook issued by the League of Nations.

The Consultative Council of the Ministry of Health last met on December 7th, 1921, and the Minister cannot say whether there is hope of its meeting again.

Medico-Legal.

A CORONER'S INQUEST.

On March 24th a meeting of the Southall Medical Society was held at the Manor House to discuss the matter of the inquest held at Westminster on March 15th last by the coroner, Mr. S. Ingleby Oddie, relating to the death of Lily Leah Wise, and circumstances arising therefrom. The meeting was called because of the strong feeling that an injustice had been done, and that a question arises affecting the medical profession generally. Dr. J. Davenport Windle presided, and all the members were present—namely, Drs. Hart, Wynn-Werninck, Hutchison, Brook, McKenna, and Seccombe.

The report of the proceedings at the inquest which appeared in the *West Middlesex Gazette* of March 19th was laid on the table. The coroner, in returning a verdict of accidental death, said that it was an unfortunate case of a young married woman losing her first child. In view of the difficulties the doctor had to contend with some injury might easily be received by the infant, but the abrasion on the scalp became infected and the infant died of pyaemia. The doctor should have seen that the abrasion was bathed with antiseptics and kept clean. The coroner added a rider regretting that the doctor had not supervised the keeping clean of the abrasion by the nurse or kept it clean himself. The chairman said that the remarks of the coroner, especially in the rider to the verdict, contained an unjustifiable reflection on the professional skill of Dr. McKenna. Professional witnesses had been unable to say whether the infective process originated in the abrasion or was conveyed by contagion from the mother. Dr. Weir, the pathologist, although of opinion that the origin of the condition was the wound on the head, properly admitted the possibility of infection from the mother. The chairman pointed out other possible sources of infection, including infection from the cord (sloughing of the cord), a common cause, and infection from the nurse. A member pointed out that infection was prone to occur in the case of any child whose weight at birth was much below the normal, due to prematurity or some hereditary cause. He asked why the nurse was not called at the inquest, and, as the question of the doctor's conduct had arisen, why there was no jury. Though it might be the coroner's duty to censure where the facts were incontrovertible, it was his duty, the speaker considered, to determine the cause of the death, and this he had failed to do. He had formulated an opinion and evolved out of it a reflection on a medical practitioner. A motion was unanimously adopted to send a copy of the minutes of the meeting, together with the local newspaper, to the British Medical Association and the Medical Defence Union.

Universities and Colleges.

UNIVERSITY OF OXFORD.

AT a congregation held on April 9th the following medical degrees were conferred:

D.M.—A. Kendrew.
B.M.—C. W. Mackenzie, Grace Batten.

UNIVERSITY OF LONDON.

THE following have been recognized as teachers of the University in the subjects and at the institutions indicated:

St. Bartholomew's Hospital Medical College.—Mr. Reginald Hilton (physiology).

Guy's Hospital Medical School.—Dr. William W. Jameson (hygiene).

Middlesex Hospital Medical School.—Mr. Stephen L. Baker (pathology—morbid anatomy and histology); Dr. Davis E. Bedford (medicine); Dr. Samson Wright (physiology).

London School of Medicine for Women.—Sir Bernard H. Spilsbury (forensic medicine).

St. Mary's Hospital Medical School.—Mr. Gerald R Lynch (pathological chemistry).

University College.—Mr. Albert Hemingway, temporary (physiology).

Dr. Hamilton Hartridge has been admitted to the Faculties of Medicine and Science as from September 1st, 1927.

Sir Holburt Waring, M.S., has been appointed a governor of the Imperial College of Science and Technology.

Mr. V. Warren Low has been reappointed the representative of the Royal College of Surgeons of England on the Senate, and Lord Dawson of Penn and Mr. H. L. Eason have both been reappointed as the representatives of the Faculty of Medicine.

Applications for the Chair of Anatomy tenable at King's College (salary £1,000 a year) must be received not later than the first post on April 21st by the Academic Registrar, from whom further particulars may be obtained.

Three lectures with lantern illustrations on sensation and the sensory pathway will be given on May 3rd, 4th, and 6th, at 4.30 p.m., by Professor J. S. B. Stopford at University College.

A course of four lectures with lantern illustrations on inflammation and infection will be given by Professor E. H. Kettle at Guy's Hospital Medical School on May 20th, 27th, 31st, and June 3rd, at 5.30 p.m.

Professor John Fraser will give a course of three lectures with lantern illustrations on some surgical problems at the Middlesex Hospital Medical School on May 16th, 17th, and 18th, at 5 p.m.

UNIVERSITY OF GLASGOW.

THE following candidates have been approved at the examination indicated:

FINAL M.B., CH.B.—W. Abdurahman, Margaret K. M. Alexander, H. Black, A. Blair, G. F. Cables, A. Campbell, J. Campbell, Margaret C. Campbell, Columba C. Capaldi, H. Dickie, J. Downes, D. J. Ferguson, J. S. Ferguson, J. A. Fleming, H. W. O. Frew, J. P. Galloway, T. Gibson, Mary L. Gilchrist, Marjorie Gillespie, W. H. Graham, W. F. Greer, B. M. Hegarty, J. Hepburn, J. Hill, *F. T. Land, H. V. Lavelle, J. L. McColm, E. C. Macdonald, [illegible] McGregor, A. A. McMillan, [illegible] R. A. Neill, R. L. Paterson, [illegible] Jeannie McC. Robertson, [illegible] A. Sharman, S. Sharman, J. S. Sharpe, J. B. Simpson, N. Smith, P. Spence, A. McD. Steele, J. R. Sutherland, Anne I. Symington, A. C. Thomson, Donella A. F. Watson, W. Watson, E. Yoddes.

* *Distinction in surgery.* † *Distinction in medicine.*

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

A QUARTERLY Council meeting was held on April 7th, when the President, Sir Berkeley Moynihan, Bt., was in the chair.

Honorary Fellowship.

The following honorary Fellows, elected by the Council on March 10th last, were introduced and received their Diplomas: Roberto Aless[illegible]m Archibald (Montreal), Frans Ali B[illegible] *Paul Lecène (Paris)*, René Leriche (New Orleans), Charles Willems (Liège).

Fellowship.

Diplomas of Fellowship were granted to Messrs. G. F. G. Batchelor and R. W. Jones, who have now complied with the regulations. Sir Henry Gauvain and Mr. Cecil Beadles, members of twenty years' standing, were elected to the Fellowship.

Prizes.

The Jacksonian Prize for 1926 on "The pathology, diagnosis, and treatment of abscess of the brain" was awarded to Mr. E. Miles Atkinson, F.R.C.S. (Bath). The subject for the Jacksonian Prize for 1928 is "The surgical treatment of pulmonary tuberculosis." The John Tomes prize for 1924–26 was awarded to Mr. Herbert Cecil Malleson, M.R.C.S., L.D.S., for his work in connexion with the histology and pathology of the dental tissues.

Mr. Robert Gordon Wilbond of Bristol University was appointed Begley Student for the ensuing three years.

Appointment of Representatives.

Sir Cuthbert Wallace was appointed delegate to attend the celebration of the centenary of University College, London, on June 23rd. The President, Sir D'Arcy Power, and Sir James Berry were appointed as representatives to be present at the coming celebration of the 1,300 anniversary of York Minster on July 1st.

Medical News.

The annual report presented to the meeting of the Hospital Saturday Fund on April 6th showed that the general fund amounted to £79,192. The collections and donations amounted to £77,037, a decrease of £1,713 on the previous year. The total sum received from all sources was £109,769. Though the receipts from business houses, workshops, and factories were affected by the general strike the fund had nearly regained its old position towards the end of the year. The sum of £59,061 had been awarded to hospitals, nursing homes, and other institutions as against £71,604 in 1925. At the conclusion of the meeting the chairman announced that at the present time the fund was £887 in advance of the corresponding period of last year.

A POST-GRADUATE course on diseases of the nervous system will be held at the National Hospital, Queen Square, W.C.1, from May 9th to July 15th. The general course will consist of clinical lectures and demonstrations, teaching in the out-patient department, and pathological lectures and demonstrations. A course of lectures on the anatomy and physiology of the nervous system and clinical demonstrations, chiefly on methods of examination of the nervous system, will also be given. Further particulars can be obtained on application to the secretary of the hospital.

THE Colyer Prize was founded by the Royal Society of Medicine in June, 1925, to commemorate the twenty-five years' service of Sir Frank Colyer as honorary curator of the Odontological Museum. The accumulated income of this fund (about £20) may be used every third year as a prize for the best original work in dental science completed during the previous five years, by a dental surgeon educated at any recognized dental school in Great Britain or Northern Ireland who has not been qualified to practise more than five years at the date of the award. Applications from candidates for the first award should be submitted not later than July 1st, 1928, together with a general account of their researches, both completed and in progress.

THE Fellowship of Medicine announces that a course of clinical and cystoscopic demonstrations will be given at the All Saints' Hospital from May 2nd to 28th; on each Wednesday during the four weeks a special lecture dealing with genito-urinary diseases will be delivered at 2 p.m. Also beginning on May 2nd and continuing for four weeks an afternoon course in psychological medicine will be held at the Maudsley Hospital. A four weeks' course in venereal diseases, including clinical instruction, will commence on May 2nd at the London Lock Hospital. On successive Wednesdays, from May 4th to 25th, Professor McIlroy will give lecture-demonstrations on ante-natal diagnosis and treatment at the Royal Free Hospital, at 5 p.m. An intensive course will be arranged at the Central London Throat, Nose and Ear Hospital from May 9th to 28th, comprising a clinical and an operative course, either of which may be taken separately. As the entry for the operative course is limited early application is desirable. From May 9th to July 15th there will be a course in neurology at the National Hospital, Queen Square. Two courses begin on May 16th at the Infants Hospital and the Hampstead General Hospital. The first course is open to those interested in infant welfare work as well as to post-graduates, and the second is primarily for general practitioners. Copies of all syllabuses and of the *Post-Graduate Medical Journal* are obtainable from the Secretary of the Fellowship, 1, Wimpole Street, W.1.

AMONG the Friday evening discourses to be given at the Royal Institution of Great Britain after Easter is one, on May 13th, by Sir Humphry Rolleston, Bt. Its title is "Concerning old age."

THE annual meeting of the members of the Auxiliary Royal Army Medical Corps Funds will be held at 11, Chandos Street, Cavendish Square, W.1, on Friday, April 29th, at 2.30 p.m., when the annual report and financial statement for the year ended December 31st, 1926, will be presented, and the officers and committee for the current year elected.

THE third lecture on the history of medicine will be given at the University of Durham College of Medicine, Newcastle-upon-Tyne, on Wednesday, April 20th, at 4.45 p.m., by Dr. Charles Singer of University College, London. Medical practitioners in the neighbourhood are invited to attend.

THE annual spring dinner of the Queen's University Belfast Club, London, will be held at the Connaught Rooms, Great Queen Street, W.C., on Thursday, April 21st, at 7.30 for 8 p.m., when Professor J. A. Lindsay, president of the club, will preside.

THE Board of Trade gives notice that representations have been made to it under Section 10 (5) of the Finance Act, 1926, regarding dial (acid di-allyl barbituric), elbon (cinnamoyl para-oxyphenylurea), integrators (planimeter type), R. lead acetate, lipoiodin (ethyl di-iodo brassidate), phytin (calcium magnesium inosite hexaphosphate), planimeters. Communications with the Board regarding these applications should be sent to the Principal Assistant Secretary, Industries and Manufactures Department, Board of Trade, Great George Street, S.W.1, within two months from the date of this notice (March 30th).

APPLICATIONS for the Dickinson Research Travelling Scholarship must be sent to Mr. Frank G. Hazell, Secretary of the Trustees, Manchester Royal Infirmary, by May 2nd. The scholarship of £300 is tenable for one year. Candidates must have graduated with distinction in medicine and surgery at the University of Manchester in any one of the three years immediately preceding the award.

THE Vocal Therapy Society exists to form ex service men into choirs, called the "King's Services Choirs," with a view to promoting the health of war-disabled men through speech, song, and efficient breathing. To the choirs started at the Star and Garter at Richmond, at Beckenham, and at Cheshunt, two new choirs have been added, one at the Ex-service Welfare Society's home in Nightingale Lane, and the "London Centre Choir," for men who have left hospital, in Osnaburgh Street. The report of the Society for 1925–26 records the success achieved at these centres in improving the health and nerves of disabled men. The late Sir Frederick Mott was one of the founders of the Society; and Sir James Dundas-Grant, Sir Bryan Donkin, Sir Robert Jones, and Sir George Makins are among the medical men interested in its work.

THE recipient of the Smith award of the Royal Institute of Public Health this year is Dr. J. R. Kaye, medical officer of health for the West Riding of Yorkshire. The award is made every third year to the medical officer of health considered to have done the most noteworthy work in the discharge of his official duties.

THE issue of the *Deutsche medizinische Wochenschrift* for April 1st contains appreciations of Lord Lister by Professor von Haberer of Graz and Dr. Leo Zumbusch of Liestal, and an autograph letter to the editor in which Lister expressed his regret that his state of health prevented him from contributing to the special number of the journal in honour of Robert Koch.

THE Minister of Public Instruction of the French Republic, having ratified the nomination made by the Council of the Faculty of Medicine of Strasbourg, Professor George H. F. Nuttall, F.R.S., of Cambridge, has been made Professor, *honoris causa*, of the University of Strasbourg.

THE second general congress of psychotherapy will be held at Bad Nauheim from April 27th to 30th.

ACCORDING to official statistics recently published there were 180 fatal cases of influenza in Holland last December.

DURING the academic year 1925–26, 1,242 diplomas of doctor of medicine were conferred by the following French faculties: Paris, 651; Lyons, 166; Bordeaux, 127; Montpellier, 113; Lille, 41; Toulouse, 40; Nancy, 33; Strasbourg, 30; Algiers, 30; and Beyrout, 11.

A JUGO-SLAV oto-neuro-ophthalmological society has recently been founded at Zagreb, with Professor Lapinsky as president.

A SOUTH American Anti-Cancer League has recently been founded at Buenos Aires.

A POST-GRADUATE course in modern methods of treatment will be held at Vienna from June 20th to July 2nd, and will be followed by special clinical instruction in classes. The subjects include endocrinology, the treatment of diabetes, surgical tuberculosis, and syphilis, and the use of *x* rays and radium. Further information may be obtained from Dr. A. Kronfeld, Porzellangasse 22, Vienna IX.

Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to **The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.**

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the BRITISH MEDICAL JOURNAL alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the BRITISH MEDICAL JOURNAL must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the JOURNAL, should be addressed to the Financial Secretary and Business Manager.

The **TELEPHONE NUMBERS** of the British Medical Association and the BRITISH MEDICAL JOURNAL are *MUSEUM 9861, 9862, 9863, 9864* (internal exchange, four lines).

The **TELEGRAPHIC ADDRESSES** are:

EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology Westcent, London.*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westcent, London.*

MEDICAL SECRETARY, *Medisecra Westcent, London.*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 4737 Dublin), and of the Scottish Office, 6, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 4361 Central).

QUERIES AND ANSWERS.

"D. H." asks for suggestions as to the treatment of tinnitus aurium in a man, aged 64, suffering from locomotor ataxy.

FEES FOR POST-MORTEM EXAMINATIONS.

"H. D."—Under the Coroners Act, 1926 (which comes into force on May 1st next), the following fees will be payable to medical practitioners:

(*a*) For attending to give evidence at any inquest whereat no *post-mortem* examination has been made by the practitioner, one and a half guineas for each day on which he is required to attend;

(*b*) For making a *post-mortem* examination of the body of the deceased and reporting the result thereof to the coroner, without attending to give evidence at any inquest, two guineas;

(*c*) For making a *post-mortem* examination of the body of the deceased and for attending to give evidence at an inquest on the body, three guineas for the first day and one and a half guineas for each subsequent day on which the practitioner is required to attend.

INCOME TAX.

Allowance for Wife's Assistance.

"D. L.'s" wife, a trained nurse, dispenses for him and gives him professional assistance in other ways. What allowance can he obtain?

*** Section 18 (2) of the Finance Act, 1920, provides for an addition to the normal (married) personal allowance of £225 where the total income includes earned income of the wife. The maximum addition is £45, or nine-tenths of that earned income. If, therefore, "D. L." were to pay his wife £36 as an assistant she would be assessable on £36, less £6 earned income relief = £30, but the £36 could be deducted as wages or salary in his professional account and nine-tenths of £36—say, £32—additional personal allowance claimed. It may perhaps be pointed out that no real benefit would accrue for 1927–28, as "D. L.'s" earnings would be assessable on the basis of his 1926 profits (when the payment was not being made) and his wife's salary on the actual amount for the year ending April 5th, 1928.

Letting of Unfurnished Rooms.

"J. H. B." refers to our answer to "Overtaxed" in the issue of March 26th and encloses a letter from his solicitors advising that he should continue to bring into his return the receipts obtained from letting unfurnished consulting-rooms.

*** It is, of course, true that taxpayers are called upon to make a return of all their income, but that income has to be calculated according to certain specified rules. In the case of rents derived from unfurnished rooms, there is, in our opinion, no need to regard them as chargeable other than under Schedule A. When the gross annual value of the premises in question was determined it may be presumed that their suitability for such a purpose entered into the estimate, or, if the premises are held on a lease for full rent, that the assessment was made accordingly. Therefore, our correspondent appears to be entitled to regard his liability in respect of the rents for unfurnished rooms as covered by the assessment under Schedule A, which may or may not be liable to increase. One point should perhaps be mentioned: the amount of the rents so obtained would be one factor, amongst others, in determining what fraction of the total value should be deducted as the equivalent of rent paid for that portion of the premises occupied by himself for professional purposes—if he deducts the whole, then obviously he must bring the rents into the account of his earnings.

LETTERS, NOTES, ETC.

"THE LONDON CLINIC."

We have received for publication the following letter signed by Drs. L. D. Bailey, J. F. Carter Braine, E. P. Cumberbatch, S. L. Higgs, D. Hubble (resident medical officer), Reginald Jewesbury, G. Murray Levick (honorary medical director), Stanley Melville, and C. A. Robinson; together with Lord Dawson of Penn and Sir Thomas Horder (members of the Advisory Committee):

"In view of certain publicity which has recently been given to the London Clinic (founded and maintained by the British Humane Association), we wish it to be known that we have severed our connexion with that body."

BOVINE TUBERCULOSIS: GUERNSEY'S GOOD RECORD.

DR. HY. DRAPER BISHOP (M.O.H. Guernsey) writes: The very low incidence of tuberculosis amongst the cattle of Guernsey is, I believe, fairly well known, if not on this side of the Atlantic, at any rate on the other. During the years 1925 and 1926 the number of cattle tuberculin-tested was 1,950; of this number there was one reactor only.

OPIUM SMOKE AS AN ANAESTHETIC.

IN a note by Dr. G. L. Deshmukh of Bombay, published in the JOURNAL of February 26th (p. 410), he described how, an ordinary anaesthetic not being available, he was able, without inflicting pain, to sew up a wound in a patient who had been given opium to smoke. Dr. W. Macewen of Glasgow inquires how opium is smoked and whether its use could be recommended as an anaesthetic.

*** The method of preparing opium for smoking is described in the *Encyclopaedia Britannica* (eleventh edition) by way of extracts from published statements by Mr. Hugh M'Callum (Government Analyst, Hong-Kong) and Mr. Theo. Samoson (of Canton). The quotations are too long to reproduce here. Briefly it comes to this: the opium is of a treacly consistency and is picked up and twisted on to a sharp-pointed dipper. With acquired dexterity the smoker introduces the pellet of opium into the centre of the bowl of a pipe of special construction. He puts the stem to his lips and holds the bowl over a lamp. The heat causes the opium to frizzle, and the smoker

takes three or four long pulls, inhaling the smoke and afterwards expelling it through nose and mouth. He then prepares another pipe, and so on until he has obtained the effect he desires; the preparation of each pipe takes from five to ten minutes, and the actual smoking about thirty seconds. In China the kind of opium used for smoking is called chundu, and should contain the alkaloids morphine, codeine, and narceine. When smoked it is supposed that the morphine more or less disappears and that some other product of a more pleasing taste is formed during combustion, for the bitterness of morphine is lost in smoking. We are advised that, in people who are accustomed to opium smoking, small operations would be possible under it, but that to introduce it here, when there are other better things to be found, would be foolish. The use of some anaesthetic to ease pain goes back to a remote past, for Homer speaks of nepenthe as used amongst the Greeks, and Herodotus states that the Scythians used to inhale the smoke of burning herbs when operations were being performed; these herbs, it is believed, were a kind of hemp. A Chinese surgeon, Hoa-Tho, used hemp for his surgery. Dioscorides and Pliny, it may be remembered, spoke of the use as an anaesthetic of mandragora, which is said to contain an alkaloid having an action resembling atropine.

A FATAL CASE OF SALVARSAN POISONING.

DR. G. P. F. ALLEN (Kingston, Jamaica) writes: Dr. T. J. Evans's memorandum in the JOURNAL of January 15th (p. 99) on acute yellow atrophy of the liver recalled to my mind a fatal case of salvarsan poisoning which came under my care some years ago. A girl, aged 15, was undergoing arsenical treatment for syphilis in the out-patient department of the Kingston Public Hospital, Jamaica. She became suddenly ill on returning home after the second or third injection, and I was called to see her. I found her lying in bed speechless. She was profoundly prostrated and vomited bile at frequent intervals. The temperature was 98° F., pulse 93; the respirations were sighing. The eyes were staring and the conjunctiva bile-stained. The liver and spleen were slightly tender, but neither organ was enlarged. Next day the patient had passed into a state of noisy delirium, with muscles twitching. The pulse was soft and feeble, and the rate had increased to 110. The urine was voided in the bed and left a bright yellow stain; none was obtained for examination. Death occurred shortly. A necropsy could not be performed, but all the facts seemed to suggest that arsenical degeneration of the liver was the cause of death.

MIGRAINE AND ACETONURIA.

DR. JOHN A. GRAHAM (Bethulie, O.F.S., South Africa) writes: I have been a sufferer from migraine since my seventh year, although for many years now I have been able to recognize the prodromata and to abort the attack. Warning signs are great drowsiness without real sleep, trouble in eyesight, difficulty in focusing, etc., and very often not diarrhoea but passage of frequent small motions. When these symptoms appear, or any of them, I find that a couple of grains of calomel, repeated in three or four hours if there is no improvement, or a grain of calomel with a laxative vegetable tabloid (B. W.), prevents the attack from developing. If the attack appears without such warning, as occasionally happens, starvation for the best part of the day, with calomel, and repeated doses of caffeine and phenacetin, effect a cure. But as for glucose, I cannot quite see the rationale. Occasionally there is undoubted acidosis and the headache persists, when a big dose—a couple of drachms—of sodium bicarbonate clears up the condition. Sugar, I think, is one of the things that bring on an attack. I am very fond of sweets, but if I have more than three or four chocolates an attack of migraine is certain to follow. So that the problem remains, as Dr. Allison suggests, whether sugar, as such, is a cause of migraine, or whether it is so in a roundabout fashion, via malassimilation, with formation of acids and acetone.

RELATIVE SHORTNESS OF CORD: RETENTION OF CHORION.

DR. C. J. HILL AITKEN (Kilnhurst, near Rotherham) writes: The tediousness of a multipara's labour was explained when the child was born—very blue and with the cord coiled round the neck and round an arm. Half an hour later, the patient having had a good pain, gentle pressure on the fundus uteri, with the patient's effort, finished the third stage. Examination of the placenta showed marked absence of the chorion, which came away six days later. Early separation of the placenta is said to be liable to occur with a short cord. In this case the placenta had been separated from the chorion. It is a problem whether this separation took place while the child was passing through the passages or was caused by the attendant while disentangling the cord. Although retention of the chorion is possibly not very dangerous, it is certainly disquieting. It might be wise in cases such as the above to cut the cord before freeing the child.

CRÉSOPIRINE.

DR. J. LANDMAN (London, W.1) writes with reference to the paragraph under this heading published on April 2nd (p. 635) to state that in 1914 Messrs. Howards and Sons made under his direction a preparation having the same chemical constitution as the substance prepared by Professors Carrière and Gérard in 1926. Dr. Landman made extensive clinical trials, but was unable to satisfy himself that the substance had any clinical advantage over aspirin. Messrs. Howards made it up in 3-grain tablets, and still have a stock on hand.

THE MEDIZINER.

DR. LIEK, in a little book on the doctor and his vocation,[1] deals in a somewhat discursive manner with questions which from time to time give passing food for thought in the daily round of medical practice. What are we to understand by the ideal physician? Is sickness insurance a good thing in all its aspects? Is the purely scientific spirit looming too largely in our medical curricula and among our practitioners? What are we to think of pseudo-medicine and quackery? How can we best express the relationship between doctor and patient? Questions such as these, which probably pass through the mind of every practitioner at one time or another without receiving any very definite answers, are touched upon in this volume, which, having reached a second edition, presumably supplies a need. Possibly its popularity depends to some extent on its subtitle, "Thoughts of a heretic," for a little heresy is attractive to many minds, especially those of a highly sympathetic cast. The author is mainly disturbed by the prevalence of what he calls the "mediziner"—a disagreeable character for whom we have no corresponding name in our language, because no doubt we have not got such persons. He stands at the opposite pole to Dr. Liek's ideal physician. The mediziner is, if we understand Dr. Liek aright, one whose humanity has been blighted by science, falsely so called. The genus appears to consist of two species: in one the practitioner is so obsessed with his science that the patient disappears as such and assumes the character of a mere pathological lesion; in the other the notion of patient is retained, but there is no recognition of his humanity. An example of the first type is described as an elderly man of somewhat rugged exterior and manner, who has done much to forward operative gynaecology, who can boast of a number of important contributions to the journals, is a brilliant operator, an experienced gynaecologist, a recognized scientist; but every woman who comes to his clinic, whatever may be the cause, is forthwith placed on the table and operated upon. On one occasion Dr. Liek inquired what a woman looked like who did not want operating upon: "there are none such here," was the reply. In this type we have no difficulty in recognizing that professional complaint which goes under the name of "furor operativus." Of the second type we are given a graphic picture, evidently drawn, like the former, from the life. He is a good surgeon, a man of comprehensive knowledge, a born scientist whose name will live in the annals of medicine, a skilful technician, extraordinarily careful and thorough in the investigation of his cases, never performing an unnecessary operation, but brusque to a degree in his manner to his patients, and of a forbidding silence. So far as his patients are concerned he is a surgeon and nothing else, purveying surgery as the grocer purveys groceries, with a purely mechanical and materialistic outlook, not indeed denying the existence of a soul in his patients, but ignoring it. Yet in his family circle and among his friends this forbidding person is humorous, jovial, and sympathetic. The author's humane nature revolts against such inhuman types, and we are not surprised to learn that his ideal physician is none other than the country practitioner, with his genial manners and his interest in his patient's dogs and fishing tackle and babies.

SUN SPOTS AND SUDDEN DEATH.

THE increased number of sudden deaths reported in 1926 and the fact that such fatalities occur in groups at irregular intervals is thought by Dr. M. Faure of La Malou to be due to sun spots. During 1922, with Drs. J. Vallot and G. Sardou, he submitted evidence that the passage of these spots over the central solar meridian coincides with the appearance or recurrence of acute crises in various chronic illnesses. At a recent meeting of the Académie de Médecine Dr. Faure returned to this subject, and stated that, whereas an average of thirteen sudden deaths occurred during 100 days on which the solar surface was clear, the mortality rose to twenty-six for another 100 days on which sun spots were visible. He explains this coincidence of solar and clinical disturbances as being due to an interference with "electro-magnetic" radiations, which results in the upsetting of the controlling mechanism of the physical body, comparable with the effects these spots also produce on telegraphic and telephonic apparatus. In patients whose constitutions are so affected by disease as to approach the critical point, when outward signs are manifested an added disturbance of this kind might be expected to produce a response out of proportion to the strength of the stimulus itself. The increase in the number of sudden deaths during 1926 is, therefore, held by Dr. Faure to be directly associated with the occurrence in this year of numerous sun spots. We must leave it to our readers to determine what importance, if any, attaches to Dr. Faure's theory.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 37, 38, 39, 42, 43, and 44 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 40 and 41.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 122.

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[1] *Der Arzt und seine Sendung.* Von Erwin Liek. Zweite Auflage. München: J. F. Lehmann. 1926. (6½ × 9, pp. 140. M.4.)

An Address
ON
THE EPIDEMIOLOGY AND PATHOLOGY OF POLIOMYELITIS.

DELIVERED BEFORE THE PORTSMOUTH DIVISION OF THE BRITISH MEDICAL ASSOCIATION,

BY

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THE word "poliomyelitis" nowadays is restricted to the clinical and pathological results of a definite specific infection of the anatomy, though the part invaded may be the brain, the cerebellum, the spinal cord, or the peripheral nerves, or any combination of these structures. The term "polio-encephalitis" is no longer used, nor do we speak of "anterior poliomyelitis," nor of "acute poliomyelitis," nor of "chronic poliomyelitis," but simply of "*poliomyelitis*," to denote this peculiar specific fever which has the incidence of its effects chiefly upon the nervous system.

This malady has been incident upon humanity since very early times, as the references in classic literature to "he *that hath a withered limb*" will tell you, or the many portrayals of the deformities produced by the malady in early sculpture and mediæval paintings will show you, but never until our lifetime has it been known as a pestilence which, affecting one small district, in a few years claimed 50,000 victims; nor as a plague which in three short months could leave behind it 5,000 dead and 12,000 paralysed, as it did in New York State in 1916; nor as a swift scourge which, lighting upon the little village of Stoke Rivers in Devonshire, could lay low in a few days 45 persons out of a total population of 119.

These events are new to the world of medicine in which we have lived, for when I joined our profession poliomyelitis was not described as an infectious disease, though an epidemic of 11 cases in one village had been recorded as early as 1843 by Colmar. There were other small community outbreaks in my early years, but it was an outbreak of 1,500 cases in Sweden in 1905 which led to the most important discoveries upon the nature of poliomyelitis. On account of the geographical nature of Sweden and the distribution of its population in small village communities with few lines of communication, the spread of the infection was comparatively easy to trace, and Wickman, who investigated this epidemic, was able to prove that the disease only travelled along the lines of human communication, that it would not cross from village to village over a ravine, even though these villages were only a hundred yards apart, unless there was a road or a bridge or a boat by which human beings could pass. Moreover, he proved that whenever infection spread to a fresh village, someone had visited that village from a definitely infected village. That person was obviously one who was not sick with the disease, nor was he one who subsequently became affected.

Wickman therefore proved the very important facts that poliomyelitis is conveyed by human contact only, and usually by those who do not suffer with symptoms of the malady. He proved the importance of carrier infection. Wickman made very important clinical observations as well. He found eight different types of illness with nervous symptoms common during this epidemic, in addition to many cases of fever in which there were no nervous symptoms. Some of these were very unlike the usually accepted clinical picture of poliomyelitis. Many years before, however, Strumpell and others had stated their belief that acute encephalitis was really poliomyelitis affecting the brain, and Wickman boldly asserted that all the dissimilar illnesses observed by him in the Swedish epidemic were manifestations of one and the same infection; and his assertion was before very long a proved fact. He had able pathologists to help him, and with the advent of the American epidemics great advance was made by Landsteiner and Popper, by Flexner and Lewis, by Taylor and Amos, and by Levaditi.

These workers have succeeded in infecting monkeys with the disease by means of emulsions of the spinal cord from a fatal case, and by means of washings from the nasopharynx of any person recently ill with the disease. The infection can be attained by injecting the virus subcutaneously, or into any of the serous cavities, or into a nerve trunk, and most certainly of all into the central nervous system; but, curiously, intravenous injection will never produce the disease, for the blood seems to destroy the virus at once. They also communicated the disease by smearing the virus on any of the mucous surfaces, or rubbing it upon the fingers of the monkey or upon the bars of his cage so that he could contaminate his own mucous membranes. The malady can be propagated through an endless strain of monkeys, with the production in each of a fatal disease commencing with pyrexia and general illness and terminating with paralysis. Very nearly the same changes are found *post mortem* as are found in human cases, so that the clinical and histological picture in man and in the monkey may be said to be identical.

Investigating all the members of a household in which there was a case of poliomyelitis in the acute stage, Kling, Pettersen, and Wernstedt found that they could obtain the virus from the nasopharynges of 30 per cent. of the non-affected inmates, and therefore proved the important fact that there are always three other people who carry, and are therefore able to transmit the malady, for every one who suffers. As I shall try to prove, the disease is never transmitted by the one who is suffering from it, but only by the carriers; this has a very wide bearing when dealing with the malady from a public health point of view.

The virus of poliomyelitis thus obtained resists desiccation for twenty-four days, and a mixture of 50 per cent. glycerin, which kills most bacteria, has no effect whatever upon its potency, and advantage is taken of this fact to prepare the virus uncontaminated. Nor is it affected by 5 per cent. carbolic acid; but it is instantly rendered impotent by hydrogen peroxide or by a 1 per cent. solution of permanganate. The virus will pass through two inches of solid porcelain under pressure, which proves that, if particulate, the organism is very small. It is therefore known as a "filter passer." But if this virus is passed again and again through a fresh porcelain filter it becomes less and less potent with each passage, which suggests that the virus is particulate and only just small enough to pass with difficulty the pores of the filter. Actually the organism is said to be a very small round thing, which has been called a globoid, of which fifty would lie easily on the surface of a red blood corpuscle. It is claimed that this globoid virus can be cultivated upon Noguchi's medium—a mixture of peritoneal fluid and rabbit's kidney—and that the globoids can be seen *in situ* in the lesions in every case of poliomyelitis.

This virus is communicated from person to person by "droplet infection," which means that whenever I speak to one of you—say at a yard's distance—I spray you continuously with droplets from the surface of my respiratory passage; and if I am a carrier of poliomyelitis I spray you with the virus, some of which is likely to reach your respiratory mucous membrane when you are inspiring. In this untoward event one of three things must happen to you as the result of your receiving the virus: either (1) you develop the disease, or (2) you become a carrier and capable of handing the infection on to another person, or (3) you become immune relatively or absolutely. Whether you become a case, a carrier, or an immune person will depend, first, upon the dose of the virus which you receive from me per unit of time, secondly, upon your personal power of destroying that virus; and thirdly, upon how quickly the protein content of the virus stimulates or depresses your immunizing mechanism. These two last factors being of average intensity the result will depend upon how far I am from you when I spray you with the virus.

Now if a person develops the disease, the virus which is multiplying upon his respiratory mucous membrane seems at once to lose its virulence, so that a case of poliomyelitis does not seem able to convey the infection to another

person, though the virus may be still found upon the mucous surfaces for about a fortnight.

If a person becomes a carrier the virus is likely to become more virulent for a time, but soon it loses its potency and the person ceases to be a carrier in a fortnight or so. There are no chronic carriers as there are in connexion with diphtheria and epidemic meningitis.

It seems, then, to be a recent carrier who transmits and spreads the disease, and a chain of carriers who carry on the infection during those times when poliomyelitis is not about and give rise occasionally to those cases of poliomyelitis which are called the "sporadic cases," as distinguished from the "epidemic cases."

I want it very clearly to be apprehended that though the virus can be obtained from the mucous membrane of cases for some days after the disease has appeared, and monkeys can be inoculated with the disease from this virus, that does not mean for one moment that a patient even in the early days of his illness can deliver an infective dose of the virus to another person. There is strong evidence that a case of poliomyelitis is not infectious, and that a carrier, especially a recent carrier, may be very infectious. As this question as to whether poliomyelitis is infectious from case to case, or not, is one of paramount importance, I will state the evidence briefly. Let me in the first place give the story of a carrier. One day at the market town a farmer from a country village sold a horse to another farmer who lived some twenty miles away, and as part of his contract had to deliver the horse at the farm of the purchaser. He started from home leaving his child ill with poliomyelitis. He took the midday meal with the purchaser and sat between two of the children at table. Within forty-eight hours both of these children were ill with poliomyelitis and a few days later their mother and another child were stricken with the disease. Here were four members of one household stricken by one short visit of a carrier, with no possible source of infection from elsewhere. Probably, too, this father had infected his own child, for adults are often carriers.

Such instances as the story of the farmer just recited could be multiplied indefinitely—the Swedish epidemics teemed with them. But when we come to seek for evidence of case-to-case infection we have to search the literature carefully for any event put forward as an example. And when the few recorded instances are examined it is found in every case that it is one child of a household who is said to have infected other members of the household or other contacts, and we know full well that whenever a case of poliomyelitis appears, and as soon as it appears, 30 per cent. of the members of that household are already carriers and provedly capable of infecting; and in any case it is at least three chances to one against the sufferer from poliomyelitis being the infector of others, even if he were capable of infecting, which I submit he is not.

The only real test that would prove a developed case to be capable of infecting others would be to remove the patient in the early pyrexial stage and place him in a community of susceptibles. Put him in the children's ward of a hospital and see what happens. I have seen this done, as all of you have seen it done, on scores of occasions since we first entered hospital, yet there is not one single record in the whole of medical literature of such a patient transmitting the disease to another child in hospital. Dr. Batten, who had thirty years' experience of the Great Ormond Street Hospital for Sick Children, went into this point very carefully in the Lumleian Lectures for 1916, and vouched that no case had ever occurred in that hospital, where acute cases of poliomyelitis were frequently admitted into the general wards. I think that this evidence is very conclusive, but I know how difficult it is to get the public to accept it. In the lay mind one case of infectious disease must always arise from another similar case, and in deference to such an opinion it is wiser to isolate patients.

I would like to submit to you my opinion that when an epidemic of poliomyelitis occurs in a community it is preceded by a carrier epidemic in which for a time no cases occur but many carriers are made, and that, with the increasing advent of carrier infection to susceptibles, the virulence of the infection is raised and at last definite cases occur. By this time the infection is all through the community, and doubtless much immunization has already occurred. This is probably the reason why poliomyelitis seems in its epidemic form to avoid schools, institutions, and towns, and densely populated districts where there is much daily mixing of the community, and to prefer sparsely populated country districts, where communication between house and house and from village to village is more restricted. It seems to me to be the only explanation of the occurrence of the first fifteen cases in an epidemic on the same day in fifteen widely separated places of one countryside, as happened in one of the English epidemics. Such a preceding carrier epidemic best explains the curve of incidence in an epidemic, with its rapid blaze, high peak, and rapid fall, all the cases occurring within a few days and then no more cases. All the cases at Broadstairs, for example, occurred between October 15th and November 9th, and there were many more cases among the general population than in the schools.

Now if this description which I have put forward is just it follows that when a case of poliomyelitis occurs in a semi-isolated community such as a school which has been assembled, say, for several weeks, there has already been a carrier outbreak going on for some time, and all the boys are already infected as cases or carriers or they are immune. The actual cases are not infectious, and all the damage that can be done has been done so far as the boys are concerned. Therefore keep them together, and the epidemic will die out with no further trouble than would have occurred in any case. But before the epidemic has died out do not disband the carriers, by whom alone infection can be spread, and scatter them over the country for the continuance of the disease.

The virus of poliomyelitis has never been found except upon the mucous surfaces or within the nervous system. It has been proved to be capable of passing through the whole length of the intestine with undiminished potency, and therefore any part of the respiratory and alimentary mucosa may be the point of advent of the poison to the nervous system, and it seems likely that the point of advent may determine which part of the nervous system is chiefly attacked. When once within the nervous system the virus seems to travel fairly readily.

It follows from these facts, and from the fact that the blood stream will not convey the virus but seems to destroy it at once, that the general swelling and parenchymatous degeneration which is found in the lymphoid tissue of the body generally, and in the liver and spleen, must be the result of some toxin produced by the virus.

The virus gains access to the nervous system by one path only, and that is by travelling along the nerves, either along the perineural lymphatics or along the axon, just as the virus of rabies does or as do the toxins of tetanus and diphtheria. It has recently been proved that the path is by the anterior roots only—there seems to be a trap at the posterior root ganglia which prevents access by the posterior roots; for if the anterior roots be divided injection of any of these poisons into the corresponding nerve is not followed by infection, whereas if the posterior root be divided infection takes place as in the intact animal. This may be the explanation why the damage in poliomyelitis falls most heavily upon the ventral horns of the spinal cord, which are in close connexion with the anterior roots.

The effect of the virus upon the nervous system is twofold. First there is a poisoning of the nerve elements which destroys their function. This poisoning may be recovered from, or it may end in degeneration of the nerve element. It is the recovery from such a poisoning effect which is responsible for the rapid clearing up of the paralysis, or of part of the paralysis, which one so often sees in the first week or two of the illness. Secondly, there is a local inflammatory reaction, often so intense as to lead to actual necrosis of the affected region and frequently associated with many small haemorrhages. The actual inflammatory process is the outpouring of lymphocytes in very large numbers round the blood vessels with marked oedema of the tissues, and, so far, it is exactly like the lesion of lethargic encephalitis and the lesion of syphilis, but in poliomyelitis there is always a considerable number

of polymorph cells mixed with the lymphocytes, which will at once distinguish this lesion from that of syphilis and lethargic encephalitis.

Whenever the inflammatory lesion reaches the surface of the nervous system and the meninges there will be outpouring of cells into the cerebro-spinal fluid and a recognizable change in this fluid, immensely important in diagnosis, together with signs of meningitis. Now as meningitic symptoms, such as headache, head retraction, diplopia, nystagmus, vomiting, and pains in the back and limbs with pyrexia, are among the commonest of symptoms of all cases of poliomyelitis, especially when this disease is epidemic, it will interest you to know that from the first symptom of the disease the cerebro-spinal fluid of poliomyelitis is highly characteristic, and that a lumbar puncture will not only relieve the headache and pains and possibly lessen the severity of the disease, but it will help you to a diagnosis in at least 98 per cent. of the cases. There is an increase in the protein content, and often a fine spider-web clot forms on standing for a few moments. The chlorides are normal: this will at once distinguish it from tuberculous meningitis, in which the chlorides are characteristically subnormal. The sugar is normal: this will at once distinguish it from all forms of bacterial meningitis, for in every one of these the sugar is below normal. There is an increase in the cells, which may be lymphocytes or polymorphs or both. The culture is sterile.

There is only one other acute pyrexial disease which gives a fluid sometimes like this, and that is lethargic encephalitis, but I wish you especially to remember that the polymorph cells are never found in the cerebro-spinal fluid of lethargic encephalitis, and when these are present the diagnosis must be that of poliomyelitis.

CONGENITAL IDIOPATHIC DILATATION OF THE COLON TREATED BY STRETCHING OF THE PELVI-RECTAL SPHINCTER.

BY

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CONGENITAL idiopathic dilatation of the colon (Hirschsprung's disease or megalocolon) is described in textbooks as an enormous dilatation of the colon with hypertrophy of its walls, affecting all or part of the large intestine. The parts most frequently affected are the descending, iliac, and pelvic colons.

The object of the present note is to advocate the trial of a method of treatment which aims at dealing with the cause. L. E. Barrington-Ward[1] in 1914 gave a full account of the disease and supplied a list of thirteen different views as to its causation, under the headings of "Mechanical," "Neuropathic," "Inflammatory," and "Congenital." He referred to *post-mortem* examinations made at Great Ormond Street Children's Hospital on nineteen undoubted cases, in all of which the sigmoid colon was hypertrophied. In ten of these cases the hypertrophy also involved the rectum as far down as the anal canal. In no case was any mechanical obstruction to be found, though in one the bowel was said to be kinked as it turned into the pelvis. After discussing the various theories he states:

"The theory that best explains this series of cases is as follows: There is a congenital abnormality in the lower end of the hind gut which takes the form of a muscular hyperplasia. It usually involves the rectum and extends for a varying distance up the pelvic and iliac colon. . . . In some cases there is definite localization of the change (as in three cases described) where the hyperplasia has affected a segment of the intestine chiefly. . . . The physiological functions of the intestine are in abeyance, a block is produced, and the bowel *behind*, for a varying distance . . . dilates and hypertrophies."

A. F. Hurst[2] believes that this affection is due to achalasia, or absence of the normal relaxation of the circular muscular fibres found at the pelvi-rectal flexure, or of the anal sphincter. He holds that there is a close similarity between what is known as cardiospasm (or, as he terms it, achalasia of the cardia) and megalocolon.

A. J. Walton,[3] in discussing the surgical treatment of cardiospasm, describes fourteen cases in which he adopted the method suggested by Mikulicz—that is, opening the stomach and digitally stretching the lower constricted portion of the oesophagus. The result in these fourteen cases was entirely satisfactory.

THE PELVI-RECTAL SPHINCTER.

The lower part of the large bowel consists functionally of two parts, a colic part and a rectal part, and between these there is a functional junction. In the dead body, hardened with carbolic acid and formalin, the functional tract shows considerable variety in form and appearance. As a rule, however, it is a definitely contracted region of the bowel, always empty, and in strong contrast with the part above, and, to a less degree, with the part below.

Under normal conditions the faeces do not at once pass through this tract, but collect in the movable pelvic colon above until just before defaecation, when they are discharged into the fixed rectum below. Between the two parts there is an angulation, especially in the erect position. W. J. Mayo[4] has shown that the mucous membrane of the last two inches of the colon is disposed in longitudinal folds, contrasting with the circular arrangement in the rest of the colon. This favours the suggestion that the segment referred to is normally obliterated by a sphincteric action of its circular muscular fibres. A similar arrangement is seen in the abdominal portion of the oesophagus, and in the pyloric end of the stomach.

It has not yet been shown that there is developed in the pelvi-rectal tract a sphincter comparable with that found at the pylorus, but over its whole length, which varies from half an inch to two inches, it is believed that there is a sphincteric action of the circular muscular fibres sufficient to obliterate the lumen and to withstand the weight of the contents above. The lumen becomes patent when the circular muscular fibres of this tract relax. Interest is being taken in this matter at Queen's University, and Professor Walmsley believes it is possible to demonstrate a more definite sphincter in the foetus.

Recently I had the opportunity of examining the rectum of a woman, aged 28, in whom I had, six months previously, excised the entire colon with a few inches of the terminal ileum, for multiple papillomata of the former. The junction of the ileum with the lower bowel was made about eight inches from the anus—that is, well above the pelvi-rectal tract. I expected in this patient that the rectum would be full of liquid faeces, but it was empty, and it was only on passing a sigmoidoscope some distance up that semifluid faeces began to escape. The presence of an efficient pelvi-rectal sphincter may be assumed in this case. The patient can retain faeces for many hours at a time, the bowels acting from two to five times in the twenty-four hours.

TREATMENT OF MEGALOCOLON.

Medical.

By means of enemata, massage of the colon, liquid paraffin, and aperients, a certain proportion of cases may be benefited, but the mortality is very large, some authors placing it as high as 74 per cent.

Surgical.

Barrington-Ward, in the paper referred to, thinks that a fair estimate of the surgical mortality would be about 36 per cent. He considers that the ideal form of treatment is the removal of the whole of the affected bowel down to the anus. He advocates, in young children, operation in two stages. At the first operation the ileum is divided and implanted as low down in the rectum as possible. Some months later, when the child's strength has increased, the large bowel above the anastomosis is excised. Treatment on these lines has been carried out by Arbuthnot Lane and others with success.

An operation of the magnitude of colectomy in a debilitated child, even if performed in two stages, is a terribly severe measure, and would undoubtedly, if universally adopted, be attended with a high rate of mortality. Moreover, it seems unscientific and incorrect to remove a hypertrophied organ striving to overcome an obstruction, instead of seeking out and dealing, if possible, with the cause.

If Hurst is correct in his assumption that the block in this disease is due to pelvi-rectal or anal achalasia, stretching of the pelvi-rectal sphincter, and, less obviously, of the anal sphincter, ought to relieve the obstruction, just as stretching of the cardiac sphincter has relieved the obstruction in so-called idiopathic dilatation of the oesophagus, or cardiospasm. The following case seems to support this contention.

A boy, aged 2 years and 4 months, was admitted to the wards of the Belfast Hospital for Sick Children, under the care of my colleague Dr. Leathem, on November 11th, 1926, with the following history. He had been breast-fed, but from birth had been constipated, and from the age of 9 months the constipation had become more troublesome. Enemata, paraffin, and other measures were required to secure an action of the bowels. Gradually the abdomen became more and more distended, and the child had recently begun to lose colour and weight. For two days before admission he had complained of abdominal pain, which was attended with persistent vomiting.

Condition on Admission.

The child was pale and drowsy, and vomited dark coffee-ground material at short intervals. The abdomen was much distended, and measured 32½ inches in circumference at the level of the umbilicus. Peristaltic waves were visible, and a "ladder pattern" could be produced by abdominal palpation. Pain came on in spasms, and was associated with a desire to vomit. The distension involved the whole area of the abdomen, which was tympanitic on percussion. I saw the child on November 15th, at the request of Dr. Leathem, who was very much opposed to the adoption of any heroic surgical measures. Examination by the finger of the anus, the anal canal, and the lower part of the rectum disclosed no abnormality, but about the level of the sacral promontory the examining finger encountered an encircling band, apparently about a quarter of an inch in breadth, constricting the bowel.

Operation.

The child was immediately anaesthetized, and, as a preliminary, the sphincter ani was gradually and carefully stretched. When this had been accomplished the index finger was inserted into the narrowed area just mentioned, and pushed up so as to dilate the constriction. The middle finger was then also introduced, and further stretching was effected. Finally, both index fingers were inserted until the last phalanx of each rested above the band, and by pulling upon the latter the upper bowel was partially invaginated into the lower. It was now possible to separate the fingers and dilate more widely still. Great care was taken during these manipulations to avoid rupture of muscle or damage to mucous membrane.

After-History.

The child was put back to bed, and during the next twenty-four hours large quantities of faecal matter were brought away by enemata. Vomiting ceased at once, and the child became quite comfortable. The enemata were continued with success, and the child was again examined under an anaesthetic on November 27th, twelve days after the first examination. It was now possible to pass a sigmoidoscope right up into the pelvic colon, where it could be felt on abdominal palpation. The mucous membrane of the bowel was red and inflamed, but no accumulation of faeces was seen.

Introduction of Dilating Bag.

To maintain the dilatation already effected a pear-shaped rubber bag, with a diameter of one and a half inches at its broadest part, was inserted and passed beyond the band, which was still palpable. The bag was then distended with water, and the tube leading from its narrow end was wound spirally round a glass rod laid across the child's buttocks, and fixed in position. (See Fig. 1.) The nurse was instructed to rotate the glass rod at intervals so as to increase the tension of the rubber tube, and thus maintain steady pressure on the constricted portion of bowel. When the bag was in position a finger was introduced into the rectum, and it was found that a slight degree of invagination of the upper bowel into the lower was being produced by the drag on the rubber bag. This is shown in Fig. 1. Later, the water in the bag was replaced by sodium iodide solution, and an *x*-ray photograph was taken. The skiagram (Fig. 2) shows the position of the bag in the pelvis, the site of the constriction being indicated by an indentation below the broad end. The drawing in Fig. 1 is intended to be a reconstruction of the parts, from the *x*-ray photograph. The bag is represented as lying in the bowel, and the position of the constriction is shown. The bag was passed spontaneously twenty-four hours after its insertion. An opaque enema was given on December 16th—that is, about a month after operation—and the *x*-ray photograph shows the enormous dilatation of the colon, the anal canal, and what appears to be the site of the pelvi-rectal sphincter. (Fig. 3.) A further stretching was carried out on January 22nd, 1927, as a precautionary measure.

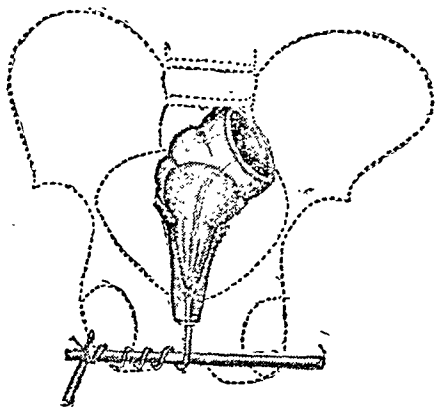


FIG. 1.—Drawing to show position of rubber bag in bowel and situation of pelvi-rectal sphincter.

The subsequent progress of the case has been extremely gratifying. The circumference of the abdomen has been reduced from 32½ in. to 18½ in., though it varies a little from time to time. The bowels respond well to aperients and enemata, and frequently act without assistance. The abdomen appears normal on inspection. The thickened colon can, however, be palpated along its entire length, and can be felt to contract, especially after massage. The patient's condition is excellent. He has put on weight, his appetite is good, and his colour is that of a healthy boy. He was discharged from hospital on February 5th, not quite three months after admission, having been detained longer than was necessary, in order that his progress might be followed. He is now (April 16th) in perfect health, and his bowels act daily without aperients.



FIG. 2.—*X*-ray photograph of dilating bag in position.



FIG. 3.—*X*-ray photograph after an opaque enema (taken a month after operating).

SUMMARY.

This case concerns a boy, aged 2 years and 4 months, with typical Hirschsprung's disease. Treatment was carried out on the hypothesis that there was achalasia of the pelvi-rectal sphincter. The treatment consisted in stretching the sphincter ani and the pelvi-rectal sphincter.

The result up to date has been satisfactory. It is suggested that this line of treatment might be tried before resorting to grave surgical procedures. Should it be impossible to reach the sphincter from the anus an attempt might be made after laparotomy to stretch or divide the contracted muscular fibres from the abdomen.

My thanks are due to Professor Walmsley for the description of the pelvi-rectal sphincter, to Miss Rea for the drawing, to Dr. M. Robinson, house-surgeon at the hospital, for his notes of the case, and to the *x*-ray department of the Royal Victoria Hospital for its help and interest in the case.

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TESTING FOR OCCULT BLOOD IN FAECES.

A STUDY OF ALLEGED FALLACIES.

BY

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THE great clinical value of a reliable test for occult blood in the faeces is generally recognized, but there is divergence of opinion as to what constitutes a reliable result. A number of fallacies have been alleged to occur, the chief among them being due to diet, and until comparatively recently it was generally accepted that the tests were valueless unless performed under special conditions.

The great majority of British observers still hold this view. Coope,[1] Hurst,[2] Beaumont and Dodds,[3] and others rigidly exclude from the diet all foods containing haemoglobin and chlorophyll for at least three days before the test, affirming that without such a precaution the tests are valueless. A notable exception to this is Maclean,[4] who states categorically that such precautions are not at all necessary. No investigations of the question are, however, quoted by these authorities. Abrahams[11] found that it was necessary to take 1 c.cm. of blood by the mouth before any reaction was produced in the stools, on a diet free from haemoglobin and chlorophyll. This observation was the result of personal experiments carried out by himself and his assistant; it is quoted by Bennett,[5] who nevertheless also holds the view that the diet must be rigidly controlled.

On the Continent, and especially in Germany, the problem has been studied on a more experimental basis. Koopman[6] and Gregersen,[7] after performing a great many tests, expressed the opinion that the pyramidon and benzidine tests as generally used are too delicate, giving a positive result where no pathological amount of blood is present, and Gregersen recommends a 0.5 per cent. solution of benzidine as likely to give more reliable results. He states that less than 1 in 3,000 to 1 in 20,000 of blood in the stools cannot be considered pathological. Gregersen and Adler,[8] working independently, found that none of the non-meat foods, tested *in vitro*, gave a positive reaction, and Gregersen maintains that contamination in preparation alone is responsible for a reaction with foods containing chlorophyll. Boas,[9] though he recommends the Gregersen test, nevertheless excludes meat, fish, and certain vegetables from the diet—for example, French fried potatoes. In America Aaron[10] has used the Gregersen test, and heartily recommends it. All these writers, however, declare that, in order to obtain a reliable result, meat, and vegetables cooked in such a way as to include the possibility of contamination, must be excluded from the patient's diet for several days before a test. Other alleged fallacies that have been mentioned are bleeding from the gums, the use of hard tooth-brushes, sucking of the teeth, and iron medicines.

The object of the investigation here reported was to inquire into these "fallacies," and to bring the examination of the stools for occult blood within the scope of the busiest general practice equally with the examination of the urine for albumin and sugar. The large number of patients with carcinoma of the stomach first seen by a surgeon or physician at a general hospital in an inoperable condition, and the large number of patients suffering from gastric or duodenal ulcer who are first seen after the calamity of perforation, emphasize the importance of this. It was therefore decided to use only readily applicable chemical tests, and to select from among the many different chemical tests and methods two of the most reliable, in order the more readily to estimate the value of the results obtained. Spectroscopic tests are not well adapted for use in general practice; while, as almost every author uses a different chemical test or method, it was felt that any attempt to include them all and compare results would tend to confuse the issue.

The Tests Used.

Pyramidon.—A "button" of faeces is taken by means of a clean glass rod from the centre of the stool; it is important to take it from the centre, as no risk of contamination in the lower bowel—as from haemorrhoids—must be run. An emulsion is made in 5 c.cm. of distilled water, a few drops of glacial acetic acid added, and the whole boiled. An inch of the cooled emulsion is then taken, and 16 drops of glacial acetic acid added; 1 c.cm. of a 5 per cent. alcoholic solution of pyramidon is poured gently down the side of the tube so as to form a clear layer on the top, and the same amount of hydrogen peroxide added in the same way. A deep blue colour should develop within fifteen seconds if the reaction is positive, and this is the standard used here in judging the results.

Benzidine [illegible] up containing 0.2 gram of barium [illegible] benzidine; if put up in wax pap [illegible] Just before the test one powder is dissolved in 5 c.cm. of a freshly prepared solution (50 per cent.) of acetic acid. A portion of the faeces is taken as before and smeared on to a clean glass slide, and a few drops of the solution run on to the smear. A blue or blue-green colour develops within a minute if the test is positive, and the reaction is graded according to the depth of the colour and the time it takes to develop. Gregersen recognizes three grades: 1+, a pale blue or green colour within sixty seconds; 2+, a definite pale blue in twelve to fifteen seconds; 3+, deep blue within three seconds. These grades have been adhered to, except that a blue-green colour developing after thirty seconds has been labelled "Faint 1+" and regarded with suspicion.

PRINCIPLE OF THE TESTS.

The principle of these tests rests upon the fact that a colourless substance such as benzidine or pyramidon is oxidized by hydrogen peroxide, with the production of a blue colour, *only* in the presence of a carrier, such as haematin.

First Series.

As a preliminary an investigation of some of the common foods, cooked in the usual way, was carried out. This was not intended as a complete study, but for purposes of reference was thought to be sufficient. The foods used were meat, chicken, fish, egg, potato, cabbage, lettuce, and beef dripping. These were tested after ordinary methods of cooking (boiling, frying, and stewing), and also, in order to test the effect of "contamination in cooking," roasting and pickling in certain cases.

Only two foods cooked in the ordinary way gave any sort of positive result—namely, meat and chicken; and chicken gave no colour with the Gregersen test until after thirty seconds, and so may be disregarded as a source of confusion in the examination of the stools for occult blood. "Contamination in cooking" gave two interesting results, though otherwise negative. These were with meat and pickled herring. Roast beef gave an immediate reaction (3+) with Gregersen's test, as compared with a "2+" reaction with stewed mince, while pickled herring gave an immediate positive, as against completely negative results by other methods of cooking. Fried eggs, and the French fried potatoes, regarded by Boas as a potent source of error, were negative. Both roast meat and pickled herring are "basted" in the oven, the herring afterwards being pickled in vinegar; the basting would appear to have some bearing on the result. In this connexion it is interesting to note that dripping, whether beef or mutton, raw or fried, was negative to both tests. Vinegar is negative, but it is possible that the prolonged treatment with acetic acid, in the case of the pickled herring, may have some bearing on the result.

Second Series: Experiment on a Normal Individual.

A personal experiment was carried out in order to investigate the effect of ordinary articles of diet and certain methods of cooking on tests for occult blood in faeces; I considered myself normal in every way for the purpose in view. The experiment was continued for twelve consecutive days, the specimen being taken first thing each morning. The diet on these days was varied to include as many foods and methods of cooking as possible, the foods including bacon, beef, mutton, chicken, sausage, potatoes, and green vegetables. After three days on ordinary diet an entirely fish diet was taken—the fish being boiled, fried, and pickled—for three days. On the seventh day three ounces of raw meat, minced, was added to the ordinary diet, and on the eighth day two ounces of boiled ox-blood was taken. For the remaining days an ordinary diet, varied as much as possible, was taken, including on one day pickled herring again. The foods were roasted, boiled, fried, stewed, and pickled. All the tests were completely negative up to thirty seconds with Gregersen's method, and only one specimen gave a reaction after thirty seconds. This was on the first day's diet,

when a faint green colour appeared at fifty seconds. This was the only specimen which gave any reaction with the pyramidon also, and that a faint one. The diet on this day was fried bacon, roast meat, green vegetables, boiled potatoes, and fried sausages. "Contamination in cooking" might possibly have been a factor, but on subsequent days this risk was at least as great, especially on those days when pickled herring was taken, which, as stated above, gives an immediate deep blue colour with Gregersen's test. Three ounces of raw meat failed to give a positive result with either test, while the cooked ox-blood, which was taken in amount sufficient to give a definite reaction if uncooked (two ounces), also gave no reaction in the stools.

Thus it seems that meat, and especially underdone meat, may cause a green coloration after thirty seconds with Gregersen's test, and a positive result with the pyramidon test. The important conclusion indicated is that a blue or blue-green colour with Gregersen's test, obtained before thirty seconds, is proof positive of the presence of occult blood in the stools, irrespective of the patient's diet.

Third Series: Investigation of Thirty Pathological Cases.

Thirty pathological cases were investigated, all of the "fallacies" before mentioned being thus included; the cases were thought to be fairly representative of those found in the medical wards of a general hospital. All the tests were repeated.

Teeth-sucking and bleeding on brushing the teeth occurred in practically every case, but in spite of this fourteen out of thirty cases gave a persistently negative result (seven of them on full diet). Seven cases gave a faint coloration after thirty seconds (what has been called the "faint 1+" reaction); nine cases gave more definitely positive results. Of the seven patients who gave the "faint 1+" reaction, in five the diet could not be excluded as a possible cause; but in the two remaining—a case of chorea and a case of acute rheumatic fever—the bleeding could fairly be attributed to the alimentary canal. In the case of chorea the result persisted unchanged after all gum-bleeding had ceased and the diet had been strictly controlled, while in the rheumatic patient, although the diet produced a negative result, this appeared to be due to cessation of bleeding, as a subsequent full diet (roast meat, green vegetables, etc.) failed to reproduce the reaction.

Of the nine patients who gave more definite results, only five were taking any solid food whatever, and in four of these diet restriction produced no alteration in the tests. The fifth, a case of acute rheumatism, gave a "2+" reaction (blue in twelve seconds) and a definite pyramidon reaction; in this case it was unfortunately impossible to obtain a second specimen until too long afterwards to be of any value. The patient was, however, on a diet of boiled chicken and boiled fish, and a reference to the first series of tests will show that boiled fish is negative, while boiled chicken gives no result until after thirty seconds. It is inconceivable that such a diet could produce a stool giving a blue colour in twelve seconds. He had no gum-bleeding or carious teeth, contrary to the usual findings. Two out of the remaining four cases are interesting as illustrating Maclean's[4] contention that milk diet tends rather to cause confusion by checking bleeding. These patients—cases of duodenal ulcer with recent melaena, who had large amounts of occult blood in the faeces—gave a negative result to both tests after four days on milk diet.

Gum-bleeding and Haemoptysis.

It is difficult to assess the importance of these symptoms as fallacies, owing to the variations to which they are liable, but the amount of bleeding should be taken into consideration. Slight bleeding may be discounted, as instanced by one case of Henoch's purpura, where persistently negative results were obtained in the presence of definite gum-bleeding; there were no other haemorrhages in this case, which was in a quiescent phase. In a case of chorea with slight definite gum-bleeding, the faintly positive result was still obtainable seven days after the bleeding had ceased; showing that the bleeding, though obvious clinically, was negligible in the stools. Two cases, one of bronchiectasis with haemoptysis, and the other of ankylostomiasis (*Ancylostoma duodenale*) with gum-bleeding, gave results which it is impossible to exclude as fallacious. In these cases the bleeding was severe.

Iron Medicines.

Two patients with pernicious anaemia, who had been taking iron continuously for over three months, gave persistently negative results. Another case of pernicious anaemia was taking bone marrow, and this seems to illustrate a definite fallacy. The patient died soon afterwards, and at the necropsy no signs whatever of haemorrhage or erosion of the alimentary tract were discovered, although a "3+" reaction was obtained in the stools three days before death.

The Tests Compared.

On comparing the results obtained with each test one cannot fail to be struck with the greater delicacy of the pyramidon reaction. The pyramidon invariably gave a more definite reaction in cases where it was possible to differentiate. The more delicate a test, the less reliable is it for the purposes of clinical diagnosis, as positive results may be obtained where blood is not present in pathological amount. Thus it will be seen that the Gregersen test is the better adapted for clinical purposes.

Summary.

Certain of the common articles of food, cooked in various ways, have been tested; thirty pathological cases on various diets, and exhibiting all the alleged fallacies among them, have been investigated, and a personal experiment has been carried out. The results have been discussed, and the following conclusions have been arrived at:

1. The Gregersen reaction is more reliable than the pyramidon, but blue or blue-green colour must appear within thirty seconds to make the result conclusive.
2. "Basting" seems to have an effect in producing a reaction with foods, but frying has no such effect.
3. Bleeding due to hard tooth-brushes or teeth-sucking, and slight degrees of gum-bleeding and haemoptysis, may be disregarded, although severer degrees of bleeding may cause confusion.
4. Iron medicines produce no "occult blood" reaction in faeces, but the ingestion of red bone marrow is incompatible with a reliable test.
5. A blue or blue-green colour with Gregersen's test, appearing within thirty seconds, is proof positive of the presence of occult blood in the stools irrespective of the patient's diet.
6. Meat in the diet may occasionally cause a faint colour with Gregersen's test after thirty seconds.
7. Occult blood may occasionally be present in the stools of patients suffering from acute rheumatic fever and chorea.
8. A milk diet is liable to cause confusion by checking bleeding.

I wish to thank Dr. J. C. Spence, in whose laboratory the work was carried out, for his encouraging advice and criticism.

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BACTERIAL TOXAEMIA AND CARDIAC PAIN.*

BY

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THE study of cardiac pain suffers, it seems to me, from its existing nomenclature. Eighteenth century names may still serve in the daily routine of practice; but for the purposes of investigation I think we shall do well to make a fresh start, by calling cardiac pain of all sorts simply "cardiac pain," just as we call all abdominal pain simply "abdominal pain," and recording plainly and

* A paper read at an intermediate meeting of the South-Western Branch at Torquay on March 31st, 1927.

precisely the natural history of each case. I shall therefore avoid, as far as possible, the older terminology.

During the past two years I have been surprised by the unusual frequency with which I have met with cases of cardiac pain; and another doctor has, I learn, had a similar experience. Most of these cases have been apparently ordinary enough types of the complaint, in which no unusual cause could reasonably be assigned; but some have been suggestive of an infective factor in their causation, in a way to which I was unaccustomed.

The short series of cases which I am going to place before you consists, first, of five which seem to be due to some epidemic infection, such as we are in the loose habit of calling "*influenza*"; and secondly, of three cases apparently partly due to bacterial toxaemia of other sorts.

First, then, the possibly epidemic cases.

CASE I.

A professional man, aged 62, had, in the beginning of July, 1925, a severe attack of so-called "gastric influenza," with a good deal of pain. *X*-ray examination excluded ulcer. About mid-July the painful "heartburn" began, as the patient expressed it, to extend to the chest after walking. A walk of even a hundred yards caused retrosternal pain, just like "heartburn," which reached from the epigastrium to the neck, ran out under both clavicles and down both arms to the elbow and under both scapulae. There was no dyspnoea, no faintness, no "sense of impending death"; only the feeling that he must stop. In a few minutes the pain passed off and he could again walk for a short distance, when it returned. He was able to carry on his work, since it involved no great physical effort. About mid-August his heart began to intermit frequently, especially in the later afternoon, when it often dropped one beat in three. Still he went on working, and, with strychnine and an antiseptic stomach mixture, matters slowly improved and the intermissions ceased about October. In a few months the gastric symptoms also ceased, but the disability in walking continued. The diagnosis made was toxic myocarditis. An *x*-ray examination showed the heart to be of normal size, the systolic pulse tension was only 140; an electro-cardiogram indicated only some left-sided preponderance. The urine was normal. The patient had never had syphilis. At 23 there had been a slight attack of subacute rheumatism, which had left no discoverable damage. Before the gastric attack he had been a good walker and there had never been any cardiac disease.

By March, 1926, there had been further improvement, and on going to a bracing seaside place he found that he could walk slowly on the level for about three miles. In June a month's holiday produced additional benefit, and since then progress has been continuous though slow. Throughout this case there has never been any very severe pain.

CASE II.

Another professional man, aged 57, while out walking in May, 1925, was suddenly taken with pain in the chest, just behind the upper part of the sternum, not severe. Two days later, when making an extra effort raising a heavy bar, it came on severely. Next morning he had to go to bed; it began to come on in spasms three or four times a day. It then spread all over the front of the chest and over the abdomen, so that the medical man attending him suspected gall stones. He stayed in bed five or six days, but when he got up again the pain was just the same. On June 20th his own doctor came back and his temperature was found to be up to 100° and even 101.4° at night. This ceased after eight days. The pain was severe enough to require morphine. He was sick once, but that was after morphine. This attack of fever was the only definite proof of an infective process found, but the temperature had not been taken before.

When well enough to go out he found that he could not walk even on the level for 200 yards without being pulled up by pain and having difficulty in returning. *X* rays showed nothing. For weeks there was very little improvement. In September he went to Hastings and found there that he could walk slowly one mile on the level. On returning home he lost ground again. In the summer of 1926 he went to Margate and got much better. He was then able to walk further and to go up hills slowly. On his return home this improvement persisted, and about Christmas last he was very much better. Now he is nearly well, but finds he must not hurry.

Although here we have no such preceding gastric attack, I have put this case next the first one on account of the close resemblance of the heart condition and of the course of the illness. Time only, he says, and change of air have seemed to affect his symptoms.

CASE III.

A nurse, aged 25, was under my care from October, 1925, to February, 1926, with cardiac pain following an attack of coryza and bronchitis called "influenza." She had aortic regurgitation dating from 1911. The pain was retrosternal and to the left of the sternum. At first the temperature was normal, but then became irregularly febrile, rising to 99° to 100° each evening. On November 23rd it touched 103° with a rigor, falling, however, to its usual level next day. Blood cultures were negative. On December 2nd she was given cyllin ɱ 1 in capsule three times a day, which soon brought down the fever. On January 4th it again rose, when the cyllin was increased to ɱ 2 every six hours. The temperature then became normal and stayed so. At the same time the cardiac pain, which had been considerable, sometimes needing morphine, and resisting nitrites, iodides, and salicylates, disappeared.

She went to Torquay and returned well. I saw her again on November 24th, 1926, for a return of the pain, slight but continuous across the sternum at the level of the third rib, and radiating up behind the left ear, behind to the scapula, and down the left arm. Ordinary treatment sufficed, and now she is well and at work.

CASE IV.

A stout lady, aged 64, liable to "rheumatism," came to me last September complaining of pain in her arms, shoulders, and breasts, coming on during walking, especially uphill, almost unbearable, usually in the afternoon. Between the attacks of pain she felt very well. Eight weeks before she had had an attack of "cholecystitis," diagnosed by a very capable man, which cleared up. I found a tender mid-sternum, a much dilated heart, a blood pressure of 240/140, mitral systolic and aortic systolic murmurs; also a septic tooth, which I condemned.

On December 3rd I saw her again, when she had lost her pain. The tooth had come out—"an awful tooth," she said.

I wish here to draw attention both to the preceding abdominal illness and to this tooth.

CASE V.

I only heard of this case, and in no detail, so must not vouch for exactness. I include it to show the experience of another and the quicker recovery of a younger man. It occurred in the summer of 1925. A healthy youngish man had an attack of "gastric influenza," and after it found himself unable to walk a moderate distance without being stopped by pain in his heart. In this case, I am informed, the pain disappeared in a short time—in ten days, I think—leaving him quite able to play his usual golf.

These five cases seemed to me to form part of a sort of epidemic of cardiac pain as well as of other forms of cardiac disturbance, in some cases at least, following some infective condition, generally regarded as "influenza."

The following were associated with other sorts of bacterial toxaemic conditions.

CASE VI.

About Christmas, 1924, a busy professional man, aged 67, began to have attacks of cardiac pain, pretty severe for half an hour in the evening, with a blood pressure of over 200, and, after three of these attacks, was seized suddenly after dinner with an intense pain over the whole front of the chest, especially between the left nipple and clavicle, running down the left arm. Nitrites had no effect, and recourse had to be made to morphine and finally to chloroform. For several days chloroform was used for recurrences. A very irregular pulse was left for six weeks, and when he was allowed out, walking brought on a slighter cardiac pain. He noticed that one of his teeth was loose, and, although it was not causing toothache, he had it removed. It smelt abominably. Within two weeks of its removal the pulse became regular, and he has since had no recurrence of the violent pain. However, walking any distance, especially uphill, still brings on slight pain a little above the left nipple and round his left wrist. This disability is steadily diminishing and is now indeed negligible.

CASE VII.

A boy, who was brought to me with dilated right heart following a bad abscess under a tooth six weeks previously, told me that an uncle had come home from abroad suffering from what was diagnosed as "angina pectoris"—"terrible cramp in his heart," he explained—which he had suffered from for two years, that his teeth had been found septic and put to rights, with the result that the "angina" had ceased and he had been able to resume his duties.

CASE VIII.

A lady, a stout, pale woman of 67, with a satiny skin and slightly dilated heart, who had been short of breath for thirteen years, was lately seized with severe pain behind the upper sternum and "through to the back." Treatment of an ordinary kind remedied matters. But it was found that she had a painful anal fissure and above it a vast accumulation of faeces.

I am well aware that these few cases provide only a very slight picture of what I submit they certainly suggest. But I hope that you will feel that I have not wasted your time in using them, insufficient as they are (1) to draw attention to a factor in the causation of a very serious condition, whose fuller recognition may prove to be of practical use, and (2) to record what I think has been something approaching an epidemic of cardiac pain due to some epidemic toxaemia.

It may be of interest to recall that Arnold of Rugby, whose death from "angina pectoris" is historical, is said by his biographer, Dean Stanley (vol. ii, pp. 270 and 277), to have "been confined to his room for a few days by an attack of feverish illness," which apparently caused "depression" for over a week, three weeks before his fatal attack.

THE TREATMENT OF CARCINOMA BY LEAD COLLOIDS.

BY

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As it has been my experience, and that of many who have been using the later preparations of colloidal lead prepared by the British Colloids Company and others, that considerable reaction has been met with after injection, Mr. Patterson has asked me to state the results obtained with the colloidal iodine preparation[1] with which he has been supplying me for nearly two years. Mr. Patterson has had considerable experience in the preparation of lead colloids with the Liverpool centre.

This preparation has been used by me in some sixty odd cases of malignant disease in St. Mary's Hospital, Mount Vernon Hospital, and also in private. Beyond the first batch of about half a dozen cases none have had any reaction whatsoever, and the reaction in the first cases, we thought, was probably due to some contamination of the preparation, as it had been opened and examined previous to use. Reaction never again followed the use of the colloidal iodine.

The preparation contains 0.2 per cent. of lead in the form of lead iodide. It is intended for intravenous injection, and so it is made isotonic by means of glucose, for sodium chloride would be unsuitable in the presence of lead. It contains, further, a trace of thyroid extract; the exact amount cannot be given, for the dried extract contains a varying proportion of inert matter, but it may be definitely stated to be less than 0.02 per cent. A trace of cresol is added, to act as a preservative, since glucose is present. The addition of the trace of cresol is not regarded as making the preparation sterile; it is sterile, and the cresol is added purely as a precautionary measure.

The usual course is four doses, given at four to five days' interval, with the precautionary tests for the urine, blood, and the liver efficiency, which are insisted upon by the Liverpool centre. I have given three courses at intervals to some patients, and in one I gave ten doses at weekly intervals.

This method of treatment cannot, and does not, attempt to replace operation. It is important that the growth should be removed as widely as possible, and the injections then given in the hope that they will attack any small foci which may have started in the internal organs.

The method may be used with advantage, and the results are best seen, in inoperable cases. There is every hope that, though a cure may not be brought about, the rapidity of the growth may be lessened, and at the same time it gives the patient the feeling that something is being attempted. Too many cases are brought which are past all hopes of being benefited in the smallest degree. In early cases, where operations and other procedures, such as radium and *x* rays, are used, the results can hardly be attributed to one agent or to one procedure, and therefore definite scientific data are very difficult to obtain.

It is too early, of course, to attempt to publish results obtained from the injection of lead, but there is no doubt that lead colloids give satisfactory results sufficiently frequently to justify hope that the growth may be retarded or may even disappear. At the same time, the limitations of this form of treatment must be realized. It is a most unsuitable form of treatment to give when the walls of a hollow viscus have been extensively invaded by the growth, because destruction of the growth means destruction of the wall of the viscus, and rapid death must follow. In certain cases, as in oesophageal strictures where a gastrostomy has been performed for cicatricial contraction of the oesophagus, this contraction has been greatly increased and the growth of a tumour brought to a standstill, so that the word "cure" may almost be used, but cure will not mean the restoration of the natural passages.

In passing, I might say that in one of my oesophageal cases the large, hard mass of secondary glands in the neck disappeared. A second case was lost through destruction of the growth. Two large secondary masses of breast carcinoma, which had recurred on the chest wall, completely broke down during the course of injections; unfortunately, one of the masses had penetrated the chest wall, and the breaking down set up septic pneumonia in the lung to which it was adherent, and the patient died. In yet another case of breast carcinoma, where the breast had been removed and a course of treatment given, internal secondary growths broke down, and the patient died through haemorrhage, because one of the growths had invaded the wall of the splenic artery. It may some day be possible to obviate these accidents.

Growths of the solid variety or in the solid viscera, or in situations which are not vital, may be dealt with fearlessly. Patients suffering from kidney disease with albumin in the urine, or showing the extremes of anaemia, are hardly subjects for such treatment.

In conclusion, I have to thank Mr. Patterson for kindly letting me make use of his preparation in the above cases. I gladly accede to his wish that I should state the harmlessness and absence of reaction of the preparation. I have used material from one single batch for more than a year, which proves that the preparation may be considered perfectly stable.

[1] The commercial manufacture of the preparation has been undertaken, under the personal supervision of Mr. Patterson, by the British Drug Houses, Ltd., Graham Street, London, N.1.

THE COMPARATIVE VALUE OF THE "AMMONIA COEFFICIENT" AND THE RATIO BETWEEN FREE AND AMMONIA-COMBINED ACID IN URINE.

BY

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THE object of this communication is to consider the comparative value of two quantities which are used in the examination of urine, both of which give a valuable indication of physiological activities. The comparison was instituted with a view to determining which of these two values has the better practical diagnostic possibilities. Both quantities are ratios, and the mechanism involved in the case of one of these was outlined by us at the provincial meeting of the Children's Section of the Royal Society of Medicine held in Bristol in June, 1923,[1] and dealt with more fully subsequently.[2]

The first of these ratios is obtained by titrating 25 c.cm. of urine with decinormal sodium hydroxide solution, using as indicator phenolphthalein; this gives the free acid value; then to the same solution neutral formaldehyde solution is added (Folin's method), when a further titration with alkali gives the ammonia-combined acid, or ammonia.

The ratio, which we will designate R_A, is obtained by dividing the second titration by the first, and represents the ratio of ammonia to free acid present in the urine. The second ratio involves the same titrations, but in addition the nitrogen is determined by the usual hypobromite method; a ratio is obtained by comparing the nitrogen existing as ammonia with the total nitrogen from the hypobromite determination. This ratio we will call R_U. The two ratios are therefore:

$$R_A = \frac{\text{Ammonia}}{\text{Acid.}}$$

$$R_U = \frac{\text{Nitrogen as ammonia}}{\text{Total nitrogen (hypobromite).}}$$

As a practical point it will be seen that R_U requires a third determination which is by no means as accurate or simple as the ordinary titrations needed for R_A. (R_U closely corresponds with what is generally termed the "ammonia coefficient.")

The employment of ratios is of considerable importance, since the wide variations in concentrations of urine would stultify results considered singly because the quantity of

urine secreted over some period must be measured; by employing ratios valuable indications are given from examination of a single sample, especially if the specimen is selected by the method we have indicated.[2]

Considerable variation in concentration of urine may even affect these ratios, and for this reason results obtained from very dilute urines are not considered. This variation is a matter with which we hope to deal in a further communication.

The question might very reasonably be asked, Are these ratios merely empirical, or is there any physiological reason for their use? That is to say, have they a theoretical as well as a practical basis? For R_A there is such a basis of theory, as it indicates the effort that is being made to maintain the constant reaction of the blood, giving information of value in assessing its state and more particularly the amount of buffer salts present. The ammonia secreted may be compensatory, or in certain cases may arise from incomplete metabolism; with its source we are not immediately concerned.

With the ratio R_U there appears to be no blood mechanism which relates ammonia to urea; the urea in blood may normally vary within wide limits, and R_U may or may not be a purely fortuitous ratio depending upon the source of the excess of ammonia. The value of the ratio may really be in the numerator which happens arithmetically to be little disturbed by usual variations in the denominator.

It is interesting to note that Palmer and Henderson make use of an inverted form of R_A, but attach no special significance to it, though they find it a convenience in their pathological studies.[3]

Opinions differ as to the normal value for R_U; Wells[4] gives the proportion of nitrogen in urine in the form of ammonia as from 2 to 5 per cent., which in diabetic acidosis may rise to 10 to 25 per cent. Todd[5] states that normally about thirty times more nitrogen is excreted as urea than ammonia, and when the ratio of urea to the ammonia nitrogen is as 10 to 1 or more, we are justified in saying that acidosis is present, but figures between 10 to 1 and 20 to 1 point to defect of the liver. Burgess[6] gives an average value in a series of normal children of 7.04. The figures we have obtained are more in agreement with those of Burgess. There would seem to be something unsatisfactory when a ratio which is given normally in the neighbourhood of 4 (Wells and Todd) has to increase to as much as 10 before it has indicative value.

The normal value of R_A ranges up to 1.5; a value exceeding this for an early morning specimen, having a first or acid titration greater than 5 c.cm., indicates some derangement. This is in agreement with the values given by Palmer and Henderson,[3] where the quantities are comparable.

To summarize briefly: Of the two ratios R_A is more accurately and readily determined, and it is definitely connected with a well established mechanism. R_U, including as it does the same numerator as R_A, must in a measure give similar indications, but is affected by a denominator which does not appear to have any definite connexion with the numerator such as is found in R_A.

Experimental.

Some fifty samples of early morning urine, presumably normal, gave the following values:

	Average.	Minimum.	Maximum.
R_A	1.02	0.6	1.5
R_U	6.6	3.4	9.0

so that in normal urines the two ratios run along fairly parallel lines. More interesting are the results of a similar comparison in cases not normal.

Case 1.—A case of cyclic vomiting in a little girl which we were fortunately able to observe also during normal health.

In normal health:

R_A ...	1.03	1.0	1.05	1.50	1.07	1.23	1.13	0.87	1.11
R_U ...	8.2	7.1	7.8	6.1	5.9	6.7	6.6	6.5	6.8

During attack and recovery:

R_A ...	4.47	4.09	1.56	0.84	1.35	1.34
R_U ...	8.9	10.4	8.0	6.4	8.7	9·3

It will be seen that whereas R_A indicates clearly a considerable derangement, R_U gives no very definite information.

Case 2.—A case of simple acetonuric vomiting. We were able to observe this patient also during normal health.

In normal health:

R_A ...	1.23	0·87	1·01	1.22	1.20	0.96
R_U ...	7.3	6.7	7.0	4.9	3.8	7.3

During attack and recovery:

R_A ...	2.10	1.75	1.88	2.0	1.21	1.40
R_U ...	9.9	9.8	4.6	5.9	7.6	8.1

Case 3.—A case similar to 2; the ratios were recorded during attack and recovery:

R_A ...	2.49	4.25	2.57	1.55
R_U ...	10.7	11.3	5.35	5.35

Case 4.—This was a case of diabetes, the patient being an adult male.

R_A ...	2.07	1.82	2.60	3.60
R_U ...	14.8	5.9	15.4	13.0

Here the ratio R_A is uniformly consistent with a marked derangement of function, but R_U fails to indicate this in one case.

Case 5.—A case of catarrhal jaundice in small girl.

R_A ...	2.13	3.36	3.25
R_U ...	15.2	17.3	14.6

Case 6.—A case of catarrhal jaundice in a girl aged 10 years.

R_A ...	1.62	2.0	2.0
R_U ...	4.4	7.1	7.5

A few cases in health and when unwell where a series of specimens of urine were not available:

	Ill.	Well.	Ill.	Well.	Ill.
R_A ...	3.54	1.29	2.22	1.36	3.62
R_U ...	14.5	6.6	8.2	4.7	15.8

It will be seen from these tables that on some occasions both ratios give similar indications, but in certain instances when R_U fails to denote any derangement R_A shows distinct abnormality—that is, R_A appears to give more generally reliable information than does R_U. As the value of these ratios is affected by taking alkalis or acids, the above results were drawn from cases where the administration of drugs containing these substances was not immediately essential in the treatment.

There still remains a considerable volume of work to be carried out upon this and similar ratios, and it would seem highly probable that by careful comparison of values obtained from various ratios it might be possible, not only to discover a derangement in physiological mechanism, but also in a measure to locate it, and we are carrying out a further investigation on the subject.

Conclusion.

Two ratios have been compared, and of the two the first—namely, the ratio of ammonia to acid present in a specimen of urine—seems to give generally better information, and has the advantage of being much more readily and quickly determined.

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THE PERINEAL AND PELVIC FLOOR MUSCLES IN THE SECOND STAGE OF LABOUR.

BY

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THE care or management of the perineum consists in the use of means for the prevention and limitation of perineal rupture in labour. It applies to the later period of the second stage, the period of perineal distension. The teaching, express and implied, that during the pains of this period the perineal muscles are in a state of contraction seems opposed to some obvious phenomena of labour. This prompted a reference to a number of books on midwifery in order to discover if the teaching were common, and in hopes of learning the evidence on which it is based.

Sixteen textbooks and manuals of midwifery, published from 1899 to 1923, were consulted. Twelve do not mention

the matter, four do. In two of the four the same author is concerned. The terms used are such as these:

Between the pains the pelvic floor is relaxed, not rigidly contracted; try to deliver between pains, the perineal muscles being then relaxed instead of tightly contracted; spasmodic rigidity of the muscles of the pelvic floor obstructs delivery; during a pain there is contraction of muscles of the pelvic floor and outlet; this makes the perineum more rigid and therefore more liable to tear.

All this may be summarized to mean that whilst the perineum is becoming more and more stretched (that is, during the pains) its muscles and those of the pelvic floor are in a state of spasmodic, tight, or rigid contraction, and that this obstructs delivery and favours laceration. This seems to signify that the mechanism of a physiological function normally so acts as to obstruct its completion and favour its injurious accomplishment—a view hard to accept without very satisfying evidence in its favour.

A little consideration of the conditions of the second stage compared with the effects of contraction of perineal and pelvic floor muscles will serve to indicate the difficulty of accepting this teaching. The coccygei and levatores ani in contracting flex the coccyx forwards and upwards upon the sacrum and raise the ano-coccygeal raphe; during the pains the advancing head forces the coccyx downwards and backwards in extension upon the sacrum and depresses the ano-coccygeal area. The pubo-coccygeal fibres of the levatores ani in contraction oppose bilateral distension of the anal canal; during the pains the advancing head spreads the anal canal bilaterally and forces the adjacent edges of the levatores ani far apart. The sphincter ani in contraction closes the anus; it is precisely during pains that the anus is stretched more and more widely open. The compressor vaginae in contraction constricts the vaginal orifice; this orifice is stretched more and more widely open by the head advancing during the pains.

Thus it appears that during the pains of the perineal "management" stage the muscles of the pelvic floor and perineum are stretched, as indeed are all the perineal tissues. They are not contracted, and therefore it is not true that their contraction opposes delivery and favours laceration. Considering the condition of the perineum during a pain just before delivery—bulging, stretched in all directions, tense as a drumhead—one wonders what is the evidence and how precisely it was obtained for the teaching in question. But on these points the books are silent.

A CASE OF HYDATID PNEUMOTHORAX.

BY

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THE rupture of a hydatid cyst of the lung into the pleural cavity is a rare cause of spontaneous pneumothorax, and it is therefore considered that the case detailed below is worthy of record.

This condition was first described by Fouquier in 1828, two years after the death of Laennec. He states that at the autopsy on a case of spontaneous pneumothorax "the right chest was half filled with a yellow turbid fluid in which floated a sac the size of a large nut, rather soft, of milk-white colour, and semi-translucent, which one could not fail to recognize as a ruptured hydatid cyst." In 1925 Professor F. Dévé of Rouen[1] collected thirty-one authentic cases. Since then one other case has been reported by Bacaloglu and Tanasesco.[2] The condition occurs most frequently in young adults, and in males twice as often as in females. The rupture is usually precipitated by a sudden effort.

The perforation in the pleura is commonly situated on the inferior lobe of the lung and more often on the right side than the left, thus differing in this latter respect from pneumothorax secondary to tuberculous disease. It may be round or linear, admitting the tip of the finger or measuring several centimetres in length. The perforation leads into a cavity in the lung which is not usually larger than an orange. The cyst itself is commonly found free in the pleural cavity and in most cases is ruptured, but in the case described by Mercier in 1838 it was intact and filled with a clear yellow fluid. It is sometimes accompanied by daughter cysts, and, rarely, there is a secondary growth of echinococcus on the pleura, caused by the dissemination of parasites at the moment of rupture of a fertile cyst.

By studying sections of the lung of a rabbit in which the condition had been artificially produced Dévé came to the following conclusions as to the course of events which take place. *There is not a sudden rupture of the cyst into a bronchus, but a gradual invasion of the bronchus by the cyst wall, followed by necrosis of the wall of the bronchus at one point. A pneumocyst is thus produced.* The necrotic plug acts as a valve, the tension in the cyst rises and its wall becomes stretched. Owing to the fact that the part of the cyst wall which is adjacent to the pleura lacks support and that its blood supply is diminished, a slight increase of intrabronchial pressure is sufficient to cause it to rupture.

The hydropneumothorax thus produced may remain sterile for several months. Sooner or later, however, the entrance of organisms from the bronchus, combined with the irritation produced by the presence of the hydatid fluid and the cyst wall in the pleural cavity, leads to suppuration and the formation of a pyopneumothorax.

Case Report.

J. P., a groom, aged 36, had been in South Africa in 1913, and had served in France during the late war. He stated that he had always been fond of dogs and that he kept one in the house. He had suffered from cough since being gassed. There had been no haemoptysis or loss of weight.

On December 17th, 1926, at 10.30 a.m., his cough became much worse, and during the next hour and a half he expectorated about two pints of frothy sputum. He felt better during the afternoon, but at 5 p.m., while walking upstairs, he developed rapidly increasing dyspnoea and severe pain all over the chest, not localized to either side. That evening his temperature rose to 102°. On the following day Dr. MacCormack of Steeple Claydon found signs of pneumothorax on the left side. The temperature remained high until December 21st, and then began to settle down. On December 23rd the sputum was purulent. It was examined, and no tubercle bacilli were found. There was never any haemoptysis. On December 28th and January 2nd air was aspirated from the left pleural cavity, giving relief to the dyspnoea. There was no urticaria. There was no family history of tuberculosis.

He was admitted to the Radcliffe Infirmary on January 16th. He was a thin man with flushed face, orthopnoeic, and obviously ill; temperature 100°, pulse 100, respirations 28. The tongue was dry and furred. Cardiac pulsation was visible below the right nipple in the fifth intercostal space. The area of cardiac dullness was entirely to the right of the sternum. The heart sounds were normal. The left side of the chest was larger than the right; movement of the chest was impaired and vocal fremitus absent on the left side. The percussion note was hyper-resonant on the left side down to the seventh rib, and dull below this level. Weak vesicular breathing was present above the seventh rib and absent air entry below. The bell sound was clearly audible on the left side between the fourth and seventh ribs. The liver and spleen were not palpable. The sputum contained pneumococci.

On January 18th the left pleural cavity was aspirated in the ninth intercostal space. About two pints of creamy pus with air were removed. At operation, the same evening, under gas, oxygen, and ether anaesthesia, one inch of the ninth rib in the left scapular line was resected. When the pleural cavity was opened air at first bubbled out, and was followed by about two pints of pus. There was a large cavity the walls of which could not be reached with the finger. No adhesions were felt. A few flakes of fibrin were removed and a tube was inserted.

The pus was found to contain pneumococci, but was sterile. The temperature continued to swing, rising to 100° every evening until January 24th, when a ruptured cyst was discharged through the wound. The temperature immediately fell and remained normal.

The pathological report on the cyst was to the effect that it measured in its collapsed state four inches in diameter, and consisted of a yellowish substance. On the inner aspect were a few small excrescences, but neither in these nor in the scrapings from other parts were any hooklets found. Microscopically the cyst consisted of a laminated, translucent, non-cellular structure. It was undoubtedly a hydatid cyst.

The chest was x-rayed on February 9th, and no evidence of other cysts in the lungs was found. There was no eosinophilia. The patient made an uninterrupted recovery.

According to Dévé the initial cough in these cases is usually dry. The large quantity of sputum expectorated by the patient in the above case might be due to pulmonary oedema caused by hydatid fluid leaking out when the cyst opened into the bronchus.

The noteworthy points in this case are (1) the opening of the cyst into a bronchus, (2) the production of a pneumothorax six and a half hours later, (3) the valvular nature

of the opening in the pleura which led to an excess of air under pressure in the pleural cavity, and which necessitated special relief on two occasions before admission to hospital.

I am indebted to Dr. A. G. Gibson for assistance and permission to publish this case.

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Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

TWO CASES OF COINS IN THE OESOPHAGUS.

THESE cases, which occurred within three weeks of each other, are published in order to show the size of coin that is likely to become impacted in the oesophagus at different ages. Incidentally they also illustrate the fact that a coin which can pass through the upper end of the oesophagus can pass unaided through the rest of the alimentary tract. In both cases the misfortune was caused through the impish mischief of young children, so that a word of caution may be uttered against giving coins to children as playthings.

CASE I.

T. C., a labourer aged 35, while having a meal at mid-day on September 16th, drank a cup of tea rather hurriedly and then felt something in his throat. It was ascertained that his baby had dropped into the cup a penny it had been given to play with; the father tried to vomit, but did not succeed.

On arrival at the hospital *x*-ray examination showed a coin impacted at the level of the sterno-clavicular joint. On endoscopic examination the penny was seen, but the area being somewhat *fouled with blood* from loss of a tooth in a mouth with marked pyorrhoea, it could not be gripped with the forceps, and disappeared. On a second *x*-ray examination it was seen to move freely with respiration at the level of the cardiac orifice of the stomach.

The patient was again *x*-rayed on the following afternoon, and the penny was seen to be in the stomach near the pylorus. He was allowed to go home and told to come up in thirty-six hours. This he did, bringing the *penny in his hand*, and reported that it had been passed in his motions (thirty hours after it had been seen to be lying in the stomach) without any difficulty or any haemorrhage in the stools.

CASE II.

P. K., aged 6½ months, on October 7th, about 5 p.m., swallowed a farthing given to her by *her little* brother. She went red in the face and nearly choked. She was taken to her doctor, who sent her to the hospital. At 11 p.m. *x*-ray examination showed the farthing impacted in the oesophagus at the level of the sterno-clavicular joint. On oesophagoscopy the coin was seen and removed with forceps. The child left the *hospital* three days later in perfect health and with no complications.

I am indebted to my clinical assistant, Mr. Lindenbaum, for his notes on these two cases.

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HAEMATURIA TREATED BY INJECTION OF SERUM.

THE following case is of some practical, apart from a possible theoretical, interest.

A boy, aged 3½, had an attack of haematuria after tonsillotomy about a year ago. I am informed that, apart from one or two interyals of a few days, during which the urine appeared to be free from blood, it had persisted in *varying* degree ever since. The greater part of the year was spent in hospital, where the urinary tract was carefully investigated and an exploratory nephrotomy performed on the left side. Apart from an impression gained that the left kidney was somewhat large, the result of the operation was negative, and the child was discharged from hospital uncured. When I first saw him, in December, 1926, he was still passing bloody urine, was markedly anaemic, and his general condition was very miserable. On examination no abnormality of the kidneys could be detected, and I made the diagnosis of essential haematuria precipitated by septic absorption following tonsillotomy.

I decided to treat the child by injection of horse serum. The first dose of 10 c.cm. was followed by acute urticaria. As the degree of haematuria seemed to have decreased I gave a second injection of 20 c.cm. one week later, both injections being given intramuscularly into the buttocks. After the second injection the haematuria disappeared, and has not since returned. It is, of course, too early to speak of a permanent cure, but as the child had previously been free from haematuria for a few days at a time only, the outlook seems hopeful. The improvement in the general health has been very noticeable, the whining child being now normally vigorous and lively.

Apparently the haematuria was due to absorption of toxins from the cut surfaces of the tonsils. Why these toxins should have attacked the endothelium of the renal vessels is an interesting question. The necessary antitoxins seem to have been produced in the child's body by the injection of the proteins contained in the horse serum. The injection of these proteins produced an attack of urticaria, as is known sometimes to happen, and apparently a by-product of the reaction was the required antitoxin. The sequence of events in this case supports the view that a bodily reaction is necessary for the production of antibodies. On the other hand, the occurrence of haematuria after the operation of tonsillotomy may have been quite fortuitous and in no way due to sepsis, and the cessation of the haematuria may be attributable to coagulants contained in the horse serum. Were it practicable, a bacteriological examination of the remains of the tonsils would be of interest.

London, N.15. L. J. GREEN, M.R.C.S., L.R.C.P.

DEATH FROM HAEMORRHAGE FROM THE AORTA INTO A BRONCHUS.

THE following case is an instance of what must be an unusual cause of death.

An old woman, aged 81, died at the Tooting Bec Mental Hospital on December 20th, 1926; she was admitted on January 27th, 1922. She suffered from senile dementia with marked loss of memory for all recent events, but a remarkable recollection of the past. She could repeat pages of Shakespeare's plays.

She had arterial degeneration to a moderate degree, and experienced several cerebral attacks with transient paralysis. After one of these attacks she lost voluntary control of the right arm, which used to execute all sorts of movements of its own accord, much to the annoyance of the patient, who would lay hold of it with the left hand to keep it in order. These movements ceased when the patient was asleep.

At the time of her death she was seen by a medical officer, who reported that arterial blood had gushed out of her mouth for about ten minutes before she died. At the *post-mortem* examination it was found that a patch of adherent pleura had attached itself to a hard plaque on the aorta. A communication had formed between the aorta and a rather large bronchus, and after filling up the lung the blood had poured out of the mouth till the patient was dead.

London, S.W. THOMAS LINDSAY, M.D., F.R.C.S.Ed.

British Medical Association.

CLINICAL AND SCIENTIFIC PROCEEDINGS.

GLOUCESTERSHIRE BRANCH.

The Blood Picture in Various Diseases.

A MEETING of the Gloucestershire Branch was held at the General Hospital, Cheltenham, on March 10th; Dr. J. RUPERT COLLINS presided, and Dr. J. B. DAVEY read a paper entitled "Some interesting blood pictures."

Dr. Davey described the source and antecedents of the cells of the blood. In spite of the multitude of names used by various workers for the same cells, a common ancestor for all the various blood cells was now accepted by the majority. This cell, found both in marrow and in lymphatic tissue, somewhat resembled the large lymphocyte and was named the haemocytoblast. From this cell were formed in the marrow the erythrocytes by loss of nucleus and elaboration of haemoglobins; the myelocytes by development of granules; the large lymphocytes and thence the small lymphocytes, and the megacaryocytes. In lymphatic tissues it formed the large and small lymphocytes. As regards pathological conditions, the most familiar was probably the rapid increase of polymorphonuclears in the circulating blood in septic processes. Many of these cells were of immature type. The marrow was very susceptible to toxic influences, and it was not difficult to conceive that some toxic process was at work in myelocytic leukaemia, where very primitive forms, the myelocytes, were poured into the circulation, their conversion into polymorphonuclears being largely inhibited. In such cases the marrow, at the necropsy, showed clear evidence of great myelocytic activity. In lymphatic leukaemia the process was not so

clear, since although as a rule the lymphatic glands were enlarged this was not invariably the case. Presumably in these cases the haemocytoblasts in the bone marrow were producing the lymphocytes. But it should be noted that some cases of so-called lymphatic leukaemia were not so at all: they were really leukaemias of that very primitive cell, the myeloblast. This cell was strikingly like the lymphocyte, but contained the oxidase granules. In pernicious anaemia there might be some myelocytes, and in an acute leukaemia megaloblasts; it might transpire that these two diseases were not only closely related but were even varieties of one disease. A case of chronic myelocytic leukaemia was quoted in which ragged ulcerated masses somewhat resembling growths were found in the ascending colon. These were masses of myelocytes. Such a picture lent some support to Gulland's theory that leukaemia was a sarcoma of the blood cells. Dr. Davey showed slides under the microscope illustrating the various kinds of cells, and also a case of lymphatic leukaemia in which the clinical course did not extend over more than three months. In another case the illness lasted only fourteen days, and though the cells
was shown that 83 per cent. were
and were therefore myeloblasts.
Goodall's contention that the really acute so-called lymphatic leukaemias were myeloblastic. In a third case the illness began with a lump in the neck, and death followed in eight weeks; the case was one of lymphatic leukaemia. Under one of the microscopes was shown a nucleated red cell undergoing mitotic division, taken from the circulating blood of this patient. In these three fatal cases the white cell count was but moderately raised above normal. Dr. Davey next described the case of a woman, aged 26, with symptoms resembling those of acute leukaemia; the blood picture did not exclude that diagnosis. The case turned out to be one of glandular fever, with a very different prognosis. Dr. Davey described in conclusion two cases of anaemia occurring in pregnancy, each of which had colour indices above one, and megaloblasts were present in the circulating blood. This was regarded as a rare form of anaemia. Transfusion in one case led to a most striking improvement, which was maintained by the administration of arsenic.

The Significance of Optic Neuritis.

Mr. N. H. PIKE discussed the various conditions which are included in the term "optic neuritis," including retrobulbar neuritis, papillitis, papilloedema, or choked disc, neuro-retinitis, and optic pseudo-neuritis. He said that the term "retrobulbar neuritis" was applied to inflammation of the optic nerve behind the eyeball, and that the characteristics of this condition were rapid loss of central vision, some pain on pressing on the globe, a pupil which contracted to light, though the contraction was not maintained, and a marked tendency to recovery. One of the commonest causes was disseminated sclerosis. The accessory nasal sinuses had been blamed for infecting the optic nerve, but Mr. Pike, who had the advantage of being also a rhinologist, had only seen one case in his own experience in which he could trace a causal relation. That case was exceptional in being, not a true retrobulbar neuritis, but a monocular optic neuritis. All the other terms which he had mentioned had in common the fact that they referred to the appearance of the optic disc as seen with the ophthalmoscope. They could be divided into two classes: those due to intra-ocular causes, and those due to intracranial but extra-ocular causes. To the first class belonged the large group of cases of neuro-retinitis, which had as a common factor, speaking broadly, a high blood pressure in the larger arteries. The changes in these cases were oedema, exudate, and haemorrhage; there was no high pressure in the retinal artery. Mr. Pike had demonstrated that in a woman with a brachial systolic pressure of 270 mm. the retinal pressure was actually lower than normal, and so, as an ophthalmologist, he would condemn drastic attempts to bring down the blood pressure. The other class of case—papilloedema or choked disc due to intracranial causes—was in many ways the most interesting. Its development was often described under five stages, but it was a gradual process from start to finish. The amount of swelling of the disc could be measured, and a useful division was to limit the term "choked disc" to a swelling over 2 D. Occasionally a typical choked disc was found as a manifestation of renal disease. Whatever the root cause might be, it had been shown by Horsley to be a direct expression of the mechanical agency of increased intracranial pressure. Intracranial and intra-ocular pressures had been shown to be identical in the normal state. Mr. Pike briefly indicated the extreme complexity of the factors associated with rise in pressure, and pointed out that there was more to be taken into account than the ordinary laws of physics. In Mr. Pike's experience very little reliance could be placed on difference between the discs as a localizing sign. The ipsolaterality of choked disc, on which Sir Victor Horsley laid stress, was not now accepted as of importance. Mr. Pike gave the histories of several cases to emphasize the necessity of decompression for the relief of papilloedema and other pressure signs, and showed numerous lantern slides which illustrated the various physiological and pathological points. In conclusion, while he made a plea for decompression, he drew a sharp distinction between that operation and one designed for the removal of a tumour, which, in his view, was not as a rule successful in a general hospital.

Reports of Societies.

PATH OF INFECTION IN TUBERCULOSIS.

AT a meeting of the North-Western Tuberculosis Society in Manchester on March 31st, Dr. ADAMS, the president, in the chair, Professor S. LYLE CUMMINS read a paper entitled "The bearing of recent laboratory research on clinical conceptions in tuberculosis."

Professor Lyle Cummins said that his experience in the *post-mortem* room had impressed upon him the pleomorphism of tuberculosis in human beings as compared with the uniformity observed in animals. In the laboratory animal there existed what might be called "natural" tuberculosis, the same characteristics being found also in infants and primitive races—namely, generalization of the disease with rapid termination. He contrasted this with the tuberculosis usually seen in human beings—namely, pulmonary disease. Some modifying factor appeared to have been at work, and "modified" tuberculosis tended to be localized in the lungs; intermediately was the large section of surgical tuberculosis which was the aftermath of an unrecognized general tuberculosis, causing metastatic deposits through the blood stream. A later stage was localized disease in the lungs. In "natural" tuberculosis the tuberculin test produced negative or slight reaction; in "modified" tuberculosis there was a marked reaction. "Natural" tuberculosis was characteristic of non-allergic age groups and races; "modified" tuberculosis was characteristic of allergic age groups and races, the modifying factor being the production of allergy. Three questions as regards pulmonary tuberculosis were still unsolved: (1) Was the disease caused by the reawakening of an infection in childhood, or due to the reinfection of an allergic lung? (2) Did the bacilli enter through the alimentary tract or in the inspired air? (3) Why was the disease more commonly apical than otherwise? In regard to (1) much experimental work had been done. Baldwin obtained infected guinea-pigs and tried to reinfect them; he found them very resistant to reinfection, but did succeed with large doses. Krause and Willis introduced an emulsion of bacilli into the skin of guinea-pigs, and found that even one hour after inoculation the cutting out of the piece of skin infected was too late to prevent infection of the animal; if the animal had been previously infected five days was not too late; thus there was great retardation in infected animals. Similarly, they found that in previously uninfected animals the neighbouring glands were reached within twenty-four hours, but in animals previously infected not in twenty-one days. Thus a previous

infection produced retardation and modification of disease. The presence of scars in the lungs of adults was evidence that much early tuberculosis in children did heal. There was a correlation between such physiological influences as childbirth, lactation, strain, and infection pointing to the awakening of an old infection; on the other hand, no infection came from healed scars. There was difficulty in establishing definite sources of infection, but these certainly did occur. Mullins's experiments on rabbits consisted in injecting emulsions of bacilli into the posterior nares of rabbits under an anaesthetic, and he found that either lung could be infected. Soper repeated these experiments with *x*-ray control. The results showed definite parenchymatous lesions in the lung of allergic rabbits long before rabbits previously uninfected developed lesions; in the latter, the reaction, though delayed, was more serious. Calmette held such experiments to be unnatural. To sum up, the evidence was inconclusive, but there were two certainties—namely, that pulmonary tuberculosis was due to a reawakening of previous infection and that strong evidence existed in favour of reinfection. In regard to the second question, Calmette believed in the alimentary route of entry. Guinea-pigs fed on fatty broth containing bacilli showed bacilli in the lacteals in three hours. In early life the mucous membrane was more easily permeable; on the other hand, it was to be noted that in later life most bacilli in the lungs were of human type, whereas swallowed bacilli were usually bovine. Also, in spite of much swallowed sputum, intestinal ulceration was comparatively rare. Calmette, however, maintained that in animals inoculated in the laboratory the lungs were always infected. Professor Cummins believed that both types of infection occurred. With reference to the third question, Professor Cummins quoted Bacmeister's experiments, in which the apices of rabbits' lungs were constricted by rings. When bacilli were injected intravenously there was a concentration of bacilli under the rings, but when bacilli were introduced into the respiratory passage no such concentration occurred, the lesions being general in the lungs. These experiments could not really be regarded as satisfactory owing to the stagnation of the circulation caused by the rings. He had himself observed groups of coal miners, some of whom had worked among silica, and found that in these latter men the lymphatic blockage was more effective at the apices than elsewhere, whereas normally coal dust was readily ingested by phagocytes.

THE ACTIVE PRINCIPLES OF ERGOT PREPARATIONS.

A MEETING of the Edinburgh Obstetrical Society was held on March 9th, with the President, Professor R. W. JOHNSTONE, in the chair. Professor A. J. CLARK raised the question "Do the pharmacopoeial preparations of ergot contain any active principles?"

Professor Clark said that he had no new discoveries to bring forward, but he wished to draw attention to certain well established facts. The history of ergot epidemics showed that ergot taken by the mouth produced toxic effects. The frequency of abortion during epidemics of ergotism probably led to the use of ergot in therapeutics. The outstanding therapeutic action of ergot was as follows. The drug when given by the mouth during labour caused increased force and frequency of pains within twenty minutes, and the intensified action was so powerful as to be dangerous if there was any mechanical obstruction. This was an unusually straightforward and easily recognizable therapeutic action. The active principles of ergot were unstable; indeed, the difficulty of obtaining reliable preparations of ergot was well known to Buchheim in 1859. It was, however, remarkable that there should be any doubt whether any given ergot preparation was active or inactive. The chemistry of ergot was for long a puzzle. In 1874 Tanret discovered the crystalline alkaloid ergotinine, which proved to be inert, but in 1906 Barger and Carr isolated the alkaloid ergotoxine which produced all the typical pharmacological actions of ergot and proved to be the hydrate of ergotinine. In 1922 Stoll isolated another specific alkaloid, ergotamine. The pharmacological actions of ergotoxine and ergotamine appeared to be identical. In addition to the specific alkaloids, ergot contained a remarkable medley of decomposition products of proteins. Tyramine and histamine, the amines derived respectively from the amino-acids tyrosine and histidine, had received most attention. These drugs produced remarkable and interesting pharmacological actions when given hypodermically, but had very little action when administered by mouth. The quantities of these amines in ergot were too small for them to be of any importance when ergot was given by mouth. The therapeutic action of ergot therefore depended entirely on the specific alkaloids, of which it contained 0.1 to 0.2 per cent. In 1907 Barger and Dale pointed out that since ergotoxine was insoluble in water the liquid extract of ergot could contain little or none of this active principle. In 1913 Carr and Dale criticized the pharmacopoeial preparations in detail and showed that they were all concocted in such a way as to lose nearly all the active principles. These criticisms were not affected by the discovery of the new alkaloid ergotamine, for this had similar solubilities to ergotoxine. In 1923 Professor Clark had performed a series of tests on the pharmacopoeial preparations of ergot made from ergot of known activity, and found that the processes of preparation involved the loss of 97 per cent. of the active principle in all cases except that of the ammoniated tincture, in which one-quarter of the active principle was retained. The properties of the ergot alkaloids had been recognized in other countries, and most of the foreign pharmacopoeias contained rational methods for making ergot preparations. Curiously enough, each revision of the *British Pharmacopoeia* since 1885 had made the ergot preparations as a whole worse than they were previously; since a new pharmacopoeia was likely to be prepared soon, the question was one of obvious practical importance. Why was it that obstetricians had accepted and apparently had used without much complaint for thirty years preparations of ergot which were found to be inert, when judged by chemical and pharmacological tests?

The Human Sex Ratio.

Dr. F. A. E. CREW then read a paper on the human sex ratio, in which he stated that the secondary sex ratio was nearly equality and seemed to constitute one of the many disharmonies which characterized the human species. One male was, in the matter of gamete formation, the equivalent of many females, and if the propagation of the race was the chief function of the species, then it would be better for the secondary sex ratio to be low unless polygyny was customary. It would seem that the habit of producing offspring had no relation to the present social needs of mankind, and that it was a phylogenetic legacy, being the expression of a mechanism which served well enough when the female elaborated as many ova as the male did sperms, but which had not been modified to fulfil the reproductive requirements of the present day. It had been established that the male in the human species was digametic, elaborating two kinds of sperm: one fertilizing an egg gave rise to a male, the other to a female. The female elaborated in respect of the elements of the sex-determining mechanism only one kind of egg. It could be shown that post-natally there was a significant sexually selective mortality, the sex ratio at birth of 104 males : 100 females being reduced through this selective elimination of the male to one of 55 : 100 in the 85-age group. It could also be shown that the sex ratio of stillbirth was higher than that which obtained among living offspring, and, further, that pre-natally this sexually selective mortality still operated, as was seen when the sex ratio of abortions was examined. Among the earlier abortions there were far more males, and the nearer to conception the higher was the sex ratio. It could be inferred, then, that the primary sex ratio, at the time of conception, was not less than 170 males : 100 females. Far more males than females were conceived, and far more perished pre-natally and natally; thus a secondary sex ratio of equality became established. It appeared that the male-determining sperms were either produced in greater numbers or else, and more probably, that they were more efficient in fertilization than were the female-determining sperms. Ante-natal care and child welfare clinics would help to save the males.

THE PROBLEM OF THE INEBRIATE.

AT a meeting of the Society for the Study of Inebriety on April 12th, Sir WILLIAM WILLCOX presiding, an address was delivered by Dr. R. B. BRANTHWAITE on the Inebriates Act, 1898.

Dr. Branthwaite said that the story of this Act, from its inception to its lapse, had much social and scientific interest; upon its administration was expended much determined effort and devotion. It involved, in relation to the class of persons for whose benefit the Act was designed, a study of the neuroses and psychoneuroses, not always in their lesser and milder forms. In the late sixties public opinion was impressed by the need for legislation for the control and treatment of inebriates. A Select Committee was appointed in 1872, but the fruit of its labours did not appear until the bill presented to Parliament in 1878, which provided for the establishment of institutions by private enterprise or philanthropic bodies for the reception of persons who voluntarily sought admission or were compulsorily committed on the petition of friends. Opinion, however, was not then ripe for compulsory powers, and in the Act which followed in 1879 these were dropped. It was the weakness of this Act that it dealt only with voluntary cases, although, no doubt, various constraints were employed, such as the threat of loss of employment or of matrimonial separation, to secure compliance. The Act, however, could not be regarded as a failure, for many persons obtained advantage by coming within its scope, and it was the knowledge of this advantage which later on encouraged the promoters of the Act of 1898. On his first contact as a young doctor with the administration of this Act, Dr. Branthwaite said he was specially instructed to regard habitual drunkenness as a disease, causing impairment of control and leading eventually to many attendant evils, such as crime and insanity. But after a few years' experience, during which he had seen a number of inebriates removed to mental hospitals, while others gave evidence of mental instability short of certifiable insanity, he revised his attitude, and thought of habitual drunkenness as a syndrome rather than as a disease. He saw it as the evidence of a fundamental neurosis or psychoneurosis. The temperance reformers of that period would not countenance such a notion, and there was a general reluctance at that time to consider the possibility of any mental or neurotic basis. After the Act of 1879 had been in force for some years, public attention was again drawn to the problem of the inebriate, and another departmental committee led to the passing of the Act of 1898, which made provision for the detention in reformatories of the worst class of inebriates. Even then there was great reluctance to accept the medical side of the question, and the majority of those who interested themselves in the management of the "reformatories" regarded those establishments as little more than substitutes for prisons in which inebriate persons could be retained for various periods and subjected to moral and religious influences. The Act authorized two classes of inebriates to be dealt with—criminal and recidivist. Some patients did benefit by the reformatory treatment, but the real cause which impeded development and ultimately led to failure was the realization that no sufficient benefit resulted to justify continuance of effort and expenditure. The Act was in operation more or less for twenty-two years; from first to last twelve reformatories were established, and 5,021 persons in all were committed for care and treatment. Everything that could be done centrally by the Home Office to bring the Act into operation was done wholeheartedly and with human sympathy. Of the cases committed to reformatories 17 per cent. proved to be definitely insane; 48 per cent. were unstable, subject to incipient insanity, mental defect, epilepsy, or various forms of neurosis or psychoneurosis; and 35 per cent. were apparently normal, or subject to so mild a degree of instability as not to justify an attempt at diagnosis. Of those in the first of these classes, some, when admitted to the reformatories, were found actually to be suffering from certifiable mental disease, while in the case of others who were in an ill-balanced excitable state on admission it gradually became evident that they could be dealt with only by certification. In the second class many of the types of mental disorder encountered differed only in degree from those seen in mental hospitals; cases of feeble-mindedness were common, and among them were many whose condition amounted to imbecility. A very large proportion of them would have come under the more modern definition of "moral imbecile"; they had a medium grade of intelligence, but were of a low moral type, not amenable, or only temporarily so, to good influences, asocial, callous in temperament, and inordinately selfish. The third group included persons approximately normal in conduct when deprived of alcohol, though many of them showed abnormal irritability, suspiciousness, shortness of temper, disregard of truth, and, most significant of all, dislike of regular work or anything savouring of monotony. It was from the persons in this third group that any good results of the reformatory system were forthcoming. The last case under the Act was committed in March, 1921, and the last certificate withdrawn shortly afterwards. This well meant effort to reform the criminal and recidivist inebriates of the lowest type had proved a failure, partly owing to difficulties beyond the control of those responsible for the administration, but mainly because the mental condition of most of the patients was such as to make reform impossible. Whether any better result would have followed the full recognition of the mental aspect of the problem and the application of the more modern methods of mental treatment it was hard to say. Many of the persons in the first and second group, and not a few in the third, were quite impervious to suggestion and incapable of self-help. With regard to the future, Dr. Branthwaite felt that the treatment of habitual drunkenness could not be distinguished from the treatment of mental defect or disorder in the most comprehensive sense of the term. This view of the subject should be fully realized by those whose duty it was to provide for children and young persons under the Mental Deficiency Act, and by all who were now advocating facilities for early mental treatment. He did not believe in the hereditary transmission of drunkenness, but only in the transmission of a predisposing constitutional peculiarity which might manifest itself in mental disorder, neurosis, epilepsy, or drunkenness. Drunkenness in successive generations was no evidence of its heredity, but only of a psychoneurotic strain.

Dr. A. E. A. CARVER said that the underlying psychoneurotic basis had been so far recognized by the Church of England Temperance Society that at the recent formal opening of its home for inebriates the invitation issued in the name of the Bishop of London spoke of a home "for the treatment of certain types of functional neurosis." Whenever an alcoholic or a drug addict was discovered and his addiction, so to say, was washed away, there remained a naked psychoneurotic.

Sir ARTHUR NEWSHOLME said that the figures given by Dr. Branthwaite were small in comparison with the population. In the years when the Inebriates Act, 1898, was being most fully administered the admissions to reformatories numbered only about 500 a year, which was 1 in 70,000 of the population, whereas the convictions for drunkenness in a year represented 1 in 400 of the population. No doubt those who were sent to institutions were of a malignant and almost incurable type, and to draw wide conclusions—as Dr. Branthwaite had not done—on a national scale from that small minority would be fallacious. The tendency of modern thought was to regard drunkenness as generally, if not always, the result of a psychoneurosis. But might not the facts be reversed in a number of cases, and habitual drunkenness, as a social phenomenon, arising from social habits, lead to the development of a psychoneurosis, instead of the psychoneurosis leading to the drunkenness?

Sir WILLIAM WILLCOX was inclined to agree with this view. A drug habit of any kind had a bad effect on the brain. One of the last pieces of work done by the late Sir Frederick Mott was to show that veronal and sulphonal and other habit-forming drugs caused actual change in the brain structure. Sir William Willcox thought that the development of a bad habit might lead to some actual brain degeneration, and thus a vicious circle was formed.

Reviews.

HOUSES AND HOMES.

ny well disposed person desiring to acquaint himself—as very well disposed person should—with the origins, progress, and present situation of the housing question in this country will find in *The Housing of the Nation*,[1] by Dr. F. E. FREMANTLE, M.P., with a preface by Mr. NEVILLE CHAMBERLAIN, a compendious and trustworthy guide. Dr. Fremantle, as one who in several capacities has devoted close attention to housing, speaks with admitted authority. He recalls that under the Hayes-Fisher and Addison schemes the Government offered housing grants to local authorities. The Chamberlain Act of 1923 was the charter of private enterprise, giving subsidies through local authorities to private builders. By the Wheatley Act of 1924 the annual grants of the Chamberlain scheme were increased in certain cases. For Chamberlain and Wheatley houses the current standards are that the house must contain a bath in a bathroom, that the density per acre must not exceed eight houses in agricultural areas or twelve elsewhere, and that floor space must range between 620 and 950 square feet for cottages and between 550 and 880 square feet for flats or bungalows. The housing campaign throughout the country has been productive of good results, in which the public utility societies have played a creditable part.

The so-called slum areas, those aggregations of worn-out houses, which screen rather than shelter the ineffectives of the community, have hitherto been less actively dealt with. Not, indeed, that they had escaped the notice of housing reformers, but a combined attack upon them, as Dr. Fremantle explains, has so far not been possible. In slum clearance the demand of slum-dwellers to be rehoused on the site is a common difficulty. They cannot be compressed into duly spaced cottages on the cleared ground, and they think tenement blocks cheerless, while their translation *en masse* to adjoining rural land raises the question of their transport to work. The tenement block, if not too high, is of local remedies perhaps the least unsatisfactory. The ultimate solution, however, is not a local one: it lies elsewhere, in the garden city, the essence of which "is neither its gardens nor its houses, but its factories and its workshops." If the people move out the factories must follow, and vice versa.

Among other topics discussed by Dr. Fremantle are employers and housing, building societies, the Octavia Hill method, costs and rents, housing and the countryside, forms of construction, and housing in Scotland. He takes the view that with the cordial co-operation of all concerned the housing of the nation within the next ten years should be placed on a sound and durable footing. Dr. Fremantle's book is for the general reader, but his words will appeal with special force to the members of his own profession, to whom the country will look for direction in a matter so nearly related to health. But it is not a matter of health alone. It is a question of home life and all it has ever stood for, from the *domus lacta* of Lucretius, with its glad welcome, to the "happy fireside clime" of a more recent age, the like of which men still are seeking to-day as a peaceful sanctuary in which their children may grow up in innocent content. In the crowded slum there is little room for either peace or innocence. "The effect on children," as the author says, "is such as neither the State nor humanity will tolerate." He rightly makes this statement with emphasis. It is fundamental. *The Housing of the Nation* is cordially recommended.

[1] *The Housing of the Nation.* By Lieut.-Colonel F. E. Fremantle, M.P., F.R.C.P., F.R.C.S., D.P.H. With a foreword by the Right Hon. Neville Chamberlain, M.P., Minister of Health. London: P. Allan and Co., Ltd. 1927. (Post 7vo, pp. xiv + 193. 6s. 6d. net.)

DISEASES OF THE INTESTINES.

Of recent years the advances in our knowledge of gastric function and disorder have been so considerable that the distal portions of the alimentary canal, apart from colonic stasis and ulceration, have had comparatively little attention. This is particularly true with regard to the small intestine, and Dr. A. P. CAWADIAS's book *Diseases of the Intestines*,[2] though it includes diseases of the large bowel, will help to restore the balance. It is based on experience in the gastro-enterological clinic of the Hôtel-Dieu Hospital, Paris, and at Athens, where until recently he was physician to the Evangelismos Hospital. It is not on the lines of an ordinary textbook, and while giving plenty of references to the literature, and providing new information and ideas, shows evidence of independent thought. In the preface a distinction is drawn between a symptom-complex, a syndrome, and a disease: a symptom-complex is defined as a series of symptoms and signs grouped together clinically without any consideration as to their relationship to a lesion or functional disturbance of an organ—for example, pain in the right iliac fossa, which may be due to appendicitis, salpingitis, tuberculous glands, and so forth; a syndrome, on the other hand, is regarded as a group of symptoms and signs corresponding to functional disturbance or a lesion of an organ—for example, appendicitis or ulcerative colitis; whereas amœbic colitis is a disease.

In a discussion of the anatomy of the parts the proto-duodenum or suprapapillary portion is separated on developmental and physiological grounds from the remainder or metaduodenum, which, it is held, belongs to the mid-gut. The intestinal dyspepsias from imperfect digestion of proteins, starches, and fats are next dealt with, and reference is made to kytarinorrhœa, or the diarrhœa occurring in some individuals when they take green vegetables and fruit, because there is insufficient bacterial digestion of cellulose. The inflammatory syndromes are divided into the diffuse—such as acute and chronic entero-colitis, typhlo-colitis, and [illegible] and the localized—namely, appendicitis, [illegible] and proctitis, acute and chronic. Muco-membranous colitis is described as a combination of spasm and hypersecretion of mucus due to overstimulation of the parasympathetic. Its source may be in the colon, but more often is elsewhere. The motor syndromes include organic and functional colonic stasis, stenosis of the small intestine, intestinal obstruction, and functional or extra-enteric diarrhœa (nervous, reflex, anaphylactic, and endocrine). Haemorrhoids and intestinal arteritis, constituting the vascular syndromes, and duodenal (protoduodenal) ulcer, intestinal cancer, and the clinical syndromes produced by intestinal worms, are all described.

Much stress is throughout laid on the pathology and on etiological diagnosis, and though in some respects the presentations of the subject-matter may appear novel and therefore strange, it is undoubtedly stimulating. The book is, of course, better suited for the advanced student than for the beginner.

[2] *Diseases of the Intestines.* By A. P. Cawadias, O.B.E., M.D.Paris, M.R.C.P.Lond. London: Baillière, Tindall and Cox. 1927. (Demy 8vo, pp. xiv + 299; 25 figures. 16s. net.)

NOSE, THROAT AND EAR.

THERE have recently been published a number of new editions of books on diseases of the nose, throat and ear in the production of which, for one reason or another, the original author has taken no part, and amongst this number is the fifth edition of BALLENGER's *Diseases of the Nose, Throat and Ear*.[3] It is interesting to observe the varying success with which these tasks of bringing up to date the work of another have been accomplished. It may be assumed, and is indeed the fact, that in each case the editor was well acquainted with the author, and undertook the work in a spirit of sympathy and even of admiration. It is nevertheless impossible for another to tell how the opinion of an author might have been altered, how later experience might have affected his judgement, and what importance he might have attached to contemporary work and writing. It will generally be the rule, therefore, that the less the original is altered the better, and that if much change is really required it would be wiser to sit down and write a new book, though this might be fairly based on the old one. The latest edition of Ballenger's textbook, which has a well established reputation, has

[3] *Diseases of the Nose, Throat and Ear, Medical and Surgical.* By William Lincoln Ballenger, M.D. Revised by Howard Charles Ballenger, M.D. Fifth edition. London: H. Kimpton. 1925. (Med. 8vo, pp. ix + 1080; 551 figures, 32 plates. 42s. net.)

undergone few alterations, but those that have been made are thorough. For example, the new chapter on asthma, hay fever, and the related types of rhinitis is particularly good. As before, the section dealing with the ear is by far the best part of the book. Although the arrangement of the various parts is not very good, it is a brilliant exposition of aural surgery, and forms a remarkable contrast to the futile discussion on cancer of the larynx by which it is immediately preceded. If another edition should be called for this portion should be subjected to drastic treatment, if not total extirpation. A careful and detailed account is given of the important subject of the accessory sinuses, and it is in the regions of the ear and the nose that the author is at his best. The book, however, has the advantage of including rhinology, laryngology, and otology in one large volume on an exhaustive scale, and will therefore meet the constant demand for a work of such design; its continued popularity is assured.

The seventh volume of the *Handbuch* on diseases of the throat, nose and ear,[4] edited by DENKER and KAHLER, contains the second part of the section on diseases of the ear, to which three volumes are being devoted. The material in the first part (Volume VI), which contained a general review of otology, was better arranged than that in the earlier volumes dealing with laryngology and rhinology. The new volume begins with diseases of the external ear by Dr. Oertel of Düsseldorf, and follows the usual course, ending with tumours of the auditory nerve by Dr. Mann of Dresden, who has naturally based his article largely on the work of Dr. Harvey Cushing. The article on oto-sclerosis is by Professor Brühl, whose name carries much authority in this country, but it is remarkable that no reference is made to the work of Dr. Albert Gray. More attention is paid to fixation of the stapes in the oval window than is now usually accorded by British authorities. The article on facial paralysis, which includes an account of the operative measures for its relief, is purely conventional and contains no fresh suggestions. There is an excellent account of inflammation and suppuration of the labyrinth by Professor Hinsburg, who reviews the surgical treatment, while Professor Alexander deals with the non-suppurative affections of the inner ear. In spite of the faults pointed out, this volume is more satisfactory than its predecessors. The eighth volume of the handbook, which is Part III of the section on diseases of the ear, begins with a discussion of the intracranial complications of aural disease. The statistics and pathology are expounded; though treatment is not neglected, this part of the subject might from the practical standpoint have been more fully illustrated. The few illustrations other than pathological mainly depict violent attacks on the jugular bulb of doubtful justification. This paucity runs through the volume, but it is in this part that ample illustrations are really essential. Thrombosis of the cavernous sinus is dismissed with unexpected brevity. There follows a section on forensic medicine in relation to diseases and injuries of the ear. The academic character of the work is shown by the allotment of about two hundred pages to deaf-mutes and school children, whilst all the intracranial complications are included in about two hundred and sixty. The concluding articles deal with military service, malingering, and life insurance respectively. All the subjects treated in this volume lend themselves either to pathological or statistical researches, and in these respects, especially the latter, full information is supplied.

RADIOLOGY.

DR. H. A. COLWELL and Mr. C. P. G. WAKELEY, in the preface to their book entitled *An Introduction to the Study of X-Rays and Radium*,[5] insist that it is to be taken to be no more than the title indicates—namely, an introduction. It is based upon a number of demonstrations given to students preparing for their final examinations, and is not intended to be in any way a complete textbook. Each of the twelve chapters is practically complete in itself, and has no particular connexion with those preceding or following it. There are also several appendixes, dealing, among other subjects, with fundamental and derived units, with electrical terms, with index notation, and with the ossification and epiphyses of bones. The main portion of the book deals with radium and *x* rays from all points of view other than those of actual use in diagnosis and treatment, with the exception that we are given two short chapters on certain forms of *x*-ray examination, and on *x*-ray and radium therapy. These are so short and incomplete that they are of little or no value, and it seems a mistake to have included them. We have nothing but praise for all the rest of the book; it will undoubtedly be of value to students, and more especially to those who are proposing to take one or other of the diplomas in radiology and electrology.

Dr. WILLIAM COTTON of Bristol, one of the pioneers in radiology and an authority on the stereoscopic image and on the exact meaning of *x*-ray shadows, has recently sent us an illustrated pamphlet entitled *Perspective in Relation to X-Ray Interpretation* (A Study in Apperception). It was communicated to the International Congress of Radiology held in London in 1925, and sets forth the author's opinions on a very difficult subject—opinions which, in some instances at any rate, are not in accord with those of most radiologists. At the same time there is undoubtedly a good deal of truth in what he has to say as regards the formation and the exact interpretation of the radiographic image; both are matters which many are apt to consider as of no particular importance and somewhat obvious. As Dr. Cotton observes, there are many pitfalls in interpretation due to non-appreciation of the manner of the formation of an *x*-ray picture, and we are quite in accord with his remarks on errors which are possible in the estimation of distances, and exact relative position, in cases such as the presence of metallic foreign bodies in the human body; stereoscopy is especially liable to lead to mistakes in this respect. The pamphlet is divided into a series of paragraphs which, under headings such as "Perspective," "The essential ambiguities of the *x*-ray picture," "The radiographic paradox," "Stereoscopy and pseudoscopy," and so on, make interesting reading, and we can commend its perusal to those interested in the subject.

An *Index and Handbook of X-Ray-Therapy*,[6] translated from the original German of Dr. ROBERT LENK of Vienna by Dr. T. I. CANDY, is in two sections. In the first, which is short, are discussed in general the action of *x* rays, prognosis, the effects of *x*-ray treatment, formulae for treatment, and so on. In the second section the conditions for which *x*-ray treatment can be recommended are arranged in alphabetical order, and a short account is given in each instance of the mode of action, the prognosis, the accompanying and subsequent effects, the necessity or not for adjuvant treatment, contraindications, and treatment formulae. The list of conditions said to be amenable to treatment is long and very comprehensive, and we cannot help thinking that the case for *x* rays is somewhat overdone when such conditions as gastric ulcer, gall-stone colic, badly functioning gastro-enterostomy, and such-like, are included and reported to be very favourably influenced. The book should be useful for reference to the general practitioner, and to the expert is not without its uses.

TREVES'S APPLIED ANATOMY.

SIR FREDERICK TREVES'S *Surgical Applied Anatomy*[7] probably still holds its own as the most popular work on the subject; as a compendious summary of the essential facts

[4] *Handbuch der Hals-Nasen-Ohrenheilkunde.* Herausgegeben von A. Denker und O. Kahler. Band VII/II, und Band VIII/III. Berlin: J. Springer; München: J. F. Bergmann. 1926 and 1927. (Sup. roy. 8vo, B.I. VII, pp. xii + 804, 282 figures, R.M.72; Bd. VIII, pp. ix + 666, 107 figures, G.M.60.)

[5] *An Introduction to the Study of X-Rays and Radium.* By Hector A. Colwell, M.B.Lond., and Cecil P. G. Wakeley, F.R.C.S.Eng., F.R.S.Edin. Oxford Medical Publications. London: Milford, Oxford University Press. 1926. (Demy 8vo, pp. xiv + 203; 37 figures. 10s. 6d. net.)

[6] *Index and Handbook of X-Ray Therapy.* By Dr. Robert Lenk. With a foreword by Professor Holzknecht. Translated by T. I. Candy, M.B., B.Ch., D.M.R.E. London: Milford, Oxford University Press. 1926. (Cr. 8vo, pp. xv + 121. 6s. 6d. net.)

[7] *Surgical Applied Anatomy.* By Sir Frederick Treves, Bt., F.R.C.S. Eighth edition, revised by C. C. Choyce, C.M.G., C.B.E., M.D., F.R.C.S.Eng. London: Cassell and Co., Ltd. 1926. (Fcap. 8vo, pp. x + 727; 162 figures, including 66 in colours. 14s. net.)

of surgical anatomy it has, so far as we know, no equal, and it has one feature which is generally conspicuously absent in most summaries, in being eminently readable. It is now in the forty-fourth year of its existence and in its eighth edition. The revision for this edition has been undertaken by Professor CHOYCE, who has been careful not to interfere with the general character of the work, while making such alterations as were absolutely essential in order to bring the subject matter up to date. Since the volume is one which the student will be wise to have near at hand, size becomes a matter of importance, and Professor Choyce has succeeded in practically maintaining its original dimensions, having added only a few pages, for which illustrations are mainly responsible.

In a book of this kind figures are introduced less as mere illustrations than as explanatory of the more complicated and less familiar details of the text. For instance, the average student's knowledge of the cervical sinus would probably be assisted by a diagram affording some notion of its relation to ranula. Apart from new figures, a revision of the older illustrations has been undertaken and a considerable number replaced by better ones. A certain amount of rearrangement of the text has been deemed advisable, with the object of improving the logical sequence of the subject matter. Among the more important additions we notice a description of the structure of the teeth and of their development, and a paragraph on odontomata. The treatment of femoral hernia has been redescribed, and the stages of the operation by the inguinal route are given in detail. In the eight years that have elapsed since the issue of the last edition the advances in gastric surgery have rendered necessary a considerable enlargement of the account of the various operations on that organ; and the increase of our knowledge of the mechanism of micturition, mainly due to the researches of Barrington, have necessitated the redescription of that process. With these and many minor additions, the book practically remains the same, and will doubtless retain its well deserved popularity.

NOTES ON BOOKS.

DR. C. F. WHITE, assistant lecturer in sanitary science in the University of Liverpool, has produced a little book, *Aids to Sanitary Science and Law*.[8] It is as good an example of clear and exact thinking upon the theory and practice of sanitation, so far as this can be expressed upon the printed page, as is the Port of Liverpool, of which he is one of the medical officers, an example of excellence in the practice of port hygiene. There were formerly in the series to which it belongs two smaller books, one on sanitary science and another on sanitary law, but the volume before us is new. It will be found useful by candidates for the certificate of the Royal Sanitary Institute and Sanitary Inspectors' Examination Joint Board, and by medical students both before and after studying one of the larger textbooks, to provide first an introduction to the subject and later a means of rapid revision. It is tersely written, and the last section, that on sanitary law, is of the order that would be of use to every general practitioner, for he will find in it an account of the rights and obligations of the local authorities with which he has so often to do. Dr. White is to be congratulated upon the success of his effort to bring so much within a small compass.

Whatever views may be held about the nature of the "bacteriophage" there is no doubt of the interest of the subject, and therefore we are glad to have the writings of Dr. D'HERELLE, the discoverer of the principle, in an English translation.[9] The kingdom of the ultra-microscopic viruses and ferments is the growing point of bacteriology, and perhaps of biology in general. Within the last four years more than six hundred individuals have written articles or books about the d'Herelle phenomenon, contributing further experiment or criticism. Probably no subject has created so much bewilderment in the bacteriology laboratory in its brief history as the conflicting opinions on the nature of the transmissible lytic agent. Whether or not Dr. d'Herelle's restatement of his position will convince the dubious remains for the future to show, but disciple and critic alike will welcome this book, as will also the increasing numbers of the curious who ask "What is the bacteriophage?"

[8] *Aids to Sanitary Science and Law.* By C. F. White, M.B., Ch.B., D.P.H., D.T.M. London: Baillière, Tindall and Cox. 1926. (*Fcap. 8vo*, pp. viii + 316. 3s. 6d. net.)

[9] *The Bacteriophage and its Behavior.* By F. d'Herelle, M.D. Translated by George H. Smith, Ph.D. London: Baillière, Tindall and Cox; Baltimore: The Williams and Wilkins Company. 1926. (*Med. 8vo*, pp. xiv + 629; 6 figures. 36s. net.)

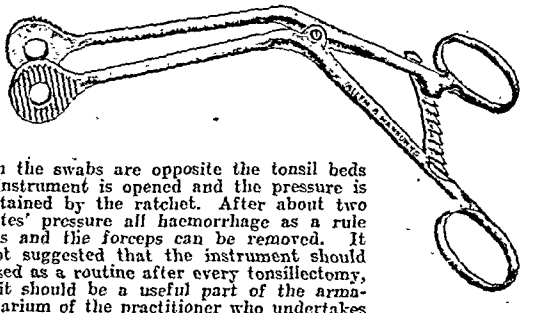
The Temple Press continues to produce new editions of its successful little *Cycling Manual*.[10] Nor is this surprising, since it is estimated that over six million people in this country ride bicycles. In the seventh edition, compiled and illustrated by the staff of *Cycling*, everything that the bicyclist should know about the construction of his machine and its care and upkeep has been brought together. He is even told how to breathe, how to keep fit, and what he should eat and drink.

[10] *Cycling Manual.* Compiled and illustrated by the Staff of *Cycling*. Seventh edition. London: Temple Press, Ltd. 1927. (*Pott 8vo*, pp. 114; illustrated. 1s. net.)

PREPARATIONS AND APPLIANCES.

A Method of Applying Pressure to Tonsil Beds.

DR. J. L. CYRIL DOYLE (London, W.1) writes: I have designed the forceps illustrated here to apply pressure to both the tonsil beds simultaneously. Its principal use is in cases when rather profuse haemorrhage occurs after tonsillectomy by a guillotine. The two swabs (previously attached to the free end of the forceps) are soaked in adrenaline and the instrument inserted in the mouth.



When the swabs are opposite the tonsil beds the instrument is opened and the pressure is maintained by the ratchet. After about two minutes' pressure all haemorrhage as a rule ceases and the forceps can be removed. It is not suggested that the instrument should be used as a routine after every tonsillectomy, but it should be a useful part of the armamentarium of the practitioner who undertakes tonsil operations, and should be taken with him when he operates, and used if the haemorrhage is at all profuse. The instrument is bent at an angle of 145 degrees; thus it can be used with convenience, whether the surgeon operates with the patient in the lying or the sitting position.

I am much indebted to Mr. Nicol Rankin for criticism and for testing the utility of the instrument. It is manufactured by Messrs. Allen and Hanburys Ltd., Wigmore Street, W.1.

A Glass for the Occlusion of One Eye.

Dr. Bernard Chavasse, M.B., B.Ch.Oxon. (Lecturer on Ophthalmology in the University of Liverpool), writes: The use of ground glass for the purpose of occluding one eye has three chief disadvantages: it is dazzling, very unsightly, and does not permit vision of large objects. The ideal occluding glass will therefore be free from dazzle, will allow the wearer's eye to be clearly visible through it, and will reduce the visual acuity of this eye to 6/60 and J.10, or to 1/60 and J.20, as may be prescribed by the surgeon. Such "one-way" glasses have been made for me, and I find that they form a valued addition to my trial case. This glass is an irregularly rolled plate glass, ground plano on one surface, down to any desired thinness. The effect of the irregularly rolled surface is to confer an arranged degree of very irregular astigmatism. Such a glass if laid on a sheet of paper permits vision through it of the smallest print; but if held to the eye no distinct vision is possible, either of near or of distant objects. When worn in spectacles the eye is clearly seen, but the eye sees so little that there is no desire for binocular vision; on the other hand, large, and especially moving, objects (as, for example, traffic) are visible.

The indications for the use of such a glass are, broadly, where, although there is fair or good acuity in each eye separately, the eyes cannot be used together; as in cases of weakness or paralysis of an external muscle, incorrigible insufficiency of convergence (as in post-encephalitic cases), and cases of anisometropia, as when a cataract has been successfully removed from one eye while the other still has good sight. As a rule, it will be best to start with the more pronouncedly occluding glass (1/60, J.20), and later to proceed to the other (6/60, J.10), when some psychical suppression has been developed. But if in doubt as to whether the glass in place is sufficiently occluding, the further addition of a 4-degree prism base up or down will decide the matter; for if the addition produces no discomfort the occluding glass must be adequate.

The glass is obtainable from Theodore Hamblin, Ltd., 15, Wigmore Street, London, W.1, and Rayner and Keeler, Ltd., 9, Vere Street, Cavendish Square, London, W.1.

Fine Adjustment Screw for the Sphygmograph.

Dr. Edgar F. Cyriax (London, W.1) has devised a fine adjustment screw which can be fixed to sphygmographs and polygraphs. It is brought into use after the fixation screw has been tightened. By its means the pressure of the apparatus on either side of the radial artery can be finely adjusted independently of the pressure of the pad on the artery; the observer, it is stated, is thus enabled in a few seconds to obtain the best excursion of movement from the recording needle. The screw may be obtained from Messrs. Arnold and Sons (John Bell and Croyden, Ltd.), 50-52, Wigmore Street, W.1.

British Medical Journal.

SATURDAY, APRIL 23RD, 1927.

SPINAL ENDOTHELIOMA.

THE current number of the *British Journal of Surgery* contains an able article by Mr. J. R. Learmonth on endothelioma, or, as he prefers to call it, lepto-meningioma, of the spinal cord. Although this kind of tumour is of somewhat rare occurrence, it is well worth a careful study, because, if treated early enough, its removal is not usually a matter of much difficulty and the results are most satisfactory, while, if untreated, it is uniformly fatal. The growth is non-malignant, and as it is generally possible to remove it within its capsule, there is little danger of recurrence from incomplete removal. The success of the operation depends mainly on the date at which it is undertaken and the type of compression exerted on the spinal cord, a deep localized indentation producing more permanent damage than a more extensive flattening. In early cases, where the conducting paths have not suffered severely, return of function is usually rapid and complete, and in general it may be said that where paralysis has been present for less than twelve months, at least some return of function may be confidently expected. In some cases improvement is apparent at once, but it has been known to show itself after so long an interval as eighteen months after the removal of the tumour.

Mr. Learmonth's article deals with the subject from every point of view, and is, in fact, a treatise on endotheliomas of the cord, handled in a thoroughly practical manner. His account of the clinical features of the disease is especially worthy of praise. Each symptom is made the subject of intimate discussion, and the reasons for its occurrence and its anatomical basis are explained with admirable clearness and completeness. Similarly with the subject of diagnosis: the direct and the accessory means of diagnosis, such as the examination of the cerebro-spinal fluid and the radiography of the spinal column after the introduction of air or lipiodol, are fully explained. A matter of some difficulty in connexion with the diagnosis of these tumours depends on the fact that they are by no means the most frequent type of growth affecting the spinal cord. Apart from such lesions as the specific granulomata, tumours affecting the surrounding structures have to be taken into consideration equally with the endotheliomas as causes of compression. Schlesinger found in 400 cases of tumours of the spinal cord that no fewer than 107 were sarcomas and 27 gliomas or gliosarcomas, while the endotheliomas numbered only 24, or 6 per cent. of the total. This fact notwithstanding, the author has done well to limit his research to a single type of tumour, since it is along such restricted lines that neurological surgery is likely to be most surely advanced.

In an interesting historical introduction the author has traced the change of view that has occurred in recent years with regard to the nature and origin of the endotheliomas, whether of the cerebral dura mater or of the membranes of the cord. The small fibrous and gritty tumours, usually called psammomas, which are not uncommonly found springing from the cerebral dura, and, unlike the spinal growths, are of little practical importance, are usually considered to arise from the proper tissue of the dura. For some years, however, Bland-Sutton and Schmidt have held the view that they arise from buds or protrusions of the soft membranes into the dura—a view based mainly on the fact that they are met with chiefly in the same situations as the arachnoidal villi. This opinion has recently received some support from Mallory on the histological side. It has further been generally held that the proper cell elements of these tumours, the calcification of which causes their gritty character, are of mesoblastic origin. Considerable doubt has been thrown on this view by some recent observations of Harrison, which seem to point to an epiblastic or epithelial derivation of the soft membranes. Harrison excised a portion of the brain substance of *Amblystoma punctatum* with the adjoining neural crest—an epithelial structure—and transplanted it beneath the skin of the trunk. It was found that the brain tissue became surrounded with both soft membranes and dura. In a second experiment the brain substance was transplanted after careful removal of the neural crest, and in this case no soft membranes were formed, but dura alone. If these observations are confirmed there would seem to be no doubt of the epiblastic origin of the endotheliomas of the membranes of the central nervous system.

Mr. Learmonth has given a very careful account of the gross and microscopical characters of the endotheliomata, illustrated by a large number of good microphotographs; and he has appended to his article a complete bibliography from the year 1918 to the present time.

A BUDGET OF EXPEDIENCY.

MR. CHURCHILL'S third Budget is admittedly designed to meet a special non-recurring emergency, and should be judged on that basis. Usually a Chancellor's claim to approbation stands or falls by his exercise of foresight and provision for the distant as well as the more pressing requirements of the nation's finances. But there are occasions when a stop-gap Budget is justified, and there is a general consensus of opinion that this is the case this year. The coal dispute of last year, even more than the general strike which for a short time accompanied and overshadowed it, inflicted very serious damage, not only on the Exchequer, but also on the general industrial condition of the whole nation. Briefly, Mr. Churchill's task has been to repair the former as far as possible without retarding the recovery of the latter. In this dilemma he has had recourse to expedients which are ingeniously arranged to meet the emergency, but which would rightly have aroused hostile criticism if employed to meet a less abnormal situation. The permanent or semi-permanent additional taxation imposed covers a comparatively small proportion of the gap between anticipated needs and the normal yield of present taxes; the remainder is bridged by anticipating revenue, as in the case of the beer duty and income tax payable under Schedule A, and taking into use for the general Exchequer the special balance in hand hitherto held by the separate Road Fund.

This method of dealing with the situation has, of course, aroused opposition, and that not merely from those whose parliamentary privilege or duty it is to criticize and oppose. In such a case as this criticism is doubly armed: not only is the general scheme open to attack on the ground that it is unsound, lacking in the statesmanlike qualities of prevision and caution, but also on the special grounds that the particular

features of the scheme are open to specific objection. With regard to the former class of criticism—that the circumstances are not sufficiently abnormal and free from the liability of recurrence to justify methods applicable to a temporary emergency—one factor of the situation has been made clear by subsequent discussion, and that is that the country expects the Government to make it its business to see that the present financial situation does not recur. Apart from such a calamity as, for example, a war in China, the Government is expected to keep expenditure within such limits that when the next Budget is prepared it can be balanced, not only without any serious additions to taxation, but also without such adventitious aids as have now been employed. If the Government can achieve that object it will have justified its present general financial policy.

Turning to the specific means adopted, the two changes which have evoked most criticism have been the absorption of the Road Fund balances and the collection of eighteen months' property tax—or income tax assessed under Schedule A—in one year. Mr. Churchill's position with regard to the Road Fund is in theory not difficult of defence. If the income of that fund is in excess of expenditure it is reasonable enough that the Exchequer should have the use of the balance in hand, but only on the assumption that the change is not allowed to impede the proper and reasonable rate of expenditure on the objects for which the fund was specifically created. It seems probable that there may be such a tendency, and it is such apprehensions that have lent point and force to the objections raised against the change. There must be few sections of the community better qualified to speak of the importance to the general public of creating and maintaining good roads than that represented by our readers, and any risk of an arrest in the rate of improvement must be a matter of keen regret. Nevertheless, the circumstances are such as to justify a suspension of hostile criticism until the practical results can be more definitely seen.

The property tax change is justified on several grounds, as, for instance, that it is a reversion to the practice in force before the rate of tax was raised above 5s. in the £, and that in many cases the immediate payer passes on his burden to the landlord or mortgagee. These reasons are somewhat in the nature of special pleading. They are ingenious and they carry weight, but do not displace the cardinal fact, which is that one group of taxpayers are being asked to overtake a six months' tax so that the Exchequer can profit by the anticipation. Granted the necessity of some such special demand, perhaps it can be borne by the class selected as well as by any other. The discussion of these unusual features of the Budget may perhaps facilitate the passing of the provisions necessary to implement the increased wine and tobacco duties; indeed, these were generally anticipated, and have largely been discounted in advance. In such circumstances the British taxpayer's attitude is not infrequently one of relief that the fact is no worse than expectation.

The Chancellor's undertaking to simplify the income-tax system will probably evoke more general and permanent interest. Apparently he is endeavouring to reach the long-desired simplification in two stages. At present he is moving towards a simplified system of assessment, by which all income which is not taxable at the source will be assessed on the basis of the amount of the income of the previous year; when he arrives at that stage—that is, when the year 1928-29 is reached—he proposes to arrange for taxpayers to be able to make one declaration of income leading to one payment of income tax. Super-tax as such is to disappear and be merged into a surtax which shall be payable, not as at present on the basis of a separate declaration, but on an assessment based on the one declaration made for income-tax purposes. In such matters it is fairly safe to assume that time will show that a simplified system will bring its own particular inconveniences with it; at present we are content to join in the general chorus of applause for the Chancellor's intentions, and of hope for his success in an admittedly difficult field. Every Budget comes up for judgement after an interval of twelve months, though when it embodies a scheme for future taxation a remand for further evidence is sometimes justified. The present Budget is devised to meet a temporary but serious difficulty, and is therefore based on an implied promise or expectation that it shall not recur. The judgement at the bar of reality next year will therefore be definite in a special degree, and we hope that we may then be able to congratulate Mr. Churchill on the vindication of his policy. If we find ourselves in that pleasant position it will be because the Government has brought an unusual amount of determination to bear on securing economy of administration at each and every opportunity throughout the year.

POST-MORTEM EXAMINATIONS IN RURAL DISTRICTS.

In the wilds of Essex life still retains much of its primitive charm, but administration may be too primitive, and an instance is afforded by some of the conditions under which *post-mortem* examinations have sometimes to be performed. Dr. Christmas of South Benfleet at a recent inquest appealed to the coroner to press for the erection of a mortuary; he explained the situation more fully to the *Westminster Gazette*, and from the report in that newspaper it appears that the place where bodies have to lie is a disused stable attached to one of the oldest inns in Essex, and adjoining the main road; the place is full of dust and rubbish, and cobwebs hang in clusters from the roof. The *post-mortem* table is a shutter on two trestles, and light is obtained only by leaving the stable door open. An old stable bucket filled with water and a little hot water supplied by the landlady of the inn completes the equipment. It appears that requests for better conditions have been made on many occasions to the local authority, the Rochford Rural District Council, and for many years the rural council is stated to have promised to build a mortuary; but promises materialize slowly in primitive spots, even when barely thirty miles from London. By a coincidence we have received this week from Dr. Cyril Helm of Great Horkesley, Colchester, a letter strongly expressing his view that "the Ministry of Health should give its attention to the conditions under which *post-mortem* examinations are made in rural districts. At the present time conditions are no better than they were in the Middle Ages, and a *post-mortem* examination may have to be carried out in some extremely dark and dirty barn, shed, or garret. Done under such conditions an examination is not only useless, but is also offensive to common decency." To remedy this state of things he expresses the opinion that "it should be compulsory for all *post-mortem* examinations to be done in a proper room in the nearest big town, and that a trained attendant should be provided by each county to assist. Unless the cause of death is very obvious it is almost impossible to find it under the conditions" described. That reform is necessary everyone will agree, and we are glad that the *Westminster Gazette* has taken the matter up and brought it to the notice of the public.

Whether Dr. Helm's suggestion is the best remedy we are not prepared to say, but in these days of rapid motor transport it would seem to be feasible for the doctor to get quite quickly to the nearest town to carry out the instructions of the coroner.

DEATH REGISTRATION AND CREMATION.

IT may not be untimely to remind the profession that two Acts passed during the last session of Parliament, the Coroners (Amendment) Act and the Births and Deaths Registration Act, come into force, the former on May 1st and the latter on July 1st next. The provisions of these Acts were discussed in a leading article on December 25th last (p. 1233). Under the Coroners Act increased fees will be payable to medical men conducting *post-mortem* examinations or giving evidence in connexion with inquests; and the Home Secretary is empowered to "make rules for regulating the practice and procedure" in these connexions. These regulations have not yet been issued, but it is understood that they will be provisionally made by the end of the present month. They are of some importance to the profession. In connexion with the Births and Deaths Registration Act, inquiries are proceeding with regard to a possible international nomenclature of the causes of death, and with regard to some alteration of the form of certificate of death to get rid of the terms "primary" and secondary" as used on the present certificate, with the intention of securing a more uniform and precise statement of the causes of death, whether immediate, more remote, or merely contributory. It is relevant to call attention to some recent publications of the Cremation Society, especially to a pamphlet by Lord Salvesen, P.C., K.C., on "The medico-legal aspect of cremation." The Home Office regulations relating to the disposal of the dead by cremation were issued in a revised form in 1920. The requirements under these regulations, which must be complied with before a body is cremated, are very stringent, possibly even overstringent if cremation is to be preferred and encouraged as a public health measure to replace burial. For the detection of foul play they would appear to be complete, for they would almost inevitably reveal any suspicious circumstances attending the death. It is almost inconceivable that, say, a poisoner would choose this method of disposing of the body of his victim rather than the method of burial, which scarcely affords adequate safeguards in all cases against the body being put under the earth without the cause of death having been accurately ascertained. Further legislation is still needed to carry out the policy of the British Medical Association in this regard. The relatively large acreage in the neighbourhood of towns required for burial grounds is also a matter of importance at the present time, when space for games and recreations, both for school children and adults, is so difficult to obtain. Lord Salvesen calls attention to a further requirement of the existing law, that no crematorium shall be constructed within fifty yards of any public highway. An ordinary cemetery may adjoin a public road; and a modern crematorium need not be either a source of nuisance or an eyesore. This legal provision in practice often makes it almost impossible to find a site for a new crematorium.

THE LAST CENSUS: ENGLAND AND WALES.

THE General Report on the Census of England and Wales, 1921, published on April 19th,[1] completes the series of official volumes issued in respect of that census. The population numbered rather more than 37¾ millions, 649 to each square mile on the average, or about an acre a head—a density greater than that of any country in the world for which statistics are available. Though an increase has been recorded at every census, the rate of growth between 1911 and 1921 was smaller than in any preceding decade, for which the adverse effect of the war must be accounted mainly responsible, both in the losses amongst men of military ages and in the unprecedented fall in the birth rate. It compares favourably in this respect, however, with other European belligerents, whose populations generally advanced at a much slower rate or even declined. Nearly 80 per cent. of the population were enumerated as living in urban areas, and of these practically half were found in comparatively dense aggregates represented by the forty-six towns each containing more than 100,000 persons. The rate of growth of the smallest towns is above the average for the whole country, and the rate appears to increase as the towns get larger, until the populations reach a figure in the neighbourhood of 100,000. After this the rate of increase tends to slacken, suggesting that 100,000 roughly marks a limit of effective aggregation beyond which the advantage of further accretion begins to be offset by counterbalancing disadvantages. Prominent amongst the towns which showed little increase or which decreased during the decennium are those associated with the textile industry in Lancashire and Yorkshire. Notwithstanding the house shortage, the total number of rooms available for habitation is greater in relation to the population than it was in 1911. Families are, on the whole, smaller than they were ten years ago, and since small families are able to command a higher standard of housing than the larger, they have absorbed a greater share of the available house room than they had in 1911. To this change and to the uneven distribution of accommodation throughout the country the present situation is believed to be in large measure due. The proportion of population living under the overcrowded conditions of more than two persons in a room was 9.1 per cent. in 1911 and 9.6 per cent. in 1921; in Northumberland and Durham 30 per cent. of the population are in the overcrowded category, while in London the proportion is 16 per cent. The depletion of males at early adult ages and the deficiency of very young children of both sexes are clearly shown in the age curves. The losses at the younger ages automatically result in a general ageing of the population as a whole, a change which has been further accelerated by the improved vitality of the middle-aged registered in recent years. The war has been responsible for a greatly increased disparity in the numbers of the two sexes, the surplus of women now exceeding 1,700,000, as compared with less than 1,200,000 in 1911. Amongst the marriageable population the disparity is greater, and between the ages of 30 and 35 there are 1,470 unmarried females for every 1,000 unmarried males. In a section on occupations in different parts of the country it is shown that a very marked decrease in child labour has occurred. The number of aliens has fallen from a proportion of 790 per 100,000 total inhabitants in 1911 to 602 in 1921, though immigration from Belgium and the United States of America has increased. More than half the total of foreigners were enumerated in the county of London, and nearly one-third of these were in the metropolitan borough of Stepney. A new dependency and orphanhood section, primarily designed to provide data for the framing of the national scheme of widows' and orphans' pensions and allowances, contains a survey of the sizes, age constitution, and distribution of families in relation to their parents; the average for all married men was only 1.27 children apiece. More than 43 per cent. of the married men returned no children under 16, while in another 23 per cent. there was one child only. Miners returned the largest families on the whole, but their average was only 1.82 for each married man, while in the case of professional men the average was 0.90.

[1] H.M. Stationery Office. Price 5s.

CONCERNING ANEURYSMS.

IN the third Gordon Bell Memorial Lecture[1] Professor Oskar Klotz of Toronto summarized the results of some twenty years' work on aneurysm and the diseases of arteries. In dealing with the history of aneurysm he makes the interesting point that though Galen, Actius, and Antyllus described the condition, it chiefly affected the peripheral arteries and was traumatic in origin until syphilis, whether imported from America by Columbus's crews in 1493 or not, became epidemic in Europe at the end of the fifteenth century, when aortic aneurysm occurred with a frequency such as had never before been known. The steps by which the etiological importance of syphilis was established are traced in detail. The anatomical distribution of luetic aortitis is fully described; it is most frequent in the ascending part of the arch, below which it diminishes; there is often an abrupt transition from a diseased to a healthy vessel at the level of the diaphragm, as if the virus met with some difficulty in traversing the lymphatics at this point; the commonest spot for syphilitic disease of the abdominal aorta is the coeliac axis, where there is a rich network of lymphatics. The difficulty of therapeutically eradicating the *Treponema pallidum* from the aortic walls is compared to that in parenchymatous syphilis. It is pointed out that syphilitic disease of the cerebral arteries is less frequent now than it was reported to be some years ago, and probably many cases of miliary aneurysms (which by a curious misprint appear as "military" aneurysms) were wrongly regarded as syphilitic. Fusiform aneurysms are almost always due to syphilitic aortitis, and can now be recognized by x rays before the symptoms—usually of aortic incompetence and cardiac failure—became evident. In his discussion of aneurysms resulting from acute infections, Professor Klotz records eleven cases under 15 years of age, three being associated with endocarditis (two rheumatic), two tuberculous, two congenital cirsoid, a congenital aneurysm of the sinus of Valsalva, and three false aneurysms from trauma. Wars make traumatic aneurysm more common, but popliteal aneurysms—formerly, as shown by Crisp's statistics seventy years ago, especially frequent in cavalry and post riders from injuries in the saddle—are curiously rare now. Arterio-sclerosis of non-luetic origin is comparatively unimportant as a cause of aneurysm, except of the dissecting aneurysms, which are usually due to senile changes, and may be called "the aneurysms of old age." This interesting lecture closes with a summary of our knowledge of aneurysms in animals, from which it appears that, apart from parasitic worm infections in dogs, there is not any disease in the lower animals which specially affects the arterial tissues in the way that syphilis does in man.

[1] Klotz, Oskar: *Concerning Aneurysms*. University of Toronto Studies: Pathological Series, No. 7. 1926. The University Library. Published by the Librarian. Pamphlet, pp. 74.

RHEUMATIC MANIFESTATIONS IN CHILDHOOD.

AN illustration of the widening interest which is being taken in rheumatic heart disease was afforded by the invitation extended by the Royal Sanitary Institute to Dr. Dingwall Fordyce to read a paper on rheumatic affections in children at a sessional meeting on April 8th. Dr. Fordyce emphasized the need of focusing attention on this problem with a view to inaugurating a campaign, and referred to the stimulating value of the Report of the Science Committee of the British Medical Association published last July. He said that although the etiology of acute rheumatism in children was still obscure, it was generally agreed that the disease was a definite entity, and that there was a common and insidious form which tended to cause mitral stenosis. In contrast with such infections as scarlet fever and diphtheria, rheumatism was characterized by the existence of a recognizable diathesis—a most important consideration from the prophylactic standpoint. Moreover, during the first two years of life the specific group of symptoms did not occur. This indicated that either there was an unsuspected infantile rheumatic infection, or that the first two years were most important in determining the development of the rheumatic diathesis. Carditis, the dreaded sequel of rheumatic infection, commenced usually in childhood. Dr. Carey Coombs, dealing with 600 cases of cardiac rheumatism, had found that the onset occurred most often between the ages of 5 and 15. Childhood, then, was the period of danger, but if properly guarded the prognosis was good. At this age the patients were usually mentally alert, so that the educational as well as the physical prognosis was distinctly promising. The prevention of rheumatism comprised all measures which conduced to healthy infancy and childhood, coupled with the recognition of a particular diathesis; the transitory ailments of this period should be completely cured, and all foci of infection, such as carious teeth, tonsils, and adenoids, must be eradicated. In addition to these measures, suitable mental environment and training were necessary. Child welfare work, by filling gaps in the home life and serving to co-ordinate the various official agencies, was the first step in the prevention of rheumatism, its value lying in its far-reaching educative and moral effects. But many gaps in this educative sphere still needed bridging. Up to the age of 5, despite the existence of numerous clinics, the child was almost solely under home control. If definite signs of rheumatism occurred at this, the usual age for beginning school life, there must be full and effective treatment. Rest, the most powerful agent in prophylaxis, should be properly valued and rightly administered. Mentally active children must not be unduly stimulated. Prolonged and close medical supervision was necessary, and also closer correlation of education and treatment. Intimate co-operation between the various medical and other agencies dealing with children would lead to medical practitioners becoming more expert; research would be facilitated and the treatment of patients be greatly improved. Dr. Fordyce deplored the fact that child welfare work was more dependent on sentimental considerations and the appearance in the lay press of highly coloured accounts of laboratory discoveries than on clinical medicine. This could be redressed by better co-operation of the medical and lay agencies concerned. The dentist, rhinologist, and laryngologist should be more often consulted, and the urgent call for more hospital beds for children undergoing such minor operations as tonsillectomy must be met. Increase in the number of beds available for rheumatic and cardiac patients was also essential. Special cardiac clinics and the provision of vocational training for cardiac patients were much needed; even from the scholastic viewpoint a closer co-operation between general practitioners, hospital physicians, and school medical officers was highly desirable.

OPHTHALMIC HOSPITAL OF THE ORDER OF ST. JOHN OF JERUSALEM.

THE British occupation of Palestine, by facilitating travel in that country, had added much to the work of the Ophthalmic Hospital of the Order of St. John of Jerusalem. The inauguration three years ago of a series of ophthalmic clinics made the work more widely known, and the improvement in the roads and railways, together with the increased numbers of motor cars, enables patients to travel considerable distances for treatment. It is now being found very difficult to deal with the large crowds who apply daily for treatment. In his annual report for 1926 the warden of the hospital, Lieut.-Colonel J. C. Strathearn, M.D., states

that many previous records have been broken; 18,127 new patients were treated in 1926, as compared with 16,640 in 1925, 1,499 being admitted as in-patients and 4,234 operations being performed. In one day in September 628 cases were dealt with, the incidence of acute conjunctivitis being very high in this and the previous month. Trachoma is still very prevalent, and the bulk of the operative work was concerned with its treatment. A children's clinic was started in July. It was hoped to build an annexe to the hospital, and over £1,500 had been collected for this purpose, but difficulties arose in securing the site desired, and no progress was made last year. A house with garden has been presented to the Order, and this may possibly be used to accommodate some of the hospital staff and to provide a small dispensary. The urgently needed drainage scheme for the hospital awaits the laying down of a new sewer for the south-west part of Jerusalem. The six ophthalmic clinics instituted by the Palestine Government at Nablus, Tulkeram, Acre, Ramleh, Gaza, and Beersheba have been supervised by the staff of the hospital, and during the year under review dealt with 13,814 new patients, 2,684 operations being performed. During the visit to Jerusalem last spring of the Sub-Prior and other executive officers of the Order the warden of the hospital was invested as a Knight of Grace.

ANNUAL MEETING OF THE CANADIAN MEDICAL ASSOCIATION.

THE fifty-eighth annual meeting of the Canadian Medical Association will be held at Toronto from June 13th to 18th, in conjunction with the Ontario Medical Association, the Canadian Public Health Association, the Canadian Tuberculosis Association, the Canadian Society of Anaesthetists, and the Canadian and Ontario Radiological Societies. The scientific proceedings will include general sessions and a number of sectional meetings, the sections being: Anaesthetics; Eye, Ear, Nose, and Throat; Medicine; Obstetrics and Gynaecology; Pathology and Bacteriology; Pediatrics; Public Health; Radiology; and Surgery. The second Listerian Oration will be delivered on June 17th by Sir C. S. Sherrington, Waynflete professor of physiology at Oxford. Other visitors from Great Britain who are taking part in the conference include Sir G. Lenthal Cheatle, Dr. J. Strickland Goodall, Dr. A. L. Fleming, and Dr. S. Gilbert Scott, who will represent officially the British Medical Association. The Sections of Pathology, Radiology, Medicine, Anaesthesia, and Surgery will combine for a discussion of the gall bladder; and pathological demonstrations are to be arranged with special reference to the problems of the medical practitioner.

Nova et Vetera.

EUTHANASIA.

THE thesis has often been propounded that in cases of incurable and painful disease it should be permitted to the medical attendants, using their own discretion and subject to the consent of the patient's relatives, to terminate suffering swiftly and painlessly. Euthanasia is no new conception, nor can it be said that recent balancing of the pros and cons has revealed any fresh or more potent argument in its favour than those that have been advanced from time to time down the centuries. However ready they may be to agree to the proposition in the abstract, very few doctors, either alone or in council, would be prepared to accept the heavy responsibility which would be theirs were the "doping to death" of the hopeless case to become a recognized custom established with full legal sanction. This question has been debated in the past by men of diverse interests and of all shades of opinion. Sir Thomas More in *Utopia* has revealed his own quite definite view in these words:

"When any [Utopian] is taken with a torturing and lingering pain so that there is no hope of recovery or of case, the priests and the magistrates come and exhort them that since they are now unable to go on with the business of life and are become a burden to themselves and to all about them, so that they have really outlived themselves, they should no longer nourish such a rooted distemper, but should choose rather to die since they cannot live but in much misery; being assured that if they deliver themselves from their prison and torture, or are willing that others should do it, they shall be happy after their deaths. . . ."

Three hundred years later we find Lionel Tollemache, in his well known essay *The Cure for Incurables*, writing as follows:

"If a summary remedy could be applied to this suffering there would be the further advantage that persons of a morbid and brooding nature might gain confidence through life and that knowing that death would be deprived of its sting, they would have a sort of negative stimulus or (if I may so say) an anti-preventive to exertion. Then again, we must consider the friend who, besides the immediate suffering of nursing the sick ma often permanently impair their constitutions and nervous system and who moreover are thus exposed to a sort of moral suicide I mean they curtail their own powers of usefulness far more tha a dose of laudanum would curtail those of their dying friend. . . On the whole it cannot be doubted that the benefits resulting fron a change in the law would be simply enormous."

Thus have spoken the statesman and the philosopher o widely different ages. What of the poet? Joseph Severn the friend of Keats, who was with him at his lonely deat in a foreign land, has left the following passage on record:

"One day he broke down suddenly and demanded that this foreseen resource should be given him. The demand was for the phial of laudanum I had bought at his request at Gravesend. When I demurred he said to me that he claimed it as his own and his right, for, he added, with great emotion, 'As my death is certain, I only wish to save you from the long miseries of attending and beholding it. It may yet be deferred and I can see that you will thereby be stranded through your lack of resources and you will ruin all your prospects. I am keeping you from your painting and as I am sure to die, why not let me die now? I have now determined to take this laudanum and anticipate a lingering death while emancipating you.' As I still refused to let him have the laudanum he became furious . . . and yet in all this there was no fear of death, no want of fortitude or manliness, but only the strong feeling on my account to which he regarded himself and his dying as secondary."

Again, a quotation may be made from the memoirs of a famous musician, Berlioz:

"I have lost my eldest sister; she died of cancer of the breast after six months of horrible suffering which drew heartrending screams from her day and night. My other sister, who went to Grenoble to nurse her, and who did not leave her till the end, all but died from the fatigue and the painful impressions caused by this slow agony. And not a doctor dared to have the humanity to put an end to this martyrdom by making my sister inhale a bottle of chloroform. This is done to save a patient the pain of a surgical operation which lasts a quarter of a minute, and it is not had recourse to in order to deliver one from a torture lasting six months. . . . The most horrible thing in the world for us, living and sentient beings, is inexorable suffering . . . and we must be barbarous or stupid, or both at once, not to use the sure and easy means now at our disposal to bring it to an end. Savages are more intelligent and more humane."

In striking contrast to this we have the exactly contrary opinion of the great Napoleon recorded during a conversation at Elba with Lord Ebrington:

"I have often thought since on this point of *moral* and have conversed on it with others et je crois qu'au fond il vaut toujours mieux suffrir, qu'un homme finisse sa destinée quelle qu'elle soit. I judged so afterwards in the case of my friend Duroc, who, when his bowels were falling out before my eyes repeatedly cried to me to have him put out of his misery. Je lui dis, je vous plains, mon ami, mais il n'y a pas de remède, if faut suffrir jusqu'à la fin."

And now, in the third decade of the twentieth century, after a war beside which Napoleon's campaigns were mere skirmishes, this same question is being soberly debated in the public press by priest and layman, surgeon and physician, and no practical outcome in the way of revolutionary change in the practice of centuries is likely to be the result of it. If we were to draw any inference from the above quotations it would be that, whereas to the mind of the theorist, be he statesman, philosopher, poet, or musician, euthanasia commends itself as not only desirable but even necessary, yet to the man of action, the man most likely to be called upon to translate the theory into actual practice, the idea is almost abhorrent. That is very probably how it strikes the mind of twentieth century man also.

C. J. G. T.

THE AUSTRALASIAN MEDICAL CONGRESS

OF THE

BRITISH MEDICAL ASSOCIATION,

DUNEDIN, NEW ZEALAND.

(Concluded from page 740.)

THE SCIENTIFIC SECTIONS.

SECTION OF OPHTHALMOLOGY.

DR. A. M. MORGAN, President of the Section, delivered an address on the causes of concomitant strabismus. He thought that the theories of Donders and Worth did not explain why hyperopes sometimes had divergent squints and myopes sometimes had perverted squints, nor why vertical squints occurred. These theories also did not explain why all squints were not cured by a full correction of the refractive errors as, theoretically, they should be, nor why the patients might have a squint in any direction without any error of refraction at all. In his opinion the three causes of concomitant squint, in the order of their importance, were weakness of the fusion sense, heterophoria, and hypermetropia. The first only was essential, but must be accompanied by one of the others. The determining factor in the development of a squint was the relation between the desire for fusion and the effort needed to align the eyes correctly. If the desire for binocular vision was greater than the effort there would be no squint. If the effort was greater than the desire a squint would result. Hypermetropia played a very minor part in the causation of convergent squint. Myopia as an error of refraction had no part in the causation of divergent squint, though it might tend indirectly to exophoria in myopic eyes.

Dr. H. F. SHORNEY (South Australia) discussed the etiology and treatment of non-suppurative intra-ocular affections, including retrobulbar neuritis. He dealt with the etiology under the headings of affections of the teeth and gums, tonsils, and accessory sinus diseases, mentioning the frequency of infection of the optic nerve and nerve head in sinus affections. His experience pointed to the occurrence of a descending retrobulbar inflammation, accompanied as it not infrequently was by some inflammatory reaction of the nerve head, rendered visible by the ophthalmoscope. Other etiological points were: metabolic diseases, diseased organs producing altered chemical action from hypersecretion or hyposecretion, parasitic causes, infection from penetrating wounds, and endogenous infections. After describing the routine treatment of acute iritis, he gave details of the milk injection therapy. He reviewed the substances used in the treatment of intra-ocular infection, mentioning chemical agents such as afenil, alvonal, urotropine, argoflavine, rivanol, atophan, atophanyl, bismogenol, spirovismol, sodium cacodylate, solarson, and astorin. The biological remedies he had tried were milk, aolan, and caseosan, vaccineurin, artheigon, insulin, and sanocrysin. He had also employed for light treatment the quartz lamp, Solex lamp, the Koppe blue light, and Roentgen rays.

Dr. J. RINGLAND ANDERSON (Victoria) gave an account of red-free ophthalmoscopy in theory and practice. He discussed the history of the discovery of the yellow macula leading up to the work of Professor Vogt and his use of the red-free light in the examination of the macula. He described the appearance of the macula in the enucleated eye, the value of the yellow pigment as a filter, the appearance of the macula with the ophthalmoscope, and the changes in disease. The method of examination with the red-free light was the only one which made visible the yellow macula and its changes in disease, especially in the form of oedema of the nerve fibres and retinal atrophy, the fine retinal plexuses, and the minutest haemorrhages and alterations in vessel walls.

Dr. E. W. HARTY (New Zealand) introduced the subject of ophthalmology and the consulting optician in view of the registration of sight-testing opticians, which was receiving consideration in New Zealand. He quoted W. S. Inman, who stated that while there was a tendency to break away from accepted beliefs about the physical origin of certain diseases, ophthalmology seemed to have lagged behind. Headache was not invariably relieved by corrected errors of low refraction, and other factors seemed to have been insufficiently investigated. Emotional stress was a factor which might be a cause, also heredity, and the stress of modern civilization in school and industry. While great attention was being paid to septic infections, common maladies which were so often the forerunner and in many cases the cause of inflammatory eye conditions and errors in refraction did not appear to receive the attention they merited. He mentioned certain degrees of myopia as inviting careful search for diabetes, glaucoma, and early cataract. The diagnosis of early neurovascular changes was important, and it was these finer points which appeared to constitute the principal objection to granting State recognition to sight-testing opticians. He quoted various authorities in England, America, the Continent, and Australia who were opposed to the recognition of sight-testing opticians.

Dr. ERIC L. MARCHANT (New Zealand) described the operative treatment of lacrymal obstruction. The Washer-Toti operation was the most satisfactory in his experience for lacrymal obstruction. He found it better than West's in cases of congenital obstruction when the sac was small, and he obtained a much wider opening for drainage by this method. He emphasized the necessity for laying open, not only the inner sac wall, but also the entire length of the nasal duct. He tented in the inner sac wall by a probe through the canaliculus, and then transfixed the sac by a straight needle into the nasal cavity, dividing the sac vertically external to the needle. To open up the nasal duct he passed a slightly bent No. 1 knitting pin, and placed a gouge externally to it, ripping out the inner wall. He emphasized the importance of making a large opening and insuring that the opening in the sac coincided with that in the bone.

Dr. CYRIL DIXON and Dr. L. J. C. MITCHELL (Victoria) contributed jointly a report of a series of cases of retinitis pigmentosa occurring in one family. The father, aged 54, and the mother, 56, had six sons and four daughters. Of the sons, one, aged 30, was normal; another, 28 years of age, presented gross deafness, the vision in both eyes being 6/18 with typical retinitis pigmentosa. A third son had died at the age of 21, being blind and deaf; another son, aged 19, was normal, and the sixth son, aged 16½, had right vision 6/9, left vision 6/12. His field was contracted and he suffered from typical end-organ deafness. Of the daughters, three were normal and one, aged 15, had 6/9 vision in both eyes, and definite retinitis pigmentosa with typical gross end-organ lesion. The father had been deaf since the age of 29, but had no eye defects. The mother was normal. The father had had two deaf and dumb cousins, both of whom were dead. The Wassermann test was negative in all cases.

Dr. Z. SCHWARTZ (Victoria) reported a case of squamous-celled carcinoma of the limbus extending over the cornea. A woman, aged 43, attended hospital in February, 1924, the right eye having a vision of 6/5 and the left 6/12. On December 22nd, 1925, when the left eye was examined, there was found a transverse growth across the left cornea, 6 millimetres wide, extending from one limbus to the other. The conjunctiva appeared free; the cornea above and below the growth was transparent. The appearance of the growth was fleshy; it was raised from the cornea with large blood vessels extending across it like an overgrowth of conjunctiva. The eye was congested and there were no enlarged lymph glands. The eye was excised with considerable portion of conjunctiva, and one month later one application of deep x-ray therapy was given. Pathological examination showed the growth to be a squamous-celled carcinoma.

Dr. A. J. HALL (New Zealand) gave a lantern demonstration of fundus diseases and read a note on the pathology of penetrating wounds of the eyeball. He summarized the findings of John Marshall of Glasgow in a number of cases of penetrating wounds, and illustrated them by a series of photographs, stereo-photographs, and microscopic slides. He classified the infection of such wounds as

panophthalmitis, vitreous abscess, plastic irido-cyclitis, and proliferative fibrosis arising from the cut tissue of the wound. In each class a brief account was given of the principal pathological conditions found. Attention was drawn to the probability of an endogenous source of infection in some cases. The pathological changes following retention of metallic bodies were purposely excluded from the paper, which dealt with infection only.

SECTION OF OTOLOGY, RHINOLOGY AND LARYNGOLOGY.

Dr. ROBERT PULLEINE (South Australia) sketched the history of the work during the past fifty years on the anatomy of the vestibular apparatus and the neurophysiology of the internal ear. He described in some detail the relations of the vestibular nerve and the passage of the fibres from the nuclei of the third and sixth nerves to join the fibres of the fourth and sixth nerves to form the vestibulo-ocular tract. He also defined the components of the vestibulo-cerebellar-cerebral and the vestibulo-spinal tracts. On the basis of the anatomical and physiological findings he endeavoured to analyse the slow component of nystagmus. The tests employed by him were the rotatory and the caloric. He concluded that labyrinthine conditions could be clearly distinguished from acoustic tumours, that acoustic tumours gave rise to a definite syndrome, that cerebellar neoplasms were capable of differentiation, and that in toxaemic conditions due to tobacco and dental infections there was an absence of normal vertigo and past pointing. Hysterical forms were rare. He also dealt with spontaneous vertigo in ophthalmic conditions, such as anisometropia when the amblyopia ex anopsia had not evolved, and when heterophoria, especially the vertical variety, could be eliminated by the vestibular tests.

Dr. H. M. JAY (South Australia) read a paper on the diagnostic importance of the vestibular reactions. The vestibular tests appeared to have a very definite value as an aid to diagnosis, provided that too much was not expected of them. Lesions affecting the labyrinth and eighth nerves and the cerebellar cortex should be distinguishable in the great majority of cases. Judging from the fact that the only two proved peduncular lesions in Dr. Jay's series had been correctly diagnosed, it appeared that the tests were of value in these conditions. No proved lesions of the pons or medulla were included in his series, and in consequence no conclusions could be drawn in regard to them. He added that negative findings were of distinct value in eliminating disease of the brain stem.

Dr. T. A. MACGIBBON (New Zealand), in a paper on chronic spheno-ethmoiditis, stated that the importance of this condition lay in the fact that many unexplained diseases had their origin in hidden septic foci. After describing the classification of types and their symptoms, he dealt with the treatment. In the catarrhal type it was sufficient to remove obstructions such as a deviated septum or a portion of the middle turbinal. A long course of instillation of argyrol was useful. Diet, fresh air, non-smoking, and plenty of exercise were indicated. Where polypi were associated with this type, the only rational method of treatment was a complete exenteration of the ethmoid labyrinth and opening up the sphenoid. There were two types of latent spheno-ethmoidal suppuration—the mild and severe. In the mild type with little toxic absorption climatic and local treatment should be tried before operation. Argyrol drops should be instilled at bedtime. In the severe type, where toxaemia was marked, aeration and efficient drainage were to be aimed at. The treatment of manifest empyema was the same as for the severe type of latent suppuration. Closed empyema was treated by causing shrinking of the mucous membrane by cocaine and adrenaline or antipyrin. Flushing with warm Dobell's lotion might cure temporarily. If pain returned the affected cells should be opened up at once; if there was no pain it was best to wait till the acute stage passed off. Spheno-ethmoiditis in children was treated by removal of the remains of the tonsils and adenoids by the radical method, the patients being left to recover by medical and climatic treatment. Dr. MacGibbon then described various operations in detail, including Ballenger's, Mosher's frontal ethmoid, Moure's external ethmoid, Sluder's and Skillern's, and his own operation. He emphasized the importance of preparation for the operation, and careful after-treatment.

Dr. R. PULLEINE (South Australia), in a paper on conservatism in the treatment of middle-ear disease, stressed the necessity of early paracentesis in acute otitis media and referred to the efficacy of counter-irritation over the mastoid. He said that the younger the otologist the more likely he was to consign summarily a chronic discharging ear to surgical intervention. He dealt with hyperkeratosis of the middle ear and attic. After insuring ventilation of the tympanum and the removal of septic foci he described various methods of treatment in detail, including pertubal lavage, high-pressure syringing, zinc ionization, iodine vapour insufflation, antiseptic ear baths, and closure of the Eustachian tube and of the tympanic perforation.

Dr. HAROLD HAYS (New York) read a paper on the management of acute otitis media. He said that the interpretation of symptoms of acute otitis media was most important, and great attention must be paid to them and to the proper examination of the membrana tympani and mastoid process. The chief symptoms were pain and temperature. Of primary importance was the establishment of as free drainage as possible, which meant a wide and extensive opening of the membrana tympani, sometimes even when spontaneous rupture had occurred. If the drum had to be incised, an anaesthetic should invariably be employed, no matter how young the patient, a transient general anaesthetic, such as gas and ethyl chloride, being used. The incision in the drum should be a sweeping one, extending from the upper posterior part forward and downward and then upward to Shrapnell's membrane. In severe cases x-ray photographs taken every few days were useful. The patient was instructed to keep the middle ear clean by frequent douches; sometimes frequent mopping out was advised or suction was used. Several specific treatments used by the physician were of value; these included cleansing and abortive treatment, zinc ionization, acriviolet solutions, mercurochrome, local vaccine therapy, ultra-violet rays, and the restoration of hearing. In a certain number of cases the discharge persisted and the general physical condition remained below par. In these cases a mastoid operation was a conservative procedure.

Dr. ERIC GUTTERIDGE (Victoria) read a paper on paranasal sinusitis in children. He discussed the embryology and anatomy of the individual sinuses before he approached the clinical aspect of sinusitis. This condition was frequent in children; it had protean manifestations and attacked the respiratory tract in the majority of the patients. The vast proportion of respiratory diseases owed their origin and persistence to sinusitis and could be remedied by treatment of the nose and throat. The effects of enlarged and infected tonsils and adenoids were largely due to the accompanying sinusitis, and removal of these lymphatic infections usually resulted in cure. In his series 85 per cent. of the patients had been dealt with in this way. Dr. Gutteridge was particularly concerned with the 20 per cent. in whom tonsillectomy had failed to cure the sinusitis; after some months it was found that 21 per cent. were much improved, 30 per cent. were improved, 17 per cent. were in the same state, and 32 per cent. were not seen again. This meant that of those of whom a report had subsequently been received, 80 per cent. were improved or relieved. Whether the children had been permanently cured or their symptoms temporarily relieved, it was impossible to determine. The gain to their health and the relief to their lungs and developing nasopharynx were of inestimable value. A similar treatment would probably be successful on a second occasion. There remained a residuum of patients who would require further treatment. The Caldwell-Luc operation had been performed on 14 per cent. of the children, and the mucosa had been found to be polypoid in 7 per cent. No complications, such as meningitis, frontal osteo-myelitis, or orbital abscess, as noticed by Skillern and others, had been seen in his clinic.

Dr. GEORGE PINESS (Los Angeles) read a paper on allergy of the respiratory tract. He sketched the history of allergic disease and then proceeded to the etiological classification of asthma and hay fever; food allergy was the most common cause of perennial asthma and hay fever,

while pollen allergy might be seasonal (spring or fall) or perennial. Animal dander, orris root, and pyrethrum were frequent causes of allergy. For diagnosis he relied on the family history, the clinical history, the physical examination, *x*-ray examination, laboratory research, and the skin tests. He described the scratch method and the intradermal method of performing the skin tests, and stated that the first essential was the use of test proteins known to be active; the commercial food proteins had proved unreliable in many cases. The average patient was tested with 350 proteins. He then dealt fully with specific treatment based on the results of the skin tests.

SECTION OF NAVAL AND MILITARY MEDICINE AND SURGERY.

This Section joined in two combined meetings, and one day was devoted to a staff ride, which was discussed on a subsequent morning. Forty-five army medical officers took part in this medical tactical exercise and various problems were dealt with arising out of a supposed attack by foreign troops.

Colonel F. A. MAGUIRE, D.S.O., Deputy Director of Medical Services, Australian Military Forces, read a paper on medical work in the field, with special reference to the battle of Messines. He summarized the main requirements for medical field work as follows: (1) rapid evacuation, (2) provision of warmth, (3) ample supply of hot fluids, (4) gentle handling. These necessitated good staff work, ample supplies, and the thorough training of personnel. He discussed the battle of Messines, *in so far as it affected* Australian and New Zealand troops, to show how it had provided every opportunity for the practice of the principles enunciated. It was a "set piece"; the plans were laid for it months ahead, and preparations were developed on an elaborate scale. Colonel Maguire described in detail the arrangements made for this operation, and gave figures of the number of casualties dealt with. He considered that the staff work throughout was excellent, and that the whole operation was a model of what medical organization should be.

Colonel R. TRACEY INGLIS, C.B.E., V.D., Director of Medical Services, New Zealand Military Forces, gave a lucid explanation, illustrated by diagrams, of medical organization in war.

Lieutenant Commander W. E. J. PARADICE, Royal Australian Navy, described cases among naval patients of interest from a bacteriological point of view, and gave particulars of Vincent's angina and allied conditions met with at the naval depot at Garden Island, New South Wales. He classified Vincent's angina affecting the tonsils into three groups: (1) In the pure infection the ulcer was almost white and very hard and friable; there was only slight constitutional disturbance. Spirochaetes and fusiform bacilli were present in pure culture. (2) In a mixed infection, with Vincent's organisms predominating, the ulcer was whitish, hard, and friable, and there was marked constitutional disturbance. Spirochaetes and fusiform bacilli were present in large numbers accompanied by various other organisms. (3) In a mixed infection, when Vincent's organisms were only present in small numbers, the ulcer was yellowish and soft, and exuded pus. The constitutional disturbance was variable, and there were a few spirochaetes and fusiform bacilli present among large numbers of other organisms. He had found that the best results were obtained by the use of liquor arsenicalis and 1 in 5,000 perchloride of mercury, alternately, applied by means of a small amount of wool on a wooden applicator or probe. Other conditions caused by spirochaetes were gingivitis and balanitis. Lieutenant Commander Paradice also furnished particulars of two cases of cystitis yielding a coccus, apparently *Staphylococcus albus* of aberrant form; both yielded to treatment with potassium citrate. Two further cases of cystitis yielding coliform bacilli were mentioned; in both these pain had been present in the right iliac fossa, and, later, urinary symptoms arose, thus appearing to support the contention that this form of cystitis was secondary to an inflammatory condition of the alimentary canal, the appendix in particular.

Lieut.-Colonel A. D. CARBERY, C.B.E., V.D. (New Zealand), dealt with some medical aspects of recruiting for war, and analysed the attestation papers of New Zealand recruits in the great war. He considered that the lessons to be learnt from this analysis were the following. Men below the prescribed standards in weight and chest measurement should be classified B3 if otherwise acceptable. The acceptance of C1 men for special training was, he considered, of doubtful value, and they should not be considered fit for service overseas unless they showed a considerable improvement in weight under graduated training. The minimal requirements of physical measurement laid down in the R.A.M.C. regulations for 1923 should not apply to New Zealand soldiers, as there was evidence that their average physique was better than that of British recruits. Attestation forms required remodelling, and the pulse and respiratory rate in relation to exercise should be noted. The nervous, glandular, and genito-urinary systems required a special column in which their condition should be recorded. The ears should be examined in all cases. Medical officers selected for the important work of recruiting for mobilization should be specially trained in peace time. No form of physical inspection of recruits could hope to eliminate all defectives or detect disease tendencies, but, as evidence of the improvement, he instanced the recent reports of the Surgeon-General, which showed that the rejection of recruits after a few months' training had been much reduced by improved methods of examination and greater acumen in selection.

Major W. AITKEN, medical superintendent at Cashmere Hills Military Sanatorium, discussed the after-histories of patients treated at the Military Sanatorium during the years 1919-24. An attempt had been made to determine the post-sanatorium experience of 421 discharged patients and the benefit derived from the treatment. The patients were dealt with under three groups as follows: (1) Cases with slight constitutional disturbances and physical signs of tuberculosis of limited extent—for example, in one lobe only. In the case of an apical lesion in the upper lobe the signs should not extend below the second rib in front, and in the case of lesions other than apical the signs should be limited to an area of equal extent. If present in more than one lobe the signs must be limited to the apices of the upper lobes, and not extend below the clavicle and spine of the scapula. (2) All cases which could not be placed in groups (1) and (3), and with, at most, the whole of one lobe affected. (3) Cases with profound systemic disturbance or constitutional deterioration; with marked impairment of function or with an extent of disease greater than the whole of one lobe; and with grave complications, whether tuberculous or not. With reference to (1), the arrest of the disease secured under treatment was maintained in 83.6 per cent. The percentage at work—72.8—also showed that the sanatorium had played a useful part in rehabilitating tuberculous ex-soldiers for civilian life. In group (2) the percentage with the arrest of the disease maintained was 53.6, and the percentage at work 43.4. It was claimed from the results of this group of cases in the middle stages of a grave disease, such as pulmonary tuberculosis, that the treatment as carried out in the sanatorium had been amply justified. In group (3) the inquiry showed that the inevitable results of late diagnosis were not offset by sanatorium treatment; 75 per cent. of the patients in this group died within one to six years after discharge. In determining the usefulness of the work of the institution, the value to the community of the segregation of highly infective cases had to be indicated, also the nursing care and alleviation of the suffering of hopeless cases, for the provision of which the Dominion Government was responsible.

Squadron Leader A. P. Lawrence, Director of Air Medical Services in the Royal Australian Air Force, read a paper on measures for the protection of the civil population against gas attacks from the air. After dealing with the possibility of attacks with poison gas from the air and the probable nature of the gas used he concluded that the measures for protecting the civil population should comprise: The dissemination of knowledge concerning the effects

of a gas attack and of the precautionary measures to be adopted; the provision of an air raid alarm and of shelter in which inhabitants could obtain protection during and subsequent to an attack; the organization of a service for clearing an area of gas and for dealing with casualities and persons affected; and the military control of this service.

Major KENNETH F. GORDON, New Zealand Medical Corps, read a paper entitled "Work at an advanced dressing station near Crèvecoeur in 1918," and gave an excellent description of his experiences during the operations in the early part of October, 1918.

SPECIAL EVENING DISCUSSION.

THE RELATION OF THE MEDICAL PRACTITIONER TO THE STATE AND THE HOSPITALS.

A special evening meeting was arranged to discuss the relation between medical practitioners, the State, and the hospitals.

Dr. J. NEWMAN MORRIS (Victoria), the opening speaker, took as his subject the part played by the medical practitioner in the prevention of disease. He maintained that in the first place the essential unity of the preventive and curative activities of the medical profession must be realized. Medical practitioners had the first, and consequently the best, opportunity of taking or advising steps for prevention. The importance of prevention was not sufficiently emphasized in the medical curriculum, hence it was essential to stimulate the interest of the practitioner in preventive work, and to educate public opinion. No opportunity should be lost of publishing the facts of disease prevention, giving advice, and teaching. This could be effected by service on committees, such as those of baby welfare centres, in municipal bodies, and in Parliament, or by giving lectures on prevention under the auspices of the British Medical Association. Systematic examination of the apparently healthy was to be encouraged, as, for example, by a yearly overhaul to detect disease in its earliest stage. In the prevention of disease certain legal obligations had already been imposed on the medical profession. The Royal Commissioners had suggested further duties, and it was impossible to forecast all the requirements which might legally be imposed. Conscientious practitioners would be aided, while the dilatory and slack would be revealed. Dr. Morris described various ways in which practitioners could aid preventive medicine, and also ways in which the State could, scientifically and financially, help practitioners—such, for instance, as the provision of accessible diagnostic laboratories and granting increased fees for statutory duties.

Dr. M. H. WATT (New Zealand) said that the State took a very active interest in the prevention and treatment of disease, and was watched with suspicion by the private practitioner, whose orbit lay between the consulting room, the patient's home, and the hospital. In all three places he could be an active force in preventive medicine, and the activities of the State in each place would be in inverse proportion to his own. Dr. Watt advocated periodic overhaul of the general public, dealing with the whole family as well as the case in infectious diseases, and the provision of paying wards for private patients in hospitals, as being measures worthy of the medical practitioner's immediate attention. The practitioner was advised to make free use of the hospital when confronted with difficult cases requiring elaborate equipment for diagnosis, and also as meeting places for mutual clinical instruction and education. The ideal was that the practitioner should function as a medical officer of health, interested as much in the prevention of disease as in the cure and care of the patient.

Mr. R. J. LOVE (Victoria) remarked that at present the indigent sick obtained ample hospital accommodation and facilities for treatment, where the best of medical attention was given freely and ungrudgingly, but the community was drifting towards general dependence on free medical treatment. There was a constant growth, both actually and proportionately, in the numbers of people who took advantage of free public hospital treatment, and who were not wholly to blame, since it was natural for people to go where the best service was obtained at the least cost. To counteract this tendency the facilities for treatment should be widened, and grades of hospitals established corresponding, as regards cost, with the respective grades of society, working always towards the community hospital system. Mr. Love viewed the community as consisting of four classes, and described hospitals to suit each—namely, private, intermediate, third class, and public or free class. He explained how both hospitals and medical practitioners could help in the evolution of such a scheme, and in furtherance of preventive medicine, paying special attention to the departments for periodic medical examination, tuberculosis, and social service. Hospitals should be standardized to meet all preventive as well as curative requirements; all members of the profession should take full advantage of the facilities provided, and co-operate in a vigorous policy of prevention.

Dr. T. MCKIBBIN (New Zealand) agreed that medical practitioners did prevent disease, but considered that it should be their main objective both in town and country. The demand was arising for public health nurses, and for an extension of public hospital activities to include disease prevention; the co-operation of medical practitioners was desirable, but depended on their own attitude. Dr. McKibbin would like to see practitioners definitely allied with the Department of Health and the local governing authorities for the purpose of disease prevention, and believed that the only sound and fair way of reaching that objective was by national insurance, compulsory for all persons in receipt of low incomes, in order to prevent disease. This would improve the lot of the majority of the medical practitioners, and definitely benefit the public health.

England and Wales.

POST-GRADUATE INSTRUCTION AT THE ROYAL NORTHERN HOSPITAL.

THROUGHOUT the year, with the exception of August and September, post-graduate courses are held at the Royal Northern Hospital on Tuesday afternoons at 3.15. The lecture is given by a member of the hospital staff, and some subject is treated in such a way that the practical implications are brought out. No charge is made for attendance, and tea is provided at the conclusion of each lecture. This arrangement has proved to be very popular, the time and the nature of the topics attracting many general practitioners. An "intensive course," which was much appreciated, was held in February; it extended over one week, lectures and demonstrations being given each afternoon. The remainder of the time available in the morning and afternoon was devoted to teaching in the wards and other departments of the hospital. The next "intensive course" will be held from May 23rd to 27th, when special lectures will be given on the diagnosis of pulmonary disease, rectal diseases, the uses of radium in gynaecology, common skin ailments, anaesthesia, modern methods in relation to digestive disorders, visceroptosis, and the diagnosis of diseases of the heart and chest. During the first fortnight in March a course was held for the M.R.C.P. and other higher examinations. A similar course will be held in the second half of June. It will last between two and three weeks and comprise recent advances in medicine, medical anatomy, and points in biochemistry, bacteriology, and general pathology. Further particulars may be obtained from Dr. E. G. B. Calvert, the dean of the Royal Northern Hospital.

INSTITUTIONAL PROVISION FOR RHEUMATIC CHILDREN.

In July last the subcommittee set up by the British Medical Association to inquire into the subject of cardiac disease in children reported[1] that it was clear that the need of rheumatic children for prolonged care was imperfectly realized in the country as a whole. The subcommittee urged the necessity for each large city to be provided with the means for institutional treatment of rheumatic children in the course of which the children

[1] SUPPLEMENT, July 3rd, 1926, p. 1.

could receive controlled rest with plenty of sunlight and fresh air for periods of months. We are glad to learn that the Metropolitan Asylums Board has now made a decided move in this direction. At its meeting on April 9th the Board resolved to provide 350 beds for the treatment of London children suffering from rheumatic diseases, and for this purpose to extend Queen Mary's Hospital for Children at Carshalton. This institution, which is twelve miles from the city, has at present 900 beds for acute tuberculous cases and various non-tuberculous cases requiring active or operative treatment. The new accommodation is to be for children of both sexes, under 16 years of age, who are suffering from subacute rheumatism, the later stages of acute rheumatism, rheumatic chorea, or rheumatic carditis, including recurrent attacks. As the enlargement of the hospital will necessarily take some time, the Board has also decided that 56 beds at another of its institutions, High Wood Hospital for Children, at Brentwood, in Essex, shall be temporarily allocated to meet immediate and urgent requirements. At Carshalton there is already a special unit of 60 beds, provided in the early part of 1926 for the accommodation of children suffering from rheumatic fever, acute endocarditis, or chorea. The establishment of this unit, which followed upon a report by Dr. W. T. Gordon Pugh, the chief medical officer of the children's and surgical tuberculosis services to the Board, was intended primarily for research purposes, and it was clearly understood by all concerned that this was not to be considered as an attempt to deal with the problem of providing accommodation on a large scale for children absent from school through rheumatic illness, except in so far as successful research on this small number of cases, which were to be admitted as early as possible and in the most acute stage of the disease, might tend to reduce the number of such cases. More recently the Board was informed that the Ministry of Health is satisfied that there is urgent need for the provision of additional hospital accommodation for London children suffering from rheumatism, and that if the London County Council requested the Board to provide the necessary accommodation, and the Board agreed to do so, the Ministry would approve. The Board considered the two alternatives of building a new institution specially for the purpose or of extending St. Mary's Hospital for Children. The Board has available a site of 156 acres at Copthorne, near East Grinstead, purchased with a view to a sanatorium for tuberculosis on a scheme which fell through as a result of the war, but after consideration it decided that, owing to the non-availability at Copthorne of essential services, it would be more economical to extend the Carshalton institution, where the present chief officers would be available for supervisory purposes, and where questions of access and housing of staff would present no particular difficulty. The Board had before it a report presented to the London County Council by the county medical officer (Dr. F. N. Kay Menzies), in which it was computed that in the London area not fewer than 10,000 children have suffered or are suffering from rheumatic symptoms. The great majority of these are not in need of any special treatment other than that which they are already receiving, but they require careful watching. About 1,000 of these children, whose hearts have been seriously and permanently injured, attend special (physically defective) schools, and there are from 600 to 700 others who are absent from school for long periods on account of rheumatism. These last represent 25 per cent. of the chronic invalidity among school children, and include all, or almost all, the children for whom the special arrangements now proposed are necessary. In 1925 the number of children reported chronically out of school on account of this disability was 614, of whom 144 were said to be suffering from rheumatism, 224 from heart disease, and 246 from chorea. The incidence of rheumatism appears to be greater generally among girls (65 per cent.), and the high proportion of cases of chorea to the total illustrates the very special incidence on the nervous system in school children.

BRITISH EMPIRE CANCER CAMPAIGN.

Viscount Cave presided over the quarterly meeting of the Grand Council of the British Empire Cancer Campaign on April 12th. An application by the National Cancer Campaign of Ireland for affiliation to the Campaign was approved. Both Ulster and the Irish Free State are represented in this Irish organization, its membership, including representatives of the Royal Colleges of Physicians and Surgeons in Ireland, Queen's University, Belfast; Trinity College, Dublin; the Royal Academy of Medicine in Ireland; the Royal City of Dublin Hospital; the Royal Dublin Society; and the British Red Cross. Grants of £298 and £900 respectively were made for apparatus and for the upkeep for one year of the radiological cancer research department of the Middlesex Hospital, and a further grant of £3,000 to the general cancer research department at this hospital was approved. The grant of £100 to Mr. E. Nevill Wilmer, of Manchester University, was renewed for one year to enable him to continue work on tissue culture, and a further grant of £300 was made to Professor Charles Walker of Liverpool. The resignation of Lieut.-General Sir John Goodwin was received, and the council tendered him congratulations and good wishes on his appointment as Governor of Queensland. Sir Archibald Bodkin was elected a member of the grand council and executive committee. Sir Richard Garton, chairman of the finance committee, drew attention to the necessity for a sustained effort to obtain adequate annual funds to subsidize the important work in progress in the various cancer research laboratories. It was announced that arrangements for a combined Lancashire and Cheshire appeal were being considered.

Scotland.

SCOTTISH UNIVERSITIES' PARLIAMENTARY REPRESENTATION.

THE nominations of the two candidates for the vacancy in the Scottish Universities' parliamentary representation, as announced in the BRITISH MEDICAL JOURNAL of April 9th and 16th, were duly handed in at a meeting on April 8th, at which Principal Sir J. Alfred Ewing presided as returning officer. He announced that the poll would be held on Tuesday, April 26th, and on the three following days, and that the result would be declared on April 30th. Members of the Scottish Universities' constituency are reminded that voting is carried out by post and that they should immediately fill up the voting paper when received and post it to the returning officer of their respective university.

INFECTIOUS DISEASES AT DAIRIES.

A circular dated April 13th, 1927, has been issued by the Scottish Board of Health, drawing the attention of local authorities to the provisions of the Milk and Dairies (Scotland) Act, 1914, which deal with infectious disease. The object of the circular is to point out that, in the prevention of tuberculosis and infectious disease due to infected milk, dairymen and their employees can give great assistance and are bound by law to do so. It is believed that if the provisions of this Act were carefully applied by the producers of milk and their employees, milk-borne tuberculosis and such infectious diseases as diarrhoea, dysentery, enteric fever, diphtheria, and scarlet fever would be almost entirely prevented. The circular complains that when a milk supply is suspected of causing disease the attitude of the producer of milk and his employees is too often one of indifference or of actual obstruction, and it alleges that during 1926 several outbreaks of infectious disease were spread by milkers who, themselves infected, continued to milk cows. In one instance about 150 persons became affected by dysentery through a milker breaking the law by continuing to work while suffering from this disease, while in an outbreak of scarlet fever over 150 cases were traced to a milkmaid who continued to milk cows while suffering from a mild attack of the disease. In both essential facts had been withheld from the medical officer of health. The circular advises that certain provisions should be strictly enforced by the local authorities in the public interests. It is pointed out that a dairyman is required to report to the medical officer of health symptoms of infectious disease occurring in any person resident or employed at the dairy or any person residing in the same house as an employee of the dairy.

A dairyman is liable to a penalty if he allows any person to milk cows or to handle milk vessels while suffering from diarrhoea, sore throat, any suppurating sore, or any infectious disease, or if he allows any person to milk cows or handle milk vessels if that person has recently been in contact with a case of infectious disease. Notification is incumbent also on the dairyman if he has in his dairy any cow suffering from a sore on the teats, accompanied by suppuration or bleeding, or from any disease liable to contaminate milk, or any cow giving tuberculous milk. Attention is also drawn to a by-law to the effect that the hands and forearms of milkers and of any persons engaged in handling milk or milk vessels are to be thoroughly washed and to be dried on a clean towel before work is begun. Medical officers of health are advised to take the family doctor along with them in cases where the physical examination of any patient is necessary, and where cases of disease have occurred and there is reason to believe that the origin of the disease is a milk supply. Medical officers of health should also take particular care to control the movements of those who are in attendance on a case of infectious disease at a dairy and to investigate the houses of persons employed in the dairy and examine inmates of such households. Where infectious disease occurs in families supplied with milk by one dairy and where the medical officer of health is reasonably satisfied that the infection is carried by that milk supply, even although after a visit to the dairy the actual source of the outbreak is doubtful, the medical officer of health should make an interim order, but the local authority can make an immediate order stopping the milk supply. A possible alternative for the farmer as an emergency measure is a complete change of milkers and all those who handle milk, together with thorough washing of the cows' udders and disinfection of all utensils and apparatus concerned. The Board of Health suggests that in any case where information has been withheld wilfully the dairyman or the employee or both shall be proceeded against. The local authority is liable to pay to a dairyman full compensation for any loss arising out of the order stopping the milk supply if the damage has not arisen by reason of the dairyman's default, but it is pointed out that this should not deter the local authority from making such an order when stoppage of the milk supply is recommended by the medical officer of health, because inaction of this kind may be false economy.

GLASGOW SLUM CLEARANCE.

Details of an extensive slum clearance scheme were given at a meeting of Glasgow Corporation on April 12th. The estimated cost of the scheme is about £480,000, the annual deficit being calculated at about £17,000, of which the Government subsidy amounts to 50 per cent.; the remaining 50 per cent. represents an addition of one-fifth of a penny per pound to the rates. The number of houses involved is 1,019, and it is intended to house the dispossessed tenants in various new areas where the corporation is at present erecting houses. The largest area involved in the scheme is in the Bridgeton district.

Ireland.

MEDICAL REGISTRATION IN THE FREE STATE.

IT is stated that on the reassembling of the Dail after the Easter recess a bill will be introduced settling permanently the question of medical registration. It is believed the bill will provide that the General Medical Council as at present constituted will control medical education in Ireland substantially on the lines of the present system, and that newly qualified medical men in the Free State will continue as hitherto to occupy the same position in the *Medical Register*. For disciplinary and purely local affairs in the Free State it is believed that an agreement has been reached between the British and Free State Governments for the establishment of a Medical Council and Register in the Saorstat. All medical practitioners who desire to practise in the Free State must have their names in the Medical Register of the Free State. The bill will also provide for reciprocity between Great Britain and the Dominions and the Irish Free State.

SCHOOL MEDICAL SERVICE IN BELFAST.

A scheme of school medical service has been adopted by the Belfast Corporation on the advice of the Education Committee. It is estimated to cost over £9,000 a year. The city will be divided into three districts, each with a clinic and staff. In addition to the medical officer of health, who will supervise the scheme, the staff consists of a chief medical officer, at a salary of £750 a year, and three doctors as assistants, one of them a woman, who receive £500 each, and a part-time woman doctor at a salary of £250. The part-time service of a specialist (twelve hours a week) has been retained for the central clinic at £500 a year. In addition, there is an eye specialist and an aurist for the branch clinics (part-time) at £210 a year each, and four part-time dentists at £200 a year each. There are fifteen nurses, with salaries ranging from £109 to £131 each, and this number will be increased when the new central clinic and operation department is fully organized. There are, in addition, three clerks, messengers, and caretakers for the clinics, and several women, described in the scheme as "head-cleaning women," whose duty it is to deal with specially bad verminous cases. The staff is divided over the three clinics. In the forenoons they carry out inspections in the schools, and in the afternoons are in the clinics to deal with any cases requiring treatment. There are 65,000 children attending the elementary schools in the city. As it would not be possible to examine all these children every year with the present staff they are arranged in age groups, and it is proposed to examine them at 6 years of age (entrance group), at 8 years, and at 12 years (leaving group). In this way, whether there is anything wrong with the children or not, each will be completely examined three times during the course of their elementary school career. Before the periodical visits of the doctor the teachers and pupils are notified, and any child in the school not included in the particular age group to be examined is examined specially, if, in the opinion of the principal or parents, this is necessary. Children found defective at a previous examination are re-examined to ascertain whether treatment has been obtained, and with what result. A feature of the school medical inspection is the interest taken in it by the parents, a great many of whom come to the schools on inspection days, and are present in the private room with the doctors and nurse when their children are being examined. Many defects not previously noticed are discovered at these inspections, especially in regard to eyes, ears, and throats, and the parents always seem anxious to listen to the opinion of the doctors and have their advice carried out. Children requiring more detailed examination and treatment are referred to the clinics. At first there was some protest among the parents at the inspections for cleanliness, especially when children were sent home with instructions to have their heads washed with chemicals prescribed by the doctors and nurses, but this has now disappeared, and all the parents, realizing that it is in the best interest of the children, endeavour to conform to the instructions. There has been a marked improvement in the cleanliness of the children, and also a steady improvement in their health. All the children attending the schools are examined periodically by the school nurses in respect of cleanliness.

Correspondence.

MIGRAINE.

SIR,—As the subject of migraine is receiving much attention in your pages a note on the following case may be of interest.

Some years ago I had under my care a severe case of migraine. The patient was a lady in early middle life. She was of somewhat fragile physique and artistic in her tastes and aptitudes. Her husband was head of a great public school which gave nine or ten weeks' holiday in summer. The patient and her husband were both fond of travel and went abroad nearly every summer, often to South Europe. She never had an attack while travelling.

This case gives some support to the usual view that

migraine is essentially a neurosis. Change of climate and environment, relief from domestic cares, the stimulation of new scenes, and fresh interests served to prevent the attacks.—I am, etc.,

Belfast, April 12th. J. A. LINDSAY, M.D., F.R.C.P.

VENESECTION.

SIR,—In your issue of April 16th (p. 721) there is reported a discussion on the subject of venesection which raises some very important points. I am, however, struck by the absence of any statement regarding experimental blood-letting, except that by Mr. French to the effect that physiologists consider the procedure useless. This statement owes its origin to faulty experimentation.

The facts are that, although venesection only reduces arterial pressure for a short period, the arterial recovery is largely due to a compensatory action on the part of the vasomotor system. Evidence that pressor fibres pass up the vagus has been put forward by me, and has been confirmed by Anrep and Starling. As a result of the contraction of the peripheral vessels to keep up the arterial pressure, there is brought about a profound fall of venous pressure which is relatively lasting and which must be of enormous value in relieving the right side of the heart.

In my recent volume *Clinical Physiology in Relation to Modern Diagnosis and Treatment* I have stated the circumstances in which venesection is indicated on physiological grounds, but when the fall of venous pressure is appreciated it will readily be seen how many of the conditions referred to by various speakers in the discussions will be relieved.—I am, etc.,

R. J. S. MCDOWALL, D.Sc., F.R.C.P.Ed.
(Professor of Physiology).

King's College, London, April 16th.

PATENTED RESEARCH.

SIR,—There has recently come into my hands a letter from a German firm—the *Edelweiss Milchwerk*—*advertising* a dried milk which has been irradiated with ultra-violet light to increase its antirachitic potency. This milk they name "Ultractina," and they state that "a letters patent has been applied for in all States." Whether or not a patent has been granted them in this country I do not know, but I understand this is not the first patent applied for in this connexion.

H. Steenbock and A. Black (*Journ. Biol. Chem.*, 1924, lxi, p. 405) and A. F. Hess (*Science*, 1924, lx, p. 269) were the first to demonstrate that exposure to ultra-violet light will render certain foodstuffs powerfully antirachitic. Since that time there has been a great mass of work carried out on this subject, a large share of it by investigators in America and Great Britain, leading up to the discovery by Rosenheim and Webster that ergosterol by irradiation can be rendered a more powerful antirachitic than any other substance known (BRITISH MEDICAL JOURNAL, March 12th, 1927, p. 485). Can a firm having *no connexion* with the original work on irradiated foods patent irradiated dried milk? If so, there appears no logical reason why irradiated ergosterol should not similarly be patented for commercial exploitation by such a firm.

It has been an honourable tradition among members of the medical profession, as well as many other scientific workers, that all advances in knowledge gained by them should be freely available to all—and this in spite of the straitened circumstances of so many research workers. Surely if the discoverers are to forgo all pecuniary reward it is all the more incumbent on the State to prevent the patenting of their results by firms whose interest therein is commercial. If this is not done is it not probable that many investigators will follow the example set by the Drs. Dick?

I understand that the granting of a patent can be opposed by an *interested party on the plea of previous* publication, but is it likely that all those interested will learn in time of the application for a patent? And, moreover, is it not adding injury to insult to place the onus of opposing the patent in the public interest on the shoulders of the original discoverers?—I am, etc.,

London, W.1, April 3rd. H. M. M. MACKAY.

SOME POINTS ARISING OUT OF RECENT VACCINATIONS.

SIR,—Having recently, as public vaccinator to the Ormskirk Union, completed a series of nearly 3,300 vaccinations during the late outbreak of small-pox in Southport, I think a few observations would be of interest.

The area of skin chosen for vaccination was cleansed with spirit and the lymph expressed on to the lancet, previously sterilized by being passed through the flame of a spirit lamp. Four minute scarifications were made in the epidermis, no blood being drawn, the distance apart varying with the area available for vaccination. A circular pad of boric lint completed the operation. The patient was advised to keep the bowels freely open with saline aperients; he was visited again at the end of a week, when an antiseptic and sedative dusting powder was applied to the pocks and a fresh boric lint dressing adjusted.

These vaccinations were carried out in January and February, a time of year when the health of the populace is depressed, yet in spite of this it was only necessary for me to revisit five cases. The first was a girl who stood up in a shop all day and who insisted on being vaccinated on the leg. The second was a woman, aged 45, who had a reaction for a couple of days, simulating influenza. The third was a boy of 12, who had sickness and slightly raised temperature for a couple of days. The fourth and fifth were mental, as the vaccinations had not even taken. There were one or two cases of malaise, which a day in bed soon corrected and the parents thought too mild to require my attention.

There were, of course, a few cases of work and school dodgers, in some of whom vaccinations had not even taken. Four cases came to the surgery as the pocks were delayed in healing, the protective scabs having been knocked off, which was easily understood as they all used their arms vigorously, being cleaners, etc.

In several instances, in homes from which a case of small-pox had been removed, the remainder of the inmates proved insusceptible to vaccination. In one house seven were insusceptible, whilst across the road, in a house where no case of small-pox had occurred, all the scarifications formed pocks. In one house where a case of small-pox had occurred I vaccinated three persons and omitted a fourth; none of the vaccinated showed any reaction, but the unvaccinated at the end of a week developed small-pox and had to be removed.

It is advisable for all vaccinated persons to keep their bowels well open with saline purgatives, as no other substitute seems to eliminate toxins so thoroughly. This was peculiarly noticeable at the school clinic, when I was able with unerring accuracy to pick out those who had disregarded the advice given—as regards the regularity of the bowels and of taking a saline purgative—owing to a slightly greater inflammation surrounding the pocks. A primary vaccination in an adult gave a more severe reaction than in a young person. Spare and thin people stood vaccination better than the plump and full-blooded; in fact, a well filled arm will only stand one or two scarifications.

For ladies, to whom any visible scarring is abhorrent, the method advocated by H. Goldberger gives excellent results. In this the vaccination is performed on the inner and back side of the arm. This, however, is only applicable to patients who will carefully keep the intervening pad between the arm and the chest so as not to allow of any secondary vaccination.—I am, etc.,

Southport, April 12th. G. GORDON RIGBY.

CERTIFICATION OF THE INSANE.

SIR,—I would supplement the letter of Dr. Daunt (BRITISH MEDICAL JOURNAL, April 16th, p. 745) with further quotations from the same source—namely, the *Times* report of April 1st of de Freville *v.* Dill, before Mr. Justice Avory and a special jury.

Mr. Singleton: If a doctor finds a patient raving, if in his presence she assaults one or more persons, and threatens to kill one or more persons, is it not his duty to send for the police and the relieving officer?

Dr. Hyslop: No; he should send for nursing aid . . .

Dr. Risien Russell said that facts communicated by others should not be used without confronting the patient with the person

making the statement. In cross-examination, Dr. Russell said that "even if Dr. Dill saw and heard her threaten to kill her husband, he ought to have confronted her with her husband."

I would invite the above experts to state whether or no they are correctly reported. I would also invite other experts to comment on the opinions herein set forth. —I am, etc.,

Chichester, April 16th. G. C. GARRATT.

Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

IN the House of Lords, on April 12th, the Royal Assent was given to the Sale of Food and Drugs Act and other Acts. The House rose till April 28th. The House of Commons stands adjourned till April 26th.

Shops Acts.

The Departmental Committee which is inquiring into the Shops Acts of 1920 and 1921 heard further evidence on April 13th, at the Home Office. Evidence in favour of the Act of 1920 being made permanent was given by witnesses from the Drapers' Chamber of Trade. Mr. Austin Fudge, a draper of Earlsfield, S.W., said that the early closing hours, in view of the Summer Time Act, had proved a blessing to thousands of young women shop assistants. Sir Herbert Ormond, chairman-elect of the Executive Council of the Drapers' Chamber of Trade, expressed the opinion that all shops, with very few exceptions, such as those for the sale of medicine and surgical instruments, ought to be closed at 8 o'clock. Mr. J. R. Leslie, general secretary of the National Amalgamated Union of Shop Assistants, Warehousemen, and Clerks, said that it [illegible] union anything which would increase the [illegible]gaged in shops would lower the standard [illegible]op workers and their children. The witn [illegible] dealing with closing legislation in the Dominions and in foreign countries. This showed that in New South Wales pharmacists and chemists were brought within the regulations, and closed at 7.30 on ordinary nights, with one day at 1 o'clock and one night at 9 o'clock. In Denmark during prohibited hours only certain scheduled articles could be sold from chemists' shops. The committee adjourned until April 27th.

Notes in Brief.

Sir Austen Chamberlain is not aware that the Soviet Russian Government has indicated its willingness to renounce preparation of poison gases provided other countries do likewise.

In 1926, excluding lunatics in asylums, 1,283,801 persons were receiving Poor Law relief in England, and 222,719 in Wales and Monmouth.

Mr. Chamberlain states that in England and Wales, in 1926, there was spent on additional benefits under the National Health Insurance Act £1,146,700 for dental benefit, £155,900 for ophthalmic treatment, £228,800 for treatment in hospitals, £43,400 for treatment in convalescent homes, and £33,900 for surgical appliances, besides smaller sums for other purposes.

Alluding, on April 14th, to a remark by the Hammersmith coroner that legislation should be introduced to prohibit the sale of poison such as crude carbolic acid by hawkers in the streets, Sir W. Joynson-Hicks said the retail sale of crude carbolic was already restricted under the Poisons and Pharmacy Act, 1908.

Obituary.

A. STANFORD MORTON, M.B., C.M., F.R.C.S.,

Consulting Surgeon, Royal London Ophthalmic Hospital.

WE regret to announce the death of Mr. Andrew Stanford Morton, who was for many years a well known London ophthalmic surgeon and an outstanding figure among his colleagues throughout the country. He retired from practice in 1920, and went to reside in Clifton, where he had relatives. He died on April 11th at the ripe age of 79 years. He graduated M.B., C.M.Ed. in 1874, and then went to University College, London. He became M.R.C.S. in that year and F.R.C.S. in 1888. He early turned his attention to ophthalmology, and became surgeon to the Royal Eye Hospital in Southwark; later he joined the staff of Moorfields, where he worked for many years, ultimately becoming one of its senior consulting surgeons; he also held the office of ophthalmic surgeon to the Great Northern Hospital. Morton—for no one ever spoke of him by any other designation—was best known for his ophthalmoscope, which it is safe to say that nearly everyone has used or uses. The basis of his well known instrument was the invention of Couper. The peculiarly ingenious magazine of lenses, set freely in their case, but capable of being moved in turn beneath the sight-hole by the geared wheel, was the fruit of Couper's desire to provide an ophthalmoscope that would be a perfect and complete instrument for the estimation of refraction. That was before the days of retinoscopy. He attained his object; his instrument was a brilliant success, but it was so large and costly that few could or would possess it. Morton cut down the magazine to modest proportions, added an adapter that made up for the loss of many lenses, and, later, a double nose-piece arrangement of mirrors that we believe was a device taken from the microscope by Lindsay Johnson. The instrument thus completed has held the field ever since, even though adapted to an electric installation. Part of its success was due to the excellence of its manufacture, and it is of interest to note that British-made instruments are still a good deal superior to foreign-made ones.

Morton was chiefly a clinician. His careful precision in work was remarkable. His judgement in observation was associated with his power of delineating what he saw, for he was a first-class draughtsman, and could produce a fundus drawing that would have done credit to a professional artist. He was a tall man of dignified mien, slow of speech, not given to writing much, but a clinician whose judgement was of singular weight. He was for many years a member of the British Medical Association, and at the meeting of the Association held at Swansea in 1903 he read a paper on the operative treatment of conical cornea which was a perfect piece of work. The honour of office came to him, though he cared little for these marks of recognition. He served as vice-president of the Ophthalmological Society of the United Kingdom, and was for years a member of the Medical Society of Edinburgh. The Order of Chevalier of the Crown of Italy had been bestowed upon him for his professional services. His half-brother is Mr. Charles A. Morton, Emeritus Professor of Surgery in the University of Bristol.

JAMES MAXTONE THOM, M.B., C.M., D.P.H.,

Late Medical Superintendent, Glasgow Royal Infirmary.

DR. J. MAXTONE THOM, lately medical superintendent of the Royal Infirmary of Glasgow, has, to the deep regret of his many friends, not long survived his retiral from office. Dr. Thom was born in the town of Crieff in Perthshire in 1863. After graduating in medicine in the University of Edinburgh and taking the Diploma in Public Health at Glasgow he became medical officer of health for Auchterarder and Logiealmond, adjacent to his native burgh. When he had held this charge for six years he went to Glasgow to be medical officer of Barlinnie Prison and consulting medical officer of Duke Street Prison. In May, 1902, he was appointed medical superintendent of the Glasgow Royal Infirmary. He discharged his duties there with much acceptance for twenty-three and a half years, with one exception the longest tenure on record since 1838, when the post of superintendent was first established.

The period covered by Dr. Thom's term of service was one of the most momentous in the history of the Infirmary, including as it did the years of reconstruction and the problems created by the great war. In course of the reconstruction the whole Infirmary was built anew, the old buildings being completely replaced by a well equipped modern edifice. It is speaking evidence of Dr. Thom's unfailing tact and competence that this transformation was methodically carried through without any interruption in the normal services of the Infirmary. On the declaration of war Dr. Thom turned from these tasks to face new cares and anxieties. Throughout the whole of the grim-visaged time he played his part as superintendent with courage and high devotion, at a personal cost which in the end wore down his health and led to his resignation from office on December 31st, 1925. It was the hope of all that his release from active work might in great measure restore his strength and enable him to enjoy his well earned retirement for a number of years. Fate, however, had otherwise determined. He died on March 23rd last in a nursing home in Glasgow.

Temperamentally Dr. Thom was thoroughly suited for the charge which formed the chief work of his life. He was genial and kindly of disposition, and was gifted with the faculty of understanding, than which there is none more helpful to an administrator. He knew his hospital and his

people well. He enjoyed the esteem and confidence of his governors and the friendly regard of the members of his medical and surgical staff, who were always assured that in his conduct of affairs he was inspired by a wish to meet the reasonable requests of all in the best interests of the service than that the Infirmary claimed of him. The recreations of his leisure were fishing and golf. He is survived by his widow and a married daughter. His name will long be remembered with affection in the institution which he served so long and faithfully.

PROFESSOR DAVID MACEWAN.

WE regret that there was an error in the obituary notice of Professor David MacEwan of Dundee, published on April 9th (p. 703). It should have been stated that, at the Annual Meeting in Carlisle in 1896, he opened the discussion on hypertrophy of the prostate. The address in surgery was delivered by Dr. Roderick Maclaren, senior surgeon to the Cumberland Infirmary, Carlisle. It dealt with preventive surgery.

A Reuter's telegram from Capetown announces the death of Sir EDMOND STEVENSON, F.R.C.S.Ed., formerly president of the Medical Council, Cape Colony, of the Cape Branch of the British Medical Association, and of the South African Medical Congress. We hope shortly to publish a notice of his career.

The death is announced, in his 90th year, of Dr. ROBERT FULTON WEIR, at one time professor of surgery in the College of Physicians and Surgeons, Columbia University, New York; he was elected an honorary Fellow of the Royal College of Surgeons of England in 1900, in the first batch of such Fellows to be chosen.

Medico-Legal.

LUNACY CERTIFICATION.

De Freville v. Dill.

THE Court of Appeal, consisting of the Master of the Rolls, Lord Justice Scrutton, and Lord Justice Sargant, on April 11th dismissed an application by Mr. J. W. J. Cremlyn, on behalf of Mrs. May de Freville, the plaintiff in the action against Dr. A. V. Dill of Stroud—reported in the BRITISH MEDICAL JOURNAL of April 9th, p. 705—to have the jury who had been discharged by Mr. Justice Avory because they had formed a premature opinion adverse to Dr. Dill re-summoned and re-empanelled to hear the rest of the evidence.

Mr. Cremlyn, in making the application, said he had called fourteen witnesses for the plaintiff, and had closed her case, and the defendant had finished his evidence-in-chief and had been cross-examined for about an hour and a half when, the cross-examination not being completed, the foreman of the jury asked Mr. Justice Avory whether the jury could stop the case. The judge replied: "It depends entirely what views you take as to the evidence." The judge then told the jury to put their message to him in writing. The foreman did so, and handed it to the judge, who said that it was a finding by the jury that the defendant had been negligent, and returning a verdict for the plaintiff. Mr. Singleton, the leading counsel for the defendant, made no application for the jury to be discharged, but said that he could not consent to judgement in the circumstances. Thereupon the judge said that the proper course for him to adopt was to discharge the jury, as they had given a verdict without hearing material evidence for the defendant. The foreman said the jury had simply asked for advice, and had taken the advice given to put their opinion in writing. Mr. Cremlyn submitted that the judge was only entitled to discharge the jury if he had come to the conclusion that they had misconducted themselves, and had formed a dishonest, or corrupt, opinion.

Counsel for the defendant were not called on to argue.

Application Dismissed.

The Master of the Rolls, in his judgement dismissing the application, said the words used by the jury went far beyond a mere indication of a view passing through their minds. They were only consistent with an intention to stop the case without hearing the rest of the evidence for the defendant. It was plain that such a verdict must be bad. It was contrary to the oath taken by the jurors themselves well and truly to hear the case and to decide it in accordance with the evidence. Mr. meant the whole of the evidence, and not a part only of it. The intervention offended against the basic principles of justice. Mr. Justice Avory had exercised his discretion quite correctly, and he (his lordship) would be very sorry to say anything which might ve the effect of limiting or impairing the discretion of a judge discharge a jury in similar circumstances. The application st be dismissed with costs.

crutton and Sargant, L.JJ., gave judgement to the same effect.

Universities and Colleges.

UNIVERSITY OF LONDON.

A COURSE of three lectures on "The menstrual function, its physiology and pathology," will be given by Professor H. Beckwith Whitehouse at the London (Royal Free Hospital) School of Medicine for Women, Hunter Street, W.C.1, on Mondays, May 16th, 23rd, and 30th, at 5.30 p.m. Admission to the lectures is free without ticket.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

AN ordinary comitia of the Royal College of Physicians of London was held on April 11th at 5 p.m., the President, Sir John Rose Bradford, being in the chair.

The President delivered his annual address, in which he reviewed the work of the College during the past year. There was a considerable increase in the number taking the membership, the pointed out that there are now 379 Fellows. There was a contotal number of Members now being 836, as against 732 a year ago. He mentioned the honours conferred by the King upon Fellows, Members, and Licentiates of the College, and alluded to the gifts made to the College, including that from Colonel Sir Douglas Powell, Bt., of a replica of the portrait of his father, Sir Richard Douglas Powell, a former President, painted by Mr. Spencer Watson. Mention was also made of the revision of the by-laws during the past year, and special reference was made of the power that the College now assumed of granting Honorary Fellowships in special circumstances.

The President then delivered obituary addresses upon the career and work of the fifteen Fellows who had died in the past year, including Dr. E. S. Reynolds, Sir John Williams, Sir W. B. Leishman, Sir F. W. Mott, Dr. John Thomson of Edinburgh, Dr. J. G. Adami, Dr. Thomas Claye Shaw, Sir Isambard Owen, and Dr. Thomas R. Bradshaw.

Sir David Ferrier, the Senior Fellow present, then proposed a vote of thanks to the President.

Sir John Rose Bradford was re-elected President for the ensuing year.

Diplomas in Tropical Medicine were granted, jointly with the Royal College of Surgeons, to the following twenty-four candidates who had passed the required examination:

S. Annecke, E. G. Anthonisz, A. C. L. O'S. Bilderbeck, Catherine Y. Burne, N. P. Dalal, T. B. Gilchrist, R. D. Gross, Kathleen M. Halloran, R. G. Keays, H. H. W. Kumm, F. R. Lockhart, A. D. Logandan, P. H. Martin, F. R. L. Miller, Margaret M. Nolan, J. Portelli, Helen M. Russell, E. G. Sayers, H. M. Shelley, Viva E. K. Stuart, H. S. Townsend, Bertha Williamson, C. J. Wylde, W. A. Young.

Medical News.

AT the annual meeting of the Tuberculosis Society, held at Somerville College, Oxford, Sir StClair Thomson was elected president, and the council was instructed to consider the constitution of the society and to recommend alterations if necessary.

As a sequel to Sir Berkeley Moynihan's broadcast talk on Lord Lister from the Leeds-Bradford station of the British Broadcasting Corporation on April 8th, Sir Charles Hyde has endowed a bed in the following five Birmingham hospitals: General, Queen's, Children's, Orthopaedic, and Women's.

AMONG the Chadwick Public Lectures to be delivered this session is one by Sir Thomas Legge, C.B.E., M.D., on the teaching of industrial medicine. It will be given on Tuesday, May 3rd, at 5.15 p.m., in the house of the Medical Society of London (11, Chandos Street, Cavendish Square, W.), and Dr. S. Monckton Copeman, F.R.S., will be in the chair. Admission is free.

THE annual meeting of the Medical Mission Auxiliary of the Church Missionary Society will be held at the Central Hall, Westminster, on May 4th, when Bishop H. Gresford Jones (late of Kampala) will take the chair at 7.30 p.m. The speakers will include Dr. A. R. Cook, C.M.G., from Mengo, Uganda, and Dr. D. Duncan Main from Hangchow, China. Tickets of admission can be obtained from the Superintendent, Loan Department, Church Missionary Society, Salisbury Square, E.C.4.

DR. EDWARD MAPOTHER, Medical Superintendent of the Maudsley Hospital, Denmark Hill, S.E.5, will give a series of five clinical demonstrations at the hospital on types of mental disease, on Wednesdays, at 2.30 p.m., beginning on April 27th.

THE Langley prize of the London School of Hygiene and Tropical Medicine is now open to competition among officers of the West African Medical Staff, whether on the active or retired list. The prize, founded in memory of Dr. W. H. Langley, C.M.G., P.M.O. Southern Nigeria, is awarded every three years; the first award was made in 1924. It is given for the best paper on tropical medicine or surgery, hygiene, or epidemiology and parasitology. It is of the value of £30. The papers in competition must be received by the Secretary of the London School of Hygiene and Tropical Medicine, Malet Street, London, W.C.1, on or before October 1st.

THE Ministry of Health has amended the regulations in connexion with the use of preservatives in food, which came into operation on January 1st. The manufacture for sale of an article of food containing any preservative introduced by the use of preserved bacon, ham, or margarine is now prohibited, and the restriction on the use of sulphur dioxide is slightly modified. In a circular (782) attention is called to the Sale of Food and Drugs Act, 1927, which gives effect to the recommendation of the Departmental Committee on Preservatives and Colouring Matters in Food that any prohibitions or limitations imposed by the regulations should bind the Courts in proceedings taken under the Sale of Food and Drugs Acts. Previous references to the regulations dealing with preservatives in food appeared in our issues of August 22nd, 1925 (p. 349), and January 8th, 1927 (p. 70).

APPLICATIONS for the Moorfields Research Scholarship of the value of £50 a year must be sent to the Dean of the Royal London Ophthalmic Hospital, City Road, E.C.1, by May 15th. The successful candidate will conduct clinical research at the hospital.

THE date of opening of the eighth Salon des Médecins at Paris has been postponed to May 22nd.

BOOTS PURE DRUG COMPANY, LTD., are extending their research work at Nottingham, and have appointed as head of the research laboratories Dr. F. L. Pyman, F.R.S., professor of technological chemistry in the University of Manchester and in the College of Technology. A primary object of this new development is the prosecution of fundamental research in the domain of chemotherapy. Professor Pyman is well known for his investigations into the chemistry of the alkaloids and of synthetical compounds closely related to them; recently he has devoted much attention to the glyoxaline group, and has effected a synthesis of one of the most important members of the series—namely histidine, a structural unit of certain protein molecules.

Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to ***The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.***

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the BRITISH MEDICAL JOURNAL alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the BRITISH MEDICAL JOURNAL must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the JOURNAL, should be addressed to the Financial Secretary and Business Manager.

The ***TELEPHONE NUMBERS*** of the British Medical Association and the BRITISH MEDICAL JOURNAL are *MUSEUM 9861, 9862, 9863,* and *9864* (internal exchange, four lines).

The ***TELEGRAPHIC ADDRESSES*** are:

EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology Westcent, London.*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westcent, London.*

MEDICAL SECRETARY, *Mediocra Westcent, London.*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 4737 Dublin), and of the Scottish Office, 6, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 4361 Central).

QUERIES AND ANSWERS.

DELIVERY IN CONTRACTED PELVIS.

"A. K." asks for advice in the conduct of the following case: A woman, then aged 25, had her first child three years ago. The presentation was a breech; each hand had to be brought down and forceps applied to the after-coming head. The child, though small, was dead. The next year she had an abortion at two and a half months, when it was found quite impossible to get an ordinary-sized hand through the pelvic brim to evacuate the ovum from the uterus. Now she is six months pregnant again. She does not like the idea of waiting for a possible Caesarean section, but has no objection to induction of premature labour. What would be the period at which to act and by what method? The use of bougies is rather risky in the circumstances.

*** A patient giving a history as outlined by our correspondent requires the most careful attention, preferably from an expert and in a hospital. The pelvic measurements must be accurately estimated to form an opinion as to whether a *viable* child is possible *per vias naturales*. Caesarean section at term seems the best—in fact, the only reasonable line of treatment for the safety of both mother and child, because the pelvic brim has been found too small to allow the passage of a normal-sized hand. This treatment could be justifiably insisted upon by the patient's medical attendant. If a Caesarean section is absolutely refused, then the only alternative is the induction of premature labour at a time when the foetal head will only just enter the brim of the pelvis. If that time is reached earlier than the thirty-sixth week of pregnancy, then induction is contraindicated in the interests of the child. Should induction be insisted upon, then there is no serious objection to Krause's bougie method.

ATONY OF THE COLON.

"N. A. M." asks for suggestions for treatment for complete atony of the colon. Eserine gives rise to pain without evacuation, and no result is obtained from the usual purgatives; enemas give only indifferent results. Laparotomy was performed, but beyond general laxity and ballooning of the pelvic colon, nothing *abnormal was found.*

INCOME TAX.

Succession to Practice.

"A. B. C." sold his practice to F. as from May 1st, 1926, the arrangement providing for a six months' partnership, on a basis of equal shares, ending at that date. He has been assessed on a cash basis for many years and has supplied figures accordingly for the period expiring March 31st, 1926, but has since been asked for a separate statement of the partnership profits for the six months to April 30th, 1926.

*** So far as the year 1925-26 is concerned, "A. B. C.'s" gross liability would be determined by (1) the "average" assessment for seven months *plus* (2) one-half of the average for five months—that is, it would be represented by $(\frac{7}{12} + \frac{5}{24} =) \frac{19}{24}$ of the assessment. His personal allowances, etc., would be deductible from that amount. For the month of April his liability would be fixed by one-half of one-twelfth of the "average" assessment, and the average would be affected to some extent by the earnings during the six months' partnership. It may be for that reason that the latter figures were required, but there is another possibility. If the profits of the partnership—which technically "succeeded" to the sole practice—fell short from some specific cause since or by reason of the succession, "A. B. C." and his partner would be entitled to have the assessment for that period reduced to the actual amount of their earnings. But it should be borne in mind that the cash basis would not be applicable unless the receipts from pre-partnership debts were brought into the partnership earnings.

Old Book Debts.

"FOGGED" sold his practice on April 1st, 1926, buying another as from January 1st, 1927, after a quarter's introduction on a half-share basis. Has he to include in his return any cash he is receiving in respect of his former practice?

*** As for the year 1926-27, our correspondent has ceased to carry on his former practice and is not assessable in respect of any sums he may receive from it; they represent capital in the form of past book debts. The basis of computation of liability in respect of his new practice appears to be correct.

LETTERS, NOTES, ETC.

RHEUMATIC INFECTION IN CHILDREN.

DR. T. M. ALLISON (Newcastle-on-Tyne) writes: The second report on juvenile rheumatic infection is based upon and deals with the following aspects: (1) a micro-organism, (2) tonsillar infection, and (3) environment. There is, in my opinion, an unnamed fourth factor—namely, *mouth-breathing*. The mouth is to eat bread-and-butter with; the nose is to breathe through. I have rarely, if ever, seen rheumatism except in a mouth-breather, and one can almost always elicit a history of snoring. Mouth-breathing accounts for tonsillar infection; *it dries* and prepares the tonsils for the inhaled organism, and it accounts for the influence of dampness and the cold air of the bedroom making the arthritic pains worse, in spite of the rest and the warmth of the bed. In your leading article in the BRITISH MEDICAL JOURNAL it is stated that the second report "deals rather with treatment than with prevention." May I suggest that the prevention of rheumatism in childhood lies in the prevention of mouth-breathing, and that in adults (where operation may be futile) that it lies in the use, especially at night, of a carbolic mouth-wash?

CORRECTION.

IN the report of the meeting of the South Wales and Monmouthshire Branch in the issue of April 16th (p. 721), Dr. Emil Goetsch should have been described as "of Brooklyn," and in the last sentence "solid shadow" should have read "heart shadow."

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 40, 41, 44, and 45 of our advertisement coln [illegible] 43. and [illegible] notified in the advertisement columns appears in the Supple[illegible] at page *164*.

A British Medical Association Lecture
ON

ASTHMA IN CHILDHOOD.

DELIVERED BEFORE THE SWANSEA DIVISION ON FEBRUARY 24TH, 1927,
BY

ROBERT HUTCHISON, M.D., F.R.C.P.,
PHYSICIAN TO THE LONDON HOSPITAL, AND TO THE HOSPITAL FOR SICK CHILDREN, GREAT ORMOND STREET.

ASTHMA is always an interesting disease, but it is specially interesting in childhood, not only because we meet it then in its earliest and simplest forms, but also because it is then that we have the best chance of curing it. Relatively, too, it is commoner in the child than in the adult, for about one-third of all cases begin below the age of 10 and many start during infancy. Like all the diseases of childhood in which nervous influences play a large part, it is more frequently met with amongst boys than amongst girls.

There are four varieties or types of "asthma" in childhood:

1. The *Spasmodic* type, which presents the classical picture of recurring episodes of the characteristic asthmatic dyspnoea. This type is commonest in older children.

2. The *Hay Fever* type, in which nasal catarrh is the most prominent feature. Such cases are apt to be regarded as simply recurrent "colds in the head."

3. *Bronchial Asthma*, in which there is, at the outset, a good deal of bronchitis, to which spasm of the tubes becomes superadded. Cases of this type are very common, and the attacks are often prolonged.

4. The *Bronchitic* type, which is peculiar to children, especially babies, and in which the asthma masquerades as a pure bronchitis, so that the real nature of the condition is often overlooked. It is distinguished from a simple bronchitis by the suddenness of the onset and subsidence, by the fact that dyspnoea precedes the appearance of physical signs in the lungs, by the comparative absence of fever, and by the presence of an eosinophilia.

Thymic Asthma.—In infancy asthma may be simulated by the rare condition called "thymic asthma," or "paratroplied thymus or enlarged bronchial glands. Thymic asthma always begins before the age of 18 months, and is distinguished by the presence of the physical signs of enlargement of the thymus or of the bronchial glands. A screen examination is of great help in the diagnosis.

THE NATURE OF ASTHMA.

The dyspnoea of asthma is attributed, as is well known, to obstruction of the bronchi either from spasm of the muscle or from swelling of the mucous membrane, or from both these acting together. The obstruction, whicherer form it takes, may be brought about either (1) through the respiratory centre, or (2) by direct action on the bronchial mucous membrane. We must consider each of these modes separately.

1. The respiratory centre may be affected (*a*) psychologically, (*b*) reflexly, (*c*) by the blood.

(*a*) Amongst psychological influences may be mentioned fright and excitement (both of which are specially potent in determining an attack in children), and suggestion, the part played by which in early life is difficult to determine.

(*b*) The chief sites of peripheral irritation which may affect the respiratory centre reflexly in children are the nose and throat and the alimentary canal. Phimosis would also appear to be an occasional cause.

(*c*) The centre may be affected directly by the blood circulating through it in the way to be described immediately.

2. The changes in the bronchi which lead to obstruction may also be brought about directly and without the intervention of the respiratory centre by the presence in the blood of a specific substance which acts as an irritant. The substance in question is believed to be of the nature of a foreign protein or "allergen" to which the asthmatic subject is "sensitive." Some seem to be born with this sensitiveness, others acquire it, others have it "thrust upon them" by disease or accident.

It may be a constitutional peculiarity, often inherited. Such an inborn metabolic irritability may reveal itself by producing, not asthma alone, but other episodic disturbances such as migraine and cyclical vomiting, as well as skin disorders like eczema and urticaria. Such patients are usually sensitive to several proteins, but the degree and character of the sensitiveness may vary from time to time and may come and go suddenly. Sensitiveness may be acquired as the result of an overdose of a foreign protein. It is said, for instance, that an infant may sometimes become sensitive to egg in consequence of being given large quantities of albumin water, and sensitization after the injection of serum is, of course, well known. Sensitiveness may also be "thrust upon" a patient by an operation, particularly, perhaps, an operation on the throat.

Such an asthmatic child, therefore, may be born with an unstable metabolism, or it may have been thrown off its metabolic balance in one of the ways described. Our experience at the Hospital for Sick Children (Great Ormond Street), however, has been that sensitiveness is this way in children—or by an operation, particularly, a factor in less than half of all cases of asthma in childhood, and that even when it is present it is only in a small number that the specific excitant of the asthma can be determined. It would seem, indeed, as if sensitiveness is more often a predisposing condition as regards asthma in children than the actual cause of it.

Where sensitiveness is the cause the protein to which the patient reacts may reach the blood in various ways.

Ingestion.—First, it may be ingested in the form of food. Almost any food may produce a reaction, even—perhaps especially—such common ones as the proteins of eggs and milk. Sensitiveness to food protein is usually inborn, and tends to disappear with time. It is therefore more likely to be a cause of asthma in early childhood than in the later years.

Inhalation.—Secondly, the protein may be inhaled in the form of dust of various kinds—pollen and so forth. This form of sensitiveness is oftener acquired than inborn —though even when acquired there has probably been an inborn tendency to metabolic instability—and is more persistent than sensitiveness to food protein, having less tendency to disappear of itself. It is of more importance in the causation of asthma than sensitiveness to the protein of foods.

Bacteria.—Thirdly, there is some reason to believe that the protein to which an asthmatic patient is sensitized may be of bacterial origin and derived from organisms growing at some seat of chronic infection, of which the commonest is probably the nasopharynx. So-called bronchial asthma is the form of the disease most likely to arise in this way.

The fact that a patient is "sensitized" can often be inferred from his history. Thus one of my patients had attacks only when living on a farm in close contact with animals, whilst another was only asthmatic when living in the neighbourhood of trees. Sensitization to common articles of food or to dust is more difficult to detect, but by the use of the cutaneous test with watery extracts of different proteins the question whether and to what the patient is sensitive can be definitely determined. I think it is advisable to use such tests in all asthmatic children, but at the same time I am bound to say that I have been disappointed in the results of treatment based upon them. This matter, however, will be referred to immediately.

TREATMENT.

Treatment of the Attack.

Treatment of the attack of asthma is much the same as in the adult. Subcutaneous injection of adrenaline (2 to 3 minims) is the best remedy, and acts by antagonizing the action of the vagus and stimulating that of the sympathetic. Morphine, though effective, has to be used cautiously in childhood, and children do not like "fumes."

Treatment of the Tendency.

More important is the treatment of the asthmatic tendency. Here the chief thing to realize is that "asthma" is not a disease of the respiratory system only, but one of the child as a whole, and that treatment must aim at breaking the asthmatic habit, for, as someone has put it, "the best cure for asthma is not to have it."

In the general management, therefore, the patient's whole life must be regulated, and nervous excitement and overstrain particularly guarded against. At the outset the question of "coddling" *versus* "hardening" will obtrude itself, and is not always easy to answer. Whilst we must carefully avoid making the asthmatic child a "hot-house plant" invalid, it must also be admitted that needless exposure to weather, especially fog and damp, is injurious, particularly in the bronchial type, and we must not make a fetish of fresh air. The question of climate also arises at this stage, and we shall be asked whether a permanent change is desirable. As to this it is unwise to be too dogmatic. All we can say is that a warm, dry climate is theoretically the best—again especially in the bronchial type—but such a climate is not to be had in these islands. Mere change of locality is highly speculative, and is apt to be only an escape from the frying-pan into the fire. It is true that some patients seem to be much freer from attacks in one place than another, but this may be due to some factor other than the climate—removal, for example, from the immediate neighbourhood of animals. Certainly we should never advise the parents to change their place of residence unless they have satisfied themselves by a prolonged trial that the child is free from the disease in the place to which they propose to move. My usual advice is that they should endure the evils they know rather than fly to others that they know not of. Immunity from attacks is usually obtained at an altitude of 5,000 feet, but this is impracticable as a permanent place of abode, and the attacks recur so soon as the patient returns to a lower level.

Diet is of importance, for experience has shown that improvement often results from the avoidance of "indigestible" things, and the provision of small dry meals with no supper. Carbohydrates should be avoided rather than fats. In children, however, it is not wise to cut down the diet so rigidly as can often be done with advantage in the adult, for the needs of growth have to be provided for, and the child must not be sacrificed to the disease. If tests have shown that the child is "sensitive" to any particular article this should, of course, be banished from the diet, but my experience has been that it is only in exceptional cases that this has much effect on the disease.

Drugs.—The drugs which might be expected to be of use in asthma are those which lessen vagus action and those which diminish the excitability of the respiratory centre. Belladonna and its allies act in the former way, arsenic is said to act in the latter, and there is no doubt at all of the great benefit often derived from them in cases of asthma in childhood. I am in the habit of giving small doses of potassium iodide (especially where there is a bronchial element) along with full doses of belladonna or stramonium and arsenic as a routine. The mixture should be given regularly after meals for prolonged periods, and, so used, often effects great improvement. I have seen this happen too often to have any doubts of the real curative value of such a combination, and, indeed, I regard it as on the whole the best treatment for asthma in children. For the purpose of warding off a threatened attack a full dose of a sedative such as chloral at bedtime is often very helpful. Antipyrine sometimes acts equally well.

Operations.—The question of removing enlarged tonsils and adenoids in asthmatic children will often arise, and if the enlargement is causing obstruction, or if the tonsils are infected, it is best to operate. It is unwise, however, to make any promise as to the effect on the asthma, but benefit is most likely in cases of the bronchial type. On the other hand, I have, like everyone, known several cases in which asthma appeared for the first time after the removal of tonsils and adenoids. Of the effects of cauterization of the nose for asthma in children I have had very little experience.

Vaccines.—A course of vaccines is worth trying in cases of the bronchial type, using for choice an autogenous vaccine prepared (if possible) from sputum obtained during an attack. The results, however, are extremely uncertain, though at least it may be said that the treatment can do no harm. When it is successful—and I have seen cases where it certainly seemed to be—it is always doubtful whether the benefit obtained is due to a raising of the resistance to infection or whether the vaccine has really acted as a desensitizing agent. That, however, is an academic question.

Specific Treatment.

If the child is known to be a "sensitive," removal of the offending agent from his environment is, when possible, always to be advised, though here again definite cure should not be promised. In all such cases, too, it is wise to forbid the use of feather pillows, hair mattresses, fur coats, as well as horse-riding and the keeping of pets, for even if the patient is not "sensitive" to any of these already he may easily become so. These, however, are elementary precautions, and the ideal to be aimed at is a general desensitization which would, so to speak, cut the ground from under the feet of the asthmatic process. Unfortunately, however, the technique of desensitization is still only in the experimental stage, and so far I am bound to confess that I have been disappointed with the results in those cases—admittedly few in number—in which I have tried it. Various substances have been suggested as desensitizing agents—peptone, milk, some of the child's own blood, tuberculin, and cultures of organisms prepared from the nasopharynx or from the bowel. Of these I have had most experience with peptone, usually given intravenously. It is necessary to proceed cautiously, and it is difficult to regulate the dose, for when an asthmatic child is admitted to hospital the asthma usually disappears for a time at least, and so there is nothing by which to gauge the effect of the treatment. On the whole, I think I may say that our experience at the Hospital for Sick Children has not borne out the high opinion of the treatment which has sometimes been expressed. It is quite possible, nevertheless, that when the technique of the method has been more elaborated it may prove to be of great value in those asthmatics in whom sensitiveness exists. It must be remembered, however, as has already been pointed out, that these constitute a minority. Of general radiation, a method of treatment recently advocated by Dr. Gilbert Scott,[1] I have had no experience. It seems possible that it acts by general desensitization.

PROGNOSIS.

Finally, a word as to the outlook for the asthmatic child. The immediate attack is, of course, rarely dangerous except in young or delicate infants. Assuming that preventive treatment fails, what chance is there of the attacks being "outgrown"? A very fair chance indeed. I have been agreeably surprised, when following up cases of asthma, seen often several years ago, to find in how large a proportion the attacks have either ceased altogether or have become few and slight, although where the disease has lasted for several years there may be some resulting emphysema and some stunting of growth and development. On the whole, however, the outlook for the asthmatic child is much brighter than the inexperienced would suppose.

REFERENCE.

1 BRITISH MEDICAL JOURNAL, June 5th, 1926, p. 939.

A British Medical Association Lecture ON THE TREATMENT OF INFANTILE PARALYSIS.

DELIVERED BEFORE THE MONMOUTHSHIRE DIVISION, DECEMBER 10TH, 1926,

BY

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THERE is no disease more productive of permanent disability in children than infantile paralysis, but fortunately much crippling can be prevented by well guided early treatment. The malady is always among us in a sporadic form, but it is many years since we have had an epidemic comparable to that which has occurred recently at Broadstairs and Leicester. Although infantile paralysis has been recognized for nearly a century, yet most of our knowledge has been accumulated during the last thirty years, mainly through experience gained when the disease has assumed an epidemic form in various countries. In 1905 it spread all over Sweden, and since 1907 there have been periodical epidemics in the United States of America.

Poliomyelitis attacks children in all grades of society and is not necessarily associated with poor housing conditions. There is strong reason for thinking that it is a disease disseminated from person to person, and although the causal agent is not known it is believed to be a minute filterable organism[1] invading the body by the mucous membrane of the nasopharynx. Passing through the mucous membrane the poison gains the blood stream by way of the lymphatics, and, spreading widely, produces a general infection.[2] The main onslaught, however, is directed against the central nervous system, and the motor nerve cells of the grey matter in particular. These last suffer from a threefold attack[2]—namely, mechanical pressure due to oedema and cellular infiltration of the surrounding nervous tissue; anaemia through rupture or constriction of their arterioles; and intoxication due to the direct action of the virus. The site, extent, and virulence of the attack determine the prognosis. Bulbar lesions account for many of the fatal cases; in lesions of the cord alone, which are much commoner, the mortality is comparatively low. Recovery of the motor nerve cells and the disappearance of the paralysis will depend upon whether the initial attack causes complete cellular destruction, in which case the paralysis is absolute and irrecoverable, or whether the cells, having survived the first onslaught, are only temporarily unable to function through persistent pressure from haemorrhagic exudate and oedema, the gradual absorption of which brings relief. Should the exudate, however, become organized and replaced by fibro-cicatricial tissue, then some cells may remain permanently functionless from scar pressure. Although there is no means of determining the nature of the pathological lesion and forecasting the ultimate prognosis, yet it can be said that there is in most patients a strong tendency towards spontaneous recovery.

The symptoms of onset, apart from the paralysis, resemble those of other acute specific fevers. The incubation period is probably from four to ten days, during which there may be some sore throat. The onset is sudden, accompanied by fever up to 103° F., sweating, vomiting, sometimes diarrhoea, and general nervous irritability. One or more limbs are paralysed and flaccid. There are various clinical types, which are classified by Müller as spinal, bulbar, cerebral, and abortive. The bulbar form, as already mentioned, presents an unfavourable outlook owing to possible involvement of vital centres. Several fatal cases of this type have been reported by Feiling,[3] Collinson,[4] and others. The cerebral form (polio-encephalitis) may be confused with meningitis, and being an upper motor neurone lesion is characterized by spastic paralysis. The abortive form gives rise to an interesting group, and was first recognized by Caverly[5] in the Vermont epidemics. Many of the acute initial symptoms are present but paralysis is absent. This form occurs frequently during an epidemic, but owing to the absence of paralysis is apt to be missed, and thus a patient of this type may become an unchecked carrier. If doubt exists, a lumbar puncture will help to clear the diagnosis. The cerebro-spinal fluid will show white cells from a hundred upwards in each cubic millimetre, three-quarters of them being polymorphonuclear. Organisms are absent and the glucose and chloride content are both normal.

The spinal type is the commonest paralytic form, and the following remarks apply mainly to this group of cases. There are three clinical periods of the disease—the acute, the quiescent, and the chronic. The acute stage is ushered in by the symptoms indicated. The limbs are painful and tender to touch, and this may last with declining severity for six weeks. It should be added, however, that frequently in the sporadic case no history of an acute onset is obtained; the child goes to bed apparently well, and the next morning the mother finds one limb powerless and hardly any other symptom to suggest an acute infection. Muirhead Little,[6] in a careful investigation of 115 cases, describes the sudden appearance of paralysis in 43, and in 19 of these the paralysis was the first symptom to attract attention. With the passing of muscular tenderness the second or quiescent stage begins, and with it spontaneous recovery of the muscles. Improvement continues for approximately two years. When recovery comes to a standstill the third or chronic stage has arrived.

TREATMENT.

The virus is present in the mucous membrane of the nasopharynx of infected persons, and therefore contacts should cleanse their throats by gargling three times a day with a 1 in 4,000 solution of potassium permanganate.

First Stage.

The patient should be isolated for four weeks and all the excreta disinfected. In the pre-paralytic stage the intraspinal injection of 5 to 20 c.cm. of human immune serum, obtained from patients who have recovered from the disease, has been advocated, and many cases have been so treated in America and New Zealand. The practical difficulties in providing serum are obvious, although the municipal authority of Melbourne[7] succeeds in obtaining and storing it for emergency. In this stage, too, urotropine[8] has its greatest value. The objection to it is its tendency to produce bladder irritation, but this can be obviated and large doses tolerated by keeping the urine alkaline with sodium bicarbonate and potassium citrate, as recently suggested by Hurst.[9] Urotropine is of doubtful value when the disease is well established.

The pain and tenderness suggest that rest in bed is the best treatment in this stage. The joints should be kept in a neutral position to prevent deformities arising and to relax opposing muscles as much as possible. The child should lie on a flat bed with the thighs slightly abducted, the knees straight, and the feet at right angles to the legs. Sandbags and properly arranged towels will help in maintaining this position. It is a great advantage, however, to put the limbs in splints or plaster gutter casts. A pair of long moulded splints extending from just below the buttock to the back of the heel and then along the sole of the foot will keep the knee and ankle joints in the correct position. A flat bed will help in preventing scoliosis developing if there is paralysis of the spinal muscles on one side. If an upper limb is paralysed the arm should be abducted, the forearm flexed and supinated, and the hand slightly dorsiflexed. These positions of the limbs are the best in the early stages and where it is not yet clear what muscle groups are most affected, but where it is obvious that some muscles are paralysed and their opponents have escaped, then it is well to follow the rule laid down many years ago by Sir Robert Jones[10] and allow greater relaxation of the weakened group—for example, in a drop-foot paralysis with the tendo Achillis unaffected, the foot should be dorsiflexed slightly beyond a right angle and the splint adapted accordingly. No other treatment is necessary during this stage. Massage and electrical treatment of these tender muscles are to be strongly deprecated. They add to the discomfort of the patient and may do infinite harm. But this should be

explained to the parents, who will need reassuring that, having splinted the limbs, the best service to the child is to stand and wait in the early weeks.

Second Stage.

When tenderness has disappeared from the muscles, which is usually somewhere about the sixth week, more active treatment is undertaken. Accompanying the paralysis there are trophic disturbances such as local impairment of the circulation. The muscles are flabby, and the limb is cold and has a blue tinge. The aim of treatment should be to maintain the nutrition of the muscles until restoration of function is established. This is best attained by keeping the limb warm, applying gentle massage and the galvanic current. But it should be clearly understood that neither massage nor electricity has a direct influence on recovery. The most that can be said for either is that they keep the muscles in a state prepared to receive impulses. The splints should continue to be worn and great care taken, during the massage, that the paralysed muscles are not stretched. After two or three weeks of massage the child should begin to be propped up on a bed-rest, and later may be allowed to sit in a chair propped up with pillows. All this is preparatory to getting the child on its feet. By this time the muscles will have shown indications of recovery. Even a small contraction in a muscle can be felt by fingers placed on its tendon, and once a voluntary contraction occurs much can be done to hasten further recovery by graduated exercises. But in doing this great care is necessary to avoid overloading the muscle—for example, if the foot dorsiflexors are paralysed it will not do to let the foot drop and expect the recovering muscle to lift it. The foot should be supported almost to right angles and the patient then asked to dorsiflex. In all these exercises, which are valuable in restoring bulk and tone to the muscles, the burden must be accommodated to the strength of the muscle.

The time when a patient may be allowed to stand will vary with each individual case, but in many with lower limb paralysis it will be from three months upwards from the onset of the disease. If the paralysis has disappeared walking should be undertaken by stages, but fatigue avoided. If some paralysis remains, then walking appliances will be necessary, depending upon the disability—for example, with paralysed quadriceps, peronei, and foot dorsiflexors, a calliper with uplifting toe-spring and outside T-strap and wedge on the boot will keep the knee straight, the foot dorsiflexed and everted at the ankle. By this means all the paralysed muscle groups are kept relaxed. The splints first prescribed should still be worn during the night and the graduated exercises and massage continued. At the end of the year recovery slows down considerably, but it may still go on for yet another year. It is very unlikely that any improvement will take place after two years in a patient who has been continuously under well directed treatment from the beginning. But during this time every care should be taken to improve the general health, for this helps in the recovery. Fresh air and sunshine are useful adjuncts in this respect. Children in the second stage treated at the Royal National Orthopaedic Hospital at Brockley Hill react favourably to graduated sun exposure, but whether it is due to the increased metabolism thereby produced is difficult to say.

Third Stage.

When, in spite of treatment, recovery has ceased and the condition has remained stationary for some months, then the last or chronic stage has been reached. The residual paralysis then represents the extent of permanent disability, but two or three years at least from the onset should be allowed to elapse in a well treated case before this disability is accepted as incapable of further non-operative improvement. This, of course, applies only to cases where deformity has been prevented and where the disability is essentially a paralytic one. Where, however, as frequently happens in the neglected case, deformity is present, this should first be corrected and the overstretched paralysed muscles given some months to recover with the joint in a favourable position.

the lower limb the commonest deformities needing correction are flexion of the hip and knee, and plantar flexion at the ankle. In flexion of the hip the tightened tensor fascia femoris usually prevents correction, and is best dealt with by Soutter's[11] operation. A longitudinal incision three inches long is made in the long axis of the body with its centre two inches posterior to the anterior superior iliac spine. The tensor fascia femoris is exposed and cut transversely. The muscles and fascia are lifted subperiosteally by an osteotome from either surface of the anterior superior iliac spine. The muscles are pushed back leaving the bare spine projecting, which is then removed by an osteotome. The hip is hyperextended and the wound closed. The patient is nursed for six weeks on half mattresses extending from the head to the buttocks, allowing the hip to be hyperextended, or a plaster-of-Paris cast may be applied from the chest to the ankle. Flexion at the knee can be overcome by extension in a bed calliper, but in intractable cases open elongation of the hamstrings may be necessary. An equinus deformity due to the contraction of the tendo Achillis can often be overcome by dorsiflexing the foot under an anaesthetic, but if this fails open elongation of the tendon should be undertaken, allowing the foot to be brought just up to a right angle with the leg. A varus deformity usually responds to manipulation. Splinting, massage, and graduated exercises should follow the correction of deformity to see if any recovery in the affected muscles takes place. If this happens, the treatment should continue until improvement ceases. But before considering further measures it is worth while allowing this type of case also to be up and walking, properly splinted, for some months.

After sufficient time has elapsed to show that further recovery from the paralysis is unlikely, and where any deformity present has been corrected, there still remain means by which function can be improved, although the paralysis is permanent. Each case presents its own peculiar problem, and therefore principles of treatment only can be mentioned here.

The object of operative treatment is to produce joint stability and dispense with the necessity of wearing an appliance. The methods which find most favour for this purpose at the present time are arthrodesis, tendon transplantation, and tendon fixation, and sometimes two of these methods may be combined.

Arthrodesis was introduced by Albert of Vienna in 1878, when he deliberately ankylosed a flail knee, but now the only common site for the operation is the tarsus; a flail shoulder is occasionally stiffened, but only where there are good scapular muscles to ensure later good movement of the combined humerus and scapula. Arthrodesis of the knee and ankle are seldom performed. For a flail foot where instability is in front of or below the ankle, at the astragalo-scaphoid and astragalo-calcanean joints, the so-called triple arthrodesis is valuable. The astragalus, os calcis, cuboid, and scaphoid are converted into one bone by the removal of their opposing articular cartilages, thus allowing ankylosis to take place by encasing the foot in plaster-of-Paris for eight weeks. But this operation is preferably done at the age of 12 years or over, when the tarsal bones are well ossified. Where the instability is at the ankle-joint, or in cases where the tendo Achillis and tibial muscles are paralysed, producing a calcaneo-valgus deformity of the foot on standing, the best result is obtained by Whitman's operation,[12] which consists of performing astragalectomy and pushing the foot backwards until the fibula overlaps the calcaneo-cuboid joint; the foot is held in a slight equinus position and encased in plaster-of-Paris in this position for three months. A boot with a long heel part to the upper will be required afterwards. One of the cases shown here to-day had a Whitman's operation performed on the left foot for a severe paralytic calcaneo-valgus deformity and a triple arthrodesis for a right flail foot. The patient now walks quite well without appliances, notwithstanding that the right quadriceps is very weak.

Tendon transplantation was first introduced in 1881 by Nicoladoni. Operating upon a case of paralytic calcaneus, he cut the peronei and implanted their central ends into the tendo Achillis. The success of tendon transplantation depends upon the muscle selected for transference and the

manner in which it is grafted. The chosen tendon should be a normal one of good power—a weak muscle is useless. The tendon should be brought down along a gradual path to its new insertion; a sudden twist or turn in its course is fatal to its working efficiency. Where possible it should be inserted into bone. One of the most successful transplantations is the transference of the tibialis anticus to an insertion into the cuboid to act as an everter of the foot where the peronei are paralysed. [In one of the cases shown the peroneus brevis had been grafted into the tibialis posticus to aid inversion of the foot in paralytic talgus.] The transplanted tendon should be relieved of all strain for at least two months, and if the appliance has been worn this should be continued for a little while longer.

Tendon fixation originated in 1898 with Tilanus of Amsterdam when operating upon a girl with paralytic equino-varus. The tendo Achillis was cut subcutaneously, the extensor proprius hallucis was then cut by open section and the central end attached to the extensor longus digitorum, and the peripheral end to the periosteum of the tibia. Codivilla extended the method further, and latterly Gallie[13] of Toronto has brought it prominently forward. The paralysed tendons are converted into ligaments to correct the disability[14]—for example, in paralytic varus the paralysed peronei are permanently fixed to the external malleolus so as to check the deformity. Two grooves are gouged—one on the anterior and the other on the posterior aspect of the external malleolus. The tendons are pulled taut, correcting the deformity, and are buried in these grooves, the longus in front and the brevis behind. The periosteum is brought over and sewn to the tendons, and the foot is encased in plaster-of-Paris for two months. The cast is then removed and the patient allowed to walk without an appliance.

In some cases the paralysis is so extensive that an instrument is a permanent necessity, for no operation is likely to succeed in dispensing with it. One child seen here to-day had not walked for four years owing to complete paralysis of the lower limbs with fixed hip and knee flexion. Soutter's operation was performed on each hip and the knees were straightened by extension. This enabled her to be fitted with callipers and so to walk about. There are exceedingly few cases so badly paralysed that they cannot be made to walk. Even if three or four limbs are paralysed, provided there remains sufficient power in the hands to grasp a pair of crutches, walking is still possible by means of artificial support.

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THE TREATMENT OF CONGENITAL SPASTIC PARAPLEGIA BY SYMPATHETIC RAMISECTION.

BY

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DR. N. D. ROYLE has contributed to the *Medical Journal of Australia* the full text of a paper on the treatment of congenital spastic paraplegia by sympathetic ramisection. By arrangement with the editor of our contemporary the following abstract appears simultaneously here.

It had occurred to Dr. Royle that in spastic paralysis the resistance offered to the moving group of muscles by its antagonists was due to a fault in reciprocal innervation; and when, subsequently, the discovery was made that the voluntary muscles have a dual innervation, he carried out a series of experiments on goats to ascertain whether any deductions could be drawn as to the part played in the causation of the spasticity by the sympathetic element in this dual innervation. The results were published in the *Medical Journal of Australia* in January, 1924.

EXPERIMENTAL.

It was found from these experiments that animals from which the left abdominal sympathetic trunk had been removed could walk well after a short interval, but exhibited the following peculiarities. When the animals were placed on the back both lower limbs were at first held extended, but after an interval the left limb gradually fell into a more flexed and abducted position than the right. The relaxation time of the left knee-jerk was found to be much shorter than that of the right; the relaxation and extension times were, on the operated side, approximately equal, and the whole movement was more quickly performed than on the right side. In addition, resistance to passive flexion and extension was greater on the normal side. These differences were more evident when the animal was placed under light anaesthesia; and when partially anaesthetized the animals were unable to support weight on the limb from which the sympathetic had been removed. The ability to maintain posture voluntarily in the operated limb, however, was retained, and only disappeared under anaesthesia. If the operation were performed on a decerebrate animal similar changes were observed; and further, the extension of the limbs peculiar to the decerebrate condition, although usually present, was not well maintained on the operated side.

In order to obtain independent testimony as to the accuracy of his conclusions, Dr. Royle called in the aid of an experienced neurologist, Dr. Campbell, who examined one of the goats operated on and fully confirmed Dr. Royle's observations and added several details to those mentioned above. He noted that the muscles of the operated limb were softer, the relative lack of tension being particularly noticeable on pressing the tendo Achillis against the bone; further, although the difference in the knee-jerks was as Dr. Royle had described, the least degree of excitement in the animal immediately caused them to become similar in character on the two sides. Some investigators have failed to verify Dr. Royle's results, but it is to be noted that they have experimented on small animals only, in which the changes are less readily detected than in goats; the results, however, have recently been corroborated by Kuntz and Kerper, who experimented on dogs.

THE FIRST CASE.

These experiments confirmed Dr. Royle in his opinion that the sympathetic system was responsible for the occurrence of spasticity, and he considered it justifiable to apply the operation in the human subject. An apparently suitable case came under his notice in September, 1923.

The patient, a man aged 30, had received a gunshot wound seven years before. The bullet, entering above the left ear caused extensive laceration in the region of the left central sulcus, and the wound extended across the middle line to the opposite hemisphere. The patient was unable to speak for three months, and unable to walk for two years, after the injury. On examination there was found to be right spastic hemiplegia affecting both limbs, with spasticity in the left leg and foot. On the right side the knee-jerk and ankle-jerk were exaggerated and there was patellar clonus; on the left side there were exaggerated ankle-jerk and ankle clonus. The Babinski reaction was present in both limbs. The patient could walk, but had great difficulty in controlling the right leg, and when bearing on it exhibited a coarse, uncontrollable tremor. He could walk forwards, but not laterally or backwards. Occasional tonic fits occurred, but were readily controlled. The genito-urinary system was normal, but the patient suffered from chronic constipation.

This patient exhibited a change for the better within six hours after the operation. While the right foot immediately fell into plantar flexion after being passively dorsiflexed, the return in the left foot was slow and gradual. The clonus on the right side became progressively less, while persisting on the left. There was an immediate improvement in voluntary movement; the range increased and muscular control was more effective; the patient was able to support himself on the right leg, an impossibility before the operation, and he could walk readily both backwards and forwards; there was also an improvement in balance, and the tremor affecting the right leg disappeared. The limbs showed an increase in size and power, and resistance to fatigue gradually became greater. The chronic constipation was permanently relieved.

This case has been subjected to criticism by Dr. Walsh and Dr. Adrian, and the following statement by Dr. Noble, honorary neurologist and psychiatrist to the Lewisham Hospital, is of interest in this connexion:

"I handed this patient over to several specialists who had much experience in Seale Hayne and other hospitals for functional nerve cases. He was given suggestion, re-education, and other forms of psychological treatment by competent physicians, but without success. He was married to a trained masseuse, who spent much time in re-educative methods before operation, but without result."

The effects of section of the sympathetic as exhibited in this patient, and in the laboratory experiments above described, were subsequently illustrated by some experiments of the late Professor John Irvine Hunter on the wing of the bird. A full account of Professor Hunter's researches was embodied, shortly after his death, in a series of lectures given at University College in January and February, 1925, by Professor Elliot Smith, and they appeared in our first volume for that year.

CONGENITAL SPASTIC PARAPLEGIA.

Dr. Royle considered that the results obtained in his first patient justified the adoption of a similar procedure in other patients suffering from spastic paralysis, among whom were a number of cases of congenital spastic paraplegia. This disease presents two main types—a rigid type and a choreic type. The rigid type falls into two groups: (*a*) in which the patient retains or has developed muscular control, and (*b*) in which no voluntary control is present. Muscular control, even when present, is always deficient and is limited by the difficulty experienced in moving against the rigidity of the antagonistic muscles; and conscious effort increases the rigidity. During rest evidence of rigidity is usually slight and the limbs may appear flaccid, while extensor and adductor spasm and other evidences of defective cortical control may make their appearance when an attempt is made to stand or walk. The range of passive movements in such patients is also limited in varying degrees. Increase in muscle tone is revealed in the abnormal character of the tendon reflexes, provided they are not masked by the rigidity. The relaxation phase is prolonged, and this may lead to the step-ladder phenomenon in the knee-jerk, in which successive contractions leave the leg in a more and more extended position. The Babinski reaction may be present or not. A feature which is present in all cases of spastic paralysis, and often well marked in congenital spastic paraplegia, is inadequacy of inhibition of muscular contraction. For example, a patient may be able to extend the knee, but finds a difficulty in relaxing the quadriceps afterwards. This may be regarded as evidence of a lack of control over the factor determining the maintenance of posture.

In the second group of cases referred to, in which muscular control is absent, the rigidity is part of a general condition in which the patient is subject to extensor spasms resembling those of the decerebrate animal. Postural tone may also be increased. On the other hand, a paralytic condition may be present, due, it may be, to an injury at birth resulting in a more or less complete physiological block.

The choreic type of the disease is characterized by persistent choreiform movements when the patient attempts to move, and in certain emotional states. An increase in postural tone may be present or not, and there may be increased reflex activity when the patient is at rest. There is, however, a rigidity imposed by the patient himself on his limbs, in order, apparently, to minimize the effect of the choreiform movements and that he may maintain his equilibrium on standing.

RESULTS OF OPERATION.

Dr. Royle reports the effect of sympathetic ramisection in twenty-six consecutive cases of spastic paraplegia, complete histories of which are given in the original paper. The operation was in all cases carried out on both lower limbs. The cases were of the rigid type, except one of the choreic type. The accompanying table summarizes the details.

As regards walking, there was a diminution of the disability in all patients except one, who was able to walk before the operation. Sixteen were unable to walk alone, and of these, fourteen learnt to walk within six months. In some cases the improvement was remarkable; thus, one patient, who could only walk with the aid of crutches, was able to play tennis one year after the operation, and a child exhibiting extensor and adductor spasms on attempting to stand could walk without assistance at the end of twelve months. Another notable effect of the operation is relief from the necessity for mechanical support; and ability to walk increasing distances without fatigue is a constant post-operative result. The improvement in walking is necessarily relative, for a patient who has had spastic paraplegia for a number of years cannot be expected to lose all trace of the disease. On the other hand, if the operation is done before contracture sets in, a child may acquire a gait which differs but little from the normal.

All the patients exhibited changes which can only be ascribed to altered tone. The rigidity of the limbs was invariably diminished and resistance to passive and active movement usually disappeared. Both the limitation of range and the resistance to movement in these cases of spastic paraplegia are always to a certain extent structural, and a gradual improvement is observed over and above that directly due to the operation. The excitability of the knee-jerk and of ankle clonus was diminished in the majority of cases. In a few instances the relaxation time remained prolonged, but in all cases it was lessened by the operation. It should be remarked that the complete removal of the sympathetic nerves to a limb does not diminish a patient's ability to maintain a posture voluntarily, and it has been observed in children after ramisection that extensor and adductor spasm may reappear when they are being examined by strangers; this is apparently due to cortical influence set in activity by emotion.

The faculty of balance or increased facility in balance is an invariable immediate post-operative effect, and accounts for the rapidity with which these patients learn to walk. It must be ascribed to an alteration in tone without sensory loss, and the greater power of inhibition which appears after removal of the sympathetic is an expression of the same change.

Almost every patient reported increased facility in performing active movements, a result which is directly due to the operation, since the gain in the range of active movement occurred immediately after it. Physical education, however, effects further improvement, and the improvement may continue for years.

Another important acquisition is the power of inhibition. In one patient, for instance, extension of the knee in the recumbent posture could not be inhibited even when the flexion was assisted by gravity, whereas after the operation the patient could immediately relax the contracted muscle. It is hardly necessary to point out that the presence of deformity and contracture, more especially as affecting the hamstring and calf muscles, militates against a complete result in sympathetic ramisection. Structural changes of this kind need to be dealt with surgically before the full effect of ramisection can become apparent. Further, it should be clearly understood that sympathetic ramisection is not advocated as a cure for spastic paralysis; it merely removes a factor which interferes with the normal physical education of the individual. The essential treatment of spastic paralysis is education of the central nervous system: the muscles themselves do not usually require attention; indeed, their treatment with massage and electricity only tends to stimulate the sensory end-organs, and this inevitably leads to an increase in tone.

SPASTIC CHOREA.

Spastic paralysis complicated by chorea or athetosis was formerly regarded by the author as unsuited for operation by sympathetic ramisection. The following case (No. 26 in the table) illustrates what may be expected in certain circumstances.

The patient, a female aged 19, was unable to walk or stand, and could sit only when supported. Choreiform movements affected all four limbs and the face and tongue; the limbs were under-developed through disuse; the knee-jerks were exaggerated and indicated an increase in tone by the prolonged relaxation

Table showing the Effect of Sympathetic Ramisection in Twenty-six Consecutive Cases of Spastic Paraplegia:

	Before Operation.							After Operation.						
Case No.	Age.	Able to Sit Up.	Able to Stand Alone.	Able to Walk Alone.	Able to Walk with Support.	Able to Balance on one Limb.	Was Patient Constipated?	Mentality.	Standing.	Walking.	Balance on one Lower Limb.	Ease in Performing Active Movements.	Constipation.	Mental Condition.	Time in Months Since Operation.
1	14	+	−	−	−	−	+	−	+	+	+	+	+	+	35
2	6	−	−	−	−	−	++	?	++	+	+	++	++	...	9
3	13	+	+	+	+	−	++	+	++	++	++	+	++	...	4
4	23	+	+	−	+	−	+	?	+	+	++	++	−	+	14
5	5	−	−	−	−	−	+	?	+	+	+	+	+	...	17
6	27	+	+	+	+	?	+	−	−	−	−	−	−	−	28
7	5	+	−	−	−	−	−	+	+	+	+	++	...	...	14
8	38	+	+	+	+	−	−	+	+	+	+	+	...	...	6
9	11	−	−	−	−	−	−	−	−	−	+	+	...	+	20
10	31	+	+	+	+	−	−	−	+	+	+	+	...	+	21
11	7	+	−	−	−	−	+	−	+	+	+	++	++	+	20
12	12	+	−	−	−	−	+	−	+	+	−	+	...	+	17
13	19	+	+	+	+	−	−	+	+	+	++	+	...	+	33
14	14	+	+	+	+	−	−	+	+	+	+	+	...	...	14
15	3	+	−	−	−	−	+	+	+	+	+	+	+	...	4
16	11	+	−	+	+	−	+	+	+	+	+	+	+	...	9
17	3	+	−	−	−	−	+	+	+	+	+	+	?	...	30
18	17	+	+	+	+	−	−	+	+	+	+	++	...	...	18
19	15	+	−	−	−	−	+	?	+	++	++	++	+	+	36
20	30	+	+	+	+	−	−	+	+	+	+	+	...	...	7
21	15	+	+	−	+	−	+	−	+	+	+	+	+	...	30
22	23	+	−	−	−	−	+	+	+	++	++	++	+	...	21
23	14	+	−	−	−	−	+	−	+	+	+	+	+	+	18
24	15	+	+	−	+	−	+	+	+	+	+	+	+	...	17
25	9	+	+	+	+	−	+	−	++	++	+	+	+	...	1
26	19	?	−	−	−	−	−	+	++	++	++	+	−	+	9
		(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	(13)	

Explanation of Signs Used in the Table.—In (1), (2), (3), (4), (5), and (6) the sign + signifies "Yes," the − sign "No." In (7) the + sign signifies normal mentality, the − sign signifies subnormal mentality, and the mark ? inoicates mainly a defect through lack of education. The + sign in (8), (9), (10), (11), and (12) indicates the degree of improvement after operation. In (13) it indicates a noticeable impro.ement.

period; the Babinski test was doubtful. After a bilateral sympathetic ramisection there was an immediate change for the better in tone in the limbs operated on. Six weeks after the operation the patient was able to stand, and a few days later commenced to walk. Eight months after the operation she could stand unsupported for at least ten minutes and could walk alone for a hundred yards. The choreic movements have disappeared from the lower limbs when the patient is not excited, and there is some improvement in the upper limbs also.

Other cases which have been operated on are too recent to merit report.

In the concluding part of his paper Dr. Royle deals with the physical education of the spastic paralytic.

"It must," he says, "be clearly understood that the operation of sympathetic ramisection is not advocated as a cure for spastic paralysis. . . . It merely removes a factor which has been interfering with the normal physical education of the individual, and the essential treatment of spastic paralysis is education of the central nervous system. . . . It is true, however, that the treatment of paralysis of any variety has a peripheral as well as a central aspect, but in spastic paralysis the muscles themselves usually do not need attention; indeed, treatment with massage and electricity only tends to stimulate the sensory end-organs in the muscles, and this inevitably leads to an increase in tone. . . .

"It is sometimes thought that the operation of sympathetic ramisection should confer full and normal use of the muscles immediately, but this is a misconception. We can no more expect the subject of a congenital spastic paralysis to walk immediately after operation than we can a newborn infant. The normal child takes a year or longer to acquire control over the lower limbs sufficient to enable it to walk, and a similar time must be allowed for the spastic child. . . . Even when movements can be performed voluntarily in the lower limbs, control of the various groups is imperfect and the first consideration in education is to establish group control.

"The minimizing of mental effort must next be aimed at. On account of the fact that the patient's muscles have always been opposed by the rigidity of their antagonistic muscles, his mental effort is exaggerated and this tends to the use of unnecessary muscles. This mental habit persists and must be counteracted by teaching inhibition in the groups whose contraction would render the given movement defective."

VASCULAR DISEASES AND THE SYMPATHETIC SYSTEM.

BY

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SIR W. I. DE C. WHEELER's[1] recent report on two cases of thrombo-angiitis obliterans calls attention to problems of great interest. It may be useful to give an account of what is being done by investigators working in the various departments of medical inquiry to interpret the significance of disease in the blood vessels and the part possibly played by the sympathetic nervous system in their causation. In his Oliver-Sharpey lectures Dale[2] gave an excellent summary of the history of our present knowledge,

with special reference to the capillary bed. After submitting Stricker's proof of the contractility of the capillaries, Mayer's proof of the nervous control of the capillaries by the sympathetic nervous system, and Hooker's proof of the nervous control even when the circulation is at a standstill, Dale gives a vivid account of the work of a long series of observers in relation to anaphylaxis and to histamine shock. He discusses the experiments of Ninian Bruce in relation to local vaso-dilator reflexes, and deals in detail with the work of the schools which have grown up around Krogh, Sir Thomas Lewis,[3] and himself. From the historical point of view two incidents may be added. In 1850 Alfred Smee[4] showed preparations of the capillaries of the brain, eye, muscle, and skin, injected with carmine size, and suggested that the variation in the quantity of blood in the capillaries influenced the position of the lens and so controlled accommodation. In 1860 Lionel Beale[5] depicted fine non-medullated nerves coursing with the capillaries in striped muscle. Beale's researches in this connexion deserve special mention, for it is only recently that van den Bergh, McNee, and F. C. Mann have called attention to his brilliant work on the liver. Lionel Beale was "an inarticulately verbose genius" and a protagonist of the Vitalist School, "whose scientific observations were largely ignored as a result of the brilliantly lucid dialectic of Thomas Henry Huxley."

Dale expresses surprise that Rouget's demonstration, in 1873, of the contractile cells which bound the capillary endothelium should have remained unnoticed until comparatively recent times. The Rouget cells are flat contractile stellate cells applied to the outside of the capillary endothelium and encircling the vessel by delicate protoplasmic processes. That these cells had been observed before is evident from the description given by Eberth and Iwanoff in 1868[6]:

> "As the capillaries become larger a delicate tunica adventitia is superadded, which . . . is formed of a delicate network of fine fibrils, composed of the processes of stellate cells lying directly on the vascular wall."

Mayer, Vimtrup, and Dale regard these cells as contractile, sympathetically innervated, and so controlling largely the quantity of blood in the capillary bed. Recently E. R. and E. L. Clark[7] have shown that in the tadpole the capillaries display two types of contraction—the one with a wavy contour of the contracting small capillaries, and the other with a general reduction in the calibre of the larger capillaries. These contractions of the capillary are seen in young capillaries before any Rouget cells are attached thereto. During contraction the capillary is separated from the Rouget cell by a space which can be seen in a profile view. Hence the tonicity of the capillary endothelium of the amphibian larva is independent of the presence of the adventitial cells of Rouget. This finding of the Clarks is of great interest, inasmuch as fifty years ago Roy and Graham Brown said that the capillaries were elastic and contractile in themselves. Florey and Carleton,[8] in a recent paper on the capillaries of the cat, state that they are in general agreement with this view, and that the presence of Rouget cells in sufficient numbers to account for the contraction is doubtful.

An entirely different approach to the question of the nervous control of the blood vessels may be seen in the anatomical school associated with Elliot Smith.[9] His description in 1895 of a branch of the external thoracic nerve supplying the axillary artery, in conjunction with the late Sir William Thorburn's interest in cervical rib, led Todd[10] to a study of the effect of nerve lesions on the arteries. The observations of Wood Jones[11] on the relation of the nerve trunks to the uppermost ribs had also directed particular attention to this problem. Most of this work centred around the endarteritis obliterans which is seen in certain cases of cervical rib. Buzzard,[12] in 1902, was the first to suggest a vascular causation of the trophic disturbances seen in cases of this condition. He stressed the absence of herpes and papillary symptoms in the upper limb, and so concluded that the trophic disturbances were due to a lesion of the first thoracic nerve between the junction of the anterior and posterior roots and its union with the eighth cervical nerve to form the lower trunk. He regarded the spinal nerve itself as the seat of the change. Todd suggested that the trophic lesions of cervical rib were due to a lesion of the sympathetic nerves which run from the first (and sometimes the second) thoracic ganglion to course over the cervical rib on the under side of the lowest trunk.

Numerous papers were published in relation to the vascular symptoms of cervical rib by Todd, Telford, Wood Jones, and others. In 1914 Todd and Kramer[13] surveyed the distribution of nerves to the arteries of the arm. They showed that the subclavian and axillary arteries differ from the other arteries of the arm in receiving a nerve supply direct from the sympathetic chain. All other arteries in the upper limb obtain their nerve supply from sympathetic filaments which have travelled along the spinal nerves and are distributed to the various blood vessels at irregular intervals. The distal and peripheral blood vessels, more particularly those of the hand, receive nerve filaments at more frequent intervals than do the proximal channels. The distribution of nerves to vessels thus corresponds roughly with the distribution of nerves to the muscles and skin. The process of the blood vessel affection appears to be a preliminary period of stimulation of the sympathetic vaso-constrictor fibres followed by a paralysis of the vaso-constrictor fibres with consequent changes in the vessel wall. In short, the trophic lesions are the result, not the cause, of the vascular lesion.

A considerable amount of experimental work has been done in a direction which closely reproduces the trophic lesions of cervical rib. Bechterew summarized the results in 1908, and particular mention must be made of some of the experiments. Lapinski cut the cervical sympathetic in rabbits and showed that the arteries of the ear presented endarteritis obliterans, fragmentation of the elastic coat, and hyperplasia of the tunica media. This was followed by a rapid patchy atrophy of the media. These results were obtained in only seven out of fourteen animals. Cehanoviĕ repeated these experiments, and demonstrated a lack of tone and a delay in the pulse wave in the arteries comparable to that seen in human arterial disease. Fraenkel cut the sciatic nerve in rabbits and dogs and obtained lesions which closely resembled those seen in the anterior tibial vessels in tabes. This was confirmed by Bervoetz. Cyzharz and Helbing repeated these experiments, but did not obtain the vascular changes in all cases. Subsequent to the operation certain rabbits exhibited trophic changes in the dorsum of the foot, and in these alone were found the typical pathological changes in the vessels.

Had the correlation between anatomy and physiology been sufficiently close these experiments would have been readily interpreted. Schiff,[14] in 1854, showed that, allowing an interval of ten days for degeneration, excision of the superior cervical ganglion and of the upper part of the cervical sympathetic trunk did not prevent the vaso-constriction which he was the first to observe in stimulating the great auricular nerve. So Schiff concluded that the vaso-constrictor fibres of the great auricular nerve arise from the spinal cord in the upper cervical region and pass outwards in the roots of the second and third cervical nerves, which send branches to the great auricular nerve. These experiments were not confirmed until over forty years later, when Morley Fletcher[15] repeated them, and showed that some of the sympathetic fibres which reach the ear do so by the ramus vertebralis of the ganglion stellatum, along the vertebral artery to the third cervical nerve, and thence by way of the great auricular. It now became obvious that the discrepancies in the results obtained in the vessels by section of the sciatic nerve were due to the fact that some of the sympathetic fibres reach the lower limb along the femoral artery. Thus in each case the vessels of the limb receive a dual supply of sympathetic fibres—first, from the nerve plexus on the aorta and large vessels, and secondly, from the mixed peripheral nerve.

One of the first clinical applications of this was seen in the work of Leriche, Policard,[16] and their associates. They showed that the mechanical stimulation of the periarterial sympathetic plexus led to vaso-constriction, and that removal of the plexus led to a favourable vaso-dilatation in cases of trophic disturbance. They showed that the reaction of the periarterial sympathetic network varies in degree,

being more marked in some animals, less in others. It is more evident in the brachial than in the axillary or subclavian arteries, more active in the femoral than in the iliac arteries, in the brachial even more than in the femoral. The operative procedure of Leriche has not been taken up with enthusiasm in this country. However, Shaw[17] states that periarterial sympathectomy has been successful in 75 per cent. of cases of causalgia in the clinics of Leriche and Platon. Langley[18] says periarterial sympathectomy in man, so far as it relieves peripheral vaso-constriction, in all probability does not do so by severing nerve fibres running with the arteries to the periphery. Stopford[19] has discussed the possible nerve mechanism in cases of causalgia, and is inclined to consider that the main factor is a reflex peripheral vaso-dilatation of the vessels.

Recently Woollard,[20] in the Institute of Anatomy, University College, London, has confirmed the view that the limb vessels are innervated proximally by nerves direct from the aortic plexus and distally by contributions from the adjacent mixed nerves. Medullated nerves are shown most abundantly on the peripheral vessels, and they end not only by collaterals on the vessels, but also in the adjacent tissues. Woollard suggests that this anatomical relationship may be the basis of the axon reflex. He confirmed the sympathetic innervation of the capillaries, and shows sensory nerve endings of medullated fibres on the large, medium, and small arteries.

The whole problem of a sympathetic afferent apparatus is still in doubt. Trotter[21] has put forward the view that all naked nerve endings register pain, and that pain is the primordial mode of sensation. From it the discriminative forms of sensibility have been differentiated by the progressive degree of insulation of the nerve fibre, which is indicated by the acquirement of a medullated sheath on the one hand and by a special type of nerve ending on the other. Both in the preparations of Kulchitsky[22] and in those of Woollard one is struck by the number of naked non-medullated fibres which wander out into the tissues to form "free" endings.

A different point of view has emerged from the work of Pavlov[23] and Orbeli.[24] Briefly one might say that the Leningrad school of physiology is gradually establishing the existence of the trophic fibres which were empirically postulated by the ancient surgeons. Orbeli regards the sympathetic as containing fibres which regulate the somatic sensory and motor nerves, and determine the amount of material used in each tissue in the body. This work, largely unpublished, cannot be discussed in detail at present. It is mentioned in particular to call attention to the tendency to extend the range of sympathetic innervation to all the tissues in the body.

A tremendous impetus to the study of the sympathetic system followed the revolutionary publications of N. D. Royle[25] and the late John Irvine Hunter.[26] It is not proposed to discuss their application of sympathectomy to spastic paraplegia and allied conditions, but to indicate one result of the revival of the interest in the sympathetic system. The surgery of this system is not new. Nearly all the early operations have been discarded. The value of the few that have survived is still equivocal; and many have produced either indifference or bitter opposition. In 1889 Alexander[27] of Edinburgh resected the superior cervical ganglion of both sides; in 1892 Jacksh[28] resected the vertebral plexus and cut the cord connecting the middle and inferior ganglion; in 1893 Bojdanik[29] performed bilateral resection of the middle cervical ganglion; and in 1895 Jaboulay[30] cut the sympathetic cord above and below the ganglion. All of these operations were done for epilepsy. Jaboulay performed sympathectomy for exophthalmic goitre in the same year, and Jonnesco[31] performed the operation for glaucoma in 1897. Ball[32] of St. Louis, in 1899, removed the superior cervical ganglion for optic nerve atrophy and for glaucoma.

One outcome of the work of Hunter and Royle has been the rapid application of sympathectomy to diseases of the vasomotor apparatus. Adson[33] of Rochester noticed that, following removal of the second, third, and fourth lumbar ganglia in a case of spastic paraplegia, striking and persistent vaso-dilatation occurred in the feet for a period of six weeks. The vaso-dilatation was uniform and uninterrupted, and the feet became hot and dry with suppression of visible sweating. Adson and Brown[34] have published a series of papers dealing with the peripheral vascular disturbances of the extremities. In Raynaud's disease periarterial stripping gives no relief, but combined with lumbar sympathectomy it does. Cervical sympathectomy also causes marked relief when performed alone. In cases of endarteritis obliterans stripping of the vessels, as opposed to the results of some other surgeons, has given no relief. The injection of a foreign protein (typhoid vaccine) has relieved the symptoms in 50 per cent. of the cases, but sympathectomy has not been tried owing to the wide distribution of the concomitant arterio-sclerosis. In thrombo-angiitis obliterans occasional relief from pain has been obtained by the intravenous injection of foreign protein and by Roentgen-ray irradiation of the spine. Lumbar sympathectomy combined with stripping of the external iliac arteries has given marked relief from pain, the condition of the limb has improved, and trophic ulcers have healed. The heat evolution of the limb has increased from 50 to 110 per cent. and the temperature of the limb has increased from 1.5° to 6.4° C. These measurements were made with Sheard's thermo-couple thermometer and foot calorimeter. The results of sympathectomy in erythromelalgia have not yet been ascertained, but medical treatment and surgical stripping of the vessels have not availed.

The work of the surgeons in the Mayo Clinic is interesting in that, first, the thermal response to the injection of a foreign protein gives a ready indication of the degree of suitability for operation in a given case of vascular disease, and that, secondly, the results of sympathectomy in Raynaud's disease and in thrombo-angiitis obliterans are remarkably promising even after an interval of six months. The pain of thrombo-angiitis obliterans is extreme, sleep is fitful, and the patient is rapidly reduced to a mental and physical wreck. Even if such an operation postpones amputation for a few months its performance seems to be justified.

A further dramatic application of the operation of lumbar sympathectomy was witnessed in the following case.

The patient, a woman, aged 34, whose limbs were crippled with a polyarthritis of the rheumatoid type, had failed to respond to medical treatment over a period of six years. The hands and feet were cold and moist with trophic changes in the skin and nails; the interphalangeal joints were all enlarged and there was typical spindle-shaped swelling of the middle and index fingers. There was 25 per cent. limitation of movement in the ankles, 30 per cent. in the wrists, 20 per cent. in the elbows, and 50 per cent. in the shoulders. Pain was a prominent symptom in the hands and feet. As a result of the hopeless condition of the patient bilateral lumbar sympathectomy was suggested by Dr. Rowntree[35] and performed by Dr. Adson. The heat emitted from the feet was increased by 100 per cent. and the temperature by 8° C. I saw the patient before and after operation. The feet became warm, dry, and pink; the trophic changes in the skin and nails were disappearing. Pain had disappeared entirely from the feet and there was a sense of warmth therein. The patient was able to walk several hundred yards within five weeks of the operation. She is a typist, and has requested bilateral cervical sympathectomy, but it was deemed well to wait for six months or a year.

The effect of the operation in this case is equivalent in some respects to a particularly persistent passive hyperaemia of Bier, and one of the treatments employed in the Mayo Clinic in trophic conditions of the hands and feet is the application of an electrically heated glove or sock such as is worn by our Royal Air Force pilots at high altitudes.

Whereas Adson had been a champion of the Hunter-Royle operation for selected cases of spastic paraplegia, the Chicago surgeons Kanavel and Davies have strongly denied its benefits. It is gratifying, therefore, to see Davies and Kanavel[36] adopting lumbar and cervical sympathectomy for cases of vascular disease. They report marked relief of the symptoms of Raynaud's disease after cervical sympathectomy, marked relief of erythromelalgia by lumbar sympathectomy, and complete failure to obtain relief in a case of thrombo-angiitis obliterans. Their conclusions differ from those of Adson and Brown in that the latter operate for thrombo-angiitis obliterans, but not for erythromelalgia. I am tempted to suggest that the case of erythromelalgia might have been an early case of thrombo-angiitis obliterans. The patient was a Russian

Jewish tailor, aged 35. It is true that the arteries of *both legs and feet were easily palpable in this case, but* the disease may be more marked on the venous side of the capillaries in the earlier stages and limited, like many cases of post-operative thrombosis, to the deep veins of the calf. *Pain is often more marked in the calf than in the* foot, and is a phenomenon of veins as well as of arteries.

Wheeler's[1] two cases, and the two cases simultaneously published by Smith and Patterson,[37] along with the fact *that Telford and Stopford*[38] *saw four cases in one year in* non-Jewish patients, suggest that great care is necessary for the accurate differential diagnosis of the various types of vascular disease of the extremities. It is not sufficient to say "*threatened gangrene*"—*nor, for that matter, is* "erythromelalgia" more than a symptom.

Stopford has mentioned that the clinical characters of *thrombo-angiitis obliterans* were first described by *von Winiwarter in 1879, long before Buerger*[39] published the standard description in 1924. It may be added that Cornil and Ranvier,[40] in 1860, described "Oblitération des artères par endarteritis et thrombose," and pointed out that a coagulum may precede arteritis as well as arteritis precede a coagulum. Mention must be made of Rabinowitz,[41] who recently claimed to have isolated a Gram-negative, rod-shaped, and beaded organism from a case of *thrombo-angiitis obliterans*, and to have produced by the bacillus the same lesion in the vessels of the ears and feet of rabbits as that which was present in the leg of the human. Parkes Weber's[42] description of thrombo-angiitis obliterans as non-syphilitic arteritis obliterans of Hebrews no longer holds good. The disease attacks non-Jewish people. It belongs to the group of new diseases such as trench fever, hog cholera, and encephalitis lethargica.

In surveying the field we see that histology, in the work of Smee, Beale, Stricker, and Rouget, has made its precocious contributions. Gross anatomy and clinical surgery have opened a new line of advance determined by the investigation of the trophic lesions of cervical rib and their sympathetic origin. Leriche, Hunter, and Royle have given direction to the newer purposive surgery of the sympathetic system. Dale, Krogh, and Lewis are pioneers of a physiological and clinical line of attack. The protagonists of physico-chemical mechanisms are forging ahead. The whole of the experimental field, particularly as regards the comparative morphology of the sympathetic system, the comparative pharmacology, and the minute and laborious histology, calls for investigators. The histological work of the late Professor Kulchitsky at University College, London, was one of the mainsprings of the work of the late John Irvine Hunter. The recent surgical work in America and Australia is promising. The Russian physiologists are extending our conception of the trophic nerves. The morbid anatomy of the blood vessels, as shown by the divers systems of classification of vascular disease in text-books, is still chaotic. The clinical observations on the vascular diseases of the limb are limited to a few enthusiastic workers. Now, if ever, is the time to write in each hospital ward the following quotation: "Laboratory guides are mostly artificial, are reliable only in some *instances, and are the handiwork of man; clinical* symptoms are the natural, infallible, unalterable expressions of definite states, and are the ways of God." In each laboratory and dissecting room the text should be: "When the interest flags, strive to become the hero in the oldest of all tragedies—a deduction destroyed by a fact."

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INTRAVENOUS THERAPY.*

BY

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THIS method of treatment has a great many advocates—more, perhaps, on the Continent and in America than in this country—and a great many adverse critics. There are points for and against it, but I think it has now so far justified itself as to deserve a legitimate place in modern therapeutics. It seems better to put remedies intended to act on the blood stream itself, or on some distant organ only reached through the blood stream, directly into the veins, rather than into the stomach, where they must mix with the food and take their chance of *being modified by* the digestive juices, and finally be subject to the whim of the absorptive mechanism of the alimentary canal. On the other hand, remedies intended to act primarily upon the stomach or intestines are best put there through the mouth. The ease and apparent safety with which intravenous salvarsan injections can be administered has given a great impetus to the use of the intravenous route for purposes of treatment.

The following advantages have been claimed in favour of the intravenous route: that the dose is more precise; that irritation of the gastro-intestinal tract is avoided; that the drug is not altered or destroyed in the alimentary tract; and that drugs act more promptly when given intravenously. I propose to criticize these in detail.

Precision of Dosage.—A medical man prescribes a remedy with the idea of producing a given effect; he desires to give the exact dose which will produce that effect—*no* more and no less. The appropriate amount is arrived at by giving repeated fractional doses by the mouth, each being well below the full therapeutic dose; it is assumed to be the dose required by the patient in the circumstances which obtain at that moment. The fractional dose can be increased until the desired effect is obtained. It is not practical to give repeated fractional intravenous doses of a drug; *therefore the intravenous dose is more liable to* err. For example, strophanthin acts powerfully when given intravenously, and a number of deaths from its use in this way have been recorded. It must be admitted that it is more difficult to arrive at the right therapeutic dose by the intravenous method than by giving a drug orally.

Absence of Gastro-Intestinal Irritation.—A drug which directly irritates the gastro-intestinal mucosa might be expected to irritate also the intima of the veins. The word "irritation" is used somewhat loosely in this respect; what is really meant is that the drug causes disturbance during the process of excretion. This applies more particularly to

* Abstract of Presidential Address delivered before the West London Medico-Chirurgical Society.

the heavy metals. One of the worst cases of intestinal irritation I can remember was after the intravenous injection of a mercury preparation.

Stability of Drug.—Many drugs are readily absorbed, unchanged, through the alimentary tract—the iodides, for example. On the other hand, salts of iron and arsenic are only partially absorbed, for some of the dose given is recoverable from the faeces. Many of the gland extracts are destroyed in the alimentary canal—adronaline is rendered inert when given by the mouth.

Prompt Action.—There can be no question that drugs act more speedily when given intravenously in acute cases, where rapid action is a matter of urgency. In the treatment of more chronic conditions a therapeutic effect is obtained more slowly whichever route is used.

Technique of Intravenous Injection.

The injection must be given as far as possible painlessly; if pain is caused it becomes increasingly difficult to get the patient to submit to further treatment. The vein should be entered at the first attempt, and the injection must never be commenced until the vein is entered with certainty. There is some excuse for not being able to get into the vein, but none for putting the injection into the surrounding tissues, thus giving rise to an area of infiltration, causing pain and local thrombosis, and incidentally failing to achieve the object desired. The needle should have a flat bevel with no shoulder, and a sharp point; it should enter skin and vein with one smooth movement. Needles, as supplied commercially, always have a shoulder and a long thin point. The shoulder is a source of difficulty in getting through the skin, and with a drawn-out point it is difficult to avoid puncturing the further side of the vein. Moreover, with such a needle part of the lumen is apt to remain outside the lumen of the vein, causing leakage into the surrounding tissue.

If the site at the bend of the elbow is chosen, the arm should lie comfortably on, and partly buried in, a pillow with the elbow-joint fully extended. A tourniquet should never be used. With the hand an assistant should compress the upper arm sufficiently firmly to obstruct the venous return, the arterial pulse still being felt at the wrist. The vein can be brought into greater prominence by stroking the forearm upwards. It is not necessary that a vein should be seen, but it must be felt. The vein should be "fixed" by stretching the skin over it between the thumb and forefinger of the left hand. This stretching renders the skin that is stretched partially anaesthetic. The vein on the central side of the fixing point becomes bulbous, and if the needle is now inserted through the upper edge of this stretched area at an angle, it should accurately enter the vein above. On entering the vein the piston of the syringe is slightly withdrawn and on the first appearance of blood the compression is at once released, and the injection proceeded with. In a nicely adjusted injection a thrill can be felt by lightly palpating the vein just above the site of injection while the fluid is running.

The injection must be given slowly, the rate depending upon the degree of concentration of the fluid and its bulk. It should be remembered that remedies introduced by the intravenous route are rapidly brought into contact with vital organs, such as the heart and the central nervous system. Time should therefore be allowed for the blood stream to distribute them.

I do not think it matters where the injection is made. The veins at the bend of the elbow are usually chosen because here they are more accessible and less covered by fat, but the following may be taken: the internal saphenous vein, where it crosses the internal malleolus; the posterior ulnar vein; the radial vein; the femoral vein; the external jugular vein; and, in young infants, the superior longitudinal sinus, though the anterior fontanelle is usually taken; this is a simple and safe procedure if the middle line is strictly adhered to, and the needle inserted into the posterior angle of the fontanelle, for here the superior longitudinal sinus is nearest the skin.

BLOOD TRANSFUSION.

Blood transfusion is now recognized as a therapeutic measure of the first importance. The donor's blood can be used in the form of whole blood, defibrinated blood, or citrated blood. The one I favour most is the citrated blood method; the transfusion can be given more deliberately, and there is time for the blood to be carried from a distance, if for any reason the donor cannot come to the recipient. The objection to this method is that toxic effects follow the introduction of sodium citrate into the blood stream, and that when transfusion is given as a pre-operative measure oozing is more likely to take place. I argue that, if the right amount of citrate be used and no more, no toxic effects will follow, and the oozing will not be greater than with any other method. The strength I use is 10 c.cm. of a 2 per cent. solution of sodium citrate for every 100 c.cm. of blood. It should be arranged to add the citrate solution by fractions, each fraction being sufficient to prevent clotting of 100 c.cm. of blood. At the commencement of the second 100 c.cm. the requisite amount of citrate solution is added.

The defibrinated method has much to recommend it, but it is, I think, easier to introduce clots into the circulation by this than by the citrate method, for it is not always possible to be quite sure that the blood used is all defibrinated, even after filtering.

Technique.

The simpler the apparatus the better. I have now abandoned the various complicated forms in favour of the simple one on the lines of the ordinary tube and funnel with a glass window near the needle. The blood is allowed to run in by gravity, this force being quite sufficient. A fairly long tube should be used, a few coils being allowed to rest in a vessel of water kept a few degrees above blood heat. The injection should proceed slowly—about twenty minutes being taken to inject 500 c.cm. If the patient is restless and apprehensive the injection may be made easier by first giving 1/6 grain of morphine or heroin. The blood should be filtered through several layers of gauze after citration. Grouping should be carefully performed, and in choosing a donor it is important to take one of the homologous group and not the so-called "universal donor".—Group IV. Many members of this group are not quite negative to the other three groups, and I feel sure it is owing to this that many unpleasant symptoms arise—such as restlessness, dyspnoea, obscurations of vision, noises in the ears, difficulty of speech, fever, shivering, pain in the chest. I am much in favour of repeated small transfusions—say, 200 to 500 c.cm.—rather than one big one; they are especially useful in the chronic anaemias, and in arresting internal haemorrhages such as from a leaking gastric or duodenal ulcer.

Blood transfusion should never be undertaken lightly. The conditions in which it is indicated are many, and each case must be judged on its merits. It is especially valuable (1) in industrial surgery, where accidents have been accompanied by great loss of blood; (2) in sudden loss of blood from any other cause, such as a bleeding gastric or duodenal ulcer; (3) in any conditions of chronic anaemia where the blood state cannot be improved by other forms of treatment, especially in people around and past middle life—this group would include the toxaemic states, the anaemia here being secondary to the chronic intoxication; (4) as a pre-operative measure, where the red-cell count and haemoglobin estimation are definitely below normal. I deprecate giving a blood transfusion until a full and careful blood examination has been made. It is often indicated for operations on malignant growths where there is a secondary anaemia. In splenic anaemia, where the spleen is being removed, it is advisable to transfuse at the time of operation. I believe the main value of transfusion is due to the stimulus it gives to the blood-forming mechanism.

SALINE INFUSION.

The infusion of normal saline into the veins is a measure of very old standing, and until salvarsan injections were started, in 1909, it was the commonest form of intravenous treatment. When normal saline is injected intravenously the immediate effect is a rise in blood pressure and a fall in the specific gravity of the blood. This is followed in thirty minutes or so by a fall in pressure and a rise in specific gravity, the effect of osmosis, the excess of fluid introduced into the circulation being rapidly excreted by the kidneys and the skin. If circulatory failure is present, or the heart is acting very feebly, as in old people, this excess of fluid is apt to become lodged in the tissues, particularly in the lungs, thus rendering the patient's last condition worse than his first.

Hypertonic saline was introduced with the idea, of course, of attracting the fluid from the tissues into the vessels. The same physical laws, however, obtain with hypertonic saline as with normal saline; since the vessel wall is permeable to salts the condition which occurs with normal saline is rapidly brought about. It appears, therefore, that blood lost cannot be permanently replaced by a simple saline solution; the benefit obtained is too transient, and saline infusion, therefore, should be regarded simply as a temporary measure. It would seem that the fluid advocated by Bayliss (sodium chloride 2 grams, potassium chloride 0.05 gram, calcium chloride 0.05 gram, powdered gum acacia 5 grams, distilled water 100 c.cm.) is, when prepared exactly as he described, the best injection for loss of blood, where blood cannot readily be obtained. Blood, if it can be obtained, is, of course, better than gum saline. For gum saline to be effective there must be present a sufficient percentage of haemoglobin to carry on the process of oxygenation. Saline infusions, in

addition to their use for temporarily replacing blood lost, are of great value in treating the toxaemic states—uraemia, eclampsia, etc.—the patient being bled and then infused; though here again a better result is obtained by using blood.

INTRAVENOUS MEDICATION.

With regard to the introduction of remedies into the circulation I will confine my remarks to those of which I have personal experience.

Intravenous proteins I have used in the treatment of many disabilities—chiefly spasmodic asthma, infective arthritis, and chronic skin diseases, all conditions in which the nature of the infective agent has not been determined. I should say that about half the cases so treated have been benefited. The proteins used have been T.A.B. emulsion 100 to 500 million, *Bacillus coli* emulsion 100 million, *Staphylococcus aureus* 500 million, and Witte's peptone, 10 c.cm. of a 2 per cent. solution. The most marked reaction is ushered in by a shivering attack, followed by a rapid rise of temperature, with a corresponding increase in the pulse rate; the leucocyte count is raised; headache, malaise, and aches and pains in joints and limbs may be present. The reaction passes in the course of thirty-six hours, and is followed in a favourable case by improvement in the clinical condition. The injections should be repeated four times or so at intervals of seven to ten days. There appears to be a direct relation between the amount of reaction and the improvement obtained; for this reason T.A.B. injection proves the most efficacious. Vaccines when given intravenously act more potently than when given under the skin. I believe that too much has been made hitherto of the specific nature of a vaccine, and that careful preparation is more important than any other single factor.

With regard to intravenous injection of antitoxic serums I have had a very limited experience. Candidly I am rather afraid of this method. I tried it during the war in cases of acute sepsis. I was never sure that the benefit obtained was commensurate with the reaction and upset to which it generally gave rise, and I am still not convinced that intravenous serum has any advantages over the intramuscular and subcutaneous routes.

Of the other remedies I have used intravenously I may mention in particular mercury perchloride. So high an opinion have I formed of this drug that I think every clinician who may be called upon to treat acute cases should keep a solution of it prepared; a suitable dose—1/64, 1/32, or 1/16 grain—could then readily be chosen; the strength I suggest is 1/16 grain of mercury perchloride in 8 c.cm. of normal saline. I have used it chiefly in the following conditions: (1) pneumonia, lobar and lobular; (2) acute staphylococcal infections; (3) chorea, subacute rheumatism; (4) chronic infective arthritis of undetermined origin; (5) encephalitis lethargica.

The treatment of lobar pneumonia has hitherto chiefly been symptomatic. I have from time to time tried various serums, and also typed vaccine, but have not been struck by the results. Quite empirically I started, about eighteen months ago, systematically injecting cases of lobar pneumonia, at whatever stage they came under observation, with 1/32 grain of mercury perchloride. Most of those I have so far treated have responded favourably. Such figures as I have point to an association between the injection of the mercury perchloride and the favourable turn which these cases have taken. I have had quite marked results in bronchopneumonia also, especially in children. Infections by *Staphylococcus aureus* appear to be consistently benefited by injections of perchloride. It is of value in the more chronic infections, such as boils, and in the acute cases, such as acute infective osteomyelitis.

It is a matter of common experience that acute rheumatism under treatment usually clears up within a short time, but the subacute forms, particularly in children, with possible endocarditis and manifestations of chorea, hang fire; the treatment of these patients is unsatisfactory. I have injected a number of these cases with mercury perchloride. Some cases of chorea I have treated have shown improvement in the movements and in the general health, but the fever has continued; in the end the fever too has disappeared. I realize that here, as with pneumonia, one is on very shifty ground, for these things may happen by treating with rest alone. It is only, however, by taking a large number of cases treated with mercury, and comparing them with a similar number treated without, that it is possible to arrive at conclusions. My impression, so far, is distinctly favourable to the mercury treatment.

Cases of chronic infective arthritis, where there is no septic focus which can be determined after careful search, have been improved by intravenous injections of mercury perchloride 1/32 grain every three days. I have also used in such cases sodium salicylate 15 grains with sodium iodide 15 grains in 20 c.cm. of distilled water.

Among many other drugs which have been used intravenously iron cacodylate in half-grain doses every other day is a very efficient way of raising the haemoglobin content. Tylcalcin (a calcium salt of salicylic acid) is a useful form of salicylate for intravenous injection in acute and subacute rheumatism. Acriflavine (40 c.cm. of 1 in 1,000 solution in normal saline) should certainly be tried in septicaemia. Magnesium sulphate (20 c.cm. of a 10 per cent. solution) is of use in controlling the convulsions in eclampsia and uraemia by virtue of its sedative action on voluntary muscle; it also promotes urinary secretion when given intravenously. Urotropine acts more powerfully when given intravenously.

How do these intravenous remedies act? On this point I must at once confess ignorance. It is inconceivable that 1/32 grain of mercury perchloride, for example, can have any antiseptic action when diluted in the blood stream. Perhaps the reaction may be simply that which is associated with putting a foreign substance in the blood stream.

The intravenous route has much to recommend it. By whatever channel drugs are given, they must ultimately reach the circulating blood. Therefore it would appear to be only logical to put them straight into the blood stream. But intravenous medication demands careful handling, and, in using it, one must err on the side of caution.

THE TREATMENT OF RODENT ULCER BY TRICHLORACETIC ACID.

BY

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BEFORE the days of radium and *x* rays surgeons were often compelled to treat malignant growth by means of caustics. The need of some chemical which would destroy the growth was felt when the growth occurred on the eyelids or the inner canthus of the eyes, or on the side of the nose, or in the nostril, where complete removal of the growth would entail great deformity.

Various caustics were employed, such as solid "potassa fusa," zinc chloride, acid nitrate of mercury, Vienna or arsenical paste, antimony, and pyrogallic acid. The use of these chemical agents gradually dropped into oblivion, since their use was accompanied, not only by severe pain, but not infrequently by accelerated metabolism, whereby a quiet growing tumour was converted into a growth of a more malignant type.

We know why these caustics fell into disrepute; it was because of their dangerous tendency to set up oedema, which was followed by rapid destruction of cells in the superficial parts of the tumours with absorption of toxic products and accelerated growth in the deeper parts. It may be laid down as a general rule that a caustic which increases the water contents of a malignant cell should always be avoided.

The superiority of trichloracetic acid in the treatment of rodent ulcer lies in the fact that its action leads to complete coagulation of the cell-contents. The compounds

formed between the acid and the cell contents are non-hydrophil, and therefore do not tend to draw lymph out of the capillaries. In consequence of this property the acid converts the neoplasm into a solid block of dead tissue, which is gradually thrust out by the undergrowth of the healthy living cell of the epidermis. I need not enter here into the biochemical relations of this acid.*

Briefly stated, there are three chloracetic acids, according to the number of hydrogen atoms in the acetic acid molecule replaced by chlorine. The trichloracetic acid possesses in highest measure the characters of the group. Among the most remarkable of these properties is the power of dissolving both water, and oils and fats; trichloracetic acid is both hydrophil and oleophil. Its capacity for dissolving all the simple proteins is shown by its solvent action on solid tissues; skin, the various organs of the body, dead meat, and vegetable matter are reduced in time to a thin almost invisible membrane of connective tissues. Keratin itself is insoluble. Owing to its very powerful oleophil properties, trichloracetic acid is able to penetrate through living tissue. The time taken to penetrate varies in different regions of the body surface. Furthermore, the severity and duration of the reactions of the cutaneous tissues vary with the region occupied by those tissues. The skin covering the sides of the fingers and toes may be described as non-reactive, any reaction that may appear being ephemeral. The acid penetrates rapidly through the normal flexor surfaces of the limbs, and the reactions slowly evolve in the course of many weeks. Penetration through the extensor surfaces is slower, and the reactions are of shorter duration.

Trichloracetic acid finds its highest utility in the treatment of rodent ulcer and all the benign forms of epithelial neoplasms—for example, milium tricho-epitheliomata, fibro-sebaceous moles, and hairy pigmented moles. Rosacea, which may be regarded as a seborrhoeic epithelial neoplastic disease, will yield to a 20 per cent. solution of this acid, which, however, is inferior to sulphur and salicylic acid in the treatment of the disease. Corns and warts yield more slowly, since penetration is difficult, but trichloracetic acid is probably our best remedy for these common benign neoplasms, the only safe alternative being electrolysis.

Method of Application in Rodent Ulcer and Benign Epithelial Growths.

Trichloracetic acid is a crystalline substance which dissolves very readily in water. Three drachms of the acid require from 19 to 20 minims of water to form a concentrated liquid acid holding a small quantity of water in solution. A solid crystal should never be applied, for the sudden melting may result in extension of the acid far beyond the area intended. For safety's sake the adjacent skin should be protected by a smear of vaseline, but this is not always necessary. The applicator should be a glass rod, 1 to 2 mm. in diameter according to the size of the area to be covered. Cotton-wool need not be used. The acid should be applied until the skin is definitely white over the whole area, and this should not exceed three-quarters of an inch. Penetration is accompanied by a smart stinging sensation. When penetration is effected the part is well bathed with water till all the stinging has ceased. In rodent ulcer and solid growths I generally allow three minutes before neutralizing with water. Usually from this time not the slightest discomfort is experienced by the patient; very occasionally a burning sensation has persisted for some hours. For the next twenty-four hours no soap or water should be allowed to come in contact with the treated skin. The dead tissue is to be allowed to separate spontaneously. The time taken for separation of the dry eschar is about twenty-two days. No ointments should be applied. After separation of the primary eschar a minute secondary crust sometimes forms and separates in the course of a few days—usually after four weeks from the application.

* A reader interested in the subject will find a fuller account of these relations in the *British Journal of Dermatology and Syphilis*, August, September, and October, 1925.

A HAEMOSTATIC CLAMP AS AN AID IN DISSECTION OF TONSILS.

BY

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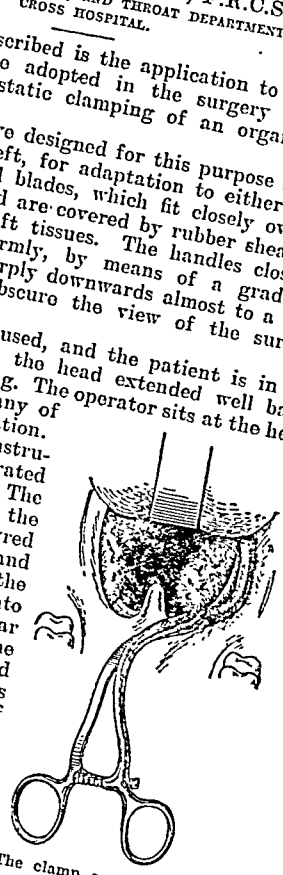
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THE method to be described is the application to tonsillectomy of the principle adopted in the surgery of other regions of the haemostatic clamping of an organ before incision.

The instrument I have designed for this purpose is made in pairs, a right and left, for adaptation to either tonsil. It has curved, flattened blades, which fit closely over the pillars of the fauces, and are covered by rubber sheaths to avoid injury to these soft tissues. The handles close the blades gently, though firmly, by means of a graduated ratchet, and are bent sharply downwards almost to a right angle in order not to obscure the view of the surgeon during his manipulations.

The Boyle-Davis gag is used, and the patient is in the usual dorsal position, with the head extended well backwards over a rounded sandbag. The operator sits at the head of the table, and employs any of the usual methods of illumination.

The application of the instrument is easy, and is well illustrated by the accompanying figure. The chief points to observe are: the lower blade is carefully manœuvred underneath the soft palate and deep to the posterior pillar; the upper blade is then brought into position upon the anterior pillar and its extension to the side of the tongue; the tonsil is next gripped with a pair of tenaculum forceps and pulled through the blades of the clamp until the latter are in the correct position for closure.



The clamp applied to right tonsil.

The sliding action of the upper on the lower blade of the clamp as it closes itself helps in this protrusion of the tonsil from its bed, and hence the operator is chiefly concerned with the accurate adjustment of the blades to the pillars, taking care that they are applied as far backwards from the free margins of the pillars as space will allow. All hold on the instrument can now be dispensed with and the actual dissection of the tonsil begun.

The following claims are made for the use of this haemostatic clamp:

1. The instrument can be applied in almost all cases, the comparatively few failures depending, not on the size or nature of the tonsil to be removed, but on the width of the pillars of the fauces.
2. During removal of the tonsil there is practically no bleeding.
3. The actual dissection is rendered quick, easy, and complete, owing to the absence of haemorrhage and the fact that the tissue between the tonsil and its bed is squeezed into a thin line between the closed blades from which the tonsil readily separates.
4. No bruising of the soft tissues need occur.
5. The method is specially applicable in the case of small, fibrous, or adherent tonsils, and causes a minimum of destruction to the tissues of the pillars and tonsillar bed.
6. The main vessels of supply to the tonsil can usually be readily seen during the dissection, picked up, and ligated if necessary.
7. The after-effects of operation are no greater than those of any other method of dissection.
8. Deep anaesthesia is not such an important factor to the surgeon as when dissection is carried out without the aid of the clamp.
9. With a smaller sized instrument children can be similarly operated upon in place of the guillotine method.

The instrument can be seen at Messrs. Allen and Hanburys (48, Wigmore Street, W.1), and is supplied by them.

LATE RESULTS OF CHRONIC GASTRIC ULCER TREATED MEDICALLY.

BY

L. FORMAN, M.D., M.R.C.P.

IN order to throw light on the late results in cases of chronic gastric ulcer treated by medical methods without operation, the records of patients admitted to the wards of Guy's Hospital from 1914 to 1922 have been examined.

The difficulty of proving the presence of a gastric ulcer is often considerable—the only absolute proof is afforded by handling the viscus at operation or on the *post-mortem* table. The next best confirmation of the diagnosis is the positive result of an *x*-ray examination; failing this, we are reduced to ordinary clinical methods, which, however, are not infallible.

The cases selected from the reports were those in which *x*-ray examination revealed definite evidence of ulceration, usually by the presence of a crater. Four cases were used where a laparotomy had been performed, but no operative treatment on the stomach had been undertaken owing either to the position of the ulcer or to the adhesions around it; in three of these cases the ulcer was high up on the lesser curvature.

During the eight years covered, 79 cases were found which gave *x*-ray evidence of ulceration, and were followed up. The smallness of this number compared with the total admitted with the diagnosis of gastric ulcer is to be explained by the fact that in the reports of some of the cases no mention was made of the *x*-ray findings, and in others no *x*-ray examination was made—for example, in haematemesis. By studying cases with positive *x*-ray findings the position of the ulcer could be defined, and an attempt made to ascertain results of treatment relative to the position.

Each patient was sent a printed form on which questions as to the subsequent history of the abdominal condition were set. Where possible an interview was arranged, when the answers could be supplemented and the stomach screened. From the 79 cases so selected 57 replies were received; 16 could not be used owing mainly to operative intervention. There remained, therefore, 41 cases, and 32 interviews were obtained and the stomachs screened. The results were arranged in the following groups:

A. Absolute freedom from symptoms since leaving the hospital —9 cases (22 per cent.).

B. Marked improvement had resulted and persisted as a result of hospital treatment in 9 (20 per cent.). This group also included those who were very much better and who had a negative *x*-ray examination in 1925.

C. The number *in statu quo ante* was 19.

D. The symptoms had become worse in 4.

The percentage of A and B together was 42; of C and D together 57.

These percentages may be compared with the late results found by Dr. Conybeare in 39 cases of gastric ulcer treated surgically at Guy's.[1]

Medical Cases.		*Surgical Cases.*	
Group A 22%	... 42%	Group A 38.0%	... 58%
Group B 20%		Group B 20.0%	
Group C	... 57%	Group C 17.5%	... 40%
Group D		Group D 22.5%	

The results, analysed in regard to position, are as follows:

Ulcers in the Cardiac Third of the Stomach.—Six cases were obtained; of these, 4 were in Group A and 2 in Group B.

Ulcers in the Middle Third of the Stomach.—Number of cases 27. In Group A there were 2 cases (7 per cent.); in Group B 3 cases (11 per cent.), in Group C 17 cases (63 per cent.); and in Group D 3 cases (11 per cent.).

Ulcers in the Pyloric Third of the Stomach.—Number of cases 10. In Group A there were 3 cases (30 per cent.); in Group B 4 cases (40 per cent.); in Group C 2 cases (20 per cent.); and in Group D 1 case (10 per cent.)

It has been stated that the result of medical treatment varies with the duration of the symptoms, and presumably the chronicity of the ulcer. In this series the length of history of the cases was as follows:

Cardiac Cases.—Those in Group A had a history of 3 years, 10 years, 3 months, and 2 weeks respectively; those in Group B of 2 years.

Mid-Gastric Cases.—Of the two cases in Group A, one had a history of 11 years, the other of 6 months. Of those in Group B there was a history of 9 years, 12 years, and 12 years respectively. Of the Group C cases symptoms had been present for 20 years in one case; for 17, 11, 9, 7, and 6 years respectively in five cases; for 5 years each in four cases; for 2 years in one, 1½ years in one, 1 year in each of five cases; for 2 months in one, and for 1 week in one. Of the three cases in Group D, one had a history of 9 years, one of 5 years, and the third of 1 year.

Ulcer in the Pyloric Third of the Stomach.—Symptoms had been present in the three cases in Group A for 15, 7, and 4 years respectively; in the four cases in Group B for 15, 14, 9, and 3 years respectively; in the three cases in Groups C and D for 15 years in one, and for 1 year each in the other two.

The above does not show any constant relationship between the duration of the condition before treatment and the ultimate result. Thus in the mid-gastric group, seven cases unrelieved by treatment had histories of one year or less. Krohn,[3] discussing the results of medical treatment in 200 cases of gastric ulcer, came to a similar conclusion.

Relation of Results and After-treatment.

The patients were practically all of the artisan class, in whom dieting and the regular taking of medicines is likely to prove irksome if not impossible. It was found that no dieting was practised save during the bouts of pain, when meat, etc., was avoided, and bismuth taken. This absence of prolonged after-treatment may help to explain the failures.

Conclusions.

1. Very optimistic claims are made from time to time for the results of medical treatment of ulcers. It is interesting to note the results given at roughly ten years' interval: Joslin[2] in 1899 gave 40 per cent. well at the end of five years, and in 1914, 39 per cent. Krohn[3] in 1924 gave 48 per cent. in patients over 40 years of age. These authors include gastric and duodenal ulcers in their figures. The 48 per cent. well or very much better of this series would agree with the above. The treatment of gastric ulceration has changed in the last thirty years, but this change is not reflected in my figures.

2. The impression that the chances of successful treatment of an ulcer with a long history are poorer than in one of short duration does not receive support in this series.

3. The cardiac cases, although very small in number, give a good result for medical treatment.

My thanks are due to Dr. Poulton for his help and advice, and to the physicians of Guy's Hospital for giving me access to the reports.

REFERENCES

[1] Conybeare: *Guy's Hospital Reports*, 1923.
[2] Joslin: *Journal of American Medicine*, 1899; ibid., 1914.
[3] Krohn: *Norsk Magasin for Laegevidenskaben*, 1924.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

RUPTURE OF THE RECTUS ABDOMINIS MUSCLE.

TRAUMATIC rupture of the rectus abdominis is a rare condition, though one easily diagnosed. It has been recorded as occurring in tetanus, and there is a specimen in the museum of the Royal College of Surgeons in which the muscle has been completely torn across as a result of a tetanic spasm. Severance of a few fibres of the rectus muscle is probably not uncommon, and after labour a peculiar tumour, really a fibroma, occasionally occurs, which is traumatic in origin.

A woman, aged 35, an acrobat, was admitted to the Leeds General Infirmary on January 23rd, 1927. Ten days before admission, while performing a trick, she had experienced a sudden severe pain in the abdomen which compelled her to give up her performance that night, which was a Saturday. The following week she managed to perform some of her less arduous tricks, but on the Saturday of that week she again hurt herself and had to give up her work and to seek admission to the infirmary. There was marked tenderness over the rectus abdominis muscle just below and to the outer side of the umbilicus and slight swelling. Above this a distinct gap could be felt occupying about half the transverse extent of the muscle. This became visible on the patient raising her head. Operation was recommended and carried out. An incision was made over the injured area and the rectus sheath exposed. This was opened and the muscle was found torn through about half of its extent. The gap, which was three-quarters of an inch wide, was filled with blood clot

This was cleared out and the divided muscle united with stout catgut applied as mattress sutures. The patient made an uninterrupted recovery. She was advised not to do acrobatics for at least three months.

Leeds. P. J. Mom, M.B., F.R.C.S.

RUPTURE OF THE RECTUS ABDOMINIS MUSCLE SIMULATING APPENDICITIS.

RUPTURE of the rectus abdominis muscle by indirect violence appears to be a condition of relatively rare occurrence, and is not mentioned in any of the standard textbooks as a lesion to be considered in the differential diagnosis of appendicitis.

A woman, aged 48, was admitted to Northampton General Hospital on February 8th, 1927. Six weeks previously, while stretching up to take a jar from a shelf, she felt a sharp pain in the *right iliac region*. The pain was present for three days, but there were no other symptoms, and she was able to do her housework. One week before admission, while walking about the house, she again felt the pain and went to bed. The pain became a constant ache with occasional sharp twinges, located at first in the suprapubic region and later in the right iliac fossa. During the week she also complained of loss of appetite and was feverish at night, sweating frequently. She had no cough, nausea, or vomiting, but was constipated.

On admission t[illegible] 3°, and the pulse 96. The abdomen presente[illegible]ne lower half of the right rectus muscle an[illegible]s, with its maximum one inch above and [illegible] point. No tumour was palpable. The heart and chest were normal. A diagnosis of subacute appendicitis was made, and the abdomen opened by a right paramedial incision. The rectus sheath was blood-stained, and on opening it the middle third of the muscle was found to be ruptured about 1½ inches below the umbilicus. Between the fragments was a blood clot which appeared to be partially organized. The muscle itself was dark red. On opening the peritoneum the appendix was found to be normal in every way. The ends of the ruptured muscle were approximated and the wound closed. Apart from the extrusion of a catgut suture the patient made an uneventful recovery and was discharged with a firm scar in sixteen days.

Of twenty-five recorded cases of rupture of the rectus abdominis muscle twenty-three occurred during influenza, one in pneumonia, one from coughing, cause not stated, and one from an effort in jumping.[1] The presence of muscular lesions in influenza and of a special predilection for the rectus abdominis, resulting in some cases in rupture, was made clear by Abrahams, Hallows, and French in 1919.[2] They described the muscle as haemorrhagic and pulpy, and thus distinct from the *pallid* appearance seen in other acute fevers such as typhoid. The lesions occurred chiefly in the very severe cases of influenza.

Where there is a definite infective lesion the occurrence of muscle rupture from slight degrees of violence is easy to explain, but in the case here recorded the rupture presumably took place six weeks before admission and at a time when the patient was *in good health*. The recurrence of symptoms five weeks later is difficult to explain, as she can give no history of a second strain.

I am indebted to Mr. Holman, F.R.C.S., for permission to publish this case.

Northampton. C. R. McCASH, M.B., Ch.B.

PULMONARY EMBOLISM FOLLOWING CHILDBIRTH—RECOVERY.

IT may be of interest to add the following report of a case of pulmonary embolism to those recently published in the JOURNAL.

A primipara, aged 33, was delivered of a boy weighing 8 lb. in May, 1926; labour was somewhat lengthy, but not unduly so considering her age; otherwise it was normal in every way.

I was present at the birth, and her general condition was excellent. I was sent for three days later and found her very cyanosed, with a small pulse of 160, the temperature 100.5°, respirations 45. She told me that she had been *quite well until* an hour or so previously, when she felt a sudden severe pain in the left side of the chest, with difficulty in breathing. It was an effort for her to talk, and she was coughing up frothy blood-stained sputum.

The only physical sign I could find was a small area of dullness in the left upper lobe; everything else was normal.

Oxygen was given through a closely fitting mask, and on two occasions a quarter of a grain of morphine hypodermically for the pain. She was very ill for fourteen days; she then gradually recovered, and was up within four weeks. She is expecting her second child in June.

Yelding, Kent. MARTIN HALLAM.

[1] Hartman, H.: *Presse Méd.* 1917, 25, 231.
[2] Abrahams, Hallows, and French: *Lancet*, 1919, i, 1.

Reports of Societies.

EXPERIMENTAL ENDOMETRIAL GRAFTS.

AT a meeting of the North of England Obstetrical and Gynaecological Society on April 1st, at the Medical Institution, Liverpool, with the President, Professor FLETCHER SHAW, in the chair, Dr. J. W. A. HUNTER read a paper entitled "Some observations on experimental endometrial grafts."

Dr. Hunter said that though workers appeared to be satisfied when they had demonstrated the possibility of heterotopic endometrial growth, yet no one had as yet reproduced in animals a condition comparable with tarry ovarian cysts in women. In his research he had used some forty rabbits; the transplants were mostly autogenous, but a few were heterogeneous. The general reaction obtained was the growth of a multilocular cyst lined by columnar epithelium which was non-infiltrating; stromal proliferation only occurred in the papillary buds. From rabbits killed on the third and tenth days respectively after grafting two methods of cyst formation were found. The epithelium dipped down into the graft to form a cyst, or it covered the graft and lined the undersurface of the layer of fibrin which sealed in the graft. It was also noticeable in these experiments that while the columnar epithelium was scanty in the depths of the graft, it always covered the outer surface and grew along the lines of tissue junction. The stroma in the early stages was engorged. In order to test the effect of vascularity of the site of grafting, some transplants were placed in the liver and some in an avascular part of the abdominal wall in the same rabbit. The former showed considerable proliferation of endometrium with preservation of the racemose gland arrangement but surrounded by a definite capsule, whilst the latter showed a scanty growth of epithelium of a low activity. Even after 290 days a very active growth was found in the liver, whereas it was not so exuberant in the ovary. In another animal, after 388 days the general reaction was obvious, and after 760 days very small cystadenomata were found in atrophic ovaries. As a test of the influence of ovarian hormone grafts were introduced into the ovaries, and both the ovaries, containing corpora lutea, from another animal were transplanted into the abdominal wall. Fifty-four days later very large cystadenomata were found with adhesions to many adjacent organs; these showed large thin-walled cysts without invasion of surrounding structures. This result could only be obtained when the grafted ovaries from another animal contained corpora lutea. In an experiment in which the grafts were placed in the abdominal cavity of a male rabbit it was found thirty days later that there was no trace of the columnar epithelium, but the gland spaces remained. An attempt to confirm the "serosal" theory by the implantation of pieces of peritoneum and subperitoneal tissue produced a negative result, although there was an active growth of the mesothelial tissues. In one case in which grafts were placed in the ovary and the ovary was then transplanted into the abdominal wall definite endometriosis with invasion was produced. Dr. Hunter concluded from this series of observations that fragments of endometrium when grafted into any organ could grow. He considered that the factors which controlled growth of the stroma and endometrium were not the same, and that there was a selective action of the hormone of the corpus luteum controlling endometrial growth, more especially its epithelial portion. The experiments showed that whereas implanted endometrium could continue to grow for an almost unlimited time, it did not, in normal circumstances, become invasive. In the one instance in which there was an abnormal factor present (transplantation of the ovary which was the sito of the graft) the typical picture of endometriosis was obtained. This rather led to the view that for the production of the human picture, one factor, either the endometrium or the invaded tissue, must be abnormal.

Dr. S. B. HEAD asked whether the time in the oestral cycle at which the endometrium was taken for grafting made any difference to its capacity for growth.

Professor BLAIR BELL commended Dr. Hunter's research, and said that such investigations would advance knowledge of an interesting subject. He showed a specimen which indicated that it was possible experimentally to secure, not only an endometrial tumour by implantation, but also, during pregnancy at any rate, to produce a "shower" of glandular implants almost entirely over the whole peritoneal surface of the abdominal cavity.

The PRESIDENT emphasized the importance of comparing results obtained by experimental methods of this kind with clinical experience.

Dr. HUNTER, replying, stated that in his experience the time in the oestral cycle at which material was obtained for grafting made no difference to its capacity for growth.

Unusual Congenital Abnormalities.

Professor D. DOUGAL reported a case of unusual malformation of the broad ligament. He said that a married nullipara, aged 45, had complained of a blood-stained discharge of twelve months' duration; a severe haemorrhage had occurred two months before she was seen. On examination the uterus was found enlarged. The cervix was much thickened, very hard, and stretched, and there was a good deal of bleeding on examination. On opening the abdomen it was found that the uterus contained a number of fibroids, including one in the cervical canal. The main interest, however, lay in the malformation of the left appendage. The left ovary lay with its inner pole close to the internal abdominal ring, and running from it into the inguinal canal was a thick muscular cord, about one-eighth of an inch of this being visible between the ovary and the ring. The ovary was normal in appearance. The left Fallopian tube was somewhat small and terminated on the outer side of the ovary more than two inches from the uterus; the fimbriated end was fully developed. The kidney and ureter were completely absent on this side. Running from the ovary towards the uterus was a fold of peritoneum in the outer part of which could be made out a fibro-muscular structure, which tapered to a point and terminated about one inch from the uterus. The peritoneal fold joined the uterus about the junction of the body and cervix. The right ovary and tube were apparently normal, and were attached to the uterus at a much higher level than the peritoneal fold on the opposite side. The uterus itself was much distorted by the presence of fibroids, but Professor Dougal thought it might be assumed to be of the unicornuate type, the left horn being completely absent. The upper part of the left Müllerian duct formed the Fallopian tube, and there the further development of this structure had ceased. The Wolffian structures on this side were evidently absent. The position of the ovary at the internal abdominal ring was interesting, as the fibro-muscular cord attaching it to the ring presumably represented the ovarian and round ligaments. As the Müllerian duct on this side had not grown inwards to fuse with its fellow of the opposite side, the gubernaculum had drawn the ovary straight downwards to the inguinal ring. The malformation was undoubtedly rare, and he had only been able to find a record of one somewhat similar case, which was reported by Bonnaire and Durante in 1912.

Professor Dougal described also a case of unilateral duplication of the ureter with one ectopic opening. The patient, aged 24, unmarried, had complained of deficient control over micturition, which had been present practically since birth. She was able to pass urine in the ordinary way, but in addition was wet both night and day. She always wore a diaper and used three in the twenty-four hours—one during the night and two during the day. The leakage was noticeably worse in cold weather. She was well developed and highly educated, and was acutely conscious of her disability. On inspecting the vulva carefully Professor Dougal thought that he could observe urine welling up from the vagina. He therefore decided that the condition was more than a mere weakness of the sphincteric control of the bladder, and admitted her to a nursing home for further investigation under anaesthesia. During this examination he found that the urine escaped periodically from a small opening in the vestibule just below the urethral opening, and a little to the right of the middle line. It was a simple matter to demonstrate that the urine coming from this opening did not pass through the bladder, and it was therefore evident that the condition was one of ectopic ureteral opening. Mr. Wilson Hey found that there were two ureteral openings normally situated in the bladder, and that both were acting normally. In addition there was a second ureter on the right side, and this one had an ectopic opening on the vestibule. Sodium bromide was injected into the right ureter on the left side, but only a small quantity could be passed in and there appeared to be some partial obstruction in the upper part. This salt was also injected into the ectopic opening of the right ureter, and passed freely up to the kidney pelvis. Professor Dougal said that there were evidently two pelves and two ureters on the right side; one of these ureters had an ectopic opening from the vestibule. The lower part of the ectopic ureter was sacculated, as was well seen in the radiogram. This abnormality was obviously important clinically, but it was also interesting from an embryological point of view, as the ectopic ureteral opening in this case was situated at the point where Gärtner's duct was usually supposed to terminate.

Professor BLAIR BELL called attention to the fact that true uterus unicornis was very rare. Most cases so described had been, in reality, cases of uterus bicornis in which one horn was poorly developed. Two other points of interest were demonstrable in Professor Dougal's specimen. The ovarian ligament on the side on which the uterine horn was not developed ran straight to the inguinal ring, indicating the truth of views emphasized by the speaker many years previously, that the round ligament and the ovarian ligament were one structure, and together represented the gubernaculum. The second point of interest was that, although the Fallopian tube as a whole was not formed, the fimbriated extremity was present—a matter of common observation in many cases of malformation of the parts, and one which bore out Keith's contention of the origin of the fimbriated extremity from the pronephros.

Clinical Demonstrations.

Professor BLAIR BELL described a specimen and sections of carcinoma of the cervix with pregnancy. The patient was a 12-para, aged 36, and was twenty-two weeks pregnant when seen. Panhysterectomy with bilateral salpingo-oöphorectomy and appendicectomy was performed, and recovery was uneventful. Subsequently she was treated by injections of lead colloid. Professor Blair Bell said that cancer of the cervix associated with pregnancy was decidedly rare, occurring on an average once in about every 10,000 cases of pregnancy.

He then showed a case of primary adenocarcinoma of the Fallopian tubes in a primipara, aged 45. She had complained of pain in the back and hypogastrium, and a yellow inoffensive discharge for twelve months; there was frequency of micturition, and the patient became exhausted on the slightest exertion. The uterus was thought to be enlarged, irregular and immobile. A large swelling was felt through the anterior fornix, evidently pressing on the bladder. A hard mass was felt on either side of the uterus. Panhysterectomy with bilateral salpingo-oöphorectomy was performed, but was extremely difficult, owing to the density of the adhesions and the presence of bilateral ovarian cysts, which appeared to burrow deeply in the loose tissues of the pelvis. Subsequently a small vesico-vaginal fistula was found and easily repaired. Professor Blair Bell said that primary carcinoma of the Fallopian tube was rare, less than 150 cases being reported in the literature. It was probable that the condition occurred with greater frequency but that the cases were not recorded. He had had three cases, but the other two had not previously been reported, although a section from one of these was illustrated in the last edition of his *Principles of Gynaecology*.

He also showed three cases of Krukenberg tumour, one associated with pregnancy. The first patient was a nulliparous married woman, aged 35, who complained of a bearing-down pain in the hypogastrium, with frequency of micturition almost amounting to incontinence. On examination a large tumour, mostly in the right iliac fossa but extending in the hypogastrium to the umbilicus, was felt.

The cervix was immobile, and the uterus could not be separated from the tumour. Following operation the patient died from heart failure. The second patient, a 7-para, aged 42, complained of vomiting for eighteen months, and pain in the epigastrium relieved by the vomiting. She also had obstinate constipation, loss of weight, weakness, and haemorrhoids. On examination the tumour was discovered in the epigastrium, and was thought to involve the liver. There was dullness in the flanks and free fluid in the abdomen. At laparotomy a primary carcinoma of the pylorus was discovered adherent to the liver, in which there were secondary nodules. There were nodules on the peritoneum. The right ovary was the size of a large coco-nut; the left ovary was smaller. Subtotal hysterectomy with bilateral salpingo-oöphorectomy was performed. Thereafter she had a course of six injections of lead colloid, but death occurred at the end of eight and a half months. The third patient, a 5-para, aged 32, complained of diarrhoea for two years and a painless lump in the right iliac fossa, which had gradually increased in size for four months. Just before she was seen she had had a severe pain in the right side, accompanied by vomiting and diarrhoea. There had been loss of weight. On examination the uterus was found to be about four months pregnant, and there was a solid tumour to the right of it, which extended into the pouch of Douglas. The uterus itself was mobile. Supravaginal hysterectomy with double salpingo-oöphorectomy was performed. The right ovary was enlarged to the size of a foetal head, and was adherent to the rectum. The left ovary did not appear to be affected. A cicatricial area at the pyloric end of the stomach was detected. Subsequently x rays showed malignant disease at the pylorus. The patient commenced a course of lead injections, but was lost sight of later. Professor Blair Bell said that these tumours, originally described by Krukenberg as primary sarcoma carcinomatodes of the ovary, were now invariably regarded as secondary to gastric, or possibly intestinal, carcinoma.

Dr. BURNS mentioned a case of carcinoma of the cervix complicating a sixteen weeks' pregnancy for which he performed Wertheim's pelvic dissection, and later applied radium to an early recurrence in the vaginal vault with a satisfactory result. Miss IVENS said that she did not consider primary carcinoma of the Fallopian tube as a very malignant condition, and quoted two cases of her own in support of this view. Dr. W. W. KING asked how long the patients with Krukenberg's tumour had lived after operation, as from his experience of three cases the average time was only about three months. Professor BLAIR BELL, in reply, said that he considered primary carcinoma of the Fallopian tube on a par as regards malignancy with adenocarcinoma of the body of the uterus; for a long time the disease remained enclosed within the tube. While this was so, extension or metastasis was rare, but once the tube wall was penetrated extension was rapid. As the Krukenberg tumours were always secondary to disease elsewhere, removal of them alone, without further treatment, must be followed in a few months by the death of the patient.

Mrs. DOBBIN CRAWFORD reported a case of double vaginal cyst arising from Gärtner's duct. The patient, a multipara, aged 52, suffered discomfort and pain from a swelling in the vulva caused by one of two vaginal cysts. This was the size of a golf ball and occupied the lower part of the right antero-lateral vaginal wall, ending at the vestibule about half an inch behind the urethra. The second cyst was above the first; it was smaller and oval, and passed up towards the right fornix. The cysts did not appear to communicate with each other. Each was readily shelled out from beneath the vaginal mucous membrane, but in the deeper layers was attached by dense fibrous tissue. The lining membrane was smooth throughout and there was no sign of infection. A section showed that the cyst was lined by epithelium which was cubical in most parts, but here and there a fold in the cyst wall was lined by columnar cells; these cells had possibly been protected by the fold from pressure and so had undergone no flattening. Outside the epithelium a layer of connective tissue was to be seen surrounded by muscle. Several cases on record of distension of Gärtner's duct were mentioned, in particular that reported by Amand Routh in 1894, in which a parovarian cyst was in communication with a vaginal cyst, which latter opened by a very small orifice at the base of the vestibule about half an inch behind and to the right of the urethra, quite distinct from Skene's tubules.

Professor ERNEST GLYNN described a case of idiopathic dilatation of the urinary bladder in a woman aged 48; trabeculae were well developed and a small sacculus was present. There was also a moderate amount of bilateral hydronephrosis. The uterus was normal. He had performed necropsies on two similar cases in men. He wondered how far such a condition might be produced by habit. On the other hand, he pointed out that idiopathic hypertrophy of the bladder with hydronephrosis was described in children. He himself had seen two cases *post mortem*, both males, aged 12 and 16 respectively. Dr. J. E. GEMMELL described two cases he had seen. No cause could be assigned for the first, but the second was certainly due to a "habit"; the patient, finding it very difficult to leave her work, had accustomed herself to going all day without emptying her bladder. Dr. W. W. KING also quoted two cases due to habit—the one in a cinema pianist, and the other in a chronic alcoholic who had prolonged periods of unconsciousness. Professor GLYNN, in reply, quoted a similar case in a policeman who was on point duty for long hours at a time.

FRACTURE OF THE PATELLA.

AT a meeting of the Section of Surgery of the Royal Academy of Medicine in Ireland on March 25th, Sir WILLIAM I. DE COURCY WHEELER in the chair, Mr. W. PEARSON showed a child, aged 10, on whom he had recently operated for fractured patella.

Mr. Pearson said that the child had climbed up on to a mangle and had fallen to the floor; she had not been able to get up. She was taken to hospital, and the knee-joint was found to be very distended, obviously with blood; owing to this distension it had been very difficult to make a diagnosis. A skiagram, however, showed that the patella had been fractured. Six days after admission Mr. Pearson had operated, and had found a typical transverse fracture of the patella. The operation had now been performed three months, and the child could run about quite well. Mr. Pearson said that this form of fracture of the patella was a very common injury in adult life, but it was believed to be an injury which never occurred in children, and practically never in adolescence. He thought it probable that the reason for the rarity of the injury in children was the fact that the knee extensor was very elastic at that age.

Sir WILLIAM WHEELER said that there was very little in the literature about fractures of the patella in children; but it was stated that they were unknown before the age of 10, were very rare up to the age of 20, and were almost confined to later life.

Mr. A. CHANCE referred to the good mobility of the knee obtained in Mr. Pearson's case. He added that it was essential to get back the full range of flexion, for anything short of full range involved a recurrence of patellar strain with possible repetition of the fracture.

Mr. PEARSON, replying, agreed with Mr. Chance that a fracture of the patella might recur; he proposed to keep his patient under observation until he had obtained full range of flexion. He thought that fracture of one patella predisposed to fracture of the other.

Psoas Abscess due to Tuberculous Kidney.

Mr. SETON PRINGLE showed a specimen of a tuberculous kidney associated with the formation of a psoas abscess.

A woman, aged 32, was admitted to hospital complaining of a large swelling in the right side of the abdomen which had grown slowly and without pain, and of a second swelling in the upper inner aspect of the right thigh. On examination the clinical features of a typical psoas abscess presented, but, in addition, a hard nodular tumour could be felt in the right hypochondrium, immediately underneath the anterior abdominal wall. This tumour gave the impression of being a pathological kidney, displaced forwards by the development of the abscess. No evidence of disease could be detected in the spine, which was perfectly flexible. The urine on examination was quite normal, and the cystoscope revealed a normal left ureter and a normal bladder, except for very slight scarring at the site of the right ureteric opening. The opening itself could not be identified after prolonged

search, and certainly was not functioning. There was no evidence of any inflammatory process in the neighbourhood. An x-ray examination of the right renal region and spine was negative. The psoas abscess was aspirated in the upper part of the thigh and 32 ounces evacuated. The right renal region was explored through an antero-lateral oblique incision, and the kidney, which had been completely infiltrated by tuberculosis, was removed. In doing this the abscess cavity was opened and a communication between it and a caseous cavity in the substance of the kidney was easily established.

Sir WILLIAM WHEELER said that this was a very rare specimen. He had never heard of a psoas abscess which was directly due to a tuberculous kidney, as in this case. Mr. DENIS KENNEDY thought that the ureter became affected first, and the disease developed behind it. Mr. C. J. MACAULEY regarded this case as being analogous to cases in which a large gland was found in the neck, with a caseous abscess at the bottom of it. He suggested that the absence of previous bladder symptoms could be accounted for by the early closure of the ureter.

JAMES MACKENZIE INSTITUTE.

Acidosis.

THE concluding lecture of the spring course at the James Mackenzie Institute for Clinical Research, St. Andrews, was delivered by Dr. G. MATTHEW FYFE, his subject being laboratory observations on acidosis. After remarking on how little was really known regarding the biochemistry of acidosis, largely on account of the complicated changes which occur, the lecturer pointed out that even in the most intense manifestations of the disease the reaction of the blood remained practically constant. The mechanism by which this constancy was maintained was an intricate one depending upon two essential processes—the presence of buffer substances and the excretion of acid bodies—interference with which resulted in the appearance of the syndrome clinically termed acidosis. The actions of the bicarbonates and the phosphates, which together constituted what was termed the alkaline reserve of the blood (a sustained diminution of which gave rise to the symptoms of acidosis), were described, and the significance in the laboratory diagnosis of acidosis, of observations on the amount of bicarbonate and CO_2 in the blood and of CO_2 in alveolar air, was emphasized, as was the information sometimes derived from comparative estimations of the reactions of the blood and of the urine. Little information could be derived from the buffer effect of amphoteric proteins in acidosis. Regarding the cells of the body two similar neutrality regulating processes were described—that of the "chloride shift" and that of the alterations which occur in the strength of haemoglobin as an acid. Their mechanism, however, could not be estimated in exact terms, but nevertheless it was thought that the cells along with proteins constituted a line of defence second to that of the alkaline reserve. There was described an accessory mechanism, controlled by the kidneys, wherein a considerable amount of ammonia derived from the faulty deaminization of proteins was used to neutralize abnormal acids, so as to prevent loss of the fixed alkalis of the blood and tissues. The criteria of acidosis then would be: (1) Excretion of acid urine; (2) decrease in the bicarbonates of the blood, with consequent decrease of its CO_2 combining power; (3) decrease in the CO_2 tension of alveolar air; (4) alteration in the ammonia coefficient of urine; (5) excretion of ketone bodies.

An opportunity was taken at this point to define acidosis and ketosis as different phenomena, the former being a perversion of physiological processes, the latter being a pathological process accompanied by acidosis. Acidosis was defined as an interference with the neutrality regulating processes of the body, with a consequent deficiency in its powers to deal with the acid substances produced in metabolism. The concluding part of the paper was concerned with laboratory methods of diagnosing acidosis, with methods of estimating the acidity of the urine, acid excretion by the kidney, sodium bicarbonate in plasma, CO_2 in alveolar air, ammonia and ketone bodies in urine were described. By the simple expedient, however, of administering sodium bicarbonate by mouth and of testing the reaction of the urine, the physician had at his command probably the most practicable test at present available.

Reviews.

THE THEORY OF PERCEPTION.

SIR J. H. PARSONS'S *Introduction to the Theory of Perception*[1] is one of the series of volumes forming the Cambridge Psychological Library. Psychology is largely studied by introspective and other methods which are not very amenable to strict scientific discipline, and the study of perception, which may be said to form a connecting link between consciousness and simpler nerve processes, brings it into touch with the biological relations of the organisms and affords a mode of approach that is open to direct observation and experiment.

The author introduces the subject by a statement in general terms of the nature, genesis, and mechanism of perception. This is followed in subsequent parts of the work by a more detailed discussion of the various aspects of the problem, more especially in connexion with vision, the author's own special study. The simplest example of the mechanism is to be found in the unicellular organisms; here no differentiation of sensory receptors exists, nor any differentiated paths for incoming and outgoing impulses. There are no co-ordinating centres, but the whole body reacts in the mass. Consciousness, if it exists at all, is a mere vague awareness, associated with a feeling of pleasantness or unpleasantness according to the nature of the stimulus; and the response is limited to a simple withdrawal or approach, depending on the biological requirements of the animal. To this fundamental form of sensibility the name protopathic has been applied, in accordance with Head's nomenclature; it is manifestly of great importance for the preservation of the individual in the lowest types, and its existence can be recognized, according to the author, even in the highest forms of sensibility. Mounting a step higher, definitely localized receptors of stimuli are met with and impulses are transmitted through localized paths, forming the reflex arcs with their central intercommunications. Notwithstanding the increased complexity involved in these changes, it is possible to conceive, at least theoretically, that the sensibility retains, in the main, its protopathic character.

The next stage discloses a marked advance depending on the diversity of the stimuli impinging on the organism. Receptors become differentiated, introducing different modalities of sensation, such as vision and audition, and the impulses received in consciousness cease to be homogeneous. It is at this stage, apparently, that perception arises, the term denoting consciousness, with discrimination added to the mere feeling of pleasantness and unpleasantness. There arises a consciousness that certain groups or patterns of impulses among the aggregate of impulses received have a special biological significance, and these perceptual patterns, stereotyped by habit, become prepotent over concomitant impulses. Sensibility, therefore, in this stage, while still retaining a latent protopathic character, acquires discriminating or, as is said, epicritic features, and the mechanism becomes dual. A further important modification arises from the predominance of one or more of the sensory modalities; in some animals the sense of smell, in others that of sight, and these differences have a psychological bearing depending on the particular mode of life of the animal. The relatively complex mechanism described forms the basis of instinct; in its purest form the consciousness of perceptual patterns is held to act by inducing some definite emotional tone, and this exerts an influence on the motor response which is normal to the given stimulus. A good example of instinctive response is seen in the first flight of birds. The mechanism is transmitted hereditarily, and on the receipt of the appropriate stimulus flight occurs without any preliminary tentative rehearsals or deduction from previous experience. A still higher type of epicritic sensibility has its anatomical basis in the association-tracts of the cortex, which also subserve what the author, introducing a new term, calls the syncritic integration of perceptual patterns, such

[1] *An Introduction to the Theory of Perception.* By Sir John Herbert Parsons, C.B.E., D.Sc., F.R.C.S., F.R.S. Cambridge Psychological Library. London: Cambridge University Press. 1927. (Roy. 8vo, pp. viii + 254; 71 figures. 18s. net.)

integrated patterns becoming manifest in consciousness and active in conceptual thought. It would appear that in consciousness on this the plane of intelligence, the integrated perceptual patterns act less as inducing mere emotional tone than as independent internal stimuli.

Such, in general terms, is the thesis which the author develops with a wealth of illustration, citation, and exemplification that at times leads to some degree of obscuration of the thesis itself, though its complexity may render this unavoidable. The subject is subsequently treated in detail in three directions: a discussion of the principal sensations of the fundamental perceptions, and especially those of space and movement, and of the evidences derived from the study of comparative anatomy, the main part of the discussion centring round the mechanism of vision, this heading are considered the dual mechanism of vision, the appreciation of form and contour; colour vision; the sensatory response and its duration in the epicritic form; visual induction, excitation and conduction; and the comparative anatomy of the eye and development of the visual paths. A point of particular interest is mentioned bearing on the trichromatic theory of colour vision. It has been shown that the response to a momentary flash of light is not a momentary sensation but a wave of sensation which may be graphically represented by a curve; and further, that the sensation-curves of the fundamental colours develop with unequal rapidity, so that their summits occupy different positions and can be separately distinguished. By fatiguing the retina with monochromatic light a modification can be observed in the sensation-curves, corresponding in position to the spectral colour used, and it is found that, whatever the colour employed, modification occurs in the curves of red, green, and violet only—a strong confirmation of the view that these are the fundamental colours and the others merely combinations of them.

The author disclaims any attempt to have written an exhaustive treatise on perception; his design has been to gather together some prolegomena or preliminary remarks on the subject and to formulate a working hypothesis. A study of the book will convince the reader that it must be a formidable superstructure that requires so substantial a foundation.

SIR GEORGE NEWMAN'S ESSAYS.

UNDER the title *Interpreters of Nature*[1] Sir GEORGE NEWMAN has now collected nine essays and addresses previously published privately, or in some instances in journals not readily accessible. They are not perhaps what some might anticipate from a chief medical officer of the Ministry of Health; but those who are familiar with his reports on medical education and allied subjects will not be surprised. These essays are mainly devoted to medical biography and history, as is shown by the titles "A century of medicine at Padua," "Thomas Sydenham," "Hermann Boerhaave," "John Hunter," "Louis Pasteur," "John Keats," and "William Osler, a physician of two continents." Written in a very pleasant and withal scholarly style, with many allusions, poetical and literary, they analyse the character and achievements of his heroes, who so well interpreted what they had observed in their various capacities. The "Century of medicine at Padua," appropriately written in 1922, the octocentenary of that celebrated university, is dedicated to the medical students of St. Bartholomew's Hospital, on the staff of which William Harvey served as physician from 1609 to 1643. It is just the companion that a medical visitor to Padua should take with him to create the atmosphere of its ancient influence and fame. The account of Sydenham, "the reformer of English medicine," first appeared in the year of the tercentenary of his birth (1624-1924), and the oration "On the disciples of Boerhaave in Edinburgh" was delivered last June at the bicentenary of the Medical Faculty in the University of Edinburgh. The sketch of Sir William Osler is excellent in its affectionate insight, and it is a matter for no small regret that he has not given, as he so well could, a companion appreciation of Sir William's "brother" regius, Sir Clifford Allbutt. There is, indeed, a likeness between these essays and those of Sir William Osler, not only in manner, but in one instance at least in their subject matter, for they both, though with a quarter of a century's interval, deal with the life of John Keats, Sir George's tribute being laid on the poet's grave on the centenary of his death.

This charming volume, fit companion for a holiday, closes with two addresses delivered in similar circumstances—annual congresses of the Royal Sanitary Institute—"Modern interpreters: fifty years' progress in public health" and "Future interpreters: everyman in preventive medicine," which remind the reader of medicine's ideal, the prevention rather than the cure of disease.

[1] *Interpreters of Nature.* By Sir George Newman, K.C.B., M.D. Hon. D.C.L. (Oxon.). London: Faber and Gwyer, Ltd. 1927. (5½ × 8½, pp. viii + 256. 12s. 6d.)

THE NATURE OF THE INTRA-OCULAR FLUIDS.

THE third of the Monograph Supplements issued by the *British Journal of Ophthalmology*[2] bears the above title and is the work of Dr. W. STEWART DUKE-ELDER. It incorporates work done for the Sir Francis Laking prize of St. George's Hospital Medical School for the two years 1926-27 in the biochemical department of the hospital.

The book is divided into an experimental and a theoretical section, and a very complete bibliography adds materially to its value. The author concludes that "the nature of the formation and circulation of the aqueous humour as at present classically accepted and taught is wrong; the aqueous is neither a secretion nor, in the accepted sense, a transudate from the blood; it is a dialysate from the capillary plasma, the essential dialysing membrane being the capillary walls; under normal conditions, while an interchange due to metabolic activity constantly occurs, and an internal thermal current exists, the aqueous humour does not circulate actively through the eye, but is in equilibrium with the capillary blood; at the same time, constantly occurring changes of pressure, induced by muscular movements, etc., superimpose upon it secondarily a minimal and intermittent circulation."

No abstract can do justice to the value of this most important piece of original work. In our opinion Dr. Duke-Elder makes out an overwhelmingly strong case for his conclusions; if these are accepted—and we do not see how any who read this monograph can come to any other—it will mean that "many of the problems of ophthalmology will require revision," especially the problems of cataract and glaucoma.

With regard to the secretory theory, which of late years has been the most favoured in this country, it is here shown that the only evidence in its favour is purely anatomical. The ciliary body is not always present. "If it be accepted as a gland, then it must be admitted that it shows no activity as a gland, but merely allows the aqueous to diffuse through its cells passively; that is, it must be admitted that it secretes nothing, for the intra-ocular fluids are in thermo-dynamical equilibrium with the capillary blood, and in their passage through the epithelial cells no work of any kind—chemical, hydrostatic, osmotic, or electrostatic—is done."

Many years ago old Robert Burton, Democritus Junior, took the slight liberty of putting the word "addictus" in the classical quotation that adorns the title-page of this monograph into the plural. He went on as follows: "They will approve of naught but what they first invent themselves, no interpretation good but what their infallible spirit dictates; none shall be *in secundis*, no not *in tertiis*, but they and their followers; *caedem Scripturarum faciunt ad materiam suam*, saith Tertullian: they make a slaughter of scriptures, and turn it as a nose of wax to their own ends."

We owe it to Duke-Elder—who has approached this problem with physico-chemical experiment, "the most legitimate way in that it involves the introduction of few extraneous influences, and is the least equivocal in the interpretation of its results"—that we can in the future be on the right track in investigating many of the

[2] *The Nature of the Intra-Ocular Fluids.* By W. Stewart Duke-Elder. *British Journal of Ophthalmology* (Monograph Supplement III). London: George Pulman and Sons, Ltd. 1927. (Roy. 8vo, pp. 140; 5 figures. 7s. 6d.)

biochemical problems of ophthalmology; and for ourselves, as we had the pleasure of reading this monograph in manuscript and in proof before its issue to the world, we can honestly say, in the quaint phraseology of Burton, that we will come, if necessary, "*e faucibus Erebi*, from the chops of hell," in support of it. R. R. J.

CLINICAL STUDY OF MENTAL DISORDERS.

THE presidential address on *The Clinical Study of Mental Disorders*,[4] delivered at the eighty-fifth annual meeting of the Royal Medico-Psychological Association by Lieut.-Colonel J. R. LORD, C.B.E., F.R.C.P., and reported in our issue of July 17th, 1926, has now been reprinted from the *Journal of Mental Science* and published as a separate volume.

In this address the author has directed his attention principally to the probable future of psychiatry, envisaging its possibilities and the lines of progress it should follow if real advancement is to continue. Lamenting the divorce that has taken place between general medicine and psychiatry, for which he holds both blameworthy, Colonel Lord believes that a nearer approach will bring great gain to both. It is in general medicine that he would find the roots of the science and art of psychiatry. In illustration of this he points to the close relationship to general medicine which exists in such disordered mental functions as the pain, anxiety, and mental fatigue of all acute illnesses, the delirium of fevers, the mental confusion of uraemia, acute alcoholism and toxaemia, the gloom and irritability of alimentary disturbances, the spes phthisica, the coma of diabetes, the hebetude of myxoedema, etc.

He recounts also the great number of patients who first seek relief from private practitioners or general hospitals for mental disorders clothed in the garb of physical disease, and deplores that in many cases this is not recognized until too late. It is in the field of general practice that Colonel Lord considers the greatest advance will be made. "Here the roots of the evil will be located and eradicated and its growth to maturity prevented by methods of prophylaxis. Every general practitioner will then be a psychiatrist. . . . To build up this wider psychiatry which has its roots in general practice, there is urgent necessity for more mental clinics in connexion with the medical schools for teaching purposes, and the next essential is to ensure and maintain a greater efficiency of clinical psychiatry in the mental hospitals. The mental hospitals will then take up their rightful position as in the case of other special hospitals—that is, as adjuncts to general hospitals and work in close relationship with them."

Colonel Lord's address is one which all who are concerned with the prophylaxis and treatment of mental disorder should make a point of reading.

THE MEDICAL ANNUAL, 1927.

The Medical Annual[5] for 1927 follows worthily in the wake of its predecessors, and presents a comprehensive review of medical progress during the past year. Though no new discovery of outstanding importance is recorded, various improvements in treatment illustrate the present tendency of physicians to strive to impart order and direction to modern therapeutics.

The subject-matter of the *Annual* retains the form of a dictionary, and such an arrangement does not readily lend itself to analytical review; nevertheless, numerous points of practical utility can readily be observed. Many of the papers, perhaps of necessity, seem to err on the side of brevity. Fuller details of symptomatology and treatment would have been valuable in some instances; but here criticism ends. The *Annual* is full of interest and of practical help.

The names of the thirty-four contributors are a sufficient guarantee of the clinical value of the papers, of which some are summaries, while others contain critical comments. Without attempting to do more than illustrate the nature of this volume by referring to a few articles, it may be mentioned that special attention is paid to acute infections of the central nervous system, the lead treatment of cancer, abdominal surgery, and the physiology and surgery of the pituitary gland. The obstetrician will find a paper on obstetrics and gynaecology in the East particularly interesting, and an article entitled "Milk: its public health aspect" sums up lucidly and effectively a mass of information which will be as useful to general practitioners as to medical officers of health. The various papers on rheumatic manifestations are timely, and one on pulmonary tuberculosis, with a short summary of Calmette's method of vaccination, deserves to be read with care. Many practical therapeutical points are contained in accounts of the treatment of acute oedema of the lungs by atropine, of cardiac dropsy by novasurol, and of acute septicaemia by intravenous injections of mercurochrome. A well illustrated article sums up the present position of phototherapy.

Many of the diagrams and plates in the volume are of special merit. A valuable miscellaneous section includes an account of the progress of pharmacy and dietetics; descriptions of medical and surgical appliances; lists of new books various medical institutions, and spas; and an official and trade directory. The *Medical Annual* remains a most useful vade-mecum for the specialist as well as the general practitioner.

NOTES ON BOOKS.

THE numerous friends of the late Dr. ROBERT HUNTER STEEN will be glad that he lived to complete his little volume on *The Modern Mental Hospital*.[6] As Mr G. M. LEESON observes in an introduction, this work has a poignant interest, as it was carried out as a final act of service to the insane, in whose cause his life had been wholly spent. Dr. Steen was a distinguished psychiatrist, but in this book he makes no attempt to deal technically with his specialty. This is a simple and essentially human work in which the author aimed to provide the public with an account of life in a mental hospital. Two chapters are devoted to a "walk round" the mental hospital; then some details are given of the patients and their illnesses; and after an outline of the methods of treatment which are utilized, the book concludes with an account of the personnel, both administrative and nursing. His long experience as a medical superintendent enabled Dr. Steen to testify to the devotion to duty and the high qualities of the nursing staff. One of his objects in so doing was to attract to their ranks new recruits of the same type who may be reluctant to enter the nursing service of mental hospitals from a misunderstanding of the true nature of the ministration carried on within their walls. We hope that this interesting and enlightening book will have a wide circulation, as it cannot fail to do good.

MRS. SYDNEY STEPHENSON, whose name is such a part of modern literary activity in ophthalmic work, for her husband was the founder of the *Ophthalmoscope*, and until his death the editor of the *British Journal of Ophthalmology*, has herself penned a little *Guide to Ghent*,[7] and dedicated it to the memory of her husband. It is a most attractive and conveniently arranged volume, giving just so much of direction as will enable a visitor to find his way about. How full of romance the ancient city streets, what wealth of interest attached to the treasures hung in city hall and old cathedral! What a piece of work is the famous polyptych—"The Adoration of the Mystic Lamb," mainly the work of Hubert the elder van Eyck of 1420. At one time its beauties were unappreciated, for in 1816 six of the panels were sold to a Berlin museum. During the great war the principal panel was so cleverly hidden that the enemy's search for it was fruitless, and in 1918 the portions the Germans owned were restored to Belgium under the treaty, and parts that had gone to Brussels were regained, so that the whole is complete. The book may be commended to those who will visit Ghent at Whitsuntide for the congress of the Royal Institute of Public Health.

The eighth edition of *Wheeler's Handbook of Medicine*,[8] edited by Dr. W. R. JACK, has appeared after the short interval of two years since the last was issued. There is little change in the text, but the book as a whole has been carefully revised, and retains those features which have rendered it so popular in the past.

[4] *The Clinical Study of Mental Disorders* By Lieut.-Colonel J. R. Lord, C.B.E., M.B., M.R.C.P.Edin. London: Adlard and Son and West Newman, Ltd. 1926. (Med. 8vo, pp. 82. 6s. net.)

[5] *The Medical Annual* Forty-fifth year. Bristol: J. Wright and Sons, Ltd.; London: Simpkin, Marshall, Hamilton, Kent and Co., Ltd. 1927. (Demy 8vo, pp. clv + 623; 125 figures, 81 plates. 20s. net.)

[6] *The Modern Mental Hospital*. By Robert Hunter Steen, M.D., F.R.C.P. Introduction by G. M. Leeson, M.B.E., M.A. London: Methuen and Co., Ltd. 1927. (Cr. 8vo, pp. vii + 115, frontispiece 6s. net.)

[7] *Guide to Ghent* By Mrs Sydney Stephenson. London: George Pulman and Sons, Ltd. 1927. (4½ × 7½, pp. 78; illustrated. 1s. 6d. net.)

[8] *Wheeler's Handbook of Medicine* By William R. Jack, B.Sc., M.D., F.R.F.P.S.G. Eighth edition. Edinburgh: E. and S. Livingstone. 1927. (Cr. 8vo, pp. xv + 630; illustrated. 12s. 6d. net.)

British Medical Journal.

SATURDAY, APRIL 30TH, 1927.

THE SURGERY OF SPASTIC PARALYSIS.

THE abstract of a paper by Dr. Royle which we give elsewhere in this issue (p. 787) will, perhaps, serve to recall to the notice of surgeons a subject which appears to have received insufficient attention in this country. Dr. Royle has during the last few years given special attention to the surgical treatment of congenital spastic paralysis, and our readers will see from his paper that his results are striking. We need mention only one case in proof of this: a patient, who had for years been able to walk only with the aid of crutches, was enabled to play tennis within a year of operation. This was an exceptionally marked case, but in all the cases operated on, twenty-six in number, there was distinct improvement. The treatment, therefore, seems to merit consideration.

The operation advocated by Dr. Royle, which he has called sympathetic ramisection, is section of the sympathetic nerve supply to the affected limbs. The subject is of great interest both from the physiological and the surgical standpoint, and the idea underlying it is a development of recent years; an account of it was given in a series of lectures by Professor Elliot Smith based on Professor John Irvine Hunter's work, which was published in our first volume for the year 1925.

It appears from Dr. Royle's paper that he had come to regard the spasticity in congenital spastic paralysis as being due to a hampering of voluntary movement through overaction of the antagonizing muscles. He then, according to Professor Elliot Smith's account, called the late Professor John Irvine Hunter into collaboration, and a series of experiments on goats was carried out in order to obtain some precise idea of the conditions underlying spasticity, and to ascertain the effect of section of the sympathetic nerves supplying the limb muscles. Section of the sympathetic nerves suggested itself on several grounds. In the first place, there was Kulchitsky's observation that the medullated and non-medullated nerves supplying a muscle never terminated in the same muscle fibre, showing that so far as nerve supply was concerned there existed two distinct groups of muscle fibres in the voluntary muscles. In the next place, Boeke demonstrated that the non-medullated fibres belonged to the sympathetic system. Thus there were shown to exist a somatic and a sympathetic group of muscle fibres in the voluntary muscles. Further, Sherrington had shown that muscles possess a dual function, contractile and tonic or postural, the former leading to alteration in the position of a limb, the latter maintaining the limb in the new position; he also recognized that postural tone was of two kinds, active and passive, the former occurring in association with voluntary contraction, the latter being demonstrable altogether apart from voluntary contraction. Thus in the decerebrate animal, in which the influence of the higher centres is removed by transection of the midbrain, a condition of rigidity in extension is produced; in this condition periods of flaccidity occur, during which muscular contraction is absent. If, during this flaccid phase, the animal's limbs are moved, they maintain the position assumed, showing that the passive postural tone has been retained.

Such considerations as these led Hunter and Royle to conjecture that the sympathetic element in muscular innervation might be responsible, through overaction, for the spasticity or excess of tone exhibited in cases of congenital spastic paralysis and other forms of spasticity. Both their experiments on goats and the operations on human beings went far to confirm this view, and it was further corroborated by a series of beautiful experiments on the wing of the bird, in which Hunter analysed the parts played by the sympathetic and the somatic systems. The bird's wing was a particularly suitable subject for experiment, because alterations in tone were immediately visible in the drooping of the wing under the action of gravity, and the positions of the two wings could be compared. Hunter found that on dividing the cervical sympathetic the wing drooped somewhat, the tone of the affected wing being reduced, so that the normal posture could not be perfectly maintained. But considerable tone remained, tending to impose a partially folded posture of the wing. This residual tone Hunter attributed to the presence of an active postural tone induced through the somatic nerves, which in the absence of sympathetic innervation were unable to maintain the wing in the maximum position of flexion against the action of gravity. During light anaesthesia the effect was still more marked, this influence being partly removed. After voluntary activity, by flight, of the partially denervated muscle, the exhaustion of the somatic mechanism manifested itself in a striking degree, from which Hunter concluded that the sympathetic system plays a part during movement as well as at rest, the intermediate postures which the muscle assumes during movement being apparently supported by the sympathetic. By division of the posterior nerve roots, which transmit afferent impulses to the somatic element in the innervation, Hunter was able to demonstrate the retention of purely passive tone; in this state the wing exhibited no tendency to take up any particular posture, but when placed in any position maintained it indefinitely.

In discussing the question of operation, Hunter remarked that the posture of the patient is not the all-important criterion of rigidity. Even the flexed position may be due to a combination of both contractile and passive tone, the two together causing the rigidity. Conversely, the extensor position may be wholly due to contractile or active tone, in which case sympathetic section would be of no avail. The only patients who could be expected to benefit from the operation are those in whom voluntary control of their muscles is intact, but movements are hampered by excessive passive tone. There is a point connected with the treatment which is insisted on by Dr. Royle, and which, if disregarded, is likely to bring the operation into disrepute. The operation does not cure the patient, it merely removes the spasticity and leaves the way open for cure. The latter consists in the education of the patient in the proper use of his muscles and the employment of surgical measures, if necessary, to correct deformities and obstructions to voluntary movement due to contracture.

The work of Hunter and Royle covers but a single section of the wide field of sympathetic surgery. This branch of surgery may be considered to be in its infancy at present, and so far as this country is concerned its introduction has not hitherto been received with much enthusiasm. There can be little doubt

that much is still to be learnt, both on the anatomical and the physiological side, before surgeons will feel quite at home in dealing with the sympathetic; but that knowledge is rapidly advancing in both of these directions is abundantly shown in H. A. Harris's article on the sympathetic system in relation to vascular disease, which appears in another part of this issue. Given a sound knowledge of the anatomy and physiology, the possibilities of sympathetic surgery will become less obscure.

THE LEAGUE OF NATIONS AND TRAFFIC IN DANGEROUS DRUGS.

REFERENCE was made in the JOURNAL of March 12th last (p. 481) to a publication by the League of Nations reporting the appalling amount of illicit traffic in opium, morphine, heroin, cocaine, etc., which recent investigations had exposed. The publication of this document was cancelled and the copies sent to the publishers were recalled, but sufficient indication of its contents is contained in a report which the Advisory Committee on the traffic in opium and other dangerous drugs presented to the March session of the League's Council. The committee informed the Council that the progress made with the ratification of the Geneva Convention of 1925 "is most disappointing." That treaty cannot come into operation until it has been ratified by ten Powers, seven of which must have seats on the League's Council, and two of them holders of permanent seats. It was, however, reported that "only one State permanently represented on the Council and one State non-permanently represented have ratified the Convention"; promises of greater expedition were, however, made. Meanwhile the Hague International Opium Convention of 1912 is the only international instrument in operation to arrest or regulate this insidious and degrading contraband trade.

The committee frankly deplores the fact that its efforts and those of the League "had not been so successful as had originally been hoped in combating the illicit traffic." As the British delegate pointed out, "despite all the efforts of the committee, despite the increasing efforts made by many Governments, the position was still eminently unsatisfactory." The sources from which the supplies for the illicit traffic in these drugs are drawn are said to be unknown, although the factories in which they are manufactured are presumably under the control of the Governments concerned, and huge quantities of these dangerous drugs are being smuggled into China, India, and other countries through the post and otherwise. "The situation," as the British delegate observed, "seems a little short of absurd."

Some of the evidence of "the appalling extent and the very widespread ramification of the illicit traffic" in opium and other dangerous drugs, extracted by the committee from "the formidable document of sixty-one printed pages" whose publication is suspended, was cited in the article already referred to in the JOURNAL of March 12th. Tons of opium, thousands of ounces of morphine and heroin, and hundreds of ounces of cocaine have, in the course of a few months only, been seized in transit. International syndicates reap large profits by this nefarious commerce. The most ingenious devices are used to deceive and circumvent the customs authorities. Consignments, either labelled with the names of the manufacturers or unlabelled, dispatched from various European countries have been confiscated by the Chinese maritime customs.

In view of the state of affairs thus disclosed it was not surprising that the Italian representative, Signor Cavazzoni, who came as a new member of the committee, should have moved a resolution to the effect that, seeing that the manufacture of these drugs is vastly in excess of the world's needs for medical and scientific purposes, and that "in consequence the contraband traffic continues to increase," full application should be given to Article IX of the Hague Convention of 1912, with a view to ration the production of these dangerous drugs.[1] Signor Cavazzoni's resolution was nevertheless rejected by 7 votes to 2, only Siam voting with Italy for it. The representatives of Great Britain and India voted in the majority. The reasons vouchsafed for the rejection of the resolution were that it would reopen the question of the limitation of production of the drugs, which the Second Geneva Conference, after an acrimonious discussion which had led to the withdrawal of the United States and China, decided against; would arouse controversy over the functions of the Central Control Board; and would endanger "the compromise so painfully reached" in 1925. Nevertheless, Article IX of the Hague Convention has been endorsed by Article V of the Geneva Convention, and it is difficult to see why the Italian delegate's plea for direct limitation of the production of the drugs in question, under the authority of the League itself, should have been so emphatically rejected.

Readers of the JOURNAL will remember that we have from the first regarded it as almost impossible to grapple successfully with the control of the traffic in drugs of addiction except by limitation of their production—at their source—to the amounts required for medical and legitimate purposes. Surplus production, as experience has now conclusively demonstrated, is bound to result in diversion into illicit channels, in the misuse of drugs, medicinally beneficent and indispensable, for vicious and criminal purposes, and in the maintenance of a degrading and disreputable traffic for the benefit of unscrupulous profiteers.

POST-GRADUATE TEACHING IN BACTERIOLOGY.

THE appointment committees of universities, municipal bodies, or colonial authorities are, we are told, apt to find that the demand for fully trained bacteriologists exceeds the supply, particularly in the field of medical bacteriology; evidence of the truth of this is afforded by the advertisements which have appeared in our own columns within the last few years. This relative lack of well qualified candidates for appointments, which are in many instances not ill paid, as salaries for scientific posts go, is due, in part at least, to the absence of adequate training facilities. It is clear that only a bare minimum of bacteriology can be included in the already overcrowded medical curriculum; and the course of study for the Diploma in Public Health or in Tropical Medicine cannot cover more than a very small part of the ground, and that in an elementary fashion. Apart from the course for the Diploma in Bacteriology in the University of Manchester there is, at the present time, no systematic instruction in this subject available for post-graduate students in this country. The student who wishes to obtain an adequate training in bacteriology, after medical qualification, must do so on the apprenticeship system, by taking some junior post in

[1] This article runs as follows: "The Contracting Powers will enact pharmacy laws or regulations so as to limit the manufacture, sale, and use of morphine, cocaine, and their respective salts to medical and legitimate uses only, unless laws are already in existence. They will co-operate amongst themselves in order to prevent the use of these drugs for any other purpose."

a hospital or university laboratory. That this is an excellent way of attaining a practical knowledge of the subject is very true. It is, indeed, an essential stage through which the would-be bacteriologist must pass; but as the only available avenue of gaining knowledge it has serious disadvantages. The progress of this branch of science is so rapid, and the field covered so wide, that it is becoming more and more difficult for the student to gain an adequate foundation on which to build, without passing through a systematic course of study, organized to meet his particular needs. The recent foundation of the London School of Hygiene and Tropical Medicine has afforded an obvious opportunity to provide for this need in London; and, in view of the urgent demand for trained men, both at home and overseas, it has been decided by the board of management that the work of the Division of Bacteriology and Immunology shall begin in temporary premises in Gordon Square in October next, when Professor W. W. C. Topley, who, as will be remembered, was recently appointed to the chair of bacteriology and immunology in the new school, comes from Manchester to take up his duties. It is not intended, pending the completion of the school buildings, to provide instruction in those subjects for candidates preparing for the Diploma in Public Health; the lack of adequate accommodation would, indeed, render this impossible. The work of the Division will, during this interim period, be confined to the provision of a systematic whole-time course in bacteriology, occupying an academic year, for those post-graduate students who desire to take up bacteriological work as a career. There is, we understand, a possibility that the University of London will establish an academic Diploma in Bacteriology. Should this be so, the course of instruction will no doubt be planned to meet the University's requirements. Inquiries with regard to the course should be addressed to the Director of the London School of Hygiene and Tropical Medicine, at 37, Torrington Square, London, W.C.1.

CANCER IN SPAIN.

THE need for public enlightenment on the subject of cancer appears to be even more urgent in Spain than in this country, if one may judge by the volume recently published by Dr. Mariano Iñiguez y Ortiz, entitled *El Cáncer en España*.[1] The author is a believer in propaganda, and the book was written with the idea of informing the public on points that bear on the early recognition of the disease and other matters that are of public rather than of professional and technical concern. He anticipates that his book will be read by few, on account, not merely of the general indifference on the subject, but because vast numbers of Spaniards are unable to read at all, and as many more have no wish to; it should, however, prove a useful guide to those who work at propaganda by means of lectures, a method which the author considers inferior to written propaganda. The subject is dealt with on broad lines; it is introduced in an interesting way by tracing the changes that have occurred in the popular and professional views on cancer from the earliest times to the present day, and then reviews the statistics of the subject, the geographical distribution of the disease in the peninsula, the question of heredity, race, and civilization, and the means of combating the disease; finally, a chapter is devoted to the important assistance that can be given only by the public and the patients themselves. In Spain, as in other countries, there has been a progressive increase in the number of recorded cases of cancer in recent years, but the author attributes this to the earlier recognition of the disease, to more accurate diagnosis, and to the increased duration of life. The distribution of cancer in Spain is illustrated in several interesting maps. There is an area of high incidence in the central part of the peninsula, extending from the Pyrenees down to Madrid, contrasting strongly with the entire Mediterranean littoral, where, with the exception of Barcelona, the mortality is only about one-half of that in the central zone. With regard to the progress of knowledge in Spain, not only in relation to cancer, but to medicine generally, the author frequently refers to the indifference of the Spanish people. He quotes a saying of Ramón y Cajal that the great scientific discoveries have depended to a large extent on the element of chance, and that fortune has necessarily favoured those who, by scientific training, have learnt to appreciate the significance of phenomena. He draws the moral that it is only by establishing laboratories and similar institutions that Spaniards can hope to educate themselves and keep abreast of other nations in scientific discovery. Unfortunately the imagination of the Spaniard has, he says, become so impressed with the colossal figure of Don Quixote that idealism and pure science have become distasteful, and the stream of voluntary subscriptions for such institutions is wont to stagnate. Not the least interesting part of Dr. Iñiguez's book is the insight it affords into the national temperament. In speaking of the serious difficulties that are encountered in obtaining satisfactory death certificates and certificates of disease, he states that in many districts the diagnosis of cancer is regarded as equivalent to a sentence of death, and where this is so the natural benevolence of the Spanish doctor revolts against too harsh a decision; the patient may be a friend or relative, and sentiment and affection combine to temper the severity of the diagnosis. Again, it would frequently be considered a mere act of humanity to write down aneurysm of the heart in a case where the patient (unhappy girl!) had died of suppurative metritis and peritonitis. Laxity and indifference, however, appear to affect official quarters as well as the general public. Statistics of morbidity, the author states, cannot be said to exist in Spain, and as an instance of the regrettable inefficiency of the sanitary department, the responsible authority in this important matter, he mentions that as regards many diseases the mortality has been represented as being in excess of the morbidity.

[1] *El Cáncer en España*. Estudio demográfico y de vulgarización por el Dr. Mariano Iñiguez y Ortiz. Soria: Imp. de Reglero. 1926. (6 × 8½, pp. 207 + xiii, 2 figures. 7.50 pesetas.)

GIAN BATTISTA PORTA.

THE series of portraits of Italian doctors and naturalists from the fifteenth to the eighteenth century published by the Italian historical institute of the healing art, to which we drew attention some time ago (December 25th, 1926, p. 1235), contains a woodcut of Giovanni Battista della Porta, otherwise known as Gian Battista Porta, taken from the first edition of his work *Di humana physiognomia*, with a short account of his life and work by Professor Capparoni. Porta was born at Naples in the middle of the sixteenth century, the exact year being uncertain, and died about 1615. He is best known for his work in optics, of which he was one of the pioneers, and the invention of the camera obscura is attributed to him. He had, however, many other claims to scientific distinction. With the aid of his brother he formed a collection of curiosities and specimens of natural history, which was one of the earliest examples of the modern public museum. Besides being a member of the Accademia dei Lincei, he founded the Accademia Secretorum Naturae, admission to which was confined to those who had made some discovery in natural science. He thereby incurred the suspicion of the ecclesiastical authorities, and was commanded by the Pope to close the academy. In the work entitled *Magia naturalis* he described the properties of the magnet, and appeared as one of the first students of toxicology by showing that the striking symptoms which used to be attributed to incantations were really due to the effects of poisons, such as

belladonna, stramonium, or nux vomica. Porta, however, did not escape from the influence of contemporary mysticism, as he fervently upheld the doctrine of signatures emanating from Paracelsus, according to whom a remedy indicated therapeutical properties by its external appearance. Not the least interesting of his works was that entitled *Di humana physiognomia*, by which he was the precursor of Lavater, Gall, and Spurzheim. He also wrote on plants and minerals, which he maintained were governed by the same laws as the animal kingdom.

METHODS AND PROBLEMS OF MEDICAL EDUCATION.

THE sixth series of *Methods and Problems of Medical Education*,[1] issued recently by the Division of Medical Education of the Rockefeller Foundation, New York, contains no fewer than twenty-eight articles, profusely illustrated by 218 plans and photographs, the account of the dermatological clinic of the Royal Hungarian University Pázmány Péter, Budapest, by Professor Ludwig A. Nékám, alone having thirty-six. As in previous numbers of this series, the accounts of the medical schools or their departments have been provided by those on the spot, and by the plans, budgets, and other details should prove a source of most welcome information to those about to organize new departments or laboratories. Most of the subjects dealt with in this instalment are of a scientific or laboratory nature rather than of a strictly clinical character. The first six articles are on the libraries of the medical schools of Peking, São Paulo (Brazil), Harvard, the Washington University (St. Louis), Kingston (Ontario), and McGill University. There is a photograph of the room set aside for the future Osler Library in the McGill Library, founded in 1823, which now contains 60,000 volumes; voluntary classes in bibliographical methods are held, during the course of which directions are given about collecting material for a paper and compiling a bibliography. The library of Washington University now possesses the manuscripts of the pioneer American physiologist, William Beaumont, and here again the librarian gives instruction to medical students. The anatomical departments of Trinity College, Dublin, Belfast, and Milan are described; Professor A. E. Boycott supplies an account of the pathological museum of University College Hospital, Professor Johannes Fibiger is responsible for full details about the institute of pathological anatomy in the University of Copenhagen, and his colleague Professor Oluf Thomsen for those of the institute of general pathology. The biochemical department of Tulane University, New Orleans, which has just started its independent existence, gives 200 hours' instruction in general biological chemistry to first-year medical students, whereas the handsome institute of physiology at Louvain, over which Professor A. K. Noyons presides, has the departments of physiological chemistry and of pharmacology attached to it. The institute of phototherapy at Florence, which was inaugurated in 1905, contains apparatus for high frequency as well as for *x*-ray diagnosis and deep therapy. The projected plans for the institute of physico-therapeutics so badly wanted at Jena are given, but the institute has never been built as the intending donor lost his fortune. Dr. Gibbon FitzGibbon writes on the Rotunda Hospital, Dublin, relating its eventful history and the present daily routine. Public health activities are represented by descriptions of the public health clinic at Dalhousie University, Halifax, and of the institute of hygiene at the University of Cluj, Rumania. The last two articles in the volume are of rather peculiar interest—namely, on the teaching of percussion, by Dr. F. X. Erben of the University of Vienna, and on visual instruction and the projection method of illustrating lectures and demonstrations, by Dr. Carl Jacobj, director of the pharmacological institute at Tübingen.

[1] *Methods and Problems of Medical Education (Sixth Series).* New York: Division of Medical Education, The Rockefeller Foundation. 1927. (Imp. 8vo, pp. 273; 218 illustrations; sent free by the Foundation on application.)

REST PAUSE INVESTIGATIONS SUMMARIZED.

WITH magnificent disdain for the economy which is said to be so urgent a necessity for this country, the Industrial Fatigue Research Board continues to pour forth literature. On March 26th (p. 582) we reviewed a report by Dr. H. M. Vernon and Mr. T. Bedford on rest pauses in heavy work. The Board has now issued a summary by Mr. S. Wyatt of the observations made by its various investigators on "Rest pauses in industry." It is to be hoped that the publications of the Board are read by the persons for whom they are intended. Mr. Wyatt concludes that suitable rest pauses lead generally to improvement in quality and quantity of output. Rest is particularly beneficial in repetitive work of a monotonous character: production is increased in processes which depend on the activities of the worker. It seems, however, that the published work on rest pauses raises more problems than it solves. The results are variable; but this is attributed in the report to unscientific methods of procedure. Careful investigation of the conditions of work should, it is said, be made before introducing rest pauses, since a rest may not be necessary in all cases. Sometimes short and more frequent rests are better than fewer but longer. Individuals have been found to react differently to rest; but Mr. Wyatt wisely recognizes that in practice it would not be possible to give each individual the dose of rest most suited to his or her temperament. Moreover, the woman operative is found to rest better in herds. "Her inclination to work is stimulated by the atmosphere of industry in the room." Mr. Wyatt suggests that the possibility of combining rests with team-work has not been sufficiently explored, so that, for example, with three workers to a machine each would rest for twenty minutes during each hour. In conclusion, the apology is offered for the report that it serves to indicate the number and variety of questions awaiting solution in this aspect of industrial work.

WHAT IS A SAVANT?

A FEW years ago Professor Charles Richet contributed a volume to a series of little books now being published in Paris describing typical characters of to-day—such as the politician, the priest, the diplomat, the lawyer, the peasant, and the workman. Professor Richet's volume dealt with the savant, and Sir Oliver Lodge has now translated it into English with the title *The Natural History of a Savant*.[1] Professor Richet begins by making the just observation that neither in English nor in German is there any word expressing the full meaning of the French term *savant*; certainly the German *Gelehrte* does not. The word "scientist," recently established in English on the recommendation of a number of experienced correspondents of *Nature*, comes nearer. Professor Richet, however, says that the true savant cannot combine any profession, save that of teaching, with his pursuit of knowledge. He is an explorer, confronted with innumerable mysteries which seem to bar the path of human intelligence, and goes on with his work without any thought of the practical outcome. He must possess originality, the critical faculty, technique, erudition, and the power to teach. It is natural, no doubt, that the physiologist and the physicist, for example, should take pride in the feeling that they belong to a race apart; that in the pursuit of pure science they are unconcerned with the practical importance of any discoveries they may make. But it is not possible to draw the

[1] *The Natural History of a Savant.* By Professor Charles Richet. Translated from the French by Sir Oliver Lodge. London and Toronto: J. M. Dent and Sons, Ltd. 1927. (Cr. 8vo, pp. xi + 155. 5s. net.)

distinction too absolutely, or to suggest, for instance, that Pasteur as a crystallographer was a savant, while his discoveries with commercial and medical applications made him something different. Was not the first biography of Pasteur entitled *Histoire d'un Savant par un Ignorant?* Professor Richet, though regarding physiologists as savants, seems to admit anatomists to the sacred circle a little grudgingly, apparently because he still looks on anatomy as an ungrateful science in which few discoveries are to be made. Indeed, Professor Richet himself ranks Ph. Sappey, professor of anatomy, among the finer types of savant. Professor Richet says that engineers and surgeons are not savants, because they have some other object than the discovery of truth. Yet a surgeon who designs successfully a new and daring operation has originality, technique, erudition—in his own subject—presumably the critical faculty, and is certainly engaged in the pursuit of truth. In only one point does such a surgeon fail to reach Professor Richet's standard of a savant—he need not be poor! But we are by no means certain that the emphasis laid on the poverty of the savant is justified. The pursuit of the savant may be comparatively unremunerative, but, like most professions, it would appear to produce a living wage. Perhaps Professor Richet is making a mistake in trying to establish the vocation of the savant as an independent pursuit. It seems more likely that there is something of the savant in all great men who use their brains in the search for truth, and that the mere decision to devote one's life to mathematics, physics, or physiology does not necessarily make a man a savant. Here we are met with the difficulty that we are dealing with a word for which there is no English equivalent. Perhaps the logical Frenchman has elevated into a type a condition of mind which is seldom seen in a pure form. At all events, Professor Richet's gallery of savants is curious in its comprehensiveness, for it includes Galileo, William Harvey, Francis Bacon, Ambroise Paré, William James, Sir William Crookes, Sir Oliver Lodge, Cesare Lombroso, and Frederick Myers.

HOOKWORM DISEASE IN CHINA.

AMONG the major scourges of mankind in the tropics and subtropics, none has achieved scientific interest in recent years to such an extent as hookworm. For this reason, and because of its omnipresence, it has received the attention of the International Health Board of the Rockefeller Foundation, and expeditions have been sent to investigate it in many different parts of the world. The most recent of these is one to China, under the guidance of Dr. W. W. Cort, assisted by Drs. Grant, Stoll, and other collaborators, a detailed report of whose studies has just been published.[1] It appears from this that many of the existing beliefs about the epidemiology of this disease in China are ill founded. It is not distributed generally—indeed, the whole of North and large tracts of Central and South China are so lightly affected that hookworm has no public health significance at all. In the few spots where hookworm disease (as distinct from hookworm infection) did occur, it was one of the major medical problems, and was found to be closely associated with the use of human excrement as fertilizer; but although night-soil is largely used throughout China for this purpose—they estimate that about 24 million tons are used annually—it was only in connexion with its use in mulberry cultivation that it became a serious source of disease. The second picking of the leaves, about the beginning of June, for the feeding of the heavy broods of silkworms, entails a big strain on the vitality of the tree, and about two to four weeks before this is done night-soil, collected for some time before, is heaped around the base of the tree and dug in—ideal conditions for the development of ankylostome larvae from the still viable eggs in the faeces (larvae which have hatched out before distribution are killed by the decomposition in the manure). When the peak of the infectiveness is reached, in two to three weeks, the pickers in their soft sandals come and stand in the mud close to the tree trunk to cut the leaves—ideal conditions for infection with the larvae. It is the combination of these two circumstances that leads to the enormous infection found in the Yangtze delta, in Kwangtun, and elsewhere. Hookworm disease in China, therefore, is not the general sanitary problem it is in other parts of the world; but it is a definitely economic one. If the farmer could afford or could be induced to discard the use of human manure it would be easily eradicated. As this was impossible (he is too poor for the first and too conservative for the second), studies were made on methods of reducing the amount of the infections in the night-soil. Storage for a month under summer conditions, or the addition of a small proportion of slaked or unslaked lime for a week to a fortnight, rendered the number of surviving larvae negligible. Thick sandals and other protections are urged, but Dr. Cort is doubtful if a largely illiterate and very conservative people, many of whom live in places inaccessible to ordinary transport, can be easily influenced by outsiders. He holds, therefore, that the first essential is an adequate modernly trained Chinese medical personnel. Once this has been achieved the people can be reached, and with education prophylaxis is easy.

[1] *The American Journal of Hygiene*, Monographic Series No. 7, 1926.

DAIRYING RESEARCH.

THE report for 1926 of the National Institute for Research in Dairying, established in connexion with the University of Reading, continues to show a depressing shortage of funds. Applications have been made to the Ministry of Agriculture for £23,000 for capital expenditure and for an increased annual grant, and to the Empire Marketing Board for assistance in carrying out researches on dairy products on behalf of the Dominions. The Institute was informed by the Ministry of Health that in the interests of national economy an annual grant of £800 could not be continued after last year; it had proposed to use the grant in developing a small branch laboratory at the School of Tropical Medicine in London for researches on the carriage of milk. The Institute desires to improve its farm buildings, to add a physiologist to its staff, to increase the number of its workers and the laboratory accommodation. In the meantime, pending the arrival of easier financial conditions, it is carrying out researches on the pasteurization of tuberculous milk, on black spot in Cheddar cheese, on oiliness in milk, and on black spots in butter; it has designed a method for concentrating bacilli in tuberculous milk whereby the delay involved in the animal inoculation test is avoided; it has invented a "preheater" for the whey-drying machine; and it is investigating milking machines.

THE KING has nominated Dr. Henry Hallett Dale, F.R.S., to be for five years a member of the General Council of Medical Education and Registration in the United Kingdom, in succession to Sir Nestor I. C. Tirard.

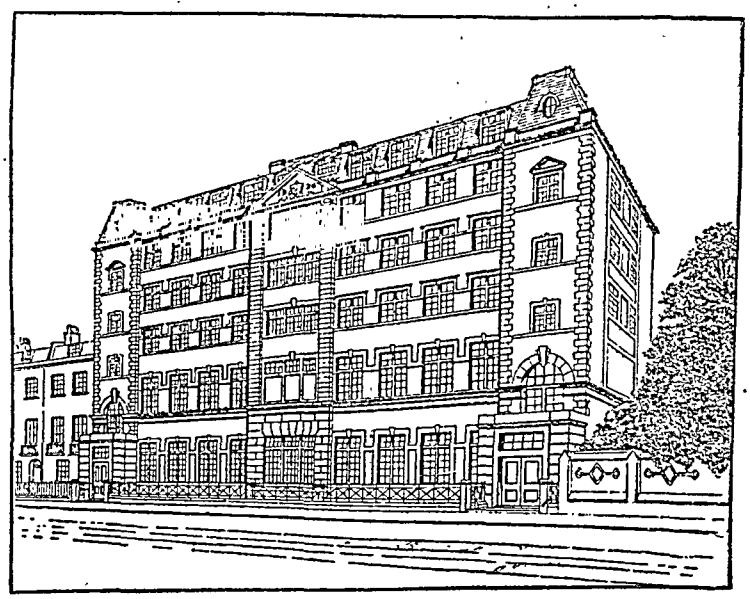
DR. EDWIN GOODALL, medical superintendent of the Cardiff Mental Hospital, will give the eighth Maudsley Lecture of the Royal Medico-Psychological Association on Thursday, May 19th, at 3.30 p.m. The lecture will be delivered in the Great Hall of the British Medical Association, Tavistock Square, and its subject will be "Some of the work done to elucidate the pathology of disease falling to be considered under the rubric 'insanity.'"

RESIDENTIAL CLUB FOR ST. THOMAS'S STUDENTS.

OPENING BY THE ARCHBISHOP OF CANTERBURY.

ST. THOMAS'S HOUSE, in Lambeth Palace Road, a residential club for students of St. Thomas's Hospital Medical School, was opened on April 26th. The house is a six-floored building, situated almost opposite the entrance to the medical school, and is designed to accommodate fifty students and ten hospital officers as residents, and to provide club facilities for all the students of the school.

The authorities of St. Thomas's have for some years past desired to provide residential accommodation for at all events a certain number of students. They have recognized that a large body of students living together in proper surroundings was likely to have a good effect on the well-being of the school. In addition to this, the post-war difficulty of obtaining suitable lodgings within easy reach of the hospital made the need more pressing. Lodgings like those let by Mrs. Raddle—"near Guy's, and handy for me, you know"—have possibly disappeared along with Mr. Bob Sawyer as a type of medical student; but the best of modern boarding establishments within the ordinary student's means is bound to suffer in comparison with what can be offered by a special hostel where the students enjoy a communal life.



ST. THOMAS'S HOUSE.

The students' club at St. Thomas's was formerly housed in a wing of the medical school, but when additional laboratory accommodation was required for the physiology department it was surrendered for that purpose, and the students took refuge in one of the old army huts which had been put up during the war. Meanwhile it was decided that, on a site on the opposite side of the road which had been acquired by the hospital some time before, premises specially adapted for a residential club should be built. The difficulty of financing the scheme led to a good deal of delay, but eventually the hospital authorities found themselves under the necessity of providing additional accommodation for their house officers, and therefore it was decided to combine this with the scheme for the students and to obtain authority to borrow the necessary money for the building operations. One of the hospital governors who was interested consented to lend half the sum required at a low rate of interest, and the remainder of the money having been obtained the work proceeded.

The building, which is now ready for occupation, has a very dignified appearance both within and without, and greatly improves the rather dingy aspect of the east side of Lambeth Palace Road. On the ground floor is an oak-panelled dining room, with office for the steward and the servery, and on the first floor the club room. Each of these rooms is nearly 80 ft. long by 35 ft. broad. In the club room a very handsome overmantel has been erected as a war memorial to St. Thomas's students, and was unveiled on the occasion of the opening of the house. A billiard room and a reading and writing room are provided, and by an arrangement of folding doors a musicians' gallery can be projected into the dining room and a stage into the club room. The four upper floors consist (apart from the quarters of the resident warden) of bedrooms for the students, certain house officers of the hospital, and the resident employees. The bedrooms are so arranged as to form comfortable sitting rooms during the daytime, and the chairs, tables, and bookcases have been designed with that end in view. Washing and bathroom accommodation is arranged in a central apartment on each floor. The building as a whole is fitted in an up-to-date style with a complete system of internal automatic telephones and electric clocks, and there is central heating with oil fuel, and a passenger lift. Generally, the furniture of the building is entirely finished in oak to match the permanent woodwork.

The opening ceremony was performed by the Archbishop of Canterbury, who at Lambeth Palace is a near neighbour.

The Archbishop was received by the Hon. Sir Arthur Stanley (treasurer of the hospital), Sir George Makins (chairman of the War Memorial Committee), and Dr. L. B. Maxwell (warden of St. Thomas's House), and in the dining room representatives of the medical staff and other officers of the hospital were presented. Afterwards, in the club room, Sir ARTHUR STANLEY extended a formal welcome on behalf of the hospital and medical school, mentioning the fact that when the present hospital was opened by Queen Victoria in 1871 the only club accommodation provided for the staff and students of the medical school was in a very gloomy basement under the lecture theatre. Not until twenty years later did the club enter into possession of the quarters recently vacated. After reciting the course of events already sketched, which led to the provision of the new building, Sir Arthur revealed the fact that the governor who had provided at a very low rate of interest half the sum necessary for the project was Lord Riddell, and that the sum so lent was £30,000. He thought that the governors and staff had once more illustrated the reputation of St. Thomas's for being up to date. In spite of its great age—it would be 700 years next year since the hospital was rebuilt and re-endowed by Peter de Rupibus—St. Thomas's was still in the forefront of medicine, surgery, and nursing. Its present buildings, although erected over fifty years ago, were still unsurpassed in design, and now in St. Thomas's House it had given a lead to other great hospitals to which medical schools were attached.

After Lord RIDDELL had briefly acknowledged the thanks expressed to him for having made the building possible, Sir CUTHBERT WALLACE, dean of the school, spoke briefly on the benefits conferred on the school by a residential club. One of the great advantages was that the first-year student was delivered from the lonely lodgings which had been very generally his lot. The close proximity of the club to the hospital had obvious advantages in professional training, and on the social side the club fostered that corporate life and fellowship which was no small factor in a school's efficiency, for, through men living together and inevitably talking "shop," education went on unconsciously in the hours free from classes and set tasks.

On behalf of the medical and surgical staff Mr. C. A. R. NITCH presented to the Archbishop a cheque for £700 for the furnishing of the club room. He mentioned that a few weeks ago it became clear that the club—or, rather, the amalgamated clubs of St. Thomas's—would have a heavy burden to face in the furnishing and equipment of the club room and the parts of the house other than the residential part (for which the hospital itself is responsible), and to ease the burden the staff had subscribed the amount.

The ARCHBISHOP OF CANTERBURY, in declaring the building open, said that there was no class of young men in the great metropolis whom he regarded with more hope and satisfaction than the medical students in the great hospitals, because, while their life lasted, if their intentions were fulfilled, they would be devoting themselves definitely and unremittingly to the setting forward of the common good and the combating of the common ill. Therefore he welcomed anything which contributed to making their student years more effective and, in consequence, their future professional career more fruitful. His Grace went on to speak of the long association of the Archbishops with St. Thomas's and with Lambeth generally, and the delight that it had been to himself and Mrs. Davidson to afford the hospitality of the beautiful palace garden (which adjoins the new club-house) to the staff and patients.

The LORD MAYOR OF LONDON (Sir Rowland Blades), who with Mr. Sheriff Shepherd was present to represent the commonalty and citizens of the City of London as governors of St. Thomas's Hospital, proposed a vote of thanks to the Archbishop for performing the opening ceremony. In seconding this, Sir GEORGE NEWMAN, chief medical officer of the Ministry of Health, said that the club was introducing into the life of St. Thomas's students a wholly new social opportunity. He recalled one student of old St. Thomas's, when it was situated in the Borough, who had gained an immortal name in English literature—John Keats—and the pathetic story of Keats's loneliness and isolation during his studentship. Social friendship and culture in the best sense were necessary to medicine, and these could only be ensured through university life. One of the endeavours of the twelve medical schools in London was to introduce a true university element and to make medical education in London of university standard. In the medical schools of London there was everything to make for great medical education, with the exception of the social culture enjoyed by Oxford and Cambridge men, which they missed when they came to London. Therefore, he hailed with the more satisfaction this development at St. Thomas's. St. Thomas's was likely to become more and more a medical school where social life as it existed in the old universities was a real and living thing. This was the way in which universities had been built. The social club in one form or another was a constituent element in true university education. He pointed to the old Italian universities. Men of many nations went to Padua and Bologna and other great Italian universities of the Renaissance, not only in order that they might learn things, but that they might participate in the life of the great residential communities which, as history showed, these universities more and more became. St. Thomas's House, said Sir George Newman, was the embodiment of what was begun many years before—an effort to make the social life among the students minister to the truest and highest education. Benjamin Jowett wanted his students to look upon their university institution as a great club, a great school, and a great church. No one who knew what medical education had done for this country and what it had still to do in the not remote future could doubt the proposition that all true medical education must secure in some degree those three elements.

Sir GEORGE MAKINS, chairman of the memorial committee, then requested the Archbishop to unveil the oak overmantel which had been put up as a memorial to those of St. Thomas's Hospital who fell in the great war. He said that on the central panel was inscribed a single sentence: "*Fratres suos huius domus filii pia memoria salutant*," which might be freely translated, "Brothers, the sons of this house salute your memory with reverence." He believed that that sentence would express the spirit of those who used the club room. The names of eighty-three men and one nursing sister would be inscribed upon panels to be erected in the central hall of the hospital itself.

Certain prayers were then offered, and the Archbishop drew aside the flag which had covered the memorial, after which John Arkwright's hymn, "O Valiant Hearts, who to your glory came," was sung.

The very large company present then viewed the building, and many expressions of admiration were heard for a club-house which in its appointments is well up to West End standards, and in its spaciousness exceeds them.

MINERS' NYSTAGMUS.

ADDRESS BY DRS. J. S. HALDANE AND T. L. LLEWELLYN.

DRS. J. S. HALDANE and T. LISTER LLEWELLYN, at a meeting of the Institution of Mining Engineers held at the Royal Technical College, Glasgow, on April 23rd, read an important paper on the causes of miners' nystagmus, in which they combat certain criticisms which have recently been restated against the conclusion now most widely accepted that the condition is due to defective lighting in the mines.

In their paper the authors state that owing to the amount of inconvenience, suffering, and anxiety which it causes among miners, and to the serious burden thrown on the industry by compensation, the prevention of the nervous affection known as miners' nystagmus has become a subject of considerable importance to mining engineers. In order to prevent miners' nystagmus the cause must be removed. The majority of those who have studied the subject closely have concluded that the essential cause is the defective illumination given by the safety-lamps used; and this was the conclusion of the committee appointed by the Medical Research Council to investigate the disease, the corollary being that every effort should be made to improve the lighting. The conclusion that defective lighting is the essential cause of miners' nystagmus has, however, been called in question, particularly by so well known an authority in ophthalmology as Dr. Freeland Fergus of Glasgow, and by Dr. Robson of Penarth.

Defective Illumination.

There is still much to be discovered as to the exact manner in which miners' nystagmus is produced, and as to conditions which favour its development. Yet there is no real reason for doubting that defective illumination is its essential cause, and that it can be almost entirely prevented by an attainable improvement in illumination. They restate the evidence that defective illumination is the essential cause, and then discuss the doubts which have been thrown on this conclusion.

The evidence is, shortly, as follows: As an occupational disease miners' nystagmus is peculiar to coal-miners, and most commonly found among coal-miners working with hand safety-lamps. The photometric measurements carried out showed that the light actually falling on the coal-face during work varied between 0.018 of a foot-candle in safety-lamp pits and 0.09 of a foot-candle in open-light pits (a foot-candle being the illumination produced by a light of 1 standard candle at a distance of 1 foot). As, however, the coal-surface is black, and reflects only about a tenth of the light falling on it, the illumination available for vision is only about a tenth of these figures. In no other kind of work is the available illumination even approximately so low as in the case of coal-miners working with the present ordinary hand safety-lamps, whether flame or electric lamps. This is not merely because the candle-power of the ordinary hand safety-lamp is low, but because, to avoid the great risks from breakage, it must be kept well away from the work, and because so little of its light is reflected from the black coal-surface.

The eye adapts itself in the most marvellous manner to differences in illumination, so that a man can see quite sufficiently well, for, at any rate, rough work, with an illumination which is only a minute fraction of that of daylight. There is, however, a limit to this power of sufficient adaptation, and it is evident that coal-miners, with the present usual types of hand safety-lamps, are working at about this limit.

The clinical evidence in support of this conclusion is very strong. Miners' nystagmus is uncommon in open-light pits and frequent in safety-light pits. It is almost unknown in the purely naked-light coalfields of Somerset and the Forest of Dean. In Scotland the incidence is lower than in England, where safety-lamps are more generally used.

Experimental work by Ohm (Germany) shows that light diminishes and darkness increases the oscillations of the eyes. Improvement of illumination has been followed by a reduction in the incidence of the disease. Miners' nystagmus hardly occurs at all, to judge from American experience, in pits where electric cap-lamps are used. This

is mainly owing to the fact that the light is much nearer to the illuminated surface, and nearness is a factor of enormous importance, since the light thrown on the illuminated surface diminishes in proportion to the square of the distance of the light.

Since miners' nystagmus as an occupational affection does not appear except with excessively defective illumination during work, it seems attributable to the constant strain associated with efforts to see with very dim illumination. In what, exactly, this strain consists is not yet known with certainty, although miners are conscious of extra strain or effort. Probably other sorts of eye-strain due to awkward positions during work increase the effect. It also appears to be the case that in different individuals the limit of defective illumination at which the dimness of the light begins to cause trouble varies, so that under the same conditions of lighting one man will get miners' nystagmus and another will escape. Individual limits in the sensitiveness of the retina and in what may be called the "*stability*" of the nervous system must come into play, and appear to be in their turn dependent on such conditions as hereditary tendencies, proper feeding, and avoidance of alcoholic excess. Nevertheless, the evidence indicates that miners' nystagmus is almost absent when the illumination is increased to such an extent as is usually attained in open-light or electric cap-lamp collieries.

Other Suggested Causes.

Since occupational nystagmus occurs only among coal-miners, it has naturally been suspected that something emanating from the coal is responsible for the affection, and Dr. Robson and Dr. Freeland Fergus have developed this hypothesis on separate lines. Dr. Robson suspects volatile or gaseous substances, while Dr. Freeland Fergus suspects infection. The authors consider that the objections to these hypotheses are overwhelming. In the case of volatile or gaseous substances, no measurable vapour is given off by coal of any sort at ordinary temperatures.

As regards the question of possible infection from coal causing miners' nystagmus, and the complaint being thus an infectious nervous affection, we think that the evidence is overwhelming that though miners' nystagmus is associated with the handling of coal, it is only when coal is mined under conditions of excessive darkness that nystagmus occurs, so that the darkness, and not any infection emanating from the coal, is responsible.

Conclusions.

In concluding their paper the authors make the following observations. We think that much misapprehension has arisen through confusion between the number of men who obtain compensation for miners' nystagmus and the number of cases of real disability due primarily to miners' nystagmus itself. Claims for compensation have spread as knowledge of the ease with which compensation may be obtained has spread; and, of course, this mode of spread simulates infection. Another factor has been the coincident spread of the idea that miners' nystagmus, however slight, is something which will, if it be allowed to continue, lead to complete disablement or even blindness. Still another factor is that when wages are low, or work slack, it may seem most profitable to go on compensation for miners' nystagmus. Hence the claims increase or diminish as wages diminish or increase. Thus, from the statistics of compensation cases we cannot at present judge with any certainty as to increases or diminutions in cases with real disability.

It is not economically possible to increase the reflecting power of the coal, so the solution of the lighting problem must be, either to bring the light nearer the working area or to increase the candle-power and area of illumination given by the safety-lamp. The electric safety cap-lamp solves the problem in the first manner: the light is brought nearer and the rays fall at right angles to the working area. The lamp moves with the workman, thus providing a uniform and steady field of illumination free from shadows. The illumination given by one of these lamps may be ten times as much as that given by a standard safety-lamp of the same candle-power placed 6 feet away. Unfortunately, the cap-lamp, although universally used in America, has not been taken up well in this country. We strongly advocate this type of lamp, and suggest that there is more chance of success here in Scotland, where the men are used to cap-lamps, than in England, where they would be quite new.

Ill health, fear of unemployment, poor wages, or quarrels with the management must all irresistibly point out to the man the wisdom of following the path of least resistance attained by certification. But over and above these cases some men fail more quickly or suffer more incapacity than others. Dr. Percival thinks there is an inherited predisposition, possibly the result of the inbreeding so common in pit villages. Ohm thinks there is an inherited deficiency in light sense which shows itself in a failure of dark adaptation. There is some justification for these contentions, but it must be remembered that as sons follow their fathers' occupations, members of the same family will be frequently affected, and the large proportion of latent cases in the pits makes it clear that susceptibility to the disease is probably universal.

However much can be done by suitable treatment of those affected, it is essential to emphasize again the desirability of preventing miners' nystagmus by increasing greatly the illumination of the surfaces at which the men are working. In many cases this increased illumination can apparently be obtained with the excellent electric cap-lamps now manufactured in England. Where these are unsuitable, better electric lamps or flame-lamps are needed, and the very important investigations referred to above indicate that with safety flame-lamps of ordinary weight it will shortly be possible to secure such an illumination as will reduce miners' nystagmus to quite insignificant proportions. It seems to us that mining engineers should aim at improving the lighting sufficiently to get rid of the miners' nystagmus bugbear and at the same time increase the working capacity of the miners.

THE COLLEGE OF SURGEONS OF AUSTRALASIA.

A MEETING of surgeons from New South Wales, Victoria, South Australia, Queensland, Western Australia, Tasmania, and New Zealand was held on August 25th, 1926, to consider the formation of an Australasian College of Surgeons. Delegates had been nominated at meetings of surgeons and specialists in the Australian States and New Zealand to act as provisional foundation members of the College. They were Professor F. P. Sandes and Dr. R. B. Wade (New South Wales), Sir George Syme and Dr. A. L. Kenny (Victoria), Dr. H. S. Newland and Dr. Bronte Smeaton (South Australia), Dr. W. N. Robertson and Dr. J. Lockhart Gibson (Queensland), Dr. H. S. Stacy, as proxy (Western Australia), Dr. D. H. E. Lines (Tasmania), Dr. W. E. Herbert (Wellington, New Zealand), and Dr. R. Gordon Craig, as proxy (New Zealand). Sir George Syme was appointed chairman, and it was resolved that the total number of founders of the College should be forty, distributed as follows: ten each for New South Wales and Victoria, five each for South Australia and Queensland, two each for Western Australia and Tasmania, and six for New Zealand. The following representatives were elected:—For New South Wales: A. J. Brady, William Chisholm, C. P. B. Clubbe, R. Gordon Craig, Thomas Fiaschi, Sir Alexander MacCormick, Frank Antill Pockley, F. P. Sandes, E. T. Thring, and Ralph Worrall. For Victoria: Sir James Barrett, F. D. Bird, H. B. Devine, A. L. Kenny, Felix Meyer, Reginald Morrison, D. Murray Morton, R. Hamilton Russell, Sir George Syme, and B. T. Zwar. For New Zealand: H. Ackland, L. E. Barnett, Sir Lindo Ferguson, Sir Donald McGavin, Carrick Robertson, and D. S. Wylie. For South Australia: A. M. Cudmore, Anstey Giles, A. M. Morgan, H. S. Newland, and T. G. Wilson. For Queensland: Donald Cameron, G. P. Dixon, J. Lockhart Gibson, E. S. Jackson, and W. N. Robertson. For Tasmania: D. H. E. Lines and John Ramsay. For Western Australia: F. A. Hadley and W. Trethowan.

The Constitution.

The following constitution was adopted:

1. That the name of the proposed association of surgeons should be "The College of Surgeons of Australasia."

2. That members of the College be designated as Fellows and be entitled to place after their names the letters F.C.S.A.

3. That the College of Surgeons of Australasia should be a voluntary association (that is, not incorporated under a Companies Act or under a Royal charter).

4. That the objects of the College should be: (*a*) To cultivate and maintain the highest principles of surgical practice and ethics. (*b*) To safeguard the welfare of the community by indicating that its Fellows have attained a high standard of surgical competency and are of high character. (*c*) To educate the public to recognize that the practice of surgery demands adequate and special training. (*d*) To promote the practice of surgery under proper conditions by securing the improvement of hospitals and hospital methods. (*e*) To arrange for adequate post-graduate surgical training at universities and hospitals. (*f*) To promote research in surgery. (*g*) To bring together the surgeons of Australia and New Zealand periodically for scientific discussion and practical demonstrations of surgical subjects. (*h*) To do all other things that may help to the better achievement of these objects.

5. That the qualifications for the Fellowship shall be such special training in surgery and such standard of conduct as shall be considered satisfactory by the governing body under the by-laws of the College.

An exordium prepared by Professor Sandes was adopted, subject to legal revision. It contained a paragraph committing the signatory to the acceptance of any penalties for infraction that might be imposed by the governing body under its by-laws—for example, expulsion or lesser penalties. A provisional executive to take the necessary steps to found the College was appointed as follows: Sir George Syme, provisional president; Mr. A. L. Kenny, provisional secretary and treasurer; and Messrs. Hamilton Russell and H. B. Devine. The annual subscription was fixed at five guineas.

The first meeting of the founders of the College was held in Dunedin, New Zealand, on February 5th, 1927, during the second Australasian Medical Congress of the British Medical Association, when Sir George Syme was elected president and director-general, and Sir Alexander MacCormick and Dr. L. E. Barnett vice-presidents. Dr. A. L. Kenny was appointed honorary secretary and treasurer. The tenure of office in each case was fixed at two years. Dr. R. Gordon Craig, Mr. H. B. Devine, Dr. H. S. Newland, Dr. W. N. Robertson, Mr. R. Hamilton Russell, Professor F. P. Sandes, and Dr. Ralph Worrall were elected members of the Council. By-laws were adopted providing for the election of a Council of ten by postal vote of the Fellows of the College, and the appointment of an executive committee of five. For the examination of applications for Fellowship of the College a Credentials Committee was established, to include three members each for New South Wales, Victoria, and New Zealand, and two members each for Queensland, South Australia, Western Australia, and Tasmania. It was decided that each candidate for Fellowship must be nominated by three Fellows of the College from the State in which he resides, who must apply to the secretary for an application form (to be signed by the candidate and his nominators) containing information concerning the candidate's medical training, hospital appointments, special researches, the percentage of his professional activity devoted to surgery or to one of the surgical specialties, and his contributions to medical literature. The candidate would also be required to name five persons as references, each of whom would be asked to supply definite statements about the candidate's surgical judgement and ability, with confidential information about his moral and ethical standing. Inquiry would also be made of Fellows of the College living in the vicinity of the candidate. The State Credentials Committee, acting as a preliminary court, would make its recommendation upon the evidence presented, together with such facts concerning the candidate as may be in the possession of the individual members of the committee because of personal acquaintance. In making such recommendation the Credentials Committee would take into consideration the candidate's (1) character and conduct, as evidence that he reflected in his practice high ideals of service and conduct; (2) specialization in surgery or in one of its departments; (3) extent of experience (not less than five years' surgical practice); (4) hospital appointments; (5) evidence as to competency in surgery; (6) surgical research. After five years from February 5th, 1927, a candidate must possess a senior surgical qualification, but at the discretion of the Council in the case of candidates of exceptional surgical ability or experience this requirement may be ignored. In order to foster the closest possible harmony with the British Medical Association the Credentials Committee is directed to inquire of the Association as to the eligibility of candidates.

It was decided that the Council shall be elected by postal ballot to hold office for two years; but that one-half of the members elected on February 2nd, 1927, shall retire at the end of one year, the Council determining by lot which of its members shall so retire. All members are eligible for re-election. Any Fellow of the College may be expelled, by a two-thirds majority of the general council, for a violation of the constitution and exordium. He will have the right to be heard at the meeting at which his expulsion is under consideration. At the annual meeting the Fellows of the College will receive the report of the Council and the statement of receipts and expenditure; any proposed amendment of the constitution of which notice has been given not less than six months before the annual meeting may be considered. Scientific discussions and practical demonstrations of surgical subjects will be arranged. At least one meeting of Fellows must be held in each State or the Dominion annually, and a distinguished surgeon from another State or the Dominion will be invited to deliver an address. The Council will appoint a committee for each State and the Dominion, selected from Fellows in such State or Dominion, to perform such duties as may be delegated to it by the Council. The Council will draw up regulations for the admission of honorary Fellows from outside the Commonwealth and the Dominion. The executive committee of the Council was authorized to obtain legal advice as to the proper method of formation of a body or bodies to carry out vigilance duties and to form such a body or bodies. The question of a base for the College at Canberra was left to the discretion of the president. It was resolved that all the surgeons and surgeon specialists who had consented to become provisional foundation members in the preliminary meetings for the formation of the College should be elected foundation Fellows.

A meeting of the Council of the College was held immediately after the conclusion of the first meeting of the founders, and the following were appointed to be the executive committee: President, Sir George Syme; honorary secretary and treasurer, Mr. A. L. Kenny; members, Professors F. P. Sandes, Dr. H. S. Newland, and Mr. H. B. Devine. Another meeting was held on February 7th, at which instructions were given to the executive committee to draw up a by-law for the election of junior members of the College, and to appoint trustees to hold property of all kinds in trust for the College. It was resolved to establish an Endowment Fund, and to invite Fellows to subscribe to it. It was also decided that the New South Wales list of provisional foundation members should be placed upon the same basis as regards election to Fellowship as that of New Zealand and Queensland—namely, that the founders of the College in the State of New South Wales should act and report to the executive committee.

The first meeting of the founders was continued on February 8th, when gifts towards the Endowment Fund were received from Dr. Gordon Craig and Sir Lindo Ferguson, and promises from Mr. H. B. Devine, Dr. W. N. Robertson, Sir George Syme, and Dr. G. S. Wylie. It was resolved that any entrance fee imposed should be ear-marked for the Endowment Fund. The question of the word "Australasia" in the title of the College was fully discussed, and all the founders were agreed that the title should remain as adopted by the delegates at the meeting in Sydney in August, 1926. It was generally accepted that Australasia included New Zealand. Mr. R. Hamilton Russell was appointed delegate of the College to the Lister centenary celebrations. The honorary secretary notified members that a parchment roll of membership would be prepared and forwarded to the Union Bank of Australia in each town where a Fellow resided, in order that he might be able to sign the roll. A form of certificate of Fellowship would be designed and sent to the Fellows. The founders also discussed the question of a surgical journal.

South Australia.

[FROM OUR OWN CORRESPONDENT.]

THE MEDICAL SCHOOL.

CONSIDERABLE changes have taken place recently. A great loss has been sustained by the sudden death early this year of the Angas professor of chemistry, Dr. E. H. Rennie. He, with Sir William Bragg, Professor Archibald Watson, and Dr. (*later* Sir) E. C. Stirling, formed in the year 1885 the advance guard of the original Faculty of Medicine. Contributions to anthropology and investigations of the fauna of Australia, and more especially of the marsupials, by Professor F. Wood Jones, F.R.S., have reflected immense prestige upon the University of Adelaide, but after spending seven years among us he has been attracted to Honolulu by the authorities of the Rockefeller Institute; there one special subject for investigation will be the actual effects so far, and the probable results in the future, of that intimate blending of so many races—Malayo-Polynesian, Iberian, Chinese, Japanese, and Teuton—which has been encouraged by the United States Government in the Hawaian Archipelago. Professor Brailsford Robertson has been "seconded" for one year at least, and lent to the Commonwealth Council of Science and Industrial Research in order to pursue his investigations on animal nutrition; fortunately his coadjutor, Dr. Hicks, the recently appointed professor of human physiology, is at hand to carry on the teaching. The vacant chair of anatomy has been widely advertised, and presumably the same course will be adopted with regard to the chair of chemistry. The jubilee of the University was celebrated last year: the progress made in fifty years in every direction is marvellous, though original research work is mainly confined to the Waite Institute of Agriculture; at the Adelaide Hospital, too, there have been rapid advances. Buildings recently erected now increase the accommodation for patients to 500 beds, exclusive of 220 devoted to infectious and incurable cases; in addition, the special obstetrico-gynaecological department will in all probability shortly be commenced. Meanwhile more suitable housing has been provided for the resident medical officers, who now number over twenty, as compared with two only some forty years ago.

THE BRANCH.

For a dozen years or so the Branch (South Australian) has been accommodated in the buildings originally acquired by members of the profession, under the title of the "British Medical Hall Co., Ltd." These buildings were to be transferred to the Branch so soon as satisfactory incorporation could be attained, but this process involved some legal difficulties. Now the premises have been sold, and the directors of the company have committed themselves to the purchase of a block of land on North Terrace, facing the University. Upon this block it is proposed to erect a building of several stories; it is to be made to pay for itself by the leasing of suites of rooms for members of the medical and dental professions. It is a bold enterprise for a small medical community such as ours to venture upon, but if not immediately remunerative it will constitute a valuable gift to the next generation. The Branch has been presided over recently by Dr. de Crespigny, who has just returned from a holiday in Europe, and by Dr. H. H. E. Russell. The Lister Orator for 1926 was Professor Wood Jones, who gave one of those characteristic addresses which have stamped him as a remarkable speaker and thinker.

IRREGULAR PRACTICE.

The troubles met with in the old country have taken root here also. The newly formed Association of Botanic Medical and Naturopathic Practitioners, whose diploma is spread out before me, bases its claim for recognition upon a still unrepealed Act of Henry VIII. A deputation waited upon the Chief Secretary, asking for legislation to enable them to be registered as a body entitled to practise their peculiar arts, to give certificates of health, and, what is still more necessary, certificates of the cause of death. Fortunately the matter was referred to the Medical Board for its opinion, and its report apparently satisfie Labour Government that it would not be wise to ob deputation's behest. The Crown law officers too received instructions to enforce the provisions o Medical Act as regards unqualified persons assumin title of doctor. Curious divergence of opinion as reading of the Act has been evinced by the judges o instance before whom the offenders have been brough doubts have been speedily cleared up on the appealing to the Supreme Court.

New Zealand.

[FROM OUR CORRESPONDENT.]

WELLINGTON HOSPITAL.

DR. D. M. WILSON has written a short history o Wellington Hospital, which is now being enlarged cost of £140,000. In 1841 the New Zealand Land Com had the responsibility of treating the sick in the colony, but it was apparent that soon the colonists t selves must assume this responsibility. Governor arrived in 1845, and set about the task of enforcing and order. The settlement at Wellington lived in fe Maori uprisings and there had been occasional skirm in the vicinity, and Governor Grey realized that if were to be peace between European and Maori each soon learn to understand the other. He proposed, t fore, to use a hospital as a colonizing agency, and dispatch to Lord Grey, Colonial Minister in Lon Governor Grey declared his intention of establishin hospital where Maori and European might be tre together and a bond of friendship formed between the races. The statesmen had more foresight than the ge public, for there was no public demand for a hosp Indeed, a prominent colonist, Mr. Brady, wrote to New Zealand Journal in London, stating that the clim of Wellington was so healthy that "the doctors are pelled to turn either farmers or publicans, as they nothing to do but to attend upon lying-in women."

A report of the work of the hospital sent by the Gover to the State Department in London on March 6th, 1 shows that already the hospital had done much "to g the attachment and promote the civilization of natives." The hospital was provided with a steam-b room and a sweating room, and a hot-water bath, to wh the patients were introduced upon first admission. the natives were admitted from their pas, where sanit arrangements were conspicuous by their absence, ablution facilities at the hospital were not with significance for them. The hospital had many vicissitu including damage by an earthquake in 1848, with int mittent tremors extending over a period of four d which partially destroyed the building. The first and so what primitive hospital in Wellington is, however, wor of remembrance as a noteworthy civilizing agency wh played a great part in cementing two races in harm and goodwill. The work done in the hospital was noteworthy. For instance, a Maori chief of high rank operated upon by Dr. Fitzgerald for the removal o large tumour between the shoulders, and this patient anaesthetized with sulphuric ether. When it is rem bered that this anaesthetic was not announced to world until November, 1846, in an American med journal, that Syme did not use it until 1847, and that N Zealand was at the ends of the earth, it says much Dr. Fitzgerald and his unnamed colleague that a Mr thus early received the benefit of the new discovery. 1849 Earl Grey presented to the Colonial Hospital Wellington a large engraving of Her Majesty Qu Victoria so that the natives might see the great wh chieftainess to whom they gave their splendid allegia and devotion, and not less to her successors.

PHYSIQUE OF SCHOOL CHILDREN.

A physical survey of 20,000 New Zealand school child has been completed, and compares favourably with a simi survey undertaken in 1913. The conclusions may be su marized thus: (1) New Zealand school children sh

superiority in height and weight when compared with the available statistics relating to those of Australia, Great Britain, America, and Toronto. (2) New Zealand town school children have definitely improved in height and in weight during the years 1913-25. (3) Sitting height relatively to standing height is less in New Zealand children than in Glasgow children. (4) There is no noteworthy difference to be found in height and in weight of New Zealand children grouped according to birthplace of parents. (5) Children of farmers are tallest and heaviest, and children of professional men are almost as tall as children of farmers, but show no excess in weight over the average. (6) The height and weight of children in rural schools are greater than in city schools, and the average physical development of children with good mental attainment is greater than of those with inferior ability.

About a thousand children at Christchurch have been tested for tuberculosis, and a beginning is being made at Wellington and Dunedin. Dr. Blackmore, general superintendent of tuberculosis institutions, states that there are several delicate and non-injurious tests which show infection, and recommends special treatment for the positive cases. There is good reason to suppose that a large majority of cases of adult tuberculosis have been infected in childhood, although Nature often stifles the infection in children. The open-air school movement is making headway.

Scotland.

ROYAL SIMPSON MEMORIAL HOSPITAL.

AT the annual meeting of the Edinburgh Royal Maternity and Simpson Memorial Hospital, held in the City Chambers on April 21st, reference was made to the proposal of the managers of the Royal Infirmary that when the grounds to the west of the Infirmary, at present occupied by George Watson's College for Boys, should become available in about five years, a complete obstetric and gynaecological department, with some 250 beds, should be erected there, and should be named the "Simpson Memorial." The proposal involved complete amalgamation, but under the most favourable conditions the hospital could not be ready for occupation for at least seven years from the present time, and meantime the Maternity Hospital must be maintained. A subscription income of at least £5,000 a year was required for ordinary maintenance. A source of revenue had recently been lost to the hospital because, in consequence of the extended period of training for midwives lately imposed by the Scottish Central Midwives Board, fewer pupil nurses now presented themselves for training. The directors of the hospital had therefore found it necessary to offer free training to such pupil nurses as had already had a general training in nursing. Nevertheless, in spite of the difficult financial circumstances of the hospital, any curtailment of its activity would be impossible in view of the great extent to which recourse was had to it by the public. The number of cases treated in the hospital during 1926 showed an increase of 172, and the number of women delivered in connexion with the hospital and its Leith branch represented 37.3 per cent. of the total births in Edinburgh, an increase of 1.8 per cent. over the previous year. Professor George Robertson, President of the Royal College of Physicians, in moving the election of the office-bearers, remarked that, in thinking of the centenary of the birth of Lister, it was natural to refer to the other great benefactor, Sir James Y. Simpson. The improvement of surgery had only been rendered possible by the happy combination of anaesthetics and asepsis, and everyone knew what an important part Sir James Y. Simpson played in the introduction of chloroform. The decision of the directors to give free training to all pupil nurses who had already had their general training was a simple act of justice. The great voluntary hospitals did not pay their probationer nurses adequately for the services they rendered. It was true that the nurses were being trained, but they were also working hard all day to keep the hospital running, and for these services the probationer nurse was entitled to payment on a more adequate scale than she got at present. The Simpson Memorial Hospital in this respect had taken a step in the right direction, and he appealed to the generosity and justice of the public to see that subscriptions were increased.

SMALL-POX IN DUNDEE.

At a meeting of the Dundee Public Health Committee on April 18th Dr. Burgess, medical officer of health for Dundee, said that there had been up to date 107 local cases of small-pox. These had all been of a mild nature and probably all would get better, though some would be slightly marked. It was unfortunate that during the past fortnight there had been a falling off in the number of people presenting themselves for vaccination. This was serious because, unless people were generally vaccinated, the outbreak might hang on for an indefinite time. At a meeting of the Forfar District Committee Dr. Sinclair, medical officer of health for Forfar county, obtained authority to offer free vaccination. The chairman of the committee, Colonel Fotheringham, remarked that even if the local authority had to pay 2s. 6d. for vaccination of each case, this would be a great deal cheaper than having an outbreak of small-pox in the district.

ROAD ACCIDENTS IN SCOTLAND.

From the Home Office return regarding the number of street accidents in 1926 it appears that out of the 138,774 people killed and injured in Great Britain during 1926, 12,684 were killed or injured in Scotland. Of these, 579 were killed and 12,105 injured. The details of these were: caused by omnibuses and motor coaches, 1,774 and 180; by tramcars, 1,147 and 15; by other vehicles, 6,940 and 325; horse-drawn vehicles accounted for 630 injured and 26 killed; pedal cycles accounted for 1,614 injured and 33 killed. Six police districts of Scotland—namely, Arbroath, Montrose, Nairn county, Hawick, Galashiels, and Lerwick—had no fatalities to report. The highest number of deaths (119) occurred in Glasgow; Lanark county followed with 75, and Edinburgh with 47; Dumbarton accounted for 31, Stirling county had 30, Fife county 22, and Renfrew county 21.

THE V.A.D. MOVEMENT.

Dame Oliver, controller of the V.A.D. Department of the British Red Cross Society, in an address to the annual meeting of the City of Glasgow Branch of the Red Cross Society on April 8th, said that to complete the strength of the Naval, Military, and Air Force hospitals 5,000 men and 20,000 women under the Red Cross were required. On the population basis Glasgow had been asked to provide 100 men and 200 women, but at the present time only 5 men and 33 women were available. The work consisted in the nursing of sick and wounded in hospitals, and the country desired that the branches, such as that of Glasgow, should enrol and train the personnel in the necessary technical experience. If Great Britain was again involved in war hostilities would commence by air attacks on a large scale and casualties in crowded cities would be very heavy. It was impossible suddenly to train the personnel for such an emergency. A secondary object of the Red Cross Society, through the Voluntary Aid Detachments, was to mitigate sickness among the civil population at all times. Colonel G. H. Edington said that in 1926 the financial position had slightly improved. With a view to stimulating interest in detachments the Glasgow Committee had inaugurated a scheme under which the city had been divided into areas, each of which would be in charge of a small committee.

DUNDEE HOSPITALS.

At the quarterly court of governors of Dundee Royal Infirmary it was intimated that the total number of patients who had been treated in the wards during 1926 was 8,093, as against 7,729 in 1925. The expenditure had been £50,884, and the amount in hand at the close of the year was £5,789. In the maternity department the number of patients had risen from 257 in 1913 to 676 in 1926; a new building to provide thirty-five beds was in course of construction. There was urgent need for a new dispensary.

The annual report of Dundee Infant Hospital states that the average daily number of children in hospital during the past year had been thirty-one. The Dundee Royal Infirmary has received a gift of £5,000 from Mrs. Ferrie of Cupar in memory of her sisters.

SCOTTISH UNIVERSITIES PARLIAMENTARY VACANCY.

An analysis of the voters outside the university towns who are entitled to take part in the Scottish universities by-election shows that these are scattered through every constituency in Britain, with the single exception of the eastern division of Norfolk. In the Marylebone district of Harley Street and Wimpole Street there are over 200 voters who presumably are, in the main, doctors of medicine. An interesting point regarding the right to vote arises in connexion with a by-election. Graduates may have three qualifications for a parliamentary vote: (1) a residential qualification; (2) a business premises qualification; and (3) a university qualification, and at a general election they may vote only in respect of two of these. Electors who at the general election chose to exercise the qualifications in regard to residence and business premises were debarred from voting in the universities constituency. Such persons, however, are not debarred from voting for the university member now in the by-election.

England and Wales.

LORD LISTER AND NORWICH.

DR. MICHAEL BEVERLEY has contributed to the *Eastern Daily Press* a note about the reception of the Listerian system in Norwich in the seventies. Dr. Beverley went to Edinburgh in 1871 with an introduction to Mr. Lister from his friend Mr. William Cadge. Dr. Beverley was cordially received, and spent a month in watching Mr. Lister's hospital and private operations, and familiarizing himself with the antiseptic system, in which the carbolic spray was then used. On his return to Norwich he carried this out for Mr. Cadge, who at once adopted it, although at the time he had few followers, his hospital colleagues declining to use it. The house-surgeon, however, became an enthusiast, and used the spray and antiseptic dressings in Mr. Cadge's cases. In this way, Dr. Beverley says, the Norfolk and Norwich Hospital was probably "the first provincial hospital to adopt the antiseptic system, and that great surgeon, William Cadge, was one of its first, if not the first of its pioneers." In a communication to us Dr. Beverley recalls that he was present at Lister's introductory address at King's College, "a never-to-be-forgotten function—at once so disappointing to the packed audience of London surgeons, but so characteristic of Lister's thoroughness in all he undertook." The address was on the nature of fermentation, an understanding of which was, Lister pointed out, the foundation stone of the antiseptic system. He illustrated the general principles by describing and demonstrating the lactic acid fermentation of milk. The disappointment of the packed audience to which Dr. Beverley refers was due to the apparent remoteness of the topic, but the lecture, as Dr. Beverley says, was characteristic of Lister's thoroughness in all he undertook. Dr. Beverley illustrated his recent note in the newspaper by a facsimile of a letter, dated October 13th, 1904, in which Lister, while expressing his regret at his inability, owing to the state of his health, to be present at the dedication of the Cadge memorial window in Norwich Cathedral, which he had been asked to unveil, said that he would be glad to take part "in honouring the memory of one whom I respected so greatly as William Cadge," and sent a subscription.

EXTENSION OF KING EDWARD VII HOSPITAL, WINDSOR.

An extension of the King Edward VII Hospital at Windsor was opened by Their Majesties on April 20th, and was named the King George V Wing. This hospital, formerly known as St. Peter's, which serves not only Windsor and Eton but a large surrounding district, was originally founded as a dispensary in 1818; it became an infirmary in 1857, and after many extensions was moved to its present building in 1909. Since then various additions have been made, including an x-ray department, a pathological laboratory, special wards for women and children, an orthopaedic annexe, and nurses' quarters. The new wing brings up the total bed accommodation to 125, and the hospital now has fifty beds for men, forty for women, twenty for children, and fifteen private wards for patients of small means. These private wards are stated to be in great demand. The cost of the new wing, including equipment, furniture, and linen, has amounted to £11,780, the whole of which has been subscribed. A new hostel annexe for nurses, however, has still to be provided. An address to Their Majesties was read by Viscount Burnham, chairman of the governing body; and the King, in reply, after a reference to the association of his family with hospital work in Windsor, said: "The remarkable progress in the activities of your hospital during the short space of twenty years bears striking testimony to the zeal and energy of the authorities, as well as to the public spirit and generosity of its benefactors. But there is no finality in hospital work, and you remind us that, at the very moment when the new extension is completed, you are faced with the need for yet another addition, a new hostel for nurses, to build which I hope and trust the necessary funds will soon be available." The King and Queen were then taken round the hospital by Viscount Burnham, Dr. W. H. W. Attlee, senior physician, Sir Joseph Skevington, senior surgeon, the matron, and others. After having spoken to several of the patients, the King expressed a wish to see the medical staff who gave their services to the hospital, and they were accordingly presented. It was announced that one bed in the new wing had already been endowed with £1,000 by Mr. and Mrs. Noel Trotter of Ascot, in memory of Lord Lister and in celebration of the royal visit.

THE BOLINGBROKE HOSPITAL, WANDSWORTH COMMON.

The new wing of the Bolingbroke Hospital, which has been erected at a cost of nearly £100,000 in memory of the late Mr. William Shepherd, was opened on April 4th. By this extension a new block of wards is provided, the out-patients' department has been reconstructed, and new residential accommodation is made available for nurses. The Lord Mayor and Lady Mayoress attended the ceremony and opened the new operating theatres. Sir Henry Jackson, M.P., treasurer of the hospital, said that the new wing had been opened entirely free from debt in spite of the financial stringency of the past two years. An additional annual income of £9,000 would be necessary for its upkeep, but it was hoped that this money would be contributed by public generosity. The final balance of the building fund was obtained at a festival dinner at the Mansion House on April 1st, when the Lord Mayor gave a brief history of the hospital since its foundation in 1881, and appealed for £15,000; towards the end of the evening it was announced that over £18,000 had been received. It was stated that during 1926 there had been 1,130 in-patients at the Bolingbroke Hospital, and 36,000 out-patient attendances; 1,200 major and 1,387 minor operations had been performed.

CENTRAL MIDWIVES BOARD.

At the meeting of the Central Midwives Board for England and Wales, on April 7th, Sir Francis Champneys was re-elected chairman; other re-elections and elections to the Board were: Miss Edith Greaves, Miss Ada Davies, Dr. F. N. Kay Menzies, and Mr. A. B. Maclachlan by the Ministry of Health; Mr. Victor Bonney, M.S., F.R.C.S., by the Royal College of Surgeons; Mr. Robert Arthur Lyster, M.D., D.P.H., by the Society of Medical Officers of Health; Mr. Charles Sangster, M.R.C.S., L.S.A., by the Society of Apothecaries of London. The revised lists of examiners, lecturers, institutions where lectures are delivered, and institutions, homes, and midwives at which and under whom midwives may be trained, were approved for the year ending March 31st, 1928. Dr. Lyster moved, and the Board approved, the following resolution:

> That, it appearing that by the combined operation of Section 14 (1) of the Midwives Act, 1918, and Rule E. 20 of the Board's rules, a local supervising authority may be called upon to pay the fees of a registered medical practitioner called in by a midwife in a case of emergency, without regard to

the time when medical assistance is rendered, and it also appearing that a regulation of the Ministry of Health makes it illegal for a local supervising authority to pay the fee of a registered medical practitioner for assistance rendered after the lapse of a period of four weeks from the date of the confinement, it is desirable that the Board approach the Ministry of Health with a view to seeing if the regulation of the Ministry of Health can be amended so as to bring it into harmony with the Board's rules.

Ireland.

DEPUTATION TO THE MINISTER OF LOCAL GOVERNMENT AND PUBLIC HEALTH.

A DEPUTATION from the Irish Medical Committee, consisting of Drs. R. J. Rowlette, A. McBride, J. B. McClancy, J. P. Shanley, M. O'Brien, T. Hennessy, and Mr. C. H. Gick, waited on the Department of Local Government and Public Health in connexion with the following matters: (1) The transfer of medical officers under Section 5 of the Local Authorities (Officers and Employees) Act, 1926; (2) private patients in county and district hospitals; and (3) the remuneration of registrars of births, deaths, and marriages. The deputation was received on behalf of the Minister for Local Government and Public Health (who, owing to another engagement, was unable to be present) by Mr. McCarron, secretary, and Dr. E. F. Stephenson, chief medical adviser, of the Department of Local Government and Public Health. With regard to the transfer of medical officers under Section 5 of the Local Authorities (Officers and Employees) Act, 1926, the deputation urged that the Minister should refuse to sanction any transfer made as promotion unless the officer transferred was entitled to promotion on the grounds of merit and long service, in accordance with the intention of Section 5 of the Act. Mr. McCarron and Dr. Stephenson agreed that the section quoted had for its object the promotion of existing officers on the lines stated by the deputation, and undertook to convey the views of the deputation to the Minister. With regard to the admission of private patients to county hospitals, the deputation, whilst satisfied with the draft regulations forwarded by the department to the county health boards for adoption, pointed out that these bodies did not show any desire to put them in force and thus enable the doctors attached to the hospitals to arrange with private patients for payment for their medical attendance as provided for in the draft regulations of the Department of Local Government and Public Health. The deputation was informed that the department would use its influence in the first instance to have the draft regulations adopted by the health boards, and in the event of their refusal it would consider further representations from the profession. In connexion with the increased remuneration for registrars of births, deaths, and marriages, the deputation was invited to prepare a memorandum stating the position of these officials. Mr. McCarron and Dr. Stephenson considered the fees paid at present for this work were inadequate. More than 90 per cent. of the registrars in Ireland are dispensary doctors and the registration areas correspond to their dispensary districts.

INCREASED AMOUNT OF SICKNESS BENEFITS.

Lady Aberdeen, president of the Slainte Approved Society, in moving the adoption of its annual report, referred to the very high rate of sickness benefit paid to insured persons as the result of their being certified as incapable of work owing to some rheumatic complaint. The report for the year ended December 31st last stated that during that period claims were paid to 6,508 members, as against 6,060 in 1925, the total paid in benefits being £32,518 3s. 2d., as compared with £30,352 18s. 4d. The committee of management was much concerned regarding the inadequacy of funds for the payment of sanatorium benefit to insured persons, and the question was receiving the consideration of the Approved Societies Association. During the year further progress had been made and the membership maintained, [illegible] large number of members ceasing insur[illegible] causes. The financial statement showe[illegible] £36 5s. 7d.

Correspondence.

THE USE OF TUBERCULIN.

SIR,—In your issue of April 2nd (p. 641) Sir Robert Philip says that many persons seem to regard the subject of tuberculin as a *terra incognita*, but that he has used it much and consistently since its introduction in 1890, and is puzzled to understand the difficulties frequently expressed. Sir Robert Philip, however, does not give us definite information upon the exact methods he has adopted for diagnosis and treatment. There are many different ways of administering tuberculin, and many points upon which there is extreme diversity of opinion. In diagnosis there is the cutaneous, intracutaneous, and subcutaneous method. In treatment there is the method of obtaining allergy and the quite opposite method of creating great and lasting immunity by large doses. There is also the method by inunction. Would that Sir Robert Philip would give, not only his Edinburgh students, but the whole world concrete facts and deductions from his own ripe experience. What are his views upon the idea of danger arising from the subcutaneous injection of tuberculin for the early diagnosis of tuberculosis in accordance with Koch's exact instructions? This is a question he can easily answer if he has used the method. I say, after an experience over a period of thirty-five years in many hundreds of cases, that there is no danger.

Sir Robert Philip expresses himself as being puzzled to understand "the difficulties frequently expressed" with regard to the use of tuberculin both for treatment and diagnosis. From a large experience I say positively that there are difficulties, and great difficulties, in the administration of tuberculin if the method of large doses approved by Koch himself and his best known pupils is used in every chronic form of simple tuberculosis.

Sir Robert Philip tells us that the properties and value of tuberculin are demonstrated to all students graduating at the University of Edinburgh, and that tuberculin is in daily use in the several medical institutions which are linked up with the University department. Is it given to ambulatory cases? If so, by what method and with what results?

In the BRITISH MEDICAL JOURNAL of April 21st, 1923, I used these words: "I do not approve of his [Petruschky's] method of dosage, and I do not trust his method of inunction." I believe that Sir Robert Philip advocates Petruschky's inunctions, as he formerly advocated Béraneck's tuberculin. In the article quoted I also said: "I can only be convinced by the details of protocols in evidence that Sir R. Philip can in any way approach the success I have achieved by large doses given subcutaneously."

I have placed my cards on the table in the public interest, and it would be a great public service if Sir Robert Philip would do the same. We now want evidence, not opinions or impressions. Would it not be well that the evidence both of Sir Robert Philip and myself should be submitted to an unbiased tribunal of research workers and statisticians, in order that the true value of tuberculin in the diagnosis and treatment of tuberculosis may be ascertained?—I am, etc.,

London, N.W.1, April 18th. W. CAMAC WILKINSON.

STATISTICS OF TUBERCULOSIS.

SIR,—According to statistics tuberculosis is dying out; but statistics can prove anything. A patient who had been some time in the sanatorium was sent home on April 16th and died on April 18th, a couple of days after being discharged. I suppose according to the statistics he would be put down as "improved," not as a death.

I think I can safely say 50 per cent. of so-called cases of tuberculosis in the sanatoriums are not tuberculosis. I believe other practitioners will agree as to the value of statistics and sanatoriums.—I am, etc.,

Woodlands, Doncaster, April 20th. T. L. ASHFORTH.

VENESECTION.

SIR,—Amongst the many questions raised by the discussion on venesection reported in the BRITISH MEDICAL JOURNAL of April 16th (p. 721) is that of the explanation of the fact that venesection, after having remained so long in vogue, should have fallen into almost complete disrepute. Not to bleed a patient with "sthenic" pneumonia would at one time almost have laid the doctor open to a charge of malpraxis, if the patient died. About thirty or forty years ago, on the other hand, a doctor's reputation might have suffered if he bled the patient and the patient died. Indeed, hospital patients did usually die when they were bled, or given champagne, for both were reserved for really desperate cases. Forty years earlier how hard it was to discontinue the custom of bleeding in country districts in certain diseases is well illustrated by the following circumstances, which I heard from my father (*Reminiscences of Sir H. Weber*, 1919, p. 48):

> About 1850, when Sir J. Y. Simpson paid a visit to the Klinik at Bonn, my father was appointed by his uncle, Professor Friedrich Nasse, to show him everything he cared to see. Simpson explained that the venesection treatment of pneumonia had been completely abandoned at Edinburgh, and asked my father what would happen if he were to treat pneumonia patients at the village of Kessenich (the poor of which were under the care of the Bonn Klinik) without bleeding. My father answered that if the patient died without being bled the student or assistant from the Klinik who had attended the case would probably be waylaid and unmercifully beaten. This actually happened at Kessenich soon afterwards, when, with Professor Nasse's consent, bleeding was discontinued.

Now, bleeding for various conditions has become relatively common again. Recently I had a patient with the extremely rare maldevelopment known as coarctation of the aorta (stenosis of the aortic isthmus). I looked up the first two records of cases in which any clinical details were given (Morgagni, 1761, and R. Graham, 1814), and found that the three cases, according to the *clinical* notes, resembled each other in nothing excepting that all three were bled and all three died (my case had sudden apoplexy from rupture of a cerebral aneurysm).

Very important were Dr. H. French's remarks regarding periodical abundant blood-letting for erythraemia (splenomegalic polycythaemia). I would, however, like to know whether there are any contraindications for bleeding in this chronic disease, which perhaps may be regarded as a generalized overgrowth in the haemopoietic system, analogous to the overgrowth in the cutaneous system in ichthyotic patients. Certainly, in elderly debilitated subjects of the disease I would be very cautious in regard to suggesting treatment by benzol, phenylhydrazine, or even by the application of x rays to the long bones.—I am, etc.,

London, W.1, April 22nd. F. PARKES WEBER.

SIR,—Dr. Herbert French's remark, quoted in your issue of April 16th (p. 722), that physiologists teach that venesection is useless, is by no means a correct statement of physiological opinion. Professor McDowall has already pointed out one way in which venesection can be shown experimentally to be of value, but neither he nor any speaker in the discussion mentioned another factor which plays an equally important part.

If, in man, about 500 c.cm. of blood is withdrawn within a short space of time, the blood volume is temporarily lessened by about 10 per cent. The initial volume is rapidly made up by the passage of fluid into the circulating blood, whereas the red cells are not replaced for at least some days. The result is a lowered red cell content; in consequence there is a decrease in the viscosity of the blood, for this depends principally on the red cell content. The fall in viscosity is about 10 to 15 per cent. in these circumstances, for the viscosity falls somewhat more rapidly than the cell content in suspensions of concentration comparable with normal blood.

The work done by the heart varies directly with the viscosity, and also with the arterial pressure maintained; if, after the bleeding, the pressure is rapidly restored owing to peripheral vaso-constriction, it follows that the work required to be done by the heart will be diminished in proportion to this new viscosity, or by 10 to 15 per cent. This diminution in the work of the heart, maintained over a period of several days until the red cell content approaches the normal, is by no means negligible.

The work done by the right side of the heart will, of course, depend on this new and lessened viscosity and on the pulmonary pressure.—I am, etc.,

Department of Physiology, Edinburgh University, April 24th. ERIC PONDER.

THE PUBLIC, THE DOCTOR, AND THE MASSEUSE.

SIR,—The attention of the Council of the Chartered Society of Massage and Medical Gymnastics has been called by several of its members to the recent correspondence in your columns under the heading of "The Public, the Doctor, and the Masseuse."[1] In the absence of specified instances it is, of course, impossible to say how closely the allegation that diathermy and phototherapy is "constantly" being carried out by masseuses with much danger to the patients corresponds with fact, but it may not be out of place to remind your readers that the members of the Chartered Society, before receiving their certificates, pledge themselves "not to undertake *any* case except under the direction of a registered medical practitioner."—I am, etc.,

E. C. PERRY,
Chairman of the Council, the Chartered Society of Massage and Medical Gymnastics.

London, W.1, April 25th.

LISTERISM IN LONDON.

SIR,—In some of the addresses given during the Lister celebration a much too unfavourable view was taken of the position of surgery in London at the time of his advent. To accept the more severe strictures would be, not only to ignore the work of many of those who had adopted the methods, but would be a reflection on the influence of Lister himself.

Amongst those who sought the great master in 1868 were two young London surgeons, Marcus Beck and Henry Howse. The former became attached to University College and the latter to Guy's. When Howse became assistant surgeon in 1870 the wound was irrigated by a drip of carbolic lotion from a container suspended above the table. Later the hand spray replaced the drip, and was worked by relays of assistants. Howse, as all who knew him will recall, was exacting in attention to the most minute details, supervising or himself making the dressings in all important cases. Imbued with a true spirit of research, and being a sound pathologist as well as a practical surgeon, he rapidly though cautiously enlarged the field of operative surgery. When I became one of his dressers in 1874 we dressed as many as four cases of excision of the knee in an afternoon. This was an operation rarely performed at that time on account of the mortality rate. Howse, by attention to the details of Lister's methods and by his fine technique, brought the operation to such perfection that failure was unknown. He had raised the operation of gastrostomy from something like a 90 per cent. mortality to one of comparative safety. And so with ovariotomy, amputations, trephining, etc. So confident had Howse become in the security of the antiseptic methods that I have seen him take a child from the erysipelas ward, amputate the thigh, and return him to the same bed. These personal experiences occurred three years before Lister came to London, and the field had increased enormously by the time of his arrival. No better tribute could have been paid to the value of the new methods, and no one rejoiced more than Lister himself. On Lister's coming to London the two men soon became on friendly terms, for in the pupil the master recognized one who had demonstrated the truth of his principles and had become one of the pioneers into the unexplored regions of surgery.

Howse's junior colleagues followed his lead, so that by 1877 all but the three seniors had adopted Lister's methods.

Of the work at University College the one who could tell us most has, alas! gone to his rest; however, Godlee writes thus in the biography: "But the only two London surgeons in early days who carried out the treatment thoroughly

[1] See BRITISH MEDICAL JOURNAL, December 11th and 18th, 1926, pp. 1143 and 1195, and January 8th and 22nd, 1927, pp. 81 and 164.

and efficiently in hospital practice were Howse of Guy's and Marcus Beck of University College." At St. Thomas's McCormac and Croft were exponents of the method, and the former had successfully employed them in the Franco-Prussian war of 1870. The oncoming surgeons at this hospital were, I had reason for knowing, firm believers.

In tracing the growth of Listerism in Germany, it will be noticed that Godlee begins with Volkmann in 1872, so London can claim a two years' start, and that with the complete method learnt under Lister himself.

It is a remarkable fact that while in Germany Listerism found ready acceptance, it was not until 1878 that carbolic was used in Paris; yet it was here that Pasteur laid the foundation on which Lister built.—I am, etc.,

London, W.1, April 16th. CHARTERS J. SYMONDS.

TRAUMA AS A CAUSE OF AURICULAR FIBRILLATION.

SIR,—There are several points in the letters of Dr. Brockbank and Dr. Stephens (April 9th, p. 699) which merit a reply.

It is gratifying that the former is prepared to modify his original view and is "inclined to believe that strain affecting an already diseased ventricle or a heart with some abnormality might induce auricular fibrillation secondarily," but, of course, as he says, "proof is difficult." There will always be many instances in which it is far from easy—or may even be impossible—to prove any causal relationship between the physical strain and the fibrillation, but our object was to demonstrate that this causal relationship does sometimes exist and that there are cases in which the relationship between the strain and the fibrillation can be reasonably inferred.

Dr. Brockbank stipulates that some proof is required that fibrillation was not present before the physical trauma. Such evidence must be objective, or subjective, or both. In Case IV both were present. This patient is a medical man who is well aware when fibrillation is present: he knows when it begins and when it ceases. In 1922 this man, by a happy chance, was examined for life insurance, and his heart was passed as normal in every respect. The next day he ran hard for a train and was at once conscious of the specific change in cardiac rhythm, and when I examined him fibrillation was present. In 1926 there was a similar sequence to the same form of effort. Here we have an example of cause and effect, and convincing evidence that the heart rhythm was normal immediately antecedent to the sudden physical strain.

Since the publication of our paper (J. H. and H. W. J.) medical man has written to me giving his own personal experience. His first attack of fibrillation followed a day strenuous cycling, a form of exercise in which he had not indulged for three years. His second, third, and fourth attacks of fibrillation followed unwontedly severe exercise—such as vigorous sawing and swinging the car. Here again we have a medical man who knows when his heart is fibrillating and who is quite conscious that the fibrillation was not present before the physical strain

If I understand Dr. Stephens aright he challenges the view that trauma may induce fibrillation, but as he does not do more than state his disagreement we must just leave it at that. He is, however, more articulate—although perhaps somewhat misleading—in his reference to Cases IV and V, as will appear evident from a careful perusal of our paper. His reference to "carious teeth and puffy inflamed gums" as conducive to auto-intoxication is interesting but irrelevant and has no direct bearing on the point at issue—namely, whether physical trauma is not in some cases a factor in the production of fibrillation of the auricles.—I am, etc.,

Liverpool, April 20th. JOHN HAY.

SIR,—Professor Hay and Dr. Wallace Jones have propounded two statements (March 26th, p. 559) for our acceptance. The first proposition is to the effect that sudden strain may induce auricular fibrillation in a diseased heart. I do not desire to quarrel with this statement, which is and always has been generally accepted.

The second statement is that strain may induce auricular fibrillation in an apparently healthy heart. What is the evidence which justifies such a sweeping assertion?

The exact pathological condition underlying auricular fibrillation is unknown. It is, however, a fact, based on an enormous amount of both clinical and pathological evidence, that wherever we find auricular fibrillation there we also find a damaged heart. The evidence, therefore, is that in order to induce fibrillation it is essential that the heart must be damaged beforehand. In face of this fact it is obvious that before it can be admitted that there are cases which do not conform to this rule it is imperative to make sure both that fibrillation did not exist before the trauma and that the heart is not damaged.

Case I we can at once exclude, because the factor which produced fibrillation is a great deal more than ordinary trauma. Case V may also be excluded, because in this case it is not disputed that the heart had already been damaged. In Case IV too we can assume that the heart had been damaged. The patient had a history of heart trouble and probably of fibrillation some years before fibrillation was again induced by trauma. In fact, this case seemed to be one of those frequently seen of paroxysmal fibrillation induced by overexertion which ultimately becomes chronic.

There remain only Cases II and III, on which the authors rely to support the thesis that fibrillation may be induced by trauma in an apparently healthy heart. In these two cases there is no evidence that the cases were not syphilitic—a Wassermann test is not mentioned. before the trauma. There is no evidence that the

A case of fibrillation came under my observation recently, supposed to have been produced by trauma, which gave a double plus (++) Wassermann reaction, and the patient ultimately admitted having had syphilis. Again, no particulars are given in these cases in regard to character of sounds, etc. Considering the difficulty of diagnosing myocarditis, these cases are not very convincing as evidence that trauma may induce fibrillation in an apparently healthy heart. But perhaps more curious still are the published electro-cardiograms. There are five electro-cardiograms published, taken from three patients. Fig. 1 shows extra-systole, preponderance of left ventricle, and a slurring of R. Now, extra-systole in itself is not of great importance, but when it appears in conjunction with fibrillation it usually signifies a damaged heart muscle. Fig. 5 shows right branch bundle lesion and extra-systole—denoting a grave condition of the myocardium. It will be seen that out of a total of three cases two are demonstrable by means of electro-cardiography alone to have had definitely damaged hearts. It is curious that the authors should rely on these cases to support their thesis that trauma may induce fibrillation in an apparently healthy heart.

There are a number of other statements in the paper in question which I should like to challenge, but I am afraid of trespassing too much on the space of your valuable journal.

To sum up, there is an enormous amount of evidence which goes to show that fibrillation appears only in conjunction with a damaged heart, and there has not been one shred of dependable evidence produced which would suggest that trauma may produce fibrillation in a healthy heart.—I am, etc.,

Liverpool, April 14th. I. HARRIS.

CERTIFICATION OF THE INSANE.

SIR,—Dr. Garratt (April 23rd, p. 779) asks for comments on the remarkable opinions expressed by consulting physicians during the hearing of the case of de Freville *v.* Dill. When convinced of the patient's insanity it is simply necessary to complete the Government form, carefully obeying the instructions printed thereon. When writing down the facts indicating insanity, it is well to remember that years after the medical man may have to stand in the witness box and be severely cross-examined as to the statements he has written down.

If the reports in the public press are correct, Dr. Russell is alleged to have said that the certifying physician should take the greatest care because his written opinion might

condemn a person to spend his whole life in an asylum. This, of course, shows a deplorable lack of knowledge of lunacy law and of the most efficient safeguards that exist to prevent the detention of a sane person.

As to the suggestion of Dr. Russell that the patient should be confronted with informants, little appreciation is shown of the difficulties that often beset the certifying practitioner, apart from the fact that it is no part of our business to convert a private house into a police court. As a very young practitioner I well remember being called to an hotel where a terrorized waiter gave me a vivid account of how he had been threatened with a revolver by an insane guest. On interviewing the patient I found him suffering from paranoia. As he was still in the possession of the revolver, had I confronted him with the waiter I should imagine a tragedy would have occurred.

During the course of the trial Dr. Hyslop, in reply to Mr. Singleton as to the correct course to be adopted when a raving patient threatens to kill one or more persons, is reported to have replied that the physician should send for nursing aid. Every general practitioner knows what would immediately happen—the nurse or nurses would be promptly shown out of the house.

It seems unfortunate that members of the profession should have to trust to the good sense of a judge to save them from the criticisms of their own colleagues.—I am, etc.,

London, W.1, April 22nd. ERNEST H. GRIFFIN.

TREATMENT OF CARCINOMA BY LEAD COLLOIDS.

SIR,—In the use of lead colloids for cases of inoperable cancer we cannot help feeling that there is far too much alarm lest any immediate reaction should follow such injections.

During the last few years we have given over 500 injections of various lead colloids, all made by the British Colloids, Ltd. At first certain of these caused considerable reaction, but it must be remembered that they were more or less experimental colloids, designed to provide a suspension of lead of not less than 0.5 per cent. which would keep permanently. The most recent colloids fulfil these demands, and in doses of 15 c.cm. they give no unpleasant reaction. The reaction is what is so badly called "protein shock" and exactly comparable in every way to a malarial seizure. Apart from any discomfort to the patient, we have never supposed nor have we found that they were in any way harmful.

The production of protein shock has been used as a therapeutic measure of great potency in many complaints. Cases of typhoid fever and pneumonia have been cured in twenty-four hours by its use. Other septic conditions and arthritis have been successfully treated by protein shock. One of us has treated severe cases of asthma by its use, injecting 50 to 100 million coliform organisms into the blood stream.

Of far greater importance is the avoidance of lead colic, vomiting, and other symptoms of lead poisoning. We have followed the teaching of Professor Blair Bell and avoided using such soluble salts of lead as the lead iodide. For this reason the present colloid we use is made in an atmosphere of hydrogen to avoid the possibility of the toxic lead hydroxide being formed.

Several colloids are now being made in which lead is combined with other metals and with organic bases. As it takes at least a year to form an opinion on the therapeutic value of any new colloid, the process is a slow one, but it is hoped that the great work which Professor Blair Bell has commenced may eventually lead to the discovery of some combination of lead that will be of the maximum therapeutic value.—We are, etc.,

FRANK COKE.
J. B. COOK.

London, W.1, April 25th.

THE OPERATION OF TONSILLECTOMY.

SIR,—May I be permitted to reply to the criticisms which appeared in your issue of April 9th (p. 702) anent my memorandum on "The operation of tonsillectomy," which was published on March 26th (p. 564). I quite agree with Mr. Whale that ambidexterity is a priceless asset in most things surgical, but my memorandum was intended to apply to tonsillectomy with the guillotine and mainly in relation to institutional work. I think most surgeons will agree that the guillotine is for obvious reasons the best instrument for that class of work; nevertheless, I am much obliged to Mr. Whale for his hints.

In reply to Mr. Horgan, I may say that I have not read the article he refers to as having been published in the *Practitioner* for August, 1925. What I had to say was an exact description of the method employed by me for many years, and was written in the presence of, and with the collaboration of, Dr. M. McLeod, who has anaesthetized the 3,000 patients mentioned. Further, as the removal of adenoids does not occupy more than about another five seconds, it seems scarcely worth while not to complete the whole operation before lowering the patient's head below the level of the operating table.

Such an incident as blood running down the larynx has never occurred in any of my cases, and I believe it is a bogy.—I am, etc.,

ALFRED J. S. ROE,
April 21st. Honorary Aural Surgeon, Hull Dispensary.

PATH OF INFECTION IN TUBERCULOSIS.

SIR,—I find that in your issue of April 23rd (p. 762), under "Reports of Societies," one or two slight inaccuracies have crept into the summary of my remarks at a meeting of the North-Western Tuberculosis Society on March 31st last. I hope that you will allow me to correct the few ambiguities to which I refer.

I am made to say that "in 'natural' tuberculosis the tuberculin test produced negative or slight reaction; in 'modified' tuberculosis there was a marked reaction." What I really said was "that 'natural' tuberculosis occurred chiefly in communities where the tuberculin test was negative in the majority of the population; whereas 'modified' tuberculosis tended to occur where the percentage of the population reacting to tuberculin tests was high."

In the sentence commencing "To sum up, the evidence was inconclusive," etc., what I really said was as follows:

"To sum up, the evidence could not be regarded as conclusive in either direction, but two things were certain—namely, that pulmonary tuberculosis was sometimes due to a reawakening of a previous infection; and, secondly, that the evidence pointed definitely to the danger of reinfection from outside, under certain circumstances, even in those already possessing a certain degree of acquired immunity. In such cases the tuberculosis due to the secondary reinfection would be of the ulcerative and chronic type."

Again, the sentence "Professor Cummins believed that both types of infection occurred" should have been as follows:

"While Professor Cummins believed that both paths of infection were capable of leading to pulmonary tuberculosis, he regarded it as certain that the respiratory path of infection was far the commonest cause of this type of tuberculosis, at least in man."

In discussing Bacmeister's experiments I did not say that they were unsatisfactory, but that they were not a certain proof that lymph stasis had been more operative at the apices than elsewhere, as the blood circulation as well as the lymph circulation was restricted.

The last sentence, referring to silicosis in coal miners, should have ended as follows:

"Professor Cummins found that in these latter men the lymphatic blockage led to a greater collection of coal dust at the apices than in other parts of the lungs, but the number of cases examined was insufficient to justify final conclusions."

I fully realize the difficulty of reproducing the exact words or even the exact sense of an address such as that delivered by me at Manchester. While paying every compliment to the reviewer, I think, however, that it is advisable to correct these few obscurities, as the question under discussion was one of considerable importance.—I am, etc.,

S. LYLE CUMMINS.

Cardiff, April 25th.

Obituary.

JOHN WHERRY WILLSON, L.R.C.P., M.R.C.S.,

Ex-Chairman of the Bradford Division of the British Medical Association.

DR. JOHN WHERRY WILLSON, who died on April 17th at the age of 59, received his medical education at Charing Cross Hospital, where he obtained the diplomas of M.R.C.S., L.R.C.P. in 1892. He began practice in Bradford some thirty years ago, and took an active part in the work of the British Medical Association and the Bradford Medico-Chirurgical Society. He was joint honorary secretary of the Bradford Division from 1909 to 1913, honorary treasurer from 1909 to 1919, and chairman in 1920. Upon his election to this last post he delivered an address entitled "Celebrated Yorkshire physicians," which contained many interesting historical references. He was a member of the Executive Committee of the Bradford Division from 1921 to 1923, and of the Division Ethical Committee from 1907 to 1909 and from 1922 to 1923. He was a member of the Yorkshire Branch Council from 1911 to 1912 and from 1920 to 1923. At the time of his death he was a member of the Executive Committee of the Harrogate Division. In 1924 he was elected president of the Bradford Medico-Chirurgical Society, and his inaugural address upon "Old Age" was considered a triumph of shrewd observation, apt quotations, and wise conclusions. Dr. Willson played a prominent part in the National Health Insurance controversy of 1911-12; and, from its inception until he left Bradford, he was a regular member of the Local Medical and Panel Committee. During the war his work as secretary of the Local Medical War Committee was of special excellence. He is survived by his widow.

A colleague writes: Dr. Willson was indeed the silver-tongued orator of the profession in Bradford. His flow of language, his clear enunciation, and his grasp of facts commanded the admiration of all. None of those who heard his address on "Meddlesome Midwifery" can forget the masterly exposition of his views, the statistical data, and the sagacious comments, all couched in beautiful phrases and delivered with easy grace and unchecked eloquence. He was a man of great literary and artistic taste and a wide reader, whose retentive memory made literature a joy to him. To his work in connexion with the Local Medical War Committee we largely owe the fact that in the area of the Bradford Division the task of fulfilling the Government's requirements proceeded so smoothly and with such general satisfaction. As a practitioner Dr. Willson gained the confidence of a large body of patients. He was a loyal and trusty colleague, a steadfast friend, and a very perfect gentleman. At the conclusion of his address upon "Old Age" he said: "Let us, with 'confidence born of the past,' meet the future with hope and good cheer, and with trust that whether our day end early or late, it may for each one of us be 'light at eventide.'" His last long illness was borne uncomplainingly, cheered by the hope that was in him.

DR. CAROLINE MATTHEWS, who died at Sydenham on April 16th, aged 49, received her medical education at the Edinburgh Medical College for Women, and graduated M.B., Ch.B.Ed. in 1903. Much of her professional life was spent on the Continent, and for her services in connexion with the Messina earthquake in 1908 she received King Victor Emmanuel's medal; in 1911 she was awarded the Italian Red Cross medal and King Victor Emmanuel's Commemoration medal. During the Balkan war of 1912-13 she acted as war correspondent to the *Sphere*, and held the rank of surgeon in the Montenegrin army, being awarded the Order of Danilo. At the outbreak of the last war Dr. Matthews joined the Serbian army, and when it retreated she remained in charge of the military hospital at Uzsitsi, being taken prisoner by the Austrians and imprisoned in Belgrade. After the war she spent much time in travelling, chiefly in India. Her publications included *Hints by a Lady Doctor* (1905) and *Experiences of a Woman Doctor in Serbia* (1916); she contributed an article entitled "In the hands of the enemy" to the *Sphere* in the latter year.

The following well known foreign medical practitioners have recently died: Dr. ANTONIO CARLE, professor of clinical surgery at Turin, aged 72; Dr. PERRIOL, director of the Medical School at Grenoble; Dr. LOUIS SCHNYDER of Berne, president of the Swiss Society of Neurology, aged 59; Professor HEVEROCK, a neurologist of Prague; Professor A. GILBERT, a leading Paris physician on the staff of the Hôtel-Dieu, joint editor of a system of medicine, and director of *Paris médical*; Professor FRIEDRICH GÖPPERT, director of the Pediatric Clinic at Göttingen; Dr. SALOMON EHRMANN, a Viennese dermatologist; and Dr. FRIEDRICH MERKEL, a gynaecologist at Nuremberg.

Medico-Legal.

PROSECUTION UNDER THE DANGEROUS DRUGS ACTS.

Definition of Legally Qualified Medical Practitioner.

THE stipendiary magistrate (Lord Ilkeston) at the Birmingham Police Court, on April 14th, inflicted a fine of £10, and £5 5s. costs, upon Alfred Arthur Austin of Edward Road, Moseley, Birmingham, on charges of attempting to obtain, and of being in possession of, dangerous drugs, he not being a person authorized or licensed in accordance with the Dangerous Drugs Regulations. Six further charges of being concerned in the supply of drugs on prescriptions signed by him to a Mrs. Ariss, since deceased, were dismissed on the ground that there was not sufficient evidence.

Mr. Joseph Edward Gascoyne, manager to Linells, Ltd., of Balsall Heath, stated that on five separate dates between 1922 and 1923 he supplied solution of cocaine to Mrs. Ariss on the defendant's prescription, and that in September, 1925, he personally supplied the defendant with a preparation containing morphine. The witness admitted that in March last he discussed with the defendant a recent prosecution of a person whose name had been removed from the *Medical Register*. The defendant seemed to be in doubt and had approached him in an inquiring spirit.

The defendant, in evidence, said he was qualified in 1887, being L.R.C.S.I. and L.A.H.Dublin, and on either of these qualifications he was entitled to practise surgery and medicine. He admitted that in 1913 his name was removed from the *Medical Register*, but he submitted that registration was not compulsory and he was not subject to any penalties for practising. The only drawback to not being registered was that he could not give death certificates which would be accepted by a registrar, and that he could not recover fees in a court of law.

Mr. P. W. Williams (the defendant's solicitor) argued that the defendant answered to the description of a duly qualified practitioner in accordance with the regulations and had committed no offence; but Mr. Pugh (the prosecuting solicitor) argued that under the Medical Act of 1858 to be duly qualified a medical man must be registered.

The stipendiary said he was satisfied that the defendant was not a legally qualified medical practitioner as he was not on the *Medical Register*. He would therefore fine the defendant £10, with the addition of £5 5s. special costs on the summons relating to being in possession of drugs.

The Services.

NAVAL VOLUNTEER DECORATION.

THE Royal Naval Volunteer Reserve Officers' Decoration has been conferred upon Surgeon Commander J. B. Ronaldson.

INDIAN MEDICAL SERVICE DINNER.

THE annual dinner of the Indian Medical Service will be held at the Trocadero Restaurant on Wednesday, June 15th, at 7.15 for 7.30 p.m. Major-General R. W. S. Lyons has been invited to take the chair. Tickets and all particulars may be obtained from the joint honorary secretary, Colonel J. J. Pratt, I.M.S. (ret.), 18, Nevern Mansions, Warwick Road, London, S.W.5.

DEATHS IN THE SERVICES.

Colonel Arthur Stephen, Bengal Medical Service (ret.), died suddenly at Ealing on April 22nd, aged 83. He was the son of Arthur Stephen of St. Cyrus, Kincardine, and was educated at Aberdeen, where he graduated M.A. in 1864, and M.B. and C.M. with honours in 1867. Immediately after graduation he entered the I.M.S. as assistant surgeon, passing into Netley first. He attained the rank of surgeon colonel on May 17th, 1894, and retired on May 19th, 1899. He served in the Abyssinian campaign of 1868, receiving the medal, but spent most of his service in civil employment in the Punjab, the last five years as Inspector-General of Civil Hospitals in that province.

Fleet Surgeon William Frederick Spencer, R.N. (ret.), died at Forest Hill, London, on April 15th, aged 79. He was educated at the Carmichael School, Dublin, and at Queen's College Galway, graduating M.D. and M.Ch. of the Queen's University, Ireland, in 1872. Soon after, he entered the navy as surgeon, and attained the rank of fleet surgeon on July 2nd, 1893. He served as surgeon of H.M.S. *Thalia* in the Egyptian war of 1882, and received the medal and the Khedive's bronze star.

Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

THE House of Commons reassembled on April 26th, when the Budget resolutions were discussed on the Report stage. The additional patent medicine duty resolution proposed that the additional excise duty imposed by the Finance Act of 1915 should be made permanent. An amendment, in the names of Sir R. Hamilton, Mr. Harris, and Mr. Duckworth, limiting the effect of the resolution, was ruled out of order. Lieut.-Commander Kenworthy urged that as poor people, who could not afford a doctor, bought patent medicines, the duty would be a tax on the sick and ailing poor.

Mr. McNeill said that the income from the duty last year was £1,340,000, a sum not to be despised in a time like the present. The additional duty was being made permanent, because experience had shown that these commodities could well bear the tax without decreasing their consumption. Since 1915 the yield from this duty had gone up nearly four times. Last year an interdepartmental committee had considered whether any better and more convenient form for the definition of the tax could be found, but recommended that the charging words under the old statute were really as useful, for the purpose in view, as any that could be put in their place. The tax was originally, and still was in principle, a tax on quack medicines. No real medicine recommended by a qualified medical practitioner, or which, coming under certain definitions, was supplied as ordinarily part of the *British Pharmacopœia* by druggists, came under the tax at all. The resolution was carried.

On the following days debate on the Budget was continued.

Universities and Colleges.

UNIVERSITY OF LONDON.

LONDON HOSPITAL MEDICAL COLLEGE.

A LECTURE on recent medical and dental research on accessory food factors in relation to diseases of the teeth will be given by Dr. J. Sim Wallace at the London Hospital Dental School on Monday, May 9th, at 5 p.m. Members of the profession and medical and dental students of the hospital are invited to attend.

UNIVERSITY OF BIRMINGHAM.

UNDER the William Withering memorial lectureship a course of ten lectures on organic inheritance in man is being delivered by Dr. F. A. E. Crew, F.R.S.E., in the large theatre of the medical school buildings of the University of Birmingham. The first was delivered on April 27th and the last will be given on June 2nd. Members of the medical profession are invited to attend. Admission cards can be obtained on application to the Dean.

UNIVERSITY OF GLASGOW.

THE following degrees were conferred on April 23rd:

M.D.—*R. L. Mackay, †D. M. Lindsay, †J. Lindsay, Grace M'Lintock, P. O. Moffat.

CH.M.—*J. R. Learmonth.

B.Sc. (*in Public Health*).—R. L. Leask.

M.B., CH.B.—The degrees of M.B., Ch.B. were conferred upon the 57 successful candidates whose names were published in our issue of April 16th (p. 748).

* With high commendation.
† With commendation.

CONJOINT BOARD IN SCOTLAND.

THE following candidates have been approved at the examination indicated:

FINAL EXAMINATION.—*Medicine*: V. H. L. Barlow, J. G. Buchanan, Velarkar, B. F. Lewin, A. C. Lovett-liveiro, S. K. Ponniah, S. T. Sodah, M. M. Fargkaly, G. R. Gardner, Alice Law, D. F. Lewin, F. M. K. Logan, Dorothy J. O. Mitchell, W. B. Russell, M. M. Wright. *Midwifery*: E. P. N. Abeyesundere, G. R. Day, A. S. Gordon, Alice Law, P. M'K. Logan, A. C. Lovett-

Of 86 candidates entered, the following passed the Final Examination and have been admitted L.R.C.P.Ed., L.R.C.S.Ed., L.R.F.P. and S.Glas.:

Rosie Swamikan, J. J. Craig, J. Williams, V. Nath, T. G. Macintyre, M. Clayton-Mitchell, J. Hall, A. B. Paul, A. B. Gilston, K. Dhar, J. S. Fernando, H. A. Erickson, O S. Crowth r, V. Doraisamy, W. O. M'Laren, J. Gilchrist, O. Dawood, K. S. Rao, J. T. Amarasingham, M. Ponnambalam, W. J. Cudahy, A. Lipschitz, K. Cathinvelu, J. P. M. Donnelly, Elizabeth Bell, D. S. Johnston, T. de Silva, E. Kramer, R. Abrahams.

SOCIETY OF APOTHECARIES OF LONDON.

THE following candidates have passed in the subjects indicate

SURGERY.—L. G. Apps, P. Brookes, W. H. Collins, A. F. J. D'A W. Howard, S. B. S. Smith, L. Wasef.

MEDICINE.—D. K. Reynolds, S. K. Rigg.

FORENSIC MEDICINE.—J. Bramall, C. M. Brooks, J. A. Fernandez, W Neill, D. K. Reynolds.

MIDWIFERY.—P. Brookes, R. P. Charles, W. Howard, H. S. Ma B. Rosenzvit, S. B. S. Smith, M. A. Yousef.

The diploma of the Society has been granted to Mr. L. G. A

Medical News.

A MEDICAL congress under the name of Journées Médic d'Egypte, organized by *La Revue des Maladies des I Chauds*, will be held at Cairo this year from December to 24th, under the joint presidency of Professors J. L. Fa and A. Loutfi el Sayed. The vice-presidents are Profes Andrew Balfour, Aldo Castellani, and J. W. W. Steph Various diseases of temperate and warm climates will dealt with, including liver abscess, bilharziasis, trypa somiasis, Oriental sore, leprosy, kala-azar, trachoma, mala yellow fever, and Malta fever. French and English wil the languages used for the congress. It will consist of following sections: ophthalmology, of which Colonel R. Elliot is president; medicine, surgery, urology, gastro-enterology, hygiene, dermatology, diseases of the ear, nose obstetrics, neurology, tuberculosis, and veterinary medici There will be an international exhibition illustrating application of science to medicine, surgery, pharmacy, hygiene. In connexion with the congress special terms be obtainable from steamship and railway companies. Furth details about the congress may be obtained from the gene secretary, Dr. Zeitoun, 32, rue Gay-Lussac, Paris, Ve., whom notice of papers to be contributed should be sent befo October 1st.

THE St. Mary's Hospital Institute of Pathology and Researc has arranged a course of lectures on pathological research its relation to medicine, to be given during the summ session on Thursday afternoons at 5 o'clock. The first, May 5th, will be by Professor Carl Prausnitz, of the Institu of Hygiene, Breslau, who will deal with the bacteriophag The second (May 12th) will be given by Dr. R. A. O'Brie Director of the Wellcome Physiological Research Labor tories, who will discuss streptococci, their toxins and ant toxins; the third (May 19th), by Lieut.-Colonel S. P. Jame M.D., I.M.S., Adviser on Tropical Diseases to the Ministry Health, will be on malaria research; the fourth (May 26th by Professor Hugh Maclean, on insulin; the fifth (June 2nd by Professor Lovatt Evans, M.B., F.R.S., of Universit College, on the alkalinity of the blood; and the sixth (Jun 9th), by Professor B. J. Collingwood, on the molecula movement in the living blood. The lectures are open to a members of the medical profession and to all students i medical schools without fee.

THE Fellowship of Medicine announces that Mr. Goulde will give a demonstration at the Royal London Ophthalmi Hospital on May 3rd at 1 p.m.; this demonstration is free t medical practitioners. A series of clinical and cytoscopi demonstrations will be given at the All Saints' Hospita Vauxhall Bridge Road, S.W., from May 2nd to 28th, and o each Wednesday during the four weeks a special lecture wi be delivered at 2 p.m. The Maudsley Hospital will hol during the same period an afternoon course in psychologica medicine, including demonstrations of the pathology of menta diseases, clinical psychiatry, and the psychoneuroses. Fro May 4th for four weeks there will be a course at the Londo Lock Hospital, comprising clinical teaching and a series lectures. On successive Wednesdays from May 4th to 25t inclusive Professor McIlroy will give lecture-demonstration on ante-natal diagnosis and treatment. An intensive cours will be arranged at the Central London Throat, Nose, an Ear Hospital from May 9th to 28th, covering all departmen of laryngology, rhinology, and otology; as the entry for th operative part of the course is limited early application desirable. From May 9th to July 15th the National Hospita Queen Square, will hold a course comprising clinical lecture and demonstrations, teaching in the out-patient department pathological demonstrations and lectures, a course in anatom and physiology, and one in methods of examination. Com mencing on May 16th a fortnight's course will be held at th Hampstead General Hospital; it will consist of medical surgical, and specialty demonstrations primarily for genera practitioners. Copies of all syllabuses, the general conr programme, and of the *Post-Graduate Medical Journal* a obtainable from the Secretary of the Fellowship, 1, Wimpol Street, W.1.

A SPECIAL course in infants' diseases will be given at the Infants Hospital, Vincent Square, on the afternoons of May 16th to 28th, for medical officers of welfare centres and those who are interested. In addition to lectures, round table consultations, and clinical demonstrations, visits will be paid to a model pasteurizing plant, a venereal diseases centre, and homes for infants. The fee for the course is three guineas, and those wishing to attend should send early notification to the Secretary of the Fellowship of Medicine, 1, Wimpole Street, W.1, since the course is limited to fifteen.

AT the quarterly meeting of the Welsh National Memorial Association at Chester last week certain reports on the Spahlinger treatment were presented. The medical committee expressed the view that the published records and statistics of cases treated by the Spahlinger remedies were not nearly complete or precise enough to allow of a scientific estimate of the results obtained. On the whole the committee were of opinion that they were disappointing. The remedies, it was said, did not offer a "certain" cure for tuberculosis, and conclusive evidence had not been forthcoming that they had materially altered the course of the disease. The committee did not recommend the application of public or other funds to the Spahlinger Institute.

A COURSE of lectures and demonstrations in surgical urology will be held at Necker's Hospital, in Paris, from June 8th to 18th. It will include practical work on the cadaver and the use of instruments. The inclusive fee is 1,000 francs, and further information may be obtained from Dr. Fey, 151, rue de Sèvres, Paris.

THE British Social Hygiene Council will hold a summer school at Keble College, Oxford, from August 3rd to 9th. A course of lectures on biology and social hygiene will be given by Professor J. Arthur Thomson, and one on psychology and social hygiene by Dr. H. Crichton Miller. Further information may be obtained from the secretary of the British Social Hygiene Council, Carteret House, Carteret Street, S.W.1.

IN aid of the rebuilding fund of the Royal Westminster Ophthalmic Hospital a luncheon will be held at the Savoy Hotel on May 4th, when the prospects of the hospital will be described by the Earl of Clarendon, Sir Richard Cruise, and others.

THE new laboratories of the Metropolitan Asylums Board at Park Hospital, Hither Green, S.E.13, will be opened by Mr. Neville Chamberlain on May 9th, at 3.15 p.m. These laboratories will be the headquarters of the Board's research and pathological work.

SIR BERKELEY MOYNIHAN, Bt., P.R.C.S., has been appointed a Deputy Lieutenant of the West Riding of the County of York and of the City and County of the City of York.

WE are asked to state that correspondence for Professor Lyle Cummins should in future be addressed to the Tuberculosis Department, Institute of Preventive Medicine, The Parade, Cardiff.

THE newly formed South Wales Medical Golfing Society will hold its first meeting at the Southerndown golf course on Thursday, May 5th, when play will take place for the Alfred Miles cup. All medical men in South Wales (comprising Glamorganshire, Cardiganshire, Carmarthenshire, Pembrokeshire, and Breconshire) and in Monmouthshire are eligible. The competition for the Treasurer's Cup of the British Medical Association will take place at the same time among members of the Cardiff, North Glamorgan, and Brecknock Divisions; the final stage of this competition, it will be remembered, is to be played at the Annual Meeting of the British Medical Association at Edinburgh on July 22nd. Full particulars can be obtained from Dr. T. Garfield Evans, 127, Cathedral Road, Cardiff.

THE final of the Medical Golfing Society's knock-out tournament was won by J. Cunning, the runner-up being E. Playfair.

IN view of the proposed new motor legislation the Automobile Association recently addressed a series of questions to motorists throughout the country. Replies were received from nearly 100,000. Ninety-seven per cent. were in favour of reverting to a petrol tax in place of the present taxation based on the horse-power of cars. The abolition of the twenty-mile speed limit was supported in 92 per cent. of the answers received; 81 per cent. favoured the abolition of ten-mile limits. In various questions of smaller importance the percentage was about the same. The highest percentage—98—was in favour of special legislation to penalize the joy-rider; from which it would seem that many motorists must have suffered from this irresponsible person.

PROFESSOR HERMANN LUDWIG WINTZ, director of the gynaecological clinic at Erlangen, has been invited by the Radiological Society of North America to deliver addresses before several American universities on the *x*-ray treatment of carcinoma.

Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to **The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.**

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the BRITISH MEDICAL JOURNAL alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the BRITISH MEDICAL JOURNAL must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the JOURNAL, should be addressed to the Financial Secretary and Business Manager.

The **TELEPHONE NUMBERS** of the British Medical Association and the BRITISH MEDICAL JOURNAL are *MUSEUM 9861, 9862, 9863, and 9864* (internal exchange, four lines).

The **TELEGRAPHIC ADDRESSES** are:
EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology Westcent, London.*
FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westcent, London.*
MEDICAL SECRETARY, *Mediocera Westcent, London.*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 4737 Dublin), and of the Scottish Office, 6, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 4361 Central).

QUERIES AND ANSWERS.

"A SUFFERER" from cold and clammy hands asks for advice.

HABIT-SPASM IN A CHILD.

DR. JULYAN HOYTE (Elisabethville, Katanga) asks for suggestions as regards the prognosis and treatment of intractable habit-spasm in a little girl, aged 2½. When put to bed the child very often raises herself into the knee-elbow position and commences to sway her body backwards and forwards, the head striking the pillow sharply at each forward swing. She repeats this for two or three seconds for long intervals, sometimes continuing it for two hours, with brief rests, before falling asleep. Occasionally she goes to sleep normally, but rouses later to perform the bumping process. Punishment at the time seems to have no effect, but if administered during the next day it has some deterrent action. In other ways the child is normally developed, though rather slow in talking, a characteristic frequently noticed in the children of Europeans in the neighbourhood who grow up bearing two langnages spoken. She has had two severe attacks of malaria, both accompanied by convulsions, but the first occurred some time after the habit-spasm commenced, which was about the age of 6 months.

READING FOR THE BLIND.

"J. A. H." wishes for information regarding the teaching of Braille type for the blind.

*** A child of school age would be taught this script at some school for the blind carried on by or with the co-operation of the local education authority. Under the Education Acts the local education authority is responsible for this, and now also for the training of blind persons over school age. For an independent person wishing to learn Braille the best way to obtain the necessary information and equipment would be to apply to the National Institute for the Blind, Great Portland Street, London, W.1. The Institute will supply instruction books, writing boards, and so forth. It has local branches through which the learner can arrange for "home teaching" by approved teachers. The Institute issues Braille-printed newspapers and literature suitable for the general reader and the serious student.

THE CHEWING OF GUM.

DR. W. W. HARDWICKE (London) writes: In reply to Dr. W. J. Burns Selkirk (JOURNAL, April 9th, p. 703), there can be no analogy between the normal and the abnormal. The desire to suck in the infant and the chewing of the cud in the cow are normal acts. The chewing of gum (wax) in the human youth or adult is not normal, but an acquired and disgusting habit, similar to the desire in the greedy to be continually gratifying the palate by eating or drinking. All bad habits have a soothing effect, or they would never have existed, but this fact does not justify their existence, or do away with the bad effects of them—in this instance the premature wearing out of the overworked salivary glands. The overstrain of these glands must tend to shorten their lives of usefulness, resulting ultimately in digestive trouble, and the hypertrophy of the masseter muscles, in an ugly deformity of the cheeks.

INCOME TAX.

Deduction for Surgery.

"E. H." now uses solely as a surgery a house in which he formerly resided. A woman, with her husband and one child, lives there and acts as caretaker. She receives no wages, but lives free of rent, rates and gas, coal and electricity.

*** "E. H." can deduct the whole cost of rent, rates, light, and heat as a professional expense, but not, of course, any expense borne *by the caretaker* in keeping the premises clean.

Car Replacement and Basis of Assessment.

"R. P." bought car A in June, 1925, for £140 and sold it in May, 1926, for £90, buying car B for £125; he commenced practice as a consulting physician on his own account in October, 1924; can he claim the benefit of the three years' average?

*** He should claim, as an expense of the year 1926–27, £125–£90=£35 obsolescence allowance, and for the year 1927–28 a depreciation allowance of 20 per cent. of £125—that is, £25. The assessment for the period October, 1924, to April, 1925, should be on the basis of the actual earnings, for the year to April 5th, 1926, on the earnings of his first year, for 1926–27 on the average of the earnings of his first two years, and for 1927–28, when the average basis disappears, on the basis of the earnings of 1926–27.

LETTERS, NOTES, ETC.

DEATH BY LIGHTNING STROKE.

DR. ESPINE F. WARD, *of the West African Medical Staff*, sends particulars of the death from lightning on November 24th, 1926, of fourteen native women, whose ages ranged between 15 and 35. Some four hours after the accident he found the women lying dead in the village market place under a light shelter, which consisted of a few uprights supporting a galvanized iron roof 5 ft. 6 in. high. One other woman, who showed signs of life but was unconscious, was transferred to hospital twelve miles away, and subsequently made a good recovery. She left hospital *twenty-four hours later of her own accord, complaining*, however, of pains in her legs, giddiness, and difficulty in walking, but was *unwilling to remain longer under treatment*. Two other women, who had also been of the party, had already recovered, and were apparently none the worse, except for vague general pains.

Dr. Ward writes: "I was told that one of the dead women had had her six months old baby strapped on her back; after her death the baby had been rescued by friends and was none the worse for the ordeal, but I did not see the baby nor could I get any further particulars about it. The light shelter was about 12 ft. square and the women had been seated in a circle on the ground, looking inwards. All the bodies were found lying on their backs, evidently having fallen backwards after the shock, their feet pointing inwards. *The position of the bodies was very much the same in all cases, although one or two had evidently* fallen against one another when killed and lay across each other. In all cases the pupils were widely dilated and rigor mortis had set in; the clothes of all were wet, but showed no signs of injury, and the ground around was soaked by rain, the women lying in puddles of water. There were no signs of burning or of any injuries on the bodies, and although all of them had sums of money in coin tied in their waistbands, the coins were not *affected. Five of them had frothed* at the mouth; in several cases the hands were clenched and the arms flexed. No *post-mortem* examinations were made. I was informed that heavy rain had fallen during the afternoon; it was not possible to say whether the lightning occurred during the rainstorm or preceded *it. When the women were seen to be apparently dead the* people in the market all ran away; some returned later, and it was then seen that the two women were recovering. They were then unable to walk and were carried away by their friends. Nothing was done for the rest, although it transpired that one had shown signs of life. I think it is highly probable that many others might have been saved also if first aid had been available sooner, but, left as they were in their wet clothes on the wet ground, the opportunity had passed. The market is on laterite soil, *about seventy yards square, covered with little shelters and* with many trees scattered about; it probably contained some three hundred people at the time of the accident. No trees were more than 30 ft. high. Neither the shelter itself nor any of the trees showed any signs of having been struck. The bodies were removed to the mortuary in a motor lorry. *The driver refused* to drive the lorry, as there was a prevalent belief that anyone removing the bodies before the 'juju' had been appeased by a ceremony of purification by the 'thunder women' would die within a week. However, the European manager of the local transport company drove the bodies to the mortuary, in spite of the warnings he also received. Three days later he was admitted to the European hospital at Accra and died on the Tuesday evening following from yellow fever, after three days' illness. This strange coincidence admits of only one explanation to the native mind.

"It is difficult (Dr. Ward adds) to advance any theory how the electrical discharge caused these fatalities, because the natives were very reluctant to *give information of what they regarded* as a powerful 'juju' (afterwards so unfortunately confirmed in their minds by the death of the driver). The whole circumstances provide another instance of the peculiarity of lightning, and I suggest that in this case these fatalities were due to the people forming the opposite pole of [illegible] iron, which had become highly cha[illegible] storm broke; they thus provided p[illegible] particulars are given with the kind permission of the Director of the Medical and Sanitary Services."

THE OPERATION OF TONSILLECTOMY.

DR. PATRICK LEIGHTON (Mottingham) writes: I have read with much interest the letters recently published on ambidextrous enucleation of tonsils with the guillotine.

For years, in over 2,000 cases, I had used both hands, using the forefinger of one to push the tonsil through the ring, but after accidentally buttonholing the palate and removing the skin of the end of my own finger, it occurred to me to use the thumb, with far better results. The reason was that the thumb, being larger, did not penetrate the ring. The anaesthetist should be armed with a swab on a sponge forceps, which is pressed into *the cavity for a few seconds the moment the tonsil is removed.* In this way a clear view of the other tonsil is *obtained.* A Sluder Ballenger guillotine No. 1, made by Gardner of Edinburgh, gives me every satisfaction.

The above remarks refer to ethyl chloride anaesthesia, when the complete operation should take about 25 seconds. I agree with Mr. H. L. Whale that both hands should be used in the dissection operation.

SMALL-POX AND VACCINATION.

LIEUT.-COLONEL A. BUCHANAN, M.D., I.M.S.(ret.) (St. Jacques, Guernsey), in the course of a communication on this subject, writes: When a bad attorney has a weak case he sometimes sets up a false issue, and then proceeds to "knock the bottom out of it." In a similar way Dr. Killick Millard shows (JOURNAL, February 12th, p. 306) that the occurrence of 6,000 cases with 500 deaths—I am giving round figures—in a city where 98 per cent. of the population had been vaccinated *is a proof of* the unreliability of infant vaccination to protect the community. But no one has, as far as I am aware, asserted that infant vaccination affords lifelong protection. Dr. Millard himself stated in the same paragraph that *it has been* conclusively proved, over and over again, that vaccination confers temporary protection upon the individual. It follows that if all individuals in a city were vaccinated and revaccinated the community would be protected. Professor Wynne had shown (February 5th, p. 261) that the great majority of those who had been attacked, although "officially vaccinated," were actually unprotected by vaccination. Professor Wynne pointed out that "modern measures" had failed, and Dr. Millard thinks that it is a little too early to abandon hope, for he finds that in three weeks in January there were not more than 277 cases of small-pox in Sheffield. It would be interesting to know how many cases would have to occur before Dr. Millard would resort to the method of protection which he admits has been conclusively proved, over and over again, to confer temporary protection.

A WARNING.

DR. C. B. MOSS-BLUNDELL (county medical *officer of health*, Huntingdon) writes: It is reported to me that a man who may give the name of Dr. Winter has been calling on professional men, particularly doctors and accountants, soliciting help. He may describe himself as an accountant and may say that he is an old Rugby and Oxford man, and has acquired a certain amount of information about these two places. He suffers from pulmonary tuberculosis and may state that he has been at Yardley Road, Lenham, or Papworth Sanatorium, the latter statements being true. He has lately been "working" the Oxford-Slough area. He is about 33, height 5 ft. 5 in., of spare build, with bushy eyebrows, and rather penetrating downcast eyes. When he left this district he was dressed in a dark grey suit and Trilby hat. I should advise *doctors* to take necessary precautions should he call on them.

SPINAL ENDOTHELIOMA.

MR. J. R. LEARMONTH (Glasgow) writes with *reference* to the note on his paper on spinal endothelioma, published in our issue last week (p. 768), to state that "the work on the transplantation of the cerebral vesicles of *Amblystoma punctatum*, to which you refer *in your notice of my paper on spinal* leptomeningioma, was carried out, not by Harrison, but by *Professor S. C. Harvey* and Dr. H. S. Burr of Yale University (vide *Arch. Neurol. and Psychiat.*, 1925)."

A CORRECTION.

IN Mr. Duncan C. L. Fitzwilliams's article on page 758 *of the* BRITISH MEDICAL JOURNAL the last word in the second paragraph should have been "iodide," and not "iodine."

VACANCIES.

NOTIFICATIONS *of offices* vacant in universities, medical colleges, and of vacant resident and other appointments at *hospitals*, will be found at pages 37, 38, 39, 40, 41, 44, and 45 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 42 and 43.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement at page 187.*

A British Medical Association Lecture

ON

UROGENITAL TUBERCULOSIS.

GIVEN TO THE SOUTH-WESTERN BRANCH

BY

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THERE was a time when urogenital tuberculosis was regarded as a more or less hopeless disease, and the unfortunate sufferer was condemned to a life of misery interspersed with courses of tuberculin, cod-liver oil, and sanatorium treatment, until, worn out by painful and frequent micturition, and wasted to a shadow by toxaemia, death put an end to his sufferings.

Within recent years research in the laboratory and in the *post-mortem* room has revealed the true pathology of the disease, and this knowledge, combined with the perfection of the cystoscope, has enabled the clinician to make an accurate and often an early diagnosis, and by means of active surgical treatment to give the patient a good prospect of complete recovery. But even now the ultimate mortality is still too high, and the reason is not far to seek. Successful treatment in this, as in all other diseases, depends on an early diagnosis, but unfortunately very few cases reach the surgeon before the signs and symptoms are unmistakable. Therefore, at the outset I want to emphasize the importance of a thorough clinical and bacteriological examination in all urinary cases, particularly those with intermittent bladder irritation and so-called cystitis. The following is a case in point.

A stout, healthy looking woman, aged 49, dislocated her shoulder; a week later micturition suddenly became frequent and painful. This was diagnosed as cystitis, treated with an alkaline mixture, and soon subsided. A recurrence four weeks later led her to seek further advice. Cystoscopy revealed slight congestion around the right ureteric orifice. Both ureters were catheterized. Urine from the left was normal; that from the right contained a few pus cells and a number of tubercle bacilli. The right kidney was removed and found to contain a small tuberculous focus in its lower pole. Six years later she was in perfect health and the urine was normal.

In discussing urogenital tuberculosis it is most convenient to commence with the kidney, for disease of this organ forms a large proportion of the cases of urinary tuberculosis; also a lesion in the kidney is very commonly the primary focus from which the lower urinary and the genital tracts are directly infected.

RENAL TUBERCULOSIS.

It is now well known that tubercle bacilli reach the kidney from some other focus in the body, either a quiescent and obscure lesion such as a tuberculous mediastinal gland or an active and obvious source such as pulmonary, articular, or osseous tuberculosis. These two sources of infection, generally speaking, give rise to two distinct clinical and pathological types of renal tuberculosis, called surgical and medical respectively. Though this is the usual rule, statistics show that in about 25 per cent. of cases the surgical form is secondary to *active* pulmonary and pleural tuberculosis.

Surgical or chronic renal tuberculosis was once thought to be primarily unilateral, but animal inoculation has now shown that a few early cases are bilateral. It is characterized by caseation, ulceration, and slow but progressive destruction. The urine contains tubercle bacilli, pus cells, caseous material, fragments of renal tissue, and a small trace of albumin of pyogenic origin.

The *medical* form is bilateral, the renal parenchyma is studded with miliary tubercles and the urine is clear, containing a few bacilli, many hyaline and granular casts, and a large trace of albumin. It is accompanied by typical physical signs of chronic nephritis and often ends in uraemia. Therefore the presence of tubercle bacilli in the urine does not necessarily imply that surgical treatment is required, but it does call for a careful and exhaustive examination. A kidney urine containing tubercle bacilli and pus cells demands immediate surgical treatment.

It is difficult to account for the two widely different pathological types, but probably the difference is only one of degree. In the miliary or medical form bacilli and toxins from an active lesion such as pulmonary tuberculosis are constantly passing through the kidney. Many of the bacilli are undoubtedly excreted in the urine, but eventually their escape is prevented by endarteritis and chronic nephritis; they therefore lodge in the glomerular zone and give rise to multiple tubercles. At this stage death takes place before caseation and liquefaction can occur. In the surgical form the kidney receives from a quiescent focus an occasional tuberculous embolus which becomes isolated by a barrier of protective inflammation. This is followed by the formation of a tuberculous abscess which either increases at the expense of the surrounding parenchyma or discharges into the renal pelvis.

CHRONIC RENAL TUBERCULOSIS.

As the miliary form is part of a general disease, and so not amenable to surgical treatment, my future remarks will apply to chronic or surgical renal tuberculosis.

Paths of Infection.

Tubercle bacilli reach the kidney either by the blood stream or by the lymphatics, and of these two routes the haematogenous is undoubtedly the commoner. The exact site of the initial lesion in the kidney is disputed. The peculiar arrangement of the intrarenal arteries favours a cortical lesion, but clinically, though many tubercles are seen in the cortex, the grossest lesion is nearly always at the base of a papilla.

The lymphatics are considered by some to be the means of infection in those cases which are secondary to quiescent pleural and pulmonary tuberculosis. The bacilli are thought to be carried in the lymphatics passing through the diaphragm by a retrograde current set up by pleural adhesions. Though primary lymphatic infection is doubtful, secondary infection may be conveyed from a diseased to a healthy kidney by the communicating channels between the two renal plexuses, or from an ulcerated bladder by the peri-ureteral lymphatics.

Ascending infection up the lumen of the ureter does not occur. Animal experiments by English and Continental workers have proved (1) that pyogenic and other organisms placed in the bladder cannot pass the normal uretero-vesical valve, and (2) that when pyogenic organisms are injected into the ureter and pelvis the renal papillae prevent their entry to the kidney.

An ascending infection can only occur when the mucous membrane of the bladder or ureter is damaged, and it then travels in the wall of the ureter or in the peri-ureteral lymphatics. In all probability ascending tuberculous infection seldom occurs, for even when all the essential factors are present in the form of advanced genital and vesical tuberculosis the blood stream as a vehicle can never be discounted.

The pathological anatomy of the disease is so intimately connected with its clinical aspect that a brief description is essential for a proper understanding of the symptoms and treatment. Three types are recognized.

I. *Primary closed parenchymatous tuberculous nephritis* consists of one or more encapsuled foci in the parenchyma which progress to caseation and abscess formation and ultimately destroy the whole kidney. This is accompanied by an interstitial inflammation of the pelvis and calyces, ending in the formation of fibro-fatty tissue which fills the pelvis and excludes a portion or the whole of the kidney and its tuberculous products from the urinary tract. This process is called spontaneous cure, or auto-nephrectomy. The term is misleading, for it suggests that the disease is arrested or removed, but this is not the case. The bag of fibro-fatty caseous material never disappears; it may remain inert for years, but sooner or later the disease either invades the perinephric tissues or is disseminated to other parts of the body through the blood stream. The clinical signs of this condition are characteristic. In its early stage the urine of the infected kidney is increased in quantity, its specific gravity is lowered, and it contains a trace of albumin and a few pus cells. It is sterile and seldom contains tubercle bacilli. The renal function is

defective when compared with that of the opposite side. As destruction and exclusion progress the secretion of urine diminishes and finally ceases. The patient complains of frequency and vesical irritation, which is often diagnosed as mild cystitis and treated medicinally.

II. *Primary open tuberculous pyelonephritis* is characterized by ulceration of the pelvis combined with progressive destruction and ulceration of the papillae and parenchyma. There may be deeper lesions and miliary tubercles in other parts of the kidney, but the condition is essentially a tuberculous pyonephrosis. The changes spread down the ureter, its mucous membrane becomes ulcerated and its walls thickened. Its vesical orifice is wide open and dragged out, and the surrounding mucosa is ulcerated and sometimes studded with tubercles. The clinical picture is one of painful frequency (pollakiuria) with pyuria and occasional haematuria. The urine from the affected side contains pus, caseous material, renal elements, blood cells, and tubercle bacilli in large numbers. Often, the efflux from the ureteric orifice resembles tooth-paste emerging from a collapsible tube.

III. The third type consists of a combination of the open and closed varieties. Its clinical features are similar to those of the second type.

Clinical Signs.

The clinical signs seldom indicate the extent of the lesion. The affected kidney may be enlarged, irregular, and tender, but enlargement is unusual. The ureter is often thickened, and can be readily felt as a firm, round, tender cord on bimanual examination—rectal in the male and vaginal in the female. It is unfortunate that thickening of the ureter should have come to be regarded as a diagnostic sign of renal tuberculosis, for it indicates long-standing disease. It is to be hoped that in the near future an accurate diagnosis of the renal lesion will be made long before the ureter has become thickened. The opposite kidney is very often enlarged and tender from compensatory hypertrophy and toxic nephritis. In this context it is interesting to note that the urine from the healthy kidney often contains albumin, which disappears after removal of the diseased kidney.

Cystoscopic examination may show the bladder to be inflamed and ulcerated, or the trigone alone may be congested. The appearance of the ureteric orifice is often the only visible sign of the hidden focus in the kidney. It may be congested or oedematous, or surrounded by minute bullae. There may be tubercles on its lips, or it may be surrounded by a ragged ulcer with tubercles on its margins. In long-standing cases the orifice is wide open, rigid, and ulcerated, and when there is much thickening and fibrous contraction of the ureter the bladder is dragged out, forming a small hollow cone with the ureteric orifice at its apex. The efflux may be forcible and clear, or turbid, or even putty-like, when it appears like a worm-cast, which curls up as it is ejected and falls to the bottom of the bladder. When the orifice is open and rigid, turbid urine trickles out in a slow, continuous stream, or a ragged mass of caseous material is slowly forced out. Absence of efflux indicates obstruction of the ureter by caseous material or complete exclusion of the kidney.

Symptoms.

The symptoms are essentially those of cystitis—pain, frequency, pyuria, and occasionally haematuria. They commence gradually and increase steadily. Sometimes the onset is sudden. This is due to the escape of tuberculous products from a focus in the kidney which has suddenly ruptured into the pelvis, giving rise to bladder irritation and frequent passage of turbid acid urine. In a few days the cavity in the kidney closes, the symptoms subside, and both patient and practitioner are lulled into a false sense of security. After an interval, during which the cavity refills, the process is repeated and the symptoms recur. These intermissions may last for months or years, the intervals of freedom becoming progressively shorter, until finally the discharge from the kidney becomes continuous and the lower urinary tract grossly diseased.

Pain.—The kidney may ache, but it is seldom painful. In rare instances there are definite attacks of colic, due to the passage of caseous material or blood-clot. In some cases pain is felt only in the healthy kidney, when it is probably reflex, for it disappears after removal of the diseased organ. The pain of cystitis is felt at the neck of the bladder, along the urethra, and in the perineum.

Frequency is at first due to trigonal irritation and later to cystitis. In the beginning it is diurnal only, soon becomes nocturnal as well, and finally merges into total incontinence. Nocturnal frequency is one of the most constant and important symptoms of the disease.

The changes in the urine have already been described but there are certain features which require further consideration. Polyuria, due to a defective renal function is present from the commencement, and is replaced by oliguria as the kidney is destroyed. Albuminuria can be accounted for by pus and blood from the diseased kidney and by toxic nephritis on the opposite side. In the latter case it is often associated with hyaline and granular casts. Haematuria is a variable symptom. A profuse haemorrhage may be the first indication of the disease; as destruction progresses there may be slight haemorrhages at long intervals, or there may only be an occasional microscopic trace of blood.

The presence of tubercle bacilli in the urine is, of course, the only definite diagnostic sign. When found in a clear urine they are either being excreted by a normal kidney or by one containing miliary tubercles, but when a urine obtained by catheterization of the ureter contains both tubercle bacilli and pus cells there can be no doubt that the kidney is the seat of a surgical lesion.

When a secondary infection is present colon bacilli and other pyogenic organisms may be found in the urine, and may mask the true nature of the disease. The smegma bacillus should not cause an error in diagnosis, for it can now be identified by careful staining. Its presence is due to faulty collection of the specimen.

Diagnosis.

Bladder irritation, nocturnal frequency, and the passage of hazy or purulent acid urine in a subject between the ages of 20 and 40 are strongly suggestive of tubercle.

The abdomen, lungs, lymphatic glands, and in the male the epididymes, prostate, and seminal vesicles, must be carefully examined. Tuberculous deposits in the genital tract are not necessarily primary infections; they may quite well be secondary to renal tuberculosis. Specimens of bladder urine must be examined both bacteriologically and microscopically by a competent pathologist. If tubercle bacilli are not found, even after repeated examinations, the diagnosis is still in doubt.

The next step should be a cystoscopic examination. Prior to this a dose of urea (for Maclean's urea concentration test) or an injection of indigo-carmine should be administered to enable the surgeon to ascertain the function of the kidneys. The appearance of the bladder and ureteric orifices is carefully noted. If the two orifices are similar in appearance both are catheterized and the urines collected. The renal function is estimated from a portion of these specimens, and the remainder is examined for tubercle bacilli, pus cells, etc. In doubtful cases guinea-pigs are also inoculated. If one ureteric orifice is obviously tuberculous the opposite one alone is catheterized; should its urine contain the slightest trace of pus a guinea-pig should be inoculated and the result awaited before the kidney can be declared healthy.

Treatment.

As surgical renal tuberculosis is primarily unilateral, and as spontaneous cure is unknown, the treatment can be summed up in two words—early nephrectomy. Before an operation is performed the function and condition of the opposite kidney must be carefully investigated. The diseased kidney and any adherent fat should be removed by the lumbar route. It should never be incised to verify a diagnosis which should have been certain before the operation, otherwise the surrounding tissues will be infected and the wound take months to heal.

In bilateral cases where the disease of one kidney is slight the grossly infected one should be removed, for nephrectomy relieves the bladder symptoms and may benefit the remaining kidney by increasing its congestion.

Nephrectomy is contraindicated (1) when the function of the opposite kidney is defective; (2) in advanced bilateral tuberculosis; (3) in slight bilateral tuberculosis; (4) when the disease is secondary to pulmonary or other gross tuberculous lesions.

Treatment of the Ureter.

When the ureter appears healthy it may be ligatured in two places, injected with pure phenol, and divided a few inches below the kidney. When it is thickened or much enlarged and dilated total ureterectomy is advisable, for high division may be followed by a tuberculous sinus or a urinary fistula. The operation I perform in these cases is nephro-ureterectomy through a lumbar and an inguinal incision, the ureter being divided at the base of the bladder and removed, still attached to the kidney, through the lumbar wound.

In most cases the wounds heal per primam, but occasionally in debilitated subjects, and particularly if the perinephric tissues are infected, there may not be the least attempt at healing, and after removal of the stitches the whole wound gapes widely open. This has happened to three of my cases, and in each the wound took more than a year to heal.

Results.

The operative mortality is about 2 per cent. Out of 100 cases which have survived the operation 60 will be cured and 40 will have persistent urinary trouble. Of these latter, 30 will die in from three to five years of tubercle of the opposite kidney or elsewhere in the body, and 10 will be left with either frequency alone or frequency and pyuria.

TUBERCULOSIS OF THE BLADDER.

Vesical tuberculosis probably never occurs as a primary lesion, but is always secondary either to renal tuberculosis, the infection reaching the bladder in the urine or from the walls of the ureter; to genital tuberculosis via the seminal vesicle and prostate; or, in rare instances, to tuberculous salpingitis by direct extension from an adherent Fallopian tube.

The infection tends to spread in a downward direction to the urethra and prostate and thence to the seminal vesicle and epididymis. When the walls of the bladder are ulcerated the infection may ascend to the kidney by the peri-ureteral lymphatics.

The tuberculous process, when secondary to renal disease, commences around the ureteric orifice, and on the base of the bladder when secondary to genital tuberculosis. Tubercles form in the submucous tissue, giving rise to raised hyperaemic patches in the mucous membrane, which tend to form superficial or deep ulcers, with a ragged shreddy base. As the ulcers deepen the muscular wall of the bladder is invaded, causing contraction and great diminution in the capacity of the viscus, and thus accounting for the distressing frequency and incontinence so typical of vesical lesions.

A diagnosis cannot always be made by examination of the urine, for in many cases tubercle bacilli cannot be found. In these cases tuberculous nodules in the genital tract or a thickened ureter, combined with the cystoscopic appearances, will solve the problem.

Treatment.

The immediate treatment is removal of the primary focus—either the kidney or the affected portion of the genital tract. When both renal and limited genital tuberculosis coexist the kidney and ureter must be removed first, and the genital tract operated on at a later date. Provided the patient is otherwise healthy the results of such radical treatment are often remarkably good. After removal of the primary focus the bladder will often recover without further treatment, but when the cystitis does not subside both general and local treatment are necessary.

General treatment consists of rest in bed, bladder sedatives, and tuberculin.

Local Treatment.—Instillation of many different chemicals has been advocated and employed, but they seldom have much effect, and their introduction into the bladder may lead to septic infection. In my experience surgical diathermy is the best form of local treatment, but if this cannot be obtained relief is sometimes given by instillation of either gomenol oil 20 per cent., or of iodoform (1 part) and guaiacol (5 parts) in sterile olive oil (100 parts). Diathermy is performed at intervals of three weeks with a catheterizing cystoscope, and the granulation tissue or ulcer is gently fulgurated. Fulguration relieves pain, diminishes frequency, and assists healing. Suprapubic cystostomy and drainage is not advisable, for it is difficult to perform on a contracted bladder, gives little relief, and is followed by tuberculous infection of the wound.

GENITAL TUBERCULOSIS.

Genital tuberculosis usually occurs between the ages of 20 and 45. The infection may be primarily haemic, when it can commence in any part of the genital tract; or it may be secondary to urinary tuberculosis, when it spreads by way of the prostate to the seminal vesicles and epididymes.

Clinical and experimental evidence shows that the primary focus is generally in the prostate or seminal vesicle, and statistics favour the seminal vesicle. Young of Baltimore, in a recent article, states that the seminal vesicle is affected in 83 per cent. of cases of genital tuberculosis, and that in a large majority of these the vesicle was the seat of the primary focus. The work of Macfarlane Walker and others points to the same conclusions.

With certain peculiarities the pathological changes are similar to those of tubercle elsewhere, and, as in the kidney, the foci may be closed or open. The prostate is generally more often infected from the urine or from the seminal vesicle than from the blood. Cold abscesses form and discharge into the urethra or rupture into the base of the bladder at the side of the trigone, leaving a ragged cavity which never heals. The lower end of the seminal vesicle is more often affected than the upper, but the whole tube may contain caseous foci and tuberculous "pus."

The character and sites of the tuberculous deposits in the epididymis and vas are of great interest, and point strongly to the infection of the epididymis being secondary to a primary lesion of the seminal vesicle or prostate. The earliest and also the oldest foci are found in the globus minor, whence extension takes place along the convoluted tubes to the globus major and finally to the body of the testis. Primary deposits in the globus major are comparatively uncommon, and are probably correctly regarded as haemic infections.

Thickening of the vas is most marked at its two extremities, the intermediate portion being often comparatively healthy. This intermediate portion often feels thickened, but the increase in size is due to surrounding inflammatory fibrosis and not to changes in its walls or lumen. In advanced cases deposits of caseous material are found throughout its length. Macfarlane Walker in his Hunterian Lecture (*Lancet*, February, 1913) showed that the thickening of the prostatic end of the vas was due to tuberculous infiltration of the perideferential lymphatics, which gradually diminished as the epididymis was approached, and that thickening of the testicular end was due to tuberculous deposits in its mucosa. He therefore considered that the clinical fact of the earliest lesions of the epididymis being in the globus minor was explained by extension of infection from a primary focus in the seminal vesicle or prostate by way of the perideferential lymphatics and a return in the lumen of the vas.

The conclusions arrived at by many clinicians that genital tuberculosis is secondary to a primary focus in the seminal vesicles are borne out by the results of simple castration, for 50 per cent. of such cases develop tuberculous epididymitis in the opposite side within a year or more.

The disease commences insidiously and progresses slowly. Though complete arrest is uncommon, there may be long periods of quiescence ending in increased activity and rapid extension. The prognosis is bad, owing to the frequency of relapses, the constant danger of extension to the bladder, and of dissemination to other parts of the body.

Treatment.

In advanced cases medical and general treatment is indicated, as surgery offers little prospect of cure, but when the disease is limited to the epididymis and seminal vesicle radical operation is indicated. It should consist of removal *en bloc* of the epididymis (or epididymis and testis), the vas deferens, the seminal vesicle, and when necessary a portion or the whole of the prostate. The operation can be accomplished through an inguinal incision by Loughnane's method, but if the prostate is involved Young's combined inguino-perineal method is necessary. Should the disease be secondary to unilateral renal tuberculosis the affected kidney must be removed first and the operation on the genital tract postponed to a later date.

In all cases tuberculin is of great value, but only after operation. In my experience it has not the least effect on well established urogenital tuberculosis, and should never take the place of surgery if removal of the disease is possible.

An Address
ON
THE CONSTITUTIONAL FACTOR IN DISEASE.

DELIVERED BEFORE THE ULSTER MEDICAL SOCIETY,
BY
ARTHUR F. HURST, M.A., M.D.OXON., F.R.C.P.,
PHYSICIAN TO GUY'S HOSPITAL.

(*Concluded from p. 827.*)

BLOOD PRESSURE AND CONSTITUTION.

DISCUSSIONS on abnormal blood pressure have in the past suffered from our ignorance as to what constitutes the normal. Stocks[21] has recently investigated the blood pressure of 1,323 English boys, and the extensive investigations of Alvarez[22] and his colleagues on 6,000 male and 8,934 female first-year students at the University of California have provided reliable figures for young adults. The statistics published by Symonds[23] of 141,840 applicants for insurance in an American company give additional data for all ages above 15, the smallest group (over 60) being no fewer than 1,889. In children there is a steady rise in systolic pressure from an average of 85 mm. at 5 to 101 mm. at 10 and 123 mm. at 15. Contrary to what might be expected, there is no rise with advancing years from 17 to 40, the average systolic pressure being 125 mm. in men and 115 mm. in women. After 40 there is a slow rise, the maximum average being 135 mm. for 60 and over, but there is no longer any difference between the sexes.

In healthy individuals of the same age, sex, and race considerable variations occur. Thus Alvarez and his associates found that among the students they examined 2.77 per cent. men and 11.74 per cent. women had a systolic blood pressure less than 105 mm., and 20.81 per cent. men and 3.75 per cent. women had a blood pressure over 140 mm. It is, of course, impossible to draw exact lines above and below which the blood pressure should be regarded as abnormal. For convenience I would suggest that hyperpiesia is present when the blood pressure is more than 25 mm. above the average normal for an individual's age and sex. This would give a limit of 150 mm. in men and 140 mm. in women up to the age of 40, and 160 mm. for both sexes at 60. According to this standard, 8.15 per cent. men and 3.75 per cent. women among the 15,000 healthy students examined by Alvarez had hyperpiesia.

No such sliding scale is required for hypopiesia. American writers generally take 110 mm. as the minimal normal figure, but Alvarez's investigations clearly show that this is too high. A preferable limit would be 105 mm. for men and 100 mm. for women. According to this definition it was present in 2.77 per cent. of the 6,000 men and 3.50 per cent. of the 8,934 women among Alvarez's first-year students.

There is no doubt that the tendency to hyperpiesia is hereditary. Long before the invention of the sphygmomanometer the familial occurrence of high blood pressure, apart from disease of the kidneys, was recognized, and it was well known that many members of successive generations of a family might die from such results of high pressure as cerebral haemorrhage and cardiac failure, associated with arterio-sclerosis and hypertrophy of the heart. The tendency to hypopiesia is probably inherited with equal frequency. The actual cause of the high or low blood pressure is quite unknown, though it is probably, at any rate in part, due to variations in the activity of such internally secreting organs as the suprarenal, the pituitary, and the thyroid glands.

I believe that hyperpiesia and hypopiesia should be regarded as constitutional conditions or diatheses, being simply extreme degrees of variation from the average normal. They are not diseases and need never give rise to symptoms, but an individual with either condition is apt to react in a special way to toxaemias and to mental and physical fatigue.

The diffuse hyperplastic sclerosis of the arteries, described by Evans as a constant pathological finding in hyperpiesia, is, I am convinced, a result, like the cardiac hypertrophy, of the constitutional high blood pressure, and not its cause. Clinically hyperpiesia may be associated with apparently perfectly healthy blood vessels, especially in young subjects before the pressure has become excessive.

(a) Hyperpiesia.

So much has been written on the subject of hyperpiesia since the classical analysis of the condition by Sir Clifford Allbutt that I have little to add. I think, however, that too much time has been expended in looking for some toxic cause, when in reality true hyperpiesia, as distinct from the high blood pressure secondary to chronic renal disease, is not a malady but a diathesis—a constitutional inherited condition. So far as I know, Dawson and Ryle[4] are the only recent writers who have laid much stress on this aspect of the subject. Ryle has pointed out that the stout, healthy looking, John Bull type of individual is generally the subject of hyperpiesia, which is not acquired but is inborn. Among his patients with hyperpiesia 62 per cent. were of this type, 18 per cent. of average build, 4 per cent. "lean and nervous," and 16 per cent. of poor physique. The question might arise whether the exceptions were really suffering from primary hyperpiesia; in the lean and nervous individual I believe that a high blood pressure is generally secondary to the mental state. I found during the war, in cases of functional hyperthyroidism associated with a high blood pressure, that simple hypnosis often resulted in an immediate fall, amounting even to 45 mm., when the state of anxiety in which the patient lived was temporarily removed. A boy of 16, recently under my care, had an acute attack of nephritis from which he recovered completely, except that the blood pressure remained constantly in the neighbourhood of 156 mm.; as his urine was normal, the blood urea not raised, and the urea concentration test gave a normal result when he came under my observation six weeks after the onset, I allowed him to get up, and told him that his prolonged stay in bed had at last cured him. The next day his blood pressure had fallen to 120 mm., and it remained at this normal level, the previous rise having apparently been due to continuous anxiety, although he always appeared cheerful enough, but bored at having to stay in bed.

The typical hyperpietic has certainly a hypersthenic habitus; he is well built, with broad shoulders and a short, deep thorax with wide costal angle; he has a ruddy complexion, and may be actually plethoric; he is often athletic, unless overindulgence in food and drink has led to a crippling degree of obesity.

Hyperpiesia is often an accidental discovery in an apparently healthy man of exceptional mental and physical vigour. But sooner or later symptoms appear, generally as a result of mental or physical overwork, prolonged worry, excess of food and drink and perhaps of tobacco, or an acute or chronic infection. In women symptoms may develop at the menopause.

The symptoms are generally not due to the high blood pressure itself, but to its effects on the blood vessels or heart. Thus arterio-sclerosis impairs the blood supply to various organs, such as the brain and kidneys, which become

functionally inefficient, though in the case of the latter the blood urea never rises to the extent it does in primary renal disease; the loss of elasticity of the arteries may render them incapable of withstanding the strain of the high blood pressure, so that retinal and cerebral haemorrhages and epistaxis may occur. In spite of its hypertrophy the heart may eventually be defeated in its attempt to maintain an adequate circulation against the great peripheral resistance; cardiac symptoms, such as dyspnoea and precordial pain, then develop. The only symptoms which may perhaps be directly due to the high blood pressure are headache and vertigo, though even these are often absent in people with a blood pressure exceeding 200 mm.

When symptoms once appear in people with hyperpiesia the prognosis is never good, as there is an ever-present danger of death from cerebral haemorrhage or cardiac defeat, though this may of course not occur for several years.

(b) *Hypopiesia.*

Although hypopiesia—an abnormally low blood pressure occurring independently of any organic disease—is as common as hyperpiesia, much less attention has been paid to it. It may be defined as a constitutional and often inherited condition, in which the systolic blood pressure is permanently below 105 mm. in men and below 100 mm. in women, without recognizable cause, such as tuberculosis, circulatory failure, severe anaemia, hypothyroidism, or Addison's disease. It is often discovered accidentally in perfectly healthy individuals. Further investigation generally shows that they are of hyposthenic habitus—thin, slouching, with long and narrow chests and acute epigastric angle. They are rarely athletic, and they generally choose a sedentary occupation.

Though not actually ill, the hypopietic is rarely very well. His most common symptoms are undue liability to mental and physical fatigue and a general lack of endurance, which is often in striking contrast with the heroic efforts he makes to carry on in spite of his disability. He is often subject to headaches, especially in the occipital region, and to attacks of vertigo, and more rarely of palpitation and syncope. He is generally pale, though not anaemic, and suffers from cold extremities. These symptoms are most likely to arise as a result of mental and physical strain or some acute or chronic infection or toxaemia, which would either have had no effect or only a slight and temporary one in individuals with an average blood pressure.

Fisher[24] found that the mortality of 3,589 persons, aged between 16 and 60, accepted for insurance, who had a systolic blood pressure of 100 mm. or less, was 35 per cent. of the expected mortality according to the standard American tables, whereas the general mortality among those insured by the company was 80 per cent. of the expected rate. According to Muhlberg,[24] the medical director of another insurance company, a low blood pressure after the age of 50 without any obvious cause is the best criterion we possess that an individual will live beyond his normal expectancy.

Treatment of Hyperpiesia and Hypopiesia.

People with hyperpiesia and hypopiesia should be made to understand that they are not suffering from a disease, but that a constitutional tendency has been discovered in them, which indicates the desirability of care in certain directions in order that the maximum of physical and mental efficiency may be attained and preserved. It would probably be wise, when possible, to avoid all reference to blood pressure, and it is certainly most undesirable that the patient should keep a record of its variations. The last few years have introduced a new type of hypochondriac, and blood pressure has become one of the favourite topics of discussion at tea-tables and in club smoking-rooms. I once spent an unhappy week at a large hotel in one of the British spas where hyperpiesia is treated; my fellow guests appeared to have no other interest than in comparing the variations in their respective blood pressures. I have often been consulted by patients, who looked and felt perfectly well, for "blood pressure," which they apparently thought was the synonym of a serious disease.

It is even more essential for the subjects of hyperpiesia and hypopiesia than for the average man to take adequate holidays. But whereas the hyperpietic should be taught to restrict his exercise within more moderate bounds than those to which he has probably been accustomed, the hypopietic should be urged to take as much exercise in the open air as he can without exhaustion, even if, as is often the case, he has in the past taken little or none. He will often find that a holiday in the Swiss mountains will make him more physically efficient than he had thought was possible, and he may become an expert in such sports as climbing in the summer and ski-ing in the winter, which are quite unsuitable for the hyperpietic. Whereas the hyperpietic should be strictly moderate in his consumption of tobacco, alcohol, and coffee, and should even give them up entirely if previously taken in excess, such restrictions are rarely called for with the hypopietic; a cup of black coffee and a pipe after dinner and an occasional half-bottle of champagne will materially help him to enjoy work which would otherwise require an almost intolerable effort. Restriction in the quantity of food, which should be as largely vegetarian as possible, for the stout and plethoric hyperpietic is essential, whereas the thin hypopietic should be urged to eat plentifully without restrictions as to the consumption of meat. For both types any source of infection should be looked for and treated. I have seen several hyperpietic patients, who had more than the normal percentage of haemoglobin, benefit greatly from periodic bleeding, though it did not appear to lower their blood pressure; when well marked plethora is present the application of deep x rays to the long bones may throw out of action sufficient red marrow to reduce the number of blood corpuscles to normal limits, and at the same time cause a definite fall in blood pressure. In addition to outdoor exercise, physical drill, especially directed to the respiratory and abdominal muscles, is very useful for the hypopietic, who may also derive much comfort from the use of an abdominal support.

The Constitutional Factor in Asthma, Epilepsy, and Migraine.

Several years ago[25] I defined asthma as a condition in which that part of the vagal nucleus which controls the motor and secretory activity of the bronchi is abnormally sensitive to chemical, reflex, and psychical stimuli. The importance of this definition lies in the recognition of the sensitive bronchial centre. In the first decade of the present century many rhinologists were so impressed with the results of the nasal treatment of asthma that they were inclined to regard an abnormal nose as the sole etiological factor. More recently the work of a number of investigators in England and America and on the Continent has directed attention to the importance of specific hypersensibility to the proteins of bacteria, food, animal emanations, and pollens, and most of the recent literature of asthma would lead one to suppose that in this—the "toxic idiopathy" of Freeman—is to be found the whole explanation of asthma. Lastly, a few enthusiastic neurologists would regard asthma as always of psychological origin. Attacks of asthma may, in fact, be caused by a great variety of reflex and chemical stimuli, as well as occasionally by psychological stimuli, but only if the individual has the asthmatic constitution, which manifests itself in an irritable bronchial centre, this being the one essential factor in the pathogenesis of asthma. It was inherited in 49 per cent. of 1,129 cases collected from various sources, compared with only 7 per cent. of 115 controls, and it is interesting to note that an individual may inherit it and transmit it to his children, without ever having an attack of asthma himself owing to the absence of the three groups of exciting causes. Thus the paternal grandparent and uncle and maternal grandmother and aunt, but neither parent, of one of my asthmatic patients suffered from asthma.

The question of inheritance of asthma is complicated by the fact that a toxic idiopathy, though sometimes acquired, may also be inherited, either in the form of a general hypersensitiveness to proteins, or, much less frequently, in a specific form to a single protein. Asthma does not, however, necessarily occur in each individual

with a toxic idiopathy, as the asthmatic constitution may not be present. A toxic idiopathy will give rise to asthma, hay fever, urticaria, or angio-neurotic oedema, vomiting or diarrhoea, or vasomotor neuroses of various kinds, according to whether the individual affected has a bronchial centre, nose, skin, alimentary tract, or vasomotor centre which is abnormally irritable. Two of the conditions may be present together, or they may occur in different members of the same family; thus asthma is frequently associated with hay fever and sometimes with urticaria, and a family history of hay fever is common among asthmatics, and vice versa. Just as an inherited asthmatic centre may be present in an individual who never gets asthma, though he may transmit it to his children, so a toxic idiopathy may be transmitted by an individual who is otherwise so normal that he never suffers from its effects. As toxic idiopathies give rise more frequently to asthma than to any other condition, it seems probable that the asthmatic constitution is one which is particularly likely to develop such idiopathies.

The clinical picture presented by the other most important paroxysmal neuroses—epilepsy and migraine—resembles asthma so closely in certain respects that the question of their relation with each other requires consideration. Epilepsy depends upon the presence of a constitutional and often inherited excitability of some part of the nervous system, which responds to certain stimuli by the production of an epileptic attack. The nature of these stimuli is, however, quite unknown in the majority of cases; the most important is perhaps chemical in nature, but there is no evidence to support the theories that intestinal intoxication or toxic idiopathies play any part. Reflex and psychical stimuli also occasionally give rise to attacks, but they are of comparatively small importance. A family history of epilepsy in an asthmatic or of asthma in an epileptic is so uncommon that, when it occurs, it cannot be regarded as more than a coincidence, and I have only seen one case in which asthma and epilepsy occurred in the same individual.

Migraine also depends upon a constitutional and frequently inherited irritable focus in the brain, which gives rise to headache, disturbances in vision, and gastric symptoms; there was a family history of migraine in 30 out of Bramwell's[26] 54 cases (55.6 per cent.). In migraine the usual stimulus is ocular, and a very thorough investigation in numerous cases under my care has invariably failed to reveal anything in the nature of alimentary toxaemia, hepatic insufficiency or a toxic idiopathy, which could be held responsible, in spite of the fact that on theoretical grounds these have frequently been suggested as the exciting cause of attacks. The evidence of a psychological origin is also quite insufficient except in rare cases, in which, however, eye-strain also invariably plays a part. I have only met with one case in which migraine and asthma were associated in the same individual, and there is no evidence that they occur together in the same family more than would be expected from the frequent incidence of both conditions among the general population. The same is true with regard to the association of migraine and epilepsy, so that it may be concluded that the constitutional basis of asthma, epilepsy, and migraine, though somewhat similar in nature, is in each case specific, and that no one of these conditions in a parent predisposes to the development of either of the other two in the children.

Long ago, in discussing the treatment of the constitutional basis of asthma, I said that the only cure of asthma is not to have it. The same is true of epilepsy and migraine. The longer a patient can be kept free from attacks by any form of treatment, the less irritable his abnormal nerve centre becomes, though it is doubtful whether the constitutional hypersensitiveness is ever entirely lost in asthma or epilepsy, though with advancing years the complete cessation of migraine attacks is not uncommon. A patient of mine, who had been free from asthma during a residence of twenty-five years in South Africa, developed an exceedingly severe attack on his return to his home in England, where as a boy he had been almost constantly asthmatic. I have known many epileptics relapse directly they gave up taking bromide, which they had been told they could discontinue after they had been free from attacks for one, two, or three years. It is true that the liability to attacks steadily diminishes as the period of freedom lengthens, but I am inclined to think that nobody who has once suffered from epilepsy should ever discontinue the use of small doses of bromide or luminal, even if he remains free from fits for five or ten years. Kinnier Wilson has recorded the case of a lady who had only two attacks in her life, the interval between them being no less than thirty years.

Conversely, the more attacks an individual with asthma, epilepsy, or migraine has, the more irritable his centre becomes. An asthmatic develops the status asthmaticus, in which the treatment he usually employs for an attack fails to help; nothing will then relieve him until he has moved to some more favourable surroundings, where rapid recovery will generally take place.

The *faiblesse irritable* of the nervous system, which is the ordinary sequel of mental and physical fatigue, increases the constitutional irritability of the nervous centre upon which the paroxysmal neurosis depends. Consequently it is of the utmost importance for individuals who are subject to asthma, migraine, or epilepsy that the work of each day should be limited in duration, that the week-end should be sufficiently restful, and that two annual holidays of adequate duration should be taken. This is particularly important in the case of asthma and migraine, both of which tend to occur in people whose mental capacity often leads them to adopt a career in which overwork is likely to occur.

Unfortunately there is no drug which exerts a favourable influence on the constitutional factor in asthma comparable with that of luminal in epilepsy and migraine and of bromide in epilepsy. Climate has, however, a remarkable effect, quite apart from the influence of vegetable and animal emanations which may render one place unsuitable to some asthmatics without having any effect on others. Thus asthma hardly ever occurs among the permanent residents of the Swiss mountains, and many asthmatics who, in spite of the greatest care with regard to diet, the avoidance of fatigue, and other exciting causes, have asthma more or less continually whilst at home and are unable to take any active exercise or even walk upstairs without dyspnoea, become entirely free within a day or two of their arrival in the mountains, where they can climb all day in summer and ski or skate in winter without respiratory distress. That the climate exerts a specific influence in diminishing the irritability of the bronchial centre is shown by the fact that chemical and reflex stimuli, which would cause violent attacks at home, no longer produce the slightest ill effect. This is perhaps one of the strongest arguments against those who regard nasal abnormalities or toxic idiopathies as the only factor worthy of consideration in the pathogenesis of asthma and entirely neglect the essential constitutional element in the disorder.

No child should be allowed to go to school or spend his holidays in a place where he is asthmatic. I knew an Eton boy whose home was in London and who was always in the status asthmaticus whilst at school; this could be interrupted by sending him to Paddington Station for a few hours, but returned as soon as he got back to Eton. If he had stayed at Eton the constitutional basis of the disorder would have been so firmly established that the prospects for the rest of his life would have been seriously affected. He was removed on my advice, and is now at a school where he has no asthma.

In the comparatively rare cases in which it is impossible to find a place in England where a child is free from asthma, and where rhinological, immunological, and other treatment has failed to give relief, a year's residence in the Swiss mountains is likely to save him from becoming a permanent invalid. The removal of chemical and reflex causes is likely to be futile if the constitutional element of the disease is neglected; such treatment is always most effective if carried out during a period of comparative or complete absence of symptoms.

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"GASTRIC ATTACKS" IN CHILDHOOD.*

BY

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THE usual age at which gastric attacks occur in childhood is between 2 and 7 years, probably most commonly between 5 and 6. By "gastric attacks" I mean a train of symptoms which points to the alimentary tract as the seat of the disturbance. Thus a child aged 3 refuses his tea, seems fretful, out of sorts, a little feverish, and alarms the household by vomiting, during the evening, some of the food taken at his dinner. The doctor is summoned in the morning, finds his patient with a temperature and a dirty tongue, drowsy, irritable, and still refusing food. In the course of the next few days recovery takes place. The picture varies enormously, depending on the underlying cause and on the particular child. Thus the child may show a very slight disturbance and be nauseated only. Again, the vomiting may be profuse, the bowels may be obstinately constipated with pale motions, or there may be profuse diarrhoea.

The common causes of gastric attacks are, in my opinion, (*a*) infections in the alimentary tract or elsewhere; (*b*) dietetic errors; (*c*) overexertion and excitement. There seems no doubt that the first is far and away the commonest.

Infections.

The so-called cyclical vomiting attacks (to be discussed later), where the condition recurs over and over again at more or less regular intervals, may be closely simulated by recurrent tonsillar infections. Thus a small child with acute tonsillitis may make no complaint, but refuse its food, become feverish, drowsy, irritable, and through the presence of acetone bodies, formed as a result of the infection, complain of nausea, or vomit. The tonsillar infection may, directly or indirectly, affect the liver, so that the old term "chill on the liver" would aptly describe the situation. On the other hand, the stomach or bowel may be infected, secondarily to this tonsillitis. Careful inspection of the throat should always be made in every "gastric" case. The removal of tonsils should be advocated if such cases should show a tendency to recur.

In thin, nervous, dyspeptic children, especially little boys, and particularly only children or the youngest in the family, catarrhal infections of the nasopharynx or chest may precipitate the condition described, so that the gastric symptoms completely dominate the picture. In girls chronic pyelitis should always be thought of. In these cases, a number of which I have recently been studying, bouts of mild fever occur at more or less regular intervals of two, three, or four weeks. Examination of the urine between attacks may show surprisingly little pus, but during the febrile attack much pus appears. A catheter specimen, both during and between attacks, shows the presence of the infecting organism on culture (as a rule *Bacillus coli*). But the indications for obtaining such a specimen between attacks are not definite, and the result is that cases are missed. During the attack the presence of pus is masked by urates and phosphates, and it is only by the microscope that the real condition of affairs can be ascertained. The bouts of fever are accompanied by drowsiness, lassitude, anorexia, and, if food be pressed, by nausea and vomiting. The result is that they become known in the family as "gastric attacks."

During the influenzal season gastric attacks are common and receive the name "gastric flu." In such cases the onset is extremely sudden, the vomiting is often accompanied by diarrhoea, and there is little doubt that the mucous membrane of the alimentary tract is the direct site of the infection.

Dietetic Errors.

At this age slight variations in diet will not produce gross symptoms in the average child. We should not therefore commence an examination of such a patient with the thought in our mind that he has only probably overeaten. It is true that such may be the case, but I believe only in a minority of cases; infections are the predominating cause. There is a type of child who appears to have an inherited inborn tendency to "liverishness." His mother or father was liverish as a child, and may exhibit train or tram sickness or headaches in adult life. Their child is termed the "nervous child," and most often he is found to be their only offspring. This little fellow—for as a rule it is a boy—gets recurrent gastric attacks at more or less regular intervals throughout the year, becoming less and less frequent as he approaches the school age. A consideration of his diet shows that he tends to be overfed on milk, cream, and eggs, and the overanxious mother, seeing his frail little body, plies him with what she considers the most nourishing food. The treatment of such a case is obviously the reduction of fats. Cream must be abolished, eggs and milk reduced to a minimum, certainly not more than two eggs in the week or half a pint of skimmed milk in the day. To metabolize what little fat he gets a maximum of carbohydrate must be given, and this can best be done by offering barley-sugar, jam, golden syrup, treacle, or honey at the end of the mid-day and evening meals. A régime must be adopted whereby three meals only are given and nothing allowed between them. Instead of the child losing weight on this apparently scanty diet he will, paradoxical as it may seem, rapidly put on weight.

In my opinion the error of overfeeding on fat as above described is by far the commonest dietetic error made.

The clinical picture of the above case may show some of the following features. For twenty-four hours the child appears to take his food extraordinarily well. The following day he is irritable, drowsy, and yawning with anorexia, and this is followed by a sudden onset of violent vomiting, when even sips of water are returned. Cramps and colicky pains about the navel occur next, and the parents fear the onset of appendicitis. The abdomen, however, is not tender, and is inclined to be flat. The bowels, as a rule, are constipated, and the urine is filled with acetone and diacetic acid. The management of the attack should commence by getting the bowels to move. Small doses of calomel (1/6 or 1/4 grain) should be given with 5 to 10 grains of sodium bicarbonate hourly until the bowels move. Glucose water and sweetened drinks of fruit juice should be given in sips. As a rule, with the opening of the bowels the vomiting ceases, and drinks of water should then be pushed, when recovery will be rapid. Single isolated bilious attacks due to gross indiscretions of diet are likely to occur in any normal healthy child, and may simulate this picture; the treatment is identical.

Overexertion and Excitement.

In examining the child with a gastric attack we should ascertain whether previous attacks have occurred, and having excluded infection and gross dietetic errors the possibility of overexertion being the cause should be considered. It would appear that a certain proportion of the available blood sugar is required for fat metabolism. With great mental and physical exertion—so that the child becomes overtired—the available supply of sugar is deficient for fat metabolism and the general body nutrition. An attack of vomiting or nausea occurs, very similar to those attacks of hypoglycaemia seen in the diabetic subject who has been given an overdose of insulin. In one such child, observed by Graham Ross in America, an attack could be precipitated at will by such means. Most adults can recall the faintings, giddiness, or nausea felt by them as children on some occasion when they went to school without breakfast. This, if slightly exaggerated, may easily develop into a so-called gastric attack.

I have not touched on the rarer causes of gastric attacks, such as food poisoning, nor have I mentioned those children who show violent vomiting and profuse diarrhoea at the onset of acute infections, such as scarlet fever, measles, or pneumonia; nor have I mentioned typhoid fever or dysentery, which ought always to be borne in mind. Comparatively speaking, these cases are uncommon, and those I have mentioned should [illegible] out of first.

* A lecture given to the Chelsea Division of the British Medical Association.

Diet.

A diet suitable for a boy of 5 or 6 who tends to have liverish or gastric attacks at intervals should be along these lines. On waking he should have a glass of orange, grapefruit, or grape juice, sweetened with four lumps of sugar. Breakfast, half an hour to an hour later, should consist of some cereal, such as porridge, groats, cream of wheat, puffed rice, or shredded wheat, with a very little milk but well sweetened with sugar. As a second course, on two days in the week he may have an egg, and on four days, crisply done, very thin rashers of bacon, which should be fried until the fat has been mainly removed and allowed to drip, so that a minimum of grease or fat remains. Fish should be given on one or two mornings. Crisp toast and butter with freshly brewed tea or Horlick's malted milk, or well skimmed milk and water, equal parts, one cupful only, complete the meal. Nothing should be given all the morning. For dinner—and it is best to have early dinner with these children, say at 12.30—fresh mince or stew, underdone beef or steak or cutlet, should be given on four days in the week, with chicken or fish or brains on three days. A small portion is sufficient. Potato and green vegetables, a tablespoonful of each, should also be given. Milk pudding or stewed fruit, but not suet pudding, should follow, and the child should have water to drink. At tea —*4.30 to 5 p.m.—thin bread-and-butter or crisp toast, with* stewed fruit, jam, treacle, honey, golden syrup, or a little milk pudding, may be given. The drinks should be the same as at breakfast. In winter a bowl of soup may be taken at this meal.

The child should not have an excess of eggs or cream, much creamy milk, pastry, or suet pudding, chocolate, or cocoa.

GENERAL MEDICAL PRACTICE AND THE MEDICAL CURRICULUM.*

BY

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You can readily understand that my return to this class-room as Regius Professor awakens many memories—memories of undergraduate days of almost unalloyed happiness, and later memories of early essays as a teacher during the years when I was assistant to Professor Murdoch Cameron, who had succeeded to the chair in 1894. The decade immediately preceding this year was most eventful, not only in surgery but also in obstetrics and gynaecology. It witnessed the birth of surgical obstetrics and gynaecology. Quick to recognize this development, more especially as it affected obstetrics, Professor Cameron introduced into the Glasgow Maternity Hospital the modern operation of Caesarean section which Sänger of Leipzig had evolved in the early eighties. The successes he secured and reported focused the eyes of the obstetric world on the school of Glasgow. I feel sure you desire to be associated with me in wishing Professor Murdoch Cameron many years of enjoyable leisure.

In selecting a subject for the inaugural address which use and wont prescribe, my chief difficulty was in deciding whether to review the past or forecast the future. I have chosen the latter, for to forecast the future is one of the few adventures left to the middle-aged. Besides, there is a certain fitness in the choice, because to you the future is everything. It occurred to me, therefore, that as most of you will ultimately embrace the arduous but very honourable calling of general practice it might be of interest if I placed before you the future of general practice as I see it, and the manner in which the medical curriculum might be modified to suit the changing conditions which are slowly but steadily occurring in general medical practice.

We have reached a very important stage in the evolution of medical education. For many years the general trend of medical education has been along certain simple lines—namely, as knowledge in a department has advanced the policy followed has been increased instruction in the subject or subjects of that department, with the result that the student of the present day finds it impossible to digest the mental food provided. As a remedy it has been suggested to lengthen the curriculum; and when we consider the length of the medical curriculum in other countries as compared with ours—take Sweden as an extreme example with its eight to nine years—this policy might appear justifiable. But before adopting such a policy—which to those responsible for medical education is the easiest way out of the difficulty but to the student a most serious one—it will be advisable to consider whether some rearrangement or modification of the curriculum is possible.

It is conceivable that with the altered conditions as regards medical practice modifications in the curriculum might in great part get over the difficulty. This implies a correct forecast of the trend of general medical practice. Until this is determined it is impossible to decide how the curriculum should be altered to suit the requirements of the young graduate of to-day who is ultimately going to practise his profession as a general practitioner.

The future of general medical practice lies more and more in the direction of pure medicine, and the general practitioner must be raised in pure medicine to a very high level. He, associated more intimately with the consulting physician, clinical pathologist, and officer of health, is the individual whose assistance will be of inestimable value in advancing medicine. For, as the late Sir James Mackenzie pointed out repeatedly, on the general practitioner must we depend for the early recognition of disease —the field of medicine which at the present moment offers the most promising harvest. Though this will ultimately be the vocation for the general practitioner, it does not mean that he will occupy a less important place in the community, nor that he will be less beloved than the old-time family doctor. The general practitioner as I see him will occupy a more important place, and incidentally he will have an infinitely more interesting professional life. He will be brought into closer relationship with the consulting physician, the clinical pathologist, and the medical officer of health, who also will benefit, for hospital, laboratory, and office work has a tendency to produce a mentality too academic and bureaucratic.

Looked at from yet another standpoint, this co-operation between these different departments is becoming necessary to the teacher of clinical medicine and his students, for, as you are well aware, a number of diseases have been relegated to special hospitals which the medical student only occasionally visits, and in which, therefore, he has few opportunities for clinical study.

Some months ago, in the pages of the BRITISH MEDICAL JOURNAL, I had the temerity to refer to this question of the trend of general practice. Let me quote a few lines from the editorial[1] on the subject:

"General medical practice is not, as a fact, developing on lines such as those which Professor Kerr indicates as, in his opinion, desirable. So far from restricting himself to pure medicine, afraid to use a knife or any other surgical instrument, shrinking from responsibility for a maternity case in any of its stages, ante-natal, natal, or post-natal, the general practitioner, in partnership or association with his fellows, is finding it useful to his patients and advantageous to himself to undertake an even wider range of service than was at one time customary; and the results justify the method."

I am quite prepared to admit that individual practitioners and firms of practitioners find this policy advantageous to themselves. But general surgery and the surgical specialties, including obstetrics, are crafts, and craftsmanship only reaches its highest level when individuals in addition to having a natural aptitude for craftsmanship have continuous practice in their craft. This is not possible in general practice, no matter how large the practice may be. Further, the development of general practice on the lines above indicated introduces an

* Inaugural address (abbreviated) delivered on January 10th, 1927, on appointment to the Regius Chair of Midwifery in Glasgow University.

atmosphere of commercialism into medicine which we must ever strive to avoid if our profession is to retain the respect and confidence of the public. Fortunately, it is doomed to ultimate failure, for the wealthier community will continue to employ specialists; while those of moderate means and the artisan class will also insist on the services of specialists. Interesting in this connexion is the following sentence from the Hippocratic oath: "I will not cut for stone, even for patients in whom the disease is manifest; I will leave this operation to be performed by practitioners (specialists in this art)."

It is obvious that sooner or later some arrangement must be made to supply insured persons with advice and treatment in the various special departments of medicine and surgery. As a matter of fact, this has been done in dentistry and ophthalmology. Many of us remember the introduction of the National Health Insurance Act and the opposition it aroused. I have no hesitation in stating that this opposition and the behaviour of a certain number of the profession did great harm to the status of the profession in the eyes of the general public. Would these critics wish to see the Act repealed? There is no necessity for a similar controversy when the question of special treatment to insured persons is under consideration.

Having attempted to indicate the trend of general medical practice, let me now consider the medical curriculum. It is obvious that I cannot discuss this matter of the curriculum in detail. It is giving many of us much thought. Its importance is fully recognized by the General Medical Council, as evidenced by the fact that quite recently it asked for supplementary information and suggestions to the reports formulated by the different subcommittees of 1922.

The General Medical Council, if one reads the discussions and reports on the curriculum published, is far in advance of the times. It sees that radical alterations in the curriculum are necessary. But the conservatism of teachers generally, the vested interests of certain teaching bodies, and the jealousy of individuals regarding their particular subject are barriers to innovations which are very difficult to overcome.

Leaving aside for the present the purely scientific subjects and confining myself to the later clinical subjects, and more especially to obstetrics and gynaecology, let me indicate the training which I think suitable. In obstetrics the student should be trained to have a general conception of obstetric and gynaecological problems, and to be able to deal with ordinary deliveries. If he wishes to do more, he must have special post-graduate instruction and practical experience. The duration of this training need not be longer than three months, provided he gives up his whole time to the subjects of obstetrics and gynaecology. This was the recommendation of the Scottish subcommittee which dealt with this part of the curriculum in 1922.† And it is greatly to the credit of the Edinburgh school that it immediately adopted the recommendation. Another school which has adopted the principle as regards obstetrics and gynaecology is St. Thomas's Hospital. There Dr. Fairbairn, who directs the department, has followed the recommendation of the English subcommittee and established a six months' course, which includes not only obstetrics and gynaecology but also pediatrics. The reason for this longer course in St. Thomas's is that it, in common with many of the other London hospitals, has difficulty in providing sufficient clinical material for the teaching of obstetrics. Many American schools have arrangements somewhat similar, and in Sweden, which I visited last summer, a four months' course of concentrated teaching has been the arrangement for many years. Owing to the exigencies of obstetric practice it is only by such an arrangement that the student can be satisfactorily trained in obstetrics. Fortunately, in our school here in Glasgow we have abundant material and a large and well-appointed hospital. What is necessary is that the clinical teaching should be better organized and that systematic lectures should be cut down by at least half.

This brings me back to the extent or type of the training in obstetrics and gynaecology, and it is interesting to consider what other countries are aiming at. There may be said to be two opposing camps—one which aims at an extended training and a very thorough experience in obstetrics, so that the young graduate may be able to undertake almost any operation in obstetrics; this is especially advocated in some of the schools of America. The other school views matters quite differently. Its policy is to train the undergraduate only to a moderate extent. This type of training pertains to such countries as France, Sweden, and Denmark. These countries are aiming at an obstetric practice carried on by particularly educated and well trained midwives, assisted in cases of difficulty and supervised by specialists or specially trained accoucheurs distributed over the country—in other words, the establishing of an obstetric service very much on the lines I suggested in the paper already quoted. My reason for supporting this latter arrangement is because it is impossible for the general practitioner to obtain continuous practice in obstetric operations. If we take Glasgow as an example, we find that some 60 per cent. of confinements are attended by midwives.‡ Further, there is an ever-increasing number of women who elect to go into hospital for their confinements. Thus the experience that practitioners of former generations gained in their private practice is not available to the practitioners of to-day.

The great fault of the present system is that the student is not "steeped" sufficiently in clinical work; and, let me remark, this clinical experience and training should be as thorough in the outdoor department as in the wards, because so many minor ailments and early phases of disease are only seen in the outdoor department. As a matter of fact, the old system of apprenticeship whereby the young candidate of medicine was associated with a practitioner and gained his clinical experience from actual practice was most useful, and nothing in the clinical training since that system was abolished has quite taken its place. We must get back in a different form to the idea of apprenticeship.

I have indicated the training in obstetrics and gynaecology—namely, a whole-time concentrated course of three months as a minimum. As regards medicine and surgery, I speak with less assurance. I am inclined to the opinion, however, that clinical training in medicine should be increased and that possibly clinical training in surgery might be lessened. The clinical training of the undergraduate in medicine is not sufficient for present-day requirements. Further, ophthalmology certainly, and possibly some of the other medical specialties, should be given greater consideration.

Surgery is on a very different footing. No one to-day attempts to practise surgery seriously without some special post-graduate training. The great surgical principles, the possibilities of surgery, surgical pathology—these are the subjects to which the medical undergraduate's attention should be directed. The craft of surgery can only be learnt after graduation. I venture to suggest to my surgical colleagues that the training of the undergraduate in surgery might with advantage be modified to suit the requirements of general practice of to-day. The same applies to the surgical specialties.

Each of us engaged in the training of medical undergraduates must seriously consider medical education, not solely as it affects his own particular department, but with a broad outlook on the position of present-day medical practice. We must not attempt, as some countries are doing, to train experts in medicine, surgery, and the specialties. With the foundation well laid in biology, chemistry, anatomy (modified), physiology, and pathology, exactness in clinical observation is the first essential, and this I maintain can be developed to the fullest extent in medical wards. Again, I maintain that medicine, with the medical specialties, is the ultimate calling of the general practitioner.

REFERENCE.

1 BRITISH MEDICAL JOURNAL, June 12th, 1926, p. 993.

† A subcommittee appointed by the Faculty of Medicine is at present considering the co-ordination of clinical teaching in the final year.

‡ Some districts of Scotland show 80 to 90 per cent. of confinements attended by midwives.

THE PART PLAYED BY INJURY AND REPAIR IN THE DEVELOPMENT OF CANCER;

WITH REMARKS ON THE GROWTH OF EXPERIMENTAL CANCERS.*

BY

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CAN we demonstrate experimentally the reason for the very localized starting-point of a tumour, although a great number of epithelial cells had been in contact during days and weeks with the cancer-producing agent (tar in the case of the experimental tar cancer)?

Mice were tarred in the usual manner till some of the animals showed early papillomata. Under the microscope these tumours proved to be very localized epithelial hypertrophies. We know that in this stage of the experiment the skin of the mouse tends to form numerous tumours in a very short time when tarring is continued, but that if tarring is stopped at this stage only a very small number of tumours will appear. The tarring was stopped at this stage of the experiment and a few days afterwards incisions were made in the skin, care being taken to make them in places where no papillomata had appeared. These wounds very soon assumed an oval shape and healed in the normal time. There was first a layer of fibrin and dead cells, and under this material we very soon found the first symptoms of healing in the form of new epithelial cells. In the majority of cases we observed in the wounds —healed or partly so—new tumour processes. In some instances there were only two or three tumours in one scar, in others there were many more. I never observed that the whole scar was involved in the tumour process. Sometimes the tumour growths were so numerous that the scar could be localized with the greatest ease. I have said that the tumours appeared in some cases after the scar had healed and the new epithelial cells—that is to say cells never themselves in contact with the tar—produced in these experiments primary growths. We know there is a relation between tar and tumour formation; we now learn from these experiments that the liability to tumour formation can be transferred to daughter and granddaughter cells without the cells showing any change microscopically, nor in the biological sense. These tumours which we produced just at the place where we expected to see them were very malignant, and sometimes in a very short time the whole scar and the surrounding tissue were replaced by a typical cancer growth. We have thus an opportunity of getting a clearer insight into the local origin of tumours in a skin area where all the cells had been in contact with the cancer-producing material. Every now and then the animals get little wounds. These wounds may be so small that they escape attention. They heal as a rule very quickly, and we may suppose that some of them will produce a tumour in the same way as was shown in our experiments. In a very short time these tumours may be larger than the little (often almost invisible) scars from which they started. These experiments may have a general significance for the local beginning of a tumour.

Some other experiments throw a light on the old question of the manner of extension of a tumour. When we study the first beginning of a tumour we find a local hypertrophic growth. Somewhat later the surrounding cells hypertrophy also, and so on, until there exists on the skin a hypertrophic proliferation generally in the form of a papilloma. The way in which such a papilloma grows seems to indicate an influence of the central parts of the papilloma on the surrounding cells of the living organism, with the result that the latter also hypertrophy. At a later stage the central parts of the papilloma are changed into cancer cells, and we noticed that the cancer cells influenced the surrounding hypertrophic cells exactly in the same way as the hypertrophic cells had before influenced the surrounding normal cells.

These observations on the growth of young tumours, as was demonstrated in 1924 at the cancer congress in Strasbourg, bear out the old view of Virchow. It must be of great value to show in another way the influence of tumour cells upon the surrounding living cells of the organism.

In the first part of this paper I demonstrated that young (regenerating) epithelial cells, in certain circumstances, are very susceptible to tumour formation. On the strength of that observation I made the following experiment: Mice were tarred on the epilated skin until there appeared a few little papillomata, then we stopped applying the tar. A few days afterwards we made two little scarifications, one which was in contact with the tumour, the other at some distance for the purpose of control. We marked the position of these wounds by rubbing in Chinese ink, and after two or three days they were healed. Only a small black line under the new epithelium showed the place where the fine small scalpel had cut through the upper part of the skin. The little healing wound, which either touched the tumour or very nearly did so, showed some interesting changes. The whole mass of new epithelial cells in this wound changed into hypertrophic growth. We never saw in scars that were not in contact with a tumour changes of the same extent. There must be an influence of the tumour cells on the cells of the scar. We know that these cells were very liable to become neoplastic, and therefore it was possible to show this influence clearly. Just as we have seen in a papilloma, the surrounding cells were predisposed to hypertrophic, and afterwards real, tumour growth.

Summary.

1. Injury may have a direct influence on tumour genesis in an extensive area of epithelial cells that are susceptible to tumour formation.

2. Former experiments have made it probable that in the earliest stages of tumour formation the peripheral cells may have an influence on their immediate neighbourhood. When we effect contact between the youngest tumour cells and cells which we know are very susceptible to develop a tumour, then we can clearly see the direct influence of the tumour cells on the other cells of the organism.

It will be the purpose of cancer study to obtain a better insight into these intercellular activities.

* Read before the Royal Society of Medicine, Pathological Section, March 14th.

SEQUELAE OF ENCEPHALITIS LETHARGICA:

NOTES ON 128 CASES.

BY

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DURING the spring and summer of 1924 there were under my care in Belvidere Fever Hospital, Glasgow, 143 patients suffering from encephalitis lethargica. Of 132 patients who were discharged from hospital, 128 were examined twice within a year at roughly six-monthly intervals.

The Degree of Impairment.

During the acute attack the cases were divided on a clinical basis according to the outstanding clinical feature—namely, lethargic, choreiform, myoclonic, psychotic, hypergalgesic, ophthalmoplegic. They were also classified according as the attacks were mild or severe, and these classifications were used to ascertain what correlation, if any, existed between the degree of impairment and the type and severity of the original attack. The results of examination a year after the attack are embodied in the following table.

Group.	Type of Attack.		
	Mild.	Severe.	Total.
I. Cases with no impairment	37	12	49
II. Cases with slight impairment (working or attending school, but with difficulty)	28	13	41
III. Cases with marked impairment (unfit for work or school)	7	21	28
IV. Cases with very marked impairment...	—	10	10

It will be seen that there was a fair degree of correlation between the original type of attack and the degree of impairment that followed; that the mild cases more often recovered, and that the severe cases more often were impaired. It would also appear that a higher proportion of attacks with a "positive" bias—using Walshe's classification[1]—were followed by impairment, when compared with those of a "negative" character.

The Two Main Types in Cases with Marked Disablement.—Where the sequelae and degree of disablement were marked two classes could be recognized.

A. The "Restless Naughty Child."—In this class the most constant features are insomnia, nocturnal restlessness, asthenia, pallor, psychic changes, and tics. During the day the child is restless and fidgety, "constantly on the move," as the parents say. He is very often noisy, irritable, nervous and easily frightened, bad tempered, impudent, and lacking in respect.

One boy had on several occasions threatened to commit suicide; in the street he would address strangers with complete familiarity and frequently behaved in a cruel manner to his younger brothers and sisters. As tested by the Binet-Simon scale there was no impairment of intelligence, in fact, there was a tendency to precocity.

In the mental processes of these patients, however, a characteristic impairment is to be found. They cannot maintain concentration on any one subject for any length of time; it is as if the mind, like the body, partook of the general restlessness. At night they are very troublesome; they roll, turn and toss about in bed, stand up and stamp, spit, sing, whistle, shout, clap their hands, and make peculiar noises—grunting, "cheeping," clucking, and blowing. One boy wanted to sharpen something with a knife all night long. This continued to a late hour until exhaustion brought sleep which lasted until late in the following forenoon. In a boy it was reported that on alternate nights the insomnia was absolute, the entire night being spent in restlessness and excitement; in the intervening night he slept heavily for about twelve hours.

In the worst example of this kind, a boy of 6 years, there was a striking degree of precocity combined with very definite evidences of moral degeneration. At one time he contracted a habit of vomiting up mouthfuls of undigested food, which he would, if allowed, consume. He would also attempt to embrace everyone who came near. A year after the original infection he was in another hospital, and deterioration was so marked and he was so difficult to deal with that removal to an asylum was being contemplated.

Nineteen patients, most of whom were between 7 and 14 years of age, fall into this class of the "restless naughty child."

The kind of attack which was by far the most productive of these sequelae was the severe choreiform type. Of a total of 35 children dismissed from hospital, 18, or 51 per cent., had developed these changes.

B. The Parkinsonian.—A feature of the Parkinsonian syndrome is that the same sluggishness which qualifies the thinking and movements of these patients affects also their conative faculties. They have little or no initiative. In the advanced stages they will sit for hours motionless. In less advanced cases it is frequently reported that they will "stay indoors and show no desire to go out." A year after the attack nine patients showed features of the Parkinsonian syndrome to a marked degree, and seven were then in other institutions; in all the condition developed in less than six months after the original attack; in one it appeared immediately after, and in most within one to three months.

In these patients the most common features of the syndrome were muscular rigidity, bradyphrenia, bradykinesia, etc., and salivation. Tremors were uncommon, only one example being noted—a slow rotatory movement of the head. The muscular rigidity was generalized except in one instance—a boy of 11 years, in whom rigidity with a slight degree of paresis was confined to the right side of the face, the right arm, and right leg. In a woman aged 53 the rigidity was so great that the mouth could not be opened nor the tongue protruded, and considerable effort was required to raise the eyelids. In one young woman with advanced Parkinsonism a disturbance of the respiratory mechanism developed; it was due probably to spasticity of the laryngeal muscles, which has been rarely, if at all, described. Respiration was accomplished by short inspiratory gasps, which were followed by noisy forcible expirations—almost as if she were attempting to blow out a light.

The ages of the subjects in this group ranged from 11 to 53 years. Two boys, aged 11, had muscular rigidity, bradyphrenia, bradykinesia, etc., all to a marked extent. The initial attack in all these cases was severe. In eight patients Parkinsonism had developed only to a slight extent. The most common elements in this group were the typical facies and some degree of bradyphrenia, bradykinesia, insomnia, and asthenia. Muscular rigidity was, in these patients, confined to the face. The original type of infection, with one exception, was severe.

The Signs and Symptoms.

The following is a list of the signs and symptoms observed a year after the attack in all patients manifesting sequelae. The total number of cases examined was 128.

Sign or Symptom.	No. of Cases.
Insomnia	55
Asthenia	46
Day drowsiness	31
Psychic changes	24
Nocturnal restlessness ...	21
Parkinsonism	17
Pain	17
Hyperreflexia	17
Hyperkinesis	16
Eye symptoms:	14
Paresis of accommodation	14
Anisocoria	10
Ptosis	5
Blurred vision	4
Diplopia	3
Squint	2
Myosis	2

Sign or Symptom.	No. of Cases.
Tics	13
Pallor	13
Restlessness	11
Headache	11
Pareses	7
Neurasthenia	6
Constipation	5
Adiposity	5
Speech changes (excluding bradyphasia)	6
Abnormal gait (excluding brndybasia)	5
Nocturnal enuresis	3
Absent-mindedness	3
Bulimia	2
Furunculosis	2

This table affords some conception of the varying range of signs and symptoms that may be presented a year after the attack. The two symptoms which head the list, insomnia and asthenia, were the prominent features in those patients who were slightly impaired, but still able to follow their occupation, although with more or less difficulty. None of the patients required to be certified mentally deficient.

These notes give some impression of the degree and form of disablement in 128 cases caused within a year by an attack of encephalitis. All degrees of disablement, and many different and complex types, were observed. Disablement—including the slighter forms—existed in 62 per cent., while incapacity to resume work or school was found in 30 per cent.

These figures agree closely with the results of a similar inquiry made in Glasgow. A series of 334 patients who contracted encephalitis lethargica in 1924 was investigated fifteen to eighteen months after the attack, with special reference to the capacity for work. It was reported that 36 per cent. were unfit for work. Some of these patients had been treated in hospital and some at home.

It has been recognized for some time that the existence of disablement due to encephalitis lethargica constitutes a problem which public health authorities have to face. The problem has been tackled in Scotland, as in other countries, by the establishment of a hospital unit where cases are admitted for special investigation and research.

REFERENCE.

1 Walshe, F. R. M.: *Med. Science*, 1920, iii, 51.

HEALED FRACTURES OF TRANSVERSE PROCESSES.

BY

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In 1910, and again in 1913, I published a few cases in the BRITISH MEDICAL JOURNAL of what I termed pseudo-fractures of the lumbar transverse processes. In nearly all there was no history of injury, and I suggested that they were attempts at rib formation by the costal element in connexion with the transverse processes. Dr. Reginald Morton also emphasized the importance of these conditions from the medico-legal standpoint.

Since then I have seen scores of cases in which gaps, and wide displacements, appear in several processes, sometimes on both sides of the vertebrae, where no injury had occurred.

In this district, where back injuries and fractured spines are common, the problem of deciding whether trauma has anything to do with the condition shown in a radiograph arises almost every day. In some of the widest separations I have seen, in which perhaps four processes have been displaced downwards for an inch or more, there has been no strain or blow, but I have now and then found a similar condition below the seat of an injury, and in several cases the man has placed his finger on a spot as the seat of pain, which has proved to be exactly over a separated process. In such cases I always attribute the separation to the injury. The case here illustrated by diagrams taken from radiographs is interesting because it for once answers a question which has often been raised—namely, if these processes have been fractured why do they not follow the usual method of healing with callus formation?

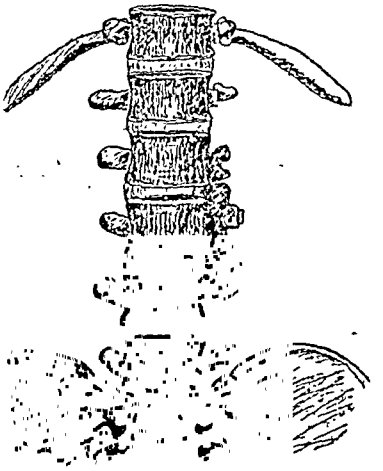


FIG. 1.



FIG. 2.

A Welsh collier, aged 55, was struck in the left loin by some falling material. He was much bruised and had a small wound. Some weeks later a radiograph showed the first four left lumbar transverse processes separated as shown in the diagram (Fig. 1). The man resumed work, and, after a time, did full collier's work for some months. Then, after an unusual twist, he had pain in the left loin and gave up work. I took the radiograph (Fig. 2) some two and a half years after the first accident. The first process remains as before; the remaining three have fused together in a mass of callus about four inches long and one inch wide, running parallel to but separate from and behind the bodies.

I have previously seen slight attempts at callus formation in single fractured processes, but never anything extensive as this.

On the vexed question whether strain, as distinct from direct violence, can fracture these processes, I can only say that I have not been satisfied in any case that it has occurred. I think it more likely that muscle or muscle attachment would give before bone. Before I accept even direct violence as cause I expect the following conditions to be fulfilled.

1. A definite history of a blow over the site of the suspected fracture. I have seen a workman awarded compensation because a radiograph showed a separated second lumbar transverse process. His injury was a fall on the buttocks on a smooth floor, whilst pushing a wheelbarrow. His symptoms were those of sciatica.

2. The lesion must be unilateral. It is inconceivable that an injury could fracture transverse processes on both sides without also fracturing the spinous process.

3. The immediate after-history should be reasonably consistent with the man having had a severe blow. Considerable force is necessary to break a bone covered as these processes are covered, and I should expect very definite evidence of bruising, and probably a wound. So much depends upon the man, that his capacity for working on varies enormously. Some of the old Welsh colliers have extraordinary powers of bearing pain, and will manage to walk home after such an injury, but any attempts at working or stooping would naturally be extremely painful.

AN INFLUENZAL CONDITION SIMULATING THE ACUTE ABDOMEN.

BY

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THE responsibility of deciding whether a case is one needing the immediate aid of surgery, or whether the abdominal signs are the mask of a medical condition, is no uncommon experience. When faced with this type of case the medical practitioner will be alive to the possibility of pneumonia or of a sudden pneumothorax, of uraemia, and of the nervous crises of tabes and pernicious anaemia; but when all these have been reckoned with there remains another class not infrequently submitted to needless surgery.

Many can call to mind a case in which the abdomen was opened under the impression that an acute catastrophe had taken place, but no gross lesion of any organ could be discovered, only a slight amount of free fluid, sometimes blood-stained, scattered petechial haemorrhages, and small bags of jelly-like lymph. After careful search a more or less normal appendix has been removed, and the surgeon has closed the abdomen with no small degree of secret chagrin.

During the last two years I have seen in consultation a series of fifteen cases, all remarkably constant in general type, with marked signs and symptoms pointing apparently to some acute surgical intra-abdominal lesion. In one instance I performed laparotomy on the diagnosis of acute intestinal obstruction. I found the free fluid, the jelly-like lymph, and the subperitoneal petechiae. There was in addition, in the lower portion of the ileum, a persistent contraction ring with distended gut above and collapsed intestine below. No organic cause of any nature could be discovered. This man recovered in spite of the treatment, whilst all the others have reached the same happy ending without the intervention of surgery.

These cases form, I believe, a definite clinical condition, which can mimic, as it did in this series, any type of acute surgical abdominal condition. Taking this case which I opened with the previous sporadic ones exhibiting similar intra-abdominal findings, and comparing all as regards their clinical signs and symptoms, I think that it is possible to offer a reasonable hypothesis for their cause and pathology.

The onset was sudden; vomiting of bile-stained material was an early sign, but was not persistent. The patient was seized with the most acute pain without any previous feeling of malaise or other warning symptom. In some the pain was in the upper abdomen, in others in the lower. The acute spasms of pain were intermittent, with intervals of comparative freedom varying from five to fifteen minutes. During the spasm the muscles in the affected area could be felt, and at times could be seen to go into a condition of cramp. During the attack there was board-like rigidity in the affected area which did not completely disappear with the pain. Palpation caused pain, but the patient complained before the pressure of the examining hand had reached the peritoneum. The tender layer appeared to lie in the muscles of the abdominal wall rather than in the peritoneum. It is a distinction which is not very easy to explain in writing, but it can be clearly observed in the clinical examination.

The severity of the pain was most marked, and the way in which it could wring a cry from strong men suggested, when seen for the first time, that an acute perforation of

a hollow viscus had occurred. These patients did not, however, lie still, as does one with acute perforation, but rolled about in pain; some of the patients insisted on getting into the knee-elbow position during the spasms. The abdominal respiratory movement was little if at all impaired in spite of the large degree of rigidity. This is a point which I believe is always of great value in diagnosis between a surgical abdomen and referred abdominal symptoms. It is a sign which I have before described as "the respiratory movement resistance-ratio."

The pulse rate in most cases was unaltered at the commencement of the trouble, the temperature was normal or even subnormal. The facial expression was in no way suggestive of an abdominal lesion, and was a valuable piece of evidence. In twenty-four to forty-eight hours the picture changed, and signs suggestive of influenza were manifest, whilst the pain had in large measure disappeared. It is with the cases in which an acute obstruction is suspected that most difficulty arises. It is hard to refrain from opening the abdomen in a doubtful case when two enemas have produced no result. The passage of intestinal contents may be arrested in three ways: by mechanical obstruction, by paralytic ileus, and by acute spasm of the intestine, or what is called spastic ileus. The one case which I opened was of this type. Its association with influenza has been noted by other observers. If this condition is suspected and two enemas have no result, then the correct treatment is to give an injection of morphine and follow this by another enema in half an hour. In my experience a good faecal result will follow this practice, and so prevent untimely surgery.

There appears to be a definite seasonal incidence, since these cases have mostly occurred during an epidemic of influenza. As happens with influenza, relapses were not uncommon in this series, in some of which the whole sequence of events was repeated after a fortnight or three weeks; in one instance of a girl who had severe vaginal and pelvic pain three attacks supervened.

In other cases of influenza pain of a similar nature has been felt along the course of the fifth cranial nerve, and in some this has been followed by a herpetic eruption over the area so supplied; in others an eruption has not appeared although the acuteness of the pain in the area has been just as marked. A true herpetic eruption was seen in only one of this series. In another case, however, which suggested an acute cholecystitis, in place of the ordinary vesicular appearance of the herpetic lesion a crop of petechial haemorrhages with the same characteristic spacing and distribution was later seen in the area of the skin of the abdominal wall affected by the pain. I have on one other occasion seen pain along the course of cutaneous nerves followed by a similar haemorrhagic manifestation of herpes.

In encephalitis lethargica, which also in some measure keeps pace with influenza epidemics, an intermittent painful spasm of the abdominal musculature is a well known feature.

The suggestion which is here put forward in explanation of the pathology of these cases is based on the work of Sir Thomas Lewis on the setting free of a histamine-like body in the skin by the use of antidromic nerve impulses. It is suggested that the influenza toxin or some ultramicroscopic virus associated with the disease causes a lesion of the posterior root ganglia. Instead of a toxic agent being set free in the skin, as it is in some instances as a result of such irritation, this happens at the nerve endings in the subperitoneal tissues, and so gives rise to the petechial haemorrhages and the free fluid which are the common pathological changes seen if the abdomen is opened in these cases.

Memoranda;

MEDICAL, SURGICAL, OBSTETRICAL.

PAPILLOEDEMA AND ARTERIO-SCLEROSIS.

DURING May, 1926, two patients were admitted to the ophthalmic ward of St. Bartholomew's Hospital complaining of failing vision.

CASE I.

A man, aged 52, had been in the hospital in June, 1925, when he complained of failing vision, and was found to have marked swelling of both discs, unaccompanied by haemorrhage or exudation. There was also well marked retinal arterio-sclerosis. Vision in both eyes was much reduced (< 6/60). The heart was slightly enlarged; the blood pressure was 260/160, and there was a trace of albuminuria. No nervous lesion was discovered. The Wassermann reaction was negative. He was discharged at the end of June, 1925, *in statu quo*.

On readmission in May, 1926, he had the same degree of papilloedema and of retinal arterio-sclerosis as before, but vision was still more reduced. His complexion was blotchy and unhealthy. The heart was not appreciably larger than before; blood pressure 260/140. There was no nervous lesion. The urine contained a heavy cloud of albumin, urea 1.65 per cent., and there was a scanty deposit consisting of a few white blood corpuscles, epithelial cells, and hyaline casts.

CASE II.

A man, aged 52, gave a history of failing vision (presbyopia) for four years. He was found to have considerable swelling of both discs with no haemorrhages or exudation. Arterio-sclerotic changes were well marked in both fundi. Vision in both eyes was 6/12. The general examination revealed that his health was good. The heart was slightly enlarged; blood pressure 205/145. No nervous lesion was discovered. The urine contained a trace of albumin; urea 2.6 per cent.; a moderate deposit contained a few white blood corpuscles and a few epithelial cells.

In both these cases there was well marked papilloedema of a type which, ophthalmoscopically, was indistinguishable from that seen in cases of cerebral tumour. There were no haemorrhages and no exudation. The clinical diagnosis in each case was persistent hypertension, and the diagnosis lay between hyperpiesia and chronic interstitial nephritis. The high diastolic pressure in both cases is in favour of chronic interstitial nephritis, in which the diastolic pressure tends to be rather higher than in the purely vascular group. In the first case the presence of a heavy cloud of albumin was also in favour of chronic interstitial nephritis. In both cases there was absence of symptoms of renal function failure or renal toxaemia; there was no loss of weight in Case II (slight in Case I); no digestive disturbance, no micturition changes, and no secondary anaemia. In both cases the kidneys could concentrate well. There were no red blood cells or appreciable excess of white blood cells in the urine.

Dr. Geoffrey Evans has shown that arterio-sclerosis of a certain form is a constant pathological change found after death in vessels of patients suffering from persistent hypertension during life. In both cases, therefore, the pathological diagnosis of diffuse hyperplastic sclerosis can be made. But whereas Case II belongs to the group of essential hypertension, or hyperpiesia (German arteriolo-sclerosis), the first case belongs more probably, to the group of chronic interstitial nephritis, or nephro-sclerosis gravis; Volhard's form of malignant hypertension). The striking point is the amount of papilloedema. In both cases, as has been stated above, this was present in the degree which is seen in cases of pronounced increased intracranial pressure, and, indeed, it was indistinguishable from that which occurs in this condition. Papilloedema does occur in renal retinitis, but rarely to such a degree, and is very seldom unaccompanied by other evidence of renal retinitis—such as cotton-wool patches and haemorrhages. Further, in Case II the renal origin of the disease can be, with a good deal of certainty, excluded.

It is noteworthy that the amount of papilloedema in Case I remained unchanged after one year.

It is suggested that the papilloedema in these cases is associated with persistent hypertension and arteriosclerosis.

These cases are published in order to call attention to this association, for by following up such cases it should be possible to tell if Bright's disease in any form develops.

My thanks are due to Mr. R. Foster Moore and Dr. Geoffrey Evans for their assistance in compiling these notes.

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London, N.W.3.

SPONTANEOUS RUPTURE OF THE HEART.

WE desire to place on record the following notes and *post-mortem* findings of a case of sudden death in a woman aged 79.

Mrs. N., who had previously complained of breathlessness and flatulent dyspepsia, rose from bed as usual at 7 a.m. She was heard to give a scream and to fall on the floor. The relatives saw her at once and replaced her in bed. She was unconscious, and efforts were made to give her restoratives. When seen half an hour later by one of us (J. R. S.) she was dead. It was thought that death had occurred within fifteen minutes.

Post-mortem examination revealed fairly healthy conditions of all organs with the exception of a number of small gall stones, and a spleen weighing 9¾ oz. relatively soft and friable. The pericardium was tense and distended, and, on incising the pericardial sac, blood clot weighing 9¾ oz. was found forming a cast round the heart. The blood clot was nowhere adherent except at three places about a quarter of an inch in diameter over the anterior aspect of the heart muscle. At the lowest of these places the clot dipped down into the fatty heart substance. On careful inspection of the heart and large vessels no opening for the escape of blood was found except as later stated.

The heart weighed 15½ oz. The mitral valve cups were thickened. The chambers of the heart were empty of blood clot with the exception of a small clot in the right ventricle. The muscle was pale and flabby, and the anterior wall of the right ventricle seemed to be almost entirely replaced by fat and fibrous tissue. This part was translucent, and a small oval aperture with fairly smooth edges could be seen, the position of the opening being in the lower half of the right ventricular wall a quarter of an inch from the interventricular septum.

This portion of the right ventricle was submitted for further examination and reported on as follows: "There is an actual perforation of the heart wall, leading into the pericardium, and sections show that the cardiac muscle is very atrophic and actually deficient in several places, especially in the region where the macroscopic hole occurs. The coronary artery supplying the area is arterio-sclerotic and shows narrowing of its lumen and partial blocking in many places."

A number of similar cases have been already reported in the BRITISH MEDICAL JOURNAL (1924, vol. ii, pp. 373, 465, 669; 1925, vol. i, p. 262), and it is interesting to note that in the seven cases reported (including our own) six occurred in female patients. In every case except that here recorded the tear was found in the wall of the left ventricle.

J. R. STOTT, M.D., B.Sc.
R. BLAIR, M.A., M.B.
Surbiton.

A RISK OF LIQUID PARAFFIN IN CHRONIC CONSTIPATION.

MINERAL oils have become so suspect as a cause of cancer of the scrotum that it seems questionable therapeutics to prescribe paraffin in cases of chronic constipation. Pure medicinal petroleum, as liquid paraffin is labelled, may be as perfect a preparation as it is possible to get, but it cannot be gainsaid that when expelled, in due course, from the rectum it is a dirty oil, and thus the anal region is kept in constant contact with dirty oil. Owing to the arrangement of the muscle at the anus the skin in this region presents a stellate arrangement with the anus as centre, and if, by any cause, the skin of the region becomes inflamed, folds and fissures are liable to develop which are cleaned with great difficulty. Thus a condition comparable to that obtaining on the scrotum is easily set up. Further, in many people the oil seeps through the anus and soils the underclothing, and if the patient continues to swallow the paraffin the whole of the buttocks may be in constant contact with oil.

My attention was first directed to paraffin as an irritant to this region by the following case:

A man, aged 48, consulted me for eczema ani, from which he had suffered for over twelve months. He had been the subject of constipation since childhood, and during the past two years had taken liquid paraffin with some success. Twelve months ago he thought the anal region felt wet, though the underclothing was not soiled. Later the part became itchy, and when I saw him the perianal region was the seat of a weeping eczema and inflamed with a stellate condition leading to the anus. Lotion was prescribed to settle the inflammation, with, however, little success. I then stopped the paraffin and prescribed compound liquorice powder as an aperient. The eczema began to settle almost immediately, and in a few weeks he was quite recovered.

Since this experience I have had five cases of eczema ani, three of whom were the subjects of chronic constipation and were taking paraffin. In all the paraffin was stopped before commencing treatment for the skin condition.

ROBERT GIBSON, M.D.,
Honorary Dermatologist to the Salford Royal Hospital; Assistant Honorary Physician, Manchester and Salford Hospital for Skin Diseases.

British Medical Association.

CLINICAL AND SCIENTIFIC PROCEEDINGS.

OXFORD AND READING BRANCH.—OXFORD DIVISION.

Surgical Treatment of Gastric Ulcer.

AT a meeting of the Oxford Division at the Horton Infirmary, Banbury, on April 22nd, with Dr. W. COLLIN in the chair, Professor GEORGE E. GASK, director of the surgical unit St. Bartholomew's Hospital, delivered a British Medical Association Lecture on gastric ulcer.

Professor Gask said that there had been gradual improvement in the surgical treatment of gastric ulcer in association with the better diagnosis of this condition. The first great advance had followed the invention of test meals, which were still valuable, though sometimes disappointing. A further stride had followed the introduction of *x* rays, and the accuracy of the radiographical diagnosis as verified by operation had been found to be as high as 88 per cent. Professor Gask illustrated by lantern slides the diagnosis of ulcers in various parts of the stomach following the administration of a barium meal, and insisted that *x* rays must not be allowed to supplant careful clinical examination, with especial reference to such clinical points as the duration of the pain and the habits of the patient. Such examination should include the study of the blood, the stools, and the gastric contents after the exhibition of a test meal. Professor Gask thought it was most necessary for the surgeon to be present at the radiographical examination. He said that the type of gastric ulcer had changed in the last twenty years; it seemed that the acute type formerly found in chlorotic girls had disappeared. Surgical treatment was urgently indicated in cases of perforation, pyloric stenosis, carcinomatous implantation, and sometimes in haematemesis. Although medicinal treatment might sometimes cure the condition there was often no improvement, and then more active measures were required. It was undesirable to delay so long that the patient was worn out by the pain. With regard to the type of operation, gastro-enterostomy was the simplest and most useful when there was pyloric obstruction from old ulceration. Good drainage was obtained, but it was necessary to remember the occasional failure, and the possibility of the return of pain and ulceration. Professor Gask briefly discussed the operation of pyloroplasty advocated by Professor Finney of Baltimore. It was difficult to adjudicate between the relative values of gastro-enterostomy and gastrectomy, but the latter appeared to be gaining the day. Much depended on the site of the ulcer. For instance, when it was high up, on the lesser curvature—in which situation medical treatment was of little or no avail—some form of gastrectomy, even though it meant sacrificing a large part of the stomach, was the operation of choice. The cause of gastric ulcer was still undetermined, and consequently all treatment at present was empirical; it was possible that under better social conditions the disorder might be eliminated. In the meantime, as far as operations were concerned, the immediate results of large gastrectomy were good, but only time could show what the ultimate results would be. Some of the patients on whom gastrectomy had been performed had subsequently developed severe anaemia. Professor Gask's dispassionate survey of gastric ulcer and its treatment was much appreciated; it was discussed by several members. A vote of thanks, proposed by Mr. WATERFIELD and seconded by Mr. HUGH WHITELOCKE, was carried with acclamation.

Dr. PENROSE showed four cases.

(1) A woman, aged 53, had first sought advice in January, 1925, for pain in the neck and throat. Marked jaundice had come on suddenly three days before, but the urine had been dark for some weeks. There had also been loss of appetite for some weeks, but no pain or vomiting. The jaundice had continued, but the patient's weight, which had gone down at first, was now the same as when she was first seen. Attacks of diarrhoea began toward the end of 1925 and had continued subsequently. Chronic pancreatitis, malignant disease, and gall stones had been suggested as the diagnosis.

(2) A man, aged 50. This patient had had attacks of loss of consciousness for two years, tending to be increased by worry.

He had always been sallow, and venereal disease was denied. Hystero-epilepsy, heart-block, and Addison's anaemia had been suggested.

(3) A man, aged 30, who presented signs of pyloric obstruction and subsequent anaemia, had at one time shown evidence of early combined degeneration of the spinal cord, but this improved under treatment.

(4) A man, aged 35, had had a severe haematemesis while under treatment in hospital for myelitis. Another case was reported of a man, aged 65, who had had a fatal haematemesis following a three months' history of indigestion. At the *post mortem* a small ulcer was found in the stomach with a pin-hole perforation into a vessel.

Reports of Societies.

HYPNOTIC DRUGS OF THE BARBITURIC ACID AND SULPHONAL GROUPS.

At a meeting of the Section of Therapeutics and Pharmacology of the Royal Society of Medicine on May 10th, Dr. GEORGE GRAHAM presiding, the subject of the clinical and pathological effects of hypnotic drugs of the barbituric acid and sulphonal groups was introduced by Sir WILLIAM WILLCOX, who incorporated in his remarks some work on the historical and statistical side by Dr. HELEN YOUNG, while Dr. F. A. PICKWORTH described experimental researches on the effect of these drugs on animals.

Sir WILLIAM WILLCOX said that he had for a long time been impressed by the potent action of these drugs when given in a single large dose or in doses repeated for several days or longer. Definite signs of organic paralysis had occurred after administration, passing away on the discontinuance of the drug, and marked mental symptoms, depression, and hallucinations had also been observed. The dangers of these drugs had not been sufficiently realized by the medical profession or the public, and the danger was accentuated to-day when, in addition to veronal, medinal, luminal, and other drugs of the older series, there were placed on the market a large number of new barbituric acid compounds and derivatives whose fancy names concealed their composition, so that unless minute scrutiny was given to the pamphlets issued with these drugs their nature was liable not to be discovered, and the glowing descriptions of their therapeutic actions did not make it plain that they were dangerous unless used with the greatest care. Until the introduction of veronal in 1902 the sulphonal group of drugs held a prominent position as hypnotics, but since then the members of the barbituric acid group had come to the fore. The barbituric acid drugs in therapeutic doses acted rapidly, and were fairly certain hypnotics. A single therapeutic dose was usually followed by a satisfactory period of natural sleep, and no marked after-effects followed when the therapeutic action had passed away, which should be in from six to twelve hours. In cases of *insomnia* the use of these drugs was very apt to lead to the formation of the hypnotic habit. It was a mistake to prescribe these drugs in repeated doses for painful neuralgic conditions; they were hypnotics, not analgesics. The members of the sulphonal group also were powerfully acting hypnotics, but with these the therapeutic effect of drowsiness and sleep might not commence for several hours after administration, and this delay and uncertainty had prevented drugs of this class from coming widely into use, though the same caution must be given with regard to them as with regard to the barbituric acid group.

The symptoms observed after taking doses larger than the therapeutic dose of members of the barbituric acid group—or, in cases of idiosynerasy, after taking the therapeutic dose—were headache, vertigo, and ataxia, occurring within a few minutes, and within an hour or so the patient might fall into a deep sleep from which he could only be roused with difficulty. Albuminuria of a mild type might occur and be associated with the presence of casts. There might be incontinence of urine or faeces. A rather common occurrence with overdose was the development of bronchopneumonia, which came on very suddenly, and might be of the massive type; nearly all the fatal cases had bronchopneumonia. With veronal the average dose in the fatal cases was 50 grains, but death had occurred after as small a dose as 10 grains, though other factors were probably present, and, of course, recovery had taken place after much larger doses than 50 grains. People who took veronal every night were liable to show, not only certain mental, but certain moral changes, to get exceedingly depressed, with suicidal tendencies, and to have hallucinations, commonly visual, and sometimes delusions. The veronal subject showed symptoms it was difficult to distinguish from chronic nerve disorder; he had the same kind of speech that was found in general paralysis of the insane, also diplopia and visual paralysis. The kidney had a remarkable effect in picking up these drugs, and in some of the analyses in cases of veronal poisoning two or three times as much veronal had been found in the urine as in the blood. A characteristic feature with luminal was haematoporphyrinuria. To the sulphonal group the same warnings applied. The drugs of this group had been very carelessly administered because they were thought to be harmless, but addiction did occur.

In conclusion Sir William Willcox exhibited some analyses made in cases of veronal poisoning, and also gave statistics of the deaths from poisoning by barbituric acid drugs since the first case in 1906. The number of deaths rose by 1915 to over 20 annually, and did not decrease until, in 1918, the drugs were placed in Part II of the Poisons Schedule, after which the annual number of deaths dropped to about 8, but in the last year or so it had risen again, and in 1925 the number was 25. These drugs should only be given by prescription, marked "not to be repeated," the prescription to be retained by the pharmacist, and the total number of doses ordered should not exceed six. The patient should be warned against the daily use of the drugs, and it would be a safeguard to avoid giving the drugs on consecutive days. The medical profession should also be seriously warned against the widely circulated advertisements or drugs of the barbituric acid group. These advertisements frequently recommended the drugs for continued administration without calling attention to the toxic effects which might result from their use. The continued introduction of new barbituric acid derivatives, which must of necessity have had only an inadequate clinical trial, increased the danger of the position.

Dr. F. A. PICKWORTH then gave an account of some experimental researches on the effect of these drugs on animals, accompanying it by an exhibition of histological specimens. This work was initiated by the late Sir Frederick Mott, with whom Dr. Pickworth collaborated, and it went to prove that the clinical symptoms of paralysis of the central nervous system following the use of these drugs could not be regarded as a mere temporary intoxication of a harmless type, but were associated with definite objective changes of a serious nature. Dr. Pickworth entered into much detail with regard to the pathological changes found in the tissues of animals—monkeys and cats—after the administration of these drugs.

Dr. W. E. DIXON said that it was difficult to explain why persons suffering from drug poisoning should get pneumonia. What was the mechanism? Was it that the leucocytes were paralysed? Veronal did not go to the lungs, and yet a lung lesion was produced. He also remarked on the selective action of the drugs in causing paralysis in one limb rather than in another.

Dr. F. PARKES WEBER mentioned an interesting case of haematoporphyrinuria from veronal poisoning. It was in a woman who for two months had been taking 5 grains of veronal almost nightly as a hypnotic. The urine for a considerable time was red or red-brown in colour, and the colour disappeared gradually within two weeks after discontinuance of the veronal. He also mentioned an extraordinary bullous eruption with jaundice occurring in a child who had been given therapeutic doses of luminal for chorea.

Dr. P. HAMILL referred to the great difficulty of diagnosing veronal poisoning. He asked Sir William Willcox whether he had actually observed similar toxic phenomena with the new drugs of the barbituric acid series, because in a certain number of cases drugs of this type did relieve pain in a remarkable manner. Professor GUNN remarked that veronal lowered the bactericidal power of the blood. Dr. STOLKIND mentioned a case of medinal poisoning in

which the effects were the same as those seen with veronal. Dr. DOROTHY HARE said that in giving luminal in epilepsy she had never exceeded 2 grains, but recently in one case, after a long spell of treatment, she noticed a decided lethargy, which she at first thought to be a mild attack of encephalitis lethargica, but now wondered whether it might be mild luminal poisoning.

Sir WILLIAM WILLCOX said that luminal undoubtedly was very toxic, and would cause the same changes as had been described. Luminal and the members of the barbituric acid group were not cumulative in the material sense, for they were rapidly excreted by the kidney, but the effects on the nervous system were cumulative. Why pneumonia occurred in veronal poisoning he did not know. He had always put it down to the abolition of the reflexes in the upper respiratory tract, which led to the passage of foreign substances into the lung. As for the new drugs of this group issued under different names, he believed that they did cause toxic symptoms; he had had several letters to that effect, and had himself seen cases.

DEVELOPMENT OF SCHISTOSOMA MANSONI.

AT the annual general meeting of the Section of Tropical Diseases and Parasitology of the Royal Society of Medicine on May 4th, the President, Professor R. T. LEIPER, F.R.S., in the chair, Dr. J. B. CHRISTOPHERSON read a paper by Dr. P. H. J. LAMPE of Dutch Guiana on the development of *Schistosoma mansoni*.

Dr. Lampe had made an intensive study of the development of this parasite in South America. He had found that the miracidium crept slowly out of the egg shell, which ruptured on reaching water; he had never observed the dilatation seen in the bladder form. This miracidium could not live for more than forty hours without entering a snail. The intermediate hosts were two species of *Planorbis*, and about 15 to 18 per cent. were infected. Most of the miracidia disappeared into the buccal and mantle cavities of the snail, and Dr. Lampe believed that infection occurred normally through the mouth. In the snail, as the result of the usual asexual multiplication, an enormous number of cercaria were produced—in one case estimated there were about 170,000 formed at the rate of over 2,500 daily. Although Dr. Lampe had been able repeatedly to infect experimental animals through the skin, the penetrating cercaria were difficult to find, and he suggested that they passed very rapidly to the subcutaneous tissue; when a wound was present they were more easily traceable. The cercaria did not make use of the hair follicles or pores to gain admittance, but actually severed and lifted the skin. In the host he found that the larvae, after piercing the skin or mucous membrane, rapidly reached the subcutaneous tissue and then the veins and the right heart, where they might be found within six hours of infection. Once in the circulation they passed to the lungs, where they left the branches of the pulmonary artery and then penetrated the stroma between the alveoli, especially at the base of the lungs. Only a few parasites were able to leave the lungs, and these pierced the visceral pleura and reached the diaphragm three days after infection. At this stage more died, but some passed to the liver through the adhesive connexion with the diaphragm; in the stroma development was very rapid, and in a few days the cercaria resembled adult parasites. From the liver the young parasites proceeded to the portal system. Dr. Lampe believed that full-grown parasites might not infrequently be found in the lungs, as he was unable to explain the important alterations in that organ on any other hypothesis.

Professor R. T. LEIPER drew attention to the fact that although Dutch Guiana was infected with *Schistosoma mansoni*, British Guiana, though immediately adjacent to it, escaped. The two countries were separated by a rapidly flowing river, and the inhabitable portion of the British territory was largely land reclaimed from the sea, and was accordingly salty. He believed that this salt prevented the development of the snail in that country. He thought that it was still premature to consider as definitely settled the course which the larvae adopted after entering the skin. There were two schools of thought. One believed that the somewhat amoeboid cercaria could pass through the lungs and so return to the heart and reach the liver by means of the blood stream. This was the more generally accepted view, but Dr. Lampe's belief that the larvae passed from the lungs directly through the diaphragm to the liver might also be true. An analogous method of infection was known, not only in the case of the common liver fluke of sheep, but in the lung fluke of man. It might well be that both methods of gaining access to the liver were possible.

TREATMENT OF URETHRAL STRICTURE.

AT a meeting of the Brighton and Sussex Medico-Chirurgical Society, on May 5th, the President, Dr. E. RIVAZ-HUNT, in the chair, Mr. F. E. FEILDEN gave an address on the treatment of urethral strictures, and demonstrated the old and new types of urethroscopes.

Mr. Feilden said that stricture of the urethra was a serious condition, but it was not seen so frequently now as a comparatively few years ago. For its efficient treatment it was necessary to realize that the bulb, where most strictures occurred, was the widest portion of the urethra and the external meatus the narrowest. Many strictures could be cured by a Kollmann's dilator. The best results in urology were only to be obtained by an intimate knowledge of the pathological condition. Strictures of the urethra in order of frequency were of inflammatory, traumatic, and congenital origin. Gonorrhoeal strictures were often multiple. A single stricture in the penile urethra was uncommon. Except after operation, strictures were rarely found in the prostatic urethra. About 75 per cent. of strictures occurred in the bulb, probably partly because this was the most dependent part of the urethra and gonorrhoeal discharge tended to collect here. Moreover, since this was the point of the fixed course of the urethra, the full force of micturition was directed hither, producing trauma, which resulted in infiltration of the mucosa. When the narrowing had progressed sufficiently to cause obstruction, the force of the urinary stream increased the chronic inflammatory reaction. In support of this view it was added that in cases of multiple strictures the narrowest stricture was situated nearest the bladder. Mr. Feilden thought that excision of strictures should be reserved for those due to trauma; in other cases it was unnecessary. It was probable that the incidence of stricture could be reduced if every patient with gonorrhoea, before being discharged as cured, was submitted to full dilatation. Greater use should be made of the urethroscope; some strictures could not be diagnosed without its aid. A gentle hand was most essential in passing urethral instruments. Unfortunate results were produced not so much by the introduction of organisms as by avoidable trauma of the urethral mucosa. Most strictures were amenable to treatment by dilatation. As regards silver instruments, the smaller sizes should be avoided, for they were likely to produce false passages. Silk-web bougies should be used up to 18, then steel bougies up to 12/15; the stricture should then be dilated up to 45 (Charrière scale) with the Kollmann pattern. In chronic retention, to avoid disaster, rapid evacuation of the bladder should never be allowed to occur. Strictures must not be forced, but some could be rapidly dilated at one sitting. Internal urethrotomy was a most satisfactory operation; often after internal urethrotomy and full dilatation no further instrumentation was necessary. If there was marked urinary infection or renal insufficiency, drainage of the bladder should precede the urethrotomy. In impermeable strictures or those resulting from trauma, the urethrotomy of Wheelhouse was the method of choice; it should be used in all cases of stricture of the bulb associated with periurethritis, periurethral abscess, extravasation of urine, or severe cystitis. In elderly patients with recurring epididymitis a bilateral vasectomy might be performed with advantage. A malignant prostate closely resembled a stricture in that there was no residual urine in either case. Tabes, by producing bladder atony, might be the cause of an apparent acute or chronic retention. The infection behind the stricture must be treated concurrently with the stricture.

Reviews.

SLIT-LAMP OPHTHALMOSCOPY.

An introduction of the direct examination of the eye by ans of an efficient microscope and the slit-lamp has given ophthalmic surgeon a most refined and beautiful addi- nal mode of extending the field of his investigations. r those to whom the method is known by name, but to om its basis is mysterious, a reference to an observation ich most children make, with wonder, will provide a fficient explanation. Who has not seen a narrow ray of nlight coming through the shutters of a closed window, d seen that the air was full of moving particles brilliant the sun-ray? That in essence is slit-lamp examination of e eye. By means of an appropriate projection apparatus, e device of Gullstrand, a thin ray of light can be focused on and made to cut into the eye; and the illuminated ction which this ray makes against the rest of the dark d unilluminated eyeball can be examined with a binocular icroscope almost as though that section were on the age of the microscope. This mode of investigating patho- gical processes of the living eye, particularly in the rnea, iris, and lens, has been much exploited in the last w years, and some stimulus was given to it by the iddlemore Prize competition of the British Medical ssociation. There has just been issued a work by Mr. ARRISON BUTLER of Birmingham a valuable and most mplete *Illustrated Guide to the Slit-Lamp*[1] as applied to isease conditions in the eye. It is a fine piece of work, to ie making of which there has gone much careful observation nd accurate recording. The work is founded upon a series f lectures at the University of Oxford, together with the oyne Memorial Lecture and the Montgomery Lectures iven at Dublin University. But there is nothing discon- ected in the presentation of the subject in the volume nder review; it is no longer a series of lectures but a o-ordinate whole. Mr. Harrison Butler is not only to be ongratulated on his text, but also complimented upon is skill as a draughtsman, for, although he does not say o in so many words, we believe that the whole of the 58 illustrations in the text and the 21 additional figures n the five coloured plates are the work of his own hand. Many of these are very beautiful, almost fascinating; only n a few has the printer failed to do justice to the picture.

The use of the slit-lamp has brought no revolution to he methods or theories of ophthalmology; it has done nothing for medicine so amazing as did the introduction of he ophthalmoscope; nor has it changed the work of the phthalmologist as did the discovery of the objective method f investigating the refraction of the eye by retinoscopy. t is a refinement upon existing methods. Focal illumina- ion has been employed as long as the eye has been subject o examination; magnifying lenses were used so soon as they were made available; and the use of the condensing lens and the hand loupe will never be superseded. But the fine ray of light of the slit-lamp and the binocular microscope give an image of such detail and of such size that the new com- bination is as superior to the hand lens and glass as is a good oil-immersion objective with a well focused substage con- denser better than an old-fashioned triplet objective. In certain conditions the slit-lamp is of great value in dia- gnosis. To determine the existence of interstitial keratitis is not always easy by the usual methods; but with the slit- lamp there is a picture so typical that it cannot be mis- taken for anything else. The infiltration of the cornea is seen to be fundamentally associated with the posterior layers of the corneal stroma; and though, when the inflammation is at its height, the more anterior zones may participate in the process, yet this is secondary to the main focus in front of Descemet's membrane. The great thickening of the cornea is also notable. The appear- ance presents a marked difference from keratitis of the phlyctenular type. But its value is even greater in the diagnosis of sympathetic ophthalmitis, which causes the greatest anxiety to the ophthalmic surgeon. In eyes suspected of this disease Mr. Butler urges the imperative necessity for the use of the slit-lamp. A characteristic sign, shared with other forms of severe cyclitis, is the presence of cells in the vitreous, the retrolental space, and the aqueous. Later, keratitis punctata and nodular iritis appear. If in an injured eye there be some inflammation but no signs of cells in these parts, it is improbable that there is sym- pathetic disease. If, with other clinical signs, a cellular infiltration be evident, the eye is likely to be dangerous. Finally, if there be similar cells in the other eye, then the eye is sympathizing, and treatment is urgent.

The book is well printed, and, as we have noted, pro- fusely illustrated; it will be of great service to other workers in this field of clinical investigation.

[1] *An Illustrated Guide to the Slit-Lamp.* By T. Harrison Butler, M.A., D.M.Oxon., etc. Oxford Medical Publications. London: Milford, Oxford University Press. 1927. (Cr. 4to, pp. xii + 144; 158 figures, 5 plates. 30s. net.)

WHOLESOME MEAT.

The central departments for health in both England and Scotland have made good use of the powers conferred upon them, under the Public Health (Regulations as to Food) Act of 1907, to make regulations for preventing danger arising to health from the importation, preparation, storage, and distribution of food and drink, and codes have been drawn up for both countries, equivalent in substance, though differing slightly in form, which lay down the action to be taken by meat inspectors on finding evidences of tuberculosis or other disease in the carcasses of bovine animals and swine. To all engaged in these responsible duties *The Principles and Practice of Meat Inspection*,[2] by Dr. GERALD LEIGHTON, should prove a reliable guide. Dr. Leighton describes the slaughterhouse and its methods. He cites in some detail the American federal system, under which pork is not microscopically examined for *Trichinella*, on the ground that no micro- scopic method is even approximately effective, and that the surest safeguard, to cook pork well, is within the reach of all. The subject of humane slaughter is carefully explored. The use of the hammer, the pole-axe, and the various shooting instruments is compared with that of the knife alone. The author's treatment of the question is impartial and he does not attempt to dogmatize, but from the facts presented by him the impression remains that there is no excuse for cruel ways of killing. The comparative anatomy of the different food animals is succinctly indicated, the distinctions between the respective cuts and organs being clearly figured and explained. The importance of the lymphatic system is recognized and the significance of glandular enlargements shown. Dr. Leighton sets forth the etiology and effects of the parasitic infections. He recounts the cryptic story of the ox warble-fly, pointing the moral with a vivid illustration of an ox-hide perforated by larvae. He tells of *Oestrus ovis*, of the liver-fluke and its trans- migrations, and of other meat-infesting parasites. In his section on bacteriology the refer[illegible] should help to dissipate some ascribes it in one of its forms t Gaertner, in the other to *B. botulinus*. He dismisses ptomaines as a practical cause of meat poisoning. "These poisonous amines," he quotes, "are only formed when putrefaction is far advanced, and when the food is in such a state as to be altogether repulsive." Descending into the underworld of the meat traffic he discusses the foetal carcass, emergency slaughter, fallen animals, and the meat which he names worst of all, that of cattle dead of septic parturient fever. Among his other topics of outstanding interest are the local and general frequency of tuberculosis in cattle and other animals, the relation of bovine and swine tuberculosis, the diseases of organs and special parts, tinned foods, and the inspection of fish, game, and poultry. Dr. Leighton's book is admirably illustrated. Though primarily addressed to meat inspectors, it may be cordially recommended to the perusal of all, whether medical practi- tioners, medical officers of health, or students for a degree or diploma in sanitary science, who are interested in the important subject with which it deals.

[2] *The Principles and Practice of Meat Inspection.* By Gerald Leighton, O.B.E., M.D., D.Sc., F.R.S.E. Edinburgh and London: W. Hodge and Co., Ltd. 1927. (Roy. 8vo, pp. xv + 465; 120 figures. 25s. net.)

MALARIAL PSYCHOSES AND NEUROSES.

THE mental and psychic aspects of malaria have been largely neglected in the past, and the work of Dr. W. K. ANDERSON on *Malarial Psychoses and Neuroses*[3] is, therefore, welcome. The child of neglect, when its unfortunate condition once comes to be recognized, is rather liable to suffer from excessive attention and over-indulgence; the author states in his preface that the book comprises his "experience of mental and nervous conditions apparently arising from malarial infection," and that "it will be seen that very few syndromes are absent from the list." While acknowledging that it is more than high time for so important an aspect of this most widespread of tropical scourges to be properly dealt with, we think that it is a pity that no check should have been inserted to prevent an excessive swing of the pendulum.

Of the introductory chapters, that on malaria in history, though condensed into the short space of eight pages, is interesting, and the attempt to correlate the symptoms of malaria, in its acute and chronic forms, with sympathetic, parasympathetic, and endocrine action is ingenious.

The practitioner in the tropics is always taught to bear in mind in all cases of fever the possibility of malaria, owing to its protean manifestations and remarkable powers of mimicry, but at the same time to remember that all sojourners in a malarial district are liable to show parasites in their blood and not allow themselves to be led away by this fact to regard all conditions in which such parasites occur as malarial. The tropical reader of this work will therefore be less likely to interpret the association of malaria or the subsequent finding of malarial parasites in any particular syndrome as instances necessarily of cause and effect.

The work is interesting to read, for, though largely of the nature of a compilation or selection of cases culled from the medical literature of various countries, the author's comments upon them are both instructive and suggestive, though it is clear that in a certain number of instances the diagnosis of malarial origin of the symptoms is arrived at largely by exclusion. When, after the preliminary chapters on malaria in general, the author comes to treat of the psychoses and neuroses, subjects which he has made more particularly his specialty, he seems not only to be on surer ground, but also more guarded in his conclusions, though it is sad to hear that "there is reason to believe that many cases of this kind [mental confusion the result of malaria in the war] were shot for desertion before the nature of this class of case was adequately understood." He wisely concludes an interesting chapter on clinical dementia praecox with these words: "It would be hard to say whether the cases of this series which had remained ill beyond a year were cases of true dementia praecox with malarial infection added, or whether permanent brain changes . . . had resulted from the malaria. . . ."

The book attempts to prove too much; according to it there seems to be no symptom, hardly any combination of symptoms, which cannot be ascribed to malaria, and were the views given acted upon in tropical countries it would be the rarest event for a native criminal to be brought to justice, or at least to be held responsible.

When so close a resemblance is demonstrated between certain malarial infections and general paralysis, and even the actual production of the latter by the former, it seems strange that no mention is made of the treatment of general paralysis by malaria, if only to point out a possible danger. Perhaps it was not regarded as coming within the scope of this work, but it opens up an interesting question in therapeutics.

To the similarities and relations between alcoholism and malaria a whole chapter is devoted, and part also of the preceding one is on its medico-legal aspects. This will doubtless be eagerly read by those barristers called upon to defend the reckless motorist who, happening to have been at some time in a malarious district or to have served in the war, has foolishly substituted liquid for the customary solid lunch.

The book has been well produced; the print is clear, the text remarkably free from misprints, the figures and micro-photographs are good, and the coloured plates beautifully reproduced. Judicious pruning in the next edition would add considerably to the value of the book.

[3] *Malarial Psychoses and Neuroses.* By W. K. Anderson, M.D., F.R.F.P.S.Glas. Oxford Medical Publications. London: Milford, Oxford University Press. 1927. (Cr. 4to, pp. viii + 395; 18 figures, 4 plates. 42s. net.)

SHELL SHOCK AND AFTER.

IN *Shell Shock and its Aftermath*[4] Dr. NORMAN FENTON, associate professor of psychology, Ohio University, has presented a careful and systematic investigation of the cases of war neuroses among the American Expeditionary Force which came under his care in France, and what subsequent history after their return to America he has assiduously explored.

All too often, as Professor SALMON, who has written an introduction to this book, observes, the emotional reactions of human beings are examined in a single setting and under a particular kind of stress. It is the unique contribution of Dr. Fenton to provide a longitudinal review of his cases, examining not only the nature of the neuroses at the time, but following them up and demonstrating the persistence or reappearance of the psychoneurotic manifestation in adverse circumstances, and in other cases its disappearance under wise psychotherapeutic guidance. It is with the aftermath rather than with the initial state that Dr. Fenton is primarily interested; and the data he has been at such pains to collect are examined for the purpose of reaching some definite conclusion regarding the ultimate outcome of war neuroses.

Dr. Fenton's work was at first carried out at Base Hospital 117, A.E.F. He had there the opportunity of first-hand study of war neuroses. Since then on two occasions he was enabled to trace the after-histories of his cases in 1920, and again in 1924, and to study the process of rehabilitation in civil life. To this end the mental and physical make-up of a typical group of shell-shock victims were examined; their social and economic background; their behaviour at home shortly after their return to America; and then some years later. In this respect the correlation between the military classification of these cases and their subsequent readjustment to civilian life is of interest. Dr. Fenton finds a positive correlation showing the prognostic value of such classification.

The typical war neuroses, such as gas syndrome, exhaustion, concussion, anxiety, show the best recovery rate, except for gas neuroses; and the more pronounced constitutional types, psychasthenia, etc., rank lower. Dr. Fenton's studies convince him that one of the significant facts regarding the after-history of war neurosis is the relative infrequency of psychotic developments.

Dr. Fenton's book is highly interesting and most readable. His discussion of the nature of war neurosis shows that his point of view is not only that of a psychologist; he gives a broad survey of the underlying problems, physiological and social and psychological. Many illustrative tables accompany the letterpress.

[4] *Shell Shock and its Aftermath.* By Norman Fenton, Ph.D. With an introduction by Thomas W. Salmon, M.D. London: H. Kimpton. 1926. (Roy. 8vo, pp. 173; 12 figures, 1 plate. 12s. 6d. net.)

NOTES ON BOOKS.

DR. GROSSFELD undertook to write an introduction to a book on the analysis of foods[5] at the suggestion, as stated in the preface, of Geh. Regierungsrat, Univ.-Prof. Dr. phil., Dr. ing. h. c., Dr. ph. nat. h. h. c. J. König in Munster i. W. It brings together the various processes which are described in the larger textbooks as forming the daily work in the laboratory, and to present them in shortened form, but in sufficient detail to enable them to be carried out from the descriptions. The author has, he tells us, paid special attention to recent developments, and describes many new methods which do not appear in König's comprehensive work on foods; he would therefore

[5] *Anleitung zur Untersuchung der Lebensmittel.* Von Dr. J. Grossfeld. Berlin: J. Springer. 1927. (Sup. roy. 8vo, pp. xii + 409; 26 figures. R.M.22.50.)

to wish his book to be regarded as to some extent a ment to the third volume of that work. Of the more matter may be mentioned a method of analysing wines, ichlorethylene method of estimating the fat content of a simplified method of estimating the lecithin-phosphoric onstituent in eggs, requiring only small samples, a simpli- ethod of calculating the alcohol content when present in percentages, and the recently introduced pectin estima- which has proved of importance in connexion with the vation of fruits. In order to facilitate the often ous calculations involved in analytical work a number bles have been introduced dealing with the fat t, the nitrogen content, saponification, the refraction the sugar content, and many other matters. The first f the work deals with methods generally; the second part he analysis of the individual foodstuffs, their impurities dulterations; and the appendix includes sixty pages of

quito Reduction[6] is a small book intended for those— ularly laymen—who are engaged in antimalarial work in It includes a general account of the causal agents of ia, the biology, morphology, and habits of the mosquito, he main outlines of preventive work. Appendixes on the ing, preservation, dispatch by post, and the identification e Indian species of anopheline mosquitos are also pro- Any attempt to cover such extensive ground within so-limited must of necessity be sketchy, but the authors succeeded in providing an accurate survey of the main s in an antimalarial campaign in a manner which can be understood and digested by an intelligent layman. The (4s. 6d.) of such a small handbook seems to be rather and may prevent it securing the circulation it deserves.

Outwitting Middle Age[7] Dr. CARL RAMUS, author of *iage and Efficiency*, has provided a book for popular con- tion, which the preface assures the reader will change mature person's outlook on life by showing that the bogy iddle age, if resolutely faced, can be driven forward into eding future, the duration of which in years cannot be ated at present. Much information is given on many s, including the causes and prevention of middle age, facts t foods, the glands of internal secretion, rejuvenation and ach's and Voronoff's operations, the influence of drugs, ology, the climacteric, and historical cases of longevity, as Ninon de Lenclos and of two living people, one of them Adolph Lorenz, the famous Austrian orthopaedic surgeon, publicly stated in 1926 that when 67 years of age he under- the Steinach operation, and advised every man over 60 very man with early arterio-sclerosis to follow his example; Fanny Ward seems also to have been freely discussed in ress. The literary style cannot conscientiously be described edantic or dull, for here is a quotation: "Psycho-analysis already psyched almost everything worth psyching, and it went into old traditions and folklore it found so many lels with fantasy and day-dreaming that it took a kangaroo to the conclusion that *all* old stories and religious accounts merely dreams and fantasies on large scales—racial ensation dreams."

he Honorary Secretary of the Library Association states that publication of the *Subject Index to Periodicals, 1922*,[8] com- es 6,200 entries obtained from the examination of 300 odicals. To review a restricted list of selected references to e of the subjects published more than four years ago comprised in the scope of the terms "science" and "technology" ires the reviewer to put himself in the position of an irer in a library concerning some one of the subjects included he index. If the inquirer consults one of the periodicals rred to he will find further references made to his subject ing 1922. Moreover, he will, with a little more research, over other publications during the same period which relate is subject. There would, then, appear need for an explana- , placed upon the forefront of such an index, as to the is upon which the selection of such references has been le in order to induce a library to preserve the collection references as of permanent value, although made some e ago.

Mosquito Reduction and Malarial Prevention. By J. A. Crawford, , Ch.B.Edin., Captain R.A.M.C., and B. S. Chalam, L.R.C.P. and S. n., L.R.F.P. and S.Glas. London and New York: Oxford University ss. 1926. (Cr. 8vo, pp. x + 102; 15 illustrations. 4s. 6d. net.)

Outwitting Middle Age. By Carl Ramus, Surgeon U.S. Public Health vice. London: George Allan and Unwin, Ltd. 1926. (Cr. 8vo, xi + 269. 7s. 6d. net.)

The Subject Index to Periodicals, 1922. Issued by the Library Associa- n, K: Science and Technology. London: Published by the Library ociation; Agents: Messrs. Grafton and Co. 1926. (Med. 4to, pp. 271. 1s. net.)

PATENTED RESEARCH.

IN an article under this title published a short time ago (March 12th, p. 479) reference was made to the action of Dr. George Dick and Dr. Gladys Dick in patenting the method they had elaborated for the recognition, prevention, and treatment of scarlet fever, and the wisdom of this course was called in question. They have now made a communication to the *Journal of the American Medical Association* for April 23rd, the last issue to reach this country, in which they explain the motive by which they were actuated. Their early researches were published in 1923 and 1924, and accounts of their results were given in this JOURNAL from time to time.

In the statement now published they say that it was suggested at about this time to them that a patent should be obtained in order to safeguard the quality of the materials sent out. At first they rejected the suggestion, but later on commercial firms began to distribute products undesirable on account of faulty methods of preparation, inaccurate standardization, or inadequate dosage. The action of these firms convinced them that some additional means of controlling the quality of the scarlet fever products ought to be found. After consultation with prominent members of the medical profession and with Government officials a patent was obtained. Its administration was placed in the hands of a committee composed of the director of the John McCormick Institute, where the research was done; two well known philanthropists who have made liberal donations to research, medical schools, and hospitals; the benefactor whose generosity was largely responsible for the development of scarlet fever antitoxin; the attorney who obtained the patent and who had consulted officers of the American Medical Association and had their approval before undertaking that work; a secretary; together with the two Drs. Dick, who would furnish technical advice as to the methods, standards, and dosage. "No member of the Scarlet Fever Committee," the statement continues, "receives any compensation for his services, with the exception of the secretary, who receives $25 a month." It is stated that during the first year and a half of its existence, the Scarlet Fever Committee secured the co-operation of four of the best American manufacturers, who agreed to distribute only those scarlet fever preparations which should meet the standards of the committee. It is stated further that when the application was made for the British patent (as reported in our columns on March 19th, 1927, p. 526) a licence was offered to one of the largest manufacturers in England, but that no answer was received. The preparations made by manufacturers licensed in America can now, it is stated, be obtained in England. With regard to the sale of the products "the Scarlet Fever Committee does not attempt to fix prices, believing that by not granting a monopoly, thus retaining the factor of competition, and wording the licence contracts so that with every reduction in price to the consumer the manufacturer reduces the sum paid the committee for testing his products, the lowest prices compatible with good quality and fair profit to the manufacturer will most quickly come into effect. This belief has been justified by the reductions in prices already made by licensed manufacturers." From the statement before us we learn that the committee maintains an organization for testing samples of every lot of each scarlet fever product manufactured by its licensees. Two health departments in the United States which made application received free licences. In addition, the committee has furnished without charge the materials and workers necessary to the control of a number of epidemics of scarlet fever in communities, schools, institutions, and hospitals. The committee also maintains research work directed towards the solution of technical difficulties and other problems connected with the control of scarlet fever.

We readily and frankly admit that, though the general principle involved raises considerations which are of serious and, it may even be, sinister importance, this statement is sufficient to show that, as we had hoped might prove to be the case, no charge against the investigators, Drs. George and Gladys Dick, of seeking to commercialize their method

for their own pecuniary benefit or that of any organization, can be sustained. They were in a difficult position, as others have been and will be, and no doubt took what they felt to be the best way out.

The *Journal of the American Medical Association*, in commenting on the statement by the Drs. Dick, writes:

Medical science and its discoveries for the relief of human ills should know no national boundaries. Nevertheless, the intricacies of modern commercial methods make necessary some means for protecting the discoverer and the public against those who would take undue advantage of both. The Insulin Committee of Toronto, the patents on thyroxin and on the scarlet fever preparations, have been attempts to find a way in the maze of commercial promotion and deceit. Perhaps none of these methods is satisfactory. Some organization—the American Medical Association, the British Medical Association, the Medical Research Council of Great Britain, or even the Chemical Foundation—should seek a means of giving the discoverer his due, throwing the products open to fair competition in manufacture, protecting the public, and prosecuting to the utmost those who undertake to go beyond the magnificent altruism of medical tradition for their personal gain.

That opinion in America on the advisability of patenting the application of results of research is not unanimous is shown by an editorial article in the *American Journal of Public Health* of last September, to which our attention has just been called. It states that the taking out of a patent by the Drs. Dick on the production of a scarlet fever toxin and antitoxin has led to a great deal of criticism.

No new bacteriological procedure was involved in their production. . . . Scarlet fever antitoxin was made in Vienna many years ago and used with success. . . . There does not appear to be anything strictly original in the method of growing the germ or the production of the serum, and one is indeed puzzled to understand how it was considered patentable. . . . It is well known that scarlet fever toxin and antitoxin are being produced by methods different from those put forward by the Dicks, and from cultures obtained from different sources, with results which are apparently equal in every respect to those obtained from material controlled by the Dicks, and the Scarlet Fever Committee, of which they are members. . . . There seems to be no reason for believing that preparations licensed by the Scarlet Fever Committee are or will be any better than those put out under the authority of the Public Health Service.

THE ROYAL AIR FORCE.

REPORT ON THE HEALTH OF THE FORCE IN 1925.

THE report on the health of the Royal Air Force for the year 1925 deals with a total strength of 33,028, of whom 23,838 were stationed in the United Kingdom, 3,632 in stations of the Mediterranean littoral, 3,590 in Iraq, and 1,950 in India. The personnel in the Mediterranean littoral includes 2,092 in Egypt, 692 in Malta or on aircraft carriers, and 593 in Palestine. The disease and injury incidence is admirably analysed in a series of four chapters, with appropriate tables in each.

The incidence of sickness and injury, excluding minor cases of less than forty-eight hours' duration, amounted to 447.2 per 1,000 of the total force, as compared with 463.6 in 1924 and 494.8 for the previous three-year period. The death rate was 4.2 per 1,000, compared with 4.5 in 1924. The actual number of deaths was 138, and of these only 36 were due to disease, while 102 were due to injuries. This marked excess of deaths from injury as compared with deaths from disease is characteristic of the Air Force and significant of the risks of flying. The total number of injuries in 1925 was 2,239, or 67.8 per 1,000 of strength. The report gives a full and interesting analysis of these: 61 per cent. occurred on duty, and, as in previous years, the majority, 48 per cent., were injuries of the lower limbs, chiefly sustained in athletics. The number of flying casualties on duty was 155, as compared with 169 in 1924. They were comparatively fewer in 1921, 1922, and 1923, when the numbers were 86, 102, and 112 respectively. The deaths from flying accidents were 55, but, taken as a percentage of the total flying casualties—namely, 35 per cent.—they compare favourably with all these years, the percentage being 42 in 1921, 49 in 1922, and 41 in 1923 and 1924. Eight of the deaths were caused by collisions. There were 33 injuries and 1 death from handling or in connexion with airscrews, 43 injuries were from starting other engines, and 400 with 18 deaths from motor accidents. Parachute descents caused 5 admissions for injury, 1 of which was fatal. There were also 4 cases of wounds in action when an aircraft was shot down in Iraq, and also in India; all proved fatal. There were 5 deaths from drowning whilst bathing.

There is little to note in connexion with the incidence of disease. Venereal diseases have fallen from 22.3 per 1,000 of strength in 1924 to 19.9 in the year under review. The highest disease incidence, chiefly from influenza, diseases of the upper air passages and of the digestive system, occurred amongst apprentices. A useful table indicates the case incidence according to age groups, the strength of each of which is shown. The age group under 18 shows an incidence of disease practically double that of other age groups, while the age group 24 to 25 shows the highest injury incidence.

In stations abroad Basrah proved the most unhealthy, as in previous years, with an admission rate of 922.4 per 1,000 of strength. Dysentery, malaria, and sandfly fever accounted for 60 per cent. of the admissions. The report notes that the prevailing type of dysentery in the stations abroad was protozoal in origin, thus emphasizing what has already been recorded regarding the prevalence of this type in Eastern countries. Two cases of primary infection with benign tertian type of malaria occurred in England at Eastchurch, neither of the patients having served abroad. It is stated that malaria is not uncommon amongst the civilian population of the district.

The final chapter of the report deals with miscellaneous subjects, such as the work of the Central Medical Board; the medical officers' school of instruction and research laboratory; the physical efficiency examination of officer and airman pilots, which takes place at the end of each year; the medical examination of recruits; hygiene and sanitation at home and on foreign stations; and a few other subjects, including transport of sick and wounded by air. On this last duty aircraft made 81 journeys in Iraq, carrying 176 cases, as compared with 81 cases in 1924, and flying 14,492 miles. It is only in Iraq that aircraft are employed as a routine procedure for this purpose. Several types are used, including specially constructed ambulance aeroplanes for sitting or stretcher cases and attendants; 126 of the 176 cases were carried in these.

The report as a whole maintains the high character of the annual reports of the medical department of the Royal Air Force, and contains statistics, such as incidence of disease and injury according to strength of each age group, not found in the reports of the health of the Army or Navy. It is also of interest to note that the success of the Air Force in the prevention of sandfly fever in Malta, in accordance with the methods recommended by the R.A.F. Sandfly Commission of 1922, continues; and that considerable activity is displayed in connexion with pathological work in Royal Air Force laboratories. Clinical laboratories were established in 1925 in the R.A.F. hospitals at Halton and Cranwell in England, and at Hinaidi, Basrah, Mosul, and Ludd abroad. The central laboratory was moved in January from Finchley to Halton as a separate unit, and designated the R.A.F. Pathological Laboratory, to act as a centre for the clinical laboratories.

PATHOLOGICAL RESEARCH UNDER THE METROPOLITAN ASYLUMS BOARD.

OPENING OF NEW LABORATORIES BY MINISTER OF HEALTH.

THE new research and pathological laboratories of the Metropolitan Asylums Board, situated at Park Hospital, Hither Green, were opened by the Minister of Health on May 9th. These laboratories have been built as part of a plan of reorganization of the research and pathological services upon which the Board embarked in 1924. It was then decided to transfer certain of the laboratory work hitherto carried on at Belmont, in Surrey, to laboratories attached to "acute hospitals," and in the first place to institute two group laboratories, one in the north and the other in the south of London, each to serve the needs of several hospitals by carrying out work requiring special technique and undertaking original research. A temporary building has been adapted at the North-Eastern Hospital to serve as the northern group laboratory, and the new laboratories at the Park Hospital will form the southern group laboratory and be the headquarters of the Board's director of research and pathological services. Routine bacteriological examinations will be carried out at each of the Board's hospitals, but such work as virulence tests, section cutting, blood culture, and the preparation of vaccines will be undertaken at the group laboratory, as well as investiga-

quiring animal inoculation. The laboratories are for research into the primary causation of the from which the inmates of the Board's institutions ering, and as the largest section of the Board's the provision for cases of infectious disease the ries have been built in association with a fever Arrangements have been made whereby volunrkers can be granted facilities for research in the ries.

aboratories, which are separate buildings in the of Park Hospital, comprise a main block for the ry proper, with a lecture room for medical students ig the hospital for instruction in fevers, and, at a stance, an animal house. On the ground floor of n building are a media room, opening from which ilizing and centrifuge rooms, and a cold and a hot The cold room, insulated with slab cork, has a mean ture of 32-37° F., and the hot room is kept at by means of a steam pipe. On the first floor are nd smaller laboratories, a section-cutting room, and graphic department. The animal house has pens for bbits and guinea-pigs, an experimental room with ial cages of galvanized iron, and a small inoculation a which experiments are done and autopsies on performed. In the equipment of the laboratories improvements have been introduced into the stand types of apparatus to secure ease of working, and ar instruments have been provided as far as possible ent eye fatigue. The total cost of the buildings, r with fittings and equipment, has been about).

he opening ceremony the chair was taken by Mr. Morris, J.P., chairman of the Board, and other rs and officials were on the platform, including H. Thomson, chief medical officer of the infectious ls service, Dr. J. E. McCartney, director of research thological services, and Dr. T. H. Woodfield, medical tendent of Park Hospital. The Chairman said that infectious diseases work of the Board, which was on in sixteen hospitals containing 8,800 beds, all f problems had to be faced. He gave as an illus- the recent rearrangement of the provision for s and for scarlet fever in view of the fact that the n type of scarlet fever seemed to be growing milder e common type of measles more virulent. The Board llowed the plan of the general hospitals in giving ty facilities as possible for the education of students various institutions. It had also devoted itself for years past to the subject of prevention. In 1909 it the work of serum production at Belmont, and in ppointed a research pathologist to inquire into the ion, infectivity, prevention, and treatment of zymotic , and to keep in touch with the medical superintenof the various infectious diseases hospitals with a o elucidating the primary factors in the causation diseases from which the patients in the hospitals suffering. This research pathologist was provided laboratory at first at the Lister Institute and later National Institute of Medical Research. In 1921 oard, after consultation with the Medical Research il, set up a scientific advisory committee, of which . H. Thomson was chairman, to exercise general ision over the research work carried on by the patho- and over the diphtheria antitoxin and bacterio- l laboratories. It was following upon a report from ommittee that the present developments had ensued. pressed thanks to Sir George Newman and Sir George man, of the Ministry of Health, and Sir Walter ier, of the Medical Research Council, for much ble advice and assistance, and said that the Board nxious that the new laboratory should be used, not for ie work, but for fundamental discovery.

NEVILLE CHAMBERLAIN said that vast as was the utional provision made by the Metropolitan Asylums l it could not be said to be too large. Last year ndon, apart from tuberculosis, 33,000 cases of in- us disease were notified. The Board was known ghout the country as a model of administration, but naintenance of these hospitals was a very expensive matter, and meant a substantial addition to the burden of the rates which was bearing so heavily upon the urban dweller. Mr. Chamberlain drew an allegory from his own experience as a manufacturer before he went into politics. One of the problems which he had constantly to face in his industry arose out of the presence of flaws in the material which were not discoverable until a considerable amount of money and labour had been spent in production. To find a means of discovering flaws at the earliest stage and of eradicating them was the continual concern of the manufacturer. Much the same thing applied in the infinitely more complex mechanism of human life. About 5 per cent. of the children born in London died from one of the infectious diseases before reaching adult age, while among those who survived there was an unknown proportion of crippling and disablement. If that wastage could be prevented it would mean—dismissing for the moment higher considerations and sentiments—a substantial decrease in the responsibilities of public bodies, and incidentally in the precepts which they were compelled to make upon the ratepayers. He thought it somewhat extraordinary that research upon the cause of infectious diseases should have been so late in arriving. Years ago, as a member of a public body, it was his duty from time to time to inspect an infectious diseases hospital, and he remembered that on the occasion of his first visit he asked the very clever and bright young gentleman who accompanied him to tell him what was the cause of scarlet fever. "Judge of my consternation when I found that I had bowled him out first ball." Even now it was not certain that the cause of scarlet fever had been ascertained. Some medical men thought that the villain of the piece had been discovered, others were of opinion that the wrong party was suspected, and there was still much to be done in the way of research. The average stay in hospital of a scarlet fever patient was eight weeks. If research could diminish the period by one week it would mean no small relief in a work of such dimensions as that of the Board. As a layman he was compelled to speak in non-technical terms with regard to the recent work on the building up of the defensive mechanism against scarlet fever; it seemed to him that an army of "anti-reds" was being trained to assist the regular forces of the patient's constitution. In diphtheria the guilty party had been arrested, tried, and convicted, and there a material advance had been made in immunity and in checking and controlling outbreaks of the disease. The case mortality from diphtheria in London at the beginning of the century was about 15 per cent., and to-day it was down to below 4 per cent. He would not say that that was all due to these discoveries, but nobody could doubt that they had played a considerable part in this reduction. To his mind the results achieved in these two diseases—scarlet fever and diphtheria—were sufficiently encouraging to enable it to be said that the money spent upon the provision of facilities for research was a good investment. The laboratories [illegible] er in size or ornament; they were but with the eye of imagination [illegible] them in the light of the great achievements of which they might be the home. Here might be won some of those victories which, though they did not ring round the world like Waterloo, nevertheless had their deep and permanent effect upon the happiness and prosperity of the human race. As Minister responsible for the department whose chief object was to reduce the necessity for having such a Minister at all, he commended the work, and congratulated the Board on the vision and imagination which had led it to plan this enterprise.

The thanks of the Board to Mr. Chamberlain were conveyed by the Rev. Canon SPRANKLING, chairman of the Infectious Hospitals Committee, and Sir D'ARCY POWER, a member of the Board. Among others present at the ceremony were: Sir George Buchanan, Sir F. W. Andrewes, Sir Walter Fletcher, Lieut.-General Sir M. H. G. Fell, Professors C. J. Martin, A. E. Boycott, and L. S. Dudgeon, Dr. Andrew Balfour, Dr. T. Carnwath, Dr. Morley Wenyon, Dr. Foord Caiger, and the mayors, medical officers of health, and town clerks of Lewisham, Camberwell, and other metropolitan boroughs.

SIXTH BRITISH CONGRESS OF OBSTETRICS AND GYNAECOLOGY.

(*Continued from p. 844.*)

The Cancer Problem in Gynaecology.

The second day of the congress was devoted to various papers and short discussions. Professor ARCHIBALD DONALD presided over the morning session, which was opened by Dr. W. P. GRAVES of Baltimore, who read a paper on the cancer problem in gynaecology.

Dr. Graves said that the object of his paper was to promote a more intelligent prophylaxis in treatment of those forms of cancer and pre-cancerous states related to gynaecology. In the combat against any given disease three factors had to be dealt with—namely, the primary cause, the exciting cause, and the cure. The primary cause of cancer was as yet unknown, but in many cases the exciting cause was certainly the prolonged irritation caused by discharges from neglected lesions or trauma. Cure was only obtained by surgery or irradiation, and for this early diagnosis was essential. Dr. Graves referred to the preponderance of cases of carcinoma of the cervix following injuries due to pregnancy, and to the frequency of previous uterine or cervical lesions in those cases occurring in nulliparous women. When no previous pathological factor was present he could only postulate an hereditary predisposition. As regards prophylaxis he had found that out of 5,000 cases where cervical lacerations had been repaired, only two had developed carcinoma of the cervix; he advocated early repair of cervical lacerations in all cases, since carcinoma, as shown by Leitch, might develop long after the source of irritation had ceased. Dr. Graves described several cases of carcinoma of the corpus uteri where the lining epitholium of the uterine cavity must have been subjected to the influence of a pent-up irritating secretion for a long period prior to the onset of carcinoma. This, he maintained, was the causative factor in the onset of carcinoma. In the same way he thought that the irritation caused by the contents of an ovarian cyst might convert an originally benign type into a malignant one. Similarly a discharge from the upper genital tract might give rise to a pre-cancerous and later to a cancerous condition of the vulva. He pleaded for early surgical treatment of all gynaecological conditions which might be the precursors of carcinoma.

Professor BLAIR BELL (Liverpool) endorsed Dr. Graves's views, and advocated that all women at and after the menopause should undergo periodic examination with a view to early detection of carcinoma. Sir EWEN J. MACLEAN (Cardiff) was not optimistic about the surgical possibilities in the cure of cancer. Of all the patients he had operated upon for carcinoma of the cervix only one was alive ten years subsequently. Dr. T. W. EDEN (London) agreed that all energies should be concentrated on diffusing knowledge that would bring cases of malignant disease to the surgeon at an early stage. Professor LOWRY (Belfast) referred to the importance of educating the general practitioner in this respect. Dr. ALLAN FOTHERGILL (Edinburgh) thought that a routine examination such as was suggested by Professor Blair Bell would result in widespread cancerphobia.

Sudden Death Caused by Manipulation of the Pregnant Uterus.

Sir BERNARD SPILSBURY (London) read a paper on sudden death due to manipulation of the uterus during pregnancy. He stated that in these cases death had occurred in circumstances pointing to an attempt to procure abortion. In the majority death had followed the injection of fluid into the uterus, partly separating the membranes. In two cases the introduction of an instrument into the cervical canal had proved immediately fatal, and in a third case the instrument had been passed into the body of the uterus. Death was caused in one case by the removal of a rubber tube which had been inserted into the cervical canal on the previous day. In not one case was serious disease found to account for death, and in the majority no disease could be found even on microscopical examination of the organs. The conditions leadi to these fatalities were: (1) the emotional state of t woman at the time of the attempt; (2) shock caused the manipulation; this appeared to be a reflex vasomot paralysis, producing a rapid fall in blood pressure.

Dr. A. DONALD (Manchester) commented on the su prisingly slight incidents which sometimes caused deatl Professor W. FLETCHER SHAW (Manchester) thoug careful consideration was necessary before accepting Si Bernard Spilsbury's views. The cause of death had n been proved, and an important factor—the possible after effects of drug taking—had been omitted. Professo R. W. JOHNSTONE (Edinburgh) suggested air embolism as possible cause of death in some cases. Professor BECKWIT WHITEHOUSE (Birmingham) said that no comparison coul be made between these cases and those of legitimat practice, in which the extreme emotional state was absent this was an important factor in sudden death. Si BERNARD SPILSBURY, in reply, said he had never seen case of air embolism following abortion, and doubted very much whether it occurred. He also emphasized the necessity of associating the medical findings with the criminal history and admissions. He compared these deaths with those which occasionally occurred on passage of a catheter. The possibility of degenerative lesions in the organs due to the taking of drugs could not be excluded.

The Use of Pituitary Extract and Ergot in Labour.

At the opening of the afternoon session, with Professor R. J. JOHNSTONE (Belfast) in the chair, Dr. ALECK BOURNE (London) read a joint paper, prepared by himself and Dr. J. H. BURN (London), on the dosage and action of pituitary extract and of the ergot alkaloids on the uterus in labour, with a note on the action of adrenaline. The direct method of measuring and recording intrauterine pressure by means of a water-filled bag connected with a mercurial manometer and writing point on moving paper had been employed to estimate the action and dosage of pituitary extracts and the ergot alkaloids at Queen Charlotte's Hospital. The paper, which was illustrated by lantern slides of graphs and tracings, showed that a dose of two units of pituitary extract was safe and efficient during the later stages of labour. While the strength of the extract made by different manufacturers varied at present, it would be compulsory after August, 1927, for the containing ampoule to show the number of units. Of the three alkaloids of ergot, it was found that tyramine had no effect on the uterine musculature, while histamine produced a small but rapidly induced increase in the frequency and force of uterine contractions when given in large doses. The effect was short-lived, and left the uterus in a condition of atony. Ergotamine caused a slow but prolonged state of uterine tonic contraction. Adrenaline given intravenously was found to induce a short period of complete uterine inhibition.

Deep X-Ray Treatment in Gynaecology.

Dr. L. CASSIDY (Dublin), in a paper on deep x-ray treatment of non-malignant gynaecological conditions, said that small doses of x rays produced a marked increase in cellular activity. From the practical standpoint two factors entered into consideration: first, the changes in cells and organs subjected to x rays, and secondly, the generalized effect upon the blood and nervous system. For hypomenorrhoea he advocated small stimulating doses to the ovaries. In a few of these cases radiation of the hypophysis had given very satisfactory results. In cases of complete amenorrhoea due to endocrine deficiency menstruation had returned in four cases after treatment by x-ray applications to the ovaries or hypophysis. In the same way, out of 20 patients with dysmenorrhoea and scanty menstruation, 10 had been cured and 4 much improved by radiation of the ovaries or hypophysis or both. For the polymenorrhoea of puberty and the menopause he recommended splenic radiation, and added that in menopausal bleeding unrelieved by splenic radiation cure could easily be effected by full doses applied to the ovaries. He also advocated small doses of x rays for abdominal and pelvic tuberculosis and for parametritis.

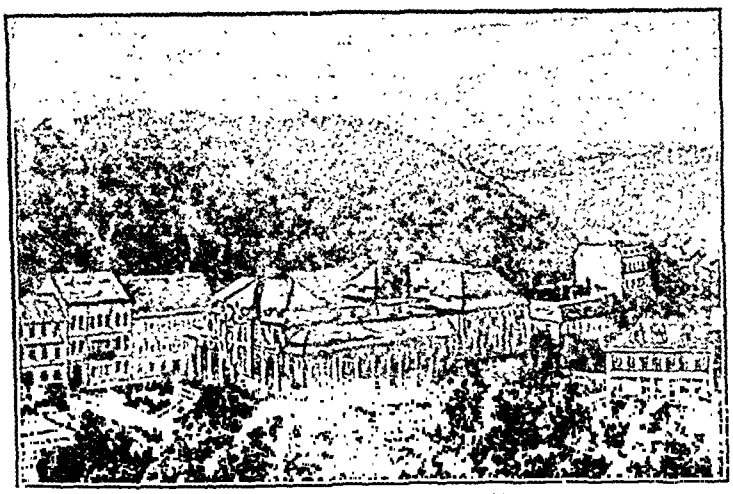
(To be concluded.)

THE SPAS OF CZECHOSLOVAKIA.

A MEDICAL TOUR OF PRAGUE AND THE HEALTH RESORTS.

JUST over a year ago the International Society of Medical Hydrology held its annual meeting in Czechoslovakia, in response to invitations from the Government and the spa municipalities of the new Republic. The members, numbering about 80, of whom a third were British, spent a week in visiting Prague and some of the chief watering-places of Bohemia and Slovakia.

This spring another party of British medical men, with a leavening of writers, made a longer tour of that country as the guests of the Society of Czechoslovak Spas, travelling day by day through the western spas to Prague, and thence eastwards to the Tatra Mountains on the Slovak-Polish frontier. In the course of a crowded fortnight they passed three nights in the capital, and examined, all too perfunctorily, a dozen health resorts. At every halting-place they were met by the leaders of the local profession and the civic authorities, whose kindness knew no bounds, and special facilities for travelling within the Republic were granted by the Government through the good offices of the Minister of Public Health and Physical Education, two of whose staff accompanied the party. Some acknowledgement of these and other courtesies will be made presently, and all that need be said now is that the organization of the tour, from beginning to end, was beyond praise.

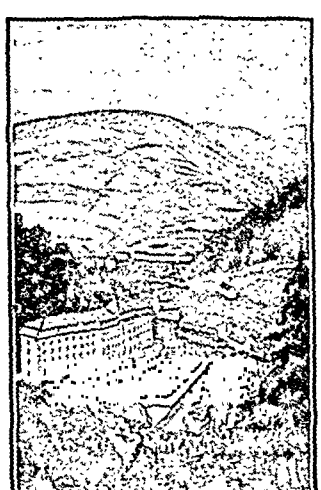


Teplitz-Schonau: Steinbad Bathing Establishment.

Czechoslovakia has been termed the land of spas, and apart from its natural charm and the architectural beauty of its capital the country has much to interest medical visitors. Nearly every branch of balneological practice can be studied on the spot at one or other of its watering-places; sanatoriums for the treatment of tuberculosis and other diseases abound in the Tatra Mountains; and Prague, with its universities, hospitals, clinics, and medical societies, is a great centre of professional teaching and scientific research. In this and later articles we shall give a brief account of the places seen, mainly from the medical point of view. A note on Czechoslovak Medicine appeared in the BRITISH MEDICAL JOURNAL of February 26th last (p. 396).

Of the many and varied spas scattered throughout the plains and highlands of Czechoslovakia a large part are municipal undertakings; others, such as Tatranska Lomnica, Strbské Pleso, and Jáchymov, are State-owned; and a few, like Pistany, are leased to private enterprise. Their names are now written in Czech, a language far too difficult for most foreigners, and it is not easy at first to recognize Carlsbad, Marienbad, Franzensbad, St. Joachimstal, and Teplitz-Schönau, under their new official designations of Karlovy Vary, Mariánské Lázně, Frantiskovy Lazne, Jáchymov, and Teplice-Sanov. These five mineral water stations lie in the north-west corner of Bohemia, and the first three at any rate, although renamed by order of the Czech Government, are still predominantly German. On the other hand, Poděbrady, within an hour's railway journey of Prague, is and always has been Czech through and through, while the "atmosphere" of Pistany and the health resorts of the High Tatras is almost as Slovak as their language. The first draft of the itinerary included a trip to the Moravian spa, Luhacovice (formerly Luhatschowitz), near the Hungarian frontier, but this was omitted out of consideration for the already hard-driven travellers; otherwise everything went very much according to plan. Most of the places were as yet scarcely out of winter clothes, so that their attractions in the high season had to be taken on trust.

The expedition left London on the morning of Thursday, April 14th, and returned on the night of Sunday, May 1st. Its route lay through Harwich, Flushing, Hanover, Leipzig, and Dresden. A railway accident near the Dutch frontier caused twelve hours' delay on the outward journey, and Good Friday was spent in travelling through Holland and Germany. At the Czech frontier town of Podmokly (Bodenbach) the visitors were met by Dr. Karel Driml, on behalf of the Minister of Health. Thereafter a special coach carried them on all their travels over the railway system of the Republic, with Dr. Driml and Mr. Zlaml (in charge of transport and hotel arrangements) as their guides and constant companions.



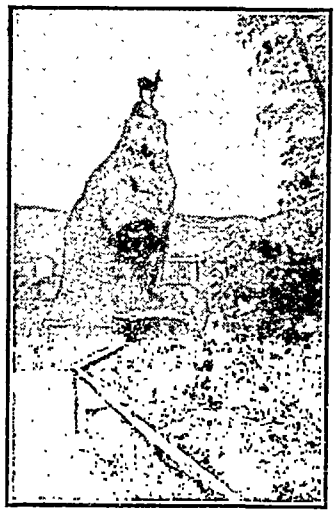
Jáchymov: Radium Palace Hotel and Baths.

Teplice-Sanov and Jáchymov.

These two spas, the first on the programme, have little in common beyond the radio-activity of their waters. Teplitz-Schönau, to give it the more familiar German name, is the oldest health resort in Czechoslovakia, with a history going back to Roman times and beyond. Its hot alkaline springs were very fashionable 120 years ago, and many illustrious names may be found in the archives. The well ordered bathing establishments are used for the most part by patients with chronic rheumatic and gouty disorders. The town is pleasantly placed, about 730 feet above sea level, in a wide valley sheltered by hills. From May to September is the best time for a visit, though the baths are said to be open all the year round; the Kurgarten must be delightful when the leaves are on the trees. After looking over the main bath-house and theatre the visitors were entertained to lunch by Count Clary, who welcomed them in perfect English in the name of the municipality and of his family, which has been closely linked with Teplitz-Schönau for 300 years.

Jáchymov (formerly St. Joachimstal) was reached in driving snow after a journey by train and car. Parts of this little winding one-street town are old, but the spa

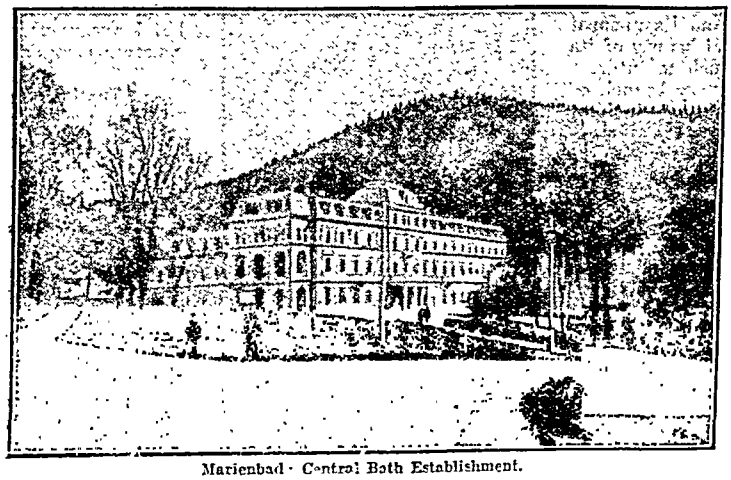
is quite modern. The mines are historically interesting for two reasons: "dollar" and "thaler" (Joachimstaler) owe their name to the silver extracted and coined there early in the sixteenth century, and in 1898 radium was first obtained by Pierre and Madame Curie from the waste of Joachimstal uranium ore. The discovery in 1905 of a briskly radio-active spring (600 mache units to the litre), in one of the uranium mines, led to the building of a bath establishment, and later of a large hotel and an irradiation pavilion—all now owned by the State. Jáchymov, though not at any great height, must be reckoned a hill station, with the Ore Mountains rising picturesquely above it to the north. Its doctors have profound faith in the healing virtues of the water, whether applied outwardly or drunk or inhaled; and even a single hot radio-active bath, as any visitor can prove for himself, is distinctly refreshing. The Radium Palace Hotel, a fine building on a fine site, is immediately opposite the baths.



Carlsbad: the Hirschensprung.

Carlsbad, Franzensbad, Marienbad.

A short motor run from Jáchymov on Easter Sunday took the travellers to Karlovy Vary (Carlsbad), the largest and most important watering-place in the Republic, best seen as a whole from the high ground near the railway station. Carlsbad, at an altitude of some 1,200 feet, is a considerable town straddling the Tepla gorge and enclosed on each side of the river by parks and wooded hills. It is a palatial spa, so well known that there is really nothing new to be said about it. The mineral springs and bath establishments lie along the course of the river, into which the waste water runs, disclosing its presence by clouds of steam. Some of the springs are hotter and therefore less gaseous than others, but the chemical constitution of them all is much the same. The chief salts are the sulphate, bicarbonate, and chloride of sodium, and of the various springs the hottest and the most famous is the Sprudel, gushing up in the pump room, at a temperature above 160° F., to a height of 20 feet. Each water drinker walks off with his ration and lets it cool before he sips it and goes for his morning promenade. Nevertheless, as Ernest Hart wrote in these columns forty years ago, the problem which remains unsolved is what part the Carlsbad water really plays in the Carlsbad cure. Of the various bathing establishments that styled No. 1 is superbly appointed and has a large hall fitted with Zander apparatus. Luxury is still the keynote of Carlsbad and prices run high, but besides the thirty-five hotels for the rich there are innumerable boarding houses for poorer folk with livers just as large. The party from England were entertained at a banquet presided over by Dr. Wagner, and next morning Dr. Paul Meyer and Dr. Edgar Ganz showed them round the baths and other attractions of the place.



Marienbad: Central Bath Establishment.

Frantiskovy Lazne, or Franzensbad, is a garden spa 300 ft. higher than Carlsbad, charmingly situated among open moorlands. The bathing establishments, hotels, and pensions are modern and well managed. There are eighteen different cold mineral springs, one of them extremely rich in sodium sulphate, another very pleasant as an ordinary sparkling table water, and a third much used in anaemia for its saline chalybeate properties. A very large proportion of the patients who go to Franzensbad are *women*. *The principal* outward treatments are by peat baths (the material being found locally in great abundance) and by natural carbonic acid baths. Therapeutic indications and methods were described by members of the local profession during the tour of the baths, and Professor Zörkendörfer gave an instructive account of the chemical and physical properties of the waters. After a luncheon party in the Kursaal the visitors were driven by car to Eger, and thence took train to Marienbad, carrying with them a very agreeable memory of Franzensbad and its inhabitants.



Franzensbad: West End Park.

Marienbad (Márianské Lázně), 2,000 feet above sea level, near the Saxon and Bavarian frontiers, lies in a broad valley enclosed by pine forests. Here in a beautiful setting the wealthy and full-blooded patient may deplete himself under skilled advice, the action of the cold sulphated alkaline waters being smoothed by every amenity that money can buy. The baths of this famous spa are indeed *magnificent*. *At the local Balneological Institute the* virtues of the springs were expounded from the clinical aspect by Dr. Max Porges, and from the chemical and physiological by Professor Zörkendörfer, who had travelled with the party from Franzensbad. Later in the evening a dinner, given by the municipality and the baths administration, was presided over by the Burgomaster. Next morning, after an inspection of the wells and baths, some of the party walked to the factory where the water from the Ferdinand spring is evaporated and the salt bottled for export. The general idea gained during a too brief stay was that those who can afford its prices, and whose tastes and figures turn outwardly so to speak, will long continue to regard Marienbad as the ideal inland watering-place on the continent of Europe.

Subsequent notes will deal shortly with some of the medical institutions of Prague, and with Poděbrady, Pistany, Trencsénteplicz, and the High Tatra health resorts.

British Medical Journal.

SATURDAY, MAY 14TH, 1927.

THE CONSTITUTIONAL FACTOR IN DISEASE.

DURING this century the word "constitution," previously employed more by the lay public than in a definite professional sense, has by a swing of the pendulum come back into medical parlance, and this in two different connexions. Epidemiologically Hamer, Greenwood, and Crookshank have revived interest in Sydenham's "epidemic constitutions" of diseases, a further development of Hippocrates's views, and a rather mysterious conception of some influence—climatic or telluric—independent of the resistance of the host and of variations in the infecting agent. This, according to Professor Major Greenwood, meant that upon distinct epidemic diseases there was superimposed a common external form or group of allied forms. The other use of the word "constitution" is nearer that generally understood—namely, as applied to the individual. This was much in vogue before the advent of bacteriology, and was embodied in the teaching of John Hunter, Thomas Addison, Thomas Laycock, and Jonathan Hutchinson. But, like the interest in the closely allied subject of the diatheses, that in constitution, or the bodily make-up of the individual, waned before the etiological promise of bacteriology, which diverted attention from the internal and hereditary factors to the external causes of disease. This phase, however, lasted for a time only; Kraus at his anthropological clinic in the Charité Hospital in Berlin applied the methods of anthropology to the investigation of human constitution, which Knud Faber[1] defines as "the nature of the body, including under this all inherent properties, such as the anatomical structure of the body, its morphological composition, as well as the functioning properties of the separate organs and cells." Constitution therefore includes hereditary variations from the average both in structure and in function, and of the latter Sir Archibald Garrod's inborn errors of metabolism are a good example; these may obviously be advantageous, harmless and of no importance, or with pathological effect. Although Emerson confirmed the proverbial phrase that "every definition is dangerous," clear thinking depends on an understanding and accurate use of terms, and it may be well to have a distinct notion of the relation of "diathesis" to constitution. Sir Jonathan Hutchinson regarded diathesis as "any bodily condition or prolonged peculiarity of health giving proclivity to definite forms of disease," or, more briefly, as "a persisting morbid proclivity." If this interpretation be adopted, diathesis may be considered to be much the same as a morbid constitution. George Draper has been working on the same lines as Kraus for some six years at the Presbyterian Hospital, New York, and regards constitution as "the aggregate of hereditary characters influenced more or less by environment, which determines the individual's reaction, successful or unsuccessful, to the stress of environment." By means of anthropometric methods previously employed to differentiate the races of mankind he has separated out distinct types for diseases, such as peptic ulcer, gall-bladder affections, high blood pressure and chronic nephritis, pe anaemia, asthma, tuberculosis, and acromegaly

Dr. Arthur Hurst, like Sir Samuel Wil predecessor at Guy's Hospital, is a faithful in the steps of Thomas Addison, whose res he has pursued on present-day lines. He d in Paris in October, 1922, two lectures on diatheses, and recently at Belfast gave a expanded account of "The constitutional fa disease" in the address the publication of w completed this week. He passes in review th gastric diatheses, the constitutional basis of A anaemia, commonly called pernicious, and s combined degeneration of the spinal cord, o cystitis, diabetes, nephritis, phosphaturia an phatic calculi, high and low blood pressure, asthma, epilepsy, and migraine. In connexi the frequently described conditions of the hy stomach and the dropped stomach he insis these x-ray appearances are merely anatomica tions from the average length of the healthy which may normally—that is to say, withc ducing symptoms—oscillate between 18 and Dr. Hurst deals mainly with functional consti phenomena rather than with structural va and shows how they favour the incidence of An example is afforded by what he calls the sthenic gastric diathesis, the subjects of which a to suffer from a duodenal ulcer; whereas the 4 of normal persons with constitutional achylia are, from the absence of the antiseptic barrier by the healthy stomach, disposed to infection teria contained in food and drink, and so to Ad anaemia and subacute combined degeneration spinal cord. In speaking of the hereditary f diabetes mellitus he argues that the prolong life and health in adult diabetics by insulin wi in a great increase in their progeny and so to incidence of the disease. He maintains also constitutional inherited liability of the isl Langerhans to undergo degeneration is as with a tendency to excessive stature in childh obesity in adult life. Martin H. Fischer[2] of Ci has argued that nephritis and its results are an increased production or accumulation of the kidney, and Dr. A. A. Osman has sho individuals with highly acid urine, which may ably be regarded as depending upon the consti and inherited variations in the complicated bioc processes responsible for the reaction of th are specially prone to suffer from acute n Conversely, some persons have a const tendency to pass alkaline urine, which is exa by mental strain and excitement; this c naturally favours the formation of phosphatic Though it is generally recognized that hig pressure is hereditary, yet it is commonly that there is some toxic factor behind it; Dr. contention, supporting the conclusions of Dra others, that there is a constitutional liability therefore attractive. Similarly the opposite hypopiesia is regarded as a constitutional c or diathesis and as merely an extreme variati the average. Asthma, epilepsy, and migraine present considerable resemblances, are all as depending on a constitutional and often i irritable focus in the brain; it has sometim stated that they are interchangeable in gen and members of the same family, but Dr does not accept that; his conclusion is th

[1] Faber, K.: *Nosography in Modern Internal Medicine*, p. 198, 1923, New York.

[2] Fischer, M. H.: *Oedema and Nephritis*, 1921.

several constitutional bases, though somewhat alike, are specific.

Obviously the practical importance of recognizing the constitutional factor in disease is that it will encourage the physician to antagonize the tendency, and so to carry out the principle of preventive medicine. On the importance of these prophylactic measures and on their nature Dr. Hurst is emphatic and clear. Thus the brothers, sisters, and children of patients with Addisonian anaemia, subacute combined degeneration of the spinal cord, and William Hunter's glossitis should be given test meals, and, if found to have achlorhydria, should, like all those with this deficiency, be given a drachm or more of dilute hydrochloric acid fasting three times a day for the rest of their lives; it may be well to add that if combined with sweetened orangeade or syrup of grenadine the beverage is quite palatable. A patient who, as shown by a blood count and Hijmans van den Bergh's test, has apparently recovered, should however well he may feel, nevertheless continue to take the acid, as the constitutional predisposition is there, and a relapse, due to fresh infection, may occur. Another clear indication is the correction of excessive acidity of the urine, especially during scarlet fever, by potassium citrate and sodium bicarbonate, a plan which in practice almost entirely prevented the occurrence of albuminuria and nephritis among 431 cases of scarlet fever. Of the treatment of asthma Dr. Hurst can unfortunately speak with great authority; of this, as of migraine and epilepsy, he epigrammatically remarks that "the only cure is not to have it"; there is not any drug, such as luminal in epilepsy and migraine, which has a favourable influence on the constitutional factor in asthma. This address, like all Dr. Hurst's contributions, is noteworthy for its power of stimulating thought, its logical acumen, and practical application.

SYNTHETIC DRUGS.

THE introduction of synthetic drugs has been the outstanding feature of pharmacology and therapeutics during the present century. The process started in the second half of last century and has gone on with ever-increasing rapidity, reaching its full development during the last two decades. Probably few, even of those who give special attention to the subject, are aware of the enormous number of synthetic drugs on the market; some idea may be gathered from the fact that the index to the new edition of Fränkel's well known book on drug synthesis[1] contains the names of some 7,000 chemical substances. It is also interesting to note that this new edition is not larger than the last, because the author has been able to delete a great deal of matter which has come to possess historical interest only; that is to say, of the drugs enumerated in the last edition, which was published in 1921, a large number have ceased to be of any practical importance This is partly due to the fact that advancing knowledge has led with fair regularity to the abandonment of hypotheses that were popular for a time. The search for new synthetic drugs is now systematically conducted on a large scale, and on a well understood plan, in big drug factories. Long series of chemical compounds are prepared and their pharmacological properties systematically tested. Only a small proportion of these prove to have any therapeutic value, and only a few even of these become established in the favour of the profession. Work of this kind is done chiefly by German and Swiss chemical firms, who have organized the search for new drugs on a scale unknown elsewhere. Consequently, the majority of new synthetic drugs come from these countries. It is obvious that if organic chemists and pharmacologists, working together as a team, are backed by the facilities and resources of great factories they must have opportunities completely beyond those of any ordinary university department. While it must be admitted that this commercialized research has undoubtedly done great service in producing valuable drugs, yet it has created certain special problems for the medical profession. The nature of these problems may be illustrated by one or two important classes of drugs; for example, Fränkel has had to devote thirteen pages to the description of derivatives of barbituric acid. Some hundreds of compounds are mentioned and references are given to about 140 patents. About forty compounds of this class of hypnotics have been advertised to the medical profession, among the best known of which are veronal, luminal, and dial. Another instance is afforded by the organic arsenicals. Fränkel's account of them occupies fifty pages; some hundreds of compounds are mentioned and references are given to 300 patents. In both these instances the organic chemists have produced a great many compounds, most of them protected by patent rights, and each series contains a large number of closely related chemical substances possessing very similar pharmacological actions.

Only a minority of these compounds are introduced to the medical profession, but even so the number of new proprietary remedies advertised is embarrassingly great; the reason for this state of affairs is obvious, for the manufacturing firms naturally wish to cover the cost of expensive research departments. The number of new synthetic drugs which represent striking advances in therapeutics is small, and consequently any compound presenting properties sufficiently novel to make it worth while to patent it, or showing any promise of being a slight improvement on existing drugs, has an excellent chance of being introduced to the medical profession. Usually manufacturers are able to back up their recommendations by reports of successful trials of the new drug in some hospital—a phenomenon which raises other considerations on which we do not now propose to enter.

Unfortunately the process is one-sided, for, on the one hand, any new proprietary drug has powerful advocates in those interested in its success, while, on the other, there is no mechanism for giving the medical profession a completely unbiased judgement on its merits. There appears, indeed, to be a danger that the organic chemists may hinder the progress of therapeutics by a very excess of zeal, for if the clinician has only the choice of a few drugs to produce a given therapeutic effect, it is possible for him to make a careful comparison of their efficiency, but if he is confronted with dozens of new compounds, all claiming exceptional merit, he will probably regard the task of adjudication as hopeless and will stick to the drugs possessing old-established reputations.

Another question of general interest is the increasing therapeutic importance of compounds protected by patents. Already synthetic drugs have replaced natural drugs to a large extent, and this process is certain to continue; moreover, the majority of new synthetic drugs owe their existence to what we have

[1] Von Dr. Sigmund Fränkel. Sechste J. Springer. 1927. (Sup. roy. 8vo,

termed commercialized research, and it seems probable that this will become still more common in the future. It seems likely, therefore, that most new synthetic drugs will be covered by patent rights. That this process is going on rapidly is evidenced by the fact that half the references Fränkel makes are to patent specifications. This increasing invasion of therapeutics by patented proprietary remedies is bound to raise special problems in the future. For example, in the past it has been possible for official publications such as the *British Pharmacopoeia* to ignore patented drugs, but it seems doubtful if this will be as easy in the future.

THE PHARMACOLOGICAL LABORATORIES OF THE PHARMACEUTICAL SOCIETY.

THE laboratories established by the Pharmaceutical Society to fulfil the conditions regarding the control of therapeutic substances the purity and potency of which cannot be adequately tested by chemical means, as laid down by the Therapeutic Substances Act, 1925, were formally opened in June last, but their organization had been in progress since January. The first annual report, which has now been issued, states that the work done has consisted, on the one hand, of the testing of various therapeutic substances sent by manufacturing firms, and, on the other, of research work, which in the main has been directed to the establishment of more accurate conditions for carrying out such testing. The substances the laboratories at first undertook to test were preparations of digitalis, strophanthus, squill, and ergot, and pituitary extract. Of seventeen samples of digitalis received, three were of leaf and fourteen of tincture; three were rejected—one because it was weak, and two because they were too strong. The remaining fourteen conformed to the requirements of the Conference of the League of Nations in September, 1925. That Conference had recommended the use of ouabain as a standard for strophanthus, but it was found necessary to determine a standard applicable to the tincture obtainable in Great Britain; this is that an average tincture should be equivalent to a solution containing 0.35 per cent. of ouabain. The investigation of squill had not at the time of the report yielded a definite result, but the use of scillaren—a crystalline glucoside obtained from squill by Stoll—will probably afford a satisfactory standard. Both these inquiries are being carried on in conjunction with Dr. J. W. Trevan. As the liquid extract of ergot of the *British Pharmacopoeia* does not contain the specific alkaloid of ergot the laboratories were under an obligation to determine the actual therapeutic value of the different physiologically active substances present in the drug. This work was carried out at Queen Charlotte's Hospital in conjunction with Mr. A. W. Bourne, F.R.C.S., and is approaching a successful conclusion. Clark's method of assaying ergot, which for the first time provided a means of determining the percentage of specific alkaloid in the crude drug, has been tested by Miss J. M. Ellis, Ph.C. (Redwood Scholar), who has assayed nine samples of crude ergot from different sources. It was found that there are wide variations in the content of specific alkaloid, and so soon as the pharmacopoeial preparations are altered it will be essential for manufacturers to arrange for the crude drug to be assayed before they buy it. Several investigations are being carried out on pituitary extract; one on the proper dosage in labour, along with Mr. A. W. Bourne, and another into the antidiuretic effect of different samples, undertaken at the request of the Health Committee of the League of Nations; a third on the effect of the extract in certain metabolic conditions has been begun. The original list has been increased and samples of adrenaline, ovarian extract, and parathyroid extract have been tested, and determinations of the toxicity of sodium tetra-iodophenolphthalein have been made. A vitamin-testing department is being formed under the direction of Dr. Katherine Coward, which will shortly be ready to receive samples. The address of the laboratories is 17, Bloomsbury Square, London, W.C.1.

A STRANGE SICKNESS.

ON July 11th of last year the medical officer of health for Poplar received a message from a local doctor to the effect that several of his patients were stricken with diarrhoea and vomiting. Zymotic diarrhoea being notifiable in Poplar from June to September, further intimations speedily followed from other practitioners in the area till the total number of cases reported rose to over a hundred; most were women and children. The usual duration of illness was twenty-four hours. The temperature ranged between 100° and 104° F. The diarrhoea was constant and severe. Labial herpes frequently ensued. Patients were left collapsed and weak, and three died. The morbid anatomy of the fatal cases showed no striking features. The small intestine was normal, the colon possibly a little congested. The bacteria isolated were of the colon type. The faeces of the living had various aspects, some resembling mild dysentery. In two cases Morgan's bacillus was found. The blood serum, tested for agglutination with the Salmonella and Flexner groups and the Sonne type, was completely negative. Ice-cream was blamed, but, on investigation by Dr. G. C. Hancock of the Ministry of Health, exonerated. No other food could be proved culpable. Gastric influenza and irritant poisoning of chemical origin were considered and set aside. The incidence was confined to a triangular area near Leven Road, and was heaviest on Leven Road itself, where scarcely a house escaped. The water supply, as a vehicle of infection, came under suspicion. A preliminary examination of the water from the local service was made by Dr. Scott of the Ministry, and it was examined later, in detail, by Sir A. C. Houston. Samples drawn from July 20th onwards were, judged by the routine bacterial tests, below the optimum London standard, but not to an extent which under normal conditions would have caused concern. A number of strains which attracted notice were carefully studied, but all were finally pronounced blameless. Several samples, when chemically tested, showed a relatively high chlorine figure. Assuming that the contagion, though present at first, had disappeared before the samples were taken, or else that it was present in the sampled water but, as may occur, eluded discovery, attention was turned to the connexions of the water main serving the stricken area. This pipe was found to be linked up by by-passes with the raw water supply of the adjoining Poplar gasworks, which is derived from the River Lea, and the view was expressed by Mr. J. R. Taylor, an engineering inspector of the Ministry, that under certain conditions of pumping and pressure it would have been possible for reflux raw water from the gasworks to get through the by-passes into the pure supply. The connexion of the two systems was very circuitous, and evidence was wanting that the conditions for reflux were actually operative at any time prior to the outbreak, but a possible channel of contamination appears to have existed, and the incidence of attack on the various streets was precisely such as might have been expected had infection been carried into the main at the suspected points. All communications between the pure and the impure have now been effectively severed. Dr. Hancock's report[1] on this strange sickness describes in a very interesting

[1] Ministry of Health. Reports on Public Health and Medical Subjects, No. 41. H.M. Stationery Office, or through any bookseller. Price 9d. net.

way his exploration of a baffling problem, and is published now, as Sir George Newman indicates in a prefatory note, in order to draw attention to the potential dangers of such water-main connexions.

GLUCOSONE AND ITS POSSIBLE SIGNIFICANCE IN METABOLISM.

DR. A. HYND recently communicated to the Royal Society a paper[1] on the action of glucosone on normal animals (mice) and its possible significance in metabolism. The work was carried out in the physiological laboratory of the University of St. Andrews, and the observations recorded are of interest to medical men generally. Dr. Hynd found that glucosone or aldofructose, an oxidation product of glucose or fructose, when injected into normal mice subcutaneously, produces in a few minutes a series of symptoms which are very similar to those brought about by an injection of insulin. The condition differs from that produced by insulin in that there is no hypoglycaemia, but it is modified by the use of adrenaline and pituitrin and by the previous injection of aceto-acetic acid. Dr. Hynd ventures the suggestion that glucosone is an intermediate stage in carbohydrate metabolism and that it is normally produced by the action of insulin. According to this view some of the symptoms produced by excess of insulin are really the results of the production of too much glucosone. If Dr. Hynd is right, glucosone may become an important substance in the treatment of those conditions for which insulin is at present prescribed, especially as it can be taken by mouth. Unfortunately the manufacture of pure glucosone is an expensive and complicated matter, and the methods hitherto adopted for production on a large scale by the hydrogen peroxide process result in its adulteration by other oxidation products which are harmful. Thannhauser and Jonke employed such preparations in the treatment of severe cases of diabetes, giving the syrup diluted by mineral waters. They found that it cleared up the glycosuria and the formation of acetone bodies, but could not be continued on account of intestinal complications—diarrhoea. They were probably working with a material which, in addition to glucosone, contained numerous other oxidation products of glucose. The pure glucosone, made by Fischer's process, does not appear to have any deleterious effect beyond that produced by an overdosage. Recovery from a non-lethal dose takes place very quickly and no after-effects are shown. Rats and rabbits have been tried since the paper was written, and these animals also react to glucosone in very much the same way that they do to insulin. The similar oxidation products of maltose and lactose—that is, maltosone and lactosone—are inactive, but when hydrolysed to glucosone give the effects of the latter.

THE INFLUENZAL CONSTITUTION.

A TRIBUTE was rendered to the prescience of Sydenham by Sir William Hamer at a meeting of the Section of Epidemiology and State Medicine of the Royal Society of Medicine on April 29th, when he opened a discussion on the influenzal constitution by remarking that the events of the early nineties had done much to stimulate interest in the ideas for which Sydenham had stood. Sir William Hamer suggested that, epidemiologically, true influenza presented three features: (1) an average wave-length or interval between epidemics of one-third or two-thirds of a year at pandemic times; (2) a somewhat longer wave-length, which, owing to concomitant seasonal influences, tended to be about a year, eighteen months, or two years, for trailers and precursors nearly adjacent to the pandemic; (3) a still longer wave-length, which, when the average time from infection to infection became extended (as it apparently did, even to ten to fourteen days), might be estimated at some five to seven years in the trough between pandemics. He suggested that in the days of Sydenham the epidemiological problem might really have been simpler in that there might have been less development and differentiation of morbid types. He then reviewed the historical facts which illustrated the "*setting*" of epidemics of influenza, and remarked that modern writers "did not care to face 'brain fevers,' 'soporosités,' 'comatose fevers,' and 'fièvres pétéchiales'; they feared to struggle through the jungle of ship, camp, harvest, and gaol fevers of over two hundred years ago and to penetrate into the primeval forest of 'miliares,' 'fièvres pourprées,' 'fevers infestuous to the brain and nervous stock,' 'trousse-galants,' and 'sweats.' And yet, accepting the principle of continuity, and making allowances for changing terminology, 'settings' of influenza corresponding with those of to-day might be clearly discerned, and the notion emerged, firmly held by the epidemiologists of those times, that these prevalences made up constitutions." Referring to relapsing fever and typhus in relation to influenza, Sir William observed: "There is surely need here for recognizing the correlativity of these (symptom-complex) opposites, and realizing that they are 'inseparable elements of a higher (epidemiological) unity.'" The case might, he thought, be based on three grounds: (1) such individual correlations as the association of dysentery and typhoid in the war period, and also, in 1899-1901, with *influenzal* constitutions; (2) the oscillations of the curve of London fevers or even of "all causes" after exclusion of the zymotics; (3) the variability of the typhus symptom-complex. The practical lesson drawn was that more attention should be given to the less dramatic and obvious manifestations of influenza. It should be plainly stated that there was a moral obligation upon all who developed *influenza* to "take it lying down," and to refrain scrupulously, during the early infectious stages, from associating with other people, using public conveyances, and going to places of public assembly. Sir William Hamer believed that if the importance of this was fully realized, far more injury to the public health would be obviated than resulted at the present time from neglect of necessary precautions in all the "dangerous infectious diseases," among which, technically speaking, influenza was, as yet, not included.

PNEUMOCONIOSIS CAUSED BY ASBESTOS DUST.

DURING the conference of the Royal Microscopical Society at Liverpool, at the end of March, a case of pneumoconiosis due to asbestos dust was reported by Dr. W. E. Cooke and Mr. C. F. Hill. Although the asbestos industry is more than 2,000 years old, this case appears to be only the second reported, the first patient having died in the Charing Cross Hospital in 1900. In the present case the particles found in the lungs were large, some measuring as much as 350 microns in length; they were shown to represent the brittle iron-containing part of the asbestos fibres. Chemical analysis of the substance in the various stages of its manufacture, and of the dust, were correlated with the microscopical appearance. The dust contained 18 per cent. of iron as ferrous oxide, the raw material 2.1 per cent., and the finished article 0.1 per cent. The microscopical appearances of the dust were identical with those of the particles found in the lungs. A second interesting feature which aroused a good deal of discussion was the presence of a body which some thought was an aspergillus. The authors of the paper held the view that it was a hyphomycete analogous to that found by

[1] *Proceedings* of the Royal Society, B, vol. 101.

Dr. H. H. Scott in batrachians, or that it belonged to the tuberculariaceae, a family of hyphomycetes described by Ehrenberg in 1818. In the course of the conference Dr. Eric Ponder described the procedure whereby he had investigated the diameter of the red cells of man before and after exercise. The corpuscles immersed in plasma were examined and photographed in a special chamber containing a gas mixture in equilibrium with the blood at rest or after exercise. It was stated that no difference in the mean diameter of the cells appeared to be caused by even severe exercise.

THE PRODUCTION AND CONSUMPTION OF DANGEROUS DRUGS.

THE Advisory Committee of the League of Nations, which deals with the traffic in opium and other dangerous drugs, has recently issued a summary of annual reports for the years 1924 and 1925 received from various countries and mandated territories. In the case of Germany it appears that 152,000 kilograms of opium were imported in 1925 and some 14,000 kilograms of morphine were manufactured, of which 4,642 kilograms were exported. In Great Britain, in the same year, 68,541 kilograms (150,806 lb.) of raw opium were imported, and the novel feature recorded is that no less than 52,722 kilograms (116,000 lb.) of the total import came from India. Persian opium has almost ceased to be imported, and Turkish opium is falling off. Although Indian opium only contains 9.07 per cent. of morphine as against 11.03 per cent. in the Turkish drug, it is nevertheless found to be commercially a profitable source of the alkaloid. British exports of morphine in 1925 amounted to 95,285 ounces (2,706 kilograms), showing a considerable increase on the previous year. It is reported from Hong-Kong that 11 per cent. of the total revenue of the colony is derived from opium, that 41,600 lb. of raw opium and 28,000 lb. of opium "prepared" for smoking were imported, during 1925, from India. In Iraq the sale of opium has become a Government monopoly. In the case of the United States 100,478 lb. (45,667 kilograms) of raw opium were imported in 1925 from Turkey, Greece, and England; 105,689 ounces (3,001 kilograms) of morphine were manufactured, nearly all of which was used for home consumption. It is stated that no heroin was produced during the year, as its manufacture is now forbidden by the Federal Narcotics Control Board, but 154 kilograms of the alkaloid were sold in 1925. In 1924 the area under cultivation for the opium poppy in India was 54,708 hectares. The consumption of opium "prepared" for smoking in the years 1920-24 appears from the statistics to be enormous in Burma, Formosa, French Indo-China, Hong-Kong, Malaya, the Netherlands Indies, and Siam. It is clear that much remains to be done before the restriction of opium and other dangerous drugs to medical and legitimate purposes is achieved.

TEACHING OF INDUSTRIAL MEDICINE

SIR THOMAS LEGGE gave a Chadwick public lecture on the teaching of industrial medicine in the rooms of the Medical Society of London on May 3rd. He said that he considered that Charles Turner Thackrah, a medical practitioner of Leeds, Edwin Chadwick, and Dr. Southwood Smith laid the foundation of industrial medicine in this country a century ago. Unfortunately the work of the certifying factory surgeons—the outcome of their labours—became stereotyped on a too narrow negative basis by the Factory Act of 1844 and has so remained ever since. While the medical student cannot fail to learn a great deal about the maladies and accidents which strike down workpeople, little or nothing is done in the medical curriculum to link this knowledge up with their causes in the modern factory system. A right attitude of mind towards labour in the newly qualified medical man is an all-important factor in his equipment, but how many of them know that unless the employer has done everything (and everything means a good deal), the workman can do next to nothing to protect himself against the risks of his trade. The medical man should not have to embark on practice without even knowing the names of the eleven occupational diseases he is under a statutory obligation to notify. Over twenty others are scheduled under the Workmen's Compensation Act, the benefits of which are not easy to realize, unless the medical man looks upon it as his duty to his patient to tell him how to obtain them. But no one teaches this to the medical student. The newly qualified medical man is much more likely to be called on to give evidence at some inquest, the result of poisonous dust, gases, or fumes, than in a murder case, and forensic medicine teaching might stress the dramatic human interest in "gassing" cases and mine rescue work. The sheet anchor for the protection of workers against poisonous dusts and fumes is exhaust ventilation, applied as near as possible to the point of origin, and that against vitiated air from the aggregation of persons general mechanical ventilation by extraction fans. Sir Thomas Legge expressed his opinion that what was wanted most in the factory was preventive medicine on the clinical side—that is, by a practising doctor and not by an administrative medical officer.

ROYAL SOCIETY CONVERSAZIONE.

THE usual spring conversazione of the Royal Society was held on May 11th, in the Society's rooms at Burlington House, when the guests were received by the president, Sir Ernest Rutherford, O.M. The important advances now being made in microscopy were illustrated by Mr. J. E. Barnard, F.R.S., who showed two complete microscopical outfits for use with ultra-violet light, from the department of applied optics of the National Institute for Medical Research. One of these microscopes was the experimental one which was made and has been in use for some time in the department; the other was a finished model recently constructed by Messrs. R. and J. Beck. This form of microscope can be used either for transmitted light or for the investigation of filterable viruses by the dark-ground illumination method. Not only is increased "resolution" of the organisms obtained by the short wavelength used, but enhanced visibility is secured by this method of illumination. Magnification is now possible to 3,500 times, and accurate focusing and microphotography are possible at such small intervals as one-tenth of a micron. Spectrograms of the absorption by certain culture media of ultra-violet light were shown, and the efficiency of the apparatus was demonstrated by slides of the fine granules in silver films and of the organism of bovine pleuropneumonia. Dr. Thomas Lumsden showed a series of microscopical slides illustrating the effect of cytotoxic serums on cancer cells. He demonstrated that anti-human-cancer serum applied to cultures of mouse cancer, mouse heart, and mouse kidney killed the cancer cells within a few minutes; the normal tissues were undamaged and their staining reactions were not affected. It was also shown that mouse cancer cells grown in a rat could be cultured *in vitro* for two or three weeks in the serum of the rat host, but that this serum killed cultures of mouse cancer cells from a mouse; thus, the temporary sojourn in the rat had protected the mouse cancer cells introduced into it. Rat sarcoma cells could grow freely in the serum of a rat rendered immune to this tumour; the peritoneal exudate destroyed the cells but was harmless to normal rat tissues and to other tumour cells. The Natural History Museum showed skins of the African squirrel to illustrate how in rain forests the colour was nearly black;

in less dense woods, redder and brighter; on grass lands, greyer; and on the fringe of deserts, more yellow. It also exhibited balls made of disintegrated leaf fibres by the action of waves, and a hair-ball from the stomach of a horse. Mr. A. K. King demonstrated the application of ultra-violet radiation to the detection of impurities in distilled water, and the estimation of minute quantities of arsenic. The Astronomer Royal showed transparencies illustrating the sun's corona at four previous eclipses, and the National Physical Laboratory supplied a model of the shadow of the moon near the earth's surface, on the scale of ten miles to the inch, showing its dimensions, direction in space, and intersection with the earth's surface. Mr. G. H. Gabb showed the recently discovered astrological planisphere constructed for Queen Elizabeth about 1560-70, by Dr. John Dee, and engraved at the Royal Mint in the Tower by Humphrey Cole, who placed in its centre the arms of Elizabeth and her monogram, surrounded, in concentric circles, by the twelve astrological houses and months, with the zodiacal signs. During the Commonwealth this planisphere came into the hands of Henry Sutton, who in 1655 used the blank space on the reverse for the construction of a circular slide rule—the earliest dated "spiral" slide rule known. During the evening cinematograph films and lantern slides were shown by Mr. F. Martin Duncan, and Mr. D. Seth-Smith, by permission of the Zoological Society of London, to illustrate the courtship of birds. Sir Almroth Wright gave a demonstration of the phenomena of "intertraction."

DICTIONARY OF NATIONAL BIOGRAPHY.

A NEW volume of the *Dictionary of National Biography* is to be published this year. Few men have raised a better memorial to themselves, doing at the same time honour to the calling they follow, than George Smith, head of the firm of Smith, Elder and Co., when, in 1882, he began the publication of the *Dictionary of National Biography*; it appeared in sixty-three quarterly volumes between 1885 and 1900. George Smith was fortunate in securing the services as editor of Sir Leslie Stephen, under whose guidance the first twenty-one volumes were published. The next six were edited by him and Sir Sidney Lee, and the remaining volumes by the latter alone. As the plan was to make the original issue cover the names of all British notabilities down to the end of the nineteenth century, it followed that the names of a certain number of persons who died during that century could not be included in their proper alphabetical order; for these a supplement, also edited by Sir Sidney Lee, was published (1901-2), forming volumes lxiv to lxvi, and in it was included the biography of Queen Victoria, who died on January 22nd, 1901. In 1908 and 1909 the sixty-six volumes were reissued, with some corrections, on thinner paper in twenty-two volumes. Later on the publication was transferred to the Oxford University Press, by which it is now issued. A new series was begun with the issue of the second supplement covering the years 1901-1911, and the Press hopes to publish in the course of this year another new volume covering the years 1912-1921. It is edited by the Regius Professor of Modern History at Oxford (H. W. C. Davies) and by Mr. J. R. H. Weaver, of Trinity College, Oxford. It is intended to publish a new volume every ten years; that now nearly ready for publication has 269 contributors, nine of them women, and the names of nearly all those included in it are familiar to everyone acquainted with the events of this century. Among the medical names are those of Lord Lister (Sir John Rose Bradford), Sir William Osler (Sir Archibald Garrod), Mrs. Elizabeth Garrett Anderson (Miss F. C. Johnson), and Sir Leander Starr Jameson (Mr. D. O. Malcolm). An alphabetical index to the whole of the century so far (that is, 1901-1921) will be appended.

THE WOOLWICH MEMORIAL HOSPITAL.

THE next few weeks will see the completion of a notable addition to the hospitals of London, for the first section of the new hospital erected by the trustees of the Woolwich War Memorial Fund is almost finished and should be ready to receive patients in a month or so. Those who have travelled the Dover Road during the last few months cannot fail to have noticed the handsome building crowning the summit of Shooter's Hill, and the hospital authorities are to be congratulated upon their prescience and enterprise in securing such an attractive and unusual site; one, moreover, which amply provides for all conceivable extensions of the hospital, for it consists of no less than 13 acres of freehold land. Among the hills of London and its environs Shooter's Hill has always held high rank, first for the quality of its air and the quantity of its sunshine, and secondly for the remarkable panorama visible from its summit on a clear day. The highest point of the hill, which is actually in the hospital grounds, is 422 feet above sea-level, and to look round from there, or better still from the roof of one of the ward blocks, is an arresting experience. To the north, spreading up to the foot of the hill, are the densely populated districts of Woolwich and Plumstead—all churches, chimneys, trams, and houses; then the winding reaches of the Thames, with all its busy shipping, and, in the distance, the hills of Essex. To the south Eltham, Mottingham, Sidcup, and Chislehurst look little more than villages from that height—and even they are lost in the wide expanse of mile upon mile of smiling Kentish countryside, with its trees and fields and orchards stretching away to the far distant southern Downs.

An exceptional site demands an exceptional building, and the architects, Messrs. Pite and Fairweather, have taken full advantage of an unusual opportunity, for they have produced a gracious, dignified group of buildings planned with real distinction. Following the contours of the sloping ground the main corridor of the hospital curves east and west along the brow of the hill, and in the slight concavity so formed on the northern side are the administrative block, the operating theatre block, power house, etc. The convex side is left free for the ward blocks, which project at right angles from the main corridor, and so are directed south towards Kent and the sun. A feature of the ward blocks is the provision of commodious sun balconies, so arranged as to allow of patients remaining out no matter what the weather.

The ultimate aim that the Memorial Fund Committee has in view is a fully equipped general hospital of 320 beds. £180,000 has already been collected—practically enough to cover the total cost of the first section of the hospital, consisting of administrative block, residents' quarters, operating theatre block, power house, pathological block, x-ray department, maternity unit, and two ward units, each consisting of two wards of 26 beds each, with further accommodation for 6 beds on the balcony of each ward. The next section to be built will consist of two further ward blocks, a paying patients' pavilion, and the nurses' home, the nurses meanwhile being housed in the main building. Everything has been designed in such a way that future additions will entail no interference with the existing units. They will merely be attached at points already carefully planned, and all essential services, such as drainage, electricity, steam, and water supply, are provided for on the basis of what the demand will finally be when the whole scheme is completed.

The Woolwich Memorial Hospital is a metropolitan hospital in the country, or nearly in the country—certainly one of the best bits of country to be found within twenty-five minutes' drive of Charing Cross; and it will be very interesting to watch the development of what is the first experiment of its kind—a general hospital built, staffed, and equipped on the same lines as any other important London hospital, with a large industrial population almost at its doors, but so situated that problems of light, air and sunshine, and adequate space for development can arouse no apprehension. Lord Dawson and Sir Berkeley Moynihan have consented to act as consultants, and this sets a high standard for the remainder of the honorary staff who are about to be appointed.

South Africa.

[FROM OUR CORRESPONDENT IN PRETORIA.]

ANNUAL REPORT ON PUBLIC HEALTH.

By Act of Parliament there was established in 1919 a Department of Public Health under the control of a Minister. An abridged report of the work and activities of this department is prepared annually by the Secretary for Public Health (Dr. J. Alexander Mitchell), and appears along with similar reports by the secretaries of the other Government departments in the volume of Annual Departmental Reports. The volume is published during the Parliamentary session and presented to both Houses of Parliament.

Public Health Organization of the Union.

Under the Public Health Act of 1919 there was established a Council of Public Health to advise the Minister and Department—the Minister being chairman and the chief health officer for the Union deputy chairman. Of the remaining seven members (none of whom may be officers in the public service) four are medical practitioners. These members hold office for three years. The members of the five-year period ended on June 30th, 1925. The members were Miss Mabel Elliott; Drs. Charles Porter J. H. Nicolson and M. C. Vos; Drs. Charles Porter and W. Watkins-Pitchford. Miss Kock, E. Hill, and W. Watkins-Pitchford. Miss has since resigned, and has been succeeded by Mrs. Dr. Watkins-Pitchford was succeeded on his ment from the South African Institute for Medical ch by Sir Spencer Lister, the director.

The departmental staff consists of the Secretary for Health, who is also chief health officer for the and six assistant health officers. Of the latter, four heir headquarters in Pretoria, the administrative of the Union, one is stationed at Capetown, and Durban, Natal. In addition there are pathologists, lth officers, and inspectors.

t surgeons are appointed for Government medical connexion with accidents, assaults, and other gal cases, paupers, and medical attendance on gaol officials. Under the present law the Govern- t responsible for providing medical facilities for public; but district surgeons' appointments are e so as to fit in as far as reasonably possible with ts of the public, provided no extra cost is ast year there were 282 district surgeons; of are whole-time officers—namely, two each at d Durban, and one each at Capetown, Port d East London. Four are whole-time officers ntly with local authorities or public bodies— Kimberley, Grahamstown, Queenstown, and e remaining 271 render part-time service to nt, being usually general practitioners in ts.

al authority may, with assistance from the ppoint a medical officer of health. Of the authorities, the following employ whole-time of health—namely, Johannesburg, East London, Durban, Pietermaritzburg, East London, eth; four have medical officers of health blic appointments, but doing no private remainder, many pay local private practi- ining fees to perform such local public nay arise. Fifty-two of the urban local certificated sanitary inspectors devoting ime to sanitary work.

Plague.

the year under review (1925-26) was noteworthy feature being the exten- infection amongst the veld rodents of pe districts. This enzoötic plague is inland districts. Fortunately, the ry shy of man, is nocturnal in its very rarely been found in railway nveyance of plague infection to the areas where infection is enzoötic is, therefore, very slight. The risk of introduction of plague from outside the Union is, however, great. No actual or suspected plague in man or rodents occurred in the Union ports during the year. The greatest vigilance is maintained, systematic bacteriological examinations of rodents are carried out, and continued efforts are made to keen down the rodent population of the ports. An improv rat-guard has been devised by the department for moorir cables. Tests proved this guard to be more effective i preventing migration of rats either to or from vessels thai any hitherto employed, and its use has been made com- pulsory, by regulation, in respect of vessels recently arrived from plague-infected or suspected ports. Shipping com- panies and all concerned have been furnished with drawings and specifications, and arrangements were made by the department with certain firms for the manufacture and supply of these guards.

The number of cases of human plague during the year under review was small compared with previous years. There were in all only 71 cases, of which 46 proved fatal, 86 per cent. of the cases were of the bubonic type, 10 per cent. pneumonic, and 4 per cent. mixed pneumonic and bubonic. Synchronizing with an extensive epizoötic among gerbilles, multimammate mice and hares, an extensive and scattered epidemic occurred at the beginning of 1926 on fourteen different farms in the Orange Free State; 37 cases, including 8 of Europeans, were notified, with 26 deaths. The history of one European family, in which 5 cases occurred, is very typical. At their farm many dead gerbilles were found, and several natives contracted plague. A little later the owner of the farm became infected. He was attended during his ten-day illness by his brother and sister, and visited by many friends. On his death these people were notified by the district surgeon that they were under quarantine, and were not to leave the farm. Two days later the brother contracted pneumonic plague. His mother and two sisters became infected through nursing and kissing him, and all died within a week.

Another outbreak occurred in the eastern Cape Province, resulting in 12 cases with 9 deaths; 4 of these were among Europeans belonging to the same family. The son of the farmer was an enthusiastic hunter of hares and other small animals. Dead hares and field-mice had been observed on the veld shortly before he sickened. He remarked one day on the number of fleas that he had brought in with him from the veld. Soon after he developed a bubo below the shoulder-blade and died on the sixth day. Before his death he was kissed by his father and mother; both were down a few days later with pneumonic plague, and were dead within a week. Two days after the death of the mother the daughter developed pneumonic plague and died six days later.

The report gives an account of the flea, rodent, and plague research which has been carried on. This work has been previously described in the BRITISH MEDICAL JOURNAL (June 5th, 1926, p. 962, and August 7th, p. 269), including the discovery of the very interesting "Tiger River disease." The causative bacillus appears capable only of attacking small veld rodents, and it has not been found possible to infect hares, ground squirrels, rabbits, suricates, domestic rats, guinea-pigs, mongooses, cats, dogs, or monkeys with this disease.

Leprosy.

It had been intended three years ago to make a systematic leprosy survey of the Union, with a view to ascertaining the position as accurately as possible. Shortage of staff and financial circumstances have rendered this impossible, but during 1924 all magistrates and district surgeons were circularized and requested to inquire into the matter. From information so obtained fairly detailed tables have been prepared. During the fifteen-year period ended June, 1924, the number of lepers discovered and certified in the Union was 5,162. It is estimated that at least 1,630 lepers remained at large, unknown and uncertified, at the end of that period, bringing the total to 6,792. The estimate of uncertified cases was probably on the low side, owing to the magistrates not taking sufficient account of cases in the early stages and still without disfigurement or obvious symptoms. The average number of new cases discovered annually was approximately 450. The

average period elapsing between onset of the disease and segregation was about six and a half years. Efforts have been made to reduce this period, but it is still at least five years. Assuming that, as is probable, the annual number of new cases developing remains at about 450, then this figure multiplied by 5 gives an idea of the number of cases in various stages at present at large and undiscovered. Assuming, then, that there are about 2,000 undiscovered cases, the general position of the Union in 1924 is as follows:

Certified lepers in the six institutions	2,141
Certified lepers, home-segregated	24
Certified lepers awaiting removal	100
Probationally discharged lepers	905
Uncertified lepers	2,000
Total number of lepers in the Union ...	5,170
Leprosy rate per 100,000 of population ...	70

The detailed tables reveal many points of interest. The anaesthetic type predominates amongst native cases, the nodular and mixed types amongst Europeans and Eurafricans. In a large proportion of cases a history of direct association with previous cases was elicited. The average age on first admission is 33. In a large percentage of cases the skin symptoms were those first noticed. The proportion of lepers giving a history of association with previous cases in the same family is certainly much understated in the tables, as leper patients are notoriously apt to conceal facts of this kind. Further examination of associated cases and family groups is being carried on, and a number of family trees are being prepared. This should throw useful light on the modes of spread and conditions favouring spread. So far the results support the views of Sir Leonard Rogers and his co-workers—that in the great majority of cases infection takes place in childhood or early adult life, and that the association of infective lepers with children and young people is much more dangerous than their association with older persons. The early years of the disease are as a rule the most infective, and during the long period—usually about six years—the cases of infective type have been associating freely with their families and others, and spreading the infection. It is evident that until some system or method is devised by which early discovery can be secured and precautions instituted, the spread of the disease cannot be effectively limited. Compulsion will never effect this; the voluntary co-operation of the native peoples must be secured.

Since the introduction, some years ago, of the Leprosy Board system only active and actually or presumably infective cases are segregated in institutions; the accommodation in the six institutions is now ample, and the annual expenditure on leprosy has been considerably reduced. With few exceptions all the patients in these institutions are now receiving active antileprotic treatment by various modern methods.

Malaria.

Except for serious localized prevalence in Zululand and the Northern Transvaal, there was but little prevalence of malaria in the endemic areas. Natives recruited from endemic areas in Zululand appeared to be relatively immune, and are at an advantage compared with other natives when employed in railway construction in malarious areas.

A long-overdue anopheline survey of the Union is in contemplation. Little progress in this direction has been made since 1905, when *A. costalis* was proved to be the main vector of a serious epidemic in Natal. The proposed survey is to be undertaken jointly by the Division of Veterinary Research and the South African Institute for Medical Research, with the co-operation of the Department of Public Health. Some work was done by the institute and the department during the year. Six species of anophelines were identified as occurring in the Hartebeestpoort irrigable area, near Pretoria.

Typhus Fever.

Of the 1,135 cases of typhus fever that occurred in the Union during the year under review 55 were among Europeans, with one death, and 1,080 among non-Europeans, with 145 deaths. The disease was comparatively quiescent, though unreported outbreaks probably occurred in some of the Transkeian districts. Sporadic cases were detected in Durban by the routine application of the Weil-Felix test to all specimens of blood received in the laboratory; these early diagnoses were often subsequently confirmed clinically. The symptoms of the form of the disease usually met with in South Africa are often obscure and indefinite, and its diagnosis is frequently difficult, so that unless special care is taken and a sharp look-out kept, cases are very liable to go unrecognized and unreported.

England and Wales.

RUTHERFORD MORISON TESTIMONIAL FUND.

THE Rutherford Morison Testimonial Fund has now been closed and the accounts presented by the honorary treasurer, Mr. R. J. Willan, M.S., F.R.C.S., have been duly audited. The total amount received in subscriptions was £1,523 9s. 6d. The cost of the portrait, including the fee to the artist (Mr. Harold Knight) and the price of 100 photogravures with incidental expenses, including printing and stationery, amounted to £458. This left a sum of £1,206, which was handed over to Mr. Rutherford Morison and paid by him to the Council of the University of Durham College of Medicine, who will administer the travelling surgical scholarship which was the purpose to which Professor Morison desired the fund to be devoted. The scholarship will be available for candidates proposing to take the degree of Doctor of Surgery (D.Ch.) in the University of Durham, and it is intended that the holder should undertake at least six months' surgical study abroad. The income of the trust will be allowed to accumulate for three years, and the first award will be made in 1929. The scholar will be nominated by a committee consisting of the professors of surgery, anatomy, physiology, and pathology and bacteriology, together with one member of the honorary medical and surgical staff of the Royal Victoria Infirmary. We may congratulate Mr. Rutherford Morison on this very striking tribute to the esteem in which he is held and to the great respect which he has inspired as a surgeon, teacher, and a man. We may also congratulate him on the purpose to which he devoted the fund; everyone will agree that a period of observation abroad is of the greatest advantage to a young surgeon; it is, in fact, becoming more and more necessary. The habit once acquired is not likely to be lost, and there are already in existence several societies of surgeons the main object of which is to afford opportunities for visiting surgical centres at home and abroad.

RHEUMATIC HEART DISEASE IN CHILDREN.

The London County Council, on May 10th, had before it a report by the Public Health Committee on the need for beds for chronic cases of rheumatic heart disease in children. The report followed upon a reference of this subject to the committee, moved in the Council some weeks ago by Dr. Stella Churchill. The report repeats the statements and figures which were given recently in a report of the Metropolitan Asylums Board (BRITISH MEDICAL JOURNAL, April 23rd, p. 776), and relates the circumstances which led up to the proposed extension of Queen Mary's Hospital at Carshalton, where 350 beds will presently be available for these cases. The committee states that this additional accommodation will very materially assist the solution of the problem of the convalescent treatment of the rheumatic child, and when the permanent addition to St. Mary's Hospital is completed there should be no question of the adequacy of the provision made. The Public Health Committee has expressed to the Metropolitan Asylums Board its appreciation of the steps it has taken.

HOSPITAL EXTENSIONS IN NOTTINGHAM.

Princess Mary visited Nottingham on April 30th, and opened the Rope Walk wing of the Nottingham General Hospital and the new buildings of the Children's Hospital. The Rope Walk wing contains a waiting-hall for 500 outpatients, with consulting rooms opening into it, and a dispensary on the same floor. There are also *x*-ray,

orthopaedic, and electro-therapeutic departments. The first floor is devoted to diseases of the ear, nose, and throat, and additional beds for forty patients have been made available. The Rope Walk wing has taken some three years to erect and equip; the cost was £100,000, half of which was presented by Mr. W. G. Player, J.P. Many of those who were present at the Annual Meeting of the British Medical Association last year were able to examine the buildings, then approaching completion, and to appreciate for themselves the great value of this addition to an enterprising hospital. The new premises of the Children's Hospital will accommodate eighty patients, but the work of extension will not be completed for some time yet. The new building consists of a basement and three floors; ample provision has been made for open-air treatment, and the windows of the wards contain glass permeable to ultra-violet rays. It is proposed to extend and bring up to date the present out-patients' department and to provide a separate building for massage and treatment by ultra-violet rays.

OUTBREAK OF SMALL-POX AT HENDON.

The recent occurrence of nine cases of small-pox at Hendon is noteworthy in view of the severity of the infection. From information supplied by Dr. T. S. McIntosh, medical officer of health for Hendon, it would appear that the first patient was a man, aged 47, who had been vaccinated in infancy. Although his illness did not take a grave form, it was not of the mild type prevailing elsewhere in England; the source of the infection has not been traced. His wife, aged 42, who had not been vaccinated since infancy, contracted the disease severely, but is believed to be convalescent. Two daughters aged, respectively, 16 and 8, became infected; both were unvaccinated and the infection ran a severe course. The elder died, the disease being of the confluent fatal type, but it is hoped that the younger may recover. Four workers in the laundry to which the linen from this family had been sent developed small-pox, and three died. Two of these, aged 38 and 15, were unvaccinated, and the disease was of the confluent fatal type. The third was a rapidly fatal case of haemorrhagic small-pox in a woman, aged 23, who had only been vaccinated in infancy. She gave birth to a premature live child on the morning of the day on which the diagnosis was made. The infant developed small-pox papules a week after birth, coincident with the appearance of vaccination vesicles, and died five days later. The fourth worker in the laundry was an unvaccinated woman, aged 21. She was vaccinated after the onset of the first symptoms and vesicles appeared about the same time as the small-pox eruption. The case is of moderate severity and the patient is expected to recover.

Scotland.

EXTENSION OF RADIOLOGICAL FACILITIES AT EDINBURGH ROYAL INFIRMARY.

SOME six months ago a very elaborate electrical department was opened at the Royal Infirmary of Edinburgh; in addition to the most modern radiological apparatus, it has departments for medical electricity, massage, and exercise-therapy. It has been suggested that the benefits of this department might be available for persons other than the patients in the institution or those attending the various out-patient departments. Such facilities are not available for the public in Edinburgh and the area of which it is the medical centre. It has therefore been decided to receive patients who are under the care of outside practitioners in this department of the hospital. To some it seems as though this were the first step towards making the benefits of the Infirmary generally available to all classes of the community, or, in other words, the establishment of a section for paying patients; this, many persons regard as highly desirable. The conditions under which these benefits are now available are as follows:

The managers of the Royal Infirmary have decided to extend facilities to medical practitioners for the examination or treatment by the radiologist of patients who are unable to pay the usual private fees; and to others for treatment by apparatus and appliances not otherwise available in the city or district. Requisition forms can be obtained at the superintendent's office. These must be completed and forwarded, together with a short history of the case, to the superintendent, who will make an appointment for the attendance of the patient and forward details of any necessary preparation. It is expected that the patient will give an appropriate donation to the hospital in order to help to defray the necessary expense incurred. The amount of such donation will be adjusted by the superintendent after consultation with the private medical attendant.

THE ASTLEY-AINSLIE INSTITUTION, EDINBURGH.

The Astley-Ainslie Institution was founded through a bequest by the late Mr. David Ainslie of Costerton, "for the relief and behoof of the convalescents in the Royal Infirmary." It is under the control of a board of governors, nominated by various public bodies in Edinburgh, whose policy is to deal with patients whose convalescence is likely to be prolonged, but who may be expected eventually to regain health and to resume their ordinary avocations. An important aspect of the work of the institution is the scientific investigation of the process of "convalescence," on lines similar to those followed in the study of the inception and progress of disease. The governors have secured a site of over thirty acres, on the southern slope of the hill in the Grange district, with an exposure to the south, well wooded, and with an uninterrupted view of the Pentland and Braid Hills. It is interesting at the moment to recall that the property includes the house and policies of Millbank, the residence of James Syme, and the home from which Lord Lister took his wife. A unit, for female patients, has been in use since 1923. The remainder of the institution is under construction. The wards are built on the "butterfly pavilion" system, first, we believe, introduced by Sir Robert Philip in the Tuberculosis Sanatorium, for the designing of which he was responsible. Each pavilion has wide balconies, and the new scheme includes an administrative block, a nurses' home, central kitchen, power station, and a scientific block containing the radiological and electrical department, a gymnasium for treatment by physical exercises, a dental department, a research laboratory, and other accessories. Sun baths and shelters for open-air treatment are erected in the grounds. When completed the institution will accommodate about 150 patients. The cost of maintenance is borne entirely by the funds bequeathed by Mr. Ainslie.

SLUM CLEARANCE IN SCOTLAND.

At a conference of representatives of local authorities in Scotland, held in Glasgow last week, the slum clearance problem and town-planning in Scotland were discussed. A paper was read by Mr. John Bryce, director of housing for Glasgow, in which he reviewed the various slum clearance activities in Glasgow since 1923, which had involved an expenditure of more than £1,000,000. He said that the situation bristled with difficulties, being mixed up with complications in regard to wages, cost of land, insanitary conditions, drink, dirt, disease, crime, greed, maladministration, and the necessity for effective control. In every scheme for rehousing dispossessed tenants a caretaker was on duty who took an interest in the moral and physical welfare of the tenants, and saw that they kept their houses in order and obeyed the rules and regulations. Usually these caretakers had to educate the tenants to a higher standard of living, and they reported periodically to the manager of the City Improvement Department. Dr. William Robertson, M.O.H. for Edinburgh, dealt with the subject from the public health point of view. The vital statistics, he said, were always influenced by the slums, for people who grew up in slums were bad resisters of disease. The sanitarian of fifty years hence would reap the benefits that would accrue from the efforts now being directed against slums. Dr. Macgregor, M.O.H. for Glasgow, in the course of the discussion, remarked that the clearance of slums resulted in several benefits, including reduction in the proportion of one-apartment houses, the demolition of frankly insanitary houses, and the removal of a certain amount of overcrowding, for somewhere about 10 per cent. of the slum houses which had

been demolished in Glasgow had contained two families. Mr. G. D. MacNiven, F.R.I.B.A., of the Scottish Board of Health, Edinburgh, dealt with the present position of town-planning in Scotland, which he said was far from satisfactory. The first town-planning Act had been passed in 1909, but so far only two schemes had been approved by the Scottish Board of Health. The war, to a certain extent, necessitated the postponement of work in this direction, and since 1919 pressure of work in connexion with urgent housing questions had monopolized attention. He suggested that co-operation and joint action by several local authorities lay at the root of town-planning, and that regional planning was a better title. A conference of local authorities in the Clyde Valley was to be held in Glasgow on May 20th, under the chairmanship of Dr. W. E. Elliot, Under-Secretary of State for Scotland, and it was hoped that the whole subject as it affected that area would then be dealt with.

Glasgow Ear, Nose and Throat Hospital.

At the annual meeting of the Glasgow Ear, Nose and Throat Hospital, held on April 27th, Lord Provost Mason presided. The hospital has recently moved into new quarters in St. Vincent Street and attendances have greatly increased. The numbers for the ten months ending December 31st, 1926, were 25,430, which was 2,129 more than the total for the whole preceding twelve months, and 8,593 patients had been treated as compared with 7,202 in the previous year. Indoor patients for the ten months numbered 928, as compared with 480 in the previous year. The income for the ten months had exceeded the expenditure by £649. Lord Provost Mason remarked that the hospital was now one of the most up-to-date and highly equipped institutions of its kind in the country, and quoted Mr. Neville Chamberlain as saying that this was a perfect example of what a hospital should be. £60,000 had been raised in order to erect and equip it, and it had started its career free from capital debt.

Ireland.

Medical Register for the Irish Free State.

The Medical Practitioners Bill (1927) was read a second time in the Dail on May 5th. The bill gives effect to an agreement which was signed by Lord Balfour on behalf of the British Government, by Sir Dawson Bates on behalf of the Government of Northern Ireland, and by Mr. McGilligan on behalf of the Free State Government. This agreement forms a schedule to the bill. The agreement provides, among other matters:

1. That the nomination of a member of the General Medical Council, formerly made for Ireland by His Majesty, with the advice of the Privy Council, shall henceforth be made by His Majesty in Council on the recommendation of the Governor of Northern Ireland.

2. The nominations of members of the General Medical Council by universities and medical corporations in Ireland and the election of a member of the General Medical Council by registered medical practitioners in Ireland shall henceforth be made and had in the same manner as they formerly were.

3. Subject to the provisions of the agreement, the constitution of the General Medical Council and of the several branch councils as formerly existing under the Medical Acts, and the powers of holding qualifying examinations and granting diplomas for the purpose of registration in the General Register, formerly vested in certain universities and medical corporations in Ireland, shall be deemed not to have been affected by the establishment of the Irish Free State or of Northern Ireland, and for the purpose of the preparation and keeping of the general *Medical Register* the General Medical Council and the Branch Council for Ireland, and their respective officers, shall have, and may exercise in relation to persons, universities, medical corporations, and matters in the Irish Free State or in Northern Ireland, all such powers, jurisdictions, and authorities under the Medical Acts as the said councils respectively, and their respective officers, formerly had, and might exercise, under the Medical Acts for that purpose in Ireland.

Any person who is or shall be registered in the general register shall be entitled on payment of a fee prescribed by the Free State Parliament, to be registered in the *Irish Free State Medical Register*, provided that no fee shall be payable by any person who, on the date of the establishment of the *Free State Register*, is registered in the general *Medical Register*, and applies for registration in the *Free State Register* in such time and manner as may be prescribed by the Oireachtas. No person whose name has been erased from the *Free State Register* on account of his conviction of a felony, misdemeanour, etc., or his having been judged by the Free State Medical Council to have been guilty of infamous conduct in a professional respect, shall be entitled to be subsequently registered in the *Free State Register* by reason of his being registered in the general *Medical Register*. A person not previously registered in the *Free State Register* shall not be entitled to be registered therein if his name has been erased from the general *Medical Register* for a felony, misdemeanour, etc., or infamous conduct. With a view to preventing the holding of simultaneous inquiries the General Medical Council shall report to the Free State Medical Council every case in which it proposes, in connexion with the exercise of its disciplinary powers, to hold an inquiry into the conduct, in Great Britain or in Northern Ireland, of any person registered in the *Free State Register*, and the Free State Council will similarly report to the General Medical Council every case in which it proposes to hold an inquiry into the conduct in the Free State of any persons registered in the general *Medical Register*. On the receipt by either of such a report it (Council) shall have regard to the desirability of postponing its inquiry into the matter pending the completion of the inquiry by the other body. In the same way erasures from either *Register* shall be notified by one Council to the other.

The Medical Registration Council proposed to be established for the Free State will consist of nine members: (*a*) one nominated by the Executive Council of the Free State Government, (*b*) one nominated by each of the following bodies —that is to say, University College (Dublin), University College (Cork), University College (Galway), the University of Dublin, and the Apothecaries' Hall of Ireland, (*c*) one nominated jointly by the Royal College of Surgeons in Ireland and the Royal College of Physicians of Ireland, and (*d*) two who are registered medical practitioners in Saorstat Eireann shall be elected by the persons who are for the time being registered medical practitioners resident in Saorstat Eireann. The members of the Council shall hold office for five years. Casual vacancies will be filled by the bodies entitled to representation with the exception of that of a direct representative, when the Council shall fill the vacancy for the unexpired term of office. Every person already registered in the general *Medical Register* will be registered without payment of a fee in the *Free State Register* if the application is made within one month after the establishment of the register. There will be also provided a separate list in the *Free State Medical Register* for any person who is registered as a medical and surgical practitioner in any British possession, self-governing Dominion, or foreign country on conditions more or less similar to those that apply to the Colonial List in the general *Medical Register*.

Correspondence.

PROPHYLACTIC VACCINATION OF THE NEWLY BORN AGAINST TUBERCULOSIS.

Sir,—Your judicial article on prophylactic vaccination of the newly born against tuberculosis (Journal, May 7th, p. 845) leads me to amplify the statistical information contained in Professor Calmette's article. Of M. Moine's section I say nothing, for I have not examined his data, but Dr. Biraud's data I have examined, and I think that the condensed form of his report—or of Professor Calmette's presentation of his report—may lead to misapprehension. In the first place, readers not familiar with the method of practical life-table construction might possibly suppose that Dr. Biraud's results are based upon 1,877 infants observed from birth to death or until the expiration of two years from birth, whichever event happened first. This is not so, for children passed out of observation for various reasons—for example, some of them might have been vaccinated within a few months of making the analysis, or no particulars might be available as to what happened to them after a few months from birth. In fact, the "exposed to risk" had dwindled to 679 by the end of the eighth month, and to 367 by the end of the twelfth month, so that the basis of discussion becomes, within a few months of birth, rather scanty. It is further to be remarked that

con the rate of mortality of the
l that of the general population is
f life, that is, in a period when the
have followed the theory of the
ffect, good or bad, upon resistance.
ing that no selective factor such
your article biased the data, Dr.
es it probable that the mortality
of the vaccinated children was no
inary children. Hence, if it could
of mortality upon children of the
l was very much worse than the
case in favour of the value of the
a made out, but only a prima facie
are scanty. I do not think this
en furnished from French sources,
hich most professional statisticians
ate, and the data published by Dr.
Ostenfeld, so far as they go, throw
nsational pseudo-controls, which are
offers. Others will draw their own
I think it is a pity that the precise
aud's analysis—limitation imposed
ts of the data—were not explicitly
lmette's paper.—I am, etc.,

MAJOR GREENWOOD.

IN: IS IT A SPECIFIC?

ticle by Dr. F. G. Griffiths in the
827), "Tuberculin: is it a specific?"
that are of interest.

specific in diagnosis is more than
ago I examined the case-sheets of
bservation for tuberculosis, all of
linical and x-ray examination, were
d von Pirquet test.
who reacted to dilutions of 1 in 500
y signs of activity in 84 per cent.;
1 in 100 in 64 per cent.; and to
it.; there were no negatives. Of 58
had tubercle bacilli in the sputum
or 1 in 100. Anyone in the habit
ll agree that positive results in high
y are so rare as to be of academic
gard to its specificity in treatment,
chronic disease that it is difficult
have not been in the habit of using
value. I entirely agree with Dr.
mparative valuelessness in marked
ar tissue cannot be altered. Even
, it is of value if there be signs of

Dr. Griffiths that the more sensitive
the results. In my experience, if
tive—that is, react to 1 in 10 but
—tuberculin is not indicated except
ts obtainable in tuberculous asthma
greatest proof of its specificity. In
thma it has no effect whatever. In
on the other hand, it apparently
l, of course, there is not some under-
hma besides the tuberculous factor.
y like adrenaline. The general health
get less frequent and less severe,
at any rate for a considerable time.
e cases of asthma for some years has
ion that tuberculin must be specific
etc.,

F. E. GUNTER.

' OF DIABETICS AS HOSPITAL
UT-PATIENTS.

a little space to join in the plea of
e of May 7th (p. 831), that diabetic
e treated in special clinics and not
ient departments of hospitals? His
ows how successful such a plan can
be, while the difficulty of obtaining good results in the general out-patient departments is known to all physicians. As the clinical control of these cases is undoubtedly based on laboratory tests, the best results can be obtained only in close touch with a laboratory. Many hospitals have been quick to recognize this in establishing such diabetic clinics, and the benefit to the patients and the increased efficiency of the work has been an immediate reward in every case.

I think Dr. Earl has understated the possibilities of what can be done in such clinics. It would appear from his article that the out-patient clinic which he describes at Salford Royal Hospital does not undertake the initial treatment of any case with "ketosis or a short acute history" or "any case which requires insulin," such cases being admitted to the wards. At a similar diabetic clinic at King's College Hospital, London, we are in the habit of treating practically all such cases from the start as out-patients, with the exception of cases of coma, children under 16, those who live at too great a distance to attend hospital daily, and the intensely stupid patients. Two or three years ago we undertook insulin cases as out-patients with some trepidation, and mainly because of the lack of beds in the wards and the necessity of immediate treatment. But their treatment as out-patients has been so uniformly successful that we find admission to hospital unnecessary except for the above-mentioned types. Over fifty insulin cases have been started successfully in this way without any untoward results. It has been found possible to institute an accurate diet within a day or two and to entrust the patients with their own injections after at most a week. Some, indeed, take charge of their own injections after the first one. Most of the patients appreciate the fact that they need not interrupt their ordinary life entirely by admission to the hospital. We find, too, that, having been largely on their own responsibility in their own homes from the commencement, they learn the ways of "the diabetic life" with thoroughness and self-confidence.—I am, etc.,

R. D. LAWRENCE, M.D., M.R.C.P.
Biochemical Department, King's College Hospital, London, May 7th.

TRAUMA AS A CAUSE OF AURICULAR FIBRILLATION.

SIR,—The interesting article on the above subject by Professor John Hay and Dr. Wallace Jones seemed to me a direct incitement to litigation under the Workmen's Compensation Act, which I very much deprecate. I therefore wish them to show not merely that auricular fibrillation in an apparently healthy heart has been part of a sequence following trauma, but what is the mechanism of its production, and what part has the autonomic nervous system played. A mere sequence of events is no proof of cause and effect.

It is not always easy to say what is a healthy heart. It is the simplest matter possible to pass an insurance examiner as a first-class life, but that is no evidence of the heart's capacity for any particular strain.

In my own case I have never been able to produce auricular fibrillation, no matter what the stress to which I have submitted my heart. In hill-climbing I can easily double the frequency of the beats, but no fibrillation.

On the other hand, I have known several, especially ladies, who with apparently healthy hearts get fibrillation on comparatively slight exertion. However, auricular fibrillation is divested of many of its terrors when you know that an attack can be arrested in about five minutes by the induction of the cardiac reflex of contraction.—I am, etc.,

Vichy, France, May 4th. JAMES BARR.

SIR,—I am interested in the letter from Dr. Harris (April 30th, p. 817), and am glad to find that he is in cordial agreement with our main contention, that sudden strain may induce auricular fibrillation in a heart predisposed to fibrillation by disease.

At this point, however, he comes to a full stop; and when we venture to say that "fibrillation may result from

physical strain in hearts that are apparently normal, so far as can be determined by ordinary clinical methods," Dr. Harris stigmatizes this guarded opinion as a "sweeping assertion," revealing himself as peculiarly lacking in a certain sense of proportion.

He evidently takes the view that fibrillation cannot occur in the absence of some pathological change and, in the presence of fibrillation, he would accept that—*in itself*, and alone—as evidence that the heart is diseased. In other words, fibrillation is all that is required for a diagnosis of myocardial damage. He sums up by saying that "there is no shred of dependable evidence produced which would suggest that trauma may produce fibrillation in a healthy heart." I am not sure to what he refers. It is not clear whether he suggests that we have not produced any evidence that the hearts of the patients we examined were normal, or whether he means that there is no dependable evidence of the experimental production of fibrillation by trauma in a healthy animal.

In so far as our cases are concerned, no lack of cardiac reserve was revealed on ordinary clinical examination, no enlargement of the heart that could be considered pathological, no evidence of valvular disease, nothing abnormal in the heart sounds, and no deviation beyond normal limits in the blood pressure. It was on these grounds that we felt justified in saying that the hearts were "normal so far as could be determined by ordinary clinical methods." With regard to the cases which we electro-cardiographed, I think, perhaps, Dr. Harris is inclined to lay more stress than is wise on such deviations from the normal as a slight slurring of the R deflection. In Case v, of course, the heart was admittedly damaged and the electro-cardiogram was frankly abnormal.

I cannot believe that Dr. Harris means that there has been no dependable evidence proving that fibrillation cannot be produced experimentally in a healthy heart, because many and various forms of stimulus—either chemical, electrical, or mechanical—are well known to start fibrillation of the auricles in the sound heart of an animal. The vital change is physiological and not pathological. Fibrillation is a functional disorder. Disease may predispose to fibrillation, but certainly does not cause it, and the presence of disease is not essential.—I am, etc.,

Liverpool, May 6th. JOHN HAY.

RHEUMATIC INFECTION IN CHILDREN.

SIR,—With all respect I venture to differ from Dr. Leslie Thorne Thorne (May 7th, p. 855) when he says that enforced school attendance is the cause of the greater incidence of rheumatic infection in children attending elementary as compared with those who are sent to private schools. Surely the fundamental reason for the difference is to be sought in home environment, and in many instances constant, or frequent, exposure to damp, due to bad housing conditions, bad boots, insufficient or unsuitable clothing, with frequently no second change when the child gets wet, are the lot of the elementary school child, and lead to "growing pains," slight sore throats, etc. For these conditions the school cannot be held responsible; and, indeed, a child suffering from a slight "chill" is often better in a well warmed, well ventilated classroom than at home, where the mother may be out at work, and where the child, in any case, will almost certainly not be kept in bed.—I am, etc.,

EVA MCCALL, M.D., Ch.B., D.P.H.

London, W.1, May 9th.

DAMP BUILDINGS.

SIR,—It is stated that an investigation is being carried out by the Royal Institute of British Architects into the causes and prevention of dampness in buildings, as a result of the report on rheumatism and rheumatic heart in children. Considerable stress was laid on this point of dampness in houses in the report. May I ask how the evidence of rooms and houses being damp was obtained? Was this evidence produced by authorities—the sanitary departments or other experts—or were the mere statements of patients and tenants accepted?

What constitutes a damp house or building? I have come across people who have declared their premises damp because warm vapour in a room has condensed on the cold walls, making them decidedly wet, but this can scarcely constitute a cause for a damp building.

Has any investigation been made in this connexion as to the incidence of rheumatic diathesis being inimical to *tuberculosis*?—I am, etc.,

Plymouth, May 7th. J. S. PEARSE.

MEDICAL DEFENCE.

SIR,—We are directed to request that you will kindly publish in your next issue the following statement with regard to the circumstances in which the council of either of the two English defence and/or protection societies may be prepared to advise and/or defend and/or indemnify a member.

Subject to the provisions of the Articles of Association the council may on application from a member who is in benefit—

1. Advise on any matter connected with medical practice.
2. Initiate or defend or assist in defending, proceedings where a question of professional principle is involved.
3. In the event of an adverse verdict, or of a settlement out of court, provide indemnity against damages and costs of the other side.
4. Defend or initiate and carry through proceedings to vindicate a member's *professional interests, honour, or character* whenever they have been threatened or jeopardized.
5. Defend and/or indemnify a member in proceedings brought against him in respect of the act or omission of:

(*a*) A partner who is a member of any other defence or protection society with whom a reciprocal *arrangement* has been entered into.

(*b*) An assistant who is a member of any other defence or protection society with whom a reciprocal arrangement has been entered into.

(*c*) An assistant not himself a member of any defence or protection society, provided that the member has paid an additional annual subscription of 10s.

(*d*) A locum tenens, whether a member of any defence and/or protection society or not.

(*e*) A subordinate medical officer, including a house-surgeon or similar hospital medical officer, whether a member of any defence and/or protection society or not.

(*f*) A non-medical assistant or subordinate, such as a nurse, dispenser, *x*-ray operator, massage or laboratory assistant, save in a case where in the opinion of the council such non-medical assistant or subordinate was with the sanction of the member, whether express or implied, carrying out (i) a duty which should only be undertaken by a medical practitioner, or (ii) without medical supervision a duty which should only be undertaken by a non-medical assistant or subordinate under the orders and direct supervision of a medical practitioner.

—We are, etc.,

HUGH WOODS, General Secretary, The London and Counties Medical Protection Society, Ltd.

JAMES NEAL, General Secretary, The Medical Defence Union, Ltd.

May 7th, 1927.

Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

THE House of Commons has this week considered the Scottish Estimates and Ministry of Transport Estimates, and commenced the Committee stage of the Trades Disputes and Trade Unions Bill.

The Parliamentary Medical Committee met at the House of Commons on May 5th and arranged that Lord Dawson of Penn should, on May 19th, address an open meeting of members of Parliament on the case against the Dogs' Protection Bill, in reply to statements made in the House in support of that bill. Lord Dawson will also answer questions on the subject. In view of the recent appointment of a Select Committee on the registration of opticians, the Parliamentary Medical Committee decided to support the amendment which Sir George Berry and Dr. Vernon Davies had put down declaring that it was inadvisable to give a second reading to the Optical Practitioners' Registration Bill, which was the first order of the day on May 13th. The Committee also heard a statement from

ir Frank Colyer, who, on behalf of other medical men ractising dentistry, explained the circumstances in which he ad taken his name off the *Dental Register*. A discussion ollowed on this statement, but the Committee took no decision.

Experiments on Animals.

In the House of Lords, on May 4th, Lord Banbury opened discussion about experiments on animals by asking how many inspectors were appointed under the Cruelty to Animals Act, 1876. He said he made no accusation against the inspectors. He had no reason to doubt they were doing their duty properly and efficiently if that were within their power. The Home Secretary had said in the Commons that there were two whole-time inspectors who had last intervened on March 5th, 1926, to prevent an animal suffering prolonged and agonizing pain. Could Lord Desborough, who was to answer for the Government, justify the statement by professors and doctors that there never was cruelty, and that they could trust the inspectors to carry out the Act? Lord Banbury said that 242 places were licensed on April 11th for operations on animals, and quoted statistics of the number of operations performed in 1925. He calculated that each inspector would have to inspect 4,701 experiments yearly. Two men, however excellent, could not carry out these duties properly. Lord Desborough said that down to 1913 there were two part-time inspectors for Great Britain. In that year, after a Royal Commission, two whole-time inspectors were added. Sir James Russell, a part-time inspector, died, and the number was reduced to three, but the third, Sir George Thane, gave practically the whole of his time to the work. When Sir George retired, in May, 1922, the staff was reduced to two whole-time inspectors because of the need for economy in public expenditure. That need continued. The Home Office agreed that, for efficiency, three whole-time inspectors would not be too many, and four would be still better. The point of view of Lord Banbury, who suspected violation or evasion of the law, need not be taken into account. Licence holders did sometimes commit breaches of the Act or the conditions of their licences, but almost invariably through negligence or failure to understand an intricate and technical piece of legislation. Wilful evasion of the Act was practically unknown. The experience of the Home Office for many years had been that licence holders as a body were willing and anxious to comply with the letter and spirit of the Act, and to assist the Home Office in its administration. He was informed that more experiments were made at University College than at any other one place. In the last eighteen months its laboratories had been visited thirty times without notice by an inspector. Inspectors had a great deal more to do than to inspect; they had to be highly qualified persons, able to give advice when applied to by men and schools which wished to carry out some special piece of scientific work; and it would undoubtedly be a great benefit if the country could afford money for the purposes suggested. The Home Office, however, was not likely to approach the Treasury with the request. Lord Haldane said that the great bulk of the work done by the inspectors was paper work, scrutinizing the nature of the research proposed to be made and whether it involved pain. The inspectors did not run about, though they paid occasional visits to see that the conditions of the law were observed. Lord Haldane's view was that there was little violation of the Acts in this country. He was not sure that the Acts did not go too far. A few days previously a distinguished young physiologist had come to see him, and had explained that an experiment had to be made, and should be made on a dog. It was not serious, but could not be made under an anaesthetic. That physiologist said: "There is only one way for it, and I have come up to be vivisected," and he was vivisected. For several days he was in one of the hospitals, remaining in bed during part of the process. Lord Haldane said that some of the experiments stopped by the Act were experiments which human beings with a desire for knowledge were ready to undergo. He did not think it desirable that such experiments on men should be extended. Some of the provisions of the Acts went so far that, although processes were painless, they were hampered by the condition that anaesthetics must strictly be used, and that the animal must not be allowed to live. Lord Knutsford said the removal of a flea from one dog to another was an experiment under the Act. In all England and Wales only 267 places were licensed for vivisection, and 68 of these were in London. In the opinion of many people two whole-time men could do the work perfectly well. The irregularities last year were that one woman investigator immersed, without a licence, some trout in polluted water, and that another, holding certificate A, made simple inoculations into cats without authority. Lord Danesfort said he was not an antivivisectionist, but would be very sorry to see an extension of the powers given by the Act of 1876. The Royal Commission of 1912, having heard all the evidence from the scientific side, concluded that the existing inspectorship was insufficient. Unfortunately, the Commissioners' recommendation to have four full-time inspectors had not been carried out to the full. Lord Banbury said that the results to the animals concerned of breaches of the licence were just as bad if the mistakes were through ignorance. He trusted that economy would not prevent the Home Office from appointing more inspectors, and suggested that £3,000 a year would cover the cost. He withdrew his demand for papers, and the debate closed.

A Parish Medical Officer in Skye.—In an answer to Mr. Johnston, Sir John Gilmour said the special Commissioner appointed by the Scottish Board of Health had found that professional charges brought against the parish medical officer of Strath, Skye, had not been substantiated and ought never to have been made, and that there was no other ground on which his dismissal from the parish appointment would be justified. After consideration of the Commissioner's report, the Board had decided that this was a case which called for the protection afforded to parish medical officers in the Highlands and Islands by statute. Sir John concurred in this decision. In his question Mr. Johnston stated that the parish council of Strath had announced that it would resign unless given freedom to terminate the appointment.

After-effects of Lethargic Encephalitis.—On May 4th Mr. E. Brown asked whether the attention of the Home Secretary had been called to a case at the Central Criminal Court where a victim of encephalitis lethargica had been sent to prison with hard labour, although the judge had agreed that the prisoner required treatment, not as a criminal, but as an afflicted person. Sir William Joynson-Hicks said that after consideration he could not advise a remission of sentence. The young man was reported to have suffered from encephalitis lethargica in 1919, but was not now considered to be certifiable either under the Lunacy Acts or under the Mental Deficiency Act. All the relevant facts were before the judge when he decided to send the man to prison, where he was now under special mental observation in the prison hospital. Mr. Brown asked whether the Home Secretary did not think there should be an alternative in such cases. The Home Secretary said that was a matter for legislation by the House of Commons. Dr. Vernon Davies pointed out that the prisoner had been sentenced to nine months' imprisonment with such hard labour as he was capable of doing. He asked whether the Home Secretary would endeavour to hasten the passage of the Mental Deficiency Bill. In a later answer, on May 10th, Sir William Joynson-Hicks said the prisoner was 21 years old and therefore the question of committing him to the institution at Winchmore Hill under the control of the Ministry of Health did not arise.

Approved Societies and Massage and Electrical Treatment.—Answering Mr. Bowerman, Mr. Chamberlain said that if massage and electrical treatment were added to the list of additional benefits under the National Health Insurance Acts he would aid approved societies to secure for their members the necessary treatment under satisfactory conditions and on reasonable terms. Before making a regulation adding the treatment to additional benefits, he would have to be satisfied that a reasonable number of societies desired to amend their existing schemes.

Small-pox.—On May 9th Sir Kingsley Wood told Lieut.-Colonel Howard-Bury that twenty-seven deaths among persons suffering from small-pox had so far been reported in England and Wales during the present year. In some cases the death certificates had not yet been received. In reply to other questions, Sir Kingsley Wood stated that, in view of the danger of an epidemic, the Ministry is doing all it can to recommend vaccination, and is drawing the attention of school authorities to the matter.

Cost of Medical Inspection of Schools.—On May 9th Lord Eustace Percy, in reply to Dr. Vernon Davies, gave in tabulated form the number of school children examined by the medical officers of the Lancashire education authority for the last seven years. He said that in 1921-22 the estimated equivalent of whole-time officers engaged in school medical service work was 15.2, and the estimate of total salaries in respect of school medical service was £15,765. The number of inspections (routines, specials, and re-inspections) was 74,246. In 1926-27 the comparable figures were 13.6, £13,087, and 95,106. He could not state the average cost of medical services for each examination made, as the school doctor's work included many other duties connected with the school medical service besides medical inspection.

High Grade Certified Milk.—On May 10th, in reply to Brigadier-General Clifton Brown, who asked why producers of Grade A tuberculosis tested and certified milk were now to be brought under the further control imposed by the Milk and Dairies Order, 1926, Sir Kingsley Wood said producers of the higher grades of milk had always been subject to the statutory requirements applying to milk producers generally.

Baths at Spas.—The Minister of Health has not sanctioned the levying of a local rate for the upkeep of privately owned baths at any place other than Woodhall Spa, Lincolnshire. Any application in circumstances similar to those at Woodhall Spa would be considered.

Notes in Brief.

Three hundred first-aid dressings have been ordered for the use of the Metropolitan Police in the streets.

In 1926 there were 88,000 tons of machine-skimmed condensed milk imported into the United Kingdom.

Obituary.

ERNEST HENRY STARLING, C.M.G., M.D., F.R.S.,

Foulerton Research Professor of the Royal Society,
University College, London.

(With a reproduction of a recent photograph by Professor Raper of Manchester.)

LAST week we had with sorrow to announce the death on board ship, off Kingston, Jamaica, of Professor E. H. Starling at the age of 61. Of late years he had had indifferent health and had suffered from disabilities under which one of less heroic spirit could not have continued to work strenuously. His enthusiasm for the discovery of new truths was unimpaired, and his mind was so sympathetic and alert that it was difficult to believe he was not a sound man. Nevertheless, evidences of diminishing capacity for work without undue fatigue were obvious to his friends and a source of anxiety to them.

At the close of the winter session, during which he had been daily occupied with arduous experiments, he was very tired. The weather was cold and dull and he longed for sunshine and warmth. He therefore decided to take a voyage to the West Indies, in full hope that this would restore his energies and enable him to continue with enjoyment the experimental work with which he was occupied. However, that was not to be, but he had the satisfaction of going down with his flag flying, as he would surely have desired.

LIFE AND WORK.

BY

C. J. MARTIN, M.D., F.R.S.

Ernest Henry Starling was born in 1866. His father, H. H. Starling, was Clerk to the Crown, Bombay. The family of seven children had, perforce, to be educated in England. They therefore saw but little of their father and were brought up by their mother, a very extraordinary woman, and it is to her influence, by heredity and nurture, that Starling owed his determination, mental alertness, and much of his charm. As the eldest boy, in the absence of a father, he early acquired a sense of responsibility and capacity for managing his affairs, and was, in some respects, unusually mature for his years.

He was educated at King's College School. He left at 16½ years of age, having matriculated at the University of London with honours, and proceeded to the study of medicine. He chose Guy's Hospital because his uncle was a Guy's man.

At this time his ambition was to be a physician and live in Harley Street, and it was not until a few years later that he began to doubt the all-sufficiency of this ideal and to contemplate the possibility that he might be able to devote himself to an academic career and perhaps become a discoverer himself. As soon as he touched the study of natural science it was clear that Starling had found his *métier*. The causal relation of facts enthralled him. He was intensely curious and had a naturally scientific mind. He was gifted with fine intellectual machinery, a good memory, industry, and possessed of great powers for work, and it was soon clear to his teachers that they had a very exceptional pupil. The teachers of natural science at Guy's in those days were men of distinction, but they only called for a few hours weekly to deliver their lectures. The one who made a great impression upon Starling was Dr. Debus of the Royal Military Academy, Woolwich, who gave part of the lectures on chemistry. He was a fine teacher, and the enthusiasm with which he expounded the elements of chemistry was infectious.

At the examination in preliminary scientific subjects at the University, Starling obtained the first place in chemistry and botany, and second place in physics. He obtained so many medals and prizes as he proceeded through his medical course that an account of these academic victories at university and hospital would be wearisome. About two-thirds of the academic honours available were secured by him, including a free studentship at Guy's Hospital. These various college and university scholarships sufficed to maintain him, and if he had liquidated the many gold medals awarded to him he would have been able to enjoy comparative affluence.

Physics and chemistry attracted him and the generalization of biology, but it was when he came to study physiology that he met his fate. It cannot be said that his affection for physiology was due to his teaching at the hospital; it was largely his own discovery, but Foster's textbook made a great impression upon him.

After two years' study of physiology, during which he read many original papers, including all the back numbers of the *Journal of Physiology*, he had determined, I think, to become a physiologist, if such a career was economically possible. He had felt the deprivation due to his inadequate knowledge of German, so, after disposing of his second medical examination in 1886, he went, largely with the idea of improving his German, for a few months to Heidelberg, and worked in Kuhne's laboratory. He returned at the end of the year with his hair *en brosse*, much teutonized, and more than ever determined to become a physiologist. However, he had to put these aspirations aside for awhile and devote himself to the study of practical medicine. This he did with his usual enthusiasm. Starling found great satisfaction and enjoyment in clinical work. The human side appealed to his sympathetic nature and the immediate value of the application of knowledge to his practical mind. If it had been possible to devote himself whole-heartedly to the study of medicine, as is now possible by the institution of full-time professorships, Starling would have been as happy investigating disease as in a physiological laboratory. Indeed, not many years ago he seriously considered accepting such a position.

Having completed his medical studies and occupied the position of house-physician and house-surgeon at the hospital, Starling was confronted with the problem, how he was to live if he were to follow his desire and devote his life to physiology.

With his brilliant career at the hospital, the profession of a physician was open to him and success undoubted. He was keenly interested in medicine and pathology, and the temptation to follow the line of least resistance and greatest promise of reward was considerable. However, in 1889, he determined to try the rougher path and became demonstrator in physiology. The rewards of this office were minute, and Starling told me that he owed the possibility of giving his allegiance to science to a British Medical Association scholarship for medical research. The scholarship was worth £150 a year, and this addition to his slender salary kept him going. Next year, owing to the death of Wooldridge, a vacancy as joint lecturer on physiology occurred and Starling was appointed. On the termination of the British Medical Association scholarship he was appointed to the research scholarship of the Grocers' Company, of the value of £250 per annum. It was not then so easy to embark on a scientific career without financial resources as it is now, and it is terrible to think how one of Starling's glorious attainments was nearly deterred.

He was confronted, not only with the problem of how he was to continue to subsist on one-third of a salary which was never intended to command the whole services of a physiologist, but how he was to secure a physiological laboratory to work and teach in. The Grocers' scholarship temporarily solved the first problem, and he determined that adequate accommodation and equipment for teaching and research in physiology should ere long, by some means, be obtained. Meanwhile, being but one of three joint lecturers, he was able to arrange to go and work abroad occasionally. In 1893 he went to Breslau to work with Heidenhain, and later, for a few months, to the Pasteur Institute, as he was greatly impressed by Metchnikoff's discoveries about phagocytosis. In order that these might be more available to English students, he and his wife translated Metchnikoff's lectures on comparative inflammation.



ERNEST HENRY STARLING.

Until his hopes for a physiological laboratory should materialize, Starling did his best to secure some improvement of the arrangements for practical teaching and demonstration with the funds available; meanwhile he repaired to Schafer's laboratory at University College to carry on his researches. Bayliss was also working in the laboratory, and here began a scientific partnership which lasted on and off for thirty years. The two complemented one another in many respects. Whilst both possessed scientific imagination of the highest order, Starling was more ardent and forceful, eager to translate ideas into action, but rather bored with details of technical method. He had never been interested in doing things with his hands except climbing, although, later, he became a most beautiful and dexterous operator. Bayliss was the philosophical student, calm, with better critical judgement. He read widely and had a wonderful knowledge of scientific literature, was an excellent mechanic, and found enjoyment in the development of the technical methods of research. How fruitful this partnership was will be seen from the account below of Starling's scientific work.

The equipment at Guy's Hospital steadily improved, and he and Bayliss did their work on the innervation of the heart there. By 1895 Starling had planned a really good physiological institute for Guy's Hospital and had secured the assent of the authorities to its erection. These laboratories were completed in 1897, and were, at that time, the best laboratories for physiology in London. The amount of time and effort involved in this accomplishment was considerable. Unwilling authorities had to be persuaded to provide territory and funds, and colleagues to make sacrifices of their own legitimate aims, and although it was becoming recognized that Starling was going to be a great man and was an ornament to the staff, *this was no easy matter.*

Not long after the opening of the new physiological laboratories at Guy's Hospital the Jodrell Chair of Physiology at University College fell vacant owing to Schafer's acceptance of the professorship at Edinburgh. In 1899 Starling was appointed. It was a wrench to leave his fine new laboratories, to the construction of which he had devoted so much time, but the emoluments of the Jodrell Chair were greater, and the conditions at University College he deemed more favourable to the realization of his ideals. Moreover, he was determined that it should not be many years before he would have a new institute of physiology at University College, for the planning of which the Guy's laboratories would have served as useful exercise.

This determination came to fruition in 1909, when the present fine Institute of Physiology was *opened.* Starling's plan was not merely for a new physiological school, in which he was naturally more particularly interested, but he wanted all the medical sciences at University College to have the advantages of more commodious and nobler buildings. His original scheme was for an Institute of the Medical Sciences, including anatomy and pharmacology, as well as physiology, with a central library. At first only the physiological section was built, but a few years ago the erection of the whole institute, as originally contemplated, was rendered possible by a generous gift from the Rockefeller Foundation, which was desirous of devoting funds in the interest of medical science in London. That they chose this particular means of fulfilling their aims was largely, if not entirely, due to Starling, and the noble Institute of Medical Sciences with which University College is now endowed is a fine material monument to the memory of one who not only helped to build up a great school of physiology in London and obtained an appropriate habitation for it, but was as unsparing in his efforts to secure similar advantages for the other medical sciences.

In 1923 Starling retired from the Jodrell Chair and was appointed to a Foulerton Research Professorship of the Royal Society. He still continued to work at University College, but was relieved of all administrative duties and all teaching, except that of a small band of research pupils.

His laboratories continued to be a centre of great activity, and a limited number of distinguished young physiologists from this country and abroad still enjoyed the advantage of working in close communion with one of the greatest masters of experimental physiology. It was a happy family.

STARLING'S PHYSIOLOGICAL RESEARCHES.

"Only by following out the injunction of our great predecessor (Harvey), to search out and study the secrets of Nature by way of experiment, can we hope to attain to a comprehension of 'the wisdom of the body and the understanding of the heart,' and thereby to the mastery of disease and pain, which will enable us to relieve the burden of mankind." (Starling, Harveian Oration, Royal College of Physicians, 1923.)

Starling's interest in physiology was general, but the subjects for investigation which particularly attracted him were those physiological processes which seemed capable of interpretation in terms of chemistry and physics. Whilst realizing that adaptation was the essence of organism and had no counterpart in inanimate nature, he had not much sympathy with the neo-vitalists. In his view, if the contraction of muscle was not understood, it was because we did not know enough about physics and chemistry or about muscle.

He was always, from his student days, fascinated with the problem of the heart and the adjustment of its action to varying conditions of the body, and his first paper, written with Bayliss in 1891, was on the electromotive phenomenon of the mammalian heart. Waller had recently studied the electrical variation of the excised heart, and also of the heart *in situ*, by leading off from the neighbourhood of the apex and base respectively. It was evident to Starling that by photographing the movements of the capillary electrometer, connected with electrodes placed in different positions on the naked heart in the anaesthetized live animal, much might be learnt of the nature of the cardiac contraction; in fact, that a new method of observation was at the disposal of the investigator. At that time any sort of muscular continuity between the auricles and ventricles was denied, and the view that conductivity was due to some nervous network supplying the fibre was in favour. In this research he enjoyed the co-operation of Bayliss. They set out to ascertain the course and time relations of the wave of contraction in the ventricle, the nature of the transmission from auricle to ventricle and throughout the ventricle, and to examine critically Frédéricq's reasons for regarding the nature of the ventricular contraction to be tetanic.

They succeeded in showing (1) that the ventricular contraction is a single wave starting from the base, (2) that there is a natural block at the auriculo-ventricular groove, (3) that the rate of transmission of the contraction wave was about 5 metres per second. This sounds commonplace at this time when the electro-cardiograph is in general use for clinical diagnosis, but their observations not only formed an important step in the development of our knowledge of cardiac contraction and in the interpretation of disease of the heart, but, by showing what valuable information could be obtained by the electrical method, stimulated its employment and accelerated the development of the electro-cardiograph.

They next explored the separate action of the vagi and accelerator nerves on the auricles, on the ventricles, and on the conducting power of the auriculo-ventricular junction in the mammal. The effects of these nerves on the hearts of frogs and tortoises had been previously studied by Gaskell and Heidenhain, and that of the vagi upon the auricle of mammals. Bayliss and Starling completed the story, showing that there was no essential difference between the hearts of mammals and cold-blooded animals; that the vagus depresses conduction in auricle, auriculo-ventricular junction, and ventricle; and that the accelerator nerves had the opposite effects on all three structures. Two other important papers dealing with the mechanism of the circulation were published by Bayliss and Starling at this time. One was an exhaustive study of the simultaneous changes in the arterial and venous pressures of various regions of the body under a great variety of experimental conditions. The results showed the universal applicability of the principle of the circulation worked out by Ludwig. They said, in their paper, that the effects produced were such as might have been predicted by anyone with a knowledge of the elementary principles of the circulation. However, nobody had predicted

them. The last contribution of this first series of papers on the circulation was an analysis of simultaneous pressures in the aorta and ventricles of the heart *in situ*, by an ingenious method which was a vast improvement on any hitherto devised. They used a continuous photographic record of the changes in volume of a small air-space at the end of a capillary glass tube connected with the aorta and ventricle respectively. This method was free from inertia and aperiodic, and they succeeded in obtaining a true record of the rapid variations occurring in the ventricle and aorta, and the precise relation of these to one another. Their measurements have been the standard of reference ever since.

The Conditions Determining Transudation from the Vessels and Lymph Flow.

In 1892 Starling for a while relinquished the study of the blood circulation and turned his attention to the mechanism of lymph flow. The conditions determining the equilibrium between the liquids in the blood vessels and tissue spaces required exploration. Was lymph a transudation or an excretion? Heidenhain had recently published a stimulating paper on lymph formation, in which he concluded that, normally, filtration played no part in the formation of lymph, so, in 1892, Starling went to work in the Breslau laboratory.

Heidenhain had distinguished two kinds of lymphagogues, and under his inspiration Starling set to work to make a more detailed analysis of the effects of one of them—peptone. In summarizing his results he adopted the interpretation of Heidenhain that the experimental facts concerning lymph formation could not be explained by filtration and that it was necessary to suppose a selective activity of the vessel wall. However, on returning to this country, he continued to work energetically at the problem of lymph formation, and repeated all of Heidenhain's experiments. He was able to confirm his facts, but came to doubt the correctness of his interpretation. He searched for evidence of lymph-secretory nerves, but found that the nervous system could only influence lymph flow by altering vascular conditions. After years of experimenting he came to the conclusion that it was unnecessary to suppose a secretory activity of the endothelium, and that there was no experimental fact inconsistent with the view that lymph formation was a function of two factors—permeability of the vessel wall and intracapillary pressure. Nevertheless, there were a number of observations equally unintelligible on either hypothesis, and further work with Leathes and Tubby on the absorption of various solutions from the pleural cavities only emphasized that there was yet another factor concerned in determining whether fluid passed in or out of the capillaries.

In 1896 Starling discovered that the missing factor required to afford a complete interpretation of the phenomena was the osmotic pressure of the colloids to which the walls of the capillaries are relatively impermeable. It had hitherto been supposed that the osmotic pressures of proteins, being so insignificant compared to that of salts, they must be of no account in physiological processes. The reverse is indeed the case, because it is only to such that the membrane is impermeable.

He therefore set to work to measure the osmotic pressures of the proteins in serum and found them to be, though small, of the order of magnitude of the capillary pressure. The problem was solved. The hydrostatic pressure and the osmotic pressure supplied the balance of forces necessary to explain the experimental observations. These, together with altered permeability of the endothelium, are capable of supplying a reasonable interpretation of oedema and pleural effusion, and formed the subject of his Arris and Gale lectures to the College of Surgeons in 1926.

Starling's work on lymph formation occupied five years, and is of the best he did. After long-continued and difficult experimentation, combined with observation of the highest order of accuracy, this hitherto obscure, but fundamentally important, region of physiology was finally illuminated by his dexterous experimentation and triumphant imagination.

The Movements and Innervation of the Intestines.

When Bayliss and Starling undertook this study, the nerve supply to the small and large gut had been carefully determined by Langley and Anderson, but of the working of the neuromuscular mechanism there were many discrepancies as to fact and opinion.

After eighteen months' careful experimenting, with many appropriate recording methods devised for the purpose, they were able to reduce the previous chaos to order and to summarize the main facts concerning intestinal movements in a few simple statements. (1) That peristaltic contractions are true co-ordinate reflexes carried out by the local nervous mechanism and independent of the connexion with the central nervous system. (2) Local stimulation of the gut produces excitation above, inhibition below. (3) Besides the local mechanism, every part of the gut is subject to the control of the central nervous system through the splanchnics and vagi, the former being inhibitory and the latter containing both augmenting and inhibitory fibres. This was as far as understanding of the matter progressed until Cannon introduced the method of observation by means of x rays in an animal fed upon a bismuth meal.

The Mechanism whereby Pancreatic Secretion is Normally Evoked and Adjusted to Requirements.

The brilliant discoveries of Pavlov had determined the order of events in gastric secretion and their co-ordination through the agency of the nervous system, but although he had found that no secretion from the pancreas occurred until the acid chyme reached the duodenum, just how pancreatic secretion was called forth in an appropriate manner had baffled this great experimenter and his pupils. Popielski had determined that the introduction of acid into the upper part of the small intestine caused secretion from the pancreas, notwithstanding previous section of the vagi and sympathetic or even complete extirpation of the solar plexus. He concluded, therefore, that secretion must be brought about reflexly, by means of some local nervous apparatus.

Bayliss and Starling started their investigations with the idea of deciding where this peripheral nervous mechanism was. They verified all the facts stated by the Russian physiologists, but were unsuccessful in proving the existence of any nervous mechanism controlling pancreatic secretion. Nor could they discover how secretion was brought about until they made the crucial experiment which led to the discovery of secretin.

I happened to be present at their discovery. In an anaesthetized dog, a loop of jejunum was tied at both ends and the nerves supplying it dissected out and divided so that it was connected with the rest of the body only by its blood vessels. On the introduction of some weak HCl into the duodenum, secretion from the pancreas occurred and continued for some minutes. After this had subsided a few cubic centimetres of acid were introduced into the enervated loop of jejunum. To our surprise a similarly marked secretion was produced. I remember Starling saying: "Then it must be a chemical reflex." Rapidly cutting off a further piece of jejunum he rubbed its mucous membrane with sand in weak HCl, filtered, and injected it into the jugular vein of the animal. After a few moments the pancreas responded by a much greater secretion than had occurred before. It was a great afternoon.

Bayliss and Starling followed up their discovery in many important directions which space forbids me to mention. A method of obtaining natural pancreatic juice was now available, and they made full use of their opportunities to study trypsinogen and its conversion into trypsin by enterokinase. Their observations were subsequently summarized and their significance illustrated in their Croonian lecture to the Royal Society in 1904.

Starling was also moved by them to much constructive thought and further research on the chemical integration of the bodily functions generally. He proposed the name hormones or chemical messengers for all such active principles formed in one part of the body and distributed by the

rculation to excite the normal functioning or stimulation growth of other parts. This fascinating story, embellished with a wealth of illustration, formed the subject his stirring Croonian lectures to the Royal College of hysicians in 1905, entitled "The chemical correlation of ie functions of the body."

Movements and Adaptations of the Isolated Heart.

The behaviour of the heart had interested Starling from ie time he was a house-physician. His earliest work was pon the heart, and, though he diverged into other fields f investigation, the questions which intrigued him at that me always retained their fascination. In 1909 he returned gain to their investigation. He had been attempting to issociate the effects of asphyxia on the circulation into hose due to diminished oxygen and increased carbonic cid tension respectively. He used the "spinal animal" –that is, one in which the brain above the pons has been estroyed. He obtained some interesting information, but he observations were difficult to interpret until he should e able to separate the effects of alteration in the gaseous omposition of the blood upon the heart itself.

To arrive at this it was necessary to be able to record he influence of variations of CO_2 and O_2 upon the mammalian heart isolated from the nervous system and not ubjected to any simultaneous modification in its nutritive tate, in the inflow of blood, or in the amount of work it vas called upon to do. To satisfy these requirements the eart must be isolated from the rest of the body and at he same time must receive a constant supply of perfectly oxygenated blood, and be working under mechanical conditions completely under the control of the experimenter.

This was accomplished by a device, now famous, known as Starling's heart-lung preparation in which the lesser circulation is intact, but the only paths from the left ventricle to the right auricle are: (1) through the coronary arteries, (2) through an artificial connexion in which the resistance can be regulated. By *appropriate means* the pressure and flow in different parts of the circulation can be recorded and also the volume of the blood circulation per unit time and the *work done* by the heart. If required, the gaseous metabolism of the heart contracting under various conditions can be studied. The limited amount of blood in circulation permits analysis of its contents from time to time. Further, the method is admirably adapted to the observation of the direct effect of drugs, etc., upon the mammalian heart, working under every conceivable condition. Nor does this exhaust the possibilities of Starling's heart-lung preparation as an engine of research into cardiological problems. The flow through the coronary circulation can, if necessary, be diverted and measured so that change in the blood supply to the cardiac muscle can be determined.

After the perfection of this technique, a series of discoveries were made by Starling and his pupils which, in conjunction with those of Lewis, have made the laboratories of University College as famous a focus of research upon the circulation as was the laboratory of Carl Ludwig sixty years ago. The years immediately succeeding the development of this method of studying cardiology were the most productive, from the point of view of scientific output, in his career. He was surrounded by enthusiastic and devoted pupils drawn from all over the world. He had plenty of problems for them to attack, with every prospect of a reasonable reward for their efforts, and he was unsparing in helping them towards their solution, often performing the more difficult parts of the experiments himself and subsequently writing their papers for them.

It is only possible to indicate the principal researches undertaken and the more fundamental facts established by this happy band of discoverers until it was scattered by the outbreak of war in 1914. Detailed accounts will be found in the publications from his laboratory between the years 1910 and 1915. They are in no case merely qualitative observations but quantitative determinations. They occupy hundreds of pages of the *Journal of Physiology* and other journals during this period. They show the marvellous power of the heart, apart from the nervous system, to adapt its work in accordance with the needs of the body as a whole and the exquisite mechanisms to enable it to do this within wide limits, without embarrassment or permanent injury.

In the first case, the effects of variations in the tensions of O_2 and CO_2 in the blood upon the diastolic volume and output of the heart, on its capacity for work and on the flow through the coronary arteries, were determined. The heart was found to have an astounding power of utilizing the oxygen in the blood. When an isolated heart was fed with blood from an asphyxiated animal, the heart removed all but traces of oxygen.

The conditions controlling the rate of the heart beat were studied, and the only influences found to modify the rate of the isolated heart were temperature, the volume of the inflow, and adrenaline. The maximum output of the heart was measured and found to be 3 litres a minutes for a dog's heart weighing 50 grams. Important observations were also made upon the energetics of the heart by determining the O_2 used per unit of work done. The respiratory quotient of the normal and diabetic heart was ascertained, and from these two sets of observations the efficiency of the heart as a machine working under various loads was determined. The ventricular output was discovered to be independent of the arterial pressure, but, on the other hand, it was found to be dependent upon inflow. From this it appeared that as the heart dilated and its fibres were stretched, it worked with greater efficiency. This was subsequently shown to be the case by his distinguished pupil Lovatt Evans.

Their experiments upon the flow of blood through the coronary arteries showed that this flow was primarily dependent upon the arterial pressure, but that dilatation of the coronary system occurred when the CO_2 tension in the blood increased, when adrenaline was added, and most markedly when some metabolites, the product of the heart's own activity, were added to the blood circulating. In the latter circumstances the increased flow through the coronary arteries was out of all proportion to the pressure in the aorta, a further indication of automatic adjustment to a condition of stress.

Starling having supplied us with a new method of inquiry, many competent physiologists could have ascertained much of the information outlined above, but there was one discovery which is peculiarly the product of his genius—namely, that cardiac muscle, like voluntary, contracts more forcibly as it is stretched even up to the point when the texture is fractured. Therefore, to work at greatest efficiency a heart must first dilate, which it inevitably does, as the pressure in front of it increases. This is what Starling calls the "law of the heart." As he said in the fine Harveian oration he delivered before the College of Physicians in 1923, when he expounded in simple and beautiful language the results of his researches into the movements of the heart, "The heart has thus the power of automatically increasing the energy evolved at each contraction in proportion to the mechanical demands made upon it, behaving in this way almost like a sentient, intelligent creature."

Starling's Services during the War.

After war broke out Starling became very unsettled. He wanted to go into the fighting line. Persuaded, if not convinced, that this was not the most suitable manner in which to satisfy his strong tribal instincts, he joined the R.A.M.C. as a captain, and was for some time a medical officer at the Herbert Hospital.

Later, as the scientific resources of the country were mobilized, he was made director of research at Millbank, and was busy experimenting with defensive methods against poison gases. In this he rendered invaluable service to his country, and no one was better able to control a research laboratory. However, at the end of 1916 he was exalted to the rank of lieutenant-colonel and sent as chemical adviser to Salonica, where he had nothing to do. Maybe his impatience of official methods embarrassed the authorities. In 1917 he resigned his commission, deeming that he could be of greater service as a civilian.

At that time food shortage seemed most likely to decide the issue, and he became chairman of the Royal Society Food Committee, and was largely responsible for the value

of the advice given by it to the Government. Subsequently he was Scientific Adviser to the Ministry of Food, and British Scientific Delegate on the Inter-Allied Food Commission.

In all these capacities he rendered yeoman service. He soon had a mastery of the necessary facts, and he was by nature and training able to marshal them comprehensively and arrive at definite conclusions. He was never "havering," and he impressed all those statesmen and officials with whom he had to deal. It is doubtful whether any other of our physiologists could have served us so well.

LATER RESEARCHES ON THE CIRCULATION.

For awhile, after the war, Starling's work was seriously curtailed owing to ill health, which finally necessitated a serious surgical operation. However, in 1920 he was back again at work, with Anrep, on the central and reflex regulation of the circulation by an ingenious cross-circulation method, built up on his heart-lung preparation. In this method, the circulation through the brain of an animal is entirely under the control of the experimenter, while the animal's own heart supplies the rest of its body.

By this dexterous device they were enabled still more to unravel the complex mechanisms of the adjustments in the vascular system. A notable discovery was that, whereas rise of aortic pressure leads to dilatation of the blood vessels as long as the depressor nerves are intact, change in the blood pressure in the supply to the brain produces the reverse change in the pressure of the rest of the body. These fundamental laws of vasomotor regulation were suspected but never before established.

STUDIES ON THE SECRETION OF URINE BY THE ISOLATED KIDNEY.

The heart-lung preparation affords a means by which any isolated organ may be fed with arterial blood of known composition at any desired pressure, rate of flow, and temperature. It is thus possible to study the functions of an organ apart from nervous influences and from the chemical influences which may arise in consequence of modifications in the blood caused by other organs of the body. After numerous attempts Starling and Verney succeeded in maintaining the isolated kidney in such a condition that it would secrete abundant urine.

By this method, which demands extraordinary experimental skill, Starling has opened a new chapter on the physiology of renal secretion. Already many new facts, and others which were previously only matters of surmise, have been discovered and established. His observations with Verney, and in collaboration with Eichholz, have shown that the glomeruli filter from the blood plasma its non-protein constituents, and that by using hydrocyanic acid to suspend tubular activity, a pure glomerular filtrate is obtained from the ureter. Also, that whilst urea and sulphate are secreted by the tubule cells, water, chloride, bicarbonate, and glucose are reabsorbed by the tubule cells from the glomerular filtrate. Pituitrin increases the amount of chloride and decreases the amount of water eliminated.

The influence of the pituitary gland upon the secretion of the kidney was particularly studied by his pupils Eichholz and Bruhl. Their experiments suggest that the inability of the isolated kidney to secrete inorganic phosphate is due to the absence of the pituitary hormone. If this be so it is another discovery of a chemical correlation of the body for which Starling is largely responsible.

These researches on the isolated kidney were in full swing in April, when he left for the holiday which was long overdue. They were affording most important results, and doubtless, had he been spared to continue them, he would, with his unrivalled experimental skill, ultimately have succeeded in clarifying our knowledge of urinary secretion, as he discovered the principles involved in the self-adjustments of the heart to physiological requirements.

STARLING AS A TEACHER.

Starling was a fine teacher. He had not a natural gift of oratory, but, by practice, he early became a good, coherent, and agreeable speaker. He had a happy way of finding telling phrases to emphasize the main points of his discourse, and sometimes, when feeling deeply, he was eloquent. His enthusiasm was infectious, and his pupils enjoyed his lectures.

His influence as a teacher was, however, not confined to those who had the privilege of sitting at his feet. His *Principles of Human Physiology* is the best textbook on the subject in the English language, and is widely used by students on both sides of the Atlantic. It has also been translated into Spanish.

As a teacher to research students he was ideal. He loved the companionship of young men. To everyone, provided only that he were a serious inquirer after truth, he was ready to extend help, encouragement, and friendship.

An account of Starling's scientific career would be incomplete without allusion to the part played in it by his wife. In 1891 he married Florence Wooldridge, the daughter of Sir Edward Sieveking, M.D. They were inseparable companions. With unselfish devotion she helped him more than will ever be known. They discussed all his projects together, and for many years she performed for him all the functions of an efficient secretary. Further, in addition to the responsibilities of bringing up their four children, she bore on her shoulders the burden of the humdrum duties of his life, thus releasing the more energy for his work.

Starling was the recipient of many academic honours. Honorary degrees were conferred upon him by the Universities of Dublin, Sheffield, Cambridge, Breslau, and Heidelberg, and he was a foreign member of several learned societies. He received the Baly Medal in 1907 and the Royal Medal of the Royal Society in 1913.

What place amongst the great discoverers in medical science should be allotted to Starling must be left to the judgement of posterity, but it will be generally conceded by his contemporaries that he was one of the foremost physiologists of our time and that no one since Harvey has so greatly advanced our knowledge of the action of the heart.

Although no man gave more devoted service to science, his interests were many-sided. He loved music, he loved beauty, he loved a fight; in fact, he loved life. The great charm of his companionship was, in part, due to his extraordinary mental alertness and boyish enthusiasm; like Peter Pan, he refused to grow old. His death means a sad loss to all of us, and will be felt not least by the generations of pupils who have been his companions during his life-long search for new knowledge by experiment.

As mentioned above, Starling was awarded a research scholarship by the British Medical Association at a critical period of his career; the subject he undertook to investigate was "Intracardiac pressure and the origin of the secondary waves on the pulse curve and the causation of morbid changes in the pulse curve." In the previous year he had received a grant in aid of a research on the reaction of degeneration, but did not use it, having been associated with Bayliss in a research on the mode of contraction of the mammalian heart, for which the former had received a grant. A report of this research was published in the BRITISH MEDICAL JOURNAL of July 25th, 1891. It is interesting to note that this grant was intended to cover also an inquiry into the nervous supply of the pancreas, and its relation to diabetes. Starling was a member of the Scientific Grants Committee from 1902 to 1906, and afterwards acted as inspector for the Science Committee of the work of the research scholars and recipients of grants for the London district. He was a member of the Research and Laboratory Workers Subcommittee of the Science Committee from 1919 to 1921. He was secretary of the Section of Physiology at the Annual Meeting in London in 1895, and president of the same Section at the Annual Meeting in Sheffield in 1908.

A memorial service was held at St. James's, Piccadilly, on May 6th. Among those present were Sir Charles Sherrington, Sir J. H. Parsons, Dr. H. H. Dale, representing the Royal Society; Sir James Fowler, representing the trustees and Advisory Board of the Beit Fellowships; Sir John Rose Bradford, vice-chairman of University College; Dr. A. M. H. Gray, Dean of University College Hospital Medical School; Professor C. A. Lovatt Evans,

nt occupant of the Jodrell chair of physiology at y College; Professor J. Barcroft, representing the ge School of Physiology and the Chemical Welfare ce of the War Office, and Dr. C. J. Martin, of the Lister Institute. Many students from y College were present.

SOME TRIBUTES.

DWARD SHARPEY-SCHAFER, F.R.S., Professor of gy in the University of Edinburgh, has responded quest by sending us the following appreciation.

became acquainted with Ernest Starling when he University College to attend my advanced course ration for the physiology of the first M.B. of the ty of London, the facilities for such instruction at lospital—where he was studying physiology under lge—not having at that time become developed. It niversity College that he made the acquaintance of Bayliss, who was working in the laboratory at the l changes in secreting glands and on the depressor nd who subsequently joined Starling in a series of ations on the electro-physiology of the heart and on hanism of secretion, which culminated in the dis- of secretin and the promulgation of the doctrine ical messengers, which has done so much for the ment of modern physiology and has had so important ng upon clinical medicine. This investigation was ed at Guy's Hospital, where Starling had succeeded dge in the teaching of physiology.

everybody else I was struck from the first by inality and force of character, and when I trans- to Edinburgh in 1899 it seemed clear that there one so well qualified to occupy the position at University College. This, at any rate, was w taken by the Committee of the Senate to the selection of my successor was entrusted, soon appeared that no better selection could have ade. Starling was not only an enthusiastic worker inspiring teacher. His influence was felt at Univer- llege far beyond the range of his own subject. He occupied the chair many years before he succeeded ing a large enough sum of money to build the institute, which is well equipped for carrying on aching and research in all branches of physiology. ok the place of the old department, which occu- he upper floor of the north wing, and which elf succeeded a laboratory of three rooms—one n a cellar—which had been placed at the dis- my predecessor, Professor Burdon-Sanderson, when ceeded Michael Foster as professor of practical gy in 1870.

since I came to know Ernest Starling we have a close touch with one another, and no one could him without appreciating his energy, loyalty, and hy. Although British physiology has sustained s losses of late years by the death of William , Augustus Waller, Frederick Mott, and John t Langley, no loss will be more felt than that of Starling; and this feeling will not be confined to n countrymen, but will certainly be shared by our ues belonging to all other nations.

CHARLES SHERRINGTON, O.M., F.R.S., Waynflete sor of Physiology in the University of Oxford, has the following:

death of Professor Starling is a grievous loss to physiology. The debt which our science owes to systematically set forth in the full notice which s of him in this issue of the JOURNAL. But even the t references to it cannot fail to remark that in n to the splendid set of researches on the circulation he gave to his science he contributed also to its nd means for further inquiry, and other and future will benefit from the conspicuous labour he gave ls securing financial support for laboratory and nel. University College, London, especially can bear s to this part of his achievement. Indeed, a leading "*motif*" throughout Starling's life was his devotion to the progress of that college, with which for so long his activity was connected.

One of my earlier personal recollections of Starling goes back to a time when we both of us were teaching physiology in London, and on the arrival of the summer vacation took our holiday together climbing in Switzerland. His enthusiasm for the hills and mountains was immense, and he was a good "goer"; he made one of the most excellent and enjoyable of companions. At that time he spoke not rarely of a desire to make his career in experimental pathology. Medicine was certainly his source of inspiration then, and I think it always remained so.

The long and intimate association with Bayliss rises to mind as one of the most fruitful and attractive of scientific collaborations of their period. Part of its strength lay in the two men being in not a few ways of complemental quality one to the other. For instance, a resolute but placid enthusiasm of the one met a high-tension and impetuous enthusiasm of the other; and again, the one without, the other with, full formal medical training. And both reinforced each other's enthusiasm, for both had the power of strikingly transmitting their enthusiasm to others. Starling's death leaves a void which those who knew him realize best cannot be filled.

Dr. H. H. DALE, Secretary of the Royal Society and Head of the Department of Biochemistry at the National Research Institute, Hampstead, has answered our request for a tribute by sending us this glowing picture:

Physiologists all over the world will mourn the loss which Starling's untimely death brings to their science, and to many it will further mean the breaking of warm personal friendship. Here, in the British circle, where many had been his pupils and co-workers, and all had found in him a loyal and generous comrade and leader, it is impossible to think of physiology in the past thirty years without Starling as a central figure of inspiration. The advance of physiology was to him the thing of supreme importance in life, worthy of the utmost that he could give of his skill and of his overflowing energy of mind and body. The war, with its diversion of normal aims, seemed for a time to have done what no threat of exhaustion could achieve, and to have dimmed the fire of this great enthusiasm of his life. It soon flamed high again, though he was threatened by physical disaster such as, for most men, would have meant the end of all but a restrained activity. Starling's courage was indomitable; his energy and his passion for knowledge flouted all restraint. When in 1923 he accepted the newly founded Foulerton Research Professorship of the Royal Society, it was hoped that freedom from the burdens of formal teaching and administration would give him a full decade of quiet and unhampered work in his own field of research. He threw himself eagerly into a series of brilliantly conceived but exacting investigations. These four years of fruitful work, with a succession of able pupils and collaborators from this and other countries, gave him the old joy of achievement, but must have imposed an increasing physical strain, such as only his wonderful courage could ignore. To have worn himself out in the service of the science which he loved, and then to go quietly from the scene, was an end, one must think, not far from his own ideal. For those who remain it is difficult to think of a future lacking the stimulus of his intense vitality and generous enthusiasm.

To Professor J. B. LEATHES, F.R.S., Professor of Physiology in the University of Sheffield, we are indebted for the following striking tribute to Starling's qualities:

Starling's love for the science to which he devoted his life was such that he regarded all who were in its service as his friends. His death is a loss they all must feel, no less deeply for what it is to them personally than for the end thus set to the extraordinary fruitfulness of his devotion to physiology. Those who had the privilege of association with him from the early days of his career one and all know this. But it remained true to the end; he did not change. In any society of men it is rare indeed

for members to identify themselves so completely with it as Starling did with the Physiological Society. For more than thirty years he was at its heart as it always was at his. Among those who knew Starling as a teacher, even in the years before he was 30, there must be many who still feel the power of his enthusiasm. The vivid light that he could concentrate on facts meet for reflection made difficulties glow with meaning. When a teacher can make his pupils feel that his whole life and being reinforces his intellect in its assault on the obstacles to understanding, he will have followers. He had many, who will to the end draw much of their best inspiration from the memory of what he was to them in the days when it all came from him. This is his legacy to physiology. His companionship, exhilarating to look forward to, will now be always exhilarating to remember, like the sun and air in the high Alps, where it was best of all. There to see the way he set about the day's work was good, partly because it was the same as the way he set about an experiment—the same eagerness and zest, the same forethought and attention to detail. When he could take a holiday it was to the Alps that his thoughts turned; from whatever was irksome in a busy life it was in his experiments that he found relief.

We have received this tribute from Professor ELLIOT SMITH, F.R.S.; it is dated from the Institute of Anatomy, University College—a building under the same roof as the Institute of Physiology—and is most appropriate, for no one better than Starling appreciated the value of the close working together of anatomy and physiology:

Others have written with fuller knowledge and competence of Starling's vast influence in the progress of physiology, of his superb skill as an experimenter, and of his happy association with Bayliss in providing new and fruitful conceptions of the essential phenomena of living processes. Every field of investigation that he cultivated was enriched, not only by additions to our information, but also with new methods of study and stimulating suggestions. Starling was not one of those who devote themselves to a select band of followers. His influence was world-wide; and it was physiologists in general and not simply a group of disciples who enjoyed the fruits of his labours and the inspiration of his help and guidance. A quarter of a century ago Starling foresaw that with the increase of specialization and the development of new departments of knowledge there was a danger of the medical sciences becoming separated and so losing that intimate correlation which is essential for real progress. Hence he set to work to design a scheme which would keep all these sciences in close touch with one another and promote the integration of all by permitting readjustments of the boundaries of the different departments to meet new circumstances and provide better co-operation. He was largely responsible for collecting the money to erect his Institute of Physiology, and later, in extending this building, to make provision for pharmacology and biochemistry. These achievements were the chief factors in attracting the attention of the Rockefeller Foundation to University College. Their gift enabled the College to complete Starling's original scheme and to create an object lesson in co-operation between the medical sciences, which is already exercising an influence throughout the world.

Although Starling regarded physiology as the chief instrument in the search for truth, and was very frank and outspoken in expressing his opinions on other departments of biology and medicine, he was an easy man to work with and a delightful colleague. He was so honest and courageous that while he bluntly said what he really thought, he was ready to accept equal frankness from his colleagues without resentment. He was intensely loyal to the College to which he gave the best years of his life, and had a firm faith in the greatness of its destiny.

UNIVERSITY COLLEGE.

At a General Assembly of the staff and students of University College and University College Hospital on May 5th, the following resolution, moved by the Dean of the Faculty of Medical Sciences, Professor G. Elliot Smith, F.R.S., and seconded by the Dean of University College Hospital Medical School, Dr. A. M. H. Gray, was unanimously adopted:

That this assembly of the staff and students of University College and University College Hospital desire to express their sorrow and deep regret at the death of Professor Ernest Henry Starling, formerly Jodrell Professor of Physiology in the College.

In doing so they wish to record their high appreciation of his loyalty and devotion to the College, and of his conspicuous services to the advancement of knowledge and scientific method.

Among his many services they recall the high distinction he conferred upon the College by researches in many departments of physiology, which were not only important additions to our knowledge, but also bold adventures that stimulated research in the widest fields of biology, and provided new and fruitful conceptions of the essential phenomena of life. They recall also his great conception for the more intimate co-operation of teaching and research in all departments of the medical sciences, which, largely as a result of his own efforts, he was able to see realized in this College. But above all his enthusiasm in the search for truth, and his courage and honesty in giving frank expression to what he believed, conferred upon him a powerful influence in the College, which he always served with conspicuous loyalty and faith in the greatness of its destiny. He endeared himself to his colleagues and students by his boldness in doing what he thought was *right.*

This assembly desires to convey to Mrs. Starling and the members of his family their respectful sympathy in the great sorrow that has fallen upon them.

Universities and Colleges.

UNIVERSITY OF LONDON.

ACQUISITION OF THE BLOOMSBURY SITE.

THE University of London has been enabled to acquire the site in Bloomsbury to the north of the British Museum originally bought for it by the Government in 1920. It may, we think, be assumed that the decision is final, for the Duke of Bedford has agreed, and the Senate of the University was unanimous in accepting the offer.

The announcement was made by the President of the Board of Education at the Presentation Day dinner on May 11th in the following terms:

During the past few months, with the promise of a limited Government grant, the University of London has been negotiating with the Duke of Bedford and his trustees for the purchase for University purposes of part or the whole of what is known as the University site in Bloomsbury. These negotiations have now ended in agreement on essentials and, though the formal contract has still to be completed, it can be stated that the Duke has agreed to sell the whole site to the University, and that the University is in a position to buy it and has decided to do so. This purchase by the University has been made possible partly by the use of a limited grant promised to the University by the Chancellor of the Exchequer last July, and partly by a munificent contribution from the Rockefeller Foundation.

Lord Eustace Percy added that the announcement marked a great and historic moment in the history of the University of London, for the selection of its home was something more than a mere question of geography. The task now was to establish a university teaching centre worthy not only of the capital city of the United Kingdom, but of the capital of the Empire. The Vice-Chancellor, Sir William Beveridge, said that the choice of the site was now finally and fortunately settled. Although the formal contract was not complete, the site would pass very shortly into the possession of the University and would be irrevocably dedicated to University purposes; it would be the headquarters of the University and the spot from which its further growth would take place; it was in the heart of the capital city of London, and in the midst of the great teaching colleges in Bloomsbury. There were now in this district seven or eight colleges, forming a university larger than Cambridge, the next largest of the universities in the British Isles. They were grouped round the British Museum and the empty space north of the Museum which the University had now acquired. The University headquarters were still to make, and on this site of 8½ acres there would, he foresaw, presently be erected a central office, a senate house, a library, a ceremonial hall, examination halls, together with the Institute of Historical Research, a faculty club for teachers, a students' union, a centre for students' activities—and, above all, for hospitality to overseas students—headquarters for the O.T.C., perhaps two or more colleges, and, finally, the beginning of residential quarters, both for teachers and

students. At present the money in hand was only sufficient to build a central office, but as money became available it would be possible to erect on that open tree-bounded space something of beauty, to be a common possession and a common pride for all. A visitor to one of the ancient universities could not fail to feel how much of their influence was due to the sheer beauty with which they surrounded the young men and women that went to them. In London it could not be possible to do quite the same, but there could be built on the site something as unique and characteristic of London and the new arts and materials of modern building as the buildings of the old universities were characteristic of their time. He hoped that the University would have the means to seek and the luck to find an inspired artist who could embody the ideal in stone and glass. It ought to be possible to bring into the heart of London a group of buildings which, with their towers and spires rising to the sky, would form a shrine of youth and learning in Bloomsbury to rank with the shrine of our history and our liberties by the Thames at Westminster.

The site covers 11½ acres, including roads; it is bounded on the south side by the British Museum, on the west by Malet Street, where the Imperial College of Hygiene and Tropical Medicine is being built; on the north by Gordon Square, and on the east by Woburn Square, Upper Montague Street, and Russell Square; it is almost within sight of the House of the British Medical Association.

Presentation Day.

The annual presentation of degrees took place on May 4 in the Albert Hall, South Kensington; 2,700 degrees were conferred, and in addition 550 diplomas, certificates, and prizes were awarded.

Annual Report of the Principal Officer.

Dr. Franklin Sibly, D.Sc., who has succeeded Sir Cooper Perry as principal officer of the University of London, states in his report on the work of the University during 1926-27 that admissions by all channels numbered 7,663, as compared with 7,407 in the previous year, and 3,852 in the last year before the matriculation examination. There were 3,967 candidates for degrees, as compared with 3,819 in 1925; the number who took degrees and diplomas was 3,173, as compared with 2,908 in 1925. The roll of internal students now comprises 9,342 there were 9,323 in the year under review. The London County Council has made a non-recurring grant of £600 in any one year, and a capital grant of £1,000 for the current triennium to £57,933; it has undertaken to meet any demands arising during the year for the provision of University extension courses in institutes up to a limit of expenditure of £15,000 to Bedford College. An application for capital grants were made by the University generally, and a capital grant of £1,000 for engineering building; other applications for capital grants were considered at a second donation of £10,000 for engineering operation. A second donation of £10,000 for engineering University College was made by Lord Cowdray before sums have been received to endow a Queen Alexandra Danish and the Crown Princess Louise lectureship in reference is made also to the gift by Lady Godlee of University College and its medical school for the establishture in memory of the late Sir Rickman Godlee. An of £10,000 has been received towards the establishair of dietetics, and £180,000 has been presented by of the Laura Spelman Rockefeller Memorial to the of Economics for general endowment and capital

Hospital has been admitted as a school of the a period of three years. The visitation of schools is being continued, and during the year reports were received with regard to University College, King's College for Women, Household and Social ment, and East London College. It is stated that prepared to consider any scheme for co-operation colleges and the University.

his report Dr. T. Franklin Sibly refers to the of the year now commencing. The problem of a dignified home for the University has been and is, he thinks, approaching complete solution.

LEGE OF PHYSICIANS OF EDINBURGH.

eeting of the Royal College of Physicians of held on May 3rd, when Dr. G. M. Robertson, the chair.

rt Lord, C.B.E., and Dr. William Bell were ook their seats as Fellows of the College. Dr. Chambers was elected a Fellow of the College. were elected members of the College: Arthur hittingham, Ram S. Gupta, James Davidson, on, William L. Kinnear, and Raymond L. A.

Dr. R. A. Fleming was nominated a representative on the Conjoint Committee of Management of the Triple Qualification.

The Parkin prize was awarded to Dr. John D. Comrie.

The Freeland Barbour Fellowship was awarded to Dr. Thomas R. R. Todd.

The Services.

ROYAL ARMY MEDICAL CORPS WAR MEMORIAL.

THE service of dedication of the stained glass window, which completes the Royal Army Medical Corps War Memorial in Westminster Abbey, will take place on Sunday, May 22nd, at 4.15 p.m., in the Nave. Tickets of admission are not required for the service, but subscribers to the Memorial Fund and others interested desiring reserved seats for the 3 o'clock evensong preceding it should apply by letter to Major-General H. B. Fawcus, C.M.G., D.S.O., Room 313, War Office, Whitehall, S.W.1. Uniform need not be worn at the service of dedication.

Medical News.

THE next session of the General Medical Council will begin on Tuesday, May 24th; the President, Sir Donald MacAlister, Bt., K.C.B., M.D., will give an address at 2 p.m.

A MEETING of the Maternity and Child Welfare Group of the Society of Medical Officers of Health will be held at the Shoreditch Model Welfare Centre, 210, Kingsland Road, on Wednesday, May 18th, at 4.30 p.m., when cases will be shown by the medical officers of the Shoreditch Maternity and Child Welfare Department, and when a paper entitled "The Newcastle-upon-Tyne caloric percentage method of dieting the premature and the sick infant" will be read by Dr. Glen Davison at 5.45 p.m. The centre is passed by buses Nos. 22, 35, and 69 from Liverpool Street.

AT a sessional meeting of the Royal Sanitary Institute to be held at the Guildhall, Bath, on Friday, May 20th, at 7.30 p.m., a discussion on cremation will be opened by Mr. H. T. Herring, M.B., B.S., honorary secretary of the Cremation Society of England, and continued by Dr. Preston King, chairman of the Bath Health Committee. On the morning of the following day (Saturday, May 21st), after a paper on sewage disposal by Mr. E. P. Sissons, engineer of Bath, a visit will be paid to the Bath City Sewage Disposal Works.

A DISCUSSION on swimming baths will take place at a meeting of the Medical Officers of Schools Association at the house of the Medical Society of London (11, Chandos Street, Cavendish Square, W.1) on Friday, May 20th, at 5 p.m. The discussion will be opened by Dr. F. Graham Forbes, Divisional Medical Officer, Public Health Department, London County Council, Dr. F. W. Alexander, late medical officer of health for Poplar, and Mr. F. E. Wilkinson, engineer and surveyor, Willesden Urban District Council.

THE bi-annual dinner of the Aberdeen University Club, London, is to be held on Thursday, May 26th, at the Piccadilly Hotel, at 7.30 p.m. The Lord Rector, Viscount Cecil of Chelwood, will be in the chair, and the guest of honour will be Mr. John Buchan, LL.D., M.P. Any Aberdeen University graduates, past or present, men or women, wishing to join the club or attend the dinner are asked to communicate with Dr. Anstruther Milligan, 11, Upper Brook Street, W.1.

THE annual medical missionary breakfast of the Medical Prayer Union will be held on Wednesday, May 18th, at the Refectory, University College, Gower Street, W.C.1, at 8 a.m., under the presidency of Dame Mary Scharlieb, D.B.E., M.D., M.S. An address will be given by Dr. Katherine Harbord of Jaunpur, India. An intimation of intention to be present will be welcomed by the honorary secretary, Dr. Tom Jays, Livingstone College, Leyton, E.10.

MR. WALTER G. SPENCER has been elected to the Senate of the University of London.

THE annual Nettleship prize has this year been awarded by the Ophthalmological Society of the United Kingdom to Mr. Charles H. Usher, M.B., B.Ch.Camb., F.R.C.S.Edin., ophthalmic surgeon to the Royal Infirmary, Aberdeen.

THE practice of the National Hospital for Diseases of the Heart is now open to students who have completed four years of medical study, and short courses of instruction in cardiology will be held immediately preceding the final examinations. Particulars may be obtained from the Secretary of the Hospital, Westmoreland Street, London, W.1.

THE trustees of the Carnegie Hero Fund have awarded an annual grant of £120 to Dr. G. C. W. Williams, who was engaged in *x*-ray treatment from 1895 to 1926. Dr. Williams contracted dermatitis as a result of his work, and after eight operations, which included the amputation of the right hand and the loss of two fingers of the left, has been rendered almost helpless.

THE Fellowship of Medicine announces that demonstrations will be given by Dr. B. T. Parsons-Smith at the National Hospital for Diseases of the Heart, on May 17th, at 10 a.m.; by Mr. Maurice Whiting, at the Royal London Ophthalmic Hospital, on May 19th, at 1 p.m.; by Mr. Maynard Smith, at St. Mary's Hospital, on May 20th, at 2 p.m. These demonstrations are free to medical practitioners. From May 16th to 28th a special course will be held at the Infants Hospital, and there will be a late afternoon course at the Hampstead General Hospital for two weeks from May 16th. A ten weeks' course in neurology began on May 9th at the National Hospital, Queen Square. The Fellowship of Medicine can arrange for practical courses in anaesthetics and obstetrics, and for clinical assistantships in gynaecology. During June special courses will be held in diseases of the chest at the Victoria Park Hospital, in diseases of children at the Children's Clinic, in gynaecology at the Chelsea Hospital, and in ophthalmology at the Central London Ophthalmic Hospital. The Fellowship provides also a general course of instruction at the associated hospitals. Copies of all syllabuses and of the *Post-Graduate Medical Journal* may be obtained from the Secretary of the Fellowship, 1, Wimpole Street, W.1.

A SERIES of lectures and counter-lectures in aid of King Edward's Hospital Fund for London is being held during May and June in the Great Hall of the London School of Economics, Houghton Street, Aldwych, on Tuesdays, at 5.30 p.m. Tickets may be obtained from the British Charities Association, 103, Kingsway, W.C.2. The subjects are varied, but their irresponsible character may be gathered if we mention that the last debate of the series, on Tuesday, June 21st, will be between Mr. G. K. Chesterton and Mr. Mitchell Banks, K.C., M.P., with Miss Rose Macaulay in the chair, the subject being "Is the House of Commons any use?"

A COURSE of four consecutive week-end demonstrations will be given at St. Bartholomew's Hospital during June and July, commencing at 5 p.m., on Friday afternoons, and terminating on Saturday evenings. On June 17th and 18th the subject will be modern methods in the diagnosis and treatment of chronic diseases of the lungs, and the following week-end will be devoted to the treatment of the common fractures of general practice. The diagnosis and treatment of chronic renal disease will be considered on July 1st and 2nd, and ante-natal methods will be dealt with on July 8th and 9th. The fee for each week-end is one guinea, or four guineas for the course. Further information may be obtained from the Dean, St. Bartholomew's Hospital, E.C.

Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to ***The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.***

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the BRITISH MEDICAL JOURNAL alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the BRITISH MEDICAL JOURNAL must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the JOURNAL, should be addressed to the Financial Secretary and Business Manager.

The ***TELEPHONE NUMBERS*** of the British Medical Association and the BRITISH MEDICAL JOURNAL are *MUSEUM 9861, 9862, 9863,* and *9864* (internal exchange, four lines).

The ***TELEGRAPHIC ADDRESSES*** are:

EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology Westcent, London.*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westcent, London.*

MEDICAL SECRETARY, *Medisecra Westcent, London.*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 4737 Dublin), and of the Scottish Office, 6, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 4361 Central).

QUERIES AND ANSWERS.

A BRITISH medical man, aged 62, resident abroad, has a blood pressure of 170 to 200, and suffers from daily attacks of pain, beginning over the centre of the sternum, spreading to both sides of the neck and head, and down both arms. It is worse after food or any little excitement. He asks for advice.

FACIAL SPASM IN A CHILD.

"A. G." asks for suggestions in regard to treatment and prognosis in the following case: A boy, aged 5 years, has developed a facial habit-spasm. He frequently draws up his nose and winks the eye at the same time on the side affected. Adenoids were removed some time ago, and his teeth were damaged at the time of the operation. He has been troubled with enuresis, which is practically cured. Otherwise he is healthy and is very quick at learning.

ASPIRIN AND POTASSIUM CITRATE.

DR. BRODRIBB (Penmaenmawr), having observed that aspirin dissolves freely when prescribed together with potassium citrate, inquires whether the dissolution implies a chemical change in the drug and consequent modification of its therapeutic value.

*** The solution of aspirin by potassium citrate is unaccompanied by any chemical reaction, and there is accordingly no change in the nature of its physiological action. But although its chemical identity is preserved, there may be a notable difference in the therapeutic effects, for apart from the independent action of the potassium citrate, the speed and even the locus of absorption may be altered. It is said that aspirin passes through the stomach unchanged, but is slowly decomposed by the alkali of the duodenum, with liberation of salicylic acid. It would accordingly seem that its dissolution in potassium citrate would result in a larger absorption by the stomach and less being carried forward to the duodenum.

INCOME TAX.

Partnership Assessments.

A and B were equal partners in a practice until June 1st, 1926, when A's share was transferred to C. In whose names should the returns be made and how should the assessment be divided?

*** The return should be made by "A and B and successors B and C." In dividing the liability it should be borne in mind that it is the *gross* assessment—that is, the amount assessed before any personal allowances are deducted—that serves as the basis of the division. The shares of the gross assessment attributable to each partner will be as follows—A ½, B ½, and C ⅓; from these shares the full amount of the personal allowances due to each partner should be deducted. Thus if the amount of the assessable earnings less professional expenses is £3,200, A will be liable to tax on £400 less the £225 personal allowance and any others to which he may be entitled.

LETTERS, NOTES, ETC.

VITAL-STATISTICAL FACTS NOT GENERALLY RECOGNIZED.

DR. B. DUNLOP (London, S.W.) writes: It is stated in your issue of May 7th (p. 850) that "although some seventy thousand more babies were born in France than in England and Wales in 1926, the excess is reduced to little more than [illegible] thousand if account is taken of the higher rate of [illegible] Channel." The French rate was [illegible] 765,226 *minus* $\frac{1}{33}$ of 766,226 exceeds 694,897 *minus* $\frac{1}{33}$ of 694,897 by more than twice "twenty-six thousand." The slip or misprint is unfortunate, because people should know that the French death rate is only slightly excessive among the infants, but is slightly excessive also among the rest of the population. This suggests that the population is still pressing on its food supply and that there will be no further decline of the birth rate.

EARLY PARENTHOOD.

DR. A. R. RENDLE (Godalming) writes: Docteur Cabanès, in his book *Le sixième Sens*, quotes the case of childbirth in a girl aged 13, of another case in which the mother was aged 12, and of another case, occurring in Paris in 1756, in which the mother was 9½ years old.

FOREIGN BODY IN RECTUM.

"R. B. G." writes: I can add a third case to the two recent notes. An old friend (of my college days), who sent for me while on a visit to the neighbourhood many years ago, complained of a constant desire to defaecate, with slight melaena. On examination I felt a hard, longish, thin substance lying across the exit, which, on removal, not without difficulty and pain, turned out to be a codfish bone. On informing him he said that he had partaken of a fish supper two nights previously.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 41, 42, 43, 46, and 47 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 44 and 45.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement at page 203.*

An Address on BIOLOGY AND MEDICINE.*

BY

J. S. HALDANE, M.D., F.R.S.,

OXFORD.

THE aim of Medicine is the maintenance or restoration of that we call health. It is thus our conception of what ealth means that is at the root of our conception of edicine. We recognize that health is a normal condition ich tends to be maintained apart from any conscious ort to maintain it. Health is just the normal uncon- us life of an individual, and knowledge of what, in ail, this normal life and departures from it consist in hus essential when by conscious effort, as in practical icine, we seek to safeguard or restore health.

The Distinctive Features of Life.

e phenomena observed in connexion with life are so ent from those observed in what we call inorganic e that we give the name Biology to the science or of sciences dealing with unconscious life, and we uish Biology from the Physical Sciences, which deal he inorganic aspect of Nature. Let us consider is difference consists in.

living organism we find structure, arrangement of nd movements of them, just as in phenomena which prot as inorganic. But in the case of life the , including its mass and composition, is actively ed or developed in the particular manner which al," and the activity of the structure is of such that the normal structure is maintained or Normal structure and normal activity are thus rmal or specific. If, moreover, we consider the e: the structure is alive, and alive in a manner ctions between an organism and its environment these reactions are so co-ordinated or directed d this co-ordination is what we call organic inorganic phenomena, on the other hand, we no co-ordination of activity with structure. uctures hold together, it is true; but their not regarded as being so directed that the maintained. This is what we mean when norganic structures and activities have no ificance, while organic activities have. The red for the moment in an inorganic sub- ture seems to us to be a mere matter of this reason can be described as chaotic, eferred to in the sequel.

ena of life, therefore, there is an element ot observe in connexion with inorganic is specific co-ordination in the relation and activity. Details of both structure the manifestation of something which velops itself in a specific manner as a hing is what we denominate and easily nd the science of Biology is the science ns of life.

of an organism we can also recognize not, in much or most of their detail, from inorganic phenomena. Thus we ng body what seem to be ordinary gases, behaving in every way like ids, or gases, except that a greater rganic co-ordination or control is , volume, and composition, and in hey exercise on the organism. In ntrol we interpret their presence as normal" limits. In the environ- r is present to what at first sight extent, and the physical sciences ho organic control shown in the organism and environment. By d reaction are referred to as

ester Medical Society, April, 1927.

stimulus and response, and in the relation between stimulus and response—for instance, in responses to stimuli by light —characteristic biological co-ordination or control is evident, while definite physical or chemical connexion between stimulus and response cannot be traced. This control is, moreover, the distinguishing feature for Biology. Hence organic co-ordination, though no account is taken of it by the physical sciences, does not cease when we pass outside the bodies of living organisms, but extends indefinitely into their environment, since the characteristic mutual relations between organism and environment are those of stimulus and response. The relationship, for instance, between Sirius and a photographic plate which receives its spectrum is different from that between Sirius and an organism which responds to its presence. To take another instance, the relationship between stimulus and response in so-called "reflex action" is different from that between physical cause and effect, as modern investigations of reflex action are progressively showing. In other words, the conception of life applies over the environment no less than over the bodies of organisms. Between life and its environment there is no line of demarcation; and even when we attempt to draw a definite line of demarcation between living structure and its environment we never succeed. Living structure and the "plasma" which we endeavour to picture as surrounding it melt into one another.

Thus the distinctive science of Biology is not a science which applies merely to the living bodies of organisms. It represents the interpretation of one aspect of what we observe, not merely in the living bodies of organisms, but also in what surrounds them. Biological interpretation, is, in fact, a method of interpreting part of our perceived experience, just as is physical interpretation and physical interpretation between biological interpretation over the whole tion is a logical difference. If we ask what necessity there is for extending biological interpretation over the whole of our perceived experience, the answer is that we can distinguish the same co-ordination between specific structure and activity in the relations between organism and environment as in the relations between the parts of an organism, so that organic wholeness is just as manifest in the relations between organism and environment as in the relations between the parts of an organism. From its very nature ordinary physical interpretation cannot express this wholeness, since structure and activity are regarded as independent of one another.

The Hippocratic Conception of Life as a Struggle in Nature against Chaos.

It is evident that we can see far more in both organism and environment than what we can describe in terms of life. We have to content ourselves with physical interpretation of these phenomena. Life, with its essential co-ordination, therefore appears to us as a constant, and under normal conditions successful, struggle with the essential chaos of what we interpret as a physical and chemical world, both within the body and in the environment. It is in this struggle that life manifests itself; and practical Medicine is simply the help we can give by conscious interference in the natural struggle for normal life or health. Were it not for the actual existence of this struggle therapeutic Medicine or Surgery would be helpless in face of the endless delicacy of living structure and its normal activities. We cannot repair the living body as we repair a machine: we can only assist the natural process of repair. Similarly, in preventive Medicine we can do no more than see that the struggle is not too hard for Nature to succeed in it.

The struggle of life is a natural phenomenon. We do not interpret it as conscious behaviour, but as a blind or unconscious manifestation of Nature. Another conception is needed for the interpretation of conscious behaviour. The fact that in studying life it is simply Nature that we are studying, and that it is the nature of life to maintain, restore, and reproduce itself, was first pointed out clearly by Hippocrates, who at the same time objected to the intrusion into medical theory of philosophical atomism, the early Greek form of the modern physico-chemical interpretation which reached its full development during

last century. The word Physiology, derived from φύσις, nature, and taking us back to the Hippocratic conception, is a reminder that in studying life we are simply studying a natural phenomenon.

Physiology, Anatomy, and Biochemistry.

In modern times the word Biology has been substituted for the word Physiology, to indicate the whole science of life, while Physiology is regarded as dealing solely with the activities of life, and is distinguished from Anatomy or Morphology, which deals with the structure of organisms, and Biochemistry, which deals with their chemistry. In so far as we make sharp distinctions of this kind we are losing sight of the essential unity of biological phenomena. Normal structure and chemical composition are only the expression of normal activity; and apart from the structure and composition which are the expression of normal activity, this activity is without biological significance. Whatever methods of investigation we may mainly be employing, it is active life itself that we are studying, since we cannot separate living structure and composition from living activity. It is impossible for investigators to be experts in every method of investigation, or be familiar with all forms of life. Hence it is necessary to divide biological investigation into different branches. But if, in doing so, we forget that every branch of biology is concerned with the essential wholeness of the phenomena of life for each individual organism, the result can only be confusion, since we lose ourselves in endless unconnected matters of detail. Functional significance is what biology is always searching for, and its discovery is for a biologist the understanding or power of predicting phenomena. Explanation in biology is simply the demonstration that a detail of structure or activity expresses the organic wholeness of life.

The Vitalistic and Mechanistic Theories of Life.

The view just presented is essentially the Hippocratic view of biology and Medicine, but is not the view which is at present commonly regarded as orthodox in the teaching of physiology and anatomy, and which is to a considerable extent reflected in the teaching of Medicine. If we go back to the commonly accepted biological conceptions of the early part of last century we find that instead of regarding the distinctive feature of life as corresponding to a conception applying to the whole of the relations between organism and environment, biologists generally believed that the behaviour of the whole environment and much of what is observed within the living body can be interpreted as nothing but physico-chemical behaviour, and that only within the intimate structure of the living body does such interference occur as to impart to the behaviour of living organisms its distinctive character. The interfering influence was called the "vital principle" or "vital force," and the corresponding general biological conception was known as vitalism.

The middle of last century saw a general uprising against vitalism, and a determined attempt to substitute for vitalism the conception that biology is simply one part, though a difficult one, of ordinary physical science. There can be no doubt that this attempt has not brought us, in appearance, any nearer to a physico-chemical conception of life. The distinctive features, already referred to, which stand out now far more clearly and in far greater detail than they did at the middle of last century. This is the result of detailed investigation by ever-improving physical and chemical methods. When the results obtained by these methods are put together, what they reveal is not mere physical and chemical mechanism, but the distinctive and specific co-ordination of structure and activity which is characteristic of life. With every experimental advance this co-ordination appears in greater and greater detail, and the assumed mechanism of life recedes further and further into the background.

To see this we have only to compare our present knowledge of nutrition, secretion, circulation, respiration, nervous activity, cell structure, or hereditary transmission with the knowledge of the middle of last century. There is, it is true, a popular and singularly confused idea that because the increased knowledge has been obtained with the help of physical and chemical methods the interpretation of the results must also be physical and chemical interpretation. The actual interpretation is, however, obtained, not from isolated observations, but from putting together a mass of physical and chemical data, and noting the co-ordination of structure, chemical composition, and activity. As isolated physical and chemical facts these data are unconnected and unintelligible; but they become logically coherent, and therefore intelligible or predictable, when they are interpreted as phenomena of life; in other words, as functionally significant—as manifestations of the struggle for normal life.

Vitalism gave apparent recognition to the characteristic co-ordination in the phenomena of life; but though vitalism is not dead there is no general tendency among biologists to return to it. In present-day theoretical Medicine this position is to a large extent reflected. In the actual practice of Medicine, however, the characteristic co-ordination between structure and activity—the so-called *vis medicatrix naturae*—becomes such a prominent feature that in the absence of a more adequate conception many, if not most, medical men are, I think, still at heart vitalists.

Why is it that biologists cannot return to vitalism? Instead of regarding the conception of life as a conception which applies to the environment as well as to the intimate structure of living organisms, the vitalists applied it only to the intimate structure, and accepted the idea that outside the intimate structure there is nothing but the essential chaos which, as already pointed out, appears to exist in the environment as interpreted on Newtonian lines by the physical sciences. Only inside the living structure is, according to vitalism, this chaos guided into biological order by the influence of the vital principle. Now it is easy to prove by actual experiment that all which the vitalists attributed to the interference of the vital principle within the body is dependent on conditions in the environment, or consists in responses to conditions in the environment. To deny this would not merely be to deny evident facts, but would tend to fetter or discourage experimental research. Vitalism is not the Hippocratic conception of life which I tried to place before you, and which embraces the environment in the conception of life. Whether from the standpoint of this latter conception or from that of experimental biology, vitalism is totally unsatisfactory; and in so far as the mechanistic movement among biologists was a throwing off of the shackles of vitalism I think it was a great step forward.

I have sometimes been called a neo-vitalist. Let me assure you that I am neither a neo-vitalist nor a paleo-vitalist. On the other hand, I am quite unable to accept the conception that biology can be regarded as a branch of ordinary physics and chemistry. My reason is that, as already pointed out, we find, as a matter of fact, that in the phenomena of life there is inseparable co-ordination of structure and activity, in such a way that the specific structure of each centre of life is maintained through its activity, and the activity is of such a nature as to maintain the structure. This fundamental fact distinguishes biology from the physical sciences, or at any rate from the physical sciences as interpreted on ordinary Newtonian lines, since structure and activity in the physically interpreted world are not regarded as connected with one another to form a specific and persistent whole. To make biological phenomena intelligible or predictable the distinctive conception of life is essential. If a label were required for this teaching one might call it neo-Hippocratism.

The Logical Separation of Biology from the Physical Sciences.

Biology is distinct from the physical sciences. It is an independent science with a fundamental conception of its own. The distinction is not one which, as the vitalists thought, we can localize in space within the organism. Nor can we, by tracing the course of evolution backwards, localize it in time. The theory of organic evolution requires the assumption of specific hereditary transmission, and hereditary transmission itself assumes the distinctive character of life. The idea that by a process of natural

selection life could be evolved out of, or "emerge" out of, physico-chemical mechanism is not a coherent idea. The distinction between biological and physical phenomena is a logical distinction, or a distinction in the general conception which we must employ in order to represent the distinctive character of the phenomena observed and be able to predict them. When we are considering what we call inorganic phenomena we deliberately neglect the biological aspect of our actual observations, setting this aspect aside as belonging only to what Locke quite inadequately designated as the "secondary qualities" of objects. But when we are considering living organisms themselves, or their environment in so far as it influences them, the biological aspect becomes of overwhelming importance, so that a biologist cannot neglect it without rendering his observations unintelligible as well as disconnected. The existence of biology is an assertion of the fundamental fact that Nature is no mere physical chaos.

The physico-chemical or mechanistic conception of life was doomed from its outset to failure. It attributed the characteristic behaviour of living organisms in regulating the influence on them of environment to peculiarities of their physico-chemical structure; but in so doing it overlooked the fact that the specific structure of a living organism can itself be shown by experiment to be dependent on the influence of its environment. The mechanistic theory was thus in reality constantly reasoning in a vicious circle. It separated anatomy or morphology, as dealing with structure, from physiology as dealing with activity, whereas any such fundamental separation is impossible, since living structure is merely the expression of living activity. Structure and activity are inseparable aspects of a co-ordinated whole which is specific or normal for each species of organism, and indeed for each individual organism.

The mechanistic theory, as represented in the *De Homine* of Descartes, or in writings of the mechanistic biologists of the latter half of the last century or of to-day, does not hang together, any more than the vitalistic theory. We have all been brought up on the mechanistic theory, as represented in the writings of such men as Huxley, and embodied in present-day popular literature. It is thus an intellectual wrench to abandon this theory; but, though it may survive as a widespread form of belief for many years, abandon it we must. When we abandon it, without returning to vitalism, we can form a satisfactory conception of biology, as being a branch of science which is progressively revealing to us, not the mechanism of life, but a more and more detailed knowledge of the structures and activities which express life as such—as a whole which in the case of each organism exists as specifically or normally co-ordinated structure and activity.

Biology and the New Physics.

This conception of life is, of course, in itself a direct challenge to the ordinary Newtonian interpretation of the visible and tangible world, as represented in traditional physics and chemistry, and amounting to the treatment of Nature as essentially chaotic in the sense already defined. A few years ago that challenge would, apart from the challenge of the eighteenth-century philosophers and their successors, and of ancient Greek writers, have stood alone. But physicists and mathematicians have now themselves joined in the challenge, and have come to regard the traditional Newtonian physical conceptions as no better than preliminary or provisional modes of interpretation. So far as I am able to judge, the new physical conceptions of the last few years are so closely allied in certain fundamental respects to the biological conception which I have tried to explain that the latter conception is no longer a direct challenge to them, but furnishes hints for their further development, while conversely the new physical conceptions furnish hints to biologists. In other words, physics and biology are coming together, not on the lines of reducing biology to the status of a branch of the old physics and chemistry, but on the lines of so fundamentally modifying the conceptions of physics and chemistry that a meeting-point between biology and the physical sciences can be anticipated. Even if that meeting-point were reached, however, individual life would still appear struggle against chaos, since the warring units of a universe of life would still be chaotic.

Importance of Human Biology.

It is in the lives of the most highly organized orga when they are physiologically intact, that we can most sharply and easily the wholeness of life. It is fore with their study that biology naturally begins. far as human life is accessible to observation, biology tells us more, and tells it more clearly, tha the biology of lower organisms. The human subj observation can himself tell us what animals cann It is also easy, with a human subject, to control the conditions of an experiment. To observations m the course of medical and surgical work, and under v conditions of human activity and environment, we very great part of biological advance. With every moreover, the human subject becomes more and more sible to experimental investigation. It is not merely, fore, because human physiology and anatomy are pensable in practical medicine that they are of importance, but because they afford so much a scientific insight into the phenomena of life. Wi mechanistic physiology, which aimed at referrin characteristic features of physiological activity to peculiarities in the structures of different organ tissues, both human experimental physiology an physiology of intact organisms of every kind tende thrust into the background.

I can speak from personal experience on this My own experimental work as a physiologist ha mainly in human physiology; but I had for long to ac myself to its being regarded as of little real sc importance, since it was done on an intact and ver plex organism. As a matter of fact the work engaged on was of great scientific significance, and the case of much other physiological work, it wa on normal and intact human subjects that it co carried out.

The scientific, as well as practical, significance of experimental physiology is now far more widely rec than it was a few years ago; but I think that a goo remains to be done in the way of getting rid practical and theoretical teaching based on the mech idea of life. It is not merely because of its irrelev practical medicine, but because of its scientific that this teaching seems to me very unsatisfactory. the study of an isolated organ or tissue we can co learn much; but we learn only a little about h organ or tissue behaves under normally occurring tions. This is because we have violently altered normal limits the conditions of environment which maintains in the intact organism, and have thus m responses of the organ or tissue abnormal, so that not discover how it behaves in the intact organism. an anaesthetized, though otherwise intact, animal in a normal state. We are thus apt to miss kno which we should gain at once from experiments intact or nearly intact organism. The search for ima "mechanisms" diverts us from the search for wh be found.

From the behaviour of an isolated perfused kid lung we gain little or no knowledge of the a delicacy with which the kidneys and lungs in an man or animal regulate the composition of the i body fluids. Attention is, in fact, directed away fr regulation, whereas when the living body is intact ments which are easily carried out on man reve regulation in the most striking manner. Reg or co-ordination means nothing fundamental f mechanistic physiology, and thus receives very little tion, or is twisted round so as to be made to appea it were nothing but a sort of mechanical balance, dent on innate peculiarities of structure or compo It is common, for instance, to speak of the regula reaction in the living body as if this were an equilibr acid and base, maintained approximately steady presence in the body of buffering substances, instea

physiological activity. Language of this sort is imagined to be scientific: it seems to me only evidence of lack of scientific insight. A similar remark applies to such expressions as the "mechanism" of heredity, or of secretion or respiration. In actual fact the structure is bound up with the regulation, so that co-ordinated or regulated activity is a primary feature in life. In other words, the functional significance of biological structure and activity is of its very essence. The application of the word "mechanism" to life amounts to the assertion that this is not true.

Not only practical Medicine, but also Biology itself as a science, is dealing with the essentially and specifically co-ordinated structure and activity which we call life. In laying no primary stress on the co-ordination or regulation the mechanistic physiology has not only tended to divorce itself from practical Medicine in the manner we are all painfully aware of, but is radically unsound in a scientific sense. It is life as an essentially co-ordinated whole that physiology, no less than practical Medicine, has to keep in view. Practical teaching which consists mainly in experiments on isolated fragments of frogs or other animals, and in isolated chemical experiments on substances occurring in the body, is no satisfactory instruction in Physiology as a science.

The Hippocratic Foundation of Medicine.

I have already remarked that life appears to us as a constant struggle for organic order in an otherwise chaotic world, and that the function of Medicine is to give assistance in that struggle where assistance is called for. In order to give this assistance effectively we must know in detail how the struggle is normally conducted successfully during health. We must thus know normal anatomy and physiology, and this implies also a knowledge of physics and chemistry, without which we should be ignorant of what life is struggling against, or of the very existence of a struggle. Normal anatomy and physiology would include all the knowledge that can be obtained of the local conditions on which normal local structure depends, and of how attacks by foreign organisms are normally repelled. From such knowledge we can already see to some extent where failure in the struggle for normal life is liable to occur, and how such failure can be guarded against.

For the purposes of practical Medicine we must, however, push our investigations far outside the limits of normal physiology and anatomy, and study the consequences of quite unusual or not yet understood disturbances in environment, including, for instance, more or less successful attacks by foreign organisms. For Medicine the symptoms, such as pain, depression, wasting, failure of function, or abnormal behaviour, are all signs of a disturbance in normal environment. In such cases the struggle for life has been at least partially or temporarily unsuccessful; but the Hippocratic conception implies that there always is a struggle. Usually the struggle is more or less successful in the end, so that health is re-established. Sometimes, however, the struggle is more or less unsuccessful, and results in permanently impaired health or death unless conscious intervention in the struggle is effective.

It is on this struggle against abnormal disturbances, and the means of helping in it, that medical science must centre its attention, as Hippocrates first pointed out. For mechanistic biology there is no real struggle, and if the mechanistic biology represented truth we might despair of anything further than preventive Medicine of a very restricted kind. But on this point I am heart and soul with Hippocrates, and with the traditional faith which he inspired in the ranks of our profession. I have already explained why, as it seems to me, the mechanistic conception of life is inadequate in physiology and morphology. For the same fundamental reasons it is inadequate in Medicine, and in pathology, pharmacology, and therapeutics.

To assist Nature in her struggle we must understand the struggle as fully as we can. To realize the disturbances which are confronting her we need all the physics and chemistry which are essential in normal biology, as well as what can be applied to the abnormal conditions causing disease or injury. We also need to know the biology of invading organisms if the disturbance is due to them. On the other hand, we must understand how, in detail, the struggle against the disturbance is being carried on, and we must not mistake, as we are very apt to do, the evidences of this struggle for the primary disturbance itself. It is only by patient observation, thought, and experiment, recorded, or communicated by example and orally, in the spirit of the Hippocratic oath, and continued from generation to generation, that we make progress in Medicine; but assuredly the evidences of that progress were never so striking as in our own times, or the prospects of further advance more encouraging.

Medicine has progressed along the Hippocratic pathway regardless of the mechanistic theory of life; but I think that with a more adequate biology, including proper regard for human physiology, and the definite establishment of anatomy or morphology as an experimental science just as much as physiology is, the progress will be still more rapid. I have tried in this address to give reasons for the conclusion that the mechanistic theory of life is an insufficient foundation for Medicine, and that the Hippocratic foundation is the only secure one. I well know how many, particularly outside our own profession, will be inclined to disagree with me, and I wish this address had been a less controversial one. But I am convinced that specifically biological knowledge is the scientific basis of Medicine, and that it is of very great importance to Medicine, as well as to biology itself, to be clear as to the fundamental conceptions on which biology is based. In the process of clearing our minds controversy is unavoidable, and this must be my excuse for being controversial.

EXCESSIVE AND IRREGULAR UTERINE BLEEDING IN MIDDLE-AGED WOMEN.*

BY

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THE causes of uterine haemorrhage fall into two main groups—those which are and those which are not connected with recent pregnancy. This paper is concerned with middle-aged women between the ages of 40 and 50, who have passed the child-bearing age and are therefore free from the causes of bleeding connected with pregnancy. They are subject some time during this period to the changes of the menopause, which usually consist in a diminution of the amount of the menstrual bleeding and its duration. Sometimes a period or two are missed, and a small period occurs every two or three months or at increasing intervals; occasionally, after an interval of two or three months, the next period is rather severe, amounting to a flooding; but anything in the nature of irregular or excessive bleeding is abnormal, and must be regarded with suspicion.

For clinical purposes cases of uterine haemorrhage fall into the following three groups:

1. The menstrual periods are regular, but prolonged or excessive in amount—commonly called menorrhagia. This is found most commonly in the case of fibroids, hypertrophy of the endometrium, chronic metritis, and chronic subinvolution.

2. The bleeding is excessive and irregular, or there is bleeding at times other than the menstrual periods—commonly called metrorrhagia. This suggests malignant disease—for instance, carcinoma of the cervix, or, less commonly, the body of the uterus; sometimes it is due to one of the conditions mentioned in the previous heading which has gone on for some time.

3. Bleeding occurs at some interval after the menopause and may be only slight in amount, even just a show. This always suggests malignant disease, but is occasionally due to some non-malignant cause.

1. REGULAR BUT EXCESSIVE BLEEDING.

If the bleeding is excessive and regular (menorrhagia) the most likely cause is some innocent condition—namely, (*a*) uterine fibroids, or (*b*) a group including hypertrophy

* A paper read to the Bournemouth Medical Society.

of the endometrium, chronic metritis and endometritis, and chronic subinvolution, which can conveniently be discussed together.

(a) *Uterine Fibroids.*

It has been stated that nearly 20 per cent. of all women get a fibroid tumour of the uterus. In many instances the tumours are small and cause no symptoms; nevertheless operations for fibroids form a large proportion of all gynaecological operations. The diagnosis generally rests on a history of menorrhagia with an irregular enlargement of the uterus. If, however, there be only one small fibroid polyp in the uterus the increase in the size of the organ may not be sufficient to be detected by bimanual examination, and the diagnosis must be tentative until confirmed after dilatation of the cervix and exploration of the uterine cavity with the finger. For fibroids operative treatment is nearly always the best so soon as advice is sought for bleeding, or a lump, or for pain. Pain is a rare symptom, but may be caused by pressure effects or by red degeneration. After the age of 40 removal of the fibroid by vaginal or abdominal myomectomy, which is the operation of choice in younger women, is less often indicated than hysterectomy, which is a straightforward and safe operation and removes from the woman, who has finished with child-bearing, an organ which may otherwise give rise at any time to discharge or bleeding, or may become affected by malignant disease. Fibroids do not cease to cause symptoms after the menopause, but often delay or prevent it.

The treatment of fibroids by radium or x rays is not to be advised unless there is some reason—such as real obesity with fatty heart, or severe diseases of some other system—why the patient should not have an anaesthetic and an abdominal operation. Though neither radium nor x rays can "disperse" the tumour, they may cause degeneration and subsequent sepsis; and there is always the chance that the tumour may be associated with carcinoma of the body of the uterus, or, more rarely, may be a sarcoma. Radium acts by destroying the endometrium, but has no effect on the fibroid, which may degenerate and become infected after the radium treatment; and it is not a certain cure for the bleeding. The use of x rays, which act entirely or mainly on the ovaries, producing an artificial menopause, is contraindicated. It is a modern method equivalent to the old operation of oöphorectomy for fibroids, which has been abandoned for years. The tumour of the uterus remains and may undergo acute septic degeneration requiring operation. The treatment by x rays is prolonged and tedious, and its only justification is where fear of an operation cannot be overcome. There are, however, some ill effects, such as burns and general anaemia, which may follow the application of x rays.

(b) *Hypertrophy of the Endometrium, etc.*

In this class are those who have excessive bleeding of the menorrhagic type, but have not got fibroids or malignant disease; the uterus is a little enlarged and its walls thickened, though this change is not always sufficiently marked to be detected by bimanual examination. The uterine walls are thicker and firmer than those of a normal uterus, and contain a greater proportion of fibrous tissue; there are changes in the vessels such as occur during involution after parturition—namely, the formation of new vessels inside the old—but these are not complete, as shown by the presence of a new layer of elastic tissue in the vessel; there is a condition of subinvolution, and round-celled infiltration is present, indicating that the change is of an inflammatory nature. According to the predominant change the condition may be called "fibrosis uteri," chronic metritis, or chronic subinvolution. The old clinical term "heavy fibroid uterus" is reasonably correct. Changes in the endometrium are present also—sometimes a hypertrophy with formation of polypi, sometimes a thickening with an increased amount of glandular or interstitial tissue (endometritis).

The treatment of this condition is far from easy. Drugs such as iron and ergot have been used very extensively, but in many cases their action is far from satisfactory. The most useful drugs are calcium and pi is best given as fresh calcium lactate, n bining lactic acid with precipitated ca 60 grains should be taken every day for a should be given by intramuscular injec 0.5 c.cm. If this treatment is not su investigation should be carried out under A laminaria tent is inserted into the c night, and next day the cervix is dilat 19 or 20, so that the finger may be passed which is then investigated bimanually s mucous fibroid or polyp may be felt and re will then show whether the endometriu a microscopic section should always be p to ascertain the nature of the endometriu the presence of malignant disease. The cluded by swabbing out with tincture of i a hot intrauterine douche. After such number of patients—those who have hy endometrium—will be improved and som others, however, will be no better than b be treated with radium or by hysterectom

Radium therapy is most useful in these a complete cessation of bleeding in thr cases, and relapses of severe bleeding ar action is on the endometrium; it causes the hypertrophied and congested uterine m which is afterwards replaced by healthy ce perivascular fibrosis and proliferation o cells of the enlarged uterine blood vessels progresses to a condition of endarteritis

The dosage required is 100 mg. of radiu duced into the uterine cavity for twen 50 mg. for thirty-six hours. The radium tained in a small tube of platinum 1/2 mm platinum acting as a screen for the h rays. This is placed in an outer tube o thickness, with a long silver wire attac tube acts as a useful container and an ex secondary rays. As the dosage of radi alluded to in terms of element, it is use radium bromide contains, roughly, 50 pe element.

The method of application consists in tube of radium into the uterine cavity thetic. The patient is prepared as for a tion. The cervix is dilated and the u plored with the finger or a curette, accor of dilatation. By following this method confirm the diagnosis that there is no the uterus and to exclude the presence of endometrium of the body of the uter safest, even if nothing abnormal is found scopical section made of the endometri curettage, as in a small percentage o show unsuspected malignant changes. A uterine cavity is douched and swabbed ou spirit, and the tube containing the ra attached, is introduced into the uteri vagina is plugged in order to prevent the tube by the uterus. After twenty-four is pulled out of the uterus by traction o this is easily done, and there is no risk closing down and preventing removal of usual result is complete cessation of bleed instances one or two slight periods occur ing ceases; occasionally there is one exces amenorrhoea is established. In the sm cases which are not completely cured the for from six months to a year, and then to return. Such cases are sometimes c application of radium, but hysterectomy cated. Second applications of radium a as the first.

Contraindications to the use of rad cervicitis and laceration of the cervix erosion and much discharge, and any salpingitis. In the latter, acute salpingi by the radium application; in the forme be suspect for carcinoma.

Treatment by extracts of endocrine glands is disappointing. When signs of thyroid deficiency are obvious the administration of thyroid gland will cause a general improvement in health, and with this an improvement in symptoms of menorrhagia; but it is quite unusual to find these signs in a woman who is suffering from excessive bleeding about the time of the menopause. Pituitary extract is certainly useful for its immediate effect on the uterus, but its effect is not prolonged. In slight cases a series of injections of pituitary extract are useful in tiding a patient over a prolonged or excessive period. These are the only two extracts which can be relied upon in the treatment of bleeding at the menopause. The various forms of ovarian extract, corpus luteum extract, and combinations of these with other extracts, have no action which can be relied upon. It is probable that the preparation of the extracts destroys the active principle. Occasionally good results will be obtained, but these are so rare and uncertain that use of these extracts cannot be considered therapeutically scientific. The excessive bleeding results from retrogressive changes in the uterus which cannot be controlled or affected by ovarian medication.

2. IRREGULAR AND EXCESSIVE BLEEDING.

Carcinoma of the cervix uteri is very common; some irregularity in bleeding, or blood-stained discharge, or bleeding, it may be slight, or blood-stained discharge, or is usually present, but the onset may be very insidious, and the first unmistakable sign may appear only when the disease is well advanced; this is especially true when the growth has originated in the cervical canal. It has thus become the accepted rule that any, and every, woman who complains of any excessive or irregular bleeding or blood-stained discharge, particularly about the time of the menopause, must be examined with the greatest care; if there is no palpable or visible sign of carcinoma of the cervix there still remains the possibility of carcinoma of the cervical canal or body of the uterus. This may necessitate careful examination under an anaesthetic; the cervical canal and uterine cavity must be thoroughly dilated and examined, and the scraping or curettage sent for microscopic section. The importance of diagnosis and treatment at the very earliest moment may be emphasized if it is realized that in the out-patient departments of hospitals two cases of carcinoma too advanced for operation are seen for every one that is operable.

The best treatment of carcinoma of the cervix is by an operation removing the whole uterus and appendages with a cuff of vagina, as freely as possible, with the cellular tissue round the cervix and the iliac glands. The results of this operation, when performed by those who have made themselves familiar with it, are surprisingly good; roughly 40 per cent. of the cases are cured and free from recurrence after five years, according to the latest expert figures available. The primary mortality is quite small; patients who suffer a recurrence have a period of from one to five years of freedom from pain, even from discomfort, and the terminal stages are characterized more by a general debility than by the awful bleeding and foul discharge which is present when no operation has been done. This radical operation is undoubtedly the best treatment so long as the condition is operable. The treatment by radium cannot compare with this, and as a curative agent it must take second place. Its effect is to cause improvement in the local condition for from six to twelve months. As an adjuvant, or in the treatment of inoperable cases or for early recurrences after operation, its palliative effects may be beneficial.

3. BLEEDING AND BLOOD-STAINED DISCHARGE OCCURRING AFTER THE MENOPAUSE.

This always suggests malignant disease; but whereas before the menopause and the age of 45 cancer of the cervix is twenty times more probable than cancer of the body of the uterus in women who have borne children, as the age of 50 is approached the probability of carcinoma of the body of the uterus becomes equal to that of carcinoma of the cervix.

Cancer of the body of the uterus starts in the epithelium or glands of the endometrium and is less rapid in its growth, remaining local for a much longer time; except in its advanced stages it can only be diagnosed by exploratory curettage or digital examination of the uterine cavity. The large majority of cases are operable when first seen, and the operation of pan-hysterectomy is followed by very good results. Patients in this class must generally be given an anaesthetic to confirm the suspicion of cance of the body; if cancer of the body is not present, senil endometritis will be found, and this will be cured l curettage.

When cancer of the body of the uterus has becor inoperable palliative treatment alone is left; the grow extends to the surrounding structures and the intestir and neither radium nor x rays can be used with safety.

THE EPIGLOTTIS IN RESPIRATORY OBSTRUCTION UNDER ANAESTHESIA.

BY

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RESPIRATORY obstruction under anaesthesia is a matter of considerable importance to every anaesthetist, but of vital interest to the throat surgeon. I do not propose to deal with the minor crises which arise during the course of an anaesthetic, and are overcome by such simple but all-important manipulations as forcing apart the clenched teeth, gagging open the mouth, holding the jaw forward, pulling out the tongue, swabbing mucus or blood out of the throat, and performing artificial respiration. My object is to push a step further in the knowledge of causes of dyspnoea in the normal air passages. The emergencies I have in mind are rare, but when they do occur, usually result either in the performance of a tracheotomy or in the death of the patient, or sometimes both.

Having had the opportunity of dealing satisfactorily with a number of these cases, and of making certain definite observations in the course of treating them, I fee justified in making some suggestions as to a routin method of procedure to be followed during the very sho interval of time which elapses between unrelieved respir tory obstruction, subsequent cardiac failure, and t patient's death.

There can never be any doubt as to the identity of t clinical picture, which must be diagnosed from cardiac respiratory failure due to shock, chloroform poisoning depression or poisoning of the respiratory or car centres in the central nervous system.

The patient's colour affords the first indication all is not well. The cyanosis is often concurrent with difficult or poor respiratory movements. This change of hue gradually becomes intensified and is soon dark blue with a blackish tinge. Respiration ceases altogether, and the pulse becomes rapid and feeble. The mouth is gagged open, the tongue pulled out, and artificial respiration is performed, but without effect. The pharynx is swabbed clear of mucus and an oxygen tube introduced in vain.

There is clearly some laryngeal obstruction, and if this is relieved at once the situation is saved, but if not the heart finally ceases to beat, the colour turns from blue-black to white, the skin surface turns cold, and the flesh when cut no longer bleeds. At this point the patient is technically dead, but may be resuscitated within two minutes.

I propose to deal with this type of crisis in two stages: (1) When respiration ceases, and efforts to restore it have failed owing to an obstructed airway, but the circulation is still maintained. (2) When respiration has ceased for so long that the circulation fails also. The treatment of stage 1 is so closely concerned with the epiglottis that I cannot do better than discuss this structure from the point of view of anaesthesia.

ere there is no laryngeal disease the epiglottis is the
o the lower air passages. Although the laryngeal
cter, consisting of the arytenoid, thyro-arytenoid, and
-aryepiglottidean muscles, may be thrown into spasm,
only occurs when anaesthesia is so light that the
geal reflex is present. The spasm passes off of its
accord in a short time and does not occur under
anaesthesia.

Anatomical Varieties of Epiglottis.

The epiglottis may be of the "overhanging" variety.
is to say, that when observed with a laryngeal mirror
larynx cannot be seen, but only the anterior surface
he free part of the epiglottis. The upper end is
ly approximated to the posterior pharyngeal wall,
when the tongue is pulled forward, as is usual during
ect laryngoscopy. It is easy to understand that if
tongue falls back under anaesthesia, such an epiglottis
lie right over the laryngeal and oesophageal openings.
) The epiglottis may be of the "dead leaf" type.
is to say, it is curled laterally upon itself, the two
being bent backwards and approximating to the
re. This type also hides the glottis to a certain
nt, and may overlap it under anaesthesia.
) The epiglottis may be quite normal in appearance
yet have the following slight variations: It may be
paratively long, short, thick, thin, broad, narrow,
l, soft, rigid, or pliable. And yet if it was to be
mined during an autopsy it would not attract any
ntion. I have known an epiglottis (which was a little
, thin, soft, and pliable) nearly cause a patient's
th by becoming impacted over the larynx. But when
mined *in vivo* afterwards by the indirect method it
ed the same as any other epiglottis, with the exception
the slight divergencies mentioned.
When I refer to the length of the epiglottis I mean its
jection above the base of the tongue. This will be
nd to vary in different individuals.

The Physiological Functions of the Epiglottis.

The epiglottis serves two important purposes, apart from
influence in modulating the voice:
a) It acts as a protection to the larynx from the normal
retions in the mouth. If it were not for its position and
mation saliva which now collects either in the valleculae
pyriform fossae would drip into the trachea and cause
stant coughing.
b) Opinions differ as to its exact function in swallow-
. It was held at one time that during deglutition the
glottis was folded over the laryngeal aperture like a
ering, but more recently other observers, notably Pro-
sor Anderson Stuart, have shown that the larynx is
it off by the sphincteric action of the thyro-arytenoid
d arytenoid muscles, and that the epiglottis is only
ed backwards by the thyro-aryepiglottidean muscles so
to form a slight cowl-like protection.
But bearing in mind the various anatomical and physio-
ical details of this region, the projection of the epi-
ttis above the tongue, and the powerful muscular action
swallowing, it seems impossible to avoid the conclusion
at so flexible a structure, even if not pulled over the
yngeal aperture by muscular action, could hardly avoid
ing swept down on to it by the passage of a bolus which
s accurately against the whole circumference of the
arynx. In fact, although it is not possible to bring
rward any definite proof, it seems extremely likely that
swallow our epiglottis as far as it will go at every act
deglutition, and it would probably cause us to choke if
were not for the normal interval of reflex respiratory
ssation after swallowing which allows it to recover its
rmal position.
Seeing that the coughing reflex is abolished before that
swallowing, it follows that there is an interval of
me when the epiglottis may be drawn over the larynx
a swallowing movement while the protective cough
flex is absent.

I have not entered into these anatomical and physiological details in order to prove or support any particular theory, but to try to find some explanation for a clinical fact which I have repeatedly experienced—that is, complete obstruction to respiration under anaesthesia caused by the epiglottis alone. It is most often to be found when the patient is in the tonsil position with a sandbag under the shoulders, but may occur in other circumstances also. In these cases I have made the following observations by digital examination.

1. A long epiglottis is sometimes found tightly impacted over the laryngeal aperture, with its extreme end curved up and closely applied to the posterior pharyngeal wall (see diagram). This type is difficult to disimpact owing to the awkwardness of passing a finger between the opposite surfaces of epiglottis and pharynx. But as soon as the epiglottis is pulled forward and pressed against the base of the tongue with the finger a free airway is instantaneously restored. An epiglottis so impacted acts as a valve allowing air to escape from the chest, but none to re-enter, and affords an obvious explanation why artificial respiration in such a case is foredoomed to failure until the airway is cleared.

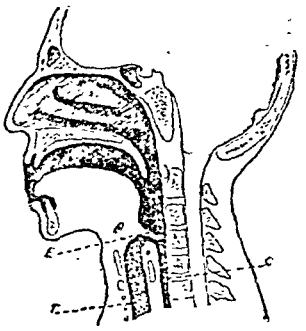


Diagram showing how a long and flexible epiglottis sometimes lies over the laryngeal aperture under anaesthesia. T, Trachea. E, Epiglottis. O, Oesophagus. The author has seen three cases of complete, and many cases of partial, obstruction to respiration from this cause. Its pernicious valve-like action is also seen. Air is able to leave the chest, but inspiration is prevented by the epiglottis being drawn on to the larynx by suction. Artificial respiration is of no avail until it has been raised by the finger and pressed into its normal position against the base of the tongue, where it is held until danger is past.

2. An epiglottis which, although not tightly impacted, is nevertheless lying in contact with the posterior pharyngeal wall. It is possible that this type is an early stage of the first, and only requires a vigorous inspiratory effort to draw it on to the larynx by suction. It is common to find this clinical feature in many cases of respiratory difficulty, from the mildest to the more severe. To raise the epiglottis, and press it against the base of the tongue with the finger, again affords instantaneous relief, and artificial respiration can then be applied with confidence and success. If for any reason this fails to secure a free airway, a laryngotomy can, of course, be performed. But I have never failed to secure a free airway by these methods, and such a case has never got worse progressively until the heart ceased to function, except in cases where there was obstruction due to actual laryngeal disease.

If, however, the condition has progressed to stage 2 before it is relieved further measures must be taken.

Treatment of Failure of Respiration and Circulation due to Respiratory Obstruction.

A. "*No Man's Land.*"

There is a certain region which lies between the domains of "life" and "death." All the signs of death are present: there is no breath, no visible, audible, or palpable sign of a heart beat or pulse, the surface of the skin is cold, the colour is a bluish-white, and when the flesh is cut the wound does not bleed but yields only a few drops of dark fluid. No one knows definitely how long a man may stay in this region and still climb back to life. The most optimistic would not put it at more than three minutes or the most pessimistic at less than two. So that when a patient under anaesthesia loses both respiration and circulation, the surgeon, anaesthetist, and theatre staff have only a short time at disposal, and they must use this time to the greatest possible advantage in restoring him to life.

B. *Minimum Requirements for Resuscitation.*

These are mainly physiological, and consist of (*a*) a free airway; (*b*) the presence of sufficient oxygen in the lungs to oxygenate the blood in the alveolar capillaries to the fullest extent possible; (*c*) the passage of that blood into the left auricle; and (*d*) sufficient movement of the heart to force some oxygenated blood through the aortic valve so as to enable it to circulate through the coronary arteries, and supply the heart muscle with enough oxygen to allow it to contract automatically. I make no mention of the respiratory and circulatory centres in the central nervous system, because our knowledge of them is theoretical rather than practical, we cannot exert clinical influence upon them in the time at our disposal, and we know that local treatment of the lungs and heart will produce the desired effect if accomplished in time.

To elaborate these requirements in terms of practical performance is a simple matter.

1. As soon as the emergency arises one individual must start doing artificial respiration and maintain it continuously and without ceasing for any reason, being relieved by another at any necessary intervals. Artificial respiration should be regular and unhurried, but very forcible; and should compress both lungs and heart.

2. Simultaneously another gags open the mouth, and introduces the finger as far as the larynx, raises the epiglottis and presses it forwards against the back of the tongue. If the airway is now quite free the fact will be obvious because the breath will be heard coming and going easily under the force of artificial respiration. If not, a laryngotomy or tracheotomy should be performed immediately and without hesitation, a laryngotomy being quicker and easier than a tracheotomy.

3. While this is going on a third person has brought forward the oxygen cylinder and turned on the oxygen with propulsive (but not explosive) force, and holds the tube ready to the operator's hand when he calls for it, which he does the moment the airway is free.

As soon as the operator has established the airway and holds the oxygen tube in his hand, he first tests the power of the stream of oxygen and then introduces it into the laryngeal aperture or directly into the trachea in the case of a laryngotomy or tracheotomy. The lungs are thus, in the shortest time possible, flooded and washed out with oxygen aided by powerful artificial respiration.

If these three people know what to do beforehand and act simultaneously the utmost relief is supplied within a few seconds, which is an all-important factor in treatment. The necessary movements of the heart to induce the initial automatic contractions can be brought about in the majority of patients by the vigorous passive movements of the chest wall which I have already described. Special attention must be paid to compressing the cardiac area, and this can always be done, with the possible exception of certain individuals with unusually rigid chest walls. As soon as this is accomplished and the alveolar air has been flooded with oxygen, the heart, which has been stimulated and supplied with oxygenated blood, starts to beat and the crisis is relieved.

C. *The Opening of the Abdomen below the left Costal Margin and Massage of the Heart through the Diaphragm.*

I mention this procedure because it has received a certain notoriety, but I doubt its applicability to the obstructive type of case, whatever its merits may be in primary cardiac failure when the airway is free. It is obviously useless to compel the heart to circulate fresh quantities of the venous blood which in the first place brought it to a standstill. Such an action is bound to have a deleterious effect upon the heart muscle, and possibly accounts for the occasional failures of this operation. But if the lungs have previously been flooded with oxygen in the way I have described, and fresh supplies of arterial blood laden with oxygen are occupying the pulmonary veins and left auricle and merely awaiting a beat or two of the heart to put them into circulation, then such an operation may possibly be justified. The only thing against it is that it is then usually unnecessary. The heart in most cases is readily susceptible of stimulation through the chest walls except in those whose ribs are unusually rigid, and I think this abdominal incision of problematical efficacy should be reserved for such cases. When it is employed, artificial respiration should be interrupted for as short a time as possible while the operation is actually taking place.

The Use of Drugs.

While the usual cardiac and respiratory stimulants may be of some avail when once the circulation is restored, it must be obvious that no medicines can supply oxygenated blood to the left side of the heart and so to the coronary arteries, which is the fundamental requirement at these critical moments. Nor can they reach the structures they are intended to influence until the restored circulation will carry them to their objective.

Equipment.

When there is so short a time in which to act, it is obvious that unless the necessary instruments are ready to hand the surgeon and anaesthetist will be seriously handicapped in their efforts at resuscitation. I would therefore suggest that the following instruments should be added to the usual list and kept under cover on the anaesthetist's table instead of on a shelf or in a cupboard in the operating theatre or instrument room.

1. A spatula with a blade long enough to reach the epiglottis. People with short fingers find great difficulty in holding up the epiglottis for any length of time because of the weight and power of the tongue. If such a spatula cannot be obtained, a closed sponge-holder will sometimes suffice, using the teeth of the upper jaw as a fulcrum. But the best instrument is the forefinger.
2. A scalpel.
3. A laryngotomy tube with introducer.
4. A "bi-valve" tracheotomy tube. This needs no introducer, and is the easiest type to insert.
5. A tracheal catheter.

In addition to these a properly mounted oxygen cylinder is of great use. It should either be full or have a reserve cylinder alongside. The cylinder in use should have a coarse and fine adjustment. The oxygen outlet should be ready fitted with a long rubber tube to give to the operator without delay. If it is necessary to deliver oxygen directly into the trachea, the tube can be fitted over the tracheal catheter.

CONCLUSION.

Never having heard of the part played by the epiglottis in respiratory obstruction until I discovered it for myself in making a digital examination of the larynx in a patient who was *in extremis*, I have since found this knowledge of great value on several occasions. It enables a tracheotomy or laryngotomy to be avoided, it makes it possible to complete an operation which might otherwise have to be abandoned, and it may save life where instruments for tracheotomy or laryngotomy are not available.

My suggestions as to resuscitation are the result of observations on two successful cases where both respiration and circulation had entirely ceased, and where cardiac massage through an abdominal wound was found to be unnecessary. While there is nothing new in clearing an airway, performing a laryngotomy, flooding the lungs with oxygen, performing artificial respiration, or stimulating the heart through the chest wall, I was nevertheless impressed with the advantages afforded by simultaneous team work in providing thorough treatment at the earliest possible moment. I was further influenced by the reflection made at the time, that to have interrupted this work in order to perform an abdominal operation, however short, would probably have resulted in the patient's death, since, as it was, there appeared to be hardly a moment to spare from the task of getting oxygen into the alveolar air.

ALBUMINURIC RETINITIS IN ONE EYE, EMBOLISM OF THE CENTRAL RETINAL ARTERY IN THE OTHER.

BY

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CASES of monocular albuminuric retinitis, with no sign of involvement of the other eye up to the time of death, have not been very frequently reported, and we are indebted almost entirely to American, French, and German sources for literature on the subject. But nowhere can I find any reference to the effect of a pre-existing disease of the retina in the case of a patient suffering from nephritis. For this reason the following fragmentary notes, however incomplete, seem to be of sufficient interest to record.

T. H., aged 37, consulted me on November 19th, 1918, because, twelve days previously, he had suddenly become blind in the right eye. He had had a transient attack of dimness in that eye a month earlier. He could just count fingers, but with the other eye he read 6/6. The right pupil hardly reacted to light, but responded consensually. Ophthalmoscopically the picture was that significant of embolism of the central artery of the retina. The external half of the retina was very anaemic, and the vessels were reduced in calibre and appeared as mere threads through the gloomy media. In the macular region a "cherry-red" spot was dimly visible.

On November 27th there was less haze, and between the cherry-red spot and the disc there were four small haemorrhages. He had no perception of light in the eye. On December 18th the cherry-red spot was smaller, and between it and the very white disc were a number of glistening white spots.

On January 14th, 1919, there was advanced atrophy of the disc and the glistening spots had disappeared. On March 25th there was pigmentation around the disc, and the contrast with the white nerve head was very noticeable. The report of his doctor that there was no evidence of cardiac or renal disease was confirmed. His Wassermann reaction was negative.

I did not see him again for six years, when he came to me on March 10th, 1925, with a diagnosis of Bright's disease associated with right total and left partial loss of sight. In the latter eye the dimness had been coming on for several months. On examining the right eye the disc was found to be absolutely white and there were only to be seen a few threads which had once been arteries. The condition of the eye was consistent with the history. There was no retinitis. The left eye showed an intense neuro-retinitis with white patches of exudation covering the retina, and there were two haemorrhages below the disc. The vessels were small when they could be seen, but they were mostly hidden by the exudation. There was no stellate figure. He was very restless and had other signs of an approaching collapse. The urine showed albumin and casts, and the specific gravity varied daily between 1016 and 1020. Towards the end of his life it dropped to 1010, and there was only a trace of albumin and no casts. He had very little oedema of the body or limbs, and it was not more marked on one side than on the other. Death occurred on May 1st without any sign of retinitis in the right eye, the last examination having been made the day previous to his death.

I am much indebted to Colonel J. Cowan for the report of the *post-mortem* examination and for his help with the pathology.

The heart weighed 571 grams (about 20 ounces). On the right side there was marked hypertrophy of the ventricle. There was stenosis of the mitral valve (it admitted the forefinger up to the first *joint only*). The cusps were thickened and rigid; no recent vegetations. No atheroma in the aorta. Coronary arteries patent, but probably somewhat sclerosed. Both kidneys were present and were equally affected. Each weighed 107 grams (about two-thirds of the normal)—chronic granular contracted (small red) kidneys. There was profuse cystic degeneration of the cortex of each kidney. The cause of death was returned as (1) chronic nephritis, (2) uraemia and failure of the right heart.

Post-mortem examinations of patients who have had monocular albuminuric retinitis at the time of death have not often been reported, and it seems probable that such cases are extremely rare. Nevertheless there is divergence of opinion regarding the binary frequency of albuminuric retinitis, as the following selection of authorities will show:

Parsons: "The condition is almost always bilateral."[1]

Knies: "Usually bilateral, though it does not always begin at the same time. Unilateral cases are not very rare."[2]

Sym: "Always bilateral."[3]

Meyer: "The disease generally affects both eyes, but in different degrees."[4]

Noyes: "It is highly exceptional to have but one eye involved; frequently one eye is more involved than the other."[5]

Berry: "Almost invariably both eyes are affected at or about the same time."[6]

de Schweinitz: "Almost invariably both eyes are involved, but in rare instances the affection has been monocular." This author has observed one such case.[7]

de Wecker: "While in simple apoplectiform retini were not infrequent in which the affection was limited to or did not attack the second until late, nephritic retinitis commences simultaneously or within a short interval in bot

Swanzy: "Both eyes are as a rule affected, though equally so. A few cases are recorded in which only one attacked, and in several of them it was found that but or was present."[9]

Yvert: "Has seen it once affecting one eye only out o one cases."[10]

Juler: "Both eyes are always affected."[11]

The first monocular case appears to have been p by Kirsch in 1870,[12] and since then others ha reported. In Yvert's case[13] the *post-mortem* exa showed that the patient had only one kidney and missing one was from the same side as that on w eye was unaffected. The absence of the kidn apparently saved the sight.

Influenced by this case Yvert advanced the the an irritation is capable of reacting by means sympathetic nervous ganglia upon the whole system of the corresponding side, thus causing dis of the circulation, both in the retina and in t on the corresponding side. This view, he cor was supported by the cases published by Pota which a blow on the loins was followed by limited to, or more pronounced on, the injured s a case of Eales's[15] an alcoholic man fell and inj left loin. The next day he was found to have sight in the left eye. Three weeks later a retinal rhage and retinitis were discovered in that e There was a slight quantity of albumin in the u specific gravity of which was 1014. Eventually the cleared up, but some atrophied patches remain man appears to have recovered his health but vision. The case is recorded as one of "supposed u albuminuric retinitis," but the non-fatal end t grave doubt on the albuminuric cause of the for had it been of that nature death would almost have followed.

In a case reported by Brunnet[16] there was ret the right eye only and marked oedema in the and arm.

With the exception of Yvert's, I cannot find oth in which there was reported to be only one kidn until further support is forthcoming I think theory of irritation of the sympathetic cannot be

The following is a list of other reporters of u albuminuric retinitis, but it is probably inc Leber,[17] Magnus (two cases),[18] Plenk,[19] Che Moore,[21] Weeks,[22] Bull,[23] Marple,[24] Pyle,[25] and Cowan.[26] My patient controverts the necessity absent kidney, and also negatives the interve trauma of the sympathetic. The premisses were tional, different incomparably from all the others the retina was immunized by the pre-existing A retina which has been to some extent conver fibrous tissue is not likely to take on the orthodox ance of albuminuric retinitis.

As the central is a terminal artery the part by it will be completely cut off from nourishme will therefore undergo necrosis when embolism artery occurs. The condition will be eventually a to infarction of the brain. Owing to the situatio retina sloughing of the necrosed tissue will not oc assuming that there is no infection, an attempt at tion will follow. Leucocytes from the adjacent will form a zone around and migrate into the dea New vessels will penetrate the necrosed part, t tissue being more or less absorbed and replaced b tissue. It would therefore be possible for such a area to become inflamed when this healing process h place. Nevertheless it is to be expected that a modification would take place in the eye which viously suffered from embolism. The inflammatory if it occurred at all, would probably show a very picture from that seen in an eye which had been pr the seat of an embolism.

That one cannot generalize from a single case which applies equally to Yvert's and to mine; in suggestion is the absence of a kidney, in mine the of a retinal atrophy.

Embolism of the retina is not a very rare misfortune, and, by the unvarying law of chance, a certain percentage of cases end later by Bright's disease. Examination of a number of these might throw light on the etiology of monocular retinitis.

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THE ANTIGEN TREATMENT OF PNEUMONIA IN INFANCY AND CHILDHOOD.

BY

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ECTO-ANTIGENS or immunogens have recently been introduced into biological therapy; the theoretical basis and experimental work on which their manufacture is based have been described by Sir Thomas Horder,[1] and by Ferry and Fisher.[2,3] This type of vaccine is probably less toxic than the older types, so permitting much larger quantities of the specific antigen to be administered without deleterious effects. In the autumn of 1926 I began using immunogen as a routine treatment in all cases of pneumonia and bronchopneumonia, and have compared the results obtained with those of the previous nine months.

All the patients were under 14 years of age, many of the infants suffered to some degree from rickets, a few from severe malnutrition, and in a few the pneumonia was terminal or complicated by severe enteritis. Cases of lobar pneumonia and bronchopneumonia are included, the majority being of the latter type. I have attempted to keep the standard of diagnosis uniform; all patients who showed evidence of pulmonary consolidation and symptoms of toxaemia were diagnosed as cases of lobar pneumonia or broncho-pneumonia, even though the disease was of brief duration. Some of these cases would doubtless have been regarded by others as capillary bronchitis or pulmonary congestion.

It is difficult to estimate the value of any specific therapy in the pneumonias of childhood. In the present series of cases some of the patients who had been ill only a few days, and who on admission showed signs and symptoms of bronchopneumonia, recovered in a few days after one injection of immunogen; but others with similar histories, signs, and symptoms recovered as rapidly without it. The combined pneumococcus immunogen of Parke, Davis and Co. was used; it is an extract of types 1, 2, and 3 of the *Diplococcus pneumoniae* together with an extract of haemolytic and non-haemolytic streptococci. Immunogen was injected as soon as a patient was admitted or as soon as the disease was diagnosed in a patient already in hospital. The dose varied from an initial injection of 5 minims in infants to 10 minims in older children. The injections were usually repeated on alternate days in increasing doses; six injections was the maximum number given in any one case; all were given subcutaneously by nurses; in no case did an abscess form, nor were any ill effects noticed.

From December, 1925, to September, 1926, fifty-five cases of lobar pneumonia and bronchopneumonia were treated without immunogen. From September, 1926, to February, 1927, fifty-six cases were given immunogen, but otherwise were treated in a manner similar to the earlier group.

Cases Treated without Immunogen.

Age.	No. of Cases.	Recovered.		Died.	
		Cases.	Per Cent.	Cases.	Per Cent.
Under 2 years ...	18	7	38.8	11	61.2
Over 2 years ...	37	30	81.0	7	19.0
Totals	55	37	67.2	18	32.7

Cases Treated with Immunogen.

Age.	No. of Cases.	Recovered.		Died.	
		Cases.	Per Cent.	Cases.	Per Cent.
Under 2 years ..	16	10	62.5	6	37.5
Over 2 years ...	40	40	100.0	0	—
Totals	56	50	89.3	6	10.7

The favourable results in the group of cases treated with immunogen were so marked that the records were examined again and cases in which the pneumonia was a terminal condition or had been complicated by some other disease were excluded; but the resulting figures were even more strongly in favour of immunogen, for three of the deaths occurring in infants under 2 years of age who had been treated with immunogen occurred respectively in a marasmic infant, in an infant already moribund at the time of injection, and in an infant who recovered from the pneumonia but who died a few days later from enteritis.

The number of cases is too small to warrant any dogmatic statement, but it would seem that the immunogen had a favourable effect; the duration of the disease did not appear to be shortened, but the mortality rate was reduced.

I wish to thank Lieut.-Colonel P. Macdiarmid, O.B.E., M.D., the medical superintendent of Alder Hey Hospital, for permitting me to publish this note.

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ZINC IONIZATION IN THE TREATMENT OF SUPPURATIVE OTITIS MEDIA.

BY

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THE results of the treatment by ionization of chronic suppurative otitis media at Alder Hey Children's Hospital have been so successful that it has been adopted as a routine. Over 300 children have been treated in two years, and nearly all these have been discharged. They ranged in age from 1 to 16 years. In some there was a history of long-standing otorrhoea, and in others the condition developed whilst the patient was in hospital, frequently as a sequel to bronchopneumonia. Otitis is a frequent complication of pneumonia in infants, and explains the cerebral symptoms observed in many cases.

On the occasion of first attendance at the ear clinic a thorough examination is made in order to find out the exact conditions present, with a view to establishing the cause of the chronicity, and Friel's method of classification is followed.

Where otorrhoea is combined with infection of the nose and throat, these complications are first dealt with; if granulations are present an attempt is made to destroy them by electrolysis; if, on the other hand, the case is one of simple tympanic sepsis zinc ionization is instituted.

Method of Treatment.

The object of ionization is to render the tympanic cavity sterile, the method adopted being the passage of an electric current through a solution of zinc, utilizing the coagulation

to detail is absolutely

In order to ensure that the zinc solution comes into immediate contact with the infected walls of the cavity the ear must be thoroughly cleansed, and this is best done by syringing twice daily for a week with a solution of equal parts of potassium chloride, sodium bicarbonate, sodium chloride, and borax. At the end of this period the ear is syringed with sterile water, anaesthetized by a solution of cocaine, as recommended by Dr. F. P. M. Clarke (British Medical Journal, November 20th, 1926, p. 938), and the ionization proceeded with.

The tympanic cavity is filled with the solution zinc sulphate (2 per cent.) and a zinc electrode placed in the meatus and connected to the positive pole. The negative electrode is placed on the leg over a pad of lint soaked in saline. A continuous current, very gradually increased to 3 milliamperes as gauged by the galvanometer, is passed through and controlled by a rheostat.

The average length of treatment is from ten to fifteen minutes, at the end of which period the current is very slowly decreased to zero. The ear is then carefully dried and a little boric powder insufflated.

Applications of the Treatment.

In the treatment of granulations a bipolar electrode composed of zinc is applied directly to them and the current, as described above, passed through. For attic sepsis the cavity is thoroughly syringed, filled with the standard zinc solution, a fine zinc wire electrode is introduced through the perforated tympanic membrane into the attic, and the current passed.

Conclusions.

Zinc ionization has given excellent results, as will be seen from the following table.

Results of Treatment of Chronic Suppurative Otitis Media by Zinc Ionization.

Causes of Suppuration.	Total.	Cured.	Left Hospital.	Referred for Operation	Still under Treatment.
Tympanic conditions solely:					
(a) Tympanic sepsis	154	132	15		7
(b) Tympanic sepsis + granulations ...	51	36	3		12
(c) Tympanic sepsis + polypi	5	1	2		2
(d) Tympanic sepsis + caries	4	2			2
Tympanic conditions combined with:					
Tonsils and adenoids	44	41	1	38	2
Nasal conditions	15	12		1	2
Tympanic conditions combined with:					
Attic disease	7	2	2		3
Mastoid disease—					
Previous operation in hospital ...	12	8			3
Previous operation before admission	14	12	1		4
Tympanic conditions combined with:					
External otitis	11	11			1
Stricture of meatus	1	1			
Totals	318	258	24	39	35

s treated soon after onset and showing no compli-
e ionization has generally been followed by cure.
r, the discharge persists after one or two treat-
mplications must be sought for. It has been
t after ionization a much more effective view
s can frequently be obtained, as their turgidity
ed.

ss to advocate zinc ionization as a cure-all, and
futile to ionize a tympanic cavity if septic foci
he nose, mouth, or throat; in the presence of
e mastoid, ionization is of little service except
rative measure.

r I have classified as cured (as judged by the
tion of the discharge from the ear) may appear
ger than the figures quoted by some other
is influenced by the fact that all patients are

treated as in-patients, and are, consequently, under the best conditions for the prevention of any reinfection.

Careful records of each case are taken, and every endeavour is made to keep in touch with discharged children. Seven have been readmitted with a recurrence of the ear condition, but in each of these it has been evident that after-care has been insufficient.

The best results have been obtained in those cases which have developed otorrhoea whilst in hospital, so that treatment could be commenced within a few days of the onset of the discharge. This would seem to suggest that ionization might be of service in fever hospitals for patients suffering from post-scarlatinal middle-ear infection.

I am indebted to the medical superintendent of Alder Hey Hospital (Dr. P. Macdiarmid) for permission to make use of the statistics obtained in the hospital.

Memoranda;

MEDICAL, SURGICAL, OBSTETRICAL.

A PAROXYSM OF AURICULAR FIBRILLATION CAUSED BY ELECTRIC SHOCK.

THE paper by Professor John Hay and Dr. Wallace Jones on "Trauma as a cause of auricular fibrillation," published in the JOURNAL of March 26th (p. 559), prompts me to put on record the following case.

A man, aged 35, came to consult me in the evening of November 14th, 1926. He stated that during that afternoon, while working in a tunnel, he took hold of a large portable electric lamp which had been temporarily connected with the switch of a motor. He immediately received a shock and was unable to release his hold of the lamp. When the current was cut off by one of his fellow-workmen he fell backwards, but did not apparently lose consciousness. He felt dazed and was conscious of a strange fluttering sensation in his chest. After a rest, however, he was able to resume his job and continued at work for the rest of the afternoon. He walked about a mile and a half to my house, and when I saw him he was not obviously distressed though he complained of feeling shaken, and still felt the fluttering in his chest. There was a small burn on the right thumb. The pulse was quick and irregular, and showed a tendency to a regular recurrence of the irregular beats, which could be spaced, in the manner shown by Lewis, to occur in the irregular pulse which is sometimes associated with auricular flutter. It is possible, therefore, that this was a paroxysm of auricular flutter rather than fibrillation.

Twenty-grain doses of potassium bromide were prescribed and he was advised to go home and stay in bed. When he was seen next morning the pulse was regular and a polygraph curve showed that sinus rhythm was restored at a rate of 66 per minute. No disease of the heart could be detected. The apex beat was in the normal position and the sounds were free from murmur.

I have known this man for many years. He has never had rheumatism. Like at least two others of his family, he has suffered for many years from partial deafness associated with nasal obstruction, but apart from this he enjoys good health.

Hull. E. E. LASLETT, M.D.Vict.

RUPTURE OF THE RECTUS ABDOMINIS MUSCLE.

IN the JOURNAL for April 30th Mr. P. J. Moir and Mr. C. R. McCash describe interesting cases of rupture of the rectus abdominis muscle occurring in healthy persons during severe physical effort. The following case furnishes still another example, and may also be of some interest.

On July 22nd, 1917, an ambulance attendant was, with one assistant, carrying a very heavy patient on a stretcher up a difficult staircase in a nursing home, when he felt a tearing pain in the right side of his abdomen. He struggled through his work during the next two days, but was then forced by increasing discomfort to enter the Glasgow Western Infirmary.

Examination revealed a slight swelling over the right rectus muscle, and this area was exquisitely tender. There was no ecchymosis. On operating I found that the sheath of the right rectus was intact, but on opening this I saw at once that the muscle, except at its medial and lateral borders, was torn across. The gap between the retracted torn fibres was filled with blood clot. The level of the injury was about two inches below the umbilicus. Muscle and sheath were sutured, and the wound closed. The patient has been at work continuously since his dismissal from hospital.

Glasgow. CHARLES BENNETT, M.B.

LOCAL ANAESTHESIA IN SUBMUCOUS RESECTION OF THE NASAL SEPTUM.

THAT a local anaesthetic method, such as that of McKenzie, ought to be more widely known is evident from the fact that the operation is still performed under general anaesthesia in certain centres. General anaesthesia causes more haemorrhage, makes the operation more difficult, and is more dangerous.

The following points may be added to Dr. Sturm's excellent account of Dr. Dan McKenzie's local anaesthetic method.[1]

1. Anaesthesia is improved if particular care is taken to apply the cocaine and adrenaline to the mucosa overlying the spheno-palatine ganglion, an area situated just behind and above the posterior end of the middle turbinal.

2. In cases where the anterior edge of the quadrilateral cartilage is dislocated the usual application of cocaine and adrenaline to the mucosa of the nose should be supplemented by an injection of novocain and adrenaline into the skin covering the anterior edge of the displaced cartilage.

3. The quantity of cocaine (3 grains) advocated by Dr. Sturm may be largely exceeded without any ill effects.

4. Hospital patients may go home the same day, to return the following morning; the packing is then removed and is not replaced.

Manchester. B. McKELVIE, M.B., F.R.C.S.Ed.

PEDUNCULATED SUBMUCOUS FIBROMYOMA OF THE STOMACH.

THE following details of a case of submucous gastric fibromyoma, which at first was thought to be gastric ulcer, seems to be worthy of record.

An unmarried woman, aged 32, well developed, of mixed European, African, and Burman descent, had had good health until November 27th, 1924, when she felt tired and giddy and passed tarry stools. The family history was good, with the exception that her mother had died at the age of 48 from cancer of the stomach. There was no vomiting or abdominal discomfort of any kind. By the beginning of June, 1925, she had recovered entirely and remained well until the beginning of February, 1926, when she again felt tired and ill and passed dark stools. On February 13th, the abdomen was heavily kneaded, which is the Burmese panacea for all abdominal troubles; soon after this the patient vomited a considerable quantity of blood. When admitted to hospital on February 17th, 1926, her condition was bad. She was intensely anaemic, the face and ankles were oedematous, the temperature 101°, pulse 150 and feeble, and respirations 26. The case was diagnosed as bleeding gastric ulcer, and medical treatment was given, the temperature continuing to range between 100° and 101°. Three days later she developed parotitis which cleared up with fomentations, and on February 23rd her blood gave a positive Widal reaction in a dilution of 1 in 80. She was then treated as a case of enteric fever complicated by gastric ulcer. The temperature returned to normal on March 3rd, the anaemia slowly disappeared, and the patient was discharged from hospital on April 6th, 1926.

Five months later the patient was again suffering from haemoptysis and passing tarry stools; she stated that the trouble had returned on August 20th. On admission to hospital her condition was good, the temperature normal, the pulse 84, there was no pain or tenderness of any kind, but she was very anaemic. One morning a small movable tumour was felt in the epigastric region, which disappeared suddenly, and was not detected again. She continued to pass blood in the stools, and on September 9th a test meal showed that the free and total acids were normal; *x*-ray photographs indicated a distinct tumour at the upper end of the lesser curvature.

On the following day she was given scopolamine, morphine, and spinal anaesthesia with stovaine, local anaesthesia with novocain, and a few whiffs of A.C.E mixture. The abdomen was opened by an incision extending from the ensiform cartilage to the umbilicus, and a freely movable pedunculated tumour was found high up, attached to the lesser curvature of the stomach. As it was difficult to reach the attachment of the tumour from outside the stomach an opening was made over the lower part of the tumour and the pedicle was separated from the stomach wall on the inside. Several bleeding vessels were tied, and, since the haemorrhage continued, a silk purse-string suture was tied round the raw areas. The size of the tumour was 6 by 4½ by 4 cm., and the area of its attachment was about 3 by 2½ cm.

Lieut.-Colonel J. Taylor, director of the Pasteur Institute, Rangoon, reported that the tumour was a fibromyoma. The patient made an uninterrupted recovery.

W. F. BRAYNE, M.B., Ch.B.,
Lieut.-Colonel I.M.S.
Mandalay, Burma. A. I. SIMON, M.B., B.S.

[1] BRITISH MEDICAL JOURNAL, April 16th, 1927, p. 720.

Reports of Societies.

THE USE OF FASCIAL GRAFTS IN HERNIA.

AT a meeting of the Devon and Exeter Medico-Chirurgical Society on April 21st, with Dr. R. EAGER in the chair, the President, Mr. A. L. CANDLER, read a short explanatory paper on the subject of the use of fascial grafts in the repair of ventral and inguinal hernia.

Mr. Candler quoted extracts from the paper by Gallie and Le Mesurier in the *British Journal of Surgery*, October, 1924, and lantern slides of the illustrations in this article were also exhibited. Mr. Candler showed four patients who had been so treated. The first was a man, aged 47, who for eight years had had a ventral hernia as big as a football, following gangrene of the abdominal wall after appendicectomy and drainage. A graft composed of three strands of fascia had been inserted in 1926 with good results. A lad aged 17 had been operated on in 1923 for a left obturator hernia, the pelvis being full of pus and adhesions. After drainage of the cavity the abdominal wall had become gangrenous, and there had resulted a large ventral hernia, with a gap four inches wide, in the aponeurosis. In 1925 this gap was closed with fascial sutures, the peritoneum being repaired with catgut. The patient had been able to work as a farm labourer since this operation. A man, aged 40, had been operated upon two months previously for the repair of the posterior wall of the inguinal canal by fascial sutures. There had been a recurrence of the hernia for which the ordinary radical cure operation had been performed in 1921. The last patient was a man who had received a bayonet wound in the left iliac region during the war with a resulting large ventral hernia, which had recurred at varying intervals after three operations for repair. A fourth operation had been performed in December, 1926, for repair by fascial sutures, but suppuration in the wound had led to an unsatisfactory result.

Dr. SHAW showed a woman, aged 35, who had had an operation for appendix abscess in 1913. A ventral hernia resulted, for which repair was attempted in 1916, and again in 1919. After a further recurrence the gap was once more closed in December, 1926, four strips of fascia lata being grafted for this purpose. At the present time the wound appeared to be quite sound and the result of the operation was most satisfactory. Dr. Shaw remarked that the case was a good illustration of the value of "living suture repair." At the operation a definite gap was found which was surrounded by a hard scar, and bridged over by the thinnest areolar tissue. Fascial grafts were used to make a "darn" filling in the space, the sutures being carried through the hard edges.

Mr. WAYLAND SMITH showed a man, aged 46, who had had a left inguinal hernia for over thirty years. When first seen there was a scrotal hernia "the size of a pint mug," and an inguinal ring admitting three fingers. He came to hospital because the hernia was increasing in size and becoming painful. In May, 1926, the hernia was operated upon, and the inguinal canal repaired with four strips of fascia lata. The patient had restarted work as a gardener two months after the operation, although advised further rest. There had, however, been no recurrence. Mr. Wayland Smith also showed a woman, aged 46, who had developed a ventral hernia and wide separation of the recti after childbirth five years previously. Excision of the hernal sac and the stretched linea alba was performed in August, 1926. A new linea alba had been constructed by suturing the cut edge of the sheath of the anterior rectus muscle with five strips of fascia lata.

Clinical Cases.

Dr. R. N. CRAIG showed a woman, aged 54, whose condition had been diagnosed as Charcot's disease. During the past six years a gradual deformity of the left knee and right ankle had developed. The pupils were equal but did not react to light; the reaction to accommodation was,

...disturbance of sensation. The ...reactions of the blood and the cerebro-spinal fluid were negative. The luetic reaction of the cerebro-spinal fluid with colloidal gold was positive. A radiogram showed subluxation and complete disorganization of the left knee-joint with massive proliferation of bone. An unusual feature was the presence of pain in the left knee; this had diminished under a full course of salvarsan.

Dr. Craig also showed a boy, aged 2½, born with hydrocephalus which had slowly progressed. Double optic neuritis had developed, sufficiently intense to cause apparently complete blindness. He had been under treatment from October, 1925, and for a year and three months lumbar puncture had been employed every week. After this it had been performed in alternate weeks, and it was now only necessary once in three weeks. Twelve months ago the head circumference had been 22 inches; it was now 22½ inches, and the child was able to talk intelligibly. The eyesight had improved sufficiently for him to pick up twelve pins from off the floor on one occasion—which he proceeded to swallow one by one! The diminution in the head circumference, Dr. Craig said, had been carefully checked, and the most interesting feature in the case was the undoubted improvement in mentality since the lumbar punctures had been started. It had been found that the child on each occasion stood well the withdrawal of 40 c.cm. of cerebro-spinal fluid, after which vomiting of the cerebral type would begin, lasting for six or seven minutes. In his opinion the repeated withdrawal of cerebro-spinal fluid encouraged atrophic changes in the choroid plexus, and so led to cessation of a hypersecretion. The possibilty of free withdrawal of this fluid clearly showed that the hydrocephalus was not of the obstructive type; a total of two and a half pints had been removed.

Dr. R. Eager described some cases of hydrocephalus with very large increase in head circumference seen in mental hospital practice.

Dr. Gordon showed a man, aged 62, suffering from lead palsy; he had been a painter all his life. For a month before admission to hospital he had had intense colic and vomiting, with progressive tremor weakness of the hands, anorexia, and anaemia. A blue line was noted on the gums and wrist-drop on the right side. The blood pressure was ow 170/110. There was weakness and slight wrist-drop th inability to extend the third and fourth fingers. The e line had disappeared from the gums and the pallor s less marked than formerly. Treatment had consisted giving magnesium sulphate and potassium iodide daily the mouth; seven teeth had been extracted on account ral sepsis.

. Craig showed a middle-aged woman with dysphagia, ght to be functional in origin. Some fullness of the below the chin had recently shown itself, but no te tumour could, however, be felt. The patient had o pounds in weight each week for the past three

Mr. Worthington said he had made a laryngo-examination of Dr. Craig's patient and could find no ality except that the larynx appeared to be somehed forward. He recommended oesophagoscopy in exclude the possibility of a post-cricoid growth.

ock showed a child, aged 6 months, with a cystic th, and had increased in size more rapidly in the under the left lower jaw which had been present weeks. It was thought probably to be a cystic He said that an operation would probably be n in the near future, and agreed that it was icroscopic section that a definite diagnosis could

Mr. Worthington described the difficulty of on similar tumours, which had proved to be ysts. Dr. Solly drew attention to the modern in relation to endotheliomata, and said that these ere epithelial and not endothelial in origin. owed also a series of pathological specimens: a endothelioma of the submaxillary gland; a cystic adenoma of the uterine mucosa; a section of the breast secondary to chronic lobular onic cystic mastitis; and a glandular celled the ovary.

Reviews.

FUNDAMENTALS OF THE ART OF SURGERY.

Surgical literature nowadays consists in the main o... didactic textbooks, of articles in journals varying muc... in originality and purpose, and of highly technical mono... graphs, which seem to be growing in popularity, especially... in America. It is, therefore, rather a pleasant relief to come across a book of less stereotyped character, such as the *Fundamentals of the Art of Surgery*,[1] by Mr. John H. Watson of Burnley. The author is an idealist, and has much to say which is of interest to the younger practitioners in the larger provincial towns, who are desirous of entering upon a surgical career. He would impose on them a very high standard "in the pursuit of an adventurous and exacting craft," and supports his opinion by a quotation from Abernethy, who said that "the hospital is the only proper college in which to rear a true disciple of Aesculapius." He lays stress on the fact that surgical operations, when performed by competent surgeons, seem so simple that anyone with a dexterous pair of hands is tempted to undertake them. Important as it is to be equipped with the necessary operative and technical skill, it is still more important to have the foresight to know when and under what conditions an operation is best performed, and the experience and ability to conduct the case safely through the post-operative period. In his preface the author says "the more one sees of practical surgery the more one is impressed by the relative frequency of unforeseen complications, and when one carefully thinks out the cause of these troubles it is only to find that most of them could be prevented. Unfortunate accidents occur to every surgeon—and they are less likely to happen in the practice of the surgeon who has judgement, skill, and experience."

Mr. Watson emphasizes the importance of the part the general practitioner must play if surgical work is to be successful. Upon him devolves the responsibility of making first examinations, of sounding the note of warning, of advising operative intervention, and seeing that no important detail of preparation or treatment is neglected, the omission of which might prejudice the recovery of the patient. The contents of this book deal with the problems, both in thought and action, that are ever presenting themselves to the busy operating surgeon. It pays graceful tribute to the masters of the art, and each chapter is introduced by an apt quotation from their legacies in literature. The first chapter rejects the notion that the good surgeon is born, not made, holding that he is produced by work, study, and conscience. Mr. Watson, indeed, expresses an instinctive fear of the "clever manipulator" or so-called "brilliant surgeon"; the majority of the textbooks, he thinks, are misleading, in that they are written in simple style for examination purposes, and do not describe the varied and numerous complications met with in the operations of importance and the dangers thus involved. Surgery, he says, "is made easy for the sons of Aesculapius to take too much on them." On surgical efficiency he expresses strong views, and asserts that to become a useful surgeon a man ought to spend, after qualifying, at least twelve to eighteen months as a resident, and three years as an assistant to a surgeon, and publish the work he has done; only when this method is adopted, as it is by the American College of Surgeons, will it be possible to prevent a great deal of promiscuous and harmful surgery. Young surgeons in this country, he asserts, are at a great disadvantage compared with American and Continental surgeons, who possess much greater facilities for doing research on animals. The chapter on surgical judgement is full of sound advice. The surgeon requires a long time to develop his reasoning powers and mental habits, and no written instructions can educate him; he must be master of the ancillary sciences, and realize his own limitations. The rest of the book is of more routine

[1] *Fundamentals of the Art of Surgery.* By John H. Watson, M.B., B.S.Lond., F.R.C.S.Eng. London: W. Heinemann (Medical Books), Ltd. 1926. (Demy 8vo, pp. x + 369; 65 figures. 17s. 6d. net.)

character, containing chapters on case-taking, preparation of the patient, anaesthesia, sepsis and antisepsis, technique, incisions, shock, wounds, post-operative treatment, and complications. The chapters on prognosis and complications would have been improved by the quotation of individual cases.

The book is an excellent piece of work, and is to be recommended to all who are interested in and practise surgery. It deals with the whole subject in an idealistic and humane way. It sets a high standard, which, however, can be achieved, but leaves the impression that all is not well with surgery, outside the bigger hospitals at any rate. It owes much of its value to the fact that it is written by a surgeon practising in a town of moderate size. His opinions may not be palatable to all surgeons, but he deserves all the more praise for having the courage to express them so frankly.

CANCER FROM THE CLINICAL POINT OF VIEW.

THERE is no doubt that the busy practitioner is as keenly interested in the "cancer problem" as the pure pathologist; but it is with cancer itself, rather than with the problem, that he is more immediately concerned. He will, therefore, probably approve of two books on cancer published recently in France, in which the cancer problem is not mentioned—one by MAURICE RENAUD,[2] the other by HENRI HARTMANN.[3]

Renaud defines the position of the practitioner very clearly: Cancer can be studied from a number of different standpoints; biologists, histologists, therapeutists, sociologists have their special doctrinal conceptions, the interest of which is theoretical and leads to more or less brilliant, but useless, hypotheses. What a doctor requires in practice is a precise knowledge of what is actually known about cancer. Renaud has brought together essential and well established facts relating to cancerous new growths, the stages of their development, the mechanism of the accidents and complications to which they give rise, and the clinical pictures they exhibit; he has omitted everything that does not come within this purview. His study is not of cancer in the abstract, but of cancer in the patient. Cancerous new growths have their own characteristic features and natural history, but from the point of view of the practitioner there is little that is specific in their manifestation, and their clinical history reduces itself in the main to that of the complications which they provoke. After giving a general account of the anatomical characters of cancer and its modes of extension, Renaud describes the local complications due to pressure, ulceration, and infection, and the effect on the function of the affected organ resulting from its partial destruction. An interesting instance of the tolerance exhibited by the lungs to the presence of cancerous growths is mentioned. A soldier, aged 22, in full health and activity, was suddenly seized with symptoms of mediastinal compression, and died in a few days with compression of the superior vena cava. The right lung was a solid mass of primary carcinoma, which had remained latent to within a few days of death. The greater part of the book is devoted to the distant complications of cancer, the several functional systems being considered, with separate chapters on the reactions of the fluids of the body and on infection. For instance, the question of nephritis in cancer is discussed. Renaud considers that in the more advanced stages of the disease the renal function is often affected and that an insidious uraemia develops, which is an essential factor in the production of the cancerous cachexia.

Hartmann's book, which is written in collaboration with a number of specialists on cancer of particular organs, deals with diagnosis. Its object is to give a concise statement of the early signs of cancer, for the use of practitioners. The old complaint reappears in the preface, that frequently cases are sent for surgical treatment too late to give any hope of cure. There is no doubt of the correctness of the diagnosis in such cases, only it should have been made earlier to have been of practical value. It may be hoped that Hartmann's concise notes on the characteristic signs of early cancer in the different organs may assist in reaching earlier diagnoses. It is not merely a question of diagnosis, however. Under the heading of cancer of the rectum, for instance, we find this statement: Many patients who complain of a discharge of blood from the anus, with repeated liquid stools, are treated for months for haemorrhoids or colitis, when a simple rectal examination would have immediately established the diagnosis of cancer. It has been said that more errors arise from lack of examination than from lack of skill in diagnosis.

[2] *Les Cancers et leurs complications.* Par Maurice Renaud. Paris: Masson et Cie. 1927. (Med. 8vo, pp. 322; 27 figures. 30 fr. sans majoration.)

[3] *Diagnostic des Principaux Cancers.* Par Henri Hartmann. Paris: Masson et Cie. 1927. (6 × 8½, pp. 64. 10 fr. sans majoration.)

TUBERCULOSIS OF THE LUNGS.

IN spite of the mixed praise and blame recently meted out so copiously to the general practitioner, there is still no dearth of writers concerned with his intellectual welfare. DRS. HYSLOP THOMSON and A. P. FORD with their *Tuberculosis of the Lungs*[4] have added yet another to the numerous manuals already existing on the diagnosis and treatment of pulmonary tuberculosis. Apart from Chapters III and IV, to which exception can be taken on a number of grounds, the book seems to differ very little from many of its predecessors. As an example of the inexact type of statement in these chapters the following sentences may be quoted:

> "In children root tuberculosis is usually associated with infection of the cervical lymphatic glands, which is frequently due to the bovine type of bacillus. In Mitchell's series of 72 cases of tuberculosis of the cervical glands, the bovine tubercle bacillus was present in 90 per cent. It is probable, therefore, that in most types of root tuberculosis in children the infection is of bovine origin."

This last inference appears to be wholly unjustifiable. If the writers had been acquainted with the conclusions of the Royal Commission on Tuberculosis they would have known that one of the strongest arguments in favour of the respiratory route of infection in pulmonary tuberculosis is the fact that though the bovine bacillus is found in a large proportion of cases of cervical and mesenteric glandular tuberculosis, tuberculous lesions of the bronchial glands are almost invariably due to the human type of bacillus, indicating that the bronchial glands are infected; not from the alimentary, but from the respiratory tract. Apart, however, from the discussion on the causes and the morbid anatomy of tuberculosis, the book appears to be quite sound, and should appeal to those who are desirous of a dogmatic, rather than a scientific, presentation of our knowledge of pulmonary tuberculosis.

IN *Compression of the Lung in the Treatment of Pulmonary Lesions*[5] Dr. STUART TIDEY reiterates the views he has several times expressed on the value of external compression of the chest wall in the treatment of tuberculous and other diseases of the lungs. His main contention is that relaxation of the peripheral pull on diseased areas is the essential element in the healing of pulmonary lesions. To effect this he advocates strapping the chest from below upwards so as to crowd the lung into the upper and narrower portion of the thoracic cavity, where it will be correspondingly constricted. The application of apical splints is, he considers, bound to be unsatisfactory, since the lung, instead of being constricted, will be forced downwards into a wider part of the thoracic cavity and will therefore be free to expand more than before. On mechanical principles this argument appears satisfactory, but whether the actual results are the same as those theoretically assumed it does not seem possible to say. The point could be decided no doubt by x-ray examination of the chest; unfortunately Dr. Tidey does not appear to have controlled his procedure by this method. Several of the arguments that he advances in favour of external compression as opposed to internal compression by the introduction of gas or oil into the thoracic cavity are unsound.

[4] *Tuberculosis of the Lungs.* By H. Hyslop Thomson, M.D., D.P.H., and A. P. Ford, M.R.C.S., L.R.C.P., D.P.H. London: Baillière, Tindall and Cox. 1927. (Demy 8vo, pp. x + 179; 20 figures. 10s. 6d. net.)

[5] *Compression of the Lung in the Treatment of Pulmonary Lesions.* By Stuart Tidey, M.D.Lond., M.R.C.P.Lond. Oxford Medical Publications. London: Milford, Oxford University Press. 1927. (Extra post 8vo, pp. xiv + 86. 3s. 6d. net.)

He states, for example, that artificial pneumothorax cannot be applied when both lungs are diseased, or when fibrous adhesions to the chest wall are present. Further, he appears to be unacquainted with the selective effect of internal compression on locally diseased areas of the lung. There is little doubt, however, that the method he advocates is well worth adopting in early cases of tuberculosis before recourse is made, if necessary, to the more radical method of treatment introduced by Forlanini.

The first volume of BLÜMEL'S book on the control of tuberculosis was reviewed on July 10th, 1926 (p. 65). The second volume,[6] which has now appeared, is of equal interest and should appeal to a wide circle of readers. In all it contains forty-three articles by different authors on the prophylaxis and treatment of tuberculosis. Most of these deal, not with the management of individual cases, but with the measures used in practice for the eradication of the disease as a social scourge. Thus the relationship between occupation, social status, housing conditions, and tuberculosis; the planning, erection, and conduct of sanatoriums; propaganda in the schools; education of the medical student and of the general practitioner; courses for those engaged in the tuberculosis service; and the general organization and administration of diagnostic and treatment centres are all taken into consideration. Statistics are given of the results obtained by different workers in the use of artificial pneumothorax, showing how even unpromising cases of the exudative type may receive great benefit and may live useful lives for some years. Finally, there are a number of contributions describing the organization of the tuberculosis campaign in different countries. The whole work is of a high standard, and compiled with that attention to care and thoroughness which is characteristic of the better kind of German book.

PNEUMOCONIOSIS.

In spite of their engagingly modest method of expressing their claims, the two radiologists Professor H. K. PANCOAST and Dr. E. P. PENDERGRASS of the University of Pennsylvania are more than justified in bringing out their well illustrated work on *Pneumoconiosis (Silicosis): A Roentgenological Study, with Notes on Pathology*,[7] for they have had extensive experience of examining cases in America, and have made a critical survey of the literature. Although silicosis is the important factor in the production of serious lung lesions in pneumoconiosis, and is responsible for the damage in the occupational diseases spoken of as anthracosis, siderosis, and chalicosis, and though the authors were at one time inclined to substitute silicosis as an inclusive title, they decided to retain pneumoconiosis, as there may be other agents besides silica that produce the morbid changes of pneumoconiosis.

The importance of skiagraphy in arriving at a diagnosis, on which Dr. Watkins-Pitchford, chairman of the South African Miners' Phthisis Bureau, insisted, is endorsed, and a feature of the authors' book is the series of well selected skiagrams of the chest in the three stages of the disease. The detailed descriptions of these stages, as revealed by x-ray examination, are correlated with the pathological changes, of which a good summary is given in a separate section with full acknowledgements to Dr. A. Mavrogordato. The nature of the "dust cells" which give rise to the fibrosis, the blocking of the lymphatics, and the complication of tuberculous infection are described. In a special chapter the various occupations, such as in the different kinds of mines, granite cutting, pottery, metal grinding, cement, brick, and asbestos workers, are passed in review.

There is a short section on prevention, but, as already suggested, the most valuable part of the book, which only incidentally deals with the ordinary clinical signs and symptoms, is the diagnosis by skiagraphy.

[6] *Handbuch der Tuberkulose-Fürsorge.* Herausgegeben von Dr. Karl Heinz Blümel. Band II. München: J. F. Lehmann. 1926. (Roy. 8vo, pp. vi + 533; 66 figures. M.27.)

[7] *Pneumoconiosis (Silicosis): A Roentgenological Study, with Notes on Pathology.* By Henry K. Pancoast, M.D., and Eugene P. Pendergrass, M.D. New York: Paul B. Hoeber, Inc. 1926. (Demy 8vo, pp. xv + 186; 23 figures. 4 dollars net.)

ORTHOPAEDIC NURSING.

THE spread of the movement for the care near the places where they dwell, and the of many local clinics, which can be visited by surgeons only at considerable intervals, ha responsibilities upon specially trained sisters It is therefore well that a small handbook[8] sh duced for the guidance of probationers, nurses It is described as a textbook, but we are gla to say that it has the merits of simplicity so that its size excludes it from the ranks pretentious textbooks.

It may be thought that a handbook of whi are vouched for by such distinguished authc Robert Jones and Dame Agnes Hunt need mendation by us, but nevertheless some note o may be useful.

Miss EVELYN C. PEARCE is well fitted to a guide by a long course of training in t Liverpool and Oswestry, and by the tenure of teacher of medical gymnastics at Oswestry Hospital; she may therefore be trusted to mature views of her distinguished sponsors a results of her own experience.

A short "foreword" is contributed by Sir and the introductory chapter is written by Hunt; in it, with characteristic vigour and c urges her readers not to be satisfied with hacks, but to strive to be apostles of the gosp in its widest sense and to go forth and inc methods of care of children, whether crip upon parents and the world at large, thu prevent as well as to cure.

It is obvious that such work requires fre paedic nurse the exercise of great tact if are to follow and if mothers are not to resent of the nurse into what they regard as thei of discipline and training. The book is eight chapters, in which the subjects of anato deformities, flat-foot and claw-foot, paral tubercle, and deformities of the spinal colu dealt with, and the making and application Paris and of other splints are described. It great practical use to those for whom it has b

NOTES ON BOOKS.

We have so recently had occasion to refer Heath's *Minor Surgery and Bandaging*,[9] edited b WILLIAMS, that the appearance of a new edit opportunity for further comment. That the b its nineteenth edition is sufficient evidence that it has had on its readers during the last sixty-s no sign of abating. What those of us who ha of knowing and listening to Christopher Hea the editorship of his book is that it shall be a than is necessary to bring the subject-matter u that incongruities shall be avoided. In these Gwynne Williams has shown himself to be a g is not often that a book can boast of exhibit vitality in the third generation: the explanation instance doubtless is that *Minor Surgery* dates f of great teachers, among whom Christopher He the most distinguished.

MUIR'S *Bacteriological Atlas*[10] is a small, beautifully got up, and should prove a use companion to the student in his bacteriologica plates were originally drawn to illu features of the various pathogenic in class-teaching, and as they were assistance it was suggested that they should be so made available to a wider circle of students. to the various textbooks on bacteriology. Th doubt that they will serve this purpose a

[8] *A Textbook of Orthopædic Nursing.* By Evelyn C. foreword by Sir Robert Jones, Bart., F.R.C.S., and an in by Dame Agnes Hunt, R.R.C. London: Faber and (Cr. 8vo, pp. xx + 155; 42 figures. 5s. net.)

[9] *Minor Surgery and Bandaging.* Nineteenth edit Williams, M.S., F.R.C.S. London: J. and A. Churchil pp. 439; 247 figures. 10s. 6d. net.)

[10] *Bacteriological Atlas.* By Richard Muir. Edinb Livingstone. 1927. (Cr. 8vo, pp. 134; 60 plates. 15s. n

coloured plates, sixty in number, are well reproduced from Dr. Muir's own excellent paintings, and they therefore bring out the particular features of the various micro-organisms with great clearness, accuracy, and completeness. A few short paragraphs of text are placed beside each plate by way of description and to draw attention to special points. We have no doubt the book will be well received.

Little Mothers and Big Sisters[11] is the title of an elementary textbook for senior schoolgirls written by Dr. HILDA HALLIDAY. Its aim is to arouse in the "big sisters" a sense of the importance of the mind in their younger brothers and sisters. Not only, they are told, is it sufficient to know how to dress, bathe, and generally take care of the bodies of the young ones, but their minds must early be taught self-discipline, and they must be helped to cultivate the habit of enjoying all good things. The little manual is warmly commended by Professor Kenwood in an introductory note. It is clearly and simply written, the print is good, and it is aptly illustrated by reproductions of five well known masterpieces. It deserves to be widely read.

[11] *Little Mothers and Big Sisters.* By Hilda Halliday, M.R.C.S., L.R.C.P., D.P.H. With an introduction by Henry R. Kenwood, C.M.G., M.B., F.R.S.E. London: Milford, Oxford University Press. 1926. (Cr. 8vo, pp. xvi + 79; 5 illustrations. 1s. 3d. net.)

PREPARATIONS AND APPLIANCES.

A Simple Spreader for Making Blood Films.

DR. W. E. COOKE (Wigan) has designed a simple spreader for blood slides, by means of which the preparation of blood films can be undertaken successfully even by novices. The spreader is a piece of glass measuring 5 cm. by 19 mm., the edges of which are very finely ground and square. A drop of blood the size of a large pinhead is placed at the end of a glass slide; the spreader is held at an angle of approximately forty-five degrees to the slide and moved backwards until it touches the drop; the motion is then reversed, the spreader drawing the blood behind it and distributing it evenly in the centre of the slide. The great advantage is that the blood does not spread to the edges of the slide, causing most of the leucocytes to be lost. The spreader is made by Messrs. Watson and Son, 313, High Holborn, W.C.2.

Ephedrine Hydrochloride.

In addition to "tabloid" *ephedrine hydrochloride 1/2 grain*, Messrs. Burroughs Wellcome and Co. are now supplying "hypoloid" ephedrine hydrochloride 0.03 gram (1/2 grain approximately) for hypodermic injection. It is issued in boxes of ten 1 c.cm. phials.

SIXTH BRITISH CONGRESS OF OBSTETRICS AND GYNAECOLOGY.

(Concluded from p. 884.)

RECURRENT PREGNANCY TOXAEMIA.

DR. JAMES YOUNG (Edinburgh) read a communication on recurrent pregnancy toxaemia. He believed that patients with this condition afforded evidence in support of the view which he had advanced in 1914 that the eclamptic toxaemia was caused by massive degeneration of the placenta. In 47 successive cases of eclampsia at the Royal Maternity Hospital, Edinburgh, toxaemia occurred in previous or subsequent pregnancies in 15 or 31.9 per cent., while in 21, or 44.7 per cent., there was recurrent toxaemia or an unbroken sequence of abortion, premature birth, stillbirth, or accidental haemorrhage. It had been discovered that in cases of abortion or accidental haemorrhage occurring in the sequence of vitiated pregnancies there might be no toxaemia. In 118 cases of "albuminuria" there was recurrence of toxaemia or of abortion in 42, or 35.6 per cent., and here again in some of the abortions there might be no toxaemia. The same observations were made in the case of accidental haemorrhage. Dr. Young stated that in all the cases, whether toxaemic or non-toxaemic, there was clear evidence that the cause of the pregnancy morbidity was degenerative change in the placenta. This must, therefore, be looked upon as a condition precedent to the toxaemia and not, as had commonly been thought, as a condition which occurred in consequence of the toxic process. These findings indicated that attention must be directed to the factors which tended to produce damage of the placenta in order to discover the causes of late pregnancy toxaemia. The toxic process which might develop in such cases was to be looked upon as an incidental occurrence. It was more likely to supervene if the damage, while involving a large area of tissue, was yet insufficient to cause immediate ending of pregnancy, and a large mass of degenerating tissue was retained in the uterus in intimate relation with the maternal circulation. Dr. Young added that these discoveries suggested the need for a revision of the classification of the late pregnancy toxaemias. They tended to show that the cases of recurrent eclampsia and recurrent "albuminuria" had a similar origin.

RADIUM TREATMENT OF CARCINOMA OF THE CERVIX.

Dr. G. I. STRACHAN (Cardiff) read a paper on further experience with radium in the treatment of carcinoma of the cervix. He stated that radium had been used in Cardiff since 1922, and that all the cases where it had been used were inoperable; 150 to 170 mg. of radium had been placed in and around the cervix for twenty-four hours, and no additional benefit had followed its application for longer periods. He advocated vaginal douching for some time before and after the use of radium, exploration of the uterine cavity to ensure the absence of pyometra, and an *x*-ray examination after insertion of the tubes to ascertain whether they were in good position. He emphasized the importance of not curetting the growth before insertion of the tubes. As contraindications to radium, he mentioned severe anaemia, foul sloughing carcinoma, pyometra, inflamed appendages, and fistulae. He stated that 97 patients had been treated. Of these, 33 were still alive, one after five years, 39 had died, and 25 could not be traced. Even in cases where there had not been cure, the amelioration in the patients' condition had been very great, and he thought that with improved technique the proportion of cures might be increased.

Mr. COMYNS BERKELEY (London) said he had first used radium treatment for carcinoma of the cervix in 1912. He had only had two cures in twelve to fourteen years. He was now using Voiselle's method, but had completely failed to obtain such brilliant results, though his technique had been exactly the same.

PATHOLOGICAL FORMS OF THE CORPUS LUTEUM.

Sir EWAN J. MACLEAN presided over the session on April 29th, which Dr. WILFRED SHAW (London) opened with a paper on some pathological forms of the corpus luteum.

Dr. Shaw referred to the classification of abnormal forms of the corpus luteum by Novák and De Linde as being too complicated, and omitting the most interesting pathological group—namely, the tarry cysts. As regards inflammatory forms of the corpus luteum he found haematomata common; in these patients there was always an increase in size in the lutein cells which might account for the menorrhagia common in these cases. He drew attention to certain tarry cysts of the Graafian follicle which superficially resembled endometriomata. These cysts could not be distinguished macroscopically from Sampson's cysts, but they arose from Graafian follicles and contained lutein cells in their walls, though these lutein cells were always abnormal. There were three closely allied types with a common origin, and he thought the reason for this was that the stimulus producing them attacked the follicle at various phases of its life-history. A characteristic feature was that they had an epithelial lining, which was derived from the endothelial lining of the capillaries. Rupture of these cysts led to implantation of lutein cells on to other sites in the peritoneal cavity. He had found lutein cells in these cases on the surface of the ovary, in the utero-vesical pouch, and even on the appendix.

Dr. J. W. A. HUNTER (Manchester) asked whether it was implied that all tarry ovarian cysts arose in this way from the corpus luteum, and that there was no endometrial origin in certain cases, as had been suggested by Sampson. Dr. WILFRED SHAW, in reply, said that he still doubted the soundness of Sampson's theory. He had not been able to demonstrate an endometrial origin in these cysts, but had been able to account for them in the way described.

CARDIAC DISEASE IN PREGNANCY.

Dr. R. A. LENNIE (Glasgow), in a paper on cardiac disease in pregnancy, considered the relation between various cardiac lesions, the parity of the patients, and the stage of pregnancy at which compensation broke down. He had collected eighty-six cases treated during the past

primiparae than in multiparae, and that such loss in compensation was most liable to occur after mid-term in primiparae and before it in other cases. From analysis of his figures he found the best results had been obtained by Caesarean section and sterilization at term, or during pregnancy, or by hysterectomy. Chloroform had been the anaesthetic in all cases, and had proved perfectly safe.

Dr. GEDDES advocated Caesarean section under spinal anaesthesia as the quickest and safest method of delivery; it might be supplemented by gas and oxygen. He emphasized the danger of fatal bronchitis after respiratory anaesthetics. Professor LOWRY (Belfast) urged the importance of co-operation with the physician in these cases, and of having a cardiac clinic in the ante-natal department. He thought chloroform anaesthesia or any such patients. Dr. SOLOMONS (Dublin) preferred scopolaform of vaginal Caesarean section with spinal anaesthesia. mine-morphine narcosis combined with spinal anaesthesia. He had seen cases where there had been no relief after Caesarean section and where death had occurred several days later. Dr. HENDRY (Glasgow) protested against indiscriminate Caesarean section and thought that the danger of normal delivery had been exaggerated.

THE CARE OF NEW-BORN CHILDREN.

Dr. NORMAN CAPON (Liverpool), in a paper on the relation of the obstetrician to the pediatrician, suggested ways in which the health of the new-born child might be improved by co-operation between obstetricians and pediatricians. He lamented the fact that the care of new-born children was in most hospitals relegated to nurses. During the early weeks of life nurses were usually found to be self-appointed baby specialists. He pointed out that a medical opinion could only be based on anatomy, physiology, and pathology, and as regards the new-born this was only just beginning to be realized by the obstetrician. He hoped that the future would see the obstetrician and pediatrician working more closely together.

Dr. W. FLETCHER SHAW said that since 1904 a pediatrician had been a member of the staff of St. Mary's Hospitals, Manchester, and also lecturer in diseases of children. The care of the new-born and the teaching of nurses and students in the care of the new-born was in his hands. Dr. SOLOMONS (Dublin) agreed with Dr. Capon, and thought that the Manchester school was far ahead of that in regard to co-operation between obstetrician and pediatrician.

DIPHTHERIA AND ITS PREVENTION.

REPORT TO THE MEDICAL RESEARCH COUNCIL.

FORMATION on the Schick test and active immunization employed in the control of diphtheria, on the incidence mortality of the disease in Great Britain, and on the active work which has been done in this country, the United States and elsewhere, is contained in the report J. Graham Forbes, originally written for the London Council, and published now as one of its series of reports by the Medical Research Council.

rapid decline of the case mortality rate of diphtheria on, which fell during the years immediately succeed- introduction of antitoxin treatment from 30 to 10 , is shown by figures quoted in the report to have slow down. Side by side with this retarded rate , which is not confined to London, there has been a tendency in London and some of the great an increase alike in the general attack rate of and its death rate per 1,000. For the metroroughs, arranged in five classes, a coincidence ed between density of population per acre, g in rooms, and the diphtheria attack rate. e lowest in these respects, which comprises the ich, and Lewisham, has 24.9 persons per acre, overcrowding of 6.4, and a diphtheria attack For Group E, which is the highest and which rpney, Shoreditch, Southwark, and Bethnal rresponding figures are 161.7, 28, and 35.8. A

rch Council Special Report 115. H.M. Stationery Office, bookseller. Price 2s. net.

greater liability

IMMUNIZATION.

warning, however, is entered against the assumption th this coincidence necessarily implies causation. Diphther prevalence among close-quartered families may be held i check by the "herd" immunity, induced by minima doses of infection, or, on the other hand, increased in shifting population by the influx of newcomers, who not only lower numerically the resistance of the "herd," but raise the virulence of the infective organism.

The survey of Schick-testing and active immunization, as carried on in Great Britain from 1921 to 1926, is informative in a high degree. Excepting in fever hospitals, where the Schick test was applied to a number of patients for what may be described as administrative reasons, Schick-testing and immunization appear, with some other exceptions, to have proceeded collaterally. The immunization figures will be quoted.

In England and Wales there was in London community immunization in Holborn, Westminster, and Camberwell, and in the provinces, in eight areas, including Birmingham, Cardiff, Cumberland, and Surrey. The total number of children immunized was 3,008. For residential institutions, in the metropolitan area and outer ring the immunizations were 1,952, and in the provinces 3,861. For fever hospital staffs, in both London and the provinces, the figure was 1,235, and for patients 221. In Scotland community immunization was carried out in Aberdeen burgh and county, Dundee, St. Andrews, and Edinburgh up to a total of 16,324 persons. Aberdeen burgh enjoys the distinction of being the scene of concurrent immunization by means of a combined prophylactic against both diphtheria and scarlet fever. For residential institutions the Scottish figure was 75, for fever staffs 486, and for patients 875. The total immunizations for Great Britain were, on a community basis, 19,332, and for all purposes, including community immunizations, 26,085.

It appears from the figures that community immunizations in Scotland were five times as numerous as in England and Wales together, and over forty times as numerous in proportion to population. The city of Edinburgh and Aberdeen burgh and county were the main contributors to this eminence.

In the United States immunization has been practised on an impressive scale. In New York City, for example, 400,000 children have been immunized since 1918, and the diphtheria death rate is reported to have fallen from 22.7 to 7.9 per 100,000. Chicago has immunized 179,453. Boston 57,699, and Rochester, Syracuse, and Utica in New York State have dealt with smaller numbers. The work is in progress also on the continent of Europe, in India and the Australian Commonwealth, and in Uruguay.

The report presents a comprehensive survey of the methods and results of immunization against diphtheria. It collates facts and figures derived from a variety of sources regarding enterprises undertaken or in prospect in this and other lands, and shows that in the matter of community immunization England does not occupy the same dominant position as in some other departments of hygiene.

ROYAL MEDICAL BENEVOLENT FUND.

AT the last meeting of the Committee thirty-four cases were considered and £571 10s. voted to thirty applicants. The following is a summary of the new cases relieved.

Daughter, aged 62, of M.R.C.S. who died in 1876. Her only income is derived from a pension of £50, as her sister, with whom she was living, died recently and her pension died with her. At present applicant is living with an invalid niece. Voted £55, payable in monthly instalments.

Widow, aged 64, of M.R.C.S. who died in 1892. She has been advised to give up, owing to ill health and age, her nursing, with which she supported herself. Daughter, aged 25, is married, with two children, and is unable to assist the applicant; £75 was received from nursing in the past twelve months. Voted £36 in twelve monthly instalments.

Wife, aged 41, of M.B. who was helped by the Fund in February and August last year, as he is trying to build up a practice in a small way. The applicant is working in a small post on commission and has not made sufficient to cover expenses. Voted £12 towards some debts which had been incurred.

Widow, aged 69, of M.R.C.S. who died last year. She has two sons who are married, and is staying at present with the elder, but neither son is in a position to give financial assistance. Voted £35, payable in twelve monthly instalments.

Daughter, aged 60, of M.R.C.S. who died in 1913. She lives in Paris and has supported herself by teaching and making translations. Owing to illness has not been able to meet expenses. Voted £26.

Subscriptions may be sent to the Honorary Treasurer, Sir Charters Symonds, at 11, Chandos Street, Cavendish Square, London, W.1.

MEDICAL EDUCATION AT UNIVERSITY COLLEGE, LONDON.

ADDRESS BY SIR JOHN ROSE BRADFORD.

ONE of the centenary addresses at University College, London, was delivered, on May 13th, by Sir JOHN ROSE BRADFORD, K.C.M.G., M.D., President of the Royal College of Physicians of London, who took for his subject the history of medical education at the College.

Sir GEORGE THANE, who presided, said that one hundred years ago this country had no organized or authorized system of medical education; there was no Medical Act, Council, or *Register*. During the 16th, 17th, and 18th centuries in most countries of Western Europe, notably France, Italy, Germany, Switzerland, and Holland, medical education was provided and fostered in the universities in the same way, though not to the same extent, as the sister faculties of theology and law; in this country alone was practically nothing done. The great English physicians, Linacre, Harvey, Sydenham, and others, generally went abroad for their education and degrees. In Scotland and Ireland medical schools or faculties were set up in the universities and flourished more or less vigorously—Edinburgh being the most prominent—but in England no such action was taken by the old universities until the establishment of a university in London had already produced great results in developing medical education. Medical education was at that time controlled only by the regulations of medical corporations —the College of Surgeons and the Apothecaries' Hall—for the College of Physicians took no account of the great bulk of medical practitioners. These regulations imposed a certain number of years of study, mostly spent in apprenticeship, certain courses of lectures, and hospital practice. No curriculum was devised, and the lectures and hospital practice were attended in an indiscriminate, almost haphazard way. In a calendar of medical schools in London in 1828 Sir George Thane had found, besides the new University College, four hospitals with medical schools, three hospitals without medical schools, and seventeen schools teaching various subjects, anatomy generally the chief, and bearing such names as "The Theatre of Anatomy." There were also seven teachers who announced individual courses on various subjects, as well as half a dozen dispensaries, where it was a common thing at that time for instruction to be given. Such were the conditions when University College was founded.

Sir JOHN ROSE BRADFORD began with a reference to the late Professor Starling, who had delivered the first of the series of centenary orations. Starling, he said, was not a student of the College; he came there after a distinguished career in another great school, but he was as loyal and distinguished a servant of the College as any of the great men who had made its reputation.

The orator said that the distinction between the science and the art of medicine was not meaningless nor fanciful. The practitioner of medicine who did not regulate his art by his science often escaped criticism by reason of the common supposition that medicine was only an art and not a science, and that there was something mysterious about disease that left an opportunity for the action of chance. In other words, it was not realized that failure or uncertainty was due to want of knowledge or possibly to its misapplication. Whereas the art of medicine was very ancient, the science was of comparatively recent origin. Hippocrates was a great exponent of the art, but the science might be said to date from Harvey, a matter of some three hundred years; the application of the science to the art was of still more recent date, and it was here that University College had played a distinguished part. It was not a question so much of any particular discovery having been made within those walls, although there had been many discoveries, some of them great; but rather that there had been explored and encouraged there the broader relation of the science of medicine to other sciences and to the art of medicine, and, most important of all, the development of scientific methods and of the scientific type of mind in pursuit of the art of medicine. It might be said that in the science of medicine the disease was the focus of attention, and in the pursuit of the art of medicine that the patient was the first consideration. Yet little or no success was likely to be achieved if the art was pursued by unscientific methods or in an attitude of mind which ignored the law that like causes produced like results, and that the numerous seeming contradictions were not really exceptions, but were due to the conditions being not really the same, although appearing to be so. The great medical clinicians of the past were men who observed by the scientific method; hence the value of their results, which left their successors wondering at their skill despite the limitations of their knowledge. It was scarcely an exaggeration to say that the teaching of medicine in England had not advanced very much beyond this stage at the time of the foundation of the College.

The student of one hundred years ago had no opportunity of widening his outlook on life or of coming into contact with other branches of learning. It was true that the ancient seats of learning had small numbers of men who, having studied in the humanities, subsequently turned to medicine, but those universities did not afford facilities for the development of medical study; the later developments in the older universities in this direction were subsequent to the founding of University College, and not unconnected with what took place there. In 1828 medical education was practically limited to the provision of the instruction required by the licensing bodies, and this was not of a very extensive character. The London hospitals which had schools attached to them at this period were St. Bartholomew's, St. Thomas's, Guy's, and the London; they included on their staffs not only physicians and surgeons distinguished for their knowledge, but men who were capable exponents of some of the sciences ancillary to medicine. But the position was unsatisfactory—not only inadequate and imperfect, but lacking organization and systematization; the educational problem was considered from too narrow a point of view.

The founders of University College regarded medicine not only as a practical art of great importance, but also as a branch of learning which should take its place with other study in any university that deemed itself worthy of the name. There was one other university in Great Britain where these views prevailed; the debt of University College, London, to the University of Edinburgh was very great, and Edinburgh derived its inspiration largely from the University of Leyden. University College Hospital, like the Royal Infirmary, Edinburgh, was founded thanks to the young Faculty of Medicine. But in 1828, when the teaching began in University College, there was no hospital attached. A dispensary was opened, and certain arrangements were made with the Middlesex Hospital, but at this period regular systematic clinical teaching was *not* in vogue at any London hospital, the students doing no more than "walk" the hospital. The founders instituted two clinical chairs, one in medicine and the other in surgery, and as soon as University College Hospital was opened two clinical professors were appointed with the special object of training students in the observation and study of disease. The greatest thing the founders did was to place the teaching of each subject in the medical curriculum in charge of an expert in that branch, and this ensured that they should be viewed from a broad and not from a utilitarian point of view.

Among other developments he referred to the institution of practical classes in chemistry and in histology. University College did not follow the requirements of the licensing bodies and institute practical classes when these were made compulsory, but it had already established the practical classes to render the teaching more efficient and to ensure that the student's knowledge was obtained first-hand; the examining bodies followed suit. Another far-reaching development was the foundation of a chair of pathological anatomy in 1828; not until 1872, he thought, was this subject compulsory in the medical curriculum. At University College in season and out of season the teaching of medicine had been correlated with the teaching of morbid anatomy. A hundred years ago the student was largely the appanage of some individual member of a hospital staff whose paying pupil he had to become to obtain the advantage of following the practice in the wards. All

College, and said Sir John Rose Bradford in conclusion, was no light task, but so long as the teachers were inspired by the same ideals which spurred on the founders there was every reason to hope that, with the enormously improved equipment of the present, the successes of the future might be even greater than those of the past.

Sir GEORGE THANE, in expressing the thanks of the distinguished gathering, mentioned that it was forty-eight years since he himself spoke on the development of the medical school, and he regarded it as astonishing that he should be there on that occasion to add a postscript. He had declared as far back as the seventies that "the reputation of our College was made first by its teachers. It must now and in the future be maintained by its pupils. When the time arrives for the celebration of its centenary may it be said of us—and we need wish for no higher praise —that we proved ourselves worthy of our distinguished men who had served the College practically through the last half century—Thomas Barlow and Rickman John Godlee; to these he would add a third name, equally typical, but the name of a man still in the fullness of his service, that of John Rose Bradford.

Sir JOHN ROSE BRADFORD, replying, remarked on the pleasure with which they saw Sir George Thane once more in their midst, and said that whatever success he had himself attained it was due to the College and its teachers; among the teachers there was not one to whom he was more indebted than to Sir George Thane.

Nova et Vetera.

EARLY BOOKS ON SYPHILIS.

E ten tractates printed in the most recent volume we e received of Monumenta Medica1 all deal with syphilis, are believed to be not only the earliest printed matter the subject, but also the first examples of separate ted treatises on a single disease. They are reproduced csimile—black-letter type and illustrations. The introion by Professor Sudhoff has been translated and anged by Dr. Charles Singer, who has given a recension glish which has been revised by the author.

was printing which made possible the diffusion of dge of an ancient evil, and its recognition as a t venereal disease. Further, the common use of established the existence of the disease in Italy, France, and Germany. However great the imperof the tracts, the aim of their writers was to make contributions, not to repeat ancient texts and ions; experiences gained in practice were published novel in the disease they described, only a special he lifetime of the authors, who, it is clear, saw f pestilence which had recently undergone a great both in the number of cases and in their severity. nations of this increase were, however, in accord- traditional views—theological, astrological, and Whatever the popular opinion, medical tradition ed to the idea of contagion; though it was that the disease attacked the privy members, it nsidered venereal. Mercurial inunctions had stablished remedy, but irrelevant considerations importance.

ing is a brief summary of the contents of the

CHELLIG: *In pustulas malas. Consilium.* Heidelberg, ig, who was body physician to Philip, Elector panied him in 1495 to the Diet at Worms, which ct against blasphemy; among the pestilences it as sent in punishment of the vain use of me was included the pest termed in German

edica. Under the general editorship of Henry E. *The Earliest Printed Literature on Syphilis, being the years 1495-1498.* In Complete Facsimile, with an ther Accessory Material by Karl Sudhoff; adapted by rence; R. Lier and Co.; London: D. Stanton. 1925. 352; illustrated. 42 6s.; a special discount of 15 per by Messrs. D. Stanton.)

bösen Blattern, in Latin "Malum Francicum." Its recent diffusion seemed a new scourge of God; hence the Elector ordered Schellig to draw up a regimen to protect against the prevalent disease, but Schellig exhibits very slight acquaintance with the malady, and his prophylaxis was merely that current against pestilence in general, for which in the Middle Ages mercury was one of the drugs employed.

2 and 3. JOSEPH GRÜNPECK: *Tractatus de pestilentiali Scorra sive mala de Franzos.* Augsburg, 1496. Joseph Grünpeck of Burckhausen, a layman in physic, issued his tractate as a commentary upon Sebastian Brandt's verses on the *Mala de Franzos*, which had as a frontispiece a woodcut depicting the Virgin and Child; from the Child's hands streamed out barbed shafts that struck mankind, but changed the avenging arrows into healing rays. He gave an astrological explanation of the disease, a sinister conjunction of Saturn and Jupiter, in the sign of the Scorpion, the sign of the zodiac which dominated the genital sphere. Grünpeck, in a second tract, at the age of 30, noted that he had himself contracted the disease. In discussing treatment he mentioned mercurial inunction.

4. NICOLÒ LEONICENO of Vicenza: *Libellus de Epidemia, quam vulgo morbum Gallicum vocant.* Venice, 1497. After a long preliminary digression Leoniceno in the later pages of his pamphlet dealt with the morbus Gallicus, which he held not to be a novel disease. The Hippocratic Aphorism (III, 21) had mentioned together ulcerations of the mouth and mortification of the privy members as among diseases occurring in summer. He opposed the indiscriminate resort to mercury, because its use repressed the eruption, which, according to the prevailing pathology, indicated the elimination of the materies morbi. Moreover, he said, mercurial inunctions did not benefit every case.

5. CASPARE TORRELLA of Valencia: *Tractatus cum Consiliis contra pudendagram seu morbum Gallicum.* Rome, 1497. Torrella, a Spaniard, became physician to Pope Alexander VI, and although his clientèle was restricted to the family of Borgia and the papal court, nevertheless, in the two months September and October, 1497, he claimed to have treated successfully seventeen cases, the Pope's son, Cesare Borgia, among them. He distinguished five types of the disease. At first he attributed it to the *flagellum Dei*, but subsequently believed it had a French origin. It would seem that as early as the fourteenth century in Southern France a distinction began to be established between syphilis, leprosy, eczema, and other chronic diseases of the skin. This may explain the origin of the name "Mal. Franzoso"; it was treated successfully by mercury.

6. JOHANNES WIDMANN: *De pustulis et morbo qui vulgo mal de franzos appelatur.* Rome, 1497. Widmann was a physician at Tübingen, where he was an inspector of lepers. His experience caused men to distinguish the morbus Gallicus from leprosy; in both alike he deemed the breath a source of contagion. Among the factors producing the disease he refused to admit either the Divine anger or the influence of the stars; his theory of its nature was based upon the doctrine of the four humours. For prevention he recommended the same measures which had long been in vogue for the prevention of leprosy. He employed two forms of mercurial ointment.

7. CORRADINO GILINO: *De morbo quem Gallicum nuncupant.* Ferrara, 1497. Gilino followed Galen and Avicenna; for treatment he used metallic mercury ointments to which some sublimate was added. Later the sublimate was restricted to washes and fomentations, but this practice was attacked by Paracelsus, who had learnt about the disease for the first time in 1496. He identified it with the *ignis persicus* of the ancients, and applied the actual cautery to the scalp over the coronal suture in order to stimulate the downflow of *pituita* from the under aspect of the brain into the nasopharynx, and so to eliminate the materies morbi.

8. BARTHOLOMAEUS STEBER of Vienna: *A Malafranzos, morbo Gallorum praeservatio ac cura.* Vienna, 1498. Steber gave an illustration of two patients, a woman with the physician at her bedside viewing her urine, and a man to whom a second practitioner is applying ointment on a spatula. Steber sought to differentiate syphilis by means of the rash, the *bosen Blattern*; other signs and symptoms he almost ignored. As to causation he discussed the influences of the humours and of the stars; for prophylaxis he repeated the general prescriptions given by Galen. Treatment by mercury he mentioned incidentally as though he had no great faith in it.

9. NATALE MONTESAURO of Verona: *De dispositionibus quas vulgares mal franzoso appellant.* 1498. Montesauro had a much better acquaintance with the disease, including the polymorphic character of the eruption; he was the first to mention the osteocopic pains, but he was sceptical as to the value of mercury, and knew of cases without primary affection of the genitalia.

10. ANTONIO SCANAROLI of Modena: *Disputatio de morbo Gallico.* Bologna, 1498. Scanaroli supported his teacher Leoniceno in opposition to Montesauro. He held that the disease was not passed by sexual intercourse, but arose in the sexual organs *de novo*; his evidence was its occurrence in virgins and in aged men past sexual life.

British Medical Journal.

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BIOLOGY AND MEDICINE.

THE current issue of the JOURNAL includes a contribution by Dr. J. S. Haldane on the relationship between biology and medicine, which is of both practical and theoretical interest to the medical practitioner. "Health," he says, in his introduction, "is a normal condition which tends to be maintained apart from any conscious effort to maintain it," and a more concise and adequate definition, and one more rich in meaning, it would be difficult to formulate. The use of the term "maintain" is significant; it conveys the suggestion that health is the expression of an active process taking place within the organism, of a fundamental conative tendency, and thus gives it that dynamic quality which is the essence of Dr. Haldane's conception of unconscious life. He reiterates in this article the view which has been more fully developed in his other writings, that a mechanistic hypothesis is inadequate to account for the distinctive phenomena of life. He points out that in the case of life the structure, including its mass and composition, is actively maintained in a particular manner which we call "normal"; that the activity of the structure is of such a nature that the normal structure is maintained and developed; and that normal structure and normal activity are thus inseparable. Briefly, the living organism has to *do* in order to *be*. Furthermore, the organism must be continuously active if it is to maintain its existence, and thus the definition of sleep as "the resting time of consciousness" more or less accurately describes what happens in that state, for the organism itself can never sleep.

Another distinctive feature of the living organism, emphasized in the address, is that it functions as a whole. Modern medicine increasingly reveals the inadequacy of the idea of independent functions. The activities of organisms are no more sharply divisible into "functions" than are mental activities into "faculties." The body cannot be regarded as a series of isolated systems. From the behaviour of an isolated perfused kidney or lung, as Dr. Haldane observes, we gain little knowledge of the amazing delicacy with which the kidneys and lungs in an intact man or animal regulate the composition of the internal functions. Attention is, in fact, directed away from this regulation, whereas when the living body is intact experiments which are easily carried out in man reveal the regulation in the most striking manner. Thus no system has an independent function, and no organ or function is directly dependent upon any other organ or function, but, on the contrary, all reaction results from the collaboration of all organs. Furthermore, as is pointed out, the relation of the living organism to its environment is no less peculiar and specific than the relationship of the internal parts and activities of the organism itself. Between organism and environment a constant active exchange is going on. But this exchange is always determined in relation to the rest of the living activity of the organism. Whether material is to be taken up or given off, whether and to what extent the organism is to respond to any stimulus, all this is determined in relation to the life of the organism as a whole. The living body and its physiological environment form an organic whole, the parts of which cannot be fully understood in separation from one another. The activity of the living organism is necessarily affected by every physical agency which impinges upon it—atmospheric conditions, pressure, temperature, moisture, electrical states and disturbances, all these have an inevitable influence upon all the reactions and functions of the organism.

Thus since the living organism functions as a whole, Dr. Haldane insists that we should endeavour to study its reactions in the intact organism. This principle has an important bearing upon the problems of practical medicine, and that this is so becomes particularly evident when we endeavour to solve the obscure problems of psychiatry. We here refer to this branch of medicine because Dr. Haldane has recently expressed a view, which has been the subject of much discussion, that the real causes of illness in nervous disorders are physiological, and that these causes, when discovered, will give us an adequate theory of the so-called functional nervous disorders.[1] He suggests that these disorders only appear of a different nature from the ordinarily recognized organic nervous disorders because an inadequate and too mechanical view of physiology, especially that of the nervous system, is held; and that we should make our physiological explanations more general in terms of the entire organism, passing beyond the abstractions of the reflex arc. The validity of this view would seem to be strikingly exemplified in an investigation on the psycho-galvanic reaction in the subjects of hysteria by Dr. F. L. Golla.[2] This reaction is a reliable and exquisitely delicate method of demonstrating the existence of the physiological disturbances which are associated with affective or emotional states. In normal persons it is invariably elicited in response to nocuous stimuli, either physical or psychical. In hysterical subjects, however, Dr. Golla found that the galvanic response to similar stimuli was absent or sub-normal. Such patients would start or tremble and exhibit the external manifestations of fear at a loud noise or painful stimulus when a normal man would hardly budge, yet their galvanic response revealed an undisturbed state of the organism. Even when the hysteric was engaged in the exhibition of a severe crisis his organism remained in a state of perfect tranquillity. Thus a study of the physiological behaviour in these patients revealed the existence of an organic disability which does much to explain the clinical manifestations of the hysterical syndrome. It is therefore evident, as Dr. Haldane suggests, that if we are to gain an adequate knowledge of the cause of psychoneurotic illnesses, we must not confine our investigations to the activities of the patient himself, but we must also extend them to those of his organism.

Dr. Haldane describes life, with its essential co-ordination, as a constant, and under normal conditions successful, struggle with the essential chaos of what we interpret as a chemical and physical world, both within the organism and in the environment. That this is descriptive of the facts becomes evident when we consider the nature of the events which take place when life has departed from the organism. It ceases to maintain the erect posture and becomes subject to the law of gravity; it disintegrates into the inorganic, and how quickly this happens depends on purely fortuitous circumstances—the state of the

[1] Psychology and Biology. *Psychology and the Sciences.* London, 1925.
[2] *Proc. Roy. Soc. Med.*, vol. xvi, No. 4, February, 1923.

organism at the time of death, the temperature or humidity of the air, and the nature of the soil in which it is placed. The organism now exhibits a state of inertia instead of one of activity; and organic order is replaced by physical chaos. It is evident that the living organism must necessarily be engaged in a ceaseless struggle in order to maintain its existence in the face of conditions which, apart from the life within it, would reduce it to dust. A purely biological view of life thus tends to provoke a somewhat pessimistic attitude, because physics and chemistry must inevitably assume control of events sooner or later. Dr. Haldane has shown elsewhere,[5] however, that when we examine conscious activity or personality we find ourselves in the presence of an order of observations differing greatly from those with which biology deals, and it is only by so doing that we gain an adequate appreciation of the symptoms and meaning of life as a whole.

THE COMMUNITY CONTROL OF DIPHTHERIA.

It was known long ago to the fathers of medicine that the appearance of membrane on the throat was ominous. "A web on the tonsil is not good" was the view expressed by Hippocrates, and Aretaeus refers to the exudate followed by dyspnoea from which the chief sufferers were children. The Arabs are mainly silent on the subject, but in the eleventh century, as Cedrenus narrates, a suffocative disease so raged in themes of the Empire that the living could not bury the dead. Baronius about the same period comments with pity on a similar outbreak in Rome. In the great Spanish epidemic, which culminated in 1613, called *año de los garrotillos*, Villa Real, who saw thousands of cases, observed with acuteness the signs of the malady, but had no sure way to relieve it. And modern physicians, however distinguished, up to near the close of last century, could do little to mitigate and nothing to stay the course of the diphtherial infection till, in 1890, the diphtheria antitoxin was introduced and medicine thus dowered with a specific remedy against the dreaded disease. The beneficent results of the new cure were not long in becoming manifest. The case mortality of diphtheria, which, prior to 1894, when antitoxin came into effective service, had stood at 30 per cent., fell in a few years to 10, and the hope was not unreasonably cherished by many that with the extended use of so apt a reagent the fall might continue unbroken and diphtheria in a few more years be relegated to the group of mild and little-regarded diseases which seldom terminate fatally.

Experience, however, has not wholly confirmed these sanguine anticipations. The case mortality, it is true, has continued to fall, but its rate of decline has slackened. In London, for example, over three seven-year periods between 1904 and 1924, as quoted in the report by Dr. J. Graham Forbes, analysed elsewhere in this issue (p. 925), the retarded rate of decline is represented by the unsubstantial difference between 8.88 per cent. for the first of the periods and 6.98 per cent. for the last. That an early fall should be followed by retardation was perhaps inevitable in the circumstances. In the earlier stages enlightened parents who were prompt to seek medical aid for their children, and well informed practitioners who, suspecting diphtheria, either administered antitoxin on suspicion or secured the immediate removal of the patient to hospital in order that antitoxin might be given, combined to produce the best condition for the remedial efficacy of antitoxin—that is to say, its application early in the course of illness. The competent medical staffs of isolation hospitals also, giving antitoxin in heroic doses and by the intravenous method where necessary, were able to save patients in an advanced and even desperate state whose lives would otherwise have been lost. Thus the knowledge of the new remedy spread most quickly among those who were best fitted to turn it to account, and the spectacular fall in the case mortality of diphtheria during the early years of antitoxin treatment is referred to its probable cause. There remains, however, an unhappy residue of shiftless or indifferent parents who do not notice when their children are ailing, and of dilatory practitioners who, before giving antitoxin, will await the fiat of a bacteriologist. These fail at the critical moment. Death still may strike through their feeble defence at neglected or mismanaged cases, and their lagging methods are in great measure responsible for the retarded rate of the decline of case mortality so notable at this juncture. Even in the possible presence of a recent increase in the actual virulence of diphtheria this statement appears to hold good.

Except for the discredit which naturally attaches to the occurrence of any death from diphtheria in a well governed modern city with a public health service, motor ambulance transport, and good isolation hospitals, it may be urged that a refractory remnant of case mortality is, after all, no great matter, that things are undoubtedly better than they were, and that, given time, the sluggards in the field may be brought into line at last. Time, however, cannot be given, for time fails. Both the attack rate and the death rate from diphtheria, as distinguished from the fall in its case mortality, have begun to display an upward tendency. The movement, as shown in Dr. Forbes's report, is most manifest among the greater cities, in a number of which either the attack rate or the death rate or both have risen in the last few years. Their relative weight varies as between city and city, but over the period of fifteen years ended 1925 London, Edinburgh, Portsmouth, and Bristol head the lists for both rates, although in different order. Diphtheria in Britain appears to be entering on a new and disquieting phase, and the cure of the sick by antitoxin treatment, under the limitations above described, may not suffice to control the mortality.

An appropriate instrument to avert the menace is fortunately ready to hand. The toxin-antitoxin prophylactic against diphtheria, first applied to children in New York City in 1914, has attained wide vogue in the United States, where the number immunized is now well over half a million. In Scotland, between 1921 and 1926, 16,324 children were immunized on a community basis, with or without a previous Schick test according to their age. For England and Wales the corresponding figure is 3,008. Of the Scottish people 1 in 175 has received active protection; of the English 1 in 4,560. In recent procedure the original toxin has been replaced by toxoid.

The community immunizations effected in this country are still too recent for harvest, but towns in the United States which have immunized their children, from New York and Chicago to Auburn and Utica, claim a definite fall in the diphtheria incidence. In British hospitals where the nurses have been

[5] *Mechanism, Life and Personality.* London, 1921.

treated their diphtheria attack rate has been reduced or abolished. The method must be regarded as fully accredited, and in the face of an apparent rising prevalence of diphtheria the time has come for its wide adoption in England on a community basis. Two hundred children can be immunized at the cost of one case of diphtheria. It is needless to enlarge on the relief of suffering and the escape from death. "A web on the tonsil" is no better now than it was in the days of Hippocrates.

THE JUBILEE OF THE PHYSIOLOGICAL SOCIETY.

THE Physiological Society, at the end of last week, celebrated its jubilee by a dinner in London and a meeting in Cambridge. The selection of places was appropriate, for it was the physiologists of these two seats of learning and some of their friends who brought the Society into existence a little over fifty years ago. At the dinner, which was attended by a large number of members and a few guests, Sir Edward Sharpey-Shafer, who was in the chair, in responding to the toast of the Society, which had been given by Dr. Walter Elliot, M.P., related the circumstances that induced the physiologists fifty years ago to band themselves together. They were feeble in number, their laboratories small and imperfectly equipped, and their science hardly recognized as an independent department; but they were strong in faith, and strong in the support of a few among the leaders of science of the day, who, though not themselves engaged in physiology, were wide-minded enough to foresee that the study of the mechanism of life was an essential element in the advance of science as a whole; also at this time physiology was being attacked on the ground that its methods of research involved cruelty to animals; a Royal Commission had sat, and its report, it was known, would lead to legislation. It was felt, therefore, to be very necessary that any bill which might be introduced should be carefully examined. In March, 1876, an informal meeting was held at the house of Dr. (afterwards Sir) John Burdon-Sanderson, in London, to consider the situation. It was attended by nineteen persons, and it was there and then decided to form a physiological society, which should be limited in number and should be a sort of dining club. Invitations were issued to forty persons, and four of them survive—Sir David Ferrier, Sir W. Thiselton-Dyer, Sir E. Ray Lankester, and Sir E. Sharpey-Schafer himself. The first dinner was held at the Criterion Restaurant in London, when Sir Michael Foster was in the chair, and among those present was Sir William Bowman, showing that even at that early stage the Society welcomed the support of the physiologist turned clinician. The restriction of the number of members was shortly relaxed, and was for a time fixed at sixty, but later on it was very much extended, and the Society now contains over 400 members. At the jubilee dinner Sir Charles Sherrington gave the toast of the Society, coupling it with the names of Sir Ernest Rutherford, who had come to honour this offshoot of the Royal Society over which he now presides, Professor Fano of Rome, Professor Gley of Paris, and Viscount Knutsford, who had not only devoted his energies to the maintenance and extension of the London Hospital and its school, but had helped experimental physiology through the Research Defence Society. Sir Charles Sherrington mentioned also the help that had been given by the British Medical Association through its JOURNAL and in other ways, by the *Lancet*, by *Nature*, and by the Royal Society of Medicine, whose president, Sir James Berry, was present. Sir Ernest Rutherford, in a short speech, dwelt on the relation of physiology to physics, giving several instances, in particular, Einthoven's string galvanometer, in which a physical apparatus had been developed by a physiologist for a highly specialized purpose, but had afterwards been adopted in physical laboratories as a delicate recording device. Professor Fano and Professor Gley also replied; Lord Knutsford, in the course of his remarks, appealed to all physiologists to join the Research Defence Society, and to help it by supplying it with accurate information and by speaking for it when necessary in vindication of the importance of experiments on animals to medicine. The toast of "The chairman" was given by Dr. Leonard Hill, who recalled that he had himself worked as Sharpey scholar under Professor Schafer, and went on to make complimentary references to the physiologists trained by Professor Schafer, who had gone out to many schools in Great Britain, in Ireland, in Canada, South Africa, New Zealand, and Australia. On the following day a very largely attended meeting of the Society was held in Cambridge. Among the papers read was one by Professor A. N. Richards of Philadelphia on the elimination of phenolsulphonephthalein by the kidney, another by Professor J. G. Dusser de Barenne of Utrecht, on respiratory exchange during static and phasic work, and another, which was followed with deepest interest, in which Sir E. Sharpey-Schafer related the results of certain experiments made on his own person to investigate the recovery of sensation after severance of cutaneous nerves in man. On Sunday afternoon Professor and Mrs. Barcroft gave an afternoon party in the hall and Fellows' garden of King's College. We understand that Sir E. Sharpey-Schafer has prepared a history of the Society, which will shortly be published in the *Journal of Physiology*.

THE UNIVERSITY OF LONDON SITE.

IN the north-west corner of the excellent plan in Dobie's *History* of the United Parishes of St. Giles-in-the-Fields and St. George, Bloomsbury, published in 1829, we find the words, "The London University." This referred to the ground on which University College now stands, and it is only a furlong from the site on which the headquarters of the University of London are to be built, so that the prophecy implied by this plan may almost be fulfilled. That part of Bloomsbury which lies to the north of the British Museum and Bloomsbury Square is so modern that tradition and local history have hardly had time to form. When Dobie's plan was made Torrington Square was new. "Torrington Square," he said, "is also on the Duke of Bedford's estate, and is lately in a state of completion. It contains seventy houses of moderate size, and is so pleasantly situate on an elevated healthy spot, as to have been filled with occupants, as fast as it progressed in building." Woburn Square was then "a new square now forming, to be called Rothsay Square." Until the beginning of the last century open fields lay between the British Museum and what was then and long after the "New Road," and now Euston Road. These "fields behind Montagu House" were long notorious for duels. Smollett in *Roderick Random* and Thackeray in *Catherine* took some of their characters there to engage in single combat. At a part of the fields situated near the north-eastern corner of Torrington Square were the famous forty footsteps. The story runs that in the year 1685 two brothers quarrelled, fought, and both died at this spot. In the desperate struggle they made forty deep impressions of their feet in the soft ground, on which no grass or other thing would thereafter grow. Hence that field was called "The Field of the Forty Footsteps." For at least a century afterwards it was visited by curious persons, who generally came away well convinced of the truth of the story and of the genuine effects of the curse which had fallen on the scene of fratricide. The footsteps persisted until the ground was covered by buildings, but their exact situation is doubtful. J. T. Smith of the British

Museum, who died in 1833, in his *Book for a Rainy Day* wrote:

"The whole of the ground north from Capper's farm, at the back of the British Museum, so often mentioned as being frequented by duellists, was in irregular patches, many fields with turnstiles. The pipes of the New River Company were propped up in several parts to the height of six and eight feet, so that persons walked under them to gather watercresses, which grew in great abundance and perfection, or to visit the 'Brothers' Steps,' well known to the Londoners. Of these steps there are many traditionary stories; the one generally believed is, that two brothers were in love with a lady, who would not declare a preference for either, but coolly sat upon a bank to witness the termination of a duel, which proved fatal to both. The bank, it is said, on which she sat, and the footmarks of the brothers when pacing the ground, never produced grass again. The fact is that these steps were so often trodden that it was impossible for the grass to grow."

Smith's explanation was not generally accepted, and even the poet Southey supported the opinion of a writer in the *Gentleman's Magazine* in 1804 that "the Almighty has ordered it as a standing monument of his great displeasure of the horrid sin of duelling." In 1828 the then celebrated authoresses, Anna Maria and Jane Porter, made the story the theme of their novel *The Field of the Forty Footsteps*. A much older superstition connected with these fields is recorded by Aubrey in his *Miscellanies:*

"The last summer, on the day of St. John Baptist (1694), I accidentally was walking in the pasture behind Montague House; it was twelve o'clock. I saw there about two-and-twenty young women, most of them well habited, on their knees very busie, as if they had been weeding. I could not presently learn what the matter was; at last a young man told me that they were looking for a coal under the root of a plantain to put under their heads that night, and they should dream who would be their husbands. It was to be found that day and hour."

This was evidently a variant of one of the widespread superstitions of pre-Christian origin connected with Midsummer Day. Between what is now Torrington Square and Gower Street was the ground of the Royal Toxophilite Society, founded by Sir Ashton Lever in 1781, of which the Prince of Wales, afterwards George IV, was patron. Their earlier practice ground had been the lawn at the back of Leicester House. There is some medical interest in the story of the origin of Sir Ashton Lever's interest in archery. A friend, a Mr. Waring, who had acquired an affection of the chest which the doctors could not relieve, resolved to try the effect of archery. He was cured, and attributed his cure to the bow. This led to others taking up the exercise and to the foundation of the society. A number of well-to-do people were members, and dinners and suppers seem to have played an important part in their proceedings. The society removed in 1821 to a piece of ground of four acres in Bayswater, nearly opposite the present Victoria Gate, and later to the Regent's Park, whence it has only recently departed. Torrington Square is distinguished only by the antiquaries who lived there. The Rev. Joseph Hunter, a presbyterian divine, died at No. 30. He was an indefatigable archaeologist who began his inquiries into ecclesiastical monuments and such-like while a boy at school near Sheffield, and continued them throughout a long life, during which he produced a vast number of publications on various subjects; he died in 1861. No. 55 was the last English residence of Sir Nicholas Harris Nicolas, the editor of Nelson's dispatches and author of a *Chronology of History*. He had served in the Royal Navy for some years during the Napoleonic wars and carried into civil life some of the breeziness said to characterize that service. He did much to reform the Society of Antiquaries and the methods of the Keepers of the Records, but that malady of the purse, once described by Theodore Hook as "a tightness of the chest," drove him to seek refuge at Boulogne, where he died in 1848. Keppel Street, Keppel Mews, and most of Montague Place have been swept away in the improvements at the north of the Mu formation of the grand avenue of approach in particular to the doors which are never No. 1, in which Constable, the painter, lived gone with the rest of Keppel Street. The versity is now to have a local habitation worthy of it. If the traditions of the site great nor many, the future will doubtless mal deficiency in past history of this part of Bloo

THE LISTER INSTITUTE.

THE governing body of the Lister Institute Medicine presented its thirty-third annual members at the general meeting held on Ma report furnishes abundant evidence of grea all branches of research, but it is only po place to refer to a few of the more impo recorded in the several departments. Dr. A studied the properties of the two main kin in the coli group of bacteria—namely, the h the heat-stable types. Of the four variants *typhosis* A studied, two, which grew as "smo and afforded heat-stable antigen, have been the more virulent and to make good prote for guinea-pigs. The two "rough" variant this antigen, are only feebly virulent and m inefficient vaccine. The virulence and the vaccine are, therefore, both related to the heat-stable antigen. The results with *B. typ* were in the same direction but less distinct. tance of securing a "smooth" virulent cultu vaccine has not hitherto been realized. Dr has continued his studies on the phosphoric blood and the enzymes by which they are sy hydrolysed. The synthetic power of the enz demonstrated, using inorganic phosphate of glycerol; and the hydrolysis of phosphor been shown to increase rapidly with increasi Experiments in calcification were made by p stream of solution containing calcium, inorgani and a small quantity of phosphoric ester rickety bone. A deposition of calcium ph place, which is roughly proportional to the of the phosphoric ester in the solution; in of the ester, calcification does not occu Korenchevsky has investigated the influenc ectomy on the heat-regulating mechanism. ectomy, cooling causes a much more pronou warming a much smaller increase of temp in normal animals. The normal adjustm mechanism may be restored by thyroid fe the feeding is excessive the animal is severely when exposed to temperatures previously we and the body temperature may rise to 43 concluded that the thyroid plays an importan regulation of the body temperature. In th of protozoology Dr. Muriel Robertson has in the study of the para-basal body of fla Dr. H. M. Woodcock on encephalitis in rabb cystic disease of the mouse. In the depart study and preparation of antitoxic serums, F. and Hedley Wright investigated an interes pneumococcal endocarditis in the horse. Th being actively immunized against a Type pneumococcus which was highly virulent fo and its serum was strongly protective for this virulent strain. It developed fatal endocarditis and septicaemia after a series o injections with living cultures. The strain re the blood proved to be non-virulent for regarded as a variant of the original virulent

factors involved in the genesis of this variety of endocarditis are not wholly understood, and their elucidation is likely to throw a good deal of light on the pathogeny of acute and chronic endocarditis in man. Dr. Maitland and Mrs. Burbury have continued to devote themselves to the work for the Foot and Mouth Research Committee of the Ministry of Agriculture; this has been carried on under the supervision of Dr. Arkwright on the same conditions as in 1925-26. Results of considerable importance have been obtained in the following directions: (1) it has been found possible to give a considerable degree of protection to guinea-pigs by a vaccine consisting of foot-and-mouth virus killed by formalin; (2) the influence of a variety of conditions upon the survival of the virus has been studied; (3) the virus has been found to remain active for many days in the bodies of dead guinea-pigs; (4) the rate of destruction by heating to different temperatures has been ascertained; (5) and the behaviour of the infection in rats and rabbits has been further studied. The disease was not found to pass naturally by contact, so that the significance of these animals as possible carriers seems to be small. Acting on a request from the Empire Marketing Board for advice as to the best means of preserving fruits, vegetables, and dairy products in order to retain their vitamins, the Institute has agreed to undertake an investigation on the subject. This will occupy five years, and it is to be carried out in the biochemical department under the supervision of Professor Harden. The National Collection of Type Cultures has been maintained, and the number of cultures distributed to applicants during the year remained at the previous high level of something over 4,000.

SUMMER DRINKS.

In warm weather, when we have it in this country, many people resort to refreshing drinks flavoured with orange, lemon, and lime juice, and there are some houses where it is the practice to serve all the year round, last thing at night, a lemon drink, usually made with barley water. Moreover, there is at least one famous club in London where lemon barley water is always on tap. But all these are made at home. We have been asked by Dr. Harries of Aberystwyth for an analysis of such drinks, in order that medical men who prescribe them may know what they are recommending. All these fruits yield juices of one generic character, containing acids, sugars, and volatile oil or flavouring principle, together with mucilaginous and nitrogenous substances. The chief acid is citric, but malic acid may be present in smaller proportions. The sugars are cane sugar and invert sugar. The mucilaginous and nitrogenous substances have no individual qualities of a distinctive nature; they are related to the groups of which pectine and asparagine are types. The proportions of acid and sugar may vary in different specimens of the fruits, particularly in the orange; analytical tables do not, therefore, give a reliable indication of the composition of an untried fruit. For practical needs the fruits used may be classed as sour or sweet. The lemon, with about 8 per cent. of citric acid, 1.5 per cent. of invert sugar, and 0.5 per cent. of cane sugar, represents the extreme of the sour kind, while the orange, with about 1.5 per cent. of citric acid, 4 per cent. of invert sugar, and 5 per cent. of cane sugar, serves as a good example of the sweeter. Intermediate proportions of these constituents produce corresponding degrees of sweetness or sourness, but in their domestic preparation cane sugar is often added. Fruit juices keep badly, for they have a tendency to grow prolific crops of moulds, and with the exception of lime juice are therefore not usually prepared for storage. They are usually made fresh in the domestic kitchen. Lemon drink can be prepared by paring two lemons into a jug, adding the juice (and a little sugar if desired), and pouring on a pint of boiling water. Most of the refreshing drinks sold in shops and booths are not described by the vendors as simple fruit juices. Lime juice is, however, prepared for sale, and for it there is a considerable popular demand. Formerly it was usually preserved by the addition of salicylic acid, but the only preservatives now permitted are benzoic acid (600 parts per million) or sulphur dioxide (350 parts per million). By a regulation of the Board of Trade, lime juice must be carried for the crews of vessels making long voyages, to prevent scurvy. Valuable as these fruit juices are for the vitamins they contain, it hardly follows that they should be used by invalids on every occasion when a refreshing drink is desired; the orange, for instance, is believed to contain a principle, not hitherto isolated, which, it is said, tends to cause "biliousness."

DEATHS UNDER ANAESTHETICS.

DR. F. J. WALDO, coroner for the City of London and Southwark, has issued a supplement to his report for the year 1926, in which, among other matters, he refers especially to deaths under anaesthetics. The number of deaths due to, or accelerated by, the administration of anaesthetics was sixteen, an increase on previous years; seven of these were attributed to chloroform or a mixture containing chloroform, seven to ether, and two to nitrous oxide gas and oxygen. As recorded in the annual reports of the Registrar-General, the number of deaths from anaesthetics had doubled between 1911 and 1925. Dr. Waldo remarks on the increase in recent years of deaths accelerated by ether as compared with those from chloroform, and on the fact that since 1911 the number of deaths from ether had exceeded that from chloroform given alone. During the present year verdicts had been returned in seven cases, and in six expert opinion was unanimous that death was accelerated by ether. In Dr. Waldo's opinion the facts disclosed call for some action with a view to diminishing the risks from the administration of anaesthetics, and he makes the following suggestions: (1) That an analyst's certificate of purity should accompany all anaesthetic ether, and that the ether should be delivered to hospitals packed in small quantities in light-proof packings, in order to prevent the spontaneous formation of deleterious substances; (2) that the recommendation of the Home Office Departmental Committee on Coroners and Anaesthetics (1910) should be put into force—namely, (*a*) that notification to the coroner should be made compulsory by surgeons, anaesthetists, and others having knowledge of any death under the influence of an anaesthetic, whether in private, or nursing home, or medical institution, and (*b*) that a small research committee of experts, nominated by the Home Secretary and paid by the Treasury, should be appointed to co-operate with coroners in respect of inquests held on those dying under the influence of anaesthetics, and to investigate all matters —with a view to prevention—connected with anaesthetics. The framers of the Coroners (Amendment) Act, 1926, now coming into force, did not adopt these recommendations. It is possible that clause (*a*) of suggestion (2) may have been considered too wide, since it would seem to insist on the notification of almost every death under operation throughout the country, whether due to the anaesthetic or not. Similarly with regard to clause (*b*), which may have seemed to foreshadow less the taking of evidence in particular cases than the initiation of prophylactic research. Probably at no period has the scientific study of anaesthetics and anaesthesia been pursued with such assiduity as at the present time; but the subject is in the experimental stage, and there is still great diversity of opinion on important points, as there necessarily must be until

general principles are established. It may have been considered that the men at the front, if one may use the simile—the anaesthetists themselves in conjunction with the surgeons—are more competent to deal with the matter than a court. Dr. Waldo, however, has done a service in calling attention to the statistics.

MEDICAL MISSIONARY WORK IN UGANDA.

IN April, 1876, the Church Missionary Society sent its first party of missionaries to Uganda, and on May 14th, 1897, its first hospital opened its doors at Mengo, the native capital of Buganda, which had come under British influence seven years previously. The passage of fifty years of medical missionary work in an area extending over nearly 100,000 square miles has been celebrated by the publication of a commemorative volume. The hospital had twelve beds in 1897 and 210 in 1927, and with it are associated medical and maternity training schools and country maternity and child welfare centres. Careful clinical records were kept from the start, and the large number of cases of spear and bullet wounds indicates one difficulty of those early days, when two native rebellions threatened to extinguish the British influence. Dr. A. R. Cook, who opened the hospital, and is still directing it, was joined two years later by his brother, Dr. J. H. Cook, and they worked together in Uganda until 1920, when the latter returned to England. From the first periodical medical visits were paid to the surrounding country, and in this way the foundations were prepared for the establishment of daughter hospitals at Toro, 200 miles to the west, in 1903 and Ng'ora and Teso in the Eastern Province. Enlargement of the hospital at Mengo was soon found necessary and the new building was opened in 1900 by Sir Harry Johnston. Two years later it was struck by lightning and burnt down, but another hospital was quickly erected and still serves as the men's block. Various buildings were added gradually, including a new dispensary in 1905, constructed and stocked by Mr. H. S. Wellcome. The large block now used as the women's ward was opened in 1910 by Colonel Roosevelt, later President of the United States, and an *x*-ray apparatus was installed—the first in Central Africa. Two years afterwards a hospital for European patients was added, and in 1915 accommodation was provided for Indian and Goan patients. In the meantime branch dispensaries in country districts were opened and supervised. The war conditions of 1914-17 necessitated expansion of the institution to 530 beds at one time, since the Southern Uganda frontier bordered German East Africa, and the hospital at Mengo was the only one of any considerable size in the Protectorate. With the local close of the war in 1917 an active educational policy was adopted, which led to the foundation of medical and maternity training schools. In January, 1917, a medical training school was opened—the first in the Protectorate. There were seventeen entries, and three years later the first four students passed an examination for qualification. With the institution of the Government medical school at Makerere, near Mengo, the hospital school closed for a time, but was reopened in 1924. A maternity training school was founded in 1918 in temporary quarters, and the large Lady Coryndon maternity training school was opened in June, 1921; since then forty-two midwives have obtained the Government and C.M.B. certificates. In 1925 a large school at Nakifuma, in the centre of a population of about 45,000, was opened for the post-graduate training of the midwives before they were drafted to centres for independent work. Uganda was the first African dependency to initiate legislation for the control of midwifery, and its example has been followed in Kenya and the Belgian Congo. This necessarily brief account does but scant justice to an arresting record of the success which has followed patient and devot treatment and education. The Church Missiona is to be congratulated on having produced such memorial of pioneer work in what can no longe "darkest Africa."

IMPURITIES IN ETHYLENE.

SOME of the difficulties that may attend the in into clinical practice of a new drug are shown i report on ethylene by Sherman, Swindler, and The occurrence of carbon monoxide poisoning a to ethylene anaesthesia led the authors to make analysis of the brands of ethylene used for a in Pittsburg hospitals. This analysis had the sensational result of showing that several samp brand of ethylene contained significant amounts monoxide, and that one sample actually conta 1 to 2 per cent. of this gas, a concentration su produce death in from ten to fifteen minutes. T speak very highly of ethylene as an anaesthetic sider that there should be no special difficu commercial production in a high degree of purit while, however, they have adopted the prec checking the purity of each individual cylinder used for anaesthesia. For successful anaesthesi of a high degree of purity is essential. Apart obvious danger of such a highly toxic impurity monoxide, other impurities may increase the explosion, and even the presence of water may to trouble by its vapour causing the freezing of

POST-GRADUATE TEACHING IN EPIDEMIO

A SPEAKER at the recent meeting, noticed of the Section of Epidemiology and State of the Royal Society of Medicine commente fact that little provision is made for the te epidemiology to medical students. It is, of cour that the present curriculum, like the miller's a be made to carry an additional load, but th should be some provision for the post-graduates to acquaint themselves with modern methods in this field. As we announced recently, th School of Hygiene and Tropical Medicine has alr steps to meet the immediate needs of studen class in the field of bacteriology. We unders somewhat similar provision is to be made wi to epidemiology and methods of investigation bacteriological. It is proposed that Profess Greenwood, who, it will be remembered, was not long ago to the chair of epidemiology and vita in the new school, should, pending the complet school buildings, carry out some of the duties o in the statistical department of the National of Medical Research, Hampstead. As at presen Professor Greenwood will receive small groups graduates to work in his department on various if possible those of particular interest to thems so acquire practical knowledge of the usual epidemiological and statistical investigation. be little doubt that for post-graduates the plan informal meetings at which, under the chairman teacher, workers discuss the problems upon v are engaged, is a better method of instruc didactic lectures, and this experiment deserves "Refresher" courses for officers in the Pub Service may also be held. Inquiries should be to the Director of the London School of Hy Tropical Medicine, 37, Torrington Square, W.C

[1] *Journ. Amer. Med. Assoc.*, 88, 1228, 1927.

England and Wales.

KING EDWARD'S HOSPITAL FUND FOR LONDON.

THE annual meeting of King Edward's Hospital Fund for London to receive the accounts and report for 1926 was held at St. James's Palace, on May 13th, when the President, H.R.H. the Prince of Wales, was in the chair. Lord Revelstoke, the treasurer, reported that the net receipts had exceeded the original estimate of the grants for the year by nearly £5,000; it had, therefore, only been necessary to withdraw £4,300 from the reserve account in order to maintain the ordinary annual distribution of £245,000. An additional £39,750 had been provided from the Wells legacies for schemes of extension and other special purposes, bringing the total amount derived from this source to £284,750. During the thirty years since the institution of the King's Fund in 1897 a total of over five and a half million pounds had been distributed. The Earl of Donoughmore, chairman of the management committee, in moving the adoption of the report of the General Council for 1926, said that the total receipts of the King's Fund for the year were £285,749. The League of Mercy and the British Charities Association had each contributed £15,000. The amount spent on administration was £10,440, the equivalent of about 8½d. in the £ on the total received. The revised uniform system of hospital accounts had come into operation and was now obligatory on all hospitals receiving grants from the three central funds. The new scheme for the provision of pensions for hospital officers and nurses had been adopted by eighty-nine hospitals in London, representing 11,639 beds, out of a total of about 14,500. Sir George Lawson Johnston, chairman of the revenue committee, presented the report of the propaganda committee, and stated that more than one hundred cinema managers in and around London had expressed their willingness to exhibit during 1927 the hospital film entitled "A hundred years of progress." In addition to propaganda on behalf of the King's Fund and the hospitals, various new schemes for obtaining money had been inaugurated. The Prince of Wales read a message of congratulation from the King on the success of the Fund during 1926, and dwelt on the importance of obtaining new money for hospital extension now that the Wells legacies and the funds received for this purpose from the joint committee of the British Red Cross Society and the Order of St. John of Jerusalem were almost exhausted. In view of the valuable results which had already been obtained he appealed for generous donations to meet the new requirements, which were already known. He added that he had appointed a special committee to report upon the question of hospital accommodation in London for paying patients; the chairman would be Lord Hambleden, and the committee would include two medical members, Sir John Rose Bradford, P.R.C.P., and Mr. Warren Low, and two lay members, Sir Bernard Mallet and Professor Winifred Cullis, D.Sc. The Prince referred to the retirement from the council of Sir William Church, who had joined the Fund in 1899, and from 1903 to 1918 had been chairman of the distribution committee, succeeding the first chairman, Lord Lister, who was an original member of the council.

LEICESTER MEDICAL SOCIETY POST-GRADUATE LECTURES.

A course of five post-graduate lectures on the bearing of recent physiological discoveries on clinical practice was given at the Royal Infirmary, Leicester, during April and May, by Professor R. J. S. McDowall, at the invitation of the Leicester Medical Society, in conjunction with Leicester University College. The subjects treated were digestion, with special reference to gastric disease; surgical shock and its prevention; the rate of the heart beat and its significance in disease; high blood pressure in health and disease; and breathlessness. This course—the eighth of the kind—was unusual in that the lectures were given by a physiologist and not by a clinician, as in previous years. The experiment proved very successful, each lecture being attended by over fifty medical practitioners.

CENTRAL MIDWIVES BOARD.

The Central Midwives Board for England and Wales held a penal session and an ordinary meeting on May 5th.

The Board considered two letters from the county medical officer of health for Durham. To the one it replied as follows:

1. That under Rule F.1 it is the duty of a local supervising authority to suspend a midwife from practice whenever suspension is necessary for the purpose of preventing the spread of infection, and that whenever a midwife is suspended under Rule F.1 the provisions of Rule F.2 apply.
2. That the local supervising authority's duty is to prescribe the mode of disinfection (probably by a standing order), and to satisfy itself that adequate disinfection has been carried out before the midwife is allowed to return to work.

That no real delay need take place if proper arrangements are made.

In reply to the other it stated that the local supervising authority is at liberty to add any appendix to the approved form of keeping ante-natal notes, but that the Board's form must be kept intact.

A letter was read from the Ministry of Health as to the Board's resolution with regard to the scale of fees prescribed by the Minister under Section 14 of the Midwives Act, 1918; it drew attention to the correspondence and interviews which took place between the Minister and the Board when the revised scale of fees was under consideration. The Minister did not think it practicable to consider any alteration of the scale of fees in the manner suggested by the Board unless the Board was prepared to define the conditions to be regarded as emergencies for the purpose of Section 14 of the Midwives Act, 1918. Hitherto no case had been brought to the notice of the Minister in which a local supervising authority had received a claim from a doctor in respect of attendance after the expiration of four weeks from the date of confinement. The Board decided to take no further action.

Scotland.

GLASGOW POST-GRADUATE MEDICAL COURSES.

DURING the summer and autumn months various clinical courses will be held under the auspices of the Glasgow Post-Graduate Medical Association. Beginning on August 15th, a whole-time general medical and surgical course will be conducted for a month; the mornings will be devoted to general medicine, surgical diagnosis, and minor surgery in the Western Infirmary and Royal Infirmary, while each afternoon various subjects will be dealt with in the special hospitals of the city. On the four Saturday mornings there will be demonstrations on tuberculosis and the infectious fevers at Ruchill Fever Hospital. A morning course in clinical surgery will be arranged at the Royal Infirmary during June and July. The Western Infirmary will hold classes during the same two months in clinical gynaecology and dermatology, and courses, each lasting a month, will commence on September 13th in radiology, diseases of the throat and nose, and venereal diseases. From July to October classes for the study of the medical and surgical diseases of children will be arranged at the Royal Hospital for Sick Children. Beginning on September 12th, a month's course in clinical obstetrics will be held at the Royal Maternity Hospital, and a course in clinical gynaecology at the Royal Samaritan Hospital for Women. A series of demonstrations on diseases of the throat, nose, and ear will be conducted at the Ear, Nose, and Throat Hospital for a month, commencing on September 13th, if at least eight graduates enrol. Clinical assistantships are available at the Royal Infirmary, Western Infirmary, Royal Hospital for Sick Children, the Royal Mental Hospital, Glasgow Eye Infirmary, the Royal Maternity and Women's Hospital, the Royal Samaritan Hospital for Women, and the Ear, Nose, and Throat Hospital. Further information may be obtained from the secretary of the Post-Graduate Medical Association, the University, Glasgow.

Health Enterprise in Aberdeen.

The annual report on the City of Aberdeen for 1925, by Dr. J. P. Kinloch, medical officer of health, records investigations made by officers of the public health department into the immunology of scarlet fever and diphtheria, and describes how the data so ascertained are being turned to practical uses. With regard to scarlet fever, haemolytic streptococci were obtained from the throats of almost all cases during the initial stages, and the view is expressed that the same type of streptococcus may, according to circumstances, originate scarlet fever, tonsillitis, erysipelas, puerperal fever, or bronchopneumonia. Among children submitted to the Dick test in the age period 0-5 years, 95 per cent. gave a positive reaction. Among children of school age the positive rate was 78 per cent. in the west end of the city and 29 per cent. in the east. The active immunization of the staff of the City Fever Hospital reduced the incidence of scarlet fever among nurses to zero, as contrasted with a previous annual case rate of 9.5 per cent., an event which Dr. Kinloch justly claims, in the meantime, as very encouraging. Coincidently, however, with the disappearance of scarlet fever, streptococcal tonsillitis has increased among the nurses. *Naturam expellas furca, tamen usque recurret*, apparently even in Aberdeen! In order to prevent return cases of scarlet fever the remaining susceptible children in households have been immunized with good results. In testing the toxin employed for these purposes it was observed that the whole syndrome of scarlet fever, including inflammation of the fauces, the condition of the tongue, the punctate erythema, and the subsequent desquamation, may be called up by injection of the toxin alone. This result cannot be ascribed to the presence of a live filter-passing virus since it ensues equally after the filtrate has been heated to 55° C. for one hour. The task of preparing a scarlet fever toxoid for use in lieu of the toxin is at present engaging attention. As regards diphtheria, the active immunization of the City Hospital nursing staff has reduced the annual case rate from 11 to 1.6 per cent. Active immunization is not applicable in diphtheria, as in scarlet fever, to the prevention of return cases, since immunity takes about six months to develop: passive immunization is advised instead. The concurrent active immunization of children in the city against both scarlet fever and diphtheria by means of a combined prophylactic is being carried out on a community basis. This is a pioneer enterprise. The administrative and other procedures involved are set forth in the report, which treats, in addition, of the photometry of therapeutic lamps, the sunlight and lamp treatment of pulmonary and extrapulmonary tuberculosis, the causation of rickets, an outbreak of milk-borne Gaertner enteritis, the occurrence of paratyphoid and Aertrycke enteritis, and Sonne dysentery. Reference is made also to the progress of the new waterworks under the Aberdeen Water Act of 1916. Owing to interference with the existing city supply, described as inevitable in course of construction, the bacterial quality of the water distributed to consumers was in 1925 definitely below the standards of the two previous years.

Glasgow University Arrangements.

At a meeting of the University Court of Glasgow University on May 12th it was announced that Professor Harvey Cushing of Harvard University, Boston, U.S.A., would deliver the first Macewen memorial lecture in Glasgow University on June 21st, when the honorary degree of LL.D. would at the same time be conferred upon him. Permission was given to transfer five glass flasks, that had been used by Lord Lister in some of his experiments, from the physiological department, where they have been preserved, to the permanent keeping of the Hunterian Museum, Glasgow. Several gifts were also intimated. Lord and Lady Maclay had announced their intention to present an organ for the University Chapel at a cost of between £5,000 and £6,000. The late Mr. J. Murray Smith had directed his trustees to convey his house at 11, Bute Gardens, Hillhead, to the University of Glasgow, to be used as a professorial residence. Both these gifts were gratefully accepted. The Court, in a report on the Hunterian Museum for the year 1925-26 stated that the new museum building for the zoological collection was proving admirably suited to its purpose. An important cabinet of British molluscs collected during many years from the west coast of Scotland, had been presented by Dr. Frank Knight. The collection in the geological section had been considerably augmented by donations, and in the archaeological section purchases had been made of a complete collection of casts of the skulls of Paleolithic man. Additions had also been made to the collection of coins, some of which were of great rarity.

Postural Apnœa.

At a meeting of the Royal Society of Edinburgh on May 9th, Professor D. Noel Paton read a paper upon "Submergence and postural apnœa in the swan." It had, he said, been shown in 1922 that in the duck the stoppage of breathing that took place when the bird was feeding under water was not dependent upon the higher brain, but was a simple reflex action that could be brought about without immersion by putting the duck into the tail-up position; it was induced partly by the position of the head and partly by the extension of the neck. By a series of experiments upon the uninjured swan it had been shown that the stoppage of breathing was largely due to posture, and that both the position of the head and the extension of the neck were responsible for this, for by putting the swan in the feeding position out of water stoppage of breathing was produced.

Scotland's Position in Public Health.

An address was delivered, on May 3rd, by Colonel P. S. Lelean, professor of public health in the University of Edinburgh, to the Edinburgh Women Citizen's Association in the Usher Institute of Public Health. Professor Lelean referred to the importance of nutrition in building up the national health, and quoted figures to show that the general state of public health in England was more satisfactory than that in Scotland. The death rate in the former country was 12.2 as against 17 in Scotland, and the rejections of recruits for the army were in the proportion of 36 per cent. as against 43 per cent. Evidence also came from the United States, where the Englishman was placed at the head of the list of satisfactory immigrants, while the Scotsman was fifth or sixth, and came below the German. He next discussed the ill effects upon later generations of the mating of the half-witted, and went so far as to say that if this were allowed to proceed at its present rate the healthy mental stock of to-day would be swamped out in about four generations. What was specially needed at the present day was concentration upon the welfare of the children. This generation ought to live healthy lives itself, and its mothers should know how to bring up their children. Among the thirty-seven subjects which could be learned on request at secondary schools, health was not even mentioned. No particular instruction was given in schools regarding cookery, and yet unless decent cooking could be got into the homes of the working classes, and unless women could be taught how to buy to the best advantage the foods that were available, there would be no radical improvement in the C3 generation of our time.

Annual Meeting of the British Association.

A meeting of representatives of public bodies and scientific societies of Glasgow was held in the City Chambers, Glasgow, on May 10th, to make preliminary arrangements for the meeting of the British Association for the Advancement of Science, which is to be held in Glasgow in September, 1928. Lord Provost Mason presided, and various committees and office bearers were appointed. It was mentioned that the average attendance at meetings of the association held in Scotland was greater than the average in any part of England or elsewhere, and that this larger attendance indicated a greater interest in scientific matters, so that the association was living up to one of its principal objects of being "the mouthpiece of science to the public."

EXAMINATION OF MIDWIVES.

At the recent examination of the Central Midwives Board for Scotland, held simultaneously in Edinburgh, Glasgow, Aberdeen, and Dundee, out of 118 candidates 106 passed. Of the successful candidates, 24 were trained at the Royal Maternity Hospital, Edinburgh, 44 at the Royal Maternity Hospital, Glasgow, 4 at the Maternity Hospital, Aberdeen, 7 at the Maternity Hospital, Dundee, 8 at the Queen Victoria Jubilee Institute, Edinburgh, and the remainder at various recognized institutions.

EXPENDITURE ON SCOTTISH UNIVERSITIES.

The University Grants Committee in its report for 1925-26 gives statistics relating to the universities of Edinburgh, Aberdeen, Glasgow, and St. Andrews (including Dundee University College), and the Glasgow Royal Technical College. The items of income are as follows: endowments, £132,082; donations and subscriptions, £12,798; grants from local authorities, £40,179; parliamentary grants from the Treasury, £264,500, and from other Government departments, £19,919; class fees, £194,303; examination fees, £64,844; other income, £3,090; making a total income of £739,375. The items of expenditure are as follows: administration, £55,449; salaries and departmental maintenance, £433,230; laboratory maintenance, £60,841; library maintenance, £33,690; maintenance of premises, £97,981; and other expenditure, £58,790; making a total expenditure of £739,981.

Ireland.

MEDICAL REGISTRATION IN THE FREE STATE.

THE Medical Practitioners Bill, referred to in some detail last week (p. 896) has passed through all its stages in the Dail. An amendment moved by Sir James Craig, T.D. (Dublin University), that the Royal College of Surgeons in Ireland and the Royal College of Physicians of Ireland should each have one member on the Medical Registration Council, was accepted by Mr. McGilligan, the Minister in charge of the bill. In the bill, as introduced, the Royal Colleges were allotted only one member, who was to be nominated jointly by these bodies. An amendment by Dr. Hennessy, T.D. (Dublin City), providing that in the event of a casual vacancy occurring in the membership of the council of a direct representative, it should be filled by the resident medical practitioners in the Free State instead of the council co-opting a member to fill the vacancy, was also accepted by the Minister. With the exception of these two amendments, and another increasing the nominations of the Executive Council to two, the bill was passed substantially as introduced and as an agreed measure.

THE DENTISTS BILL.

The Dentists Bill, which has passed its first reading, follows closely on the lines of the British Act of 1921. There is, however, for the Irish Free State, a Dental Board of nine members, elected for four years, composed as follows:

(*a*) One nominated by the Executive Council.
(*b*) Three by the Medical Council.
(*c*) One by persons registered under Section 3, Dentists Act, 1921.
(*d*) Four by persons other than those registered under the latter section.

There shall be registered:

(*a*) Persons registered before the passing of this Act and resident in the Saorstat.
(*b*) Persons registered and living outside the Saorstat who apply for registration.

After the passing of the Act:

(*a*) Persons possessing a degree or licence conferred with authority.

The Saorstat Board is to have the same disciplinary control over dentists as the Medical Council will have over medical practitioners, and it will be exercised in the same way. It is proposed to give legal effect to an agreement signed on behalf of the Saorstat, Great Britain, and Northern Ireland. Under it the appointments made heretofore by the Lord Lieutenant for all Ireland will only apply to Northern Ireland, but the tenure of office of any member of the existing Board will not be affected. The Board may, by special direction on account of special circumstances, register any person who, in the opinion of the Board, has received training and possesses qualifications not inferior to the standard of training and qualifications necessary for obtaining the right to be registered. This section, it is understood, is intended to deal with cases in which there might have been a conscientious objection to go on the British *Register* in 1921, and to meet the case of a person who may have been serving with the volunteers in Ireland. Non-registered persons practising dentistry after the passing of this Act will render themselves liable to prosecution, and, if convicted, to a minimum fine of £50. Under the bill reciprocity with Great Britain and Northern Ireland will operate as in the case of the Medical Bill. The *Register* of 1921 would not be reopened, and any unqualified man who began to practise dentistry here since 1921 could not be registered, and would, therefore, unless he became qualified, have to discontinue. It would also eliminate for the future unqualified men.

India.

KASHMIR HOSPITALS.

DURING 1926 the work of the Kashmir Hospital of the Church Missionary Society continued to increase, the out-patients exceeding those of the previous year by over 4,000, while 1,983 were admitted as in-patients. In his annual report Dr. E. F. Neve, the medical superintendent, states that 1,104 operations were performed under local anaesthesia, and that a general anaesthetic was administered on 1,879 occasions. In Kashmir chloroform, given by the open method, is found very satisfactory, struggling in the second stage being almost unknown, except in the case of patients who have been in the habit of taking alcohol or Indian hemp. The staple antiseptic used is hypochlorite solution, prepared electrolytically in the hospital. Cancer is rare in Kashmir, but may, it is thought, be increasing. There were forty-eight cases of kangri-burn cancer, and Dr. Neve finds it difficult to reconcile the results of the investigations of Gye and Barnard with his clinical experience in Kashmir. Major eye operations numbered 310, and of the minor kinds 477 operations were performed for entropion and trichiasis, and 117 for cataract with no panophthalmitis or complete failure. Tuberculous and osteomyelitic bone disease was common, but appendicitis was rare. Enlargement of the prostate was almost unknown among Hindus, and uncommon in Mohammedans. Digestive disorders were increasing, owing to the excessive consumption of rice. The Kashmir State Leper Hospital, of which Dr. Neve is also honorary superintendent, dealt with 229 patients during 1926, of whom 179 were males. The prevalence of eye complications proved a serious obstacle to successful treatment, the most serious affection being the sclero-corneal tubercle, which advances across the anterior chamber, infiltrating the iris, and causing occlusion of the pupil. Dr. Neve adds that, though in more than thirty years in this hospital there has been no case of communication of leprosy from a patient to any of the staff, or from husband to wife, yet the children of leper patients manifest a diminished tissue resistance which seems to make them more prone to contract the disease.

GOVERNMENT OPHTHALMIC HOSPITAL, MADRAS.

In his report for 1926 Lieut.-Colonel R. E. Wright, I.M.S., superintendent of the Government Ophthalmic Hospital, Madras, states that there has been an increase in the total number of cataract operations performed at the hospital. The iris prolapse rate was rather over 8 per cent., but the vitreous escape rate in straightforward cases remained about the previous level—namely, 1.46 per cent. Late formation of the anterior chamber was another troublesome post-operative complication, and occurred in nearly 3 per cent. of the cases, including those where the chamber at first formed subsequently emptied. Better dilatation

of the pupil was secured by the use of adrenaline along with atropine prior to operation. Preliminary iridectomy was employed in a large number of cases, in order to minimize the risk of operating on eyes predisposed to glaucoma and other complications. Blocking of the facial nerve at the stylo-mastoid foramen was a routine procedure in the preparation of difficult patients for cataract extraction, and intraorbital anaesthesia with novocain and adrenaline was used in the case of painful eyes before iridectomy or other operations for glaucoma. Colonel Wright believes that it is very disadvantageous to leave blood in the anterior chamber, since fibrin appears to form a scaffolding for the building up of cellular elements. The danger of introducing organisms into the anterior chamber at the time of operation was demonstrated by special bacteriological investigations. In over 45 per cent. of the cases the field of operation harboured organisms, the majority of which were staphylococci. A Gram-negative coccobacillus was found in cultures from the iris, but it was not detected in the conjunctival field. In the out-patient department the chief affections dealt with were catarrhal conjunctivitis, inflammation due to the Koch-Weeks bacillus, trachoma, and phlyctenular and angular conjunctivitis. During the year training was given at the hospital to 187 medical students, 28 post-graduates, and 5 members of the Madras Medical Service, who attended for special tuition. A special certificate in ophthalmology is given to post-graduates who undergo nine months' training at the hospital and satisfy the examiners of their proficiency.

SIR NORMAN WALKER'S VISIT TO DELHI.

The Delhi Medical Association entertained at dinner, on February 17th, Sir Norman Walker, who was visiting that city in the course of his tour in India as a representative of the General Medical Council. Before the dinner Sir Norman Walker delivered an address in which he dealt at length with the etiology and treatment of various forms of skin irritation and pruritus. He also described the functions and powers of the General Medical Council, with special reference to its relation with universities. A short discussion followed on the question of the establishment of an Indian Medical Council.

THE PASTEUR INSTITUTE, CALCUTTA.

The Pasteur Institute in Calcutta was opened in 1924, and during the seven months of its active work in that year 1,995 patients were dealt with. The annual report of the institute for 1925 has now been received, and the superintendent, Lieutenant E. C. R. Fox, I.M.S., states that 5,585 patients attended, a considerable number having come from the province of Bihar and Orissa, as well as from Bengal. The number of patients who completed a course of prophylactic treatment for rabies was 4,168; of these 247 were Europeans and Anglo-Indians, and 3,921 Indians, 33 of whom developed hydrophobia. In 17 of these 33 cases symptoms of hydrophobia supervened more than fifteen days after completion of the prophylactic treatment, and must be considered failures. In the remaining 16 cases the disease developed before the treatment could be considered effective, and so are not included in the failure rate, which was 0.41 per cent., as compared with 0.48 per cent. in the previous year. More than half the Europeans who were dealt with had not been bitten, but only licked by the rabid animals, whereas 98.8 per cent. of the Indians had been bitten; similarly only 17 per cent. of the Europeans had deep bites, as compared with 46 per cent. of the Indians. While 82 per cent. of Europeans arrived within the first week of possible infection only 63 per cent. Indians received such early treatment; no treated European died of hydrophobia. In 26 per cent. of the total cases jackals were the rabid animals, the hydrophobia rate from them being 1.5 per cent., as compared with 0.6 per cent. for dogs; no Europeans, but 33 per cent. of the Indians, were bitten by jackals. During 1925 the work of the institute was carried on under difficulties in one room of the School of Tropical Medicine. An increase in the staff has been under consideration, as the institute has passed from the experimental stage, and its value is appreciated by all classes of the population.

Correspondence.

RHEUMATIC INFECTION IN CHILD

SIR,—The several letters which have appea issues of May 7th and 14th on the work of Committee's Subcommittee on Rheumatic Hear Children appear to need some comment from c the mind of the subcommittee.

Professor Leonard Findlay stands, I thi honoured position of having been the first in G to open a special hospital department for the t rheumatic children. Not unnaturally he disagr subcommittee's conclusion that it is a mistake routine treatment in such special clinics, and t all cardio-rheumatic cases entirely separate general work of the hospital. I can assur Findlay that the Glasgow plan was most ca sidered by the subcommittee, but that a sch taking supervision only and referring all treat appropriate departments of the hospital was better and more immediately practicable. For t there were several reasons. (1) The plan o treatment clinic would not be generally accept staffs of voluntary hospitals, especially thos pediatrics. Already such teachers have lost clinics infectious diseases, and no small pr cases of tuberculosis, venereal diseases, and fe culties: the subcommittee had no desire to a submit to the loss of rheumatic and cardiac (2) Were such a scheme accepted by the voluntar it would be to the disadvantage of ordinary st thus ultimately of the rheumatic child. (3) V accepted by them, and yet were held up b committee as the ideal procedure, there m tendency for such clinics to be set up in assoc dispensaries, welfare and minor ailment centres places all divorced from the facilities of a l seeing a child through every phase of its illnes of course, the very plan the subcommittee deprecate. I will only add that in a supervi from which patients can be admitted direct to referred to special departments or back to physicians, emergency treatment being given in time, the patients lack nothing; and there is Professor Findlay to be "inclined to consider futile."

The subcommittee did not consider such mat classification of cases attending rheumatism which Dr. Margaret Lowenfeld lays such stress difficult to agree with her view on this point never felt much enthusiasm personally for the c adopted by her, either in principle or in detail I am afraid I must leave the matter.

For Dr. Halls Dally to state that the signific "quiescent stage" in juvenile rheumatism was nized until May, 1926, gives me such a shock a me from disputing the point with him.

The letters of Dr. L. Thorne Thorne and McCall, who "differs" from him, raise the question of the influence of compulsory school on the production of rheumatism. Taking prov I venture to agree with both disputants. The not an easy one, but it seems clear that expos weather in going to and from school cannot l of great importance in originating the disease i as the disease is much more common in indust where distances are short, than in rural areas, are longer. Yet there cannot be the slightest such exposure is bad for rheumatic children, increase the severity of the infection and thus heart disease. It is the old difficulty of wl produce, and what merely unmask and incr matism. It was along these lines that the su thought the truth of the matter would be reach

Dr. J. S. Pearse, under the title of "Damp (May 14th), asks for details of how the figure houses were collected for the subcommittee's f The housing of rheumatic children was examined

Bristol, Bath, and Birmingham by different investigators, all using, however, the same questionary. In nearly all cases the houses were visited: in some places by the medical officers, in others by sanitary inspectors, health visitors, or lay workers. The questions asked are given in the first report, and, roughly speaking, it was our endeavour to count as damp such houses as would appear damp to an intelligent layman rather than to abide entirely by the decision of the responsible sanitary inspector. Further experience of such investigations has taught me that, if the right questions are asked in the right manner, there is little difficulty in getting the truth from the inhabitants. Recent figures collected at the Supervisory Centre at Paddington Green Children's Hospital, where parents are questioned and afterwards visited, show a very small percentage of error, well under 5 per cent. I do not think that architects would approve of Dr. Pearse's view of the lack of significance in the presence of condensation-damp in a house, for, as I understand it, they regard this as a bad fault; and surely where such damp is persistent this view is not unreasonable. I know of no definite figures showing that the rheumatic diathesis is "inimical to tuberculosis," though such a view has often been expressed and is largely accepted.—I am, etc.,

London, W.1, May 14th. REGINALD MILLER.

SIR,—As an assistant school medical officer of some years' experience I cannot agree with Dr. Eva McCall's criticism (May 14th, p. 898) of Dr. Leslie Thorne Thorne's view that the present system of school attendance may be a factor in the production of rheumatic infection in children.

At school the child suffering with a slight chill cited by her is quite commonly sitting at a desk with damp feet in an inadequately warmed and ventilated room—a danger to himself and a source of infection to his classmates. But, however wretched the home, it is indeed rare that there is no fire at which he can warm and dry himself, no hearthrug on which he can rest his aching limbs, and no relative or neighbour at hand with resource enough to give him a warm drink.

In the majority of elementary schools I have visited there is no provision for drying the feet, and I have often found wet coats piled promiscuously together in the cloakroom.

For these reasons, when discussing the wet shoes of infants arriving in school through a snow thaw, I have advised their dismissal, but only secured that the obviously wet through were sent home.

Change of footwear, drying rooms for clothes, and a sick-room should be regarded as necessities in schools under the present system of compulsory attendance. Moreover, the substitution for attendance officers of nurses instructed to investigate a temporary ailment rather than to demand a medical certificate would, in my opinion, prevent many a catastrophic illness and promote the peace of mind of harassed parents "afraid of a summons."—I am, etc.,

MARION BURT, M.B., B.S., D.P.H.

Birmingham, May 14th.

SIR,—Much has been, and is being, done in regard to the prevention and treatment of rheumatic infection in children. There is one matter, however, which, I hope, will not be overlooked, or its gravity underestimated—namely, the part played by defective drainage and infected reflux air; this especially when damp ground-floor dwellings are suspect.

B. coli communis and streptococci are commonly present in sewer air, and puerperal fever—a pure septicaemia—has, in many instances, been traced to faulty drains. Inhalation of such air can seriously affect health. Headache, sickness, sore throat, and anaemia are results well known to occur from poisoning by the inhalation and adsorption of infected emanations from drains.

No drainage system can be perfect. Traps, joints, and ventilators are easily liable to go wrong; they may leak and become readily forced by sewer gas, yet nobody dares think of investigating the efficiency of his house-drains until they compel him to.

For long it has been my custom in cases of sore throat of any kind, whether in child or adult, to advise the weekly cleansing of all house-drains by flushing with chlorinated lime in hot water. There is no cheaper or better deodorant and disinfectant for the purpose. The lime and hot water are simply run down each drain at night once a week, and left in the drains all night, then run off in the morning. I am quite convinced of the value of such an attempt at disinfection, and of its real necessity in the prevention of sore throat and rheumatism in children.—I am, etc.,

Bournemouth, May 14th. S. WATSON SMITH.

THE CONSTITUTIONAL FACTOR IN DISEASE.

SIR,—Dr. A. F. Hurst, in the instalment of his address on the constitutional factor in disease published on May 7th, raises some interesting points in connexion with the family incidence of nephritis, and also with regard to the possible prevention of recurrences in persons who have previously suffered from the disease. It is perhaps not generally recognized that the family incidence of nephritis is comparatively high. In a series of 69 cases of all types seen recently in which this question was carefully investigated, a history of the disease occurring in other members of the family was obtained in 19 instances, or 27.55 per cent. In a further series of 180 cases admitted to the wards of Guy's Hospital during the years 1921 to 1924 inclusive, a "positive" family history was obtained in 20 cases, or 11 per cent. In this series the point was probably not specifically asked for when writing up the case history in the majority of instances. In one family of 13 members of three generations 6, and possibly 7, persons had nephritis. The family quoted by Dr. Hurst must, however, be unique in the large number of members affected. Instances of acute nephritis occurring in more than one person in a family at the same time are occasionally seen, and are generally influenzal or streptococcal in origin.

Dr. Hurst also inquires whether the liability to develop nephritis in certain families depends upon a familial tendency to excessive acidity of the urine. This question is at present being investigated. There is some evidence to suggest that some such factor is present, but the problem is very complicated, and further work is needed.

Lastly, Dr. Hurst suggests that all individuals who have once had nephritis, but who have recovered therefrom, should take alkalis constantly in order to prevent recurrences. The work quoted by Dr. Hurst on *scarlatinal nephritis* indicates that such a procedure may be of use. It will be necessary, however, to do something more than render the urine permanently alkaline. The term "alkaline" is too vague. Dr. H. Carter and I found that by maintaining the urine (early morning specimen) at a *p*H of 7.7 throughout the illness in a large series of scarlet fever cases the incidence of nephritis and albuminuria was reduced from 5.5 per cent. in the controls to 0.6 per cent. If the alkalinity of the urine had been maintained at a higher point would the incidence of these complications have been still further reduced? At present we can only say that acute nephritis developing in a person whose urine is made more alkaline than normal by the ingestion of alkaline salts is usually of a very mild type, and clears up very rapidly. The same applies to acute exacerbations in chronic cases.—I am, etc.,

London, May 9th. A. ARNOLD OSMAN.

GOITRE PREVENTION.

SIR,—In the JOURNAL of January 15th (p. 94) is an article by Lieut.-Colonel McCarrison on an experiment in goitre prevention. It is extremely interesting to me that at last somebody has come forward and given evidence that the so-called lack of iodine had very little to do with goitre, its cause or treatment. That it has a certain action there is no doubt, but the fact remains that its role is only a minor one. For some years past I have been trying to emphasize the importance that infection has in goitre. In the issue of the *New York Medical Journal* for April 5th, 1922, and at the Medical Congress held in Melbourne in March, 1924, I have stressed this point. Repeatedly at the clinical meeting at hospital have I shown cases which have been cured by the removal of infections.

For a good many years I have been treating cases of exophthalmic goitre with success without any iodine, and in every instance I have not failed to bring about a cure where the focal infection could be completely eradicated. In the course of the last five years I have only found it necessary to resort to operation in one or two cases where adenoma was present. Even now, when men are turning their attention to focal infections, they are overlooking the nasal ones.

I sincerely hope that due notice will be taken of McCarrison's article and more attention paid to the infective factor in goitre than to the iodine question. If the infection is removed it will be found that there will be very little use for extra iodine.

We are all agreed that the thyroid is called into activity in the presence of infection, and under such conditions extra iodine is needed. If there should be a local deficiency all those with infections will be the first to show enlargement. Of all the work done in America, New Zealand, and other places there has been very little with regard to cure of goitre by the administration of iodine to school children. This alone should be quite sufficient evidence to show the small part it plays in the production of the disease.—I am, etc.,

SYDNEY PERN, M.R.C.S., L.R.C.P.Eng.

Melbourne, Feb. 24th.

POST-MORTEM EXAMINATIONS IN GENERAL PRACTICE.

SIR,—May I draw the attention of the profession to a matter of great moment both to it and to the public—namely, *post-mortem* examinations in general practice.

To the average general practitioner a necropsy is a nightmare and a thing to be avoided if possible.

If I may be pardoned for my presumption, I do not think the average general practitioner is experienced enough in *post-mortem* work to give a reliable opinion in many cases, and my belief is that he would be the first to welcome assistance. Am I going too far when I say that death certificates are sometimes given somewhat inaccurately, or without sufficient reason for the diagnosis, because the general practitioner knows that his refusal to certify would mean a *post-mortem* examination, which he would have to undertake? It is at least conceivable that crime goes undetected in this way.

Again, if we as general practitioners are compelled to undertake this work, and "toil all night and find nothing," how many of us are strong enough to go into the witness-box and confess our failure?

A short time ago an eminent pathologist in the witness-box said that, although he had conducted a *post-mortem* examination, he could not give an opinion as to the cause of death; but I am afraid this stand could only be expected from the eminent man, with whom the opinion of the masses as to his competence did not weigh.

Would it not be possible for the Government to formulate a scheme whereby each county or other division of the country would be provided with the services of a consulting pathologist, to whom all cases of doubt could be referred, possibly after consultation with the coroner, and who would be responsible for the *post-mortem* examination?

In my humble opinion this would take a load off the shoulders of the general practitioner and would be a safeguard to the public.—I am, etc.,

Bedworth, Warwickshire, May 7th. LIONEL E. ORTON.

*** Dr. Orton's opinion may be compared with that quoted from a letter by Dr. Cyril Helm in an annotation published on April 23rd (p. 769).

GENERAL MEDICAL PRACTICE AND THE MEDICAL CURRICULUM.

SIR,—Dr. Munro Kerr's address (May 14th, p. 870) contains matter of great importance. His main contention—that the student's syllabus is overloaded by surgery and midwifery at the expense of medicine—is true; and the dangers resulting from such overloading ar us.

The young general practitioner has al consult with the physician-teacher on an conceivable surgical aspect. So little time ha teacher to present his subject that it appear little more than a collection of gener principles, and he is apt to conclude tha and treatment of many obscure cases be laparotomy. If he is not fortunate enough intern he carries these ideas into practice physician-teacher, losing the double incent and practice, is too apt to hand over gr subject properly his own to the surgeon. surgeon is an operator, too often to the e ambition to be a doctor.

In a minor aspect the effect of the sy student, reinforced by the stimulating of by the majestic ritual of surgery, is to dri operative branch of the profession. Th become crowded. There is too much opera of it is bad and unnecessary. Surgeons are

Now, we are at that thrilling mome history when we find that many of the fou structure will have to be rebuilt. The mas this hard and inspiriting task are many of t the frontage defacing good stonework und that they are sculptors. The rest, ha most of the elements of their craft, are a efforts from the pavement.—I am, etc.,

Glasgow, May 15th.

STATISTICS OF TUBERCULO

SIR,—Dr. Ashforth (April 30th, p. 81 contradicted when he says that "statistics thing"; but when he goes on to say that of so-called cases of tuberculosis in the not tuberculosis," he is obviously grossly average population of the sanatorium. If the presence of tubercle bacilli in the sput evidence of tuberculosis—and that is not a will find that there are very few sanatorium where there are more than 30 per cent. of t no sputum or with a negative sputum. I with him as to the value of statistics, bu sceptical mind will find something suggestiv of the Registrar-General. These figures death rate from tuberculosis is half of wha more than a generation ago. As he is believer in sanatorium treatment, one wo him what type of cases have been sent b toriums in the past. The practitioner who in the sanatorium is usually the one who in the last stages of the disease, when eve been tried and has failed. But, if the s tried first, I have no doubt there would converts among the unbelievers.—I am, et

Grampian Sanatorium, Kingussie, May 16th.

TRAUMA AS A CAUSE OF AUR FIBRILLATION.

SIR,—My friend Sir James Barr has cas but I do not intend to rise. He asks me discussion as to the essential mechanism in of auricular fibrillation. This is outside t paper, which dealt only with the question—v strain might not on occasion be responsibl tion of fibrillation.

It is good to hear that Sir James Barr's system is still in such excellent fettle; a understand that, to him, fibrillation is dive its terrors, if, as he says, "it can be ar five minutes by the induction of the c contraction."—I am, etc.,

Liverpool, May 16th.

Medico-Legal.

LIBEL ON MEDICAL OFFICERS OF HEALTH.

BARNES AND FITZGERALD *v.* BURCHILL AND OTHERS.

At the Lancashire Easter sitting of the King's Bench Division, held at Liverpool on May 4th before Mr. Justice Roche, the terms of settlement were announced by counsel in the action brought by Drs. G. C. Barnes and W. Fitzgerald, respectively medical officer of health and deputy medical officer of health for Southport, against the proprietors of the *Liverpool Evening Express*. Mr. Rice Jones, on behalf of the plaintiffs, in informing his Lordship that the action had been settled, said that one of the terms of settlement was that each side should make a statement. Mr. Rice Jones then, by permission, read the following statement:

Counsel's Statement on Settlement of Action.

"In January last there was an outbreak of small-pox in Southport and the plaintiffs, in the course of their duty as medical officers of health for the borough, had to send persons suffering from small-pox to the Liverpool Isolation Hospital. During the prevalence of this epidemic the defendants printed and published on two occasions in their newspaper, the *Liverpool Evening Express*, paragraphs of a libellous nature affecting the plaintiffs as medical officers of health and as physicians. Furthermore, the defendants drew particular attention to these statements by means of a printed poster of the type ordinarily used by them for the purpose of advertising their newspaper. In view of these publications the plaintiffs claim damages for libel.

"The first of these paragraphs appeared on January 19th and read as follows:

"NOT SMALL-POX AFTER ALL.

"*Some Southport Cases Breathe Again.*

"The relief felt in Southport that the spread of small-pox in the town is abating is increased to-day by the news that out of 20 supposed sufferers sent to the Isolation Hospital a number have been returned suffering only from chicken-pox. Another child notified as suffering from a mild attack of small-pox was sent from Southport to the Isolation Hospital last night. The number of genuine cases of small-pox is now about 13.

"'There is every hope now that the epidemic is dying out,' said a Southport doctor to an *Evening Express* representative to-day. 'Chicken-pox unfortunately is prevalent in the town at the same time, and no doubt through over-anxiety to stamp out the epidemic sufferers from chicken-pox have been sent away as suspects. It is as well to be on the safe side. Chicken-pox is easily distinguishable from small-pox, but the nature of this epidemic has been a mild attack of the disease.'

"This was followed on January 22nd by a second paragraph in these words:

"SOUTHPORT SMALL-POX.

"*Four Fresh Cases sent into Hospital.*

"A further outbreak of small-pox has occurred in Southport. The Southport health authorities report that four fresh cases were removed to an isolation hospital in Liverpool last night. Three are children, two boys and a girl, and the fourth is an aged man. This brings the total number of cases to 18, a number of suspected cases who had been previously sent away being brought back, chicken-pox having been diagnosed. The fresh cases diagnosed are reported to be of a mild character.

"These statements made an unfortunate impression in Southport at the time, and had they been true they would tend to imply that the plaintiffs had made wrong diagnoses and exposed persons suffering only from chicken-pox to the risk of infection with small-pox. In fact, the statements were totally untrue and without the slightest foundation. All the cases sent to the Isolation Hospital at the date of the publications were cases of small-pox and were retained there as such, and in no instance was a case of chicken-pox diagnosed as small-pox. The effect of these untrue statements was to hinder the plaintiffs in their very anxious duty as medical officers of health, and it is of the utmost importance not only to themselves, but to the public generally, that the true facts of this matter should now be made known.

"The defendants have admitted that the publications complained of were untrue, and with the view of alleviating to some extent the continuing damage resulting from the prevalence of these false rumours, they caused an apology to be published in their newspaper on January 28th."

Counsel read the text of the apology, and stated that the defendants had also paid into court a nominal sum of £100 as damages, and they had agreed to pay the plaintiffs' costs as between solicitor and client. He added that although the plaintiffs had suffered considerable damage and inconvenience, it was not their desire to profit pecuniarily by the proceedings which they had felt themselves compelled to institute, their only wish being to vindicate their professional reputations. Accordingly, in view of the defendants' explanation that the statements were published by mistake, the plaintiffs were prepared to accept their apology, together with the nominal sum paid into court, and intended to hand over the £100 to some charitable institution.

Mr. Sellers (counsel for the defendants) said that on their behalf he could add nothing to the apology, expression of regret, and unreserved withdrawal which they had made at the earliest opportunity after their attention was drawn to the words complained of and to the possible construction which might be put upon them; but the defendants readily availed themselves of the publicity which a statement in court gave to repeat that apology and to say that the statements were not intended to reflect in the slightest degree upon the plaintiffs. The defendants withdrew unreservedly any imputations against the plaintiffs' characters which the statements might be construed to contain, and expressed again their regret for any inconvenience or annoyance occasioned to them by the publication.

Mr. Rice Jones then asked his lordship for judgement on terms endorsed on counsels' briefs, and an order that the £100 paid into court should be paid out to the plaintiffs, and Mr. Justice Roche, in consenting, said that this was a very proper ending to the matter.

ACTION IN RESPECT OF TONSILLECTOMY.

On May 9th an action was heard before Mr. Justice Brown and a special jury against Mr. Isaac A. Davidson, M.D., B.Ch., assistant surgeon to the Benn Ulster Eye, Ear, and Throat Hospital. A girl, aged 6, had been attending the corporation school clinic, and her parents had been advised to have the tonsils removed; she was brought to the above-mentioned hospital for further advice and operation. Mr. Davidson removed the one tonsil, but in trying to remove the other he found that it was adherent and could not get it away; he then observed that in his efforts to remove the second tonsil he had removed a bit of the uvula. It was alleged that after the child was brought home she was unwell and complained of her throat; when she took water it came back through the nostrils; when tired she talked with a nasal tone; and that she could not take solid food. Dr. Lee, who attended the child, said that she was not delicate; he found one tonsil efficiently removed, the other not removed and the uvula gone.

Mr. Davidson, in giving evidence, said that he had been connected with the Benn Hospital for more than twenty years, and had performed the same operation perhaps 10,000 times. This operation he performed on November 13th, 1926; the right tonsil was adherent, and on the following morning he noticed that part of the uvula had been removed; the patient progressed in the usual way; the operation was successful and the results were quite good; he had removed the uvula in singers and speakers, and the loss would cause no harm to the little girl; he did not believe that the child could not drink properly.

Mr. W. M. Killen, M.D., M.Ch., senior surgeon to the Benn Ulster Eye, Ear, and Throat Hospital, said that the operation was substantially the same as that which he practised himself; there was no method of ascertaining whether the tonsil was adherent or not before operation; he had never heard or read of any harm coming from the removal of the uvula; the child was in delicate health before the operation, as the mother said that she postponed coming for it till the child should get stronger.

Mr. J. A. Craig, F.R.C.S.Eng., senior surgeon to the Eye, Ear, and Throat Department of the Royal Victoria Hospital, Belfast, and lecturer on these subjects in the Queen's University, said the method adopted by Mr. Davidson was that generally adopted at the present day; the removal of the uvula would not, in his opinion, retard the recovery of the child.

The action was brought by the child's father, and heavy damages were claimed. The jury found that the defendant had exercised reasonable care and skill in performing the operation, and judgement was entered for him accordingly.

AN OSTEOPATH'S FEES.

THE decision given by the Marylebone county court judge that an osteopath could not recover fees for treatment undertaken by him—reported in the BRITISH MEDICAL JOURNAL of March 5th (p. 448)—was appealed against before Acton and Talbot, JJ., sitting as a divisional court in the King's Bench Division on May 16th.

Their lordships ordered a new trial on the ground that they were bound by the decision of Horridge and Shearman, JJ., sitting as a divisional court, on appeal from a county court judge's decision, in the case Hall *v.* Trotter, that an osteopath was entitled to recover fees for treatment rendered. Leave to appeal was given.

The plaintiff, Mr. E. L. Macnaughten, of Weymouth Street, London, claimed £30 9s. for osteopathic treatment for nervous disability and facial neuralgia rendered by him to the wife of the defendant, Mr. C. H. Douglas. The defendant relied upon the provisions of Section 32 of the Medical Act, 1858:

"*No person shall be entitled to recover any charge* in any court of law for any medical or surgical advice, attendance, or for the performance of any operation, or for any medicine which he shall have both prescribed and applied, unless he shall prove upon the trial that he is registered under this Act."

The county court judge held that as the plaintiff was not a registered medical practitioner he could not recover fees for treatment, and entered judgement for the defendant, with costs. The plaintiff appealed to the divisional court.

Mr. A. C. Jackson, counsel for the appellant, said Mr. Macnaughten was a graduate of Trinity College, Dublin, in subjects other than medicine, but he also possessed an American degree of Doctor of Osteopathy, a profession recognized in America. The claim was for manual treatment and not for advice given, as the defendant's wife was perfectly well acquainted with the nature of osteopathic treatment when she first came to him for treatment. In Hall *v.* Trotter it had been held that in almost exactly similar circumstances an osteopath was entitled to recover fees for treatment rendered, and, therefore, the Marylebone county court judge was wrong here in holding that Section 32 of the Medical Act, 1858, applied to treatment of this kind.

Mr. L. Payne, for the respondent, urged that the plaintiff was not entitled to recover fees for treatment which usurped the functions of a medical man. The plaintiff's occupation was analogous to that of a masseur, who might be able to recover for

treatment in certain circumstances, but not in a case where he had been called upon to give advice.

In his judgement Acton, J., said the question was undoubtedly one of some importance and one which at first sight might appear to present some little difficulty. The very question, however, had been raised before and decided by a divisional court in Hall *v.* Trotter, where the plaintiff had a diploma from an American college of osteopathy, but was not registered as a medical practitioner in this country. It was to be regretted that the facts in Hall *v.* Trotter were not fully set out in the report, as it would have been useful to know whether the plaintiff there undertook any diagnosis, or gave any advice, as distinct from actual manual, or manipulative, treatment; and, if so, how far his claim was based upon the former. In that case the county court judge had held, and the divisional court had confirmed his decision, that osteopathy was treatment that did not fall within Section 32 of the Medical Act, 1858. However, from the report it appeared that arguments similar in substance to those relied upon in the present case had been addressed to the court. One of the judges, Horridge, J., had said: "In his view of the findings of the county court judge the plaintiff did not give an advice. She gave certain treatment to the bodies of these three persons. He declined to be led into definitions. He was satisfied that the case did not fall within the Act." The other judge, Shearman, J., had agreed: "The plaintiff applied her knowledge of anatomy to help her to determine the part of the body to which she should apply the treatment she had been specifically called in to give . . . he thought the county court judge here was right, but he was far from saying that anyone who chose to call himself an osteopath could charge for any service which he chose to render." His lordship said it might be that if the plaintiff's charges were analysed, and if it were proved that any part of those charges was for advice given, the plaintiff would not be able to recover in respect of that portion. The plaintiff's claim, however, had been wholly barred by the county court judge. In view of Hall *v.* Trotter, it was not open to that court to do other than follow that case, and, therefore, they would order a new trial, but he (his lordship) would express no opinion whether the plaintiff's claim could be divided into charges for manual treatment and charges for advice.

Talbot, J., in concurring, said a very strong argument in support of the county court judge's judgement might have been urged but for the decision of a divisional court in Hall *v.* Trotter, which he regarded as a binding one.

Obituary.

JAMES DUNCAN MACLAREN, M.D., F.R.F.P.S.G.;

Formerly Physician to the Royal Infirmary, Glasgow.

THE death occurred on May 10th, at his residence, Dunreggan, Elie, Fifeshire, of Dr. J. D. Maclaren. He was in his 95th year, and had been a fellow resident of Lord Lister in Edinburgh Royal Infirmary. He was born in Stirlingshire and studied both at Glasgow and Edinburgh Universities; at the latter he graduated M.D. in 1854 with a thesis on the nutritive process. In the winter session 1854-55 he acted as house-physician in Edinburgh Royal Infirmary to the professors of clinical medicine. These were Alison, Christison, Hughes Bennett, and Simpson, of whom he had many memories and anecdotes. His fellow residents included Dr. J. Beddoe, Dr. (later Sir John) Kirk, Joseph (later Lord) Lister, Dr. David Christison, and Dr. (later Sir Patrick Heron) Watson. Immediately after his term of office as a resident, Dr. Maclaren went to the Crimea, where the troops were at that time greatly in need of medical assistance. He served both at Scutari and as assistant physician to the civil hospital at Renkioi in the Dardanelles. For a period he also acted as company commander to troops, since there was a shortage of officers. On his return to this country after the Crimean war Dr. Maclaren settled in practice in Glasgow, where he ultimately became physician to the Royal Infirmary. He took up the practice of the late Professor Harry Rainy, the father of Principal Rainy, and practised medicine at Glasgow during half a century. Dr. Maclaren was the senior member of the Faculty of Physicians and Surgeons in Glasgow, which in 1924 elected him an honorary Fellow. He had taken the licentiateship of the Royal College of Surgeons of Edinburgh in 1854, and had become an ordinary Fellow of the Royal Faculty of Physicians and Surgeons of Glasgow in 1866.

Both in Glasgow and after his retirement Dr. Maclaren took a great interest in the affairs of the United Free Church. In 1858 he had been appointed session clerk of Claremont Church, Glasgow, of which his brother was the minister, and after his retirement, when he went to reside in Elie, Dr. Maclaren was session clerk of Elie United Free Church. This office he held till his 89th year, when increasing blindness compelled him to resign; two or three years ago he attended regularly the general assembly of the United Free Church. Dr. retired from active practice some twenty-two y he travelled extensively and twice went round t He was a man of wide culture and interests, and reader. His interest in every recent work on biography, or politics as it appeared was continu after increasing failure of vision necessitated the a reader, and his keenness of intellect and remained to the end of his life. He continued a of the British Medical Association until last Sep when he resigned. His vitality was surprising for of his years. Living at Elie, he was a member Golf House Club for over twenty years. He playe regularly, and could beat many younger men, unt ago of 85. Some three years ago he underwent a s operation for calculus, but made an uninterrupted rec Dr. Maclaren had been a widower for many years; h a family of five daughters, of whom three survive The interment took place at Tillicoultry on May 13th.

THE LATE PROFESSOR E. H. STARLING.

SIR WILLIAM HALE-WHITE writes: The admirable acco of the late Professor Starling in your last issue pron me to add something to what Dr. C. J. Martin says ab his clinical work. At the end of his studentship at Gu Hospital Starling obtained the Treasurer's Gold Medal Clinical Medicine and was *proxime accessit* for that Clinical Surgery. He became my house-physician in 188 and I never had a better. He had a marvellous flair, n only for the science, but also for the art of clinical medicin If he had chosen medicine for his life's work he woul have become one of the chief among the really grea physicians. He never lost his clinical aptitude. Whe war broke out he came, saying that he proposed to g round the wards with me to furbish up his medicine. Although he had done no clinical work for twenty-four years, he picked it up at once; in a fortnight he was as good at it as when he finished his house-physiciancy, and he went forthwith to take charge of patients at the Herbert Hospital. His interest in medicine remained throughout his life, for he would always discuss with enthusiasm how his physiological work helped the elucidation of medical problems. It has been my happiness to have known him and to have seen much of him during the past forty years. There was no greater pleasure than that of talking to him—he was so alert, so interested in everything. He could not be dull; in a few words he got to the root of the matter and illuminated the whole subject, whatever it might be.

The following well known foreign medical men have recently died: Dr. SCHICKELE, professor of clinical gynaecology at Strasbourg University; Professor PAUL REGNARD, director of the Oceanographic Institute founded by the Prince of Monaco and member of the Académie de Médecine; Professor EUGENIO PIRONDINI of Parma, one of the founders of the Italian Society of Urology; Professor GAVELLO, an otologist of Turin; Dr. SALVADOR CARDENAL, honorary professor of surgery in the University of Barcelona, aged 74; Dr. J. DE BRUIN, professor of clinical pediatrics at Amsterdam; Dr. JULES BOECKEL, honorary professor of the Strasbourg faculty of medicine and Commander of the Legion of Honour, aged 78; Dr. MARCEL BRIAND, a leading Paris alienist and for nearly thirty years medical superintendent of the Villejuif Asylum; Dr. JULIUS POHL, formerly professor of pharmacology at Breslau; Dr. M. HOFMEYER, formerly professor of pharmacology at Würzburg; Professor ALEXANDER TIETZE, a leading Breslau surgeon; Professor UHTHOFF, formerly director of the ophthalmological clinic at Breslau, aged 74; Dr. BARFURTH, formerly professor of anatomy at Rostock, aged 78; Dr. PERETTI, formerly professor of psychiatry at Düsseldorf, aged 75; Dr. HERMANN VON TAPPEINER, professor of pharmacology at Munich; and Professor GEORGE SUMMER HUNTINGTON, professor of anatomy at Columbia College and joint editor of the *Journal of Anatomy and Physiology*.

Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

THE House of Commons has been engaged this week in further discussion of the Trade Disputes and Trade Unions Bill and on the second reading of the Finance Bill. In the House of Lords Lord Arnold opened a debate on the use of white lead paint, but no new declaration of policy resulted. Arrangements were made for Lord Dawson to address an open meeting of members on May 19th regarding the use of animals in medical research.

Optical Practitioners' Registration.

IN the House of Commons on May 13th Mr. West Russell moved the second reading of the Optical Practitioners (Registration) Bill. He said this was the only country in the world with no legislation on the registration of opticians. There was such legislation in Australia and in every State of the U.S.A. At present in this country more spectacles were worn by adults and children than were worn a few years ago. This was largely due to the voluntary efforts of the opticians. The principle of State registration had been accepted and was in operation with success in some other professions. It was said on good authority that something like 15,000,000 people in this country had defective eyesight. In industry at present were some 4,000,000 suffering from short sight or some defect of eye construction. Something like 24.8 per cent. of school children suffered from defective sight. The Council of the British Optical Association and the Council of the Spectaclemakers Company formed the Joint Council of Optical Practitioners, and this had registered something like 3,500 opticians of whose qualifications some guarantee was given. The Council's course of training and preparing entrants enabled opticians not only to test the eye and to provide the spectacles which were necessary, but also to equip them with a knowledge of the construction of the eye and of the matters pertaining to it. The training of this useful body of men to deal with the problem of defective eyesight was being carried on by these voluntary associations. The Joint Council of Qualified Opticians had been founded because, in 1923, when ophthalmic benefit was first provided under the National Insurance Act, there had been no body to administer it. That benefit was now administered by the Joint Council of Qualified Opticians. Under the second valuation £2,000,000 would be distributed in five years for ophthalmic benefit, yet no authority was established by law to control and direct that sum. There was nothing in the bill to hinder anyone who was carrying on the work of an optician from doing so. The bill would merely enable the public to distinguish men of whose qualifications some guarantee was given by a responsible body. It would tend to eliminate quacks and mere sellers of spectacles. Mr. Russell remarked that, as one might expect, the most serious opposition to the bill came from the medical authorities, who, he understood, objected that it would give a status suggesting to the public that the registered optician was capable and qualified to deal with all matters concerning the eyes. But of defective eyesight 95 per cent. was due entirely to error of refraction and only 5 per cent. was due to disease or other cause. While it was true that an optician might not be able to diagnose the disease of the eye or to discover the source of the eye trouble, his training would enable him to detect the cases which were not to be dealt with merely by spectacles, but passed on to some medical authority. At the present moment most of this detection was done by opticians and not by medical practitioners. In health insurance it was necessary for the panel doctor to give a letter authorizing the provision of medical benefit. In the vast majority of cases the letter simply authorized a person to go to an optician to have his eyes tested and glasses provided. It was doubtful whether, comparing the general knowledge of the medical practitioner with the specialized knowledge of the optician, he was better fitted to deal with these cases.

Mr. Roy Bird seconded. He said that during the war the British Optical Association, at the request of the War Office, formed centres at home and on all the fronts, where qualified opticians not only dealt with spectacles and with sight, but in many cases administered drugs without medical supervision. The registered members of the Joint Council of Optical Practitioners numbered 3,000, but only 700 men appeared on the register of the British Medical Association as ophthalmic surgeons. Fifty per cent. of those on that list did not specialize in the eyes and diseases of the eye, but at some time had held an appointment or possibly had written a paper dealing with the eyes. Another 25 per cent. had no special qualification which was shown in the *Medical Register*. The medical profession said that 700 men could deal with the whole eyesight in this country, but in 358 towns only 397 qualified ophthalmic surgeons were practising. Ophthalmic surgeons were congregated either in the West End of London or in the big provincial towns and famous health resorts. The medical profession were claiming a physical impossibility in asking that qualified ophthalmic surgeons should look after the [illegible] Bird said he would have been happier [illegible]ich prohibited the sale of glasses or [illegible]uacks. The bill did provide for the [illegible] and a subsection provided for the [illegible] who had been engaged in the practice of optometry for five years before the commencement of the Act and who also passed a practical examination in optometry. A right of appeal to the High Court was provided, which he commended to the notice of the medical profession. The Board was to be nominated by the Ministry of Health and to represent not only the opticians, but also the Ministry of Health, the General Medical Council, the Scottish Board of Health, and the Board of Education.

Dr. Vernon Davies moved an amendment asking the House to decline to give a second reading to the bill as its subject matter was being investigated by a departmental committee. He said that members associated with him felt they must point out that the bill was *sub judice* and that two members of Parliament were sitting on the inquiry. In the opinion of his friends the bill was bad and impossible to work. Within recent years there had been an epidemic of applications for registration by societies of practitioners. The Joint Council of Qualified Opticians consisted of a little over 3,000 members, yet 30,000 persons in the United Kingdom obtained the whole or part of their living from practice as oculists. The Institute of Chemist Opticians, 5,000 in number, said the Joint Council of Qualified Opticians had no right to speak for the rest of the profession, and that they themselves were alone qualified by statute. An ophthalmic surgeon of very long experience said he never knew any patient to go into a spectacle shop and come out without spectacles. The medical profession adopted a very definite attitude. It said that training for the treatment of eye diseases called for special and prolonged study. Mr. H. Williams, intervening, asked how long the ordinary medical student devoted to the study of the eye. Dr. Davies said he undertook a course of lectures and made practical attendances at hospital. Practically all the ophthalmic surgeons in the country had extended post-graduate training as house-surgeons in eye hospitals. If a bill were introduced setting out the qualifications and training of opticians it would have a claim on the attention of the House, but this bill was vague and impracticable. He questioned whether the training which opticians got was sufficient to enable them to detect all kinds of eye diseases. The great difficulty had been the shortage of ophthalmic surgeons and the very high fees that were charged. Opticians did treat such cases as inflammation of the eye, chemist-opticians particularly.

Sir George Berry seconded the amendment. He agreed that the public should be enabled to discriminate between the skilled optician and the less skilled. At present the different societies examined their members who got the right to put letters after their names indicating that they had undergone a test according to the requirements of the society. This ought to suffice in the public interest. Many opticians contended that unless there were suitable correction of optical defects, serious damage would be done to the eyes. In his experience he had never known spectacles, however unsuitable, do any damage at all. Discomfort could be caused, but to say there was actual danger to the eye was an exaggeration. The positive effects of getting suitable spectacles were good and justified having the services of opticians, but they did not justify this bill, which was calculated to arouse in the public a mistaken sense of security. The skilled optician was perfectly competent to undertake the correction of optical defects, and his skill could be acquired in a few weeks or months. The optician might discriminate between defects due to diseases of the eye and optical defects, but not without being liable to make many mistakes, unless he had the full training of a medical man. Owing to the complexity of the eye the medical curriculum required the student to take up diseases of the eye only in the last six months of the time devoted to his studies. Mr. Barnes supported the amendment on the ground that Parliament should review the post-war tendency of a number of professions to seek privileges which would make them close corporations. Mr. Meller, in supporting the bill, said that Dr. Davies and Sir George Berry had spoken with great fairness. He declared that the instruction which the ordinary medical practitioner received in treatment of the eye was considerably less than that given by institutes now training opticians. The bill proposed to do what was done under the Dentists Act. The Board of Examiners under the bill was to include ophthalmic surgeons. He himself had to deal with thousands of applications for medical benefit, and after testing the advice given by medical practitioners he confidently supported the bill.

Mr. Rhys Davies supported the amendment. He said the British Medical Association took the usual attitude towards the problem, the attitude of malignant opposition to progress of any kind. The members of the British Medical Association did great service to the community, but when any other organization proposed to touch its preserves it at once became the mightiest and most influential trade union in the country. The doctors had taught the lesson that when funds were in hand they must be dipped into by someone. In 1912 they declared a strike, even in breach of contract. If Dr. V. Davies would induce the British Medical Association to join the Trade Union Congress then they would all work together. Mr. H. Williams pointed out that Mr. Rhys Davies was a member of the Departmental Committee now considering the registration of opticians. Sir Kingsley Wood said it was impossible to give an exact estimate of the number of persons suffering from defective eyesight, but among school children the figure was fairly constant at 10 per cent., though last year a slight improvement had been reported. On that basis it might be calculated that about 8,000,000 persons in the country required some aid by glasses. It was true that in an appreciable number of cases great harm might be done by an optician qualified in his own work but lacking medical knowledge, but how far that argument was valid could only be ascertained by full inquiry. Impartial inquiry was the more important as the sum allocated for ophthalmic treatment and optical appliances under the National Insurance Act was now £420,000 a year. He asked the promoters of the bill not to proceed with the second reading. Mr. Russell asked leave to withdraw the bill. Dr. Davies asked leave to withdraw the amendment. Sir Richard Barnett said that Sir George Berry's assertion that no kind of spectacles could injure a man's sight was amazing and had been at once challenged by the House. Mr. Tom Shaw said that if the bill passed the price of spectacles would probably increase, but every man or woman who went to a

skilled optician would have a chance of knowing whether there were anything seriously wrong with the eyes. Mr. A. V. Alexander spoke of the desire of the co-operative societies to retain the right to maintain optical departments.

The motion for the second reading of the bill was then negatived.

Shop Acts, 1920 and 1921.

The Departmental Committee which is inquiring into the working of the Shop Acts, 1920 and 1921, met at the Home Office on May 11th and 12th.

Mr. J. Hallsworth (Industrial General Secretary of the National Union of Distributive and Allied Workers) said that it was impossible, without the compelling force of a generally applicable early closing law, to protect and safeguard the health and comfort of those engaged in retail distribution.

Witnesses for the National Federation of Retail Fruiterers urged a general closing order for all trades of 8 o'clock on week nights and 9 on Saturdays, without exemptions. They said that, thanks to the medical and other scientific advice, fruit was no longer considered a special luxury. It was becoming a regular daily article of diet. In 1926 £2,000,000 worth or more of fruit was consumed.

Mr. E. D. Roberts, one of the witnesses, said that his experience was that girls who came into the fruiterer's trade weakly and anaemic became strong and healthy.

Small-pox.

Sir Kingsley Wood, answering Mr. Thurtle, said that up to May 11th 28 cases of small-pox in England and Wales had this year ended fatally. Of these, 21 were unvaccinated at the time of infection; 7 had been vaccinated in infancy. Of these latter the ages at the time of attack were 22, 23, 44, 50, 54, 58, and 62. He had no reason to doubt that all the cases were small-pox. Dr. Watts asked whether the types of cases in the last few months had been more virulent than for some time. Sir Kingsley Wood said he had seen a statement to that effect. Answering Mr. Harrison, Mr. Chamberlain said that in the fifty-two weeks ended April 2nd, 1927, 12,922 small-pox cases were notified in England and Wales. In the year ended March 31st, 1927, 32 deaths were classified as due to small-pox, and in another case small-pox was one of the causes of death. Mr. Harris asked whether some of the cases were not supposed to be chicken-pox. Mr. Chamberlain said some people would believe a case of small-pox to be anything but that. He added that he was obtaining full information on the number of local authorities in England and Wales who had no permanent buildings which could be used for dealing with an outbreak of small-pox. In due course this information would be published. Mr. Groves asked whether, as the small-pox cases removed from Hendon and Golders Green were originally reported as very mild, the Minister could throw light on the fatal result of half of them. Mr. Chamberlain did not know of such reports. He said the first case was relatively mild, but most of the others were severe. Mr. Groves asked whether the regional medical inspectors, when called in to diagnose cases of suspected small-pox, received a fee. Mr. Chamberlain replied that the question did not arise, as it was no part of the duties of regional medical officers of the Ministry to assist in such diagnoses.

On May 17th Sir Kingsley Wood stated that twenty persons contracted small-pox in the county of Durham in 1924. In 1925 there were 1,138 cases, and in 1926, 6,645. In reply to further questions, he said he could not state how many of the cases were children, how many had not been vaccinated, nor in how many instances the disease was originally contracted abroad.

Sickness in the Royal Navy.—Answering Sir Bertram Falle, Mr. Bridgeman said that in 1924 five cases were invalided from the navy for nephritis and one for stone in the kidney. Particulars of subsequent cases were not available. There had been an inquiry to determine whether distilled water was detrimental to health, but no evidence was available that it was a factor in the causation of disease. Distilled water produced in ships underwent considerable aeration before it was consumed. In a further answer to Sir B. Falle, Mr. Bridgeman said in 1924 20 boys, Royal Navy, were admitted to sick quarters and hospital for "rheumatism" and kindred complaints; in 1925 11, and in 1926 13. Such cases were kept under observation, and the figures did not show there was any increase. The medical department were diligent in the matter, and he understood it to be satisfied that there were no unusual circumstances causing this disability. Dr. Vernon Davies asked how many of these cases were invalided out with heart disease. Mr. Bridgeman asked for notice of the question. Mr. Groves asked the Minister of Health whether, in cases of infectious disease where there was uncertainty regarding the complaint and the medical officer was called in to decide, the patient's doctor or the medical officer received the notification fee. Mr. Chamberlain said that in such a case the medical officer of health would not be entitled to a notification fee, but if the patient's doctor notified the case he would receive the usual fee.

The University of London Site.—On May 17th the Financial Secretary to the Treasury stated that the University of London had arranged to purchase the Bloomsbury site from the Duke of Bedford, but he was informed that no contract had yet been signed. The Chancellor of the Exchequer had informed the House on November 9th last that he promised, in June, 1926, on behalf of His Majesty's Government, that they would be prepared, within certain financial limits, to ask Parliament to make provision for improved accommodation for the University, subject to the Treasury approval of plans to be form Senate. No official intimation had yet reached He could only say that the amount which Parliar asked to provide towards the improved accomm University would be approximately half the pric Government for the Bloomsbury site, which was £

Notes in Brief.

In the administrative and higher grades of th Health 223 men and 14 women are employed at he

Further legislation on the acquisition of playing authorities is not proposed.

The Minister of Health remarks that the insta phones at the residences of public health nurses is a consideration of the bodies by whom the nurses are

Mr. Chamberlain told Mr. Thurtle that the rec his decision concerning the giving of birth contr at maternity centres would depend on an express by Parliament.

The Minister of Health is not aware that any ca imported into this country the sale of which is pro countries of origin because of the presence in them o or artificial colouring matter.

On January 1st, 1926, there were 1,439,810 perso and Wales in receipt of Poor Law relief, includi asylums, casuals, and persons receiving domiciliary only.

The further study, by the Industrial Fatigue R of the effect of atmospheric conditions on the wo of miners, and also on the accident rates in mine the attention of the Secretary for Mines.

Colonel Lane-Fox says that he does not propos legislation making the provision of pit-head baths c

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Universities and Colleges.

UNIVERSITY OF OXFORD.

AT a congregation held on May 5th the degree Medicine (D.M.) was conferred on H. St. H. Vertue East.

In convocation on May 10th a decree was promulg with gratitude the sum of £1,000 offered to the Un widow and sisters of George Herbert Hunt, M.D. Guy's Hospital, who died in January, 1926, for the of a medical travelling scholarship in his memory.

SCHORSTEIN RESEARCH FELLOWSHIP IN MEDICA 1927.

Provided that the decree promulgated on March 15 by Congregation on May 10th, the Board of the Facul will make an election to the above fellowship in J date of sufficient merit presents himself. The Boa in special circumstances, to divide the fellowship int ships.

The fellowship, which will be of the annual will be tenable for two years from October 10th medical departments at Oxford under such regu Board may approve. Candidates must be graduat the University, holding a registrable medical qual must be under 35 years of age on October 10th. must be sent to the Dean of the Medical Schoo Museum, *not later than Thursday, May 19th.* Ea must submit evidence of age, testimonials (three co of referees, together with a statement of his caree department of medical science in which he propose

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UNIVERSITY OF CAMBRIDGE.

AT a congregation held on May 7th the follov degrees were conferred:

M.B., B.CHIR.—D. Riley.
M.B.—H. L. Wilson.

UNIVERSITY OF LONDON.

UNIVERSITY COLLEGE CENTENARY CELEBRA

THE celebration of the centenary of University Col will be inaugurated by the King and Queen, who College on the afternoon of Thursday, June 23rd; on of the following day the Great Hall will be dedica Arthur of Connaught, who will receive the delegate whom addresses will be presented. On Saturday the be occupied by lectures and demonstrations, and in t there will be a garden party at Perivale, where are th sports ground of the College. On Monday evenin a conversazione will be held, and on the followi afternoon there will be a special thanksgiving ser minster Abbey; in the evening of the same day the H. A. L. Fisher, who was President of the Board when the Bloomsbury site was originally offered to t and is now Warden of New College, Oxford, will give t Oration. On Friday, July 1st, the Master and Wa Worshipful Company of Drapers will give a luncheon A centenary play will be given on three evenings, and July 2nd, there will be a dance in the Great Ha morning, with the exception of Thursday and Saturd week ending July 2nd there will be lectures and demo

VICTORIA UNIVERSITY OF MANCHESTER.

THE Dauntesey Medical Senior Scholarship has been awarded to W. W. Kay.

ROYAL COLLEGE OF PHYSICIANS OF LONDON.

AN extraordinary comitia of the Royal College of Physicians of London was held on May 12th.

Fellowship.

The gentlemen elected on April 28th (BRITISH MEDICAL JOURNAL, May 7th, p. 859) were admitted to the Fellowship.

Junior Standing Counsel.

The Registrar reported that Mr. C. Stafford Crossman had accepted the post of junior standing counsel to the College.

Medical Science Abstracts and Reviews.

A letter was read from the secretary of the Medical Research Council regretting the inability to resume the publication of *Medical Science Abstracts and Reviews*.

Delegates.

It was reported that Dr. S. W. Wheaton had consented to act as the delegate of the College to the third Imperial Social Hygiene Congress.

Dr. L. S. T. Burrell was appointed the delegate of the College to the thirteenth annual conference of the National Association for the Prevention of Tuberculosis.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN ordinary Council meeting was held on May 12th, when the President, Sir Berkeley Moynihan, Bt., was in the chair.

Diplomas of Fellowship were granted to Mr. George Frederick Gibberd and Mr. Arthur Joseph Wrigley, who have now complied with the regulations.

Mr. Cecil Fowler Beadles and Sir Henry John Gauvain were introduced and were admitted Fellows of the College.

Diplomas of Membership were granted to 163 candidates, of whom 28 were women.

A report from the Nomination Committee was received on the Primary Examination. It was decided that at present no alteration be made in the subjects of the Primary Examination for the Fellowship. The following recommendation of the Nomination Committee was adopted:

> That it is desirable to send examiners to the Dominions to conduct a Primary Examination for the Fellowship of the same standard as the examination in this country on conditions to be hereafter determined, provided that satisfactory arrangements can be made.

The President reported that the new by-laws had been approved and signed by the Secretary of State for Home Affairs, the Lord Chancellor, and the Lord Chief Justice.

Mr. E. Miles Atkinson was presented with the Jacksonian prize for the year 1926, together with a document declaratory of the award.

Mr. Herbert Cecil Malleson, winner of the John Tomes prize for 1924–26, and Mr. Robert Gordon Wilbond, appointed Begley student, were also introduced.

Jacksonian Prize.

The subject selected for the Jacksonian prize for 1927 is "The pathology, diagnosis, and treatment of bronchiectasis and abscess of the lung." The amount of the dividend received from the trust is £19 10s. The dissertations for the prize must be delivered to the secretary at the College by 1 p.m. on Saturday, December 31st. As already announced the subject for the 1928 prize is "The surgical treatment of pulmonary tuberculosis," for which the dissertations must be received at the College by 1 p.m. on Monday, December 31st, 1928.

Medical News.

A DISCUSSION on the function and distribution of haemoglobin and related substances in living organisms was opened at the meeting of the Royal Society on Thursday, May 12th, by Professor J. Barcroft, F.R.S., who reviewed the recent work on haemoglobin and related substances; he was followed by Dr. H. Hartridge, F.R.S., and Mr. F. J. W. Roughton, who dealt with the measurement of velocities of reaction of haemoglobin with other substances; by Dr. D. Keilin, on the cytochrome in animal and plant cells; by Mr. R. Hill, on the structure and preparation of haemoglobin and its chemical precursors; by Professor H. Munro Fox, on haemoglobin analogues in the blood of certain polychaete worms; and by Mr. J. B. S. Haldane, on the effect of carbon monoxide on plants and insects containing no haemoglobin. The discussion was brought to an end by Sir Frederick Hopkins, F.R.S., who stated some general conclusions.

THE Far Eastern Association of Tropical Medicine was instituted to serve as a means of co-ordinating the medical, dental, and veterinary professions of the countries of the Far East in the promotion of the science and art of tropical medicine and the instruction of public opinion in the prevention of disease. Congresses have already been held at Manila (1910), Hong-Kong (1912), Saigon (1913), Java (1921), Singapore (1923), and Tokyo (1925). At the invitation of the Government of India the seventh congress will be held this year at Calcutta from December 5th to 22nd, when Major-General T. H. Symons, C.S.I., Director-General of the Indian Medical Service, will preside. Scientific sessions will be held at Calcutta during the first week of the congress, after which excursions will be made to some important cities and places of interest in India; in this way several provinces will be able to take part in the proceedings. The official languages of the congress will be English, French, and German. An exhibition of various manifestations of tropical disease is being prepared. Scientific papers from medical practitioners are invited; the titles should be sent as soon as possible to the general organizing secretary, Lieut.-Colonel J. Cunningham, I.M.S., at the Pasteur Institute of India, Kasauli, Punjab. It is requested that typewritten abstracts, not exceeding 1,000 words, may be supplied not later than the end of July, and that complete papers shall reach the secretary at least eight weeks before the beginning of the congress. Arrangements will be made to exhibit lantern slides and microscopic preparations. The fee for membership is £2.

FIELD-MARSHAL VISCOUNT ALLENBY will distribute the prizes at St. Mary's Hospital Medical School on Wednesday, June 8th, at 3 o'clock.

THE fourth annual congress of the Incorporated Association of Hospital Officers will commence at the Royal Horticultural Hall, Vincent Square, Westminster, S.W., on Friday, May 27th. The morning session opens at 10.30 a.m., and the afternoon session at 2 p.m. The chief subjects for discussion will be hospital policy with reference to the raising of funds and hospital planning and construction. The annual dinner will take place at the Hotel Cecil in the evening. Visits will be paid to London hospitals and other places of interest on Saturday, May 28th. A hospitals and institutions exhibition in connexion with the conference will be opened by Princess Arthur of Connaught on May 26th at noon, and will remain open on the two following days from noon till 8 p.m.

BY invitation of Mr. Henry S. Wellcome the meeting of the Royal Anthropological Institute on May 24th will be a conversazione to be held at the Wellcome Historical Medical Museum, 54A, Wigmore Street, W., when Professor G. Elliot Smith, F.R.S., will give a brief discourse on the medical and magical aspects of the anthropological material in the museum, and Fellows will have an opportunity to inspect the collections.

AN address on Lord Lister and the romance of surgery will be given at University College by Mr. Raymond Johnson, F.R.C.S., consulting surgeon to University College Hospital, on Monday, May 23rd, at 5.30 p.m.

DR. J. STRICKLAND GOODALL will deliver the St. Cyres lecture at the National Hospital for Diseases of the Heart on Tuesday, May 31st, at 5 p.m. The subject of the lecture will be some general aspects of myocarditis. Tickets of admission can be obtained on application to the Secretary of the Hospital, Westmoreland Street, W.1.

THE annual meeting of the Lebanon Hospital for Mental Diseases was held on May 19th, at 3 p.m., at Friends' House, Euston Road, N.W.1. Dr. H. Watson Smith, director of the hospital, presented his report for the year. This hospital is situated at Asfuriyeh, near Beyrout, in Syria; it was founded in 1900 as an acute mental hospital for the peoples of Syria and Palestine. It is controlled by committees in London, Holland, Switzerland, and Philadelphia.

IN aid of King Edward's Hospital Fund for London the president of the Royal Astronomical Society (Rev. T. E. R. Phillips) will give a lantern lecture at the Polytechnic, Regent Street, London, on Friday, May 27th, at 8 p.m., on the total eclipse of the sun, which traverses part of northern England and Wales on June 29th. The charge for admission is 1s. 6d., but reserved seats can be obtained from the secretary of the Fund, 7, Walbrook, E.C.4, price 4s.

AT a meeting of the Society of Superintendents of Tuberculosis Institutions to be held at St. Thomas's Hospital to-day, Saturday, May 21st, at 2.30 p.m., Dr. G. T. Hebert will read a paper on interpretation of negatives in chest radiology.

THE annual dinner of the Harveian Society of London will be held at the Connaught Rooms, Great Queen Street, on Thursday, June 9th, at 7.30 p.m. Particulars may be obtained from the Honorary Secretary, 81, Cambridge Terrace, W.2.

THE Fellowship of Medicine announces that demonstrations will be given by Mr. J. Swift Joly at St. Peter's Hospital on May 25th, at 2 p.m., and on the same date by Mr. H. Neame, at the Royal London Ophthalmic Hospital, at 1 p.m. On May 26th, at 2.15 p.m., Dr. E. G. B. Calvert will give a clinical demonstration at the Royal Northern Hospital. These demonstrations are free to medical practitioners. From June 8th to 21st the Chelsea Hospital for Women staff

will undertake a special course in gynaecology, including operations, lectures, and demonstrations. A four weeks' afternoon course will be held at the Central London Ophthalmic Hospital from June 8th to July 2nd, and an operative course will be arranged if desired. From June 13th to 25th a course in diseases of children will be given at the Children's Clinic. Sessions will also be held at the Hospital for Diseases of the Heart, Bethlem Royal Hospital, Royal National Orthopaedic Hospital, the Royal Waterloo Hospital, and elsewhere. There will be an afternoon course in dermatology at the Hospital for Diseases of the Skin, Blackfriars, from June 20th to July 1st; on each Tuesday special cases of interest will be shown. From June 27th to July 9th the Victoria Park Hospital will provide a special course. The Fellowship of Medicine can arrange for practical courses in anaesthetics and obstetrics, and for clinical assistantships in gynaecology. The Fellowship provides also a general course of instruction at the associated hospitals. Copies of all syllabuses and of the *Post-Graduate Medical Journal* are obtainable from the Secretary of the Fellowship, 1, Wimpole Street, W.1.

THE Dawson centenary gold medal for original medical research in British Guiana during the triennial period 1923-26 has been awarded to Dr. Basil Noel Victor Bailey for a thesis entitled "Some preliminary notes on Bright's disease in British Guiana."

AT a recent meeting of the Section of the History of Medicine of the Royal Society of Medicine (*Proceedings*, March, 1927, p. 587) the President, Mr. W. G. Spencer, exhibited eighteen letters written by Edward Jenner to Alexander Marcet, physician to Guy's Hospital and one of the founders of the Medical and Chirurgical Society; they were presented to the library of the Royal Society of Medicine by Marcet's great-grandson, Dr. William Pasteur. Mr. Spencer said that the letters have an important bearing on Jenner's statements concerning the pox of domestic animals (cow, horse, and pig) and human small-pox, which have been confirmed by recent observers.

THE report presented to the annual meeting of the Hospital Saturday Fund for London on May 11th showed that notwithstanding the conditions prevailing in the industrial world throughout the greater part of last year the work of the fund was well maintained. The income of the general fund was £79,192, of which £77,037 was derived from collections and donations. In spite of the general strike, which had affected collections in business houses, workshops, and factories, the old position had been nearly regained at the end of the year. In an address on the institutional treatment of the sick, Sir H. Kingsley Wood, Parliamentary Secretary to the Ministry of Health, said that the Government was heartily in favour of maintaining the present voluntary system and was opposed to a State Medical Service. The voluntary system was regarded as one of the best features of the present health system. A striking example of the way in which the working classes had rallied to the support of the voluntary hospital system was shown in the provinces, where the contributions had increased from £841,000 in 1920 to £1,341,000 in 1925. The demand for surgical treatment in hospital had grown tremendously.

THE Duke of Northumberland, as president of the Royal Institution, has nominated the following members of the medical profession as vice-presidents for the ensuing year: Sir James Crichton-Browne, Dr. J. Mitchell Bruce, Sir Almroth Wright, and Sir Arthur Keith.

UNDER an arrangement made between the Metropolitan Asylums Board and the London County Council beds are now available at Queen Mary's Hospital, Carshalton, and Highwood Hospital, Brentwood, for the accommodation of children under 16 years of age suffering from acute rheumatic fever, subacute rheumatism, the later stages of acute rheumatism, rheumatic chorea, and rheumatic carditis, including recurrent attacks. Medical practitioners who desire to recommend patients for admission should communicate with the School Medical Officer, County Hall, S.E.1, giving particulars of the cases. The children must be resident in the county of London.

THE proceedings of the Section of Physics of the first International Congress of Radiology held in London in 1925 are published in the April issue of the *British Journal of Radiology* (Röntgen Society section). Copies, price 15s. net, postage 6d., can be obtained from Mr. Geoffrey Pearce, hon. treasurer, Röntgen Society, 33, Newton Street, London, W.C.2.

THE new number (vol. v, No. 1) of the *Journal of Helminthology*, published by the Institute of Agricultural Parasitology, of the London School of Hygiene and Tropical Medicine, is adorned by the reproduction of a photograph of a group of research workers in helminthology, taken last December; in the centre is Professor Leiper, F.R.S., who is the editor of the *Journal*. The first and last papers in this issue is on three new genera and some of the nematode family, *Protostrongyl* Dr. T. W. M. Cameron. There is also Birks, lecturer in zoology at the Agri Kent, on some helminths parasitic o South-Eastern England. The supplei now reached its third number and af of the diligence with which the depa very special study.

THE International Labour Office ha pamphlets (Nos. 64 to 68) dealing wi (occupational affections); woollen ma powder—chloride of lime; carbon dioxi and coal miners' diseases. They may London correspondent of the Internatic Victoria Street, S.W.1.

THERE were 16 cases of small-pox 24 in 1925, and 7 in 1926. There wer spinal fever with 331 deaths in 1926, as 1925. Three cases of typhus were noti

THERE were 2,015 fatal cases of in January as compared with 180 in Decer

THE Spanish monthly journal, *Ars* offers a first prize of 2,000 pesetas (£72) of 500 pesetas (£18) each for the best in Spanish sent in by October 1st. Th to medical practitioners of all national

THE P.L.M. Railway has instituted Calais providing 1st and 2nd class Lausanne, Montreux, Pallanza, and will begin on May 15th, and will be 11 o'clock service from Victoria. A from Boulogne to Vichy will also run in connexion with the 9 a.m. service reach Vichy at 10.50 p.m.

Letters, Notes, and

All communications in regard to edito addressed to ***The EDITOR, British Me Medical Association House, Tavist***

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QUERIES AND ANS

INCOME TAX.

"D. F. S." ... *pense* ... coun an appoin ... use o private purposes also, and finds that the paying registration, garage, and insura l ttle for running costs and depreciat deduction for income tax purposes?

*** He will have to show that th incurred wholly, exclusively, and neces of the duties of his office; in substanc proof that the council mileage allowa frankly we feel that his success in that is not entitled to charge the whole of professional, as distinct from private,

Liability to British Tax.

"J. M. J.," who is at present practising in the Far East, inquires whether a ship surgeon, whose wife and children live in the Channel Islands, would be liable for British income tax when serving in a British-owned shipping line.

*** He would be liable to tax—less the usual personal and other allowances—in respect of his salary and any other monetary earnings, but not in respect of income not arising from British sources.

Motor Car Allowance.

"MYLAW" inquires with regard to a car which he bought in 1925 and still owns. He has been advised that he can claim depreciation allowance while he retains it and the "obsolescence allowance" when he sells it. He has approached the local inspector of taxes accordingly, and has been informed that he "can claim either depreciation or the cost of renewals, but not both."

*** The inspector's statement is correct, but it does not cover the *obsolescence* allowance, which is a specific statutory allowance somewhat similar in effect to, but distinct from, the "cost of renewal" deduction. If "Mylaw" did not make it clear in his discussion with the inspector that it was the obsolescence allowance to which he referred it might be advisable to do so, and in either case to request him to make it clear whether his letter (quoted above) is intended to apply to both forms of allowance. If the inspector affirms that the depreciation allowance will exclude in due course the obsolescence allowance, we suggest that our correspondent should definitely claim the depreciation allowance. He might write to the Secretary, Inland Revenue, Somerset House, W.C.2, forwarding the correspondence and asking for a ruling.

LETTERS, NOTES, ETC.

SUMMER ON THE RIVIERA.

WINTER visitors to the Riviera are beginning to realize the mistake they make in rushing away from sunny southern France at the end of March. From April until the first days of July the heat is light, dry, and airy, fanned by breezes that sea and mountain interchange. To many the temperature, far from being unbearable, is pleasant, and from July to September there comes a settled spell of cloudless summer: unfailing sunshine and a pure blue sky. The supreme wealth of the Riviera lies in the sun, and it is this wonderful source of healing which has been invoked since the beginning of history. Taking Nice as a standard of the Riviera resorts, the following table of average temperatures (shade) may help to an understanding:

	Deg. F.		Deg. F.
May	61	August	73
June	68	September...	67
July	72		

An excellent service of "auto-cars" is run by the P.L.M. railway company from May to the end of September along the Maures and Estérel coasts from Marseilles to Nice. These services were inaugurated about two summers ago and proved an instant success. Further particulars about summer on the French Riviera can be obtained from the Federation of the Health Resorts of France, 19A, Tavistock Square, London, W.C.1, but the following suggestions as to places to stay at may be of use:

Le Lavandou (Var), between Hyères and St. Raphael, is a picturesque little fishing village with a fine sandy beach, situated opposite the islands of Port Cros and Le Levant. Hotels: Grand Hôtel de la Méditerranée, Hôtel d'Aiguebelle.

Le Canadel (Var), about seven miles to the east of Le Lavandou, a flower-growing centre; good sands; pine trees. Hotel: Grand Hôtel du Canadel.

Cavalaire-la-Croix (Var).—Beautifully situated in the bay of Cavalaire; splendid beach of fine sand sheltered by a marvellous pine-tree forest. A popular all-the-year-round resort. Hotels: Grand Hôtel; Hôtel de la Plage et des Bains.

Juan-les-Pins (A.M.)—One of the most attractive of the summer resorts, nestling among richly scented pines. It possesses a fine sandy beach and is extremely popular on account of its bathing facilities. Hotels: Grand Hôtel; Hôtel de l'Amirauté; Hôtel Windsor; Hôtel de la Pinède.

EARLY PARENTHOOD.

DR. W. W. FORSYTH (Darlington) writes: Letters like that by Dr. Gemmell (JOURNAL, May 7th, p. 862) make one wonder how an unsuspected pregnancy can tuck itself away when the average gossip will spot a five or six months' pregnancy with some certainty in "legitimate" cases. I was, however, called last year to a married woman of average mental acumen whom I had confined twice before. On arrival the pains she had complained of had subsided, the reason crying lustily in the bed, and the look of astonishment on the fac[illegible] amusing almost, neither of t[illegible] The comparative *mildness* [illegible] suspected labours makes one realize how great is the psychical element in labour. My own record for early parenthood occurred in a girl of 13, whose baby weighed 13 *lb. less a few ounces*, but then she had the outward frame of a buxom 20. The father was "unknown."

FOREIGN BODY IN RECTUM.

DR. D. OWEN WILLIAMS (Glandyfi) writes: The notes on foreign bodies in the rectum recall to my mind the case of a man who came to see me some years ago complaining of intense pain in the rectum. Upon examination I removed a circular bone over half an inch in length and about half an inch in diameter; one end was smooth, the other rather jagged; it was hollow in the centre, with a small part of one side removed, making a depression into the hollow. The bone seemed to be part of a mutton bone. After its removal he was at once relieved, and nothing further happened. It had been swallowed, probably in broth or stew.

HERPES AND VARICELLA.

DR. R. LYNN HEARD (Bexley, Kent) writes: In the JOURNAL of May 7th (p. 862) "G. B. P." suggests that the connexion between herpes zoster and varicella is still non-proven. If he will refer to my note of January 15th (p. 124) he will find that on different occasions when attending herpes zoster, with a susceptible child in the same house, I have prophesied that in a fortnight or so the child would develop chicken-pox, which forecast has been verified. He will also find under "chicken-pox" in Price's *Medicine* testimony to the same effect. In one instance a child, about 2 years old, developed chicken-pox, having been infected by its grandfather, who had had a severe attack of herpes zoster, contracted as the result of his visiting a friend similarly affected. For further example I would mention a case where a girl returned home from a visit to North Wales with well developed chicken-pox. She and her mother had been on holiday and had mixed with very few people. It was a puzzle to know where the infection arose until the mother said that she also had had some spots a couple of weeks previously. On examination the remains of a typical herpetic patch were found near the angle of the right scapula, which cleared the matter up at once. It was Dr. W. P. Le Feuvre, of Knysna, Cape Province, who, many years ago, called my attention to the connexion between the two diseases, and the recognition of this and of the *infectiousness* of herpes zoster has solved for me a number of problems.

NERVOUS INFLUENCES ON ENDOCRINE SECRETION.

DR. H. CLULOW NIXON (Bath) writes: A well developed Jewess, aged 28, married about three years, presented diffuse brawny induration amounting to a condition not far removed from stony hardness of the whole of the subcutaneous tissues of both upper and lower limbs. *X*-ray examination, including that of the sella turcica, revealed no abnormality. She had been sent to hospital as a case of "fibrositis" and during her stay she had steam baths and massage. Thyroid and pituitary gland extracts were given regularly. In six weeks a slight change for the better was recorded. She informed me that ever since marriage preventives to conception had been used, for financial reasons. I advised her to refrain from the further use of contraceptives, and in a letter that I received from her recently she states that a healthy boy was born a few months ago; that during her pregnancy improvement began; that the swelling in the legs disappeared, so that now they are much softer; and that the condition of the arms has much improved, but that some induration remains. The patient did not belong to the myxoedemic type, being both quick-witted and intelligent.

EPIDEMIC FURUNCULOSIS.

DR. CECIL E. REYNOLDS (*Los Angeles*) writes: I was much interested in the letter from "R. F." (Scotland) in your issue of January 1st (p. 46), referring to an epidemic of boils and carbuncles. Los Angeles passed through a small epidemic of these affections during October, November, and December, 1926. Five of my personal friends were affected; one, a man of 60, died. I developed four deep carbuncles in succession upon the face—the first local infection of any kind since the age of 14 years. I had no glycosuria, and have quite recovered. Dr. A. B. Cooke, who operated upon me, has remarked the sudden influx of carbuncles in his large general practice during these months of this past year, with some deaths. Casual inquiry has elicited similar observations from other surgeons. I have no theory as to cause; we have had one of the wettest and coldest seasons here that I have experienced in the past fifteen years. I may add that I do not drink city water, but spring water, and the stools are normal and free from parasites.

BENCE-JONES PROTEINURIA: CORRECTION.

DR. BEWLEY, whose name, we regret, was wrongly printed as "Bowley" (JOURNAL, May 7th, p. 838), points out that he is incorrectly reported (col. 2, lines 4 to 6) as saying that "if the precipitate was watched, it would be seen that it came down very rapidly, much sooner than albumin or globulin would be expected to come down . . ." What he actually stated was *that* "the precipitate is often slow in forming and may not *appear for* several seconds or longer."

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 45, 48, and 49 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 46 and 47.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page *211*.

Remarks ON LOOSE BODIES IN JOINTS.*

BY

HARRY PLATT, M.S.LOND., F.R.C.S.ENG.,

SENIOR HONORARY SURGEON AND SURGEON IN CHARGE, ORTHOPAEDIC SERVICE, ANCOATS HOSPITAL, MANCHESTER; CLINICAL LECTURER IN ORTHOPAEDICS, UNIVERSITY OF MANCHESTER.

IT is reasonable to believe that loose bodies in joints must have been familiar to the ancients, for from time immemorial the limbs of man have been subject to injuries of unchanging type. But there is no record of an attempt to remove a loose body by operation until we reach the Middle Ages, when the incomparable Ambroise Paré[1] (1558) extracted a typical specimen from a cystic swelling which communicated with the knee-joint.

In more modern times considerable attention has been directed towards the elucidation of the pathogenesis of loose bodies, and the subject is now endowed with a literature of formidable proportions. A brief review of this historical phase will serve as an introduction to this communication, which will deal more especially with certain practical aspects relating to the diagnosis and operative treatment of loose bodies in the knee-joint.

In 1875 Volkmann[2] presented a broad classification in which loose bodies were divided into two main groups; this is still in use. Group I included the bodies found in diseased joints, and Group II those found in otherwise healthy joints. The distinction between the two is in some respects artificial, but the outstanding contrast is emphasized in proper perspective.

A third group, which does not entirely conform to the requirements of the classical schema, is sometimes recognized. In this are included the loose bodies which develop primarily as synovial chondromata, a process which is little understood, but which merits recognition as a pathological entity.

PATHOGENESIS.

Group I.—Diseased Joints.

There is no mystery in the origin of the loose bodies which make their appearance in joints which are frankly diseased. They result simply from the separation of small portions of the changed articular surfaces. Thus, in osteo-arthritis, marginal osteophytes may sometimes become detached, either spontaneously or after a trivial injury. We must recognize, however, that in a certain proportion of joints which show comparatively mild osteo-arthritic changes accompanied by one or more loose bodies the arthritis is really a secondary development. On the whole, in osteo-arthritis loose-body formation is not very common. In neuropathic arthritis—for example, the familiar Charcot's joint of tabes—the somewhat bizarre hypertrophic and degenerative changes offer an ideal background for the wholesale exfoliation of articular fragments. Under such conditions loose bodies are usually of minor pathological and surgical importance.

In this group of diseased joints the majority of the patients are past middle age, and the loose bodies are almost invariably multiple.

Group II.—Otherwise Healthy Joints.

The pathogenesis of the bodies which form in joints apparently sound to ordinary clinical tests cannot be expounded in so simple a fashion. The essential clinical features have long been defined, the more important being: (1) the comparative youth of the patients (15 to 25 being the age of choice); (2) the high incidence in the male sex; (3) the predilection for the knee-joint—with the exception of the elbow, loose bodies are extremely rare in other joints; (4) the bodies are more commonly single than multiple.

It was obvious to the earliest observers that this type of loose body also was derived from the articular surface (Monro, 1762[3]), and when the patient gave a history of antecedent trauma the method of production seemed to be clear. But when, as not infrequently happened, no record of injury a different explanation was den

Among the first to suggest an alternative hypot Sir James Paget.[4] In 1870 he removed a loose b the knee-joint of a Harrow schoolboy. Histolo amination of the specimen showed that it had been from one of the femoral condyles. In the origi body Paget saw yet another example of a process he had coined the term "quiet necrosis." In a trivial unnoticed injury had produced on the surface a limited zone of necrosis. In due cours laginous flake had become separated, and afte had assumed the typical round, smooth appearan mature loose body. It was not until 1888 that introduced the term "osteochondritis dissec describe the exfoliation of fragments from the surfaces of the knee-joint. But Koenig himself accept trauma as the first stage in the sequence which culminated in the development of such loose

In the later work of the German school there an attempt to extend Koenig's thesis by prov explanation of quiet exfoliation without invokin as a necessary preliminary. Considerable emp been laid on the observation that osteochondritis has a favourite site in the knee-joint. This is a small area on the lateral aspect of the mesial femoral condyle, just in front of the attachment of the posterior crucial ligament (Fig. 1). The area is supplied by a special vessel—the arteria genu media—which in the injection experiments of Ludloff[6] appeared to be an end artery. The position of this vessel at once suggested its vulnerability, and it was concluded that thrombosis might easily be produced, either by injury or after the lodgement of a tiny embolus. In this way a zone of "quiet necrosis" would be determined. Unfortunately for the further exposition of such a thesis, the more recent injection experiments of Nüssbaum[7] show that the arteria genu media anastomoses freely with the vascular surrounding areas.



FIG. of knee- ing vul on inter supplie genu m

Axhausen[5] (1920) has also supported the quie theory from the experimental side. In his c the first stage in loose-body formation is the of a small embolic infarct, which includes a wed area of subchondral bone. Later the infarct bec off from the living bone by the ingrowth of g tissue. Detachment does not occur for some li but finally the fragment is extruded into the jo and enters on its career as an independent lo But Phemister[9] has obtained very different res the experimental production of localized foci necrosis on joint surfaces, for he finds that th areas are not exfoliated. In spite of much evidence at the present time it is generally ag trauma plays a dominant part in the producti ordinary loose body in the so-called normal joint knee-joint a considerable area of both femoral is repeatedly exposed to the risk of direct impa is conceivable that a localized infraction of surface may be induced by comparatively trivial Such an injury may be followed by complete h on the other hand, by an immediate, or delaye tion of an articular fragment. It is also prob traction exerted through the medium of the crucial ligament may tear off a flake in the int region. Freiberg[10] believes that an unusually lon tubercle of the tibial spine may impinge on th ligament when the knee is flexed and externally It has also been suggested that the tibial spine come into contact with the mesial condyle and as the prime detaching force (Roessner[11]).

Although attention has been focused on the intercondylar region, it must be realized that a co proportion of loose bodies in the knee do not from this site. Indeed, it is probable that the represent detachments from other parts of the

[3

* A paper read before a conjoint meeting of the Manchester and Liverpool Medical Societies at the Liverpool Medical Institution.

surface. Patches of early erosion are not infrequently seen in exploratory operations on the knee for the removal of injured semilunar cartilages.

Group III. Synovial Chondromata.

As long ago as 1834 Benjamin Brodie[12] surmised that certain types of loose body originated in the synovial membrane. These are now separately classified under the term "synovial chondromata," and are believed to develop from small nests of cartilage cells commonly found in normal synovial villi. Little is known of the conditions which determine such a change, but it is probable that the bodies are actual tumours. Although small isolated synovial chondromata may be found in osteo-arthritic joints, or in joints presumed to be healthy, the loose bodies which fall into this group are generally present in considerable profusion. Where the synovial membrane is invaded widely, the condition has been termed "osteo-chondromatosis" (Henderson[13]). Many of the synovial chondromata remain attached for an indefinite period, the number of free loose bodies being small.

Changes in Loose Bodies during and after Separation.

It is well recognized that, irrespective of their mode of origin, many loose bodies do not become completely detached for some considerable time. During this intermediate stage both the cartilaginous and bone elements undergo changes which are characteristic of living tissue; but after the body has broken away from its vascular pedicle the bone cells die. The cartilage cells, however, continue to live and proliferate, nourished by the joint fluid (Fisher[14]). The original hyaline cartilage may be replaced by fibro-cartilage (Phemister, loc. cit.). After a sojourn in the joint cavity the loose bodies tend to increase in size and take on a uniform shape and appearance.

A loose body may acquire a secondary attachment to the synovial membrane, and so for a time its migratory habits are suspended. In somewhat similar fashion a group of bodies may accumulate in a pocket which ultimately becomes shut off from the joint cavity proper. An occasional hiding place for a solitary body in the knee-joint is a pouch connected with the coronary attachment of the semilunar cartilages.

LOOSE BODIES IN THE KNEE-JOINT.

A full description of the symptomatology of loose bodies in the knee-joint lies outside the scope of this paper. It is sufficient to state quite broadly that the clinical picture is embodied in the familiar syndrome of "internal derangement" of this joint. In the so-called normal knee this syndrome is usually presented in clear-cut fashion; in a diseased joint other long-standing symptoms may obscure the signs which the loose bodies themselves evoke.

There are, of course, many points of clinical interest which distinguish loose bodies from other more common causes of internal derangement—for example, injuries of the semilunar cartilages. Where the loose body has been actually palpated the problem is solved; but in the majority of instances the differential diagnosis must rest on the radiographic findings.

Once the presence of a loose body has been established, apart from certain reservations as to age, economic circumstances, and the existence of advanced joint disease, operative removal is indicated. But before the knee-joint is opened the surgeon should be in possession of information which enables him to define both the exact number of loose bodies and their distribution in the joint cavity. This means that as a routine the knee should be radiographed from many angles, and in the position of flexion as well as extension. In addition, stereoscopic views are often invaluable.

Such requirements raise the important question of the interpretation of the radiographic appearances of loose bodies in various phases of their development.

RADIOGRAPHIC DIAGNOSIS.

1. *The Loose Body before Separation—Osteochondritis Dissecans.*

We have already referred to the stage when the developing loose body is still attached by a pedicle. In certain positions of the joint the fragment lies snugly in its fossa. At other times it flaps about on its hinge, but, although its range of movement is small, it may give rise to the characteristic symptoms of internal derangement. There is a danger that a pedicled fragment, unless temporarily displaced from its bed, may be overlooked in conventional radiograms; but that the radiographic evidence of osteochondritis dissecans may be clear-cut is well exemplified in the following case.

Some four years ago I saw a public school boy, aged 15½, with a typical history of recurring attacks of transitory "locking" of the knee, following a direct contusion sustained at football two years before. The boy's family doctor had felt a loose body on the outer aspect of the knee during two of the attacks, but when I examined the joint it was "silent." The radiograms (Figs. 2 and 3) showed an interesting combination of lesions:

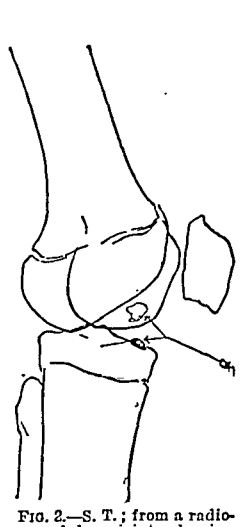


FIG. 2.—S. T.; from a radiogram of knee-joint, showing (*a*) loose body, (*b*) patch of osteochondritis dissecans.

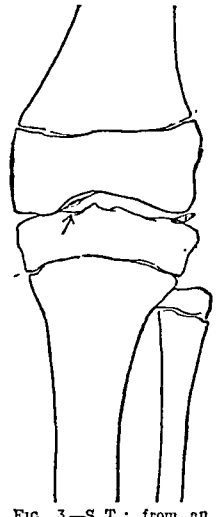


FIG. 3.—S. T.; from an antero-posterior radiogram of knee.

(*a*) a definite loose body lying on the outer head of the tibia; and (*b*) an irregular patch in the intercondylar region at the classical site for osteochondritis dissecans. The appearance here suggested that a plaque of the articular surface was in process of separation.

Removal of the loose body was advocated, but for certain reasons the operation was postponed for a year, during which time further attacks of locking occurred.

When the knee-joint was opened a loose body the size of a threepenny-piece was seen, attached by a slender pedicle just in front of a pit on the lateral surface of the inner condyle. After its removal a search was made for the rounded loose body which had always shown up well in the radiograms. This was discovered lying on the outer head of the tibia, but enclosed in a synovial pocket and obviously incapable of shifting sufficiently to account for the symptoms of locking.

This case is an excellent example of the classical osteochondritis dissecans following a known injury, and with the loose body incompletely detached but already causing symptoms. It is further interesting in that a second loose body, obviously of an older "vintage," was at first assumed to be the sole cause of the derangement, and yet was proved to be incapable of free migration.

2. *The Loose Body Invisible.*

A loose body may also escape recognition after complete detachment. This happens when its lime content is small, and particularly when the faint image is superimposed on the denser shadow of the femoral condyles. But this should be a rare occurrence under the conditions of modern radiographic technique, when the clinical signs have led to a presumptive diagnosis of loose body.

3. *Multiple Bodies.*

It does not seem to be widely recognized that operations for the removal of multiple loose bodies are by no means uncommon. I find in my own clinical material that the incidence is between 40 and 50 per cent. For this reason the pre-operative counting of multiple loose bodies is a

diagnosis. But the body or group of bodies, with reference to the internal anatomy of the knee-joint, is also required.

It will be remembered that the joint cavity is divided into five distinct but intercommunicating compartments—three in front and two behind. These are the *supra-patellar* pouch; the *antero-mesial*, the *antero-lateral*, the *postero-mesial*, and *postero-lateral* compartments. It is important also to realize that each pouch allows of separate exploration through a relatively small capsular incision.

A loose body originating in one of the anterior compartments finds a free passage from one to another, but does not ordinarily make its way into a posterior compartment, as the connecting path is somewhat circuitous. Free communication between the two posterior pouches is, for practical purposes, blocked by a mid-line synovial partition attached in the intercondylar region, so that a loose body originating in either of these pouches tends to have a comparatively small range of excursion.

It is a common experience to find multiple loose bodies distributed in both the anterior and posterior divisions of the knee-joint, and, in the absence of definitive information, it is an easy matter to explore such a joint and to leave one or more bodies behind. Such omissions have been brought forcibly before my notice in my earlier operative experience in this field.

Wherever possible the enumeration and localization of each separate group should be carried out the day before the operation. The joint should never be explored on information several weeks old, as a redistribution of the bodies may occur during the interval. The patient himself is occasionally conscious that the bodies have moved, and it is always wise to question him deliberately on this point.

Exploration of the Knee-joint for the Removal of Loose Bodies.

The removal of a solitary loose body which has been accurately localized is an operation of extreme simplicity. The appropriate pouch is entered through a small capsular incision, which may be little more than a mere stab cut. In such a procedure the joint disturbance is negligible, and full recovery of function is seen within a few weeks.

I hold very strongly that the operative treatment of multiple loose bodies should be based on the same conservative principle. Each pouch should be invaded separately. or this an equal number of short skin incisions may be sed, or alternatively a convenient flap, which provides cess to two or more compartments simultaneously. The st majority of multiple loose bodies can be dealt with in manner with great advantage to the patient and the ure of his knee-joint.

exceptional circumstances it is advisable to display interior of the knee-joint more completely, as in the oval of synovial chondromata when present in large ers. This will naturally be accomplished by one of ecognized types of full arthrotomy, in which the patella her divided in the mid-line or displaced to one side other. It must be remembered that such an exposure an inspection of the three anterior pouches only. sterior compartments must of necessity be approached ely.

aluo of arthrotomy in miniature will be further ted when it is realized that in certain joints, after of multiple loose bodies, a fresh "crop" may at some future date and re-exploration become .

Compartmental Surgery of the Knee.

oval of multiple loose bodies illustrates what may the *compartmental* surgery of the knee-joint. oration of the different pouches there are certain tomical and technical peculiarities to which brief ay now be made.

he Anterior Division of the Knee-joint.

ntero-mesial and antero-lateral pouches are ntered for the removal of injured semilunar erations which are amongst the commonplaces of joint surgery. Identical exposures are used fo extraction of loose bodies. It may be remarked tha typical plaque of osteochondritis dissecans on the condyle, and the flapping, loose body are best seen dealt with from the antero-lateral pouch.

The supra-patellar pouch is inspected through a sl vertical incision in the rectus femoris. The removal o loose body from this pouch via a stab wound is reminisce of the old stylo of operation of the pre-antiseptic era.

2. The Postcrior Division of the Knee-joint.

This is a less familiar hunting ground, as the pouches ar rarely explored except for the extraction of loose bodies.

(*a*) The postero-mesial pouch is exposed after defining the posterior edge of the internal lateral ligament and retracting the sartorius as it skirts the posterior border of the femoral condylo. (Fig. 4.) With the knee flexed to a right angle the pouch bulges prominently, and when opened by a vertical cut shows a capacious interior. Access to the postero-lateral compartment is barred by the median partition already described.

Bodies which occupy the posterior compartments often tend to disappear into the intercondylar region, and are occasionally most difficult to find. When present in considerable numbers, small groups may become encysted in synovial "nests," which must be opened before the bodies can be extracted. Illumination of the interior of the pouch by means of a head lamp is useful, if the search tends to become prolonged. If the number removed does not correspond to the pre-operative count, it is a wise precaution to syringe out the pouch with saline under considerable pressure. An elusive body may then float into view. This manœuvre is, of course, applicable to all pouches. Movements of the knee, and particularly rotation of the tibia on the femur, sometimes helps to dislodge a concealed body.

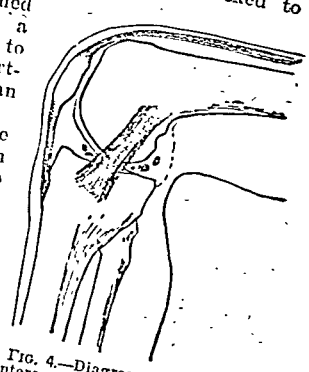


Fig. 4.—Diagrammatic view of antero-mesial and postero-mesial pouches with loose bodies *in situ*.

(*b*) The postero-lateral pouch is opened behind the external lateral ligament, and the same principles are again illustrated.

(*c*) *Poplitcal Approach.*—There is an alternative method of approach to the posterior division of the knee-joint which was advocated some years ago by Brackett and Osgood. In this a mid-line incision is made over the popliteal nerve and popliteal vessels the joint capsule is opened. Either pouch may be opened separately or the intercondylar fossa is readily displayed. Where there is a temporary encystment of a group of loose bodies in a pocket connected with the median partition the popliteal approach offers many advantages.

Conclusions.

1. When the symptoms of internal derangement of the knee suggest the presence of a loose body, a systematic radiological examination is essential. This should be carried out with a view to the possible demonstration of (*a*) an area of osteochondritis dissecans; (*b*) a loose body in process of detachment; or (*c*) one or more loose bodies free in the joint cavity.

2. When a *single* loose body is demonstrable the existence of additional bodies should always be suspected.

3. *Multiple* loose bodies demanding removal are common. Before operation is undertaken they should be accurately counted and their exact location defined with reference to the various joint compartments. This information should be obtained during the few days immediately preceding the operation.

4. Given an accurate pre-operative diagnosis, the removal of multiple loose bodies through an extensive arthrotomy is rarely necessary. The bodies should be extracted in turn from the various pouches, which are entered by means of short capsular incisions. With such a technique there is a

minimum interference with the knee-joint, and rapid return of function is favoured. (Arthrotomy in miniature.)

5. A *complete arthrotomy* should be reserved for knee-joints in which loose bodies occur in considerable profusion in the three anterior pouches.

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An Address ON THE TREATMENT OF OBSTRUCTIVE LESIONS OF THE COLON.*

BY

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TWENTY years ago chronic obstructive lesions of the colon were rarely, if ever, diagnosed, except as the result of an operation for acute obstruction or a *post-mortem* examination. At the present day the majority—I would almost like to say the great majority—of such lesions are diagnosed and treated before the onset of acute symptoms. Statistics on such a subject are difficult to obtain, but a paper recently published by Burgess of Manchester contains figures which illustrate this point.[1] Out of 485 cases of cancer of the colon admitted between the years 1913 and 1922 to the Manchester Infirmary 173 had acute obstruction—that is, 64.4 per cent. were diagnosed before acute obstruction had occurred. I know from my own experience that each year I see more cases where the diagnosis is made or suspected in time to prevent the onset of acute symptoms.

The results of operations for obstructive lesions of the colon twenty years ago were very bad. The mortality was high and the recoveries were for the most part accompanied by a permanent faecal fistula of some kind. As the result mainly of improved diagnosis all this has been changed, and there are now few serious conditions which show better results from skilled surgery.

The fact that the surgeon is now able to operate upon lesions of the colon before the onset of obstruction has entirely altered the type of operation performed for this condition, and with proper precautions and careful technique it is now possible to resect that portion of the colon containing the lesion and to join the bowel up by axial union in one operation with very little risk—a procedure which was almost unheard of twenty years ago, when Paul's two-stage method, Senn's plates, Robson's bobbin, or Murphy's button were in use.

I do not propose to describe in detail the symptoms of obstructive lesions of the colon, but only to say that in my experience the most important early symptom is repeated irregularity of the bowel actions without adequate cause, more particularly repeated attacks of slight diarrhoea alternating with constipation and vague abdominal discomfort. We have a number of methods to help us in making a diagnosis, but it is as well to own that none of them are very reliable. The presence of occult blood in the stools on microscopical examination is valuable in cases of cancer, but cannot be relied upon, and is of no negative value.

X-ray examinations after a barium enema are very useful, but must be very well done with a first-rate apparatus having a very short exposure so as to eliminate movement of the bowel and ensure a sharp edge to the shadows. Also the examination must be repeated to avoid as far as possible accidental appearances. The appearances of a well marked filling defect in one part of the colon if the examination is repeated some days later affords valuable evidence, more particularly if belladonna has been administered to eliminate spasm. It is not, however, entirely reliable, and the absence of a filling defect will not exclude a lesion. Lesions due to diverticulitis can now be diagnosed with considerable accuracy by the *x* rays and a barium enema, but very good photographs are necessary.

A sigmoidoscopic examination is very useful, and such evidence as it affords is reliable. It does not, of course, enable a growth above the middle of the pelvic colon to be seen, but it at least has this advantage—that the absence of a lesion up to this level tells the surgeon that any lesion present will be sufficiently high up to allow of resection from the abdomen, or short-circuiting by lateral anastomosis, and that colostomy can be avoided.

Too often it happens that with all our efforts we cannot arrive at an exact diagnosis, although there remains a grave suspicion that a lesion in the colon is present. In such circumstances we should not hesitate to back our opinion and advise an exploratory laparotomy. The "wait and see" policy generally results in disaster. The risks of exploratory laparotomy are very slight, while the danger of leaving a carcinoma of the colon is very grave, more especially as the results of partial colectomy for cancer of the colon are better at an early stage than those for removal of cancer in any other part of the body. Restoration of function is usually perfect and the tendency to recurrence after removal of a cancer in the colon is very slight compared with cancer elsewhere.

The majority of obstructive lesions in the colon are the result of cancer, but there are a number of other conditions which also cause such symptoms. One, which of recent years has come into considerable prominence, not because it is rare, but because it had not hitherto been recognized, is diverticulitis. This curious condition causes a tumour very similar to a malignant growth and partial obstruction of the bowel lumen, often quite suddenly, as the result of acute inflammation in, or around, the diverticula. The distinction between diverticulitis and cancer is not always easy, but the facts that the former is accompanied by signs of inflammation, while the latter is not, and that bleeding is rare in cases of diverticulitis, while it is the rule in cases of cancer, help considerably in forming a diagnosis. An *x*-ray examination after a barium enema will generally give well marked evidence of diverticulitis; but, of course, the presence of diverticula in the bowel does not necessarily exclude the presence of a growth also, as the two conditions are often associated.

Of recent years it has proved possible to resect completely a portion of the large bowel badly damaged by diverticulitis and restore the bowel by axial union.

Hyperplastic tubercle is a rare disease which gives rise to stricture and tumour in the colon and closely simulates diverticulitis. It can be completely cured by resection of the affected portion of the bowel. Bands and adhesions are, of course, frequently met with, involving the colon and causing obstructive symptoms. They are difficult to diagnose, but very easy to treat once they are detected.

Chronic volvulus is a rare condition, which is occasionally diagnosed as the result of an *x*-ray examination. Quite recently I was able to make this diagnosis in a middle-aged lady who had repeated attacks of obstruction, which came on quite suddenly with great pain and distension. The attacks had gone on for a number of years, but were getting more severe and less easily amenable to treatment. At operation a very large volvulus of the sigmoid was found, which was exactly as seen in the *x*-ray photographs; I resected the whole loop and performed an end-to-end junction with complete success

The patients suffering from obstructive lesions of the colon are usually elderly, and this adds an element of risk. Fortunately with proper care we are now able to operate on quite elderly people with little more risk than would be the case with younger patients, providing certain precautions are taken, but these precautions must be very carefully observed.

I attach great importance to very careful preparation of the patient. At least a week should be devoted to this.

*A paper read before the Nottingham Medico-Chirurgical Society, March, 1927.

The bowels should be well cleared (with castor oil for preference), and then kept moving easily with petroleum and drachm doses of castor oil. On no account should the patient be operated upon till several days have elapsed after the necessary preparation, and those days should be spent in bed so as to rest the heart and allow the patient to build up a reserve of energy. This preparatory treatment often causes the patient annoyance, as he fails to see the necessity for it; but I am convinced of its advantages. Small doses of strychnine during the week prior to operation are also helpful. Some form of intestinal antiseptic should also be given; of these I favour kerol and Bulgarian lactic acid bacilli to modify the intestinal flora. The hygiene of the mouth should be attended to, and the patient given plenty of water to ensure that the tissues are well washed out and the blood volume good; a dehydrated patient is always a dangerous one to operate upon. In cases of exceptional risk a blood transfusion should be performed some days before operation.

The anaesthetic is of considerable importance, and ether and chloroform as a rule should be avoided as far as possible. I favour a combination of twilight sleep and local or spinal anaesthesia, or gas and oxygen and local anaesthesia. This greatly reduces the risks, as it enables us to avoid making the patient sick or ill, and does not interfere with his nutrition by causing dyspepsia and loss of appetite.

The incision, of course, depends on the situation of the lesion, but when this is known approximately I always prefer a diagonal incision, which gives free access to the colon. It is also the most convenient for local anaesthesia, as it does not involve more than one nerve in the main incision, and this can be readily blocked. It is easily closed, and does not, in my experience, result in hernia. I have used this incision for many years, and consider it vastly superior to any other. It affords the best and easiest access to the parts, and enables the surgeon to work with the minimum of disturbance of the abdominal cavity.

If the lesion, as is usually the case, is on the left side, the patient should be rolled over slightly to the opposite side, with sandbags under the hip and shoulder and a large pillow under the knees. In this position the colon comes easily into the wound and the small bowel falls away and does not interfere with the operator. Should it be necessary to resect the splenic angle, easy access to this part of the colon will be secured by prolonging the incision backwards towards the last rib.

When the bowel can be drawn out of the wound I prefer to make an open resection with the ends of the bowel and mucous membrane exposed, merely controlling the contents with rubber clamps. The ends are sewn together under the surgeon's eye, and it is possible to be sure that a proper blood supply is left at both ends. One of the chief reasons why axial union of the large gut has been considered unsafe is because surgeons have not realized the importance of ensuring a good blood supply to both ends of the bowel. The blood vessels of the large gut are parallel with each other and anastomose comparatively little; as a result, if the bowel is cut directly across, the stitches joining the ends on the mesenteric side are liable to constrict the blood vessels feeding the junction on the side opposite the mesentery, and most of the disasters that have occurred after axial union of the colon, and were often attributed to faulty stitching, have really been due to sloughing from an inadequate blood supply. As I pointed out many years ago, this difficulty can easily be got over by dividing the bowel at an angle of 45 degrees instead of at right angles. This has the advantage of ensuring a good blood supply to the whole of the joined edges, and also compensating for any narrowing of the lumen caused by the stitching. I put in a couple of guide stitches at either side of the bowel ends, and then sew straight across from one side to the other on the mesenteric side, the stitch being continued right round until it reaches the point where it commenced. A second, peritoneal stitch is then inserted, which also closes the gap in the mesentery on the inner side, a slight gap being left on the outer side of the mesentery to drain the

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The Splenic Angle.—The diagonal incision already described is very useful here, as it gives excellent exposure of the angle and allows the colon to be easily freed. It is very necessary to free the colon thoroughly to get the ends to come comfortably together. Care has to be taken in freeing the angle itself not to damage the lower part of the spleen, which is in very close contact, or the kidney and pancreas, which are close behind it. Some of the best results I have seen have been in cases of resection of the splenic angle. I removed a carcinoma of the splenic angle in a jockey eleven years ago, and this year he won one of the classical races.

The Pelvic Colon.—This is the commonest situation, and more than half the cases of resection are included in this area of the colon. Much depends upon the part of the pelvic colon involved. If it is in the descending colon, or upper part of the pelvic colon, the resection should not be difficult. Greater difficulty, however, occurs when the lower part of the pelvic colon is involved. In all cases the outer layer of the pelvic mesentery should be divided near its base for a considerable distance and the bowel carefully stripped up so as to free it well from the left iliac fossa. There are no vessels entering the mesentery at the outer aspect, so that free stripping is quite safe, and considerable mobilization of the colon can thus be obtained. The chief difficulty arises with cases of diverticulitis, as there are frequently dense adhesions to other structures, more particularly the bladder in males, and the uterus or left tube in females. It is very important to interfere as little as possible with adhesions in cases of diverticulitis, as serious sepsis may be lighted up. On the other hand, the condition is not malignant, and excision should be carried out when possible, even though parts of other organs have to be sacrificed. I have on several occasions removed the whole uterus and left tube and resected portions of the small gut in order to remove tumours due to diverticulitis. If the bladder is extensively involved excision is, of course, out of the question.

The Lower End of the Pelvic Colon.—For two reasons this is the most difficult situation. The first is that there is often not enough healthy bowel below the tumour to allow of a proper resection, or the bowel is so short that the resection has to take place within the abdominal cavity. The second, and more serious, difficulty is that the blood supply to the upper part of the rectum is liable to be gravely interfered with if a portion of the pelvic colon immediately above has to be removed. The surgeon may be faced with serious difficulty in deciding what he should do. One alternative is to make a complete abdomino-perineal excision, leaving a permanent colostomy of the upper end, and this may be the only procedure possible when the growth is low down in the pelvis, but still excisable. Another alternative is the tube method, which was described by me in 1908; the principle of this is that after removing the tumour a long rubber tube of large calibre is sewn into the upper end of the bowel, and then passed down through the rectum and out of the anus. The tube is then drawn on until the upper bowel is lightly invaginated into the upper end of the rectum and is secured there by a few stitches. This method gives very good results, but it is decidedly dangerous owing to the fact that the blood supply to the rectum cannot be relied upon. If this method has to be used the surgeon must be certain that he is not seriously damaging the blood supply to the rectum, which will depend entirely on the two lower sigmoid arteries. In view of this doubt good drainage should be provided from behind, and a temporary caecostomy or colostomy performed.

The results of colectomy are good both from the point of view of immediate risk and from that of restoration of function. The mortality from operation is about 16 per cent., but this is counting many of the older cases and can certainly be reduced much below this figure. The following table shows the mortality following colectomy (53 cases) and the condition for which the operation was performed.

	Cases.	Deaths.
Cancer	41	7
Diverticulitis	9	2
Chronic volvulus	3	0

There must always be some risk as the patients are not only old, but often in a bad state of health from partial obstruction and dyspepsia over long periods, which cannot be entirely compensated for by the preparatory treatment. Also colectomy carries with it a fairly high risk of post-operative infarct. The risks are not serious when we consider the grave nature of the lesions for which the operation is done.

It is now quite exceptional to have any faecal fistula after partial colectomy. As a rule the wound heals by first intention and the patient is up in under three weeks quite healed. The restoration of function is perfect, as the loss of a few inches of colon causes no inconvenience. When performed for cancer this operation gives the best results of all cancer operations, as there is no mutilation or limitation of normal function, and the tendency to subsequent recurrence is very low.

REFERENCE.

[1] BRITISH MEDICAL JOURNAL, 1927, i, 1.

Notes on JUVENILE RHEUMATISM:

BEING A COMPARISON OF THE REPORTS OF THE BRITISH MEDICAL ASSOCIATION AND THE MEDICAL RESEARCH COUNCIL.

BY

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IN July, 1926, there appeared the first report of the British Medical Association Committee of Inquiry into Rheumatic Heart Disease in Children.[1] It dealt with four important aspects of the problem of juvenile rheumatism, of which I am now chiefly concerned with two—namely, the "Environmental and other Predisposing Causes of Rheumatic Infection," and the "Effect of Tonsillectomy on Rheumatic Infection in Children."

In March, 1927, the Medical Research Council published a report[2] on "Social Conditions and Acute Rheumatism," one of a series of "Child Life Investigations." As the title implies, this dealt with some of the same questions as those parts of the B.M.A. Report already mentioned.

It is the purpose of this communication to examine these two reports where they overlap and to compare their results. This has not yet been attempted: the reports made no mention of each other, and indeed were drawn up by entirely different committees and based on investigations undertaken altogether separately from each other. Both sets of investigations were prolonged and widespread, consequently where agreement is found in the two reports there is a considerable weight of evidence in favour of the result reached.

In April, 1927, the B.M.A. Committee issued a second report,[3] with which I am not here directly concerned.

The chief points of contact between the two reports here to be considered are six in number. On four of them it may fairly be claimed that agreement is shown; these relate to the influence of (1) social status, (2) heredity, (3) school environment, and (4) tonsillar disease and tonsillectomy. In the remaining two questions, those of the influence of (5) contagion and (6) damp dwellings, agreement appears to be lacking.

1. *The Influence of Social Status.*

In this matter the B.M.A. Report made two points—namely, that rheumatic infection is far more common in the poorer classes than in the well-to-do; but that, on the other hand, the incidence of the disease was less in the lower than in the upper strata of the poorer classes. With both these views the M.R.C. Report agrees. On the first point Dr. G. F. Still gives valuable figures (p. 7):

"In the Children's Out-patient Department of King's College Hospital, where only children up to 10 years of age are treated, there were, amongst 1,000 consecutive cases, 229 children between 6 and 10 years old: out of these 229 cases, 13.1 per cent. showed

evidence of acute rheumatism (3.5 per cent. joint symptoms and the rest heart affection or chorea). In a private practice dealing almost exclusively with the well-to-do, there were, amongst 700 consecutive cases between the ages of 6 and 10 years, 5 cases of acute rheumatism (2 of joint affection, 2 of endocarditis, and 1 of chorea), so that less than 1 per cent. (0.7 per cent.) showed evidence of rheumatism."

On the second point, the lessened prevalence amongst the poorest children, the M.R.C. Report states (p. 95):

"if the hospital patients are divided into three classes according to the degree of poverty, the poorest of these three, the very poor and destitute, show a lower incidence of rheumatism than the other two."

It may therefore be held to be established that juvenile rheumatism is a disease of the poor, but not particularly of the poorest.

2. *The Influence of Heredity.*

The B.M.A. Report examined the evidence which had been recently published on this point and tended to the conclusion that the influence of heredity on the large-scale production of the disease was less potent than many had been inclined to think. On page 7 the following occurs:

"Figures such as these cannot be ignored, but it is difficult to know precisely what importance to lay upon the hereditary factor. In the first place, rheumatism is a very common disease, and it is concentrated in the families of the poorer classes; thus in any case it is bound to appear frequently in the families of rheumatic children. Again, if strictly environmental causes are of great importance, it must be *remembered that in most instances they* will operate alike on the family and the patient.

"The point at issue is this: Does the hereditary and family tendency swamp the environmental factors at work in producing the disease? Taken at their face value, the figures quoted above might suggest that this is so, but I doubt if they justify a conclusion more definite than that perhaps the hereditary influence aids and abets the environmental influence."

The M.R.C. Report, after sifting its evidence carefully, concludes (p. 95) that "no sufficient evidence of heredity was forthcoming."

It is satisfactory that there is found to be so close an agreement on this matter, which is clearly of great importance in the problem of the prevention of the infection.

3. *The Influence of School Environment.*

The B.M.A. Committee used the term "school environment" in a broad sense, meaning the circumstances of a child living at home and undergoing compulsory education at a day elementary school. It is in this sense that the term is used here. The opinion of the B.M.A. Committee was to the effect that in the production of rheumatism the influence of the child's home was greater than that of its school; but that, on the other hand, attendance at school had an important influence on increasing the severity of the infection in rheumatic children, thus favouring heart disease. The view of the Committee is, perhaps, best summarized in its *second* report (p. 122).

The M.R.C. Report brought forward novel and important evidence on this question by comparing the prevalence of rheumatic infection in day elementary schools with that in Poor Law institutions. The incidence of the disease in the latter was found to be almost abolished.

Four Poor Law institutions, in reality residential schools, were examined. In one the children lived in "barrack" schools housing a large number in each; in the others they lived in houses, or so-called "cottages," housing twelve to fifty children each, living under a "foster-mother." The total number of children in residence was over 1,800. They went out for their education, presumably like the boys of a large public school.

Thus it is seen that this comparison appears to throw the emphasis back again on to the "home" as opposed to the "school" itself, for this evidence points to the conclusion that children taken from the rheumatic stratum of society escaped the disease if transferred to a school which they attended from healthy "home" surroundings.

4. *The Influence of Tonsillar Disease and Tonsillectomy.*

Tonsillar Disease.—In common with the results of previous investigations both reports found a high incidence of diseased tonsils in rheumatic children. The figures reached in both reports were closely similar. The B.M.A. Report (p. 16) found diseased tonsils in 83 per cent. of cases in active stages, and in 73 per cent. of those seen in quiescent stages. The M.R.C. Report (p. 99) gave 75 per cent. as the proportion of rheumatic children showing unhealthy throats, as compared with 55 per cent. in non-rheumatic hospital children. It also made another interesting observation—namely, that in the Poor Law institutions in which the incidence of rheumatism was conspicuously low, the percentage of children showing unhealthy throats was down to 36.5. The agreement here is therefore particularly close.

Tonsillectomy.—The influence of the complete removal of diseased tonsils in rheumatic children was investigated by the B.M.A. Committee, and the conclusion reached (p. 4) was that their inquiry

"suggests that in the child whose tonsils have been completely removed a milder type of rheumatic infection in which the cardiac lesions are relatively light is likely to be seen."

This opinion was based on investigations detailed in Part III of the Report (pp. 16-20), where the attempt was made to establish three propositions: (1) that the clearest estimate of the value of tonsillectomy in juvenile rheumatism was to be obtained, not by a "follow-up" method, but by a study of active rheumatism in tonsillectomized children; (2) that, if this were done, it would be found that in such cases the rheumatism was of a type milder than the ordinary, the heart being conspicuously spared; (3) that the commonest manifestation of any severity in tonsillectomized cases was chorea, and that this tended to be "uncomplicated" by heart disease.

The M.R.C. Report did not directly address itself to the important question of the influence of tonsillectomy, but one set of the figures published in it was so strongly confirmatory of the conclusions referred to above that it must here be mentioned. The Report (p. 40) says:

"It is curious to note the preponderance of attack by chorea over other forms of rheumatic manifestation in those 60 cases whose tonsils had been removed. 66.7 per cent. of those who developed a first attack of rheumatism some time after removal of the tonsils had it in the form of chorea, and of these all but 4 had no other manifestation of the disease."

These figures are noteworthy as they represent the largest series yet published of cases of chorea in tonsillectomized children, and that 40 such cases can be quoted in which no fewer than 36 showed no other manifestation of the infection is an important observation. The comment made in the M.R.C. Report on these figures is merely that they "suggest that removal of the tonsils affords no protection against attack by chorea"; but surely the significant conclusion to be drawn from them is that of the modifying influence of the operation on the severity of the infection.

Thus on the two points of the preponderance of chorea and the comparative absence of carditis in the rheumatism of tonsillectomized children, the M.R.C. Report appears to offer important evidence confirming the conclusions of the first B.M.A. Report.

On the curious frequency of chorea as the manifestation of rheumatic infection in tonsillectomized children, Carey Coombs has recently written[4]:

"Now, chorea is the most easily excited of all the rheumatic phenomena. It takes a smaller dose of infection to upset the brain than it does to inflame the heart or joints, or to call into being a subcutaneous node. Chorea is more often met with as a solitary manifestation of rheumatic infection than any of the others."

Since this was written the figures quoted above have appeared in the M.R.C. Report. It may be hoped that they will help to oust juvenile rheumatism from its proud position of being the only relapsing or chronic infection closely associated with tonsillar disease in which it is thought desirable to retain unhealthy tonsils *in situ*.

5. *The Influence of Contagion.*

Passing to the first of the two subjects on which the two reports fail to confirm each other's results, the possible influence of contagion in spreading the disease has been most seriously considered in the M.R.C. Report. The subject is introduced thus (p. 8):

"The question of most practical importance is whether rheumatism is infectious, and, if so, whether it is carried by persons, by fomites, by dwellings, or in any other preventable way. . . . Most of the statistics and observations contained in this Report are directed especially to the solving of these problems. . . ."

Much space was given, in the Report itself and in three appendices, to the sifting of evidence on this point. The results obtained were summarized on page 98 as follows:

"On the whole, while it cannot be said that there is, in the facts collected, any conclusive evidence of contagion, many of them are consistent with this view."

There was contained in the Report much more argument on the matter than can be quoted here, and the general impression left on the reader's mind is that on the influence of contagion the verdict of the Report was one of "not proven" rather than "not guilty."

On the other hand, the B.M.A. first Report, although specially concerned with the question of the mass-production of the disease, made scant reference to the *possibility of its spread by contagion*. In the Preface, expressing the views of the Committee as a whole, such a possibility remained entirely *unmentioned*. In the section (Part I) devoted to the "Environmental and other Predisposing Causes of Rheumatic Infection," for which I was responsible, the only mention made of this matter was (p. 7):

"All the evidence points against the importance of this factor (*direct contagion*), although everyone has from time to time seen two cases arising synchronously or close together in a family. Probably we should liken rheumatism in this respect to pneumonia or appendicitis rather than to tuberculosis. . . ." (p. 9): "Direct infection from one case to another is of no practical importance."

Should the theory that infection from case to case plays any real part in the production of juvenile rheumatism on a large scale be accepted, the whole of our treatment of the disease will require alteration. It is therefore of great importance that we should not be persuaded to drift into agreement with such a conjecture. For this reason the following considerations which weigh against such a view are submitted here.

(*a*) We have already seen with what purpose the M.R.C. investigations were undertaken, and the negative character of the evidence elicited in the study of cases of rheumatism amongst the poor in their own homes. A further study of the few cases which arose in Poor Law institutions was made, with the result that "no evidence of 'infection' from one case to another could be found in any of the schools visited" (p. 84).

(*b*) The fact that although rheumatism is a disease of the children of the poor it is less common in the poorest than in the stratum above them, shows clearly that overcrowding is not a factor of prime importance in the production of the disease. This peculiar class incidence is admitted in the M.R.C. Report; its significance against the theory of contagion is hardly faced.

(*c*) In hospitals the disease is not seen to spread. This fact of universal experience is not mentioned in the M.R.C. Report, so far as I can ascertain.

(*d*) The theory of possible contagion is apparently attractive to those who are now beginning to study rheumatism from the standpoint of public health; it is important, therefore, to state candidly that there is no such tradition on the side of clinical medicine. The B.M.A. Committee which issued the first Report was composed entirely of hospital physicians experienced in the rheumatism of children, and they passed the possibility of contagion over as of no practical importance. In this they were at one with hundreds of other physicians up and down the country. Is it likely that for years they have been studying a disease which is really infectious and they did not know it? If it may be said without impropriety, the interest in the disease at St. Mary's Hospital has always been particularly keen, as becomes the school of Sibson, Broadbent, Cheadle, Lees, Poynton, Paine, Symes, Coombs, and others: we know nothing of its infectious nature there.

(*e*) There is one further point: that a theory of contagion is against all the modern bacteriological conception of the disease. The discussion of this in Part II of the B.M.A. Report is to the effect that the bacteriological problem has swung away from the difficulty of accepting a streptococcus as the causative micro-organism, to the difficulty of understanding how an apparently normal inhabitant of the digestive tract can take on such a definite pathogenic role. If this be so, the part played by contagion must be at most of the slightest importance, analogous, as has been quoted above, to such a possibility in pneumonia and appendicitis. It may seem unmannerly to suggest that in scientific matters there are such things as fashions, but to many of us specially interested in rheumatic problems the persistent reiteration that we know nothing of the causative agent of rheumatism, nor even if it be an infection at all, seems little other than a fashion and a fatigue. To write as though the researches of Poynton and Paine had taught us nothing and pointed nowhere, seems as inaccurate as to suggest that the present efforts being made against juvenile rheumatism are not in reality the outcome of Poynton's many years of pioneer work and teaching.

6. *The Influence of Damp Dwellings.*

The first B.M.A. Report expressed the opinion that living in damp houses predisposed children to the *rheumatic infection, and regarded this as an important* factor in causing so much of the disease in this country. As the evidence in favour of this view has been summarized in the Appendix to their second Report[3] it is not necessary to restate it here, except to say that the world distribution of rheumatism and its seasonal incidence in England make it almost impossible to conceive that cold and damp should be factors of no importance.

The M.R.C. Report, on the other hand, states (p. 96):

"The housing inquiry threw but little light on the problem; dampness which has generally been credited with playing a large part in the causation of rheumatism was only slightly more frequent in the houses of the rheumatic families than in those of the others."

The material investigated for the M.R.C. Report consisted of the following (p. 10):

	Rheumatic.	Controls.
Hospital for Sick Children, London	121 cases	None
Royal Hospital for Sick Children, Glasgow ...	200 "	100 cases
St. Thomas's Hospital, London	400 "	100 "

The results obtained in investigating the housing conditions of the rheumatic and "control" families were:

	Rheumatic.	*Control* Families.
Hospital for Sick Children, London (p. 73) ...	30.0% damp	—
Royal Hospital for Sick Children, Glasgow (p. 73)	33.5% "	25% damp
St. Thomas's Hospital, London (p. 75)	39.8% "	33% "

Of the differences in the proportions of damp houses in the two sets of controlled figures, the Glasgow figures were said to be "probably significant" (p. 73), and the St. Thomas's figures to be "not significant" (p. 75).

The B.M.A. investigators made no attempt to deal with the difficult subject of what can be properly taken as rheumatic "controls," and contented themselves with reporting the proportion of rheumatic children who were, when first attacked by the infection, living in damp houses. The M.R.C. Report, on the other hand, dealt with the housing conditions in 200 control families, as we have seen, and it thus becomes necessary to deal with the reliability of the "controls" used. The figures produced in the M.R.C. Report illustrating the influence of damp appear open to criticism on four grounds.

1. The "control *children*" were "selected at random except as regards age and freedom from suspicion of rheumatic disease" (p. 11). It may readily be accepted that such children were apparently suitable for use as controls, yet when it is found that no less than 55 per cent. of them had unhealthy tonsils (p. 99) we see that, even in such a seemingly simple test as this, we are in difficulties in the matter of the material for "control" observations. With such a proportion of diseased throats who can tell what number of the children would develop rheumatism? This probability shows one of the difficulties *in attempting any* accurate control observations.

2. But with the "control *families*" there is in the M.R.C. figures a large element of error, for the so-called "control families" are by no means "non-rheumatic families." They are defined as follows (p. 9):

"These families were selected only in the respect that each contained a child attending the hospital for a non-rheumatic disease, and will be termed 'control families.'"

When the figures are examined it is found (Table 8, p. 16) that in the 200 "control families" there were 43 cases of rheumatism, apparently spread over (p. 18) at least 36 of the families. That these were not unimportant instances of previous rheumatism occurring in parents is shown by the following passage (p. 18):

"The difference in the incidence of rheumatism among the brothers and sisters of the rheumatic and control children respectively is striking, the percentage of those with rheumatism in the rheumatic families in the data from St. Thomas's Hospital being almost three times greater than that of the control families. . . ."

In view of these facts it can only be said that the so-called "control families" are not acceptable as controls. Any influence which the housing factor may have on the production of rheumatism would be, in such comparisons, considerably diluted by the presence of rheumatic families in the "control families."

3. There is no evidence in the M.R.C. Report that the housing conditions examined were those in which the disease first declared itself in the children.

4. The proportion of damp homes is much lower in the M.R.C. figures than in those of the B.M.A. Report. This is probably due to the use of a different standard of "damp," and as there appears to be no generally accepted standard such differences in separate investigations will be bound to occur.

That the M.R.C. Report was unable to confirm tional association between rheumatic infection houses is regrettable, but, considering the type of used and the stress laid on them, it is hardly Yet there is this to be said, that even with t used the figures concerning the influences of da proximity to water, low-lying sites, terrace opposed to tenement houses were in every case of damp being a factor, though showing only s ences in the rheumatic and in the "control" se is surely of significance, for were there noth theory of damp, the figures would hardly be li point one way.

Further, there is the new evidence, already q the M.R.C. Report, on the absence of rheumati children of the rheumatic stratum as are moved own homes and placed in Poor Law resident This is of great significance, for what has h these children to prevent their developing rh It might be thought that by their removal they h from poorer food and clothing, and greater ove but these do not produce rheumatism, for the less common in the poorest of the poor than in of poverty above them. Again, they might be disease by escaping from contact with other rheumatism is not a contagious disease. What happened? What factor, big enough to accoun a great change, has been altered? Is there any as likely as the condition of the house?

REFERENCES.
1 BRITISH MEDICAL JOURNAL, 1926, ii, SUPPLEMENT, p. 1.
2 Medical Research Council, Special Report Series No. 1
3 BRITISH MEDICAL JOURNAL, 1927, i, SUPPLEMENT, p. 121.
4 Coombs, C. F.: *Lancet*, 1927, i, 634.

A REVIEW OF 1,000 CASES OF ASTHMA.

BY
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THESE cases were seen between May, 1922, and the end of 1926, subsequently to the 270 cases the statistics of which I published in conjunction with the late Dr. Latham.

An etiological classification is still quite impossible, but cases reviewed in large numbers do tend to group themselves into more or less clearly defined types, differentiated by the prominence of some symptom or causal factor. Any one case may fall into several of the following types:

1. The type sensitive to foreign proteins.
2. The non-sensitive type.
3. The type that has asthma with colds.
4. The type that has asthma with enlarged tonsils.
5. The type that has asthma with catarrh.
6. The type having also paroxysmal rhinitis.
7. The colloido-clasic type.
8. The *periodic* type.
9. The type caused by bronchitis.
10. The type that also has a high blood pressure.
11. The type that has eczema.
12. The Adam's week-end type.
13. The seasonal type.
14. The type that is identified with localities.
15. The type that has asthma from severe shocks.
16. The occupational type.
17. The type sensitive to aspirin.

Type 1.—Many cases of asthma and similar complaints are due to an anaphylaxis comparable to the experimental anaphylaxis in animals. I am more than ever convinced of the value of the dermal reactions, and I have treated many patients successfully by this method. Reactions to wheat, milk, egg, dog hair, and cat hair have each led to many cases being freed from asthma without any other treatment than that based on these observations. A patient who had had asthma continuously for thirty-five years has now been entirely free for three years, after giving up his feather bed and pillows as a result of a small plus one reaction to feathers.

Statistics of Sensitization in 1,000 Cases of Asth

Age of Onset.	No. of Cases.	Percentage.	No. Sensitive.	Percentage.	Horse.	Cat.	Dog.	Other Animals.
0-5	293	29.8	238	80	120	89	64	44
5-10	113	11.3	95	88	44	39	16	17
10-15	64	6.4	44	68	18	13	14	14
15-20	61	6.1	37	61	18	13	10	5
20-25	70	7.0	34	48	7	9	7	8
25-30	81	8.1	48	60	14	14	5	8
30-35	77	7.7	31	40	8	6	8	5
35-40	64	6.4	29	45	5	4	6	4
40-45	53	5 3	15	28	2	5	4	2
45-50	40	4.0	9	24	2	1	—	1
50-55	35	3.5	4	11	—	—	—	—
55-60	24	2.4	3	12	—	—	1	1
Over 60	20	2.0	1	5	—	—	—	—

The chief points to be noted in this table Asthma commences far more commonly in bal early childhood than at any other time, and majority of such cases belong to the sensitive incidence falls steadily with increasing years, a small rise between the years of 25 and 30. lack of exercise and frequent colds may force a asthma to show itself.

The average duration of asthma in these 1,0 was fourteen years. I saw 539 males and 46 52 per cent. of them gave a history of asthma o in their near relatives.

Beyond the fact that I am now obtaining mor (58 per cent.) than formerly, the figures show change from previous statistics. The increa number of cases found to be sensitive is due t larger range of proteins I now use for testing in all. I use six different kinds of feathers—duck, pigeon, canary, and parrot—where form only one. The specificity of the reaction is so w that patients may react to one of these a

others. Face powders, silk, linseed, and other causes of sensitization turn up from time to time.

A particularly interesting protein is that of house dust; patients often give a reaction to the dust from their houses and to nothing else. American observers and van Leeuwen have also noted this. On one occasion I found I was obtaining an unusually large number of reactions to flour. Patients would react to it when they would not do so to anything else. In comparison with this we may note that van Leeuwen finds in Holland many cases of asthma due to the habit they have there of keeping flour and grain in the house and to its becoming infected with mites and moulds. I have added this infected wheat and the house dust to my routine tests. I have noted that patients in whose sputa moulds are detected suffer from a particularly pernicious type of asthma.

Having discovered proteins to which the patient is sensitive, three methods of treatment are available.

(*a*) *The avoidance of the protein.* The only proteins which it is difficult to remove from the patient's surroundings are the pollens, horse hair, house dust, and the proteins amongst which he works.

(*b*) *Specific desensitization.* Provided the correct dosage is arrived at by the dermal reactions using dilutions of the protein great success often follows this method.

(*c*) *The non-specific method of desensitization.* In certain cases peptone given intravenously is very valuable, in others I prefer the Danysz or mixed coliform vaccine, after which a particularly permanent cure may result. Autohaemotherapy and collosol manganese, either separately or together, have cured many cases.

Many patients are benefited by small doses of vaccine and made much worse with large doses. If a dose grossly upsets a patient, especially if it gives him an attack of asthma, a dose ten times smaller should be tried.

With perhaps half a dozen exceptions every one of this series of 1,000 cases of asthma has been tested to all those proteins which may be causing the asthma. Removal of those proteins to which the patient is sensitive cannot always be expected to be successful, because the patient may be sensitive to the other proteins or have asthma also from other causes which are not so easily discovered.

A young lady sensitive to wheat grew progressively worse instead of better after giving up wheat, until I found that she was also sensitive to compound extract of liquorice, which was contained in a prescription I had given her.

Type 2.—Clinically many of these patients are exactly like those of the sensitive type, to which they will be transferred as fresh causes of sensitization are discovered.

Type 3.—These patients are often sensitive to feathers.

Type 4.—These patients have asthma at school, at home, and away on holiday, periodically, perhaps once a fortnight. Very often nothing will cure them but complete enucleation of the tonsils. More rarely the nidus of infection is to be found in a nasal sinus, an appendix, or even a single tooth abscess. One woman lost this type of asthma after the removal of an unhealthy uterus.

Types 5, 6, and 7 will be dealt with in some future article.

Type 8.—Patients of the periodic type suffer from four or five tremendous waves of asthma each year. The attack may take a month reaching its height and the same in going again. After a month of freedom the whole thing occurs over again.

Type 9.—These patients bring up some sputum every day. A patch of bronchitis is often found in the lungs. An autogenous vaccine from the sputum is often entirely successful in curing this somewhat rare type.

Type 10.—The only symptom peculiar to this type is that the patients have a high blood pressure, usually round 200. Apart from that we find them distributed here and there throughout all the other types, and the asthma should be treated quite independently of this symptom.

Type 11.—Of the whole series of 1,000, 22 per cent. had eczema in early life; 30 per cent. of the sensitive type had had eczema and 34 per cent. of those sensitive to foods.

Type 12.—Asthma in this type is due to an intake of too much food, especially the last thing at night, and insufficient exercise. Though the patient has asthma from other causes, a strict diet will do much to help the majority of cases. This type is very fully described by Dr. James Adam of Glasgow in his books. I have many patients who keep entirely free by following his régime of starvation and exercise.

Type 13.—Typical of this is, of course, hay asthma. But I also find a number of patients who have pronounced asthma strictly limited to the months of August and September. Christmas is often a bad time; so many unusual proteins are met at that season. Recently I had a patient sensitive to holly.

Type 14.—A large number of patients are worse at the seaside, on clay soil, or in woods, especially if damp, or when in houses surrounded by trees.

Types 15, 16, and 17.—I hope to discuss these in a future article. Type 17 is quite the worst that I see. Naturally these patients never touch aspirin, but their asthma is almost continuous. They nearly all suffer from nasal polypi, a rare thing in ordinary asthmatics.

Results of Treatment.

In order to obtain statistics on the subject, 300 patients were written to. These had been seen by me between September, 1925, and December, 1926, and included every single case of asthma seen during that time. The answers received denoted the condition of the patient's health during the one to two years since coming to me. Replies were received from 223; of the rest two had died, both from strokes, and 14 could not be traced; the remainder have not answered. Many of the latter, to my knowledge, are abroad, and there is no reason to suppose the results obtained in these would be less favourable than from those who answered.

Replies received from 223 Cases.

(*a*)	"No better"	44
(*b*)	"A little better"	31
(*c*)	"Better"	32
(*d*)	"Much better"	17
(*e*)	"Very much better indeed"	34
(*f*)	"Practically free"; "Occasional attacks from overfeeding"; or "Perfectly well"...	65
		223

Taking those patients in (*e*) and (*f*) their average age was 27 and the duration of their asthma thirteen years. The average age of (*b*), (*c*), and (*d*) was 37 years, with a duration of asthma for fifteen years. Those "no better" (*a*) were 40 years of age and had had asthma for seventeen years on the average.

In conclusion, and considering that these 300 cases written to were in series and not picked cases, and that by far the larger majority were only seen once, I think the results obtained are sufficient to prove that these new methods of treating asthma have more than justified their trial.

CONVULSIONS OCCURRING DURING SURGICAL ANAESTHESIA.

BY

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THAT patients completely under the influence of a general narcotic, both children and adults, should develop general convulsions, and die of them, is extraordinary, but several instances have come to my notice. I have been an anaesthetist for nine years, and have made over 11,000 administrations. The first case occurred only two and a half years ago; I have been able to cut short the last few. The seizure is epileptiform, comes on at any time during the progress of the operation, and may continue until the end and after. It may quite cease, but start again later on, perhaps after the patient has reached the ward (without, however, having regained consciousness). In other cases, after some time, it stops of its own accord, or in response to treatment.

It begins with twitching of the eyelids, or arms, or about the mouth, and extends rapidly all over the body, suddenly almost; but before this, I think, some jerkiness

...tion becomes quite inefficient, and it may be difficult or impossible to keep a good colour even with oxygen. The convulsion is unremitting and severe, though there is not gross or violent movement, and it is obvious that it will quickly wear out the heart, even apart from the increasing respiratory insufficiency.

All the instances have occurred under ether, and nearly all in young people who have had an acute infection with more or less pyrexia. There have been fifteen in all, of which I will describe two or three typical ones.

The third case was perhaps the most singular of all, because when I saw the patient last he seemed on the way to a normal recovery from the anaesthesia, yet four hours later he was dead.

This was a boy, aged 7, with a gangrenous appendix, operated on at 6 p.m. in October, 1925, in hospital. From my own notes at the time: "Respiration very difficult owing to breath-holding in going under. Got generalized convulsions later on; these lasted till end of operation, but soon after stopped. Three hours later (in the ward) started again (after I had left the hospital). Artificial respiration; good colour; not round; respiration failed." Here I was impressed that the laboured breathing was the chief cause of the convulsions, the various muscle movements accessory to respiration overflowing apparently into the rest of the limb, face, and trunk muscles. There was no general peritonitis, and the boy was in good condition, but with some elevation of temperature; before he died, however, it went up to 107° F. The bomb method was here, as usually, employed. At the *post-mortem* examination there was nothing found that afforded any good explanation, and the coroner's verdict was in accordance with the medical evidence—that the fatal issue was due to some unknown effect of the ether.

It is most extraordinary that when I saw him, half an hour after the end of the operation, he should look perfectly well, though still unconscious, his colour, pulse, and breathing good, and so tranquil after the storm that there seemed not the least cause for anxiety.

The fifth case was at the same hospital, and the same method was employed. The date of the event and of my notes is April 13th, 1926.

"Strong healthy woman of 25; went under quite well; full blooded and rather muscular. Operation for removal of 'tarry' cyst difficult; moderate Trendelenburg position. Respiration full, unobstructed, good colour, and oxygen all the time. Suddenly, without the least warning, general convulsions—very severe; continued forty minutes. Anaesthetic stopped immediately, artificial respiration to regain regular breathing—no good: pressure carotids seemed to give a few seconds quiet. Began to get bluish, and pulse not so good; also temperature rose to 101.8°, and then to 103°. Very little sign of recovery from anaesthesia. Suddenly became quiet when mouth was gagged open preparatory passing an intratracheal tube, and insufflating with air, which therefore not done. Hewitt's airway tube has been in all the e. Respiration still rather jerky. In ward, pulse quite good, ng very slightly blue, breathing quiet, all right afterwards."

this case there was no infection or toxaemia, the an was in perfect general health, and the only excepble features were the Trendelenburg position, and that reathing was full. Immediate discontinuance of the did not, at any rate during forty minutes, relieve the s. But I will return to this matter. I then began haunted by the affection, for on two consecutive days e of 1926 I had a patient develop it.

eighth case was a girl, aged 19, in hospital with a ature raised to 102.5° F. by an acute pyosalpinx, came convulsed under deep narcosis. But I seem know what to do. The notes are:

ght on ether (bomb) till stitching up peritoneum, deep len onset of general convulsions. Immediately stopped c. Lasted (severe) until three or four minutes after when I noticed blueness due to oxygen being dis- However, convulsions soon stopped, and colour became respiration quiet, nice, but struggling during gular, but jerky. Temperature 101.2° F.; in bed imme- rwards."

eleventh case I have notes kindly written out the administrator, Mr. R. L. Holt, when in

ed 21, admitted September 15th, 1926, with acute spreading peritonitis, and a high temperature /60 grain atropine given shortly before operation previous cases, too, had in doses suitable to their chloride and ether induction; cyanosis observed t improved with oxygen, the airway being quite free. Though fully anaesthetized, spasm, followed by twitching the eyelids, and then general convulsions, came on, and a good colour could not be kept. By the time the operation had been speedily concluded, the convulsions, though less severe, had brought him to the point of death. Stimulants, artificial respiration, and cardiac massage were alike unavailing, and he expired while still in the theatre. *Post mortem* there was found a distinctly enlarged thymus.

All but four of these cases occurred in my own practice, and in all these ether was given by the "bomb" method. In the last six of them the convulsions, in response to my treatment, lasted only a few minutes, or did not become general. The onset is definitely recognizable and easily to be distinguished from "ether clonus," which is of a coarser and at the same time a more rhythmical form. Notes were made of them the same day in all except two.

It appears from these cases that the convulsions are similar and typical. Five of them ended fatally, and in the first and fourteenth the patients were already in an extremely grave state before operation; in most cases there was pronounced infection, but in some, particularly the fifth (quoted here), this was not so.

All but one, the first, were in young people and children. All had ether, most of them nothing else, so that this appears so far as a causal factor, but no particular brand, as several kinds had been given. No history of epilepsy, convulsions, or chorea was at any time obtained.

Why is it that it is only recently that these things have been observed—only recently that they have happened, since they scarcely could have escaped notice?

Two matters suggest themselves in explanation—the gradually increasing use, especially by beginners, of ether, and the adoption, as a consequence, of many coverings over the frame and face to concentrate the vapour. Neither of these is very convincing, as little or no change in either direction, that I am sensible of, has taken place in my own routine during the past two or three years.

It is to be seen that in most cases the breathing is first affected: it becomes jerky, insufficient, or stertorous, or there is cyanosis, and in some, from the beginning, has been difficult, laboured, or uncomfortably deep and full. In my own cases I have not been satisfied in every one that the breathing could in any way be taken exception to; but in most I have, and always I have felt that it would not be unreasonable to blame an invisible increase of CO_2; for its effects, in the way of deep and energetic breathing, have, as I say, been obvious enough. Even without this it is fair to think that instead of resulting in steady and deep inspirations and in perfectly co-ordinated action of important muscles, it may produce only partly co-ordinated and jerky efforts, which can easily be supposed to extend to the whole body in conditions where, for some reason or another, there may be abnormal irritability of other muscles—such conditions, I mean, as pyrexia, toxaemia, and ether narcosis. Quiet respiration is regular enough—in fact, when breathing is quiet, it is the more regular—but under general anaesthesia it is frequently but a short step from the accustomed rhythm to various irregularities, both of a rhythmical and an arrhythmical sort; so that I have come to regard the convulsion as largely the outcome of the extensive action of the CO_2 in patients who are sensitive to this naturally, or by reason of toxaemia, pyrexia, and so on, and who are under the influence of ether, a substance itself having a marked effect on breathing.

I have on occasion seen persons inhaling ether take breaths constantly increasing in depth, vigour, and rate, until in a few moments the whole frame is in tonic spasm, where they remain for some moments quite unable to move or breathe at all. Moreover, those so-called "athetotic" movements come particularly to those patients who, by reason of rigidity during the struggling stage, have difficulty, often lasting some minutes, in drawing their breath—being, as it seems to me, overflow movements of muscles other than accessory muscles of respiration, and lasting in a disorderly manner for an unexpectedly long time. Such cases throw light on the subject of this report, and however it may be, treatment based on this assumption has so far been successful. It is directed to the riddance of excess CO_2, and must be prompt. Luckily some moments' warning is given of the impending seizure

by twitching of the eyelids and mouth, jerkiness of the breathing, especially inspiration, or some strange movement or sound, and so the essential thing can be accomplished—*the immediate removal of all coverings from the face* before the convulsions have set in. Frame, towels, everything, are taken right away, and the air of the room given free access; any obstruction must be completely relieved, and a gentle stream of oxygen allowed to flow towards the mouth. In this way the CO_2 will diminish as much as possible by natural means. Recovery from the anaesthetic, so delayed in most of these cases, is permitted to proceed, until it is utterly impossible to have the patient come round any more, when pure chloroform may be given in small quantities and by a quite open method, though, indeed, this will often not be needed. The success of this procedure depends on the promptitude with which the onset of spasms is foreseen.

A field for investigation is here; but the most important thing for the time being is that as many as possible should know how to recognize the condition and treat it.

THE APPENDIX REFLEX.*

BY

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THE appendix reflex, giving rise to pyloric spasm, followed by hyperacidity and symptoms suggestive of gastric or duodenal ulcer, is now well recognized.

The object of this paper is to suggest that in certain subjects, with unstable nervous system, a diseased appendix may be the exciting cause of symptoms of an entirely different character. I propose to illustrate this suggestion by reference to a series of cases which have come under my observation, in most of which the possibility of an appendical origin had never been suspected.

CASE I.—*Migraine.*

In 1912 a country farmer, aged 45, was sent to me with a view to operation on his stomach, owing to repeated attacks of vomiting.

His history appeared to be a typical one of migraine. As long as he could remember he had suffered from violent headaches, associated with the appearance of spots before his eyes and followed by severe vomiting. At first the attacks occurred only two or three times a year, then once a month. When I saw him they came once a fortnight. He wakened with them, and was completely prostrated for a whole day, and unfit to work on the following day. He had no history of abdominal pain at any time. The stomach appeared normal. I regarded the case as one of migraine, and said I could not give any guarantee of relief by operation. We might possibly find a chronic appendix, but operation would be largely exploratory.

I saw no more of him for four years. He came back stating that his attacks had become intolerable. They now lasted four days. He was five days in bed. He had to sell his farm as he was quite incapable of looking after it. He asked me to "open him up" and see if anything could be done.

At operation, which was carried out through a right paramedial incision, admitting of a thorough examination of the whole abdomen, we could find nothing abnormal except a very large, chronically inflamed and distended appendix, dipping into the pelvis and adherent there.

He made an uneventful recovery. He had no recurrence of headache for a month after operation. When I last heard of him, a year later, he still had occasional headaches, but they never lasted more than a day, and he was again farming.

I have no doubt whatever that if this man had had the appendix removed in early life the attacks of migraine would have disappeared completely.

CASE II.—*Migraine.*

Shortly after operating on Case I, in 1916, a school teacher, a lady aged 40, came to me complaining of steadily increasing migraine. Her attacks, which at first had been monthly, had now become weekly. They were very severe, and unfitted her for her duty for two days at a time.

All the usual investigations had been made. The eyes had been thoroughly tested, and reading glasses supplied, without relief. The uterus was normal in size and position, functions regular. Urine normal in every respect.

In view of the previous case I suggested the possibility of relief by operation, at the same time explaining that no guarantee could be given. She at once agreed, saying she could carry on no longer as she was.

At operation we found (1) a well marked chronic appendix, adherent to the caecum; (2) a cholesterine gall stone, the size of a small pea, in an apparently healthy gall bladder.

The appendix and the gall stone were removed, and the gall bladder drained. She made an uneventful recovery.

Even after the operation, with knowledge of the pathological condition, we could elicit no history suggestive of either appendix or gall-bladder trouble.

I had a letter from her a year later informing me that she had now only a very occasional headache, which never interfered with her work.

CASE III.—*Migraine, with Glycosuria.*

In January, 1919, I operated on a young medical man, whose own account of his case speaks for itself.

"For several years previous to the onset of glycosuria (1917) I had periodic attacks of severe headache, associated with indigestion and loss of appetite, but no vomiting. The attacks lasted from two to four days, and were always in the frontal region, on one side or other, but never both sides together. The most tender spot was the exit of the supratrochlear nerve from the orbit. At times I could not use my eyes for the pain.

"The attacks continued till you operated on me in January, 1919. I think you found a chronic retrocaecal appendix, which you removed. This was associated with some cholecystitis, so you drained the gall bladder for a few days.

"Since that time I have been practically free from headache. I am also quite free from glycosuria, and am on an ordinary carbohydrate diet."

CASE IV.—*Cyclical Vomiting: Acidosis.*

Early in 1920 I saw, with one of our leading medical men, a little girl, aged 10. Since she was 2 years old she had suffered from attacks of acidosis with violent vomiting, occurring every two or three months, as the result of which she was confined to bed for some days, but was always relieved by large doses of alkalis. She never had any definite abdominal pain till the attack in which I had seen her. She then had definite symptoms of appendicitis. Immediate operation was advised, but it was with considerable difficulty that her parents could be persuaded to have this done. They said she was terribly nervous, and the very idea of operation would put her out of her mind. However, they finally consented.

At operation we removed a distended, congested appendix. Recovery was uneventful. Her attacks of vomiting and acidosis disappeared completely. Her nerves quieted down. In a short time she became a normal child and has remained so ever since.

CASE V.—*Cyclical Vomiting: Acidosis.*

On January 1st, 1923, I saw a little girl, aged 6. She was quite well till 2½ years of age. She then began to have severe "bilious attacks" once a month or oftener. The attacks increased in frequency and severity until 1923, when I saw her. They commenced with sneezing, running of the nose, then cough, lasting for a day, next day violent and persistent vomiting, which lasted twelve hours and completely prostrated her, leaving her greatly exhausted all the following day. She had some acidosis with each attack, but no headache. She never had any abdominal pain, except some muscular pain *after* the vomiting.

A finger in the rectum elicited some tenderness high up when pressure was made with the other hand in the right iliac fossa—that is, a bimanual examination of the ileo-caecal region, which is so useful in children. Otherwise nothing could be made out.

She was referred to a specialist for a thorough examination of the nose and nasal pharynx. He reported that there was *nothing* to account for her attacks. We accordingly operated, and removed a long, distended, corkscrew-like appendix. A month later she had one of her old attacks, then another slight one, after which they completely ceased. Her doctor reported on January 20th, 1925, that she had remained perfectly well ever since.

Osler says: "In young children acetone acidosis (cyclical vomiting) may give difficulty in diagnosis from appendicitis. There may be severe vomiting, with abdominal pain, and the caecum may be distended and tender. The smell of acetone from the breath and the urinary findings should distinguish." (Tenth edition, p. 533.)

I desire to suggest that in some of these cases appendicitis may be the *real disease, the acidosis* merely a reflex effect.

Appendicitis in children is very common, much more so than is generally recognized. I believe the majority of cases of so-called colic are primarily appendical, and that a large proportion of the cases of so-called chronic appendix which are met with to-day during abdominal operations have originated in early childhood. In the "nervous child" such an appendix may give rise to a variety of reflex symptoms, even in the absence of any local signs.

CASE VI.—*Epilepsy.*

In July, 1919, I was asked to see Mr. H., aged 37, who for years had been the subject of epileptic attacks. In 1904 he had an attack of what seemed to have been appendicitis, and was

*This paper was read before the Section of Surgery of the Royal Academy of Medicine in Ireland on February 18th: the discussion which followed was published in the JOURNAL of March 19th (p. 517).

up for a week. When I saw him he was the subject of nic indigestion of the appendical type. He was taking bromide ularly to control his epilepsy.
peration was advised (1) for relief of the indigestion, (2) in hope that it might benefit the epilepsy. A large, distended, erent appendix was removed from the ileo-cæcal angle.
le made an uneventful recovery. He had no epileptic attack for months after operation, and since that time the attacks have n much less frequent and less severe.

t seems reasonable to infer that if this appendix had n removed at a much earlier stage, before the epileptic it had become confirmed, the result would have been ch better, and possibly the disease might have been ed.

CASE VII.—*Petit Mal.*

n May, 1922, I saw a boy, aged 10, a doctor's nephew, who had some years suffered from attacks of petit mal, which were reasing in frequency. I was asked to see him owing to an ack of abdominal pain. We regarded the case as one of pendicitis, and advised operation. His mother at once pointed that he had these nervous attacks, and asked whether there uld be any chance of the operation making them worse. Our ly was that there was every reason to hope it would make m better.
l operation we found a distended, obstructed appendix.
le made an uneventful recovery. The attacks of petit mal ppeared, and he is now a boarder at a public school, in ellent health.

Let it be clearly understood: I do not propose that ry case of migraine, cyclical vomiting, or epilepsy uld be submitted to an appendicectomy.
I do wish to point out that this group of cases, which y be classed with hysteria, neurasthenia, and certain es of mental disease, have one feature in common—it is, a nervous system so unstable that it is liable to upset by some slight reflex stimulus which would not turb a normal individual.
A thorough examination for an abdominal focus should carried out in every instance. A misplaced uterus, or movable kidney, will often afford an explanation, but venture to suggest that a diseased appendix will prove be the exciting cause much more frequently than we ve hitherto suspected.
When there is good reason for suspicion of that organ, pendicectomy should be seriously considered.

THE TREATMENT OF RODENT ULCERS NEAR THE EYE.

BY

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HE satisfactory treatment of rodent ulcers in the region the eye and nose is sometimes a little difficult. For ry small lesions the application of carbon dioxide snow y be efficient, in other cases the application of radium treatment by *x* rays may be recommended, but none of ese methods is quite so speedy or efficient as excision, that can be practised without causing deformity of the ce.
If surgical measures are undertaken it is wise to remove e ulcer with a margin of at least half an inch surnding it. If the ulcer is but the size of a threepenny-t its removal may leave a space necessitating a skin aft, for to bring the edges of the skin together will stort the eyelids or nose. The difficulty of applying a in graft in the region of the inner canthus and ala nasi readily understood. It is almost useless to apply grafts the Thiersch method unless firm and equable pressure maintained, and the difficulty of maintaining such ressure in this region is easily appreciable. Following e lines of the well known work of Esser, which has en so skilfully developed by Gillies and others, I at first pplied grafts moulded upon Stent's composition. This ve fairly satisfactory results, but the material upon hich the grafts were moulded was rather hard to press gainst the bony root of the nose, and if the mould was ot absolutely perfect equable pressure over the whole area as not maintained. In searching for a suitable moulding aterial I thought of a substance which would be less hard hen cold, but would enable pressure to be applied over the whole grafted area. Plasticine was therefore tried and proved suitable. This material was used because it was most readily obtainable, but ordinary artist's modelling clay would, I think, serve equally well, if not better.

The technique of the method is as follows. Under a general anæsthetic the ulcer is excised with half an inch of apparently healthy skin all round. Any bleeding vessel is seized by artery clips and oozing from smaller vessels checked by gauze pressure. Fine catgut may be used to ligature any larger vessel if necessary, but it is better to do without ligatures if torsion and forcipressure will suffice. Whilst the raw area is being made dry by pressure the surgeon takes up a piece of modelling clay which has been boiled in order to sterilize it, and breaks off a portion of a suitable size for the graft. It is then carefully moulded over the raw surface and contiguous surface of the root of the nose and upper or lower eyelid, and put aside whilst the outer aspect of the thigh is exposed for the purpose of cutting the grafts. The grafts are cut in the usual way by a razor or special knife, and are placed on the area of the clay previously moulded on to the raw surface, with their deep or raw surface outwards, so that when the mould is applied to the part of the face operated upon raw surface of graft meets raw surface of face. The grafts should more than cover the actual part of the *clay which fitted the ulcer. The clay with grafts on it is* carefully fitted on to the place from which the growth was removed and pressure is maintained by strips of strapping. A simple dressing is applied over this. The parts are not touched for about ten days, at the end of which time the dressing and clay can be removed. The grafts should then be firmly adherent and no raw surface be seen. A simple dressing may be applied and maintained in position by strapping for a week or two. The superficial scab of epithelium will gradually separate and leave a healthy depressed and firm scar. In the course of a few months this scar rises and restores an almost normal appearance to the site from which the rodent ulcer has been removed.

MICROSCOPICAL AND CHEMICAL EXAMINATION OF STOOLS IN YOUNG CHILDREN.

BY

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AND

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IN order to ascertain what information might be gained by systematic examinations of stools in young children, careful observations were made during 1924 and 1925 on patients in the observation ward at the Carnegie Institute, Birmingham. As there was some variation in method and nomenclature during the early period, these notes deal exclusively with the cases of 1925, when a more definite system had been instituted.

Chemical examinations have been made with the object of ascertaining the reaction, and the presence or absence, of occult blood; the microscopic examination has included Gram-stained films for the bacterial flora, and examination for pus, fat, etc.

Stools have been examined from cases of subacute and chronic enteritis; convalescents from enteritis; children with no intestinal disorder and with normal stools; cases of constipation; and breast-fed infants. All the patients were children under the age of 5.

(A) *Chemical Examination.*

In the cases suffering from enteritis, 54 per cent. of the stools were acid, including all the more acute cases. Blood was found in 83 per cent. of the cases. Pus and epithelial cells were frequently found on microscopical examination of the wet preparation. As the patients improved the stools became alkaline, only 22 per cent. remaining or becoming acid. Blood was still found in 50 per cent. of the patients who had clinically quite recovered. Of the normal stools, 90 per cent. were alkaline, and blood was

found in 20 per cent., although the patients showed no sign of gastro-intestinal disorder. Most of these cases, however, had a history of previous intestinal disorder. Constipated stools were always alkaline, and blood was present in 33 per cent. All the breast-fed infants whose stools were examined were suffering from enteritis, all the stools were acid, and 80 per cent. contained blood.

The high percentage of stools containing occult blood in the subacute and chronic intestinal disorders of infancy is a fact which has not apparently attracted attention. The test used was the benzidine test, which is very delicate. The persistence of a positive reaction after convalescence and even recovery are established is also a point of some interest.

(B) *Bacteriological Examination.*

It has been found impossible to ascertain the causal agent of bowel irritation from the examination of the Gram-stained films. They showed a very mixed flora which might exhibit a preponderance of Gram-negative or Gram-positive organisms. In many cases of enteritis, particularly the acute cases, the Gram-stained film showed a large number of Gram-positive cocci (staphylococci and, more rarely, streptococci); with recovery the film tended to become more Gram-negative. This may have some significance. There is no such thing as a "normal" Gram film. Cocci, however, are rarely a prominent feature. The Gram-stained films in the breast-fed infants showed almost in every instance a uniform picture of slender Gram-positive rods, which may be taken as the normal flora of the breast-fed infant's stool.

In cases of enteritis treated with lactic acid milk (culture) the change in the flora was interesting; it was to a higher percentage of Gram-negative organisms.

The following are the tabulated figures:

	Number.	Alkaline.	Acid.	Neutral.	Blood.	Mixed Film.	Gram + Predominance.	Gram - Predominance.	Cocci +.
Enteritis stools ...	46	44%	54%	2%	83%	—	28%	18%	54%
Convalescent stools	31	68%	22%	10%	50%	13%	32%	42%	13%
Normal stools ...	20	90%	10%	—	20%	90%	—	—	10%
Constipated stools ...	6	100%	—	—	33%	100%	—	—	—
Breast-fed infants' stools	5	100%	—	—	80%	20%	80%	—	—

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

TAPEWORMS AND MEAT INSPECTION.

THE following account may be of interest partly because human cases of tapeworm infection are nowadays supposed to be comparatively rare in England, and partly because it raises a doubt whether even fairly close routine meat inspection is likely to detect the small cysts of *Taenia saginata*.

The three patients all came to consult me within a week, and it would be best, perhaps, to give a short history of each.

CASE I.

On January 12th, 1927, Miss A. came to me because for about eighteen months she had been passing some whitish things like vermicelli in her motions. I found them to be segments of *Taenia saginata*; on treatment with extract of *filix mas*, the tapeworm, many feet in length, was evacuated. The patient had suffered from severe nervous depression and "biliousness."

CASE II.

On January 18th, 1927, Mrs. B. told me that she was passing some flat, whitish objects. On examination of the stools, segments of *Taenia saginata* were seen, some well over an inch long. Treatment with extract of *filix mas* resulted again in the evacuation of a tapeworm several feet in length. The patient had suffered since 1924 from backache and depression, and is now feeling much better; curiously, she had been putting on weight, a rather surprising symptom for a tapeworm to produce.

CASE III.

On January 17th, 1927, Mr. C. consulted me, bringing with him a pot containing about six feet of tapeworm that he had just passed. This again proved to be *Taenia saginata*, and the rest of the tapeworm (quite six feet more) was evacuated by means of extract of *filix mas*. He looked rather thin and anaemic, and felt depressed.

It has, I think, been absolutely proved that *Taenia saginata* in man is due to the eating of infested beef. Yet Cases I and II are both religious Jewesses and have never been out of England; they take their meat from different butchers, but this, of course, does not exclude the possibility of the infection having come from the same animal. Their meat is always examined both by the British meat inspectors and by the Jewish trained slaughter officials, and at home, as well, during the process of "koshering" any abnormalities are likely to be detected. Case III has never been further away from England than France; he states that he ate a great deal of partially cooked meat in France about two years ago.

The specimens from the above cases were identified by Professor R. T. Leiper, F.R.S.

London, N.5. J. VICTOR LANDAU, M.D.Lond., D.P.H.

ULTRA-VIOLET RAYS IN THE TREATMENT OF RICKETS.

SINCE the curative properties of artificial ultra-violet rays in rickets were demonstrated, eight years ago, there has been difference of opinion as to the most suitable source of the rays. During the past eighteen months we have attempted to ascertain the relative curative value of different types of lamps.

All the patients selected suffered from severe active rickets, as shown in radiograms of the wrist; radiograms taken at frequent intervals formed the criterion of the progress of healing and of ultimate cure. All the patients were kept in the same environment and were given a standard antirachitic diet rich in fats and poor in carbohydrates; in addition they were all given cod-liver oil. The ages of the patients ranged from 1 to 4 years.

Group A.—Fifteen patients were given the standard diet and cod-liver oil, but no ultra-violet radiations. It was found that on an average a severe case of rickets was cured in fifteen weeks. These cases are included for comparative purposes.

Group B.—Eleven patients were exposed on alternate days, at a distance of 30 inches, to the rays of an open-flamed carbon arc lamp consuming 35 amperes, for periods of ten minutes increasing to one hour. It was found that these patients were not more rapidly cured than those in the first group, the average time being fifteen weeks.

Group C.—Eight patients were exposed on alternate days to the rays of an arc lamp burning electrodes of carbon cored with tungsten-molybdeno powder, at a distance of 32 inches. The initial exposure of two minutes was slowly increased to five minutes. It was found that the average time necessary to effect a cure was eight weeks.

Group D.—Four patients were exposed twice a week to the rays of a K-B-B mercury vapour atmospheric lamp, at a distance of 20 inches. They were cured in approximately five weeks.

The radiological evidence of cure does not apparently synchronize with the clinical evidence, for the square head, beading of the ribs, and deformities of the limbs may persist long after the radiogram of the wrist presents a normal picture. The antirachitic properties of ultra-violet rays seem to be due to those having a wave-length of 3,000 Angström units or less. It is probable that these rays, being absorbed by the deeper layers of the skin, there activate a vitamin precursor, converting it into a potent antirachitic vitamin, which is liberated into the circulation.

The mercury vapour lamp, giving as it does an abundance of rays around 3,000 Angström units and beyond it, proved the most potent in the treatment of rickets. The rays emanating from the carbons cored with tungsten-molybdeno powder, while not being so powerful, were still definitely antirachitic; whereas the carbon arc lamp with its wealth of "near" ultra-violet rays does not apparently possess any marked antirachitic properties.

We wish to thank Dr. P. Macdiarmid, the medical superintendent of Alder Hey Hospital, for his permission to make use of these statistics.

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CARCINOMA OF THE MALE BREAST.

CASES of carcinoma of the breast in males are sufficiently rare to warrant placing on record.

A man, aged 63, was sent to me by Dr. Langmuir with a view to admission to the Glasgow Royal Infirmary. The patient stated that the condition began several months previously as a small "boil," which repeatedly broke down and healed again, and gradually increased in size. He had been losing weight for the past six months, and, for a couple of weeks prior to admission, had experienced pain in the breast region, and extending down the arm.

An ulcer about the size of half a crown, covered by a brown crust, and surrounded by an inflammatory zone, was found in the position of the right breast, the nipple having been entirely destroyed. It was hard to the touch and was adherent to the pectoral fascia, but moved on the subjacent structures. The axillary glands were extensively involved and hard; several were much enlarged.

Operation was performed as for removal of the female breast, together with muscles and axillary contents. The areolar tissue in the axilla was unusually dense and fibrous, rendering removal of the glands more difficult than usual, particularly those surrounding the vein. Enlarged glands extended up to the apex of the axilla, under the clavicle.

Microscopical examination of the tumour and of the axillary glands by Dr. Burton showed it to be a scirrhous carcinoma of the atrophying type. The Wassermann reaction was negative.

The patient has made an uninterrupted recovery.

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CAVERNOUS ANEURYSM OF THE CAROTID.

THE following record of a rather unusual case in which the diagnosis of carotid cavernous aneurysm was made will be of interest.

A married woman, aged 30, had suffered since adolescence from severe headache on the right side, accompanied by attacks of vomiting, and preceded by sensations of spots in front of her eyes. Since marriage, eight years ago, her husband had detected a curious noise proceeding from her head. Five years ago she had "attacks" preceded by hunger; her lips became red, she suffered with cold shivers, and then developed biliousness and faintness. She had been losing weight. She had scarlet fever four and a half years ago, and four years ago a convulsive attack nine days after the birth of her second child; since then the attacks had been worse. She menstruated every three weeks with severe loss.

I found the thyroid gland uniformly enlarged, and a systolic murmur was audible over it. There was slight exophthalmos. The cardiac apex beat was 5½ inches from the mid-line, and there was a systolic apical murmur connected both inwards and outwards; this murmur became less when she was kept in bed, and it did not appear to be organic. She had a fair tolerance for exercise; there was no sign of failure of compensation, and the blood pressure was 120/80. By listening over the head a systolic and diastolic murmur could be heard behind both ears, and a systolic murmur alone over the vertex. The patient was aware of a noise in her head, which became worse when she was worried. No abnormality was found in the eyes and there was no pulsating exophthalmos.

I came to the conclusion that this was a case of carotid cavernous aneurysm; I find in the literature that this may occur spontaneously after childbirth. Assuming this diagnosis to be correct, the question is whether such a condition would account for the symptoms, including those resembling migraine. Could such a condition be congenital and be made worse by childbirth? Could any effective treatment be recommended?

Johannesburg. H. L. HEIMANN, M.D., M.R.C.P.

INFLUENZAL NEPHRITIS AND PYELITIS.

NEPHRITIS and pyelitis seem to have been more common complications of influenza during the recent epidemic than is usual. To the several cases already recorded in the BRITISH MEDICAL JOURNAL (December 11th, 1926, April 2nd, 1927, etc.) can be added some cases treated at the Bristol Royal Hospital for Sick Children and Women.

E. P., female, aged 13. Influenza; followed by (about a week later) epithelial casts, red blood corpuscles in urine, and slight generalized oedema.

E. J., female, aged 6. Combination of epithelial casts and pus cells in urine, and slight oedema.

J. B., female, aged 11. Pyrexia; many red blood cells and some pus cells.

S. B., female, aged 12. Pyrexia; many red blood cells and many pus cells (sent in as an acute abdominal case).

The above cases were characterized by the rapidity with which they cleared up. Cases of haematuria (influenzal) have been recorded (*Medical Echo*, March, 1927) which, together with the cases of albuminuria and those of true nephritis, raise the question as to whether they were different stages of the same disease, just as in the respiratory system one may get aborted cases of pneumonia.

In the eighth edition of Osler's *Principles and Practice of Medicine* it is noted that G. Baumgarten has called attention to the frequency of nephritis as a complication of influenza, though Holt states that it is only occasionally seen.

I am indebted to the kindness of Dr. O. C. M. Davis, senior physician to the hospital, for permission to submit these cases.

J. L. DELICATI, L.M.S.S.A.Lond.,
House Physician, Bristol Royal Hospital for Sick Children and Women.

Reports of Societies.

ICHTHYOSIS AND CANCER OF THE SKIN.

AT a meeting of the Section of Dermatology of the Royal Society of Medicine on May 19th, DR. J. H. SEQUEIRA, the President, in the chair, a paper was read by DR. LOUIS SAVATARD of Manchester, on ichthyosis and cancer of the skin, with special reference to mule-spinner's cancer.

Dr. Savatard considered that it was quite justifiable to regard xerodermia pigmentosum as a precancerous inflammation of the skin, because in this comparatively infrequent affection it was the rule rather than the exception for cancer to supervene, but he did not think that the fact that xerodermia simplex, or ichthyosis simplex, was also a frequent precursor of cancer was yet recognized as it should be. He considered ichthyosis of the skin of importance as predisposing to skin cancer. In some cases of external cancer, by making a routine examination of the skin of the whole body, he had found lesions not previously suspected even by the patient, and in some of these ichthyosis was present also. This was especially the case when carcinoma was found supervening on a keratotic skin condition. It was not improbable that the keratosis was secondary to the ichthyosis, and might be the precursor of all types of carcinoma and the first sign of squamous carcinoma to be clinically recognized. Dr. Savatard then exhibited a patient whom he had brought from Manchester, illustrating this condition, together with slides of about a dozen cases. He mentioned that Dr. Prosser White of Wigan had described what he called "shagreen skin" occurring in mule-spinners, but among the Manchester mule-spinners whom he had seen he had not noticed this condition, and he regarded this type of skin as only ichthyosis, which was fairly common in Lancashire. Among 400 mule-spinners whom he had seen the incidence was 5 per cent. These mule-spinners, whom he had had an opportunity of examining at their work, were of various ages, and the twenty of them who had ichthyosis (in ten only in a mild degree) included both youths and men. Two out of the twenty had suffered from cancer of the scrotum. From the observations he had been able to make he was convinced that ichthyosis was an important etiological factor in mule-spinner's cancer. He was sorry to see that the departmental committee on mule-spinner's cancer[1] had reported that in the absence of exposure to mineral oils there would be no mule-spinner's cancer. Dr. Robertson, medical officer of health for Darwen, as a result of his own investigation, had come to the opposite view.

DR. ARTHUR WHITFIELD said that in his opinion Dr. Savatard had attributed to ichthyosis an importance which was hardly warranted. It was true that the ichthyotic skin was a poorly nourished skin, especially in respect of the absence of true maturity of the horny cell, as well as the production and exudation of grease. Since the ichthyotic patient started life with a skin defect in the

[1] Departmental Committee Report on Occurrence of Epitheliomatous Ulceration among Mule-Spinners (1926). London: H.M. Stationery Office. Summarized, BRITISH MEDICAL JOURNAL, April 24th, 1926, p. 746.

direction of senility he might on that account show a tendency to the development of skin cancer. The speaker had not seen malignant keratosis in a keratotic subject.

Dr. GRAHAM LITTLE thought it must be rare for carcinomatous changes to be seen in association with senile keratosis.

Dr. H. MACCORMAC said that for a long time he had been definitely of opinion that there was a tendency for the prickle-cell type of carcinoma to take origin in some condition of the skin which could be definitely termed "pre-cancerous." He had seen, especially among Australians during the war, cases in which cancer developed on portions of the skin which had been exposed for long periods to powerful sunshine. The term "senile keratosis" was variously used by different dermatologists.

Dr. A. M. H. GRAY thought it would be comparatively simple to find out how many cases of carcinoma of the scrotum occurred among those whose work was not concerned with oils, tar, pitch, soot, or other substances which were well known to be skin irritants. His opinion was that it was rare to find carcinoma of the skin unassociated with occupations of this kind.

Dr. SYDNEY THOMSON remarked that among a large number of patients with ichthyosis whom he had seen none developed a warty growth of any sort. He reminded members that there was a well marked topographical distribution in the case of ichthyosis, and this was not the case with "senile skin."

Dr. H. W. BARBER raised the question of the association of multiple superficial basal-celled carcinomata with psoriasis, and asked whether psoriasis was more likely to occur in people who had a skin habitually dry than in people with normal skin.

Dr. SAVATARD, in reply, said that he fully recognized that oil, tar, soot, and like substances caused cancer. But his point was that if a routine examination of the whole of the skin of patients was made, cancer would be found more frequently in those with an ichthyotic skin than in others.

INTERNAL SECRETIONS OF THE OVARY.

AT a meeting of the Section of Obstetrics and Gynaecology of the Royal Society of Medicine on May 20th, Dr. A. DONALD in the chair, Dr. A. S. PARKES read a paper on the internal secretions of the ovary.

Dr. Parkes stated that up to the present time all that was known about the nature and properties of these secretions had been derived from experiments upon animals. His own work had been done on rodents, but he thought that it would be safe to assume that the secretions of the ovary were governed by the same laws in all mammals. The ovarian cycle consisted in the maturation of the Graafian follicles leading up to the production of the corpus luteum, together with the associated changes in the accessory organs of generation. The changes in the uterus during this period were well recognized, decidual tissue being formed in the endometrium in preparation for reception of the fertilized ovum. In the case of the mouse and rat these preparatory changes in the uterine mucosa were slight, as the ovarian cycle did not go beyond maturation of the ovarian follicles, and no corpus luteum was produced until fertilization. In the pig and the cow, however, the reverse was the case; the corpus luteum was fully developed and persisted for a long period, and, consequently, extensive preparation was made by the endometrium. Thus decidual tissue was found in the uterus in large amounts until the corpus luteum involuted. The "luteal phase" was also predominant in the ovarian cycle of the dog and the rabbit. Instances of pseudo-pregnancy in these animals were well known and numerous: the rabbit plucking its fur to make a nest, and the mammary glands of the bitch undergoing hypertrophy accompanied by secretion of milk. In the human being the same state of affairs existed, though perhaps not to so marked a degree. Ovulation occurred about thirteen to fifteen days after the first day of the preceding menstrual period. The premenstrual changes in the uterus, breasts, and other organs of generation were probably under control of the corpus luteum, which became functionally active at this stage. The relation of the ovar as a whole to the accessory organs of generation was o great interest; thus its presence was necessary for th development and activity of these organs and of th accessory glands affected by the ovary. The control wa supposed to be endocrine in nature. The extraction o the active principle, or principles, of the ovary was nex considered, particularly with regard to the production o oestrus in the ovariotomized animal. The difficulty o finding a reliable test for true oestrus had been largel overcome by the researches of Allen and Doisy in America who demonstrated the characteristic changes found in vaginal smear during the oestral cycle. The original soure of the oestrus-producing hormone was the liquor folliculi theoretically, therefore, maturation of the Graafian follicle produced oestrus. Substances which produced this effec had, however, been isolated from the ovarian stroma, th fluid in the corpus luteum, and from the placenta. To th corpus luteum had been ascribed the powers of (1) sensi tization of the endometrium for the reception of the ferti lized ovum; (2) the maintenance of pregnancy; (3) th inhibition of oestrus in pregnancy; (4) the development o the breasts; it was improbable that one substance wa responsible for all these. The extract of the corpus luteun was very unsuccessful, clinically, as a substitute for the livin gland, yet experimental injections of the extract inhibite oestrus in animals. As a result of these observations i seemed highly probable that there were two secretions o the ovary—the oestrus-forming and the oestrus-inhibitin secretions; in this way the "oestrus-producing hormone" and the corpus luteum acted in opposition. Theoretically, therefore, an injection of the oestrus-forming hormone overriding the corpus luteum should bring about the ter mination of pregnancy, and, as a method of induction of labour, would be of great value clinically. The extracts of the corpus luteum on the other hand would provide a means of treating such conditions as persistent amenorrhoea, repeated miscarriages during pregnancy, and mammary insufficiency. It was doubtful whether any improvement in cases of infantile uterus would be obtained from administration of the oestrus-producing hormone. Experimentally, as a result of the injection, the infantile uterus underwent hypertrophy which appeared to be evanescent. Dr. Parkes demonstrated by slides the relative development of the Graafian follicles and corpora lutea during the menstrual cycle, and also showed that in mice ovariotomy before and after puberty produced deficient development in the organs and accessory organs of generation.

The CHAIRMAN said he had been disappointed in the clinical effects of the administration of ovarian extracts; he was unable to claim any success.

Professor BLAIR BELL considered that the histology of the ovary, uterus, and other organs of generation must be more fully considered, and that further study should be devoted to the ovary in regard to its local and metabolic actions. It was now well established that the corpus luteum persisted in cases of pseudocyesis. The interstitial cells of the ovary alone would keep the uterus "sexually active," as had been proved by the administration of x rays, which destroyed the superficial cells of the ovary, and therefore the follicles, leaving the interstitial cells.

Dr. BOURNE stated that he had used "oestrin" for the induction of labour on three occasions, administering doses of between 20 and 40 rat units, but with clinical results in only one case. He had also given this substance in a case of sterility with amenorrhoea. He looked forward to the day when ampoules of oestrin could be supplied in doses of over 40 rat units and its injection be made less painful. He was certain that much larger doses than 40 rat units would be needed to be of any clinical value. Until these problems were solved he was convinced that ovarian therapy would make but very slow progress.

Dr. PARKES, in reply, said he hoped the day was not far off when a water-soluble preparation would be on the market. Experiments had been performed upon goats, and it had been found that whereas a dose of 500 rat units produced abortion, 300 rat units injected into a larger animal did not do so.

Reviews.

EXOPHTHALMIC GOITRE.

THE trend of modern thought in regard to Graves's disease is reflected in Dr. JOHN EASON'S recently published book on *Exophthalmic Goitre*.[1] Ten years ago those who doubted the thyrogenic nature of this malady, or who affirmed that "the routine treatment of Graves's disease is not surgical," were in the minority. But in these later years this attitude of mind has spread, and to-day the measure of our independence of thyroidectomy is a fair measure of our advance in knowledge.

Dr. Eason's book is divided into two parts: The first is introductory and deals, in two chapters, with anatomical and physiological considerations and with the clinical examination of the thyroid gland, the last being excellently described. The second has one chapter on etiology, three on clinical features, and one each on diagnosis, pathogenesis, pathology, prognosis, and treatment; all very detailed. A list of selected references is given and an index is provided. Those who study this book—and it requires close study—will be impressed by the painstaking manner of its preparation, by the comprehensive way in which the subject is presented, and by the slow growth of new knowledge regarding the nature of that morbid product of modern life—exophthalmic goitre. "It is sometimes stated," Dr. Eason says, "that the etiology of the disease is unknown, yet the circumstances in which it develops are known with a remarkable definiteness in the majority of cases." Of these circumstances an inborn or acquired "diathesis" or "autonomic imbalance" is considered to be the chief. Given this peculiar habit of body in a person of the female sex, in the *period* of active sexual life, who is of "light skeletal *build*, with fine bones, narrow build, acute costal angle, small muscles, and poorly hung viscera," subject her to adequate excitation—unusual nervous strain, prolonged emotional disturbance or infection—and the stage is laid for the tragedy. "Why is it," the author asks, "that the gracile type has a special tendency to exophthalmic goitre, while others, equally exposed to exciting factors, are less liable according as they are more powerfully built and more masculine?" The reader may agree with Dr. Eason that this question goes to the root of the problem, but he will probably be more concerned to know the cause of the "inborn or acquired diathesis" or "autonomic imbalance" which predisposes to Graves's disease. "In proportion as the individual is originally nearer the folio edition of the genus homo (the A1 type) the adequate excitation must be greater and greater." Conversely, we may suppose, the nearer the individual is to the C3 type the less proof is she (or he) against exophthalmic goitre. Has the disease, then, a nutritional basis?

Dr. Eason does not say much regarding the underlying nutritional factors in its genesis; but what he does say calls to mind the remarkable effects of faulty nutrition on skeletal structure, on absorption and assimilation, on all endocrine organs, on the nervous tissues, on the reactions of the body fluids, and on susceptibility to infection—effects learnt by experiments on animals. Dr. Eason thinks that "observations made on animals regarding the thyroid provide no solid contribution to our knowledge of the etiology and pathogenesis of exophthalmic goitre"; but surely it is by observations on animals that we may learn more of the part played by the thyroid gland in the animal economy, more of its relation to the phenomena of nutrition, and more of the disturbances directly or indirectly induced in it, in its coadjutors and in the autonomic nervous system, by faulty nutrition. "The fundamental conception of exophthalmic goitre is," the author says, "that it is a disorder which is due to a kinetic vicious circle." Of exciting factors there are *many*, but "by a very long way first in importance are those that operate through the emotional centres of the brain." This view will be endorsed by many who have for long been of the same opinion. For there are few diseases in which "thick-coming fancies" do more to initiate and to maintain the sufferer's disabilities:

> "Cure her of that . . .
> Pluck from the memory a rooted sorrow,
> Raze out the written troubles of the brain,
> And with some sweet oblivious antidote
> Cleanse the stuff'd bosom of that perilous stuff
> Which weighs upon the heart?"

Dr. Eason keeps this aim prominently before his readers.

To those of us who are especially interested in the causation of this disease the last two pages (the appendix) will be amongst the most valuable in the book. If a sufficiently large number of cases of Graves's disease were accurately recorded, according to the scheme therein set out, and competently analysed by persons skilled in scientific method, our knowledge of the physiological mechanism—nervous and endocrine—of exophthalmic goitre would not long remain "so imperfect that the clinician cannot grapple satisfactorily with the problems of its origin and nature."

Dr. Eason's book should help to dissipate that "dormant attitude of mind of medical men in general," regarding the place of medicine in the routine treatment of this disease, about which Dr. Bram complained in the second edition of his book on *Goiter*.

R. MCCARRISON.

[1] *Exophthalmic Goitre*. By John Eason, M.D., F.R.C.P.E. Edinburgh and London: Oliver and Boyd. 1927. (Med. 8vo, pp. xii + 215; 34 figures. 12s. 6d. net.)

MARIE'S COLLECTED PAPERS.

PROFESSOR PIERRE MARIE has decided to bring together a number of his literary productions and publish them in book form, and the first volume has recently appeared bearing the title *Travaux et Mémoires*.[2] The reason he gives in his preface for making this decision is that the original articles are distributed in weekly journals and reviews, many of which have now ceased to exist, or are to be found in but few libraries to-day. This, he states, simply means annihilation for these works, some of which may deserve to survive yet a time longer. Such is the modest view he takes of works which will probably ever be consulted in the first instance by all who enter on the study of the subjects with which they deal. The articles have lost none of their freshness through the lapse of years (the earliest was published in 1886), and can be read with as much interest now as at the time of their publication. The volumes will be a valued addition to our libraries. That now before us consists of two parts, the first containing the well known articles on aphasia, the second the descriptions of a number of diseases of the skeletal system which Marie was the first to recognize as distinct entities. The articles on aphasia take us back to the year 1906, when Marie the iconoclast, as Head has called him, published a paper on the revision of the question of aphasia, which shook the current theories of aphasia to their foundations. The conceptions then prevailing were characterized by such simplicity that they could be represented on charts somewhat resembling those indicating the stations on the tube railway. There was a definitely localized auditory word-centre, a visual word-centre, a motor centre for articulation, and another for the movements in writing; these centres were connected by intercommunicating and branch lines. In any given case of aphasia it was possible, by handling the clinical symptoms with a certain amount of freedom, to indicate the lesion on the chart and define the type of the aphasia. Marie swept all this away. He showed that a number of important symptoms had been left out of account in the current views on aphasia, and that the condition was not due to the suppression of this or that definitely localized function, but depended on a more general and, in particular, an intellectual defect. He so far retained the notion of localization that he referred aphasia to changes in the so-called area of Wernicke—the supramarginal, angular, and posterior ends of the first and second temporal gyri. Further, he separated anarthria—inability to speak—from aphasia, and located the changes producing it in and about the lenticular nucleus. Finally, he considered Broca's aphasia—that is, aphasia with inability to speak—to be a combination of anarthria and

[2] *Travaux et Mémoires*. Par Pierre Marie. Tome Premier. Paris: Masson et Cie. 1926. (Med. 8vo, pp. 358; illustrated. 35 fr.)

aphasia in the sense in which he used the latter term. Speaking generally, Marie cleared the ground of dogmas and left the way open for a study of the subject on psychological lines.

The second part of the book contains reprints of the well known articles on ''ophic pulmonary osteo-arthropathy, hereditary cleido-cranial dysostosis, and achondroplasia. All of these, with their excellent illustrations, are of enduring value.

PHYSIOLOGICAL AND PATHOLOGICAL CHEMISTRY.

Two parts of the first volume of Professor OTTO FÜRTH's textbook of physiological and pathological chemistry[3] have already been reviewed in these columns. Part III, completing the first volume, is now in our hands and allows us to extend to the whole volume the commendation we expressed of the earlier parts. The habit of issuing a large textbook as a serial has obvious advantages to both author and publisher, though its benefit to the reader is not apparent. Perhaps we may suspect in this policy a compromise by which the bookseller—that aristocrat amongst tradesmen—brings himself to engage in trade upon the instalment plan. The duty of the reviewer of an enterprise which must be seen whole to permit judicious appraisal is certainly rendered more difficult by such method of publication. The comprehensive character of the labour which Professor Fürth has undertaken and the admirable way in which he appears to be executing it forbids, however, our grudging him the small satisfaction of transferring now and again to the publisher the growing pile of manuscript on his desk.

The present part deals with the biochemistry of the main organs of internal secretion. The chapters are devoted to the male and female sex organs, the adrenals, the thyroid and parathyroid, and the pituitary. In addition, chapters are given to the subjects of fertilization and the development of the egg, to the mammary gland and the chemistry of milk, and to the biochemistry of malignant growths. An immense literature has been drawn upon, and the discussion is admirably up to date the while a reasonable critical faculty has been preserved. Part III of Volume I gives us no cause to qualify the welcome we have already extended to this work.

THE SEMILUNAR CARTILAGES OF THE KNEE.

UNDER the title of *Pathologie des Ménisques du Genou*,[4] Professor LOUIS TAVERNIER and Dr. ALBERT MOUCHET have written a monograph on internal derangement of the knee-joint, and have included in it a section on cysts of the fibro-cartilages. As the authors acknowledge, it is only of late years that the operative treatment of these lesions has received much attention in France or indeed in Germany, nor until in England a whole literature had grown up round it and thousands of cases had been successfully treated by surgical intervention. Therefore there is much more need and use for a work of this sort in France than there is in Great Britain.

The authors begin by a clear and well illustrated description of the normal anatomy of the joint and of the functions and action of the semilunar fibro-cartilages. In the passage on etiology we note with interest that, as regards sport, a distinction is made between "foot-ball" and "Rugby." The authors rightly state that injuries of the cartilage are by no means confined to the devotees of sport, and quote the statistics of Martin of Newcastle-on-Tyne to show its great frequency among miners. The pathological anatomy of the various lesions is well described and illustrated by clear drawings, which we think serve their purpose better than photographs; the latter are apt to be rather obscure when taken from such subjects, owing to lack of contrast. The authors are very sceptical as to the occurrence of what Roux of Lausanne has described as "traumatic meniscitis," and their caution is justifiable. They give reasons for doubting the correctness of the "Anglo-American" view that one of the chief causes of damage to the menisci is rotation of the leg on the thigh. They hold that extension alone can, and does, produce it, when there is friction or obstruction between the condyles of the femur and the fibro-cartilages. The operation of arthrotomy for the removal of a cartilage is clearly described and well illustrated. The line of incision recommended is transverse, and in the usual case of the internal cartilage it involves section of the internal lateral ligament, sacrificing perhaps subsequent security of the joint to freedom of access and width of view. If we read them aright a similar division of the external ligament is recommended in the case of the outer cartilage, but the tendon of the biceps is to be respected.

The last few pages are devoted to the subject of cysts of the cartilages, which are almost always the result of injury and situated on the outer side of the joint. There is a full bibliography, but no index.

CANCER OF THE BREAST.

No one, says Professor DELBET in his work on cancer of the breast,[5] would think of treating a cancer of the skin without taking into consideration the histological type of the growth. Cancers of the breast exhibit differences of type which are just as marked, and yet Professor Delbet says it is the custom to regard them as if they were all of the same species. With a view to correct this inconsistency he has passed under review all the preparations of tumours of the breast in his laboratory, has traced the after-histories of the patients as far as possible, and has found that certain histological characters, noted without any preconceived ideas, appear to be related to a definite course of the disease. He considers that histology enables the prognosis to be made in many cases, and that some growths can be shown to be relatively benign Keeping in view the prognostic significance of the histology, he has adopted a classification which does not pretend to be strictly systematic and which has a threefold basis—namely, the morphological characters, the physiological characters, and the tendency to invasion of the blood vessels. Eight morphological classes are distinguished, depending on variations in the characters of the cells—namely, (1) cubo-cylindrical, (2) squamous, (3) polymorphous of mammary type, (4) polymorphous of ectodermal type, (5) clear cell type, (6) cytolytic type, (7) isolated cell type, and (8) giant cell type. The first of these is further subdivided according as the cells are arranged in pseudo-acini within the cell mass, in definite acini bounded by connective tissue, in the form of tubules, as papillary ingrowths, or on the type of a perithelioma. The clear cell type is said to resemble in every detail the so-called hypernephroma; the cytolytic type is characterized by a liquefactive disintegration of the periphery of the cytoplasm, which is attributed, not to degeneration, but to a particular form of evolution of the cell; in the isolated cell type the cells show no tendency to stick together, a feature which is said to favour their dissemination; in the giant cell type the cells are of great size and, in the zone of invasion, often multinucleated. With regard to prognosis the authors are able to state that growths of the cubo-cylindrical type with pseudo-acini are relatively benign, the same being true also of the clear cell type. On the other hand, the large cell type is extremely malignant.

The physiological classification is based on the visible secretion of the cells. Three classes are recognized, one exhibiting an albuminous, the second a mucous, and the third a mixed muco-albuminous secretion. The mucous type is held to indicate a certain degree of benignity, and when occurring in association with a malignant morphological type, the authors consider that the malignity is reduced.

Delbet has given his third class of tumours the not very convenient name of haemophilic cancers. In these the tumour cells exhibit a special affinity towards the blood

[3] *Lehrbuch der Physiologischen und Pathologischen Chemie.* Von Prof. Dr. Otto Fürth. Band I/III. Leipzig: F. C. W. Vogel. 1927. (Sup. roy. 8vo, pp. v + 417-585. M.15.)

[4] *Pathologie des Ménisques du Genou.* Par Albert Mouchet et Louis Tavernier. Paris: Masson et Cie. 1927. (6¼ × 9¼, pp. 99; 26 figures. 18 fr. sans majoration.)

[5] *Les Cancers du Sein.* Par Pierre Delbet et Mendaro. Paris: Masson et Cie. 1927. (Roy. 8vo, pp. 346; 100 figures, 4 plates. 50 fr. sans majoration.)

s, and histologically the growths are characterized
e presence of tumour cells within the lumen of the
ls. This type is met with in any of the morphological
before mentioned, and is shown by statistics to be of
itely malignant significance.

are indebted to Professor Delbet and his collaborator
ARD for a valuable addition to our knowledge of the
logical anatomy and prognosis of cancer of the breast.

COLLOIDAL REACTIONS OF THE CEREBRO-SPINAL FLUID.

main interest of the book M. EUGÈNE DE THURZO has
en on the colloidal reactions of the cerebro-spinal
lies in the suggested modifications in the technique
e familiar gum benzoin, mastic, and colloidal gold
By the introduction of suitable dyes into the re-
s employed the author has found it possible to develop
ducible colour changes accompanying the turbidity
precipitation changes in the tests. In this way he
been able to differentiate ten degrees of reaction
e tests of the cerebro-spinal fluid at varying dilution.
author discusses from his own experience the relative
tivities and specificities of the original tests and their
fications in a number of diseases of the nervous system.
value of the paraffin reaction of Kafka and the shellac
is also reviewed. There is included a description of
ges in the colloidal reactions which were found to
mpany neosalvarsan treatment of syphilis of the
ous system.

the author acknowledges, the colloidal reactions of
erebro-spinal fluid are essentially empirical, and there-
all systematic studies of their diagnostic reliability
f value to those whose business it is to exploit them.

NOTES ON BOOKS.

first edition of Professor STEVENS'S *Practice of Medicine*[7]
ared in 1922, and has been widely appreciated. A second
on has recently been published. The articles dealing
syphilis of the circulatory system, botulism, heliotherapy,
tes mellitus, alkalosis, spasm of the œsophagus, chronic
ative colitis, multiple polyposis of the intestine, jaundice,
rcardia, paroxysmal tachycardia, arterial hypotension,
ary purpura haemorrhagica, erythraemia, haemorrhagic
ses of the newborn, trigeminal neuralgia, and tumours
he cauda equina have been rewritten. Amongst the
ses not described in the former edition, but now included,
primary meningococcic bacteriaemia, disseminated cry-
atous lupus, tularaemia, lipodystrophy, agranulocytic
ia, uveoparotid fever, vasomotor rhinitis, Epstein's
rosis, Ayerza's disease, chronic sclerosing osteitis, acro-
a, and Horner's syndrome; among the new articles is
on the etiology of scarlet fever and the Dick test for
mining susceptibility to scarlet fever. Dr. Stevens has
eeded in giving a succinct presentation of the various
nal diseases, and in these days of increasing specialization
g to the rapid advance of medical science on all fronts,
is no light task. His book is well adapted to the needs
the student and the general practitioner. Numerous
ences are quoted, and wherever we have sampled its
minous contents and checked the references given in Dr.
ens's work, we have found evidence of a wide and accurate
ledge of recent medical literature and a wealth of clinical
rience.

he *De Lamar Lectures*, founded in 1920 and now adminis-
l by the School of Hygiene and Public Health at the Johns
kins University, are intended to inform the public on the
ention of disease and on personal hygiene. The volume of
thirteen lectures given in 1925-26[8] begins with the preven-
of simple goitre by Dr. David Marine, director of labora-
s at the Montefiore Hospital, New York. Dr. Alice Hamilton,
king on industrial toxicology, reviews the important work
has been done in the United States during the last fifteen
years. Dr. E. R. Baldwin, director of the E., L. Trudeau Foundation, Saranac, sets out the absolute and relative values of laboratory procedures in the diagnosis of tuberculosis, and refers to the charlatan "curing an incurable disease that did not exist." Dr. H. LoGrasso describes the treatment at Leysin, paying a tribute to "the father of heliotherapy," Dr. A. Rollier, and compares with it the practice at the J. N. Adam Memorial Hospital, Perrysburg, N.Y., where he works. Dr. J. Goldberger of the United States Public Health Service discusses the nature of the dietary deficiency responsible for pellagra, and Professor C. R. Stockard the relation to disease of type, which he defines as a fixed characteristic, and of constitution, which may change several times in the life of the individual. The volume closes with Sir Arthur Newsholme's account of William Farr, whom he calls "the father of vital statistics," just as Louis, who exerted a considerable influence on Farr, may be regarded as "the father of medical statistics."

Although described on the cover and in the advertisements as a textbook for students of agriculture and veterinary science, the scope of *The Physiology of Reproduction in the Cow*[9] is more aptly referred to in the preface as a reference book for advanced students and practitioners in agriculture and veterinary science—a very different thing. It contains a detailed account of all pertaining to reproduction in an animal which owes its supreme importance solely to that function. The author has based his studies on experimental animals, on organs collected from slaughterhouses, and on answers returned by experienced stockmen and others engaged in breeding cows, to questions addressed to them; in addition, he has examined the literature on the subject. His monograph falls into four parts: the breeding season and the age of puberty; the oestrous cycle, its periodicity and rhythm, its duration and the changes which occur; pregnancy and the alterations in the various organs; and sterility. These four divisions are extremely well illustrated in thirty-three excellent half-tone or coloured plates. A bibliography and a comprehensive index are provided, but unfortunately the former is arranged on the irritating numerical system instead of the more convenient alphabetical manner. This is corrected to a certain extent by a list of authors, but as the reference is only to the text it necessitates a double reference. The monograph is a mass of detailed information critically considered, and although knowledge of this subject is still far from complete, it is as comprehensive as present-day information can make it. It will be invaluable to all interested in reproduction, not only in the cow, but in all other animals.

[7] *Nouvelles Méthodes sur les Réactions colloïdales du Liquide céphalo-rachidien.* Par Eugène de Thurzo. Préface du Professeur Georges Blain. Paris: N. Maloine. 1927. (Cr. 8vo, pp. 182; 24 figures, 3 plates. 25 fr.)

[8] *The Practice of Medicine.* By A. A. Stevens. Second edition, entirely revised. Philadelphia and London: W. B. Saunders Company. 1926. (Roy. 8vo, pp. 1174; 33 figures, 1 plate. 35s. net.)

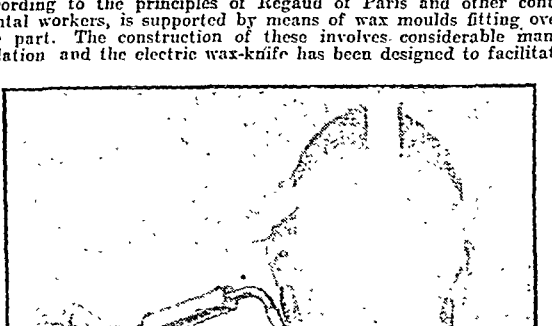
The Lamar Lectures, 1925-1926. Baltimore: Williams and Wilkins Company; London: Baillière, Tindall and Cox. 1927. (Med. 8vo, pp. 220; figures. 22s. 6d. net.)

[9] *The Physiology of Reproduction in the Cow.* By John Hammond, M.A. London: Cambridge University Press. 1927. (Sup. roy. 8vo, pp. xvi + 226; 33 plates. 21s. net.)

PREPARATIONS AND APPLIANCES.

An Electric-heated Radium Wax-knife.

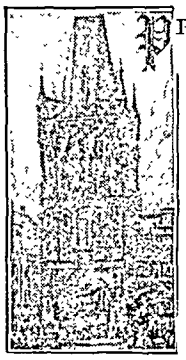
MR. ARTHUR B. SMITH, M.B., F.R.C.S.Ed., and Dr. SYDNEY M. SMITH (London, W.), write: Radium when applied at a distance from the skin in inoperable and post-operative cancer, according to the principles of Regaud of Paris and other continental workers, is supported by means of wax moulds fitting over the part. The construction of these involves considerable manipulation and the electric wax-knife has been designed to facilitate



this. Repeated heating of an ordinary wax-knife is both tedious and unsatisfactory. The wax-knife is kept constantly hot by means of an electrical resistance surrounding the upper part of the blade. The current (240 volts) is obtained from the ordinary room supply through an insulated wire with socket. The illustration shows the instrument in use. It can be obtained from the Medical Supply Association, 167, Gray's Inn Road, London, W.C.1.

THE SPAS OF CZECHOSLOVAKIA.

A MEDICAL VISIT TO PRAGUE.*

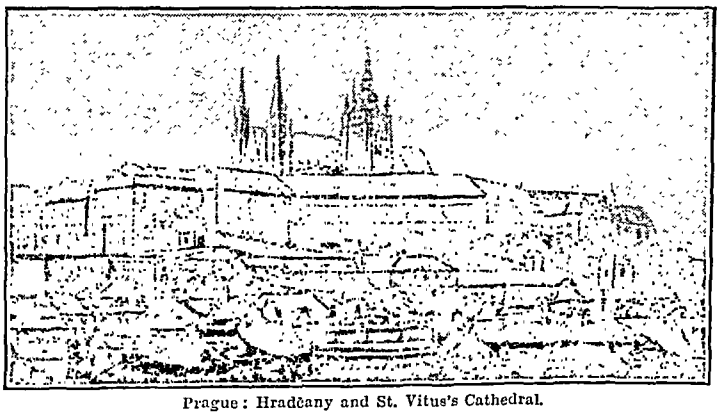


Prague: The Powder Tower.

PRAGUE, though not a spa, may fairly be counted a health resort if refreshment of the eye and spirit plays any part in healing. Once *Praha*, then for long *Prag*, and now again *Praha*, this remarkable city has been for a thousand years the hub of the political and intellectual life of the Czechs; and in its stones, as the phrase goes, may be read the history of a nation. Since the Treaty of Versailles the ancient capital of the Bohemian kingdom has been the capital of the group of central European States (Bohemia, Moravia, Slovakia, Silesia, and Ruthenia) known as the Republic of Czechoslovakia, founded on the ruins of the old Austro-Hungarian Empire.

Before 1919 the existence of a Czech nation, with a burning sense of nationality, was scarcely known to the people of the British Isles. It is still too little known here, although Czechoslovakia, with an area as large as England and Wales, has now some fourteen million inhabitants (of whom rather less than a quarter are German), and is an industrious, progressive, and interesting country, well worth a long visit.

Prague, one of the most enchanting mediaeval towns of Europe, has grown much since the nation gained its freedom, and its population must now be nearly 700,000. It lies in the middle of old Bohemia and forms a point of intersection for the railways between most of the capitals of Europe. Like Rome, it is a city built on hills and washed by a broad river; and the skyline of Prague, with its hundred spires, is incomparable. The dominant note is the stone pile of the great castle on Hradčany hill, for centuries the seat of Kings of Bohemia and now the official residence of the President of the Republic. Above the Castle rises the cathedral of St. Vitus, its interior to-day a forest of scaffolding. Hradčany in spring sunshine, seen from the Belvedere on an opposite hill, is a thing never to be forgotten. As for the other sights of the city, old and new—the ancient town square, the bridges and gateways and arcades, the mediaeval ghetto graveyard, the queer narrow lanes leading out of broad modern thoroughfares—there is no space here even to name them, and we must pass on to some institutions having links with medicine.



Prague: Hradčany and St. Vitus's Cathedral.

The University, founded in 1348 to the pattern of Bologna and Paris, played a great part in the history of Bohemia during the Hussite Wars. Then after the battle of the White Mountains, where the Czechs lost their independence in 1620, it fell into a long decline. For many years all efforts to develop medical science in Bohemia on large lines were (*to put it mildly*) discouraged by the Government at Vienna; but the work of the Czech Medical Society of Prague since 1860 has not been thrown away, and already there are signs of great progress in all branches of medicine and the ancillary sciences. The outstanding event in the half-century before the war was the re-establishment in 1882 of a purely Czech University with a medical faculty, and the founding beside it in the capital of a separate German university. The beginnings, however, were difficult, and much material had to be got together. Since the war the Czech or Charles University of Prague has regained its old standing, two new Czech universities have been founded (at Brno and at Bratislava), and one after another new professional and scientific societies have *sprung up*.† The numbers of medical students at Prague have been very large indeed in recent years, but, to the relief of the teachers and university officials, there is now some abatement of the flood.

While the medical profession of Czechoslovakia, and in particular their leaders and teachers, desire a national science of their own, they desire also to maintain and strengthen contact with the larger world of medicine outside; and, like so many of their race, they seem to turn instinctively towards our country. Many of them read and speak English, and, in Prague and the Spas at least, there are plenty of doctors with a good command of our language and a wish to know more of ourselves and our work. Such certainly was the conclusion reached by the party of British physicians who lately toured the health resorts of Czechoslovakia, and got to know something at first hand of its medical men and medical institutions.

During the short three days spent in Prague many courtesies were extended to the visitors. They were met on their arrival from Marienbad by representatives of the Czech Government, of the municipality, and of the medical world of the capital. On the following day a luxurious tramcar was put at their *disposal for* a tour of the city under the guidance of an official who evidently knew and loved the things he showed. They were most graciously received at the Town Hall by the Burgomaster and chief officials of the city, and in the evening were entertained to a banquet given in their honour at the Spolecensky Club by the Minister of Public Health and Physical Education. The Minister—a clerical statesman, the Rev. Jan Sramek—himself presided, and the British Chargé d'Affaires, Mr. C. E. S. Dodd, was present, together with officials of the Ministry and leaders of the medical profession in Prague.

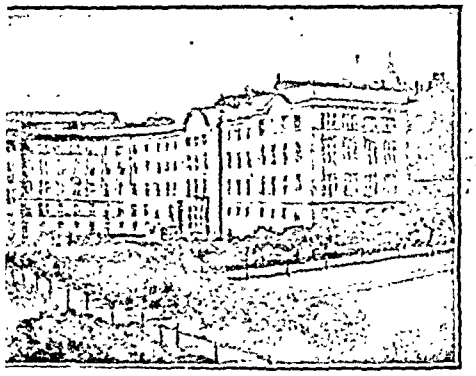
After the flying visit to Poděbrady, recorded below, an excursion was made on April 23rd to the sanatorium for paying patients at Prague, to the University Hospital, and to a few of the scientific departments of the University; a long afternoon ending with tea as the guests of Mr. and Mrs. Dodd at the British Legation, whose garden, under the shadow of Hradčany, offers exquisite views of the city.

The Prague Sanatorium for *paying patients* is on the river embankment towards the outskirts of the city, and a steep cliff rises behind. It is in many ways a remarkable institution, unlike anything in this country. All the departments—*obstetrical*, surgical, radiological, etc.—are self-contained, with operating theatres of the most modern type, and well equipped laboratories. The wards, large and small, are comfortable, and from many windows there are fine prospects over the river. Everything in this

* An earlier note, on the spas of Western Bohemia, appeared in the BRITISH MEDICAL JOURNAL of May 14th, p. 885.

† See BRITISH MEDICAL JOURNAL, July 3rd, 1926, p. 28, The Renaissance of Medicine in Czecho-Slovakia, and February 26th, 1927, p. 356, Czecho-Slovak Medicine.

ling appears to have been well thought out. ioted were the clinics for paying out-patients, ıfé-like refreshment hall for visitors to the in- The fees sounded moderate judged by English ı here it may perhaps be mentioned that the ·n is the unit of currency and that the present :hange (163 kronen or thereabouts to the £) has :ely at all in recent years. The medical tourists ı over the institution by the medical superinten- .he matron, and the only criticism that occurred



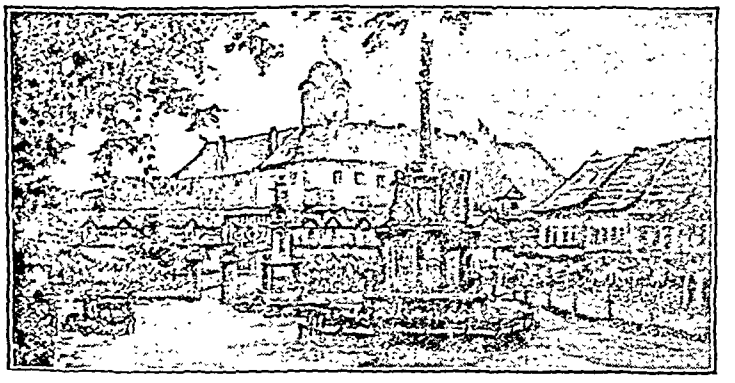
Prague: Hlava Pathological Institute.

here as elsewhere, was that for the time of year too much central heat and too little fresh air. ity of the mid-European winter accounts for the adows seen all over Czechoslovakia, and memories our may tend to keep these windows tight shut ng comes round, even in temples of Hygeia.

iversity Hospital at Prague, an old building with ıe courtyards, is of special interest to British ımiliar with the professorial units in some of the of London. Only a short visit could be made to e medical blocks, and (through no fault of his) Prusik, the director of the *Medical Clinic*, was to do the honours. The wards, though the fabric ıre modern-looking within and well equipped. ; them is a large clinical theatre, and the visitors ıck with the full and precise case records filed

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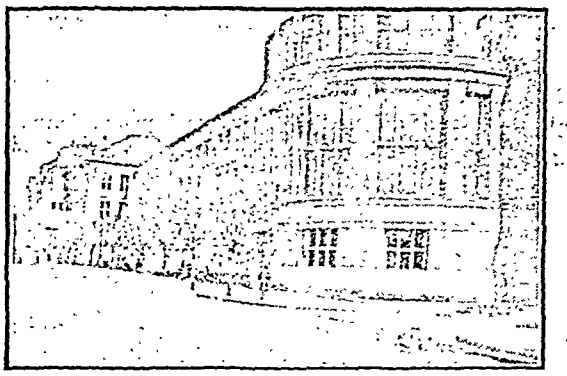


Old Poděbrady.

other scientific departments of the two Prague ies. The laboratories, lecture theatres, research ınd museum are excellent. Time only allowed ed glance with Dr. Kotynek as guide, but all pressed with what they saw, and in particular really palatial "pathological dissecting room"— ofty, odourless, and as open to daylight as a tory.

the most striking features of the Prague Medical f to-day (and by this we mean material, outward only) is the Czech Embryological Institute, opened r by the revered President of the Republic, Pro- omas Masaryk, whose portrait hangs in a place of This is a magnificent building, on a very large

scale, and (at least to the casual visitor) it seems "the last word" in laboratory construction and equipment. The largest lecture-room—known as the *Amphitheatre of* Purkyně in memory of the great Czech physiologist we call Purkinje—will seat 330 students in comfort. The microscopical room occupies one floor of a large bay, whose lofty windows are seen on the right of the snapshot taken by Dr. V. G. Ward of West Byfleet, a member of the party. This laboratory, like everything else in the institute, is remarkable for the bold simplicity of its propor-



Prague: Embryological Institute.

tions and the perfection of its fittings; it accommodates 75 students working at three tiers of semicircular benches. Much space is set apart in the same wing for the culture of living tissues, a branch of research in which Dr. Vladimír Tuma (who showed the party round) has kept close touch with the work done at Cambridge by the late T. S. P. Strangeways and his colleagues. The Institute possesses also an ample radiographic department and a fine collection of transparent tissue specimens. Nothing, in short, has been stinted anywhere, and the lavishness of it all suggests that the Government and the Charles University agreed together that this, and the adjoining but as yet uncompleted building, should be the best of their kind without regard to cost. A medical school, however, is not to be judged by its classrooms alone, but by the spirit in which its work is done. At Prague, we believe, the imponderables are not valued below bricks and mortar.

The Baths of Poděbrady.

Poděbrady, some thirty miles east of Prague, is a little town 600 feet above sea-level, in the broad flat basin of the Elbe. Its small bathing establishment, then known as "The Baths of the Prince of Hohenlohe," was bought in 1910 by the municipality, which sank a number of new wells and added to the buildings. In 1919 the enterprise was taken over by a company and further extensions followed. Thus the watering-place of twenty years ago, too insignificant for mention in Weber's *Climatotherapy and Balneotherapy*, has grown into a spa of some standing in a country of spas, and its nearness to the capital brings many visitors in search of health or recreation.

The baths are comfortable and well equipped. The water of fifteen springs is well charged with natural CO_2, and pleasant to take both within and without. It is bottled at the source, and great quantities go to all parts of the country. For a spa of this size the scientific equipment of the baths is very complete, and the physicians

take pride in their radiological apparatus, their electro-cardiograph, and their careful case notes.

The medical party from England went there on the first spring day of their tour, when the early green on the trees gave a hint of the charm of Poděbrady in summer costume. This, with the genuine warmth of their welcome by the townspeople, and the glowing speeches they heard, makes April 22nd, 1927, stand out as a day by itself. Over a gateway in the ancient castle of the Bohemian hero, King George of Poděbrad, they were shown by their friend Dr. Driml two stone scutcheons epitomizing the story of a nation in bondage; and from Mr. Sustr, the pastor of the town, they learnt that Poděbrady, "the heart of Bohemia," feels something more than friendship for the people of our distant islands, whose entry into the war gave it hope of freedom.

Our illustration, from a water-colour drawing, shows part of the old market-place of Poděbrady, near the modern pump-room with its gay terraces and gardens, and the castle tower in the background.

(To be continued.)

THE HEALTH OF THE NAVY.

REPORT FOR THE YEAR 1924.

A CONSIDERABLE lapse of time continues to be the rule between the publication of the annual reports on the health of the navy and the year to which they refer. In this respect they contrast unfavourably with the reports on the health of the army and air force. The report for the year 1924, just issued, presents us with the health statistics of a total force of 87,620, and of its component parts in the different fleets and stations.

The ratio of admissions to the sick list for the total force was 486.24 per 1,000. This is somewhat higher than the ratio for 1923, but 56.15 lower than the average ratio of the three years 1921-23. The number constantly sick was 22.18 per 1,000, and the death rate 3.09. The death rate in the previous year was only 2.17 per 1,000, but the average for 1921-23 was slightly higher (3.11) than in 1924. Deaths were somewhat equally divided amongst diseases (1.78 per 1,000) and injuries (1.31 per 1,000 of strength).

Amongst the diseases causing admission, 759 are recorded as cases of cow-pox, of which 713 occurred in home stations, chiefly in the training establishments and depots. They represent men temporarily unfit for duty after vaccination. A table is given showing the numbers vaccinated or revaccinated with Government lymph and with lymph from other sources, with the corresponding successes and failures. Although revaccination successes are considerably less with lymph from other sources, the circumstances in which, and the stations where, this lymph was used are not mentioned, and the statistics cannot therefore be regarded as of much value in comparing the two sources of the lymph used in the navy, when it is remembered how easily the efficiency of lymph is affected by storage and climate.

The chief causes of admission to the sick list were injuries (7,637 cases), venereal diseases (7,172), diseases of the digestive system (6,665), of the respiratory system (6,398), and of the areolar tissue and skin (4,795). Amongst the infectious diseases influenza, with 2,407 cases, heads the list. Other infectious diseases and such semi-tropical diseases as dysentery, enteric fever, Mediterranean and sandfly fever, contribute comparatively few cases, although they do not show any marked increase or decrease as compared with the average for the previous three years. The bulk of the influenza cases occurred in the Home and Atlantic fleets, and we are told that the usual prophylactic measures, such as voluntary inoculation, avoidance of overcrowding, antiseptic throat spraying, disinfection of living spaces, attention to ventilation, and airing of bedding, were carried out. An outbreak of enteric fever is noted on the *Royal Sovereign*, but the number of cases is not stated, nor are we given other details beyond the statement that it was attributed by a court of inquiry to lettuces taken on board at Madeira contrary to the rules and regulations in force. In this respect the report as a whole is not illuminating, for it conveys little more than statistical statements and comparisons with 1923 and the average for 1921-23. We are given, for example, little or nothing as regards details of preventive measures. This is specially to be regretted, so far as venereal diseases are concerned, in view of the measures taken and recorded in the reports on the health of the British Army and on the health of the United States Army and Navy.

The report on invaliding is, however, more detailed. The number invalided, including men temporarily invalided from foreign stations, was 1,642, or 18.74 per 1,000. The number finally invalided from the service was 1,272, or 14.51 per 1,000—a decrease of 1.57 and 5.62 respectively on 1923 and the average of the previous three years. The chief causes of invaliding were sequelae of gonorrhoeal infection (209 cases), diseases of the eye (174), tuberculosis (166), and diseases of the ear (116). Thirty-one men were discharged the service for refusing surgical operations, chiefly for hernia, and for disease of the teeth and ears. A detailed table of each disease and injury causing invaliding, and the numbers invalided for each at different ages and years of service, is included in the report, but as the strength at each age and year of service is not recorded the figures do not indicate much that is of value statistically.

More than half the volume consists of statistical tables of individual diseases, showing numbers admitted, invalided, and died, with their ratios per 1,000 of strength in 1924 and the previous three years' average, both for the total force and for each of its component parts in the different fleets and stations. Other statistical tables included in the report show the complements of each ship in the Royal Navy, according to station and period in the station, the number of cases of sickness and injuries on each, and the number sent to hospitals on shore. Statistical tables are also given showing the health statistics of the Royal Marines headquarters, of boys and youths in the training establishments, of officers and men in the Royal Navy depots, and of dockyard establishments and Royal Marine divisions. There are also tables of cases admitted to the R.N. Mental Hospital at Great Yarmouth and other R.N. hospitals at home and abroad.

Valuable as these statistical records are for comparing the health of the navy in one year with another or with a period of years, we feel confident that something more than a bare statistical statement of the principal diseases—something, that is to say, similar to what we have been accustomed to in recent reports on the health of the army—would add greatly to the medical and public interest of the annual report on the health of the Royal Navy.

[1] *Statistical Report of the Health of the Navy for the Year 1924.* London: H.M. Stationery Office. 1927. (8vo, pp. v + 127. Price 4s. 6d. net.)

Nova et Vetera.

AN ACTION FOR DAMAGES FOR MALPRAXIS.

THE following entry, relating to an action for damages against a surgeon, appears among the early Chancery proceedings (undated, *circ.* 1435) in *Select Cases in Chancery*, edited for the Selden Society by William Paley Baildon (1896):

> "To the most gracious lord, the Chancellor of England, Humbley beseecheth your poor orator, Ralph Fryday, that whereas the suppliant's right arm was broken through certain evil-doers, who lay in wait to kill him, which arm, one John West of Leicester undertook at Wigston well and duly to cure and save; which John set about his cure of the said arm so improperly, through the malice and covin of the enemies of the said suppliant, that the arm mortified and became incurable, to the perpetual destruction of the said suppliant: May it please your most gracious Lordship to grant the said suppliant a writ directed to the said John West (commanding him) to appear before you in the Chancery on the octave of the Purification of our Lady under pain of £40 to be examined by the surgeons of our Lord the King, and by other efficient surgeons, as to that cure not duly performed, and also to answer to the said suppliant for this great injury, as right and reason demand, for God and in the way of charity. Considering, most gracious Lord, that the said suppliant cannot have execution nor any remedy at (common) law for this misdeed so done by colour of the cure, if he be not aided in this way, because of the great maintenance against the said suppliant in those parts."

The original is in French. The editor in his introduction says: The singular case against the surgeon is chiefly interesting from the fact that the plaintiff asks for the King's surgeons and other sufficient surgeons to be called as expert witnesses. Apparently both trespass and assumpsit lay at common law in such cases. A case in 1443 was one of a broken leg, which the defendant, described as a "leche," had undertaken to cure in consideration of 40s. The leg mortified, in consequence of the surgeon's neglect according to the plaintiff, or because of the patient's wilful disregard of directions according to the defendant. The case went to a jury, but the judgement has not been found.

Another case of a similar nature, between 1492 and 1500, will be found in the Calendar (cxxiv). The plaintiff is a surgeon. The defendant's child was "diseased in the ei wt a pynne and a webbe"; he requested the plaintiff to cure it. The plaintiff undertook to do so if the defendant would see that the child did not touch or rub it; this was not done, and the plaintiff was unable to save the eye. The defendant thereupon brought an action of trespass before the Sheriffs of London. The plaintiff prays for a certiorari.

British Medical Journal.

SATURDAY, MAY 28TH, 1927.

THE DETERMINATION OF SEX.

rm. not very long ago it was generally understood at at the time of fertilization the egg was completely ibivalent as regards the future sex-organization of e resulting individual, and it was customary to refer e sex of an organism to the conditions incident to velopment. But certain facts of general biology are w established which are not susceptible to interetation of this kind: they point directly to the nclusion that sex in the higher animals is determined at the time of fertilization by the precise rkings of an orderly mechanism. It is established at identical twins, derived from one and the same um, are always of the same sex and remarkably ke, whereas fraternal twins, having their origin in o separate ova, may or may not be of the same sex, d are no more alike than are brothers and sisters rn at different times. There is no appreciable ason why, if purely environmental factors are at ork in deciding the sex of offspring, identical twins ould be of the same sex, whilst fraternal twins ould include both male and female. The evidence twinning points to the conclusion that the sex of e future individual is determined at the time of rtilization by the constitution of the fertilized egg.

The mode of transmission from generation to generaon of certain characters (details of structure or of nction) is such as very strongly to suggest that the echanism by which they are distributed is either the me as, or else is closely associated with, that by hich sex itself is determined. Such characters are own as sex-linked, and of these haemophilia, as hibited by most cases, is an excellent example. The served facts concerning the transmission of haemoilia can only be interpreted if certain assumptions e made. The first is that sex in man is decided by e simplex or duplex condition of a component of me mechanism which, being present in duplicate, ads to the establishment of femaleness, and that on this component are the antecedent determiners the sex-linked characters. If search is next made r this sex-determining mechanism it is found in man at structural and physiological differences which stinguish the sexes are associated with constant fferences in the chromosome content of the comnent cells of the two sexes. Man has twenty-four airs of homologous chromosomes. In the somatic lls and immature gametes of the male one of the venty-four pairs (the allosome) is remarkable in that s constituent members are morphologically dismilar, whereas in the female the members of this air are, as is the case in all other pairs in both male nd female, morphologically alike (autosomes). Since ssues from male and female differ chromosomally aly in this respect, these chromosomes are referred o as the sex-chromosomes. The members of the ex-chromosome pair in the female and the one sexhromosome in the male which is morphologically milar to these are known as the X-chromosomes, hile the unequal mate of the X-chromosome in the ale is known as the Y-chromosome. The chromoome constitution of the male is 23 pairs of autosomes +XY; that of the female is 23+XX. Into each ripe gamete there passes one or other of each pair of homologous chromosomes. All ova, therefore, will be alike in the matter of chromosome constitution, twenty-four single chromosomes, of which one is an X; of the spermatozoa, however, there will be two kinds, according to whether they contain 23+X or 23+Y. As far as the chromosome content of the gametes is concerned, the human female is monogametic, the male digametic. When ovum meets sperm in fertilization each gamete will convey into the zygote one member of each pair of homologous chromosomes, and the specific number will be restored; but there will be two kinds of zygote—one which received an X-chromosome by way of the sperm, and the other which received a Y-chromosome. The first will have the chromosome constitution typical of a female, 23 pairs of autosomes +XX; the second that characteristic of the male, 23+XY.

If the antecedent determiners (the factors or genes) of sex-linked hereditary characters are borne in the X-chromosome, but not in the Y—and this suggestion is not extravagant, since in many of the domesticated animals there is no Y, the female being XX, the male XO—then the peculiar and significant mode of transmission of these characters is explained. Sex-linked characters are associated with the sex-determining mechanism (the XX-XY sex-chromosome mechanism), because their factors are located in the X-chromosome. This cytological difference between the two kinds of spermatozoa is reflected in a sperm dimorphism, estimated by measuring the head length. It has been found in a considerable number of species that there are two intergrading size classes, and it is assumed that the individuals of the larger class are those spermatozoa which carry the X-chromosome. This sex-chromosome sex-determining mechanism is such that, if the X-bearing spermatozoa are produced in equal numbers and are equally capable of fertilizing the ovum, then equal numbers of males and females will be conceived. By its working, sex is determined at the time of fertilization. The suggestion that femaleness is decided by the presence of the X-chromosome in duplicate, whereas maleness is determined by a single X, is but an essay in convenient symbolism. It is, however, reasonable to assume that the effective factor in the establishment of maleness or of femaleness is the ratio of X-chromosomes to autosomes. It is helpful to assume that in the X-chromosomes are female-determining factors which elaborate enzyme-like "gynase," and that on the autosomes there are [illegible] factors elaborating "andrase," and [illegible] of the zygote is determined by the balance between these. If A be taken to represent one complete set (haploid) of autosomes, then the relationship of sex-chromosomes to autosomes in the male can be symbolized as 1X:2A, whereas in the female it is 1X:1A. As the result of this interaction of male and female determining factors, elaborating their andrase and gynase respectively, it can be assumed that there becomes established one of two physiological states (metabolic levels) in the fertilized egg. In the 1X:2A type there is an internal environment of "maleness"; in the 1X:1A type one of femaleness; and in one or the other, as the case may be, organogeny and ontogeny proceed.

It is assumed from the results of experiment that the relative rates of production of the male and female differentiating substances elaborated by these sex-determining factors are not constant throughout life, that at one time one may be in efficient excess, and

at another the other. In the normal male the male-differentiating reactions are in efficient excess throughout the whole period of differentiation, but intersexuality occurs when during the course of differentiation of an individual of either sex, XX or XY, the male-differentiating reactions overtake and supplant the female-differentiating reactions, or the female the male. A male is a male because in his beginning he was a genetic male (XY), because in this XY zygote the relation of sex-chromosomes to autosomes, 1X : 2A, was such that an internal environment of maleness became established and persisted throughout the phase of differentiation, because in this environment the structures concerned in the sexual organization, also being genetically male, flourished, and because, as the gonads became differentiated, their internal secretions reinforced the initial maleness of the internal environment, and so directed the further development of the structures of the sex-equipment that, in the end, the individual became a functional male. "A female is a female by the totality of her internal secretions" remains true only if it be granted that the phrase "internal secretion" shall include the metabolic products of her initial sex-determining hereditary factor complex.

It will be noted that according to this chromosome theory of sex-determination (which is now generally accepted) the male, in the case of mankind, is the digametic sex, elaborating in respect of the elements of the sex-determining mechanism two kinds of sperm, the one which, when it fertilizes any egg, will yield males, and the other which will give females. It is not surprising, therefore, that the hypothesis, originally promulgated by Hippocrates and recently adumbrated by a cloud of witnesses, which postulates that it is the female who is digametic, meets with little support from present-day biologists. The variations of this hypothesis which are now advocated as leading to the control of sex, and which require that there shall be a difference in the kinds of ova elaborated by the right and left ovaries, are not such as can be brought into harmony with established scientific facts, and therefore cannot be accepted on the present evidence. They are supported by a collection of selected statistical data applied without statistical treatment; those cases which do not fit into the scheme are airily dismissed, while the great body of established facts which supports this chromosome theory and cannot support the others is neglected. This is not the attitude of the scientific mind.

The fact that there are the two forms of spermatozoa permits it to be postulated that if these are not elaborated in equal numbers, or if chemical or mechanical hindrances to their vitality or motility exist in the female passages so that one form is more severely handicapped in its race towards the ovum than the other, there will result a conceptional ratio of significant inequality. Recent work in this field has revealed a considerable amount of evidence which seems to show that the primary sex-ratio is far removed from equality, that under the usual conditions the X-bearing sperm is not nearly so efficient a fertilizing agent as is the Y-bearing, and that it is the high pre-natal death rate among the less viable XY zygotes that yields a secondary sex-ratio (at birth) of equality. There is good reason for the belief that an increase in our knowledge of the chemistry of the secretions of the female passages and of the effects of chemical and physical agencies upon the viability and motility of the sperm, may make it possible, to a greater or lesser extent, to control the sex of the offspring. Whether the use of this power would be to the benefit of mankind is a matter which need not now be discussed; but it would seem to be desirable that such power should be added to the armamentarium of the physician, who must be trusted to use it with discretion.

PERITONEAL ADHESIONS.

PERITONEAL adhesions, particularly those which recur in spite of operations, are a subject of anxiety to all concerned, and it is therefore interesting to gather the conclusions of Drs. F. Trémolières, physician, L. Joulia, radiologist, and H. R. Olivier, intern, of the Boucicaut Hospital, Paris, who have made a systematic investigation of abdominal perivisceral adhesions,[1] relying on radiology as the only means of localizing their position. It has commonly been assumed that these adhesions are secondary to some lesion of the intra-abdominal contents, but the authors accept the view that some cases are primary and independent of any change in the viscera, and hold that the most likely cause is either tuberculosis or syphilis. They admit that this is difficult to prove, but state that the obstinately relapsing cases and those prone to develop adhesions after laparotomy are often the subjects of congenital syphilis. Malaria, influenza, and acute rheumatism may also possibly set up these adhesions. For the secondary forms of adhesions four causes are given: inflammatory or infective, traumatic, congenital, and mechanical. Injury may act by causing a haematoma or by activating latent infection; post-operative adhesions, of course, come in this category. The congenital group includes Jackson's membrane, and here abnormal development rather than foetal peritonitis seems to be the important factor. The mechanical origin advanced by Sir Arbuthnot Lane is cautiously dismissed by the statement that, while unable to bring forward any arguments against it, they cannot find any clinical or experimental evidence in its support. In the section on morbid anatomy the various segments of the alimentary canal from the stomach to the sigmoid colon are considered in order. Investigation of the little known subject of the histology of peritoneal adhesions shows that there is under the endothelial layer, which is destroyed in places, fully developed connective tissue rich in collagen and poor in fixed cells; and that there may be foci of subacute inflammation and infiltration with lymphocytes and plasma cells. The omentum shows the same changes, with in addition atrophy of the fat cells and elastic tissue. Jackson's membrane and Lane's band show normal endothelium and blood vessels, and well formed fibrous tissue free from infiltration by lymphocytes.

The clinical symptoms vary according to the position of the adhesions and of the resulting or causal visceral lesions; they are described under six heads. Those caused by gastro-duodenal lesions usually imitate peptic ulcer, but sometimes gastro-colic ptosis. The typhlo-colic form, or painful dilatation of the caecum, often follows appendicectomy attended by only temporary improvement; it simulates chronic appendicitis with constipation—false appendicitis. In the entero-colic form there is diffuse colic with constipation; biliary pain may be due to pericolitis associated with cholelithiasis (true lithiatic), or to perivisceritis without any lesion of the gall bladder (the false form of lithiasis). The pseudo-neoplastic category includes two

[1] *Rev. de méd.*, Paris, 1926, 701-737.

forms. One is the rare inflammatory tumours in the right iliac fossa, which occur chiefly in old persons, and, in the absence of evidence of tuberculosis and syphilis, suggest carcinoma; the other form is the relatively common chronic sigmoido-perisigmoiditis which has often led to a diagnosis of carcinoma. In the obstructive form adhesions long latent may suddenly cause acute obstruction. The radiological appearances are fully described, and this part of the essay is illustrated by a number of skiagrams. The treatment may be medical or surgical; the former includes the administration of castor oil in small doses, or of paraffin; diathermy may be useful, as also sour milk and a milk and vegetable diet. Surgical treatment should aim above all at prevention, such as excision of any inflamed areas in the omentum; in long-standing cases demanding operation, during which adhesions are divided, the exposed surfaces thus produced should be covered by grafts from the omentum, which, contrary to what might be expected, are not likely to lead to the formation of fresh adhesions. Any focus, such as an inflamed appendix, should of course be removed at the same time; but it is frankly admitted that in spite of these forms of treatment failures are not uncommon.

THE ANNUAL MEETING IN EDINBURGH.

THE date of the Annual Meeting of the British Medical Association in Edinburgh is rapidly approaching; there are now left only six clear weeks before the assembly of the Representative Meeting, which is fixed for July 15th —St. Swithin's Day, though we may hope only for a flood of eloquence, since Edinburgh can be very charming when the sun shines. Sir Robert Philip will give his address as President on the evening of Tuesday, July 19th, and the meetings of Sections will begin on the following day. There are twenty-one Sections, ranging from Medicine to the History of Medicine and Medical Sociology, so that however large the attendance there ought to be plenty to occupy and interest every member. It is fully anticipated that the numbers present will be large, for Edinburgh is one of the famous medical schools, and will undoubtedly attract many of its graduates; in fact, the attendance is expected to be so large that some apprehension is felt with regard to the capacity of Edinburgh to put up all its guests. The Hotels and Lodgings Committee has definitely engaged all the available rooms in the city and will allocate them in rotation. The Scottish Medical Secretary, Dr. Drever, has undertaken to do this, and applications for rooms should be addressed to him at the Edinburgh House of the Association, 6, Drumsheugh Gardens. A form of application was, for the convenience of members, printed in the advertisement pages of our issue of last week (p. 28). The accommodation is grouped into three classes—hotels, where the tariff for bed and breakfast ranges between 8s. 6d. and 14s., private hotels and boarding houses (5s. 6d. to 8s. 6d.), and hotels (8s.), which, though few in number, can all be recommended. Naturally the committee is anxious to get an estimate of how many members it is to expect, and earnestly desires that applications for rooms should be made at once. The railway companies serving Edinburgh have agreed to issue passenger tickets to that city available from July 13th to 25th, at the ordinary single fare and one-third for the double journey. The printed form, which can be obtained from the Financial Secretary of the Association, Tavistock Square, W.C.1, must be filled up and signed by the applicant and given in at the booking office where the ticket is bought. The concessions as to fares will operate from Irish ports by railway-owned steamers, and by the boats of the Belfast Steamship, British and Irish Steam Packet, the City of Cork Steam Packet Companies, and the boats of Messrs. Burns and Laird. For those who propose to motor to Edinburgh garage accommodation for at least 1,125 cars will be available; application in this case also should be made to Dr. Drever. The Pathological Museum, which is now a regular feature of the Annual Meeting, has been brought together by a committee of which Professor J. Lorrain Smith is chairman; an extensive series of demonstrations will be given, of which a list will be found in the SUPPLEMENT of May 7th (p. 193). It is hoped that those who contribute to the Museum, and particularly those who wish to supplement by exhibits their contributions to the Sections, will be present at stated times to demonstrate their specimens. Communications on this matter should be addressed either to Dr. James Davidson at the Department of Pathology, The University, Edinburgh; Mr. W. Q. Wood (48, Northumberland Street, Edinburgh), or to Dr. Douglas Miller (57, Manor Place, Edinburgh), who are secretaries of the committee. The Lister centenary celebration will be held in the McEwan Hall of the University on Wednesday, July 20th, at 8 p.m. The Earl of Balfour, Chancellor of the University, will preside, and short addresses will be given by Sir William Watson Cheyne, Professor Tuffier of Paris, Professor Harvey Cushing of Harvard, and Professor John Stewart of Halifax, Nova Scotia. Throughout the week of the meeting of the Association a museum of Lister's relics, gathered from many sources, will be on view in the Upper Library of the old University. A Lister Memorial Volume has been prepared and will constitute the Book of the Edinburgh Meeting of the Association. A copy will be presented to each member of the Association on registration. The volume is edited by Dr. Logan Turner, and will contain sketches and reminiscences by former house-surgeons of Lord Lister's, two of his own scientific addresses, and a series of letters. There will also be a section dealing with the lives of Lister's fellow residents in the Edinburgh Royal Infirmary during the summer of 1854. Sir Edward Sharpey-Schafer has contributed a sketch of Lister's work as a physiologist; Mr. Miles writes on surgery before Lister, and Professor John Fraser on the influence of Lister's work on surgery. On Saturday, July 23rd, a limited party will make an excursion by special train to Fife and St. Andrews, and will be entertained at luncheon at St. Andrews by the Fife Branch; on Sunday, July 17th, there will be an excursion by road for the Representatives and their friends to the Scott country.

PINEL AND VULPIAN.

As we announced on April 9th, the celebration of the centenary of the death of Pinel, organized by the Société Médico Psychologique, is being held at Paris, from May 27th to June 2nd, simultaneously with the celebration of the birth of Vulpian under the auspices of the Société de Biologie and the Société de Neurologie. Among the psychiatrists and neurologists from many countries who will take part in the celebrations are not a few from Great Britain; the British Medical Association is represented by Dr. C. Hubert Bond, Commissioner of the Board of Control. Both Pinel and Vulpian were attached to the Salpêtrière Hospital in Paris, where celebrations will be held as well as at the Sorbonne and the Faculty of Medicine. Philippe Pinel, who was born in 1745, and died at the ripe age of 81 in 1826, is best known in this country and to the world generally for being the first to introduce humane treatment for the insane; his example was followed in England by Gardner Hill at Lincoln Asylum, and John Conolly at Hanwell. Pinel first intended to adopt a theological career, and it was not until the age of 30

that he obtained his medical qualification. His previous literary and philosophic studies, however, had not been in vain, since they enabled him to take a wider outlook than might otherwise have been the case. Shortly after obtaining his degree he translated into French William Cullen's work on nosology, which at the time had an extensive vogue. During his life, and for many years subsequently, Pinel's fame rested less on the revolution he effected in the treatment of the insane than on his being the founder of a new system of nosology in which he sought to classify diseases by their symptoms, and not by their morbid anatomy. As Pinel may be regarded as one of the pioneers of modern psychiatry, so Vulpian may be ranked with his friend and contemporary Charcot as one of the pioneers of modern neurology. Vulpian was born in Paris in 1826, and graduated in 1853 with a thesis on the origin of several cranial nerves. After acting as assistant to Flourens, who was professor of physiology at the Museum of the Jardin des Plantes, he was appointed professor of morbid anatomy at the Faculty of Medicine in 1867, and held the post until 1872, when he succeeded Brown-Séquard in the chair of comparative and experimental pathology. He was dean of the faculty of medicine from 1875 to 1881, and, during his term of office, was the active spirit in bringing about several reforms in the medical school, including the installation of new laboratories and the creation of more professorships. In addition to being a member of the Académie de Médecine and later of the Institut de France, he was made perpetual secretary of the Académie des Sciences, thus receiving one of the highest honours to which a French savant can aspire, and being the first medical occupant of this post. Like his predecessors Cruveilhier, Laennec, Louis, and Bretonneau, Vulpian combined a keen clinical instinct with a study of morbid anatomy, but he surpassed them by being the first to realize the importance of the microscope in pathology, especially in diseases of the nervous system, as is shown by his classical work on infantile paralysis, disseminated sclerosis, tabes, paralysis agitans, and changes in the muscles following section of the nerves.

COLOSTOMY.

TRADITIONAL beliefs die as lingering a death in medicine and surgery as in all else, and the operation of colostomy affords an excellent example of the way in which a method of treatment may be pursued by a bad character acquired in its early and experimental stages. To avoid the then dangers of opening the peritoneal cavity the early colostomy openings were made in the lumbar region, and the lot of the unhappy patient was indeed lamentable, for in general the opening was little more than a lateral window in the bowel, and not only was drainage inefficient, but it was also uncontrollable. Many of these unhappy patients were in consequence almost cut off from all forms of social or other activity, and when it is remembered that the operation was usually performed for the relief of the last stages of cancer of the rectum, it is not difficult to realize how colostomy came to be regarded by all concerned. Any operation carried out upon a patient who, in any event, is certain to die—no matter how successful it may be in its immediate object—is not likely greatly to enhance the reputation of the surgeon or of the art of surgery; and when that operation was characterized by the distressing concomitants inseparable from the earlier type of colostomy, it is not surprising that it acquired a very bad name indeed. Happily the rise of abdominal surgery and the introduction of sigmoid colostomy wrought a great change. The operation proved safe and easy, and the more conveniently situated wound allowed an adequate and complete emptying of the bowel. It was soon apparent that a patient with colostomy could lead a decent and fairly useful life, but it was of course still only a palliative, for the patients were all doomed as the growth extended. The next stage was the introduction of methods of complete removal of the rectum followed by permanent colostomy, and for the first time a new problem presented itself—patients cured of cancer of the rectum, but saddled with an artificial anus for life. It is in these cases, some of them strong, vigorous, and busy people, that the function and behaviour of the new opening is of supreme importance. How far colostomy has advanced and how high a degree of efficiency and control can now be promised was made very evident at the annual meeting of the Subsection of Proctology of the Royal Society of Medicine, held on May 11th, when its technique, its indications, and the after-care of colostomy cases were all exhaustively considered. Mr. Ernest Miles and Mr. Gabriel opened the discussion by describing the methods employed at the Cancer Hospital and St. Mark's Hospital respectively. It appears that in general the staff of St. Mark's use an incision through the rectus muscle and claim for it a higher degree of control than can be obtained by the incision in the iliac fossa favoured by Mr. Miles and his supporters. While it is true that in weight of numbers the St. Mark's method received more support, Mr. Miles's great experience and wise judgement cannot on that score alone be disregarded. Possibly the truth of the matter lies not so much in the site of the operation as in the mode of its performance, for all speakers were agreed that the really fundamental factor is the formation of a good spur. Given a well placed opening, a satisfactory spur, and a reasonably intelligent patient, a busy, active, and not unpleasant life is possible. The labourer can earn his living, the mother can look after her children, and the professional man can pursue his usual avocation. Indeed, dancing and dining out would appear to be not impossible. One speaker went so far as to claim that the subjects of colostomy were in some respects better off than their fellows on the ground that the daily evacuation of the bowels through the new stoma is so complete as entirely to remove any of the usual symptoms of auto-intoxication, and confers upon them notably clean tongues, sweet breath, and clear complexions. Despite all that may be said to the contrary, most people will agree that no matter how well these patients may feel, and be their breath never so sweet, yet the fact remains that no man or woman familiar with the circumstances would willingly accept colostomy did not death itself weight the balance of decision. But with death imminent or remote as an alternative it becomes a small price to pay for even temporary deliverance, a price that most of us would pay without demur. It is a comforting reflection that when we do have to advise colostomy and can combine with it an effective removal of the growth, we are offering a good chance of cure as some set-off against the disability.

THE PROBLEM OF THE DIPHTHERIA CARRIER.

THE long-continued isolation which is sometimes necessary in the case of diphtheria carriers, whether convalescent patients or contacts, is frequently a source of annoyance both to the medical practitioner and to the luckless individual whose liberty is restricted. Morphological examination of throat swabs seems to have been rather inspired hitherto by the saying of the Bellman in Lewis Carroll's *Hunting of the Snark*: "What I tell you three times is true," three successive negative results being required for liberation of the prisoner. Although there is a good deal of evidence that the virulence of diphtheria bacilli is relatively constant, and that apparent changes of virulence in consecutive subcultures are actually due to the association of a virulent with an avirulent strain, yet there

ins the possibility that the predominance of one or type at the time of testing might lead to an erroneous asion as to infectivity. Margaret Benttie and Mary have therefore made an examination of the criteria resent employed in determining the release of such ers. The questions they considered were: (1) Is a negative virulence test sufficient to allow of the e of a carrier? (2) Is a person who has once been to be carrying virulent diphtheria bacilli to be dered dangerous so long as diphtheria bacilli are nt? To answer these questions they performed ted tests on bacillary strains recovered from a number ntacts and carriers. Whole cultures were injected cutaneously in 0.2 c.cm. quantities into guinea-pigs, of which were protected by a simultaneous dose of oxin. Of 47 carriers tested, 11 gave persistently tive results of virulence tests. Of the others, 32 gave ive results the first time, and 4 gave negative results irst time but positive results on one or more subse- t occasions. Of the 32 patients that gave a positive ence test on the first occasion, 7 subsequently became tive—that is to say, 21.9 per cent. of patients giving nitial positive virulence test subsequently became tive, whereas of those giving an initial negative test per cent. subsequently became positive. Since in half the patients only two tests were made, it is clear these figures cannot be considered as representing true proportion of alterations in virulence; had a r number of tests been made it is probable that they d have been different. (The figures given are those ie tables; the figures in the text do not agree with absolutely.) The conclusion to be drawn from these ts would seem to be that from an administrative point iew repeated virulence tests are of value, not only in ling certain carriers to be released before morpho- al diphtheria bacilli have disappeared from the throat, also in preventing the premature discharge of carriers on a single test, might be considered innocuous.

ENZOIC ACID IN THE PRESERVATION OF FOODS.

ER the provisions of the Public Health (Preservatives, in Food) Regulations which came into force on uary 1st last, the only preservatives permitted to be in foods and drinks are sulphurous acid and benzoic . The articles to which the preservatives may be ed, and the maximum quantity allowable, are specified schedule. Unfortunately little work has been done his country on the estimation of benzoic acid, so that Ministry of Health has thought it advisable to publish view of available information on the subject in the of a report on *The Determination of Benzoic Acid Foodstuffs*,[2] by Dr. G. W. Monier-Williams. The culty of the subject is illustrated by the story of a lor of pickles in America who was prosecuted on the und that his product contained benzoic acid. As a ter of fact his pickles were highly flavoured with oil cinnamon, which gives similar reactions. Moreover, zoic acid occurs naturally in certain berries, such cranberries, whortleberries, and especially cowberries, ch are *common articles* of food. Dr. Monier-Williams s that for the determination of benzoic acid in food- fs removal or destruction of proteins is almost always essary, as they are liable to cause emulsions on ex- tion with solvents, and also to retain benzoic acid. the same time the removal of proteins by precipitation lead to loss of benzoic acid in various ways. With ls containing much fat it is better to separate the fat to extract the benzoic acid independently from the fat and from the fat-free residue. Steam distillation is a satisfactory method of extracting the acid from non-fatty foods. In nearly all cases purification of the extract is required before titration or weighing can be done. Washing with salt solution is a good way of purifying; and oxidation with alkaline permanganate is effective in removing many impurities. Precipitation of insoluble benzoates is only of limited application; while sublimation, the best and most reliable method of purification, may fail if much impurity is present. The most delicate test for benzoic acid is Mohler's. Dr. Monier-Williams concludes his report by describing a new method of distillation for the determination of benzoic acid in fruit and vegetable products.

[2] *American Journal of Hygiene*, March, 1927, p. 105. H.M. Stationery Office, or through any bookseller. Price 1s. net.

THE STUDENT WHO SMOKES.

ACCORDING to a venerable anecdote, two men followed one another into a public house one spring day and each ordered a brandy and soda, the first because the cold wind tried him, the second because the hot sun made him feel faint. A third man, who had heard both orders given, said to the barmaid: "Bring me a large brandy and soda, miss, because I like it." It is probable that a majority of adult smokers would, if quite honest with themselves, assign the third man's reason for their habit, and it is really a very good reason. Still, as Professor Boycott says in his preface to Dr. Earp's study of *The Student Who Smokes*,[1] "we have been smoking in this country for about 350 years, and it is no doubt time that we knew more about the effects than we do." Dr. Earp, who is the director of the Department of Hygiene in Antioch College, Yellow Springs, Ohio, set himself to investigate some of the effects of smoking upon a sample of young men. He has analysed statistically the physical and mental prowess of college undergraduates who were or were not smokers. The data relating to athletics are not, from the nature of the case, very extensive, but, so far as they go, confirm the general impression that habitual smoking is not favourable to the development of athletic prowess. The data relating to intellectual activity are novel and interesting. In the first place, the results of psychological tests at or before admission show no significant difference between smokers and non-smokers to the prejudice of the former; in fact, in one series of tests the smokers had a statistically significant advantage. But if one takes the frequency distributions of marks gained in college, the smokers had a lower average and were more variable. Taking a grade of 4.0 as a mark of reasonably high scholarship, it appears that 23.9 per cent. of the non-smokers and only 7.9 per cent. of the smokers reached or exceeded this mark. On the other hand 37.9 per cent. of smokers failed to reach an average grade and only 18.8 per cent. of non-smokers. It also appears that the heavy smokers did not do so well as the light smokers. Thus 41.4 per cent. of 353 students failed to reach diploma standard, 62.7 per cent. of 75 heavy smokers, 42.1 per cent. of 95 lighter smokers, 31.8 per cent. of 176 non-smokers. There is also some evidence that the smokers deteriorated slightly from year to year, and some evidence that inhalers did worse than non-inhalers (we think that in the latter case, the method of treating the statistics has somewhat over-estimated the significance of the difference, but the point is technical). On the whole, then, the smokers come out of the trial rather badly, and Dr. Earp asks himself why. He considers three hypotheses. The first that smoking is, to some extent, a measure of sociability, and that sociable lads have less time to ponder in solitude over the properties of right-angled triangles and the uses

[1] *The Student Who Smokes: An Original Statistical Investigation.* By J. Rosslyn Earp, M.A., M.R.C.S., L.R.C.P., Dr.P.H. With a preface by A. E. Boycott, M.A., D.M., F.R.S. London: H. K. Lewis and Co., Ltd. 1927. (Med. 8vo, pp. 62. 5s. net.)

of the subjunctive mood. The second theory is that those who smoke are happy and content and do not feel the cravings of an ambition to know all about triangles; as Emerson puts it, "The believing we do something when we do nothing is the first illusion of tobacco." The third theory is that some poison or poisons in the smoke act directly upon the central nervous system. Dr. Earp slightly inclines to favour the third theory—he attaches more importance than we are inclined to do to his comparison of inhalers with non-inhalers—but his summing up is judicial, and he concludes that "more than one, perhaps more than all, of the explanations ventured above are necessary to cover all the facts." This is an interesting piece of work which should be repeated elsewhere for a reason mentioned by Dr. Earp in another connexion. As he says, "in some environments the non-smoker is made to feel socially an outsider; and in others the smoker is consciously wicked." If we wish to determine the intrinsic virtues or vices of tobacco we ought to take a sample of persons from a "universe" where smoking is regarded from the moral and social point of view with complete indifference, and so we should avoid the risk of some other factor correlated with the use of or abstention from tobacco complicating the matter. There is not, indeed, any evidence that the "universe" sampled by Dr. Earp is other than indifferent; the facts (1) that in his sample there were as many smokers as non-smokers, (2) that the sets of questions issued failed in a large proportion of cases to elicit strong reasons for or against smoking, rather suggest that the population from which the students are drawn has no very strong pro- or anti-*nicotine opinions. Still, the point is so important that* it ought to be tested in many ways, and we share Professor Boycott's hope that Dr. Earp's work will stimulate others.

ANTHROPOLOGY AND MAGIC.

MANY members of the Royal Anthropological Institute visited the Wellcome Historical Medical Museum on May 24th to hear an address on the anthropological sections of the museum by Professor Elliot Smith, F.R.S. Very many of the objects, he said, represented the strivings of men to protect themselves, out of which strivings had developed the great majority of the customs and beliefs of mankind in all ages and countries. Here were gathered, for instance, a large number of amulets, talismans, elixirs, and devices, which had in common the idea of protecting or prolonging man's existence. Many of these things appeared grotesque, even quite ridiculous, as means of bringing good luck to their owner, or, in other words, protecting from danger. But *properly to understand* magic it is necessary to remember that most of the things now called magical were originally objects devised on purely rational grounds as mechanisms of protection. It was only when such measures were shown to be unjustified, but were persisted in by a number of people owing to habit or fear, that they could properly be described as magical. Thus certain folk believed in the efficacy of shells, beads, bits of bone, and similar objects long after any justification for the ideas of virtue relating to them had disappeared. Some remarkable representations of pharmacies had been gathered together in the museum, ranging from an early English alchemical manufacturing laboratory down to the shop of the modern druggist, and here was an amazing demonstration of continuity from the early equipment with which Paracelsus might have worked down to a rational pharmacology. Altogether the museum helped the student of anthropology to interpret the real meaning of the customs and beliefs of primitive people, and in bringing together this collection Mr. Henry S. Wellcome had rendered a distinct service, not only to medicine and pharmacology, but to anthropology. A vote of thanks to Mr. Wellcome was accorded on the motion of the Earl of Onslow, seconded by Mr. W. G. Spencer, and a message from Mr. Wellcome was read by the conservator, Mr. L. W. G. Malcolm, stating his desire that the anthropological section should be developed as a *progressive research institution.* The members then inspected the collections, especially those dealing with divination, magic, and witchcraft.

YATREN.

IN 1921 Professor Mühlens and Dr. Menk of the Hamburg Tropical Institute reported some excellent results from the use of a new remedy for amoebic dysentery. This was a preparation manufactured by the Behringwerke at Marburg; its chemical composition was given as iodo-oxyquinoline sulphonic acid; it was stated to contain 28 per cent. of iodine, and was put upon the market under the name "Yatren 105." It is a yellowish powder, soluble in water to the extent of 4 per cent. at the ordinary temperature, and has the advantages of acting efficiently when taken in pill or cachet by mouth, of being innocuous and non-toxic, and in maintaining its potency on storage. During the last six years good reports have been published from countries other than that of its discovery, Germany —namely, by Silva Mello in Brazil, Birt and Reiss of Shanghai, de Langen and Lichtenstein in Batavia, Manson-Bahr in England, Buchanan in Palestine, and others. Dr. Schwartz of the Faculté de Médecine de Paris has conveniently brought together in a pamphlet[1] these scattered records, and has added four cases of his own. He shows that though *from its solubility* "Yatren 105" can be employed as a rectal injection, it acts equally well when taken in pill or cachet (four pills each containing 0.25 gram, or two cachets each of 0.5 gram, daily being the *doses generally recommended*), and is thus much more convenient than emetine; and, further, it is of service also as a prophylactic, needs no special precautionary measures, and can be carried on a journey and taken in the course of travel. The drug appears to be very efficacious *in acute* amoebic dysentery, and to have given good results in chronic cases, but it is only right, before we accept the report of cure, to suspend judgement in the latter until a longer interval has elapsed. The usefulness of such a piece of work as Dr. Schwartz has done is twofold: it brings together the experiences of workers in various countries as to the efficacy of a new form of treatment of a condition which has become widespread since the war, and which is the cause of much sickness and even mortality; and secondly, it should lead to a more extensive trying-*out of a remedy which will receive a universal welcome* if the laudatory reports hitherto published are confirmed by others.

THE centenary of the discovery of Bright's disease by Richard Bright, physician to the hospital from 1820 to 1843, will be celebrated at Guy's Hospital on Friday, July 8th. The Earl of Balfour, K.G., F.R.S., will attend, and at 3 p.m. Dr. W. S. Thayer, Emeritus Professor of Medicine, Johns Hopkins University, Baltimore, will deliver the Bright Memorial Oration in the Physiology Theatre of the Medical School. Academic dress will be worn.

THE Oxford University Junior Scientific Club announces that the twenty-ninth Robert Boyle Lecture will be delivered on Saturday, June 4th, at 9 p.m., in the hall of Balliol College by Sir Leonard Rogers, M.D., F.R.S., upon "Climate and disease incidence in India; forecasting epidemics."

[1] *Traitement de la dysenterie amibienne par le Yatrène 105.* Par Louis Schwartz. Paris: M. Vigné. 1927. (Roy. 8vo, pp. 56.)

THE FUTURE OF THE UNIVERSITY OF LONDON.

THE NEW SITE IN BLOOMSBURY.

THE purchase by the Senate of the University of London of what has been known for some years as the University site in Bloomsbury, immediately to the north of the British Museum, is undoubtedly one of the greatest advances towards the solution of the university question in London which have been made since the University was founded in 1826. As we announced in our issue of May 14th (p. 906) the Senate of the University has been enabled to acquire this site owing to two grants recently made to it. In July last, only a few months after the Duke of Bedford had resumed possession of the site which had been offered to the University in 1921 by the Government, under conditions with which it was then unable to comply, the Chancellor of the Exchequer promised to make the University a grant of £212,500 for the purpose of enabling it to provide new accommodation at South Kensington on the ground immediately behind that portion of the Imperial Institute which it now occupies, and for the purchase of such an amount of land on the Bloomsbury site as might be possible and within the financial resources of the University. The whole situation was changed by the recent offer of the Rockefeller Trustees to assist the University in the purchase of the entire site originally offered to it in 1921. We believe we are right in saying that the suggestion in this direction was only made by the Rockefeller Trustees in January last. We congratulate those who are responsible for the administration of the University on having achieved a large part of its object within three months of announcing negotiations for a purchase of part of this important site.

As we have already stated, the area now acquired is oblong in shape, and extends from the northern frontage of the British Museum to Gordon Square. It is bounded on the west by Malet Street, and on the east by Russell Square and the road leading from that to Gordon Square. This site comprises without the roads 8½ acres, and with the roads 11½ acres.

The Rockefeller Foundation was founded with the object of promoting in its widest sense "the well-being of mankind throughout the world." As is well known, in carrying out the primary object of the Foundation the Trustees have made considerable gifts for the establishment of institutions in connexion with medical education in different parts of the world. One important foundation of this kind already exists in London. Immediately adjacent to the new University site, between Malet Street and Gower Street, is the London School of Hygiene and Tropical Medicine. Its foundation charter was granted in April, 1924. The founding of this institution followed an offer by the Rockefeller Trustees of two million dollars towards the cost of building, and a guarantee by the Government of the sum of £25,000 a year for its administration and up-keep. Later on the Rockefeller Trustees promised to give £4,000 a year to provide for the payment of a director and an administrative staff. Dr. Andrew Balfour was accordingly appointed director, and he and his staff have been at work making preliminary arrangements ever since. The School was established by Royal Charter, and is governed by a Court of Governors, and a Board of Management nine in number. Since its foundation the School has taken over the administration and responsibilities of the London School of Tropical Medicine, which was established through the exertions of Sir Patrick Manson in connexion with the Seamen's Hospital at Greenwich at the Albert Dock branch. He lived to see it removed to the large building in Endsleigh Gardens, which included a teaching school, laboratories, and hospital wards. The School of Hygiene and Tropical Medicine will become, as provided in its charter, a school of the University of London as soon as its buildings have been erected and equipped.

Immediately after its appointment the Board of Management of the School of Hygiene and Tropical Medicine instituted an architectural competition for plans for the erection of the buildings required by the School on the site which had already been bought at a cost of £50,000 from the trustees of the Duke of Bedford. This architectural competition was limited to a select list of architects all of whom had had previous experience in connexion with the building of scientific laboratories, either for universities or large medical schools. As we have previously stated, Mr. Morley Horder was successful in this competition. After careful discussion by the Board of Management of the successful plans, and with a number of modifications in detail, it was determined to proceed with the construction of the building. The foundation stone was laid by the Minister of Health (Mr. Neville Chamberlain) on July 7th, 1926, and if the coal dispute had not occurred with its consequent difficulties in the provision of constructional steel, the building would by this time have been well advanced. At the present moment, however, great progress is being made. The steelwork is well under way, and the main contract has been let, and within a short time—two years or less—there will have been erected and ready for occupation what we trust will be one of the finest scientific buildings in London, and is without doubt destined to become one of the greatest schools of hygiene in the world.

So much for what has already been arranged and is in course of construction on the area immediately adjacent to the University site.

We trust that the Senate before allocating for the purpose of any individual building any portion of the site which has been acquired will, in the first place, decide on broad lines what the institutions to be erected in Bloomsbury are to be. An open architectural competition, in which information is given as to the institutions proposed for the site, will in all probability result in a satisfactory plan. A liberal spirit ought to be observed in these suggested plans; and, if possible, the assistance and collaboration of the London County Council and the local municipal authorities obtained.

It must be remembered, however, that the University will only be able to proceed gradually with the erection and equipment of its buildings. In the first place it, at the present time, has only available a sufficient sum of money for the erection of a central administration office. The decision of the Senate, which was made on February 23rd, 1927, to remove, if possible, the administrative offices from the site at South Kensington to Bloomsbury, was a most important one. The transference of these offices to Bloomsbury will be an enormous advantage in the future to everyone connected directly or indirectly with the University. The teaching staffs of

the various constituent colleges and the students will find that with very few exceptions it is a far easier matter to get to the University at Bloomsbury than to South Kensington, owing to the means of transport to and from the Bloomsbury area. Only those who have been intimately connected with the University, and have had frequently to go to South Kensington, can realize the difference in the administration and in all university activities which this transference to Bloomsbury will make.

The institutions which it has already been suggested might be located and erected on the Bloomsbury site are:

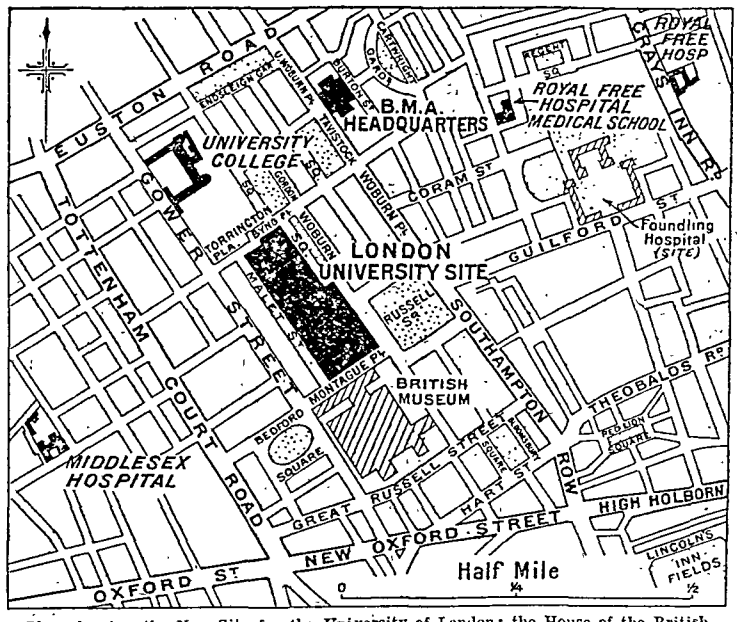
(1) *The Central Administrative Offices.* Concerning the necessity of these there can be no doubt.

(2) *The University Library.*

(3) *The School of Historical Research*, at present inadequately accommodated in a series of temporary one-storied buildings on a portion of the site in Malet Street.

(4) *A Students' Union*, or perhaps better still a University Union, which might become a centre for the social activities of teachers and students of the University, and a centre where hospitality might be dispensed to students from overseas and from other universities.

(5) *A Senate House or Ceremonial Hall.*—Some would prefer the latter, but it is to be hoped that the University will not attempt to provide an enormous hall for its public functions. One of reasonable size would, in the long run, be found much more useful and certainly much more economical. It might be asked in this connexion what is to happen with regard to the graduation ceremony. For some years this has been held in the Albert Hall to provide room enough for the large number of graduates upon whom degrees have to be conferred. It has been the custom of the University of London to confer all the degrees and present all diplomas obtained during the preceding year on the second Wednesday in May. The University, instead of this, might follow the practice of most other universities, and publicly grant its degrees on several occasions during the year and immediately after they have been gained. This year, according to the report of the principal officer, the number who obtained degrees and diplomas in the academic year 1926 was 3,173. In the circumstances, which we may now confidently hope will be brought about within a few years, it will no longer be necessary to continue to hold an annual graduation ceremony in the Albert Hall. The Senate has partly clung to the policy of holding this one immense function in order to attempt to bring the existence of a university in London before the community. When a suitable building has been erected on the Bloomsbury site in the centre of London it will soon become known to the world at large as *the* University of London; this is a matter of considerable importance, which ought to receive attention so soon as the general lay-out plans of the new buildings come under consideration. At the present time the building in which the headquarters of the University of London are established is so little known to the community at large that when a taxi driver is directed to drive there he either asks for instructions, or goes to Gower Street or anywhere except South Kensington.



Plan showing the New Site for the University of London; the House of the British Medical Association; and the main buildings of University College.

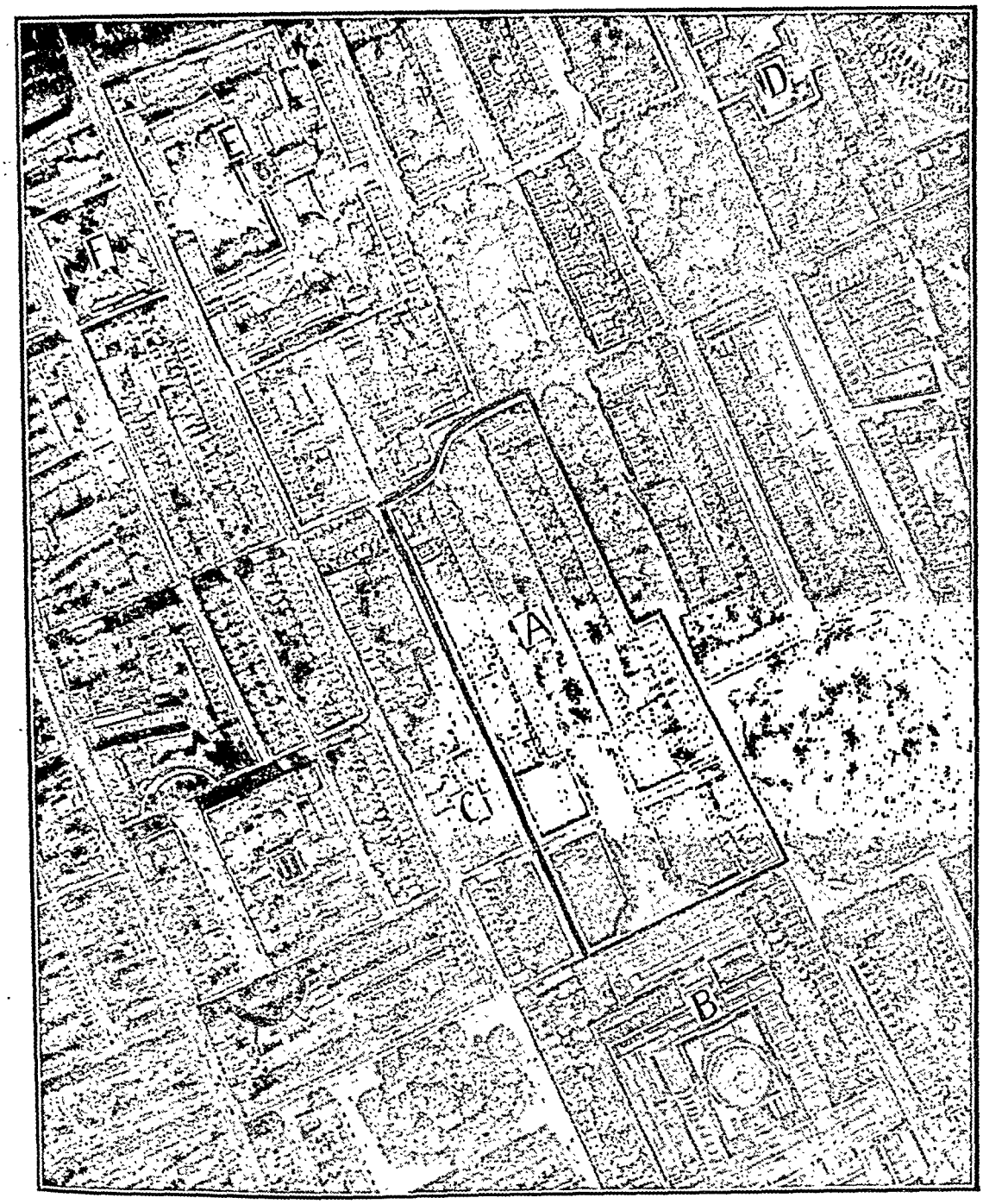
(6) *Site for Certain Constituent Colleges.*—It has been suggested that certain colleges, such as Birkbeck College, might be allocated sites in the University area, and also that provision should be made for residential hostels, or quarters, for some teachers and students.

(7) *The Headquarters of the Officers' Training Corps.*—Provision for proper headquarters of this important part of the University work is very essential. In the past, as we all know, the University of London Officers' Training Corps has done excellent work, and is doing so at the present time. It is doing it, however, under very great difficulties and in very bad accommodation.

(8) *Administrative Offices for a Post-Graduate Medical School.*—From the point of view of medicine one of the most urgent needs of London is a post-graduate medical school. It may be suggested that space for a suitable building, to serve as the administrative headquarters of such a school, might be found on the Bloomsbury site. Many attempts have been made to provide in London a satisfactory and efficient post-graduate school; all up to the present have failed. Each school of this kind which has been attempted has never had a permanent headquarters or an efficient administrative staff. Further, no post-graduate school or association in London has ever been intimately or directly connected with the University or any of the medical licensing bodies. If a post-graduate school in London is to be a permanent success in the future we unhesitatingly say that it ought to be a school of the University, as the Athlone Committee indeed recommended; and it might be well that it should also have direct connexions or associations with the governing bodies of the Royal Colleges of Physicians and Surgeons.

Now that the University has acquired a central site upon which are a number of buildings, it might perhaps consider the possibility of allocating accommodation for the headquarters of a post-graduate school and take part in its formation on sound lines and in its administration. One great difficulty that has in the past stood in the way of the creation of a satisfactory post-graduate school of medicine has been the aversion of all the medical schools in London to give up their undergraduate work to become a post-graduate school. It is well known to everyone who has had extended experience of medical education that it is impossible to carry on in the same hospital and the same medical school an efficient and satisfactory post-graduate school and an undergraduate school. For some reason undergraduate students and post-graduates refuse to mix for educational purposes.

(9) *A University School of Law.*—The creation of a school of law in the University of London has in the past often been suggested and discussed. Provision for teaching in law has been made in the larger colleges of the University, for instance, in University College and King's College, and at the School of Economics, but any intimate connexion between those great law corporations—the Inns of Court and the Law Society—and the University has hitherto been found impossible. On several occasions discussions have taken place with the authorities of these institutions



THE UNIVERSITY QUARTER OF LONDON.

A, The new site of the University of London.

B, The British Museum, showing the dome of the Reading Room.

C, The site of the School of Hygiene and Tropical Medicine, now in course of erection.

D, The House of the British Medical Association (Tavistock Square).

E, University College.

F, University College Hospital. University College Hospital Medical School is directly opposite the hospital on the south.

(From an air photograph by Aerofilms, Limited.)

with the object of creating a school of law, which might be known as such. When the University was reconstructed in 1898 the commissioners put upon the new Senate representatives of the law corporations. These were six in number, a representative each for Lincoln's Inn, the Inner Temple, the Middle Temple, and Gray's Inn, and two representatives of the Law Society. This was a larger representation of institutions than in any other branch of education on the Senate. Closer working between these law corporations and the University did not result. Presumably on account of this failure in twenty-five years to effect any closer connexion between the University and the law corporations, and the desire to diminish the size of the Senate, the six representatives under the new constitution automatically disappear. In the recent reconstitution of the Senate a similar result happened with regard to the Royal Colleges of Physicians and Surgeons. They had been represented on the Senate by four members, two appointed by the Royal College of Physicians and two by the Royal College of Surgeons. As with the law representatives these four representatives were appointed when the University was reconstructed in 1898, the intention being to bring about a closer working between the Royal Colleges and the University as regards its medical faculty. We cannot help regretting that the University and the Royal Colleges have not found it possible in the past twenty-five years, during which period the Colleges have had representatives on the Senate, to evolve some such system of closer working. It would be an enormous advantage to the students of the medical schools in London if the University and the Royal Colleges could establish examinations which in part were common to the three bodies. Many members of the London medical schools who have been examiners to the University and to the Royal Colleges in medical subjects, especially as regards the final qualifying examinations, say that in reality there is little difference between the final examinations of the three bodies. The University has additional examinations in some special subjects, whereas the Colleges combine these subjects. Surely it would be possible to evolve some plan by which the University and the Colleges could carry on joint examinations. This is a subject which deserves serious consideration in the immediate future. There is no doubt it is becoming increasingly difficult to find men of recognized position and superior attainments who are willing to give the time which is necessary to the examinations of the three bodies.

(10) *Central Hospital for Tropical Diseases.*—There is, we believe, a proposal to establish a central hospital for tropical diseases in the immediate neighbourhood of the School of Hygiene and Tropical Medicine. If this is done, and we do not doubt the necessity, we hope that it will be in its immediate neighbourhood, such as the area now vacant immediately to the south of the frontage of the new buildings now being erected in Keppel Street. The site is opposite the London School of Hygiene and Tropical Medicine, and its buildings might be made architecturally and otherwise to correspond.

(11) *A Residential Campus.*—At the graduation dinner held at the Fishmongers' Hall on the evening of the graduation ceremony on May 11th it was interesting to hear an allusion in one of the speeches to the possibility of the creation of a central university residential campus in Bloomsbury. We are told that the roll of internal students in 1926 comprised 9,340, and that there were 850 foreign and oversea students attending university institutions in London. Only a small proportion of these internal students would require residential accommodation, but for the oversea and foreign students it seems essential that residential accommodation should be provided.

It was suggested that in the immediate neighbourhood of the University there was a site which might be acquired for such a university residential campus. The site mentioned was that of the Foundling Hospital. Perhaps some of our multi-millionaires who are desirous of doing the best they can for the country and the empire might give serious consideration to the suggestion. It would be difficult to imagine anything which would promote the interests of the country and the empire more than the establishment of residential accommodation of a proper kind, and in such a position as is suggested.

There are many other points in connexion with the development of the University site in Bloomsbury which we should like to have discussed, and perhaps in a future issue we may be able to pursue the possibilities of development of the Bloomsbury site in connexion with the University and university education.

THE ODONTOLOGICAL COLLECTION OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

THE Odontological Collection of the Royal College of Surgeons of England has been completely reconstructed and rearranged under the direction of Sir Frank Colyer, K.B.E., F.R.C.S., who has been curator for over twenty-five years. It was formally opened by the President, Sir Berkeley Moynihan, Bt., on May 23rd, when the Section of Odontology of the Royal Society of Medicine held its annual meeting by invitation in the College. Sir Berkeley Moynihan spoke as follows:

Address by Sir Berkeley Moynihan.

There is little need for me to attempt to lift up your blood with persuasion in order to convince you of the importance of the odontological collection which now finds a proud and permanent place in our Hunterian Museum. It affords beyond question the most complete representation ever made of all that concerns the teeth—of their origin and growth, of their structure, their disorders, their comparative anatomy and comparative pathology. It is a collection which we who are responsible for the welfare of this Museum feel ourselves most fortunate to possess.

May I briefly remind you of the steps which have led to the formation of our collection and seek to interest you in its further progress; for happily there is no finality in any department of surgery—least of all perhaps in that which relates to the dental system?

Seventy years ago the leading dental surgeons of this country formed the Odontological Society of Great Britain. With great foresight they began at once to preserve and collect the more instructive specimens shown at its meetings, and thus in course of time they found themselves in possession of a large museum. In 1907, when the Odontological Society became the Odontological Section of the Royal Society of Medicine, this museum had so grown that it contained no fewer than 5,000 catalogued specimens. It was then in charge of an indefatigable and devoted honorary curator, Mr. J. F. Colyer, and Sir Frank Colyer, I am glad to say, is still honorary curator of the collection, and to this day displays all the energy and enthusiasm, and even more than the high competence, of twenty years ago.

Those responsible for the management of the newly formed Odontological Society naturally regarded the Museum as an essential part of their organization. They recognized also that if the collection were to continue to expand it would be better to place it where the necessary skill in the preparation and preservation of additional specimens would still be available, and where it would meet not only the immediate needs of the society, but would also serve the manifold purposes of a great national collection. With these objects in view the Royal Society of Medicine, in 1908, offered the collection, as a trust, to the Council of the Royal College of Surgeons; the trust was accepted by the council, and by the end of 1909 the collection was installed in a large new room—the "odontological room"—on the ground floor of our Museum, the cost of installation being defrayed by the College.

To the specimens assembled by the Odontological Society were added John Hunter's original specimens—things of utmost beauty of workmanship, and beyond all price both from their scientific and their historical interest. Among these are the very preparations, 83 in number, on which Hunter founded his opinion as to the manner in which teeth are formed and grow—they are known to all students from the fine drawings which were reproduced by Hunter in his *Natural History of*

...from the odontological collection of ...many of them original Hunterian specimens—to illustrate the comparative anatomy of the teeth.

The Council of the College, while gladly undertaking the responsibility of maintaining the collection, wisely acceded to the desires expressed by those who negotiated the transference, that the Odontological Section of the Royal Society of Medicine should continue to take a direct interest in the welfare and growth of the collection, should use its contents at their meetings and demonstrations, and should advise in its general management. This part of the trust, I am glad to say, has always been, and is now being, faithfully observed. The Section nominated Sir Frank Colyer as honorary curator, and through his labours, and with the generous help and unflagging zeal of other members of the Section, the odontological collection has grown with amazing rapidity. Especially has that part increased which illustrates the comparative pathology of the eth—the diseases which affect the teeth and jaws of horses, gs, and all domesticated and confined animals. This is an portant branch of knowledge which Sir Frank Colyer has de his own, and he has utilized to the full the wealth of erial placed at his disposal by the Council of the Zoological iety of London. Nor have other sources of information neglected. The diseases which occur in men living in us stages of civilization and at various periods of history here illustrated, as well as those dental diseases and lers which are found in animals living in a state of .

years ago, so greatly had the collection outgrown its accommodation, my Council had to consider how d space could be obtained. I hope you will agree with our architect, Mr. Frere, has overcome certain initial es. He has succeeded in extending the original room it is now one of most spacious dimension—large so we hope, to provide accommodation to meet not needs of the present time, but those also of the future. The collection has been rearranged, new e been added, and a new descriptive catalogue is nced in preparation. In a sense, therefore, I am laring open a new Museum—one which assuredly has any land. There is here a collection that has much the dental student anxiously concerned perhaps with s, but there is still more to offer to the student —to the dentist who is seeking to extend the on which the daily practice of his profession is is, above all, a research collection. Inquirers in ave found in its cases and upon its shelves the rials of which they were in search, and future our home schools, as well as from those overseas, an even larger scale that we have catered for s. We aim, here as elsewhere in our Museum, the maintenance but also at the progress of ll departments of surgery, and not least in that which is the province of dental surgeons.

much to say that some of Hunter's most coveries were the direct outcome of his study as the absorption of alveolar bone following a tooth that led to his views on the methods or useless parts of the body are gradually of his conclusions regarding the nature of e drawn from his observations on tooth

necessary for me to extol Hunter's funda- as to dental surgery because this aspect of so amply and so artistically dealt with in monograph, *John Hunter and Odontology*. turn over the pages of that fine work to the debt we owe to John Hunter. And ee in the collection under Sir Frank's sly beautiful preparations made by the lunter himself. The study of the teeth relation to general disorders, a study contemporary William Hunter, will pro- indeed in my judgement has already permanent influence upon general medi- ravages of oral sepsis may prove serious e complications, seemingly so unrelated a grave menace both to health and life.

I cannot better illustrate one kind of service performed by this Museum than by reminding you of a late addition. We all lament the death of the late Mr. Howard Mummery, a Fellow of this College; he had one of the most original and inquiring minds ever applied to odontological problems, and his industry and insatiable appetite for new knowledge continued throughout a long life. After his death, his microscopes, his instruments, and the material results of all his investigations were left to this collection, so that future students might benefit from his endless and unfinished labours. Without such a provision as is afforded by our museums, the lifework of a great man might be lost. As it is, the fruits of Mummery's life will be preserved side by side with the "Tomes" Collections.

The Council of this College regard as their highest trust the conservation and enlargement of this Museum, originally a legacy of Hunter's own brain and hand, and therefore held by us all as sacred. Men of high intellectual attainments, of unwearying industry, and of exquisite skill have rejoiced to labour in the Museum, and have willingly spent their best years in its service. John Hunter's influence is beyond the reach of death. His written word, clumsy and uncouth though it may sometimes be, contains a message which stirs the hearts of men in earnest pursuit of truth. Above every one in our profession of surgery he teaches by his own example the true method of approach to learning by way of observation and experiment; and his industry was simply relentless. The multitude of his specimens in our Museum shows the greedy fervour of his life-long search for stones wherewith to build the bridge from ignorance to knowledge. Close contact with him changes everything; in close contemplation of his labours and in communion with his so ardent mind men are moved to great devotion in the cause he so nobly served. Owen, Paget, Flower, Shattock—great men and great teachers—all of them were inspired by him as by no one else, and their work in our Museum is their homage to the soul of John Hunter.

To-day, on behalf of the College, I tender our sincere and grateful appreciation to two others who by long and most skilful service have greatly enriched the treasures of our Museum—Sir Arthur Keith and Sir Frank Colyer.

MEDICAL EDUCATION AND PRACTICE IN AMERICA.

THE rapid expansion of population in the United States during the latter half of the nineteenth century led to a demand for medical practitioners which was far in excess of any supply available in North America from existing centres of training. To meet the shortage many proprietary medical schools sprang into existence, turning out graduates in large numbers who, owing to the limitations of their qualifying courses, had had small opportunity for the acquisition of either knowledge or skill. American towns at one time and another produced over four hundred schools of this illusory type. Thanks to various wholesome influences, emanating mainly from the profession itself, few, if any, of them now remain. At a recent count the total number of medical schools in the United States was 79, which is still perhaps rather above the actual requirements of the country.

In the process of elimination the test of survival was that of efficiency secured under regulations. These regulations, initially strict so as to serve their immediate object, are now believed to be acting in restraint of sound medical teaching, through failure to envisage the needs of the community to which the medical graduate may be called on to minister. This consideration has engaged the attention of the Association of American Medical Colleges, one of the bodies which have been most active in the cause of reform. After sundry inquiries and discussions a Commission, including well known names, was appointed to carry out a study of the community health needs of the United States, in the hope of establishing fundamental relationships which might become a basis for the formulation

of a more elastic medical code. The Commission began its work in 1925, and has now issued a preliminary report.

The data of the report were mainly derived from the answers to a set of questions addressed to over 500 physicians, of the classes of 1915 to 1922 inclusive, engaged in general practice in communities of 50,000 or less, in 24 States of the Union and two Canadian provinces. An analysis of over 20,000 attendances shows that office consultations were 55 per cent. of the total, home visits 35 per cent., and hospital attendances 10 per cent. Allowance being made for the hospital attendances, these proportions come very near to insurance experience in the United Kingdom. In serious illness treatment was often greatly hampered by the economic status of the patient, which is seldom the case here.

The population per doctor in the United States, excluding New England, is in general less than in this country. It ranges from 536 in places of over 100,000 people to 1,338 in places under 1,000. Medical practice in isolated agricultural communities is little sought after for two reasons. The first is that standards of living there are repugnant to men of education and culture. They present, indeed, a serious national problem. The second reason, as given by the Commission, is that in many cases the young American graduate, on completion of his training, does not feel competent to assume the responsibility of an independent charge. He has been taught so to lean on laboratories and other organized services that he is reluctant to stand alone. Such young graduates, it is said, are the products of schools which have not fully envisaged the medical needs of the day.

The Commission reports that in the United States there are 15,417 specialists, or 10 per cent. of the whole profession. Among recent graduates the tendency is towards a higher rate of specialism still. For Louisiana the recent figure is 19 per cent., for Wisconsin 15 per cent., and for Connecticut 18 per cent. Of the graduates of two recent years in 52 medical schools 28 per cent. and 24 per cent. respectively were restricting their practice. The Commission expresses no opinion on these figures except to say that "the proportion of graduates practising only a specialty varies greatly with the school from which the student graduated, bearing out a general impression that emphasis in training may be a factor."

The influence of medical licensing upon medical education is regarded by the Commission as on the whole beneficial, but inasmuch as each State has its own requirements there has been considerable confusion. It was found impossible to secure the passage of identical legislation by all States, but the attempt to do so has effected much in the interests of uniformity. The freedom of the medical profession to practice has, however, been bought at a price, for most regulations extend their protection to irregular practitioners also. There is, however, a growing opinion that all healers, whether regular or irregular, should conform to the same standards of preliminary education and competence in diagnosis.

Points of resemblance between medical conditions in England, and in America as noted by the Commission, have been referred to above. Among the main contrasts emerging are the existence in America, as opposed to England, of wholly ineligible areas of practice, and the occurrence of diffidence in young medical graduates. The increasing proportion of specialists in America is impressive. It may, however, as stated by the Commission, merely reflect the attitude of certain schools. The equality before the law of regular and irregular healers is perhaps the most conspicuous divergence between the two countries. Nothing but the growth of public opinion, guided by the high example of American medicine at its best, seems likely to extinguish this offence to reason.

Of the reforms in medical teaching which may be expected to result from the data submitted by the Commission it would be precipitate here to speak. The Commission itself is apparently precluded by the terms of its reference from making concrete suggestions. The facts, however, have been declared. Medical colleagues on this side will watch with friendly interest the progress of events.

England and Wales.

INVALID CHILDREN'S AID ASSOCIATION.

LORD BURNHAM, who presided at the annual meeting of the Invalid Children's Aid Association, on May 17th, drew attention to the cordial relations which existed between the Association and the hospitals, the London County Council, the Metropolitan Asylums Board, boards of guardians, dispensaries, and nursing associations. In this way the provision of adequate treatment and after-care for the sick and crippled children of London was greatly facilitated. During 1926 help had been given in 18,000 cases, and residential accommodation in London or the country had been secured for between 7,000 and 8,000 children. A large number of invalid carriages, surgical instruments, boots, and crutches had been supplied. The income during the year had amounted to over £24,000, of which £15,230 had been received from parents towards the cost of helping their children. Sir Thomas Barlow described the origin of the society nearly forty years ago in a small band of voluntary helpers who visited child out-patients in their own homes. Convalescent homes and open-air schools were then established, an invalid school was started, and, latterly, the difficult problem of acute rheumatism was being faced. Great benefits had been obtained from the treatment by open-air methods of children recovering from acute rheumatism. An appeal is being made for £15,000 for the completion of the new institution for children at West Wickham, Kent.

THE LONDON EDUCATION COMMITTEE.

The Education Committee in London proposes as an experiment for one year to review the medical record of each child in the central schools at the age of 15½ years, and to carry out a detailed medical examination in cases in which the previous history or appearance indicates that such an examination is desirable. At present the children in both ordinary and central schools are examined when approaching the age of 14, but there is no provision for further examination of the children who continue in attendance at the central schools, as about 2,000 of them do, until the age of 16.

A suggestion that "Vitaglass" should be installed in certain of the elementary schools of London is resisted by the Education Committee, which points out that only from the middle of May to September does sufficient ultra-violet radiation penetrate the London atmosphere to make its consideration worth while, that for five weeks of this period the schools are closed, and during the rest of the time the classroom windows are generally wide open. Further, when it is considered that the glass of all windows in London rapidly becomes coated with a layer of fine dust which must obstruct the passage of ultra-violet rays, that only such children as are seated in the direct path of the rays from the sky could be affected, and that even these children would be benefited only in so far as the rays fell upon the unclothed portions of their bodies, it is held to be more important in London to continue the policy of open-air methods of education whenever possible and to draw the attention of the teachers to the benefits of the widely opened window.

SURREY TUBERCULOSIS SANATORIUM.

Lord Ashcombe, Lord-Lieutenant of Surrey, laid the foundation stone on May 11th of the central block of the Surrey County Council Sanatorium, at Milford. Although the scheme for providing residential accommodation in Surrey for the treatment of tuberculous patients was originally drawn up in 1912, the outbreak of the war put an end to the project for the time, and arrangements were made to obtain accommodation in existing institutions elsewhere. It is now proposed to provide 300 beds, including two blocks each containing 50 beds for advanced tuberculosis, and four blocks of 50 beds each for early and intermediate cases. The cost of the sanatorium is estimated at close upon £200,000.

NEW MINISTRY OF PENSIONS HOSPITAL AT LEEDS.

Princess Mary visited Leeds, on May 16th, to open the new Ministry of Pensions Hospital at Chapel Allerton, which has replaced the Beckett's Park Hospital, and will serve Yorkshire, East Lancashire, Lincolnshire, Nottinghamshire, and Derbyshire. The buildings comprise six wards for officers and men, with a total of 200 beds, two operating theatres, an *x*-ray department, a bacteriological laboratory, massage and electrical departments, and an isolation block. There are also workshops for the construction and adjustment of artificial limbs, a large recreation hall, open-air balconies, and extensive grounds. Sir Berkeley Moynihan delivered an address at the opening ceremony, and mentioned that the foundation stone of the first Leeds Infirmary had been laid by Edwin Lascelles, afterwards the first Lord Harewood. Major Tryon, Minister of Pensions, stated that of the 24,000 pensioners receiving treatment under the Ministry, 14,500 were in-patients in hospitals. He referred appreciatively to the valuable work of the Wounded Warriors' Welfare Committee, and added that Leeds was the second greatest centre in the country for the supply or repair of artificial limbs.

CAMERON HOSPITAL, WEST HARTLEPOOL.

The new orthopaedic department of the Cameron Hospital, West Hartlepool, is intended primarily for out-patients, but is so arranged that inmates may be brought into it without difficulty. The nine rooms of the new building have been equipped with the most modern forms of apparatus, including hydro-electrical, radiant heat and light baths, an ultra-violet lamp for general and local radiation, special machines for limb and body exercises, a high power suspension heat lamp, and a thermostatic hot compress. The chairman of the hospital stated at the opening ceremony that under the old cramped and unsatisfactory conditions no fewer than 6,442 treatments had been administered during 1926. Although no further financial appeal was necessary in connexion with the new orthopaedic department, the hospital had an overdraft at the bank, and the general income did not meet the expenditure. During 1926, 937 in-patients had been admitted, and 426 out-patients treated.

LEICESTER ROYAL INFIRMARY.

Improvements at the Leicester Royal Infirmary during 1926 included the opening of the reconstructed *x*-ray department, of which we gave a brief description on May 1st, 1926 (p. 803). In October the open balconies on the three floors of the south-east wing were replaced by glass-enclosed balconies, and the change has been found very beneficial. The new examination rooms which have been added to the casualty department have enabled observation to be kept of sick and injured patients whom it is desirable to retain for a few hours. The possibility of increasing accommodation of this kind and making it available during the night is under consideration. An appeal is being made for £40,000 towards the reconstruction of the central part of the infirmary, which was erected in 1861; it is hoped to construct additional operating theatres and to extend and improve the administrative accommodation. In the annual report for 1926 it is stated that the number of in-patients treated was 5,632, as compared with 5,268 in the previous year; the number of operations had also increased to 4,171, and the out-patients to 146,733. The income had risen from £74,411 to £75,763. Dr. J. D. Slight, one of the honorary physicians, has presented an electro-cardiograph to the institution.

Ireland.

LOCAL APPOINTMENTS.

AT the annual meeting of the Leinster Branch of the British Medical Association the following resolution was passed and the honorary secretary directed to forward it to the Department of Local Government and Public Health:

> The Leinster Branch of the British Medical Association welcomes the recent legislation by which the making of local appointments is, with certain exceptions, vested in a central authority. It is satisfied that this change will tend to prevent nepotism and the exercise of other improper influences in the making of medical appointments. Further, while recognizing the propriety of encouraging promotion in the public service, as is provided for in Section 5 (1) of the Local Authorities Act, 1926—a reform long demanded by the medical profession—the Branch believes that caution is necessary in any action taken under that section. It is urged that the Minister should withhold sanction to any appointment which is not made on grounds of long and meritorious service, with due regard to evidence of attempt at self-improvement, such as post-graduate work and possession of higher qualifications. Otherwise the intention of the Act is likely to be defeated.

EPIDEMIC DIARRHOEA.

A circular letter has been addressed by the Department of Local Government and Public Health to each of the sanitary authorities in the Free State directing attention to the marked increase of mortality from diarrhoea and enteritis of children under 2 years during the third and fourth quarters of 1926. As it is thought not unlikely that this disease may appear in epidemic form and with little warning, sanitary authorities are advised to consult with their medical officers of health as to the means available for controlling an outbreak. In point of incidence diarrhoea diseases are associated in a special degree with urban conditions of domicile, with the second six months of the year, and with the second and third months of infant life. They are attributable to food contamination arising from disregard of cleanliness in the household and in municipal sanitary arrangements, from the agency of flies as carriers of infection, and from an unwholesome milk supply. Young children suffer particularly from the latter cause when they are changed from breast-feeding to artificial diet. The circular concludes as follows:

> It is important not only to insist on domestic cleanliness, but also to secure that all accumulations of dust, refuse, or filth about the dwellings are removed at frequent intervals. This applies to the contents of privies, manure heaps and ashpits, and to the cleansing of yards, passages, and streets. In this way the breeding of flies, which are such potent agents in polluting food and drink, may be prevented. All practical measures for the destruction of house-flies, in order to prevent their access to food, should be taken. Strict attention to the observance of cleanliness (hands and clothing) on the part of milkers, and thorough cleansing of utensils used for containing milk, should be enjoined. Receptacles for the storage of milk in dairies and in the homes of consumers should be protected with muslin or other covering. A weekly record of bacterial content of the milk supply of urban areas would constitute a valuable index of the extent to which satisfactory methods of production and handling are adopted. The Minister would suggest that where a child welfare scheme is in operation the organization should be utilized for giving suitable warning and instruction to mothers of young children at sessions of maternity centres and through the domiciliary visits of health visitors and for obtaining information as to the incidence of diarrhoea diseases. As far as possible the leave programme of the health visiting staff should be settled with due regard to the importance of maintaining a full service of experienced visitors during the period when an attack of summer diarrhoea may be apprehended. If arrangements exist for providing milk to expectant and nursing mothers and young children, the sources of supply should be inspected with a view of guarding against possible contamination, and the subsequent methods of distribution should be regulated with strict attention to cleanliness.

MEDICAL PRACTITIONERS BILL (FREE STATE).

The Medical Practitioners Bill has passed through all its stages in the Dail and Senate.

Union of South Africa.

[FROM OUR CORRESPONDENT IN CAPETOWN.]

A PUBLIC HEALTH AMENDMENT BILL.

IN the House of Assembly, on March 23rd, the Minister of Public Health (Mr. D. F. Malan) moved the second reading of the Public Health Act (1919) Amendment Bill. Its principal provisions relate to the training of midwives, the notification of venereal diseases, and to vaccination. The bill provides that the responsibility for the training of midwives, other than those in service in maternity homes, should rest with the Union Government, and power is taken to make arrangements with the provincial administrations to have these nurses trained in existing maternity and nursing homes. There would be compulsory inspection of these institutions, the idea being that they should be kept up to as high a state of efficiency as possible; and

they would also be registered, but the right to register would be refused if certain requirements were not fulfilled. Moreover, local authorities would be required to keep a list of qualified maternity nurses.

With regard to venereal diseases, the laws existing at present were, the Minister said, very stringent, but a weakness was that only the district surgeons were entitled to bring to the notice of the proper authorities all cases of venereal disease coming under their notice. The ordinary doctors were not obliged to do so, and as the law stood now it was rather dangerous for them to do it, as they might be sued for libel. This bill, however, would make it obligatory on all medical practitioners to bring to the notice of the proper authorities all cases of venereal disease known to them, and cases known to them of patients who refused to be properly treated by medical practitioners. He predicted that if this provision came into operation it would be a very important step forward in dealing more effectively with this dangerous disease.

The provisions as to vaccination were, the Minister said, among the most important. It was desired to amend the existing law to meet the scruples of conscientious objectors. Prior to the consolidating Act of 1919 compulsory vaccination was in force in the Cape Province, the Transvaal, and the Orange Free State, but provision was made in the Natal laws for the exemption of conscientious objectors. When the Act of 1919 was passed the privilege possessed by the conscientious objectors of Natal was taken away from them. Soon after this, owing to agitation in Durban, the then Prime Minister promised that the law would be amended later on, but that meanwhile no prosecutions would be instituted against those who, on conscientious grounds, refused vaccination. The result of this was that there had been a rapid falling off in the number of vaccinations in the Union. In 1920 the number of vaccinations was 523,300, and in 1921 it was 622,000, in 1923 it had fallen to 543,000, in 1924 it was 394,000, and in 1925 it was 364,000. The position to-day was that for the year ended June 30th, 1925, though 76,800 births were registered, only 10,331, or 13 per cent., of the children were vaccinated. The amended bill would make a distinction between the position where there was an actual epidemic outbreak and a threatened epidemic outbreak on the one hand, and, on the other hand, normal circumstances and conditions. In case of an actual outbreak, or a threatened outbreak, no exemption would be allowed to conscientious objectors. When there was an actual epidemic of such a virulent disease as small-pox, the Minister said, private rights or objections must not stand in the way of public safety. The procedure to be followed in normal times would be that conscientious objectors must apply within six months of the birth of a child, or within a certain period if they were themselves not vaccinated, on a prescribed form. They would be required to appear in person before the district registrar of vaccination, and to make an affidavit stating on what grounds they objected to compulsory vaccination. The application and the affidavit would be transmitted to the registrar of vaccination of the province, and it would lie with him to make a decision concerning these objections. In arriving at his decision he would take into consideration whether the applicant for exemption had sufficient knowledge and intelligence to form a judgement, and whether his objection on these or other grounds was genuine. The method which it was proposed to adopt to find out whether an applicant was a bona fide conscientious objector or not was that of sacrifice. In other words, it would be easier for a conscientious objector to comply with the law than to obtain an exemption. The small sacrifice required would be the test whether the objection was genuine or not.

The bill passed its second reading and was set down for the Committee stage.

Plague in Capetown.

No little stir was caused in Capetown when, on April 8th, it was reported that a case of suspected plague had occurred on board the outward bound mail-boat, the *Armadale Castle*, due to sail for Southampton the same afternoon. The patient, a member of the crew, had become ill on April 6th, and was removed to the New Somerset Hospital the following day, where he died very shortly after admission as a case of pneumonia. Smears made from secretion taken at the *post-mortem* examination revealed a bipolar organism similar to *B. pestis*, and a provisional diagnosis of plague was made. Immediately this became known the authorities took every precaution possible. One contact, a member of the crew who had shared a cabin with the patient, was removed to the quarantine station for observation. Members of the medical and nursing staffs of the New Somerset Hospital who had come in contact with the case, and the ward to which he had been admitted, were placed in quarantine. The ship was similarly put in quarantine and moved out to an anchorage in the bay, where she embarked her passengers. All persons who had booked by the steamship were notified before embarkation of what had occurred and given the opportunity not to proceed. All but two, however, decided to make the voyage, and the vessel departed shortly after her scheduled time. On April 11th, as the result of animal inoculation tests carried out by the Government Bacteriological Department, the diagnosis of plague was confirmed. The chief medical officer of health for the Union has stated that there was no need for anxiety as every precaution had been taken from the beginning. He considered the case a sporadic one as no advice of the occurrence of plague at any of the coastal ports visited by the steamer prior to her arrival at Capetown had been received. Since the departure of the boat nothing untoward has occurred on board according to radio messages received, and the contacts in Capetown have remained well.

Southern Peninsula Medical Society: Annual Dinner.

The annual dinner of the Southern Peninsula Medical Society was held at the Marine Hotel, Muizenberg, on March 26th, when some thirty-three members and their guests sat down. The president of the society, Dr. A. J. Ballantine, presided, and the principal guests were Dr. J. A. Mitchell, chief medical officer of health for the Union, and Mr. James Luckhoff, president of the Cape Western Branch of the Medical Association of South Africa (British Medical Association). After the usual loyal toasts had been honoured, Mr. Luckhoff proposed that of the Southern Peninsula Medical Society, and expressed his pleasure at being privileged to be present as the representative of an organization which included among its members practically every practitioner who belonged to the Southern Peninsula Medical Society. Dr. S. F. Silberbauer replied on behalf of the society. The toast of the guests was proposed by Professor A. W. Falconer, Professor of Medicine in the University of Capetown, and responded to by Dr. Mitchell and Mr. W. Floyd, a past president of the Dental Society of the Cape Province. The singing of the National Anthem brought a most enjoyable function to a conclusion.

Influenza Medical Emergency Organization, Capetown.

The following scheme has been adopted by the Council of the Medical Association of South Africa (British Medical Association), Cape Western Branch, for the organization of the medical profession in the event of an outbreak of influenza in Capetown. It stipulates in the first place that medical men in general practice should not be interfered with, and that each individual general practitioner should confine his work as far as possible to the area in which he generally practises. The scheme, briefly outlined, provides for the appointment of (*a*) an organizing medical secretary, (*b*) district medical commandants, and (*c*) emergency medical officers. For the efficient working of the scheme the municipal area has been divided into wards; in medical charge of each, for purposes of administration only, will be a medical commandant selected from among the senior general practitioners residing in that ward. It will be his duty, in the event of an epidemic, to collaborate with his colleagues practising in that ward, and to keep in touch with the

authorities at
Whenever he considers that
work has become too great for those
ordinarily practising in the area he will communicate with
the organizing medical secretary with a view to having
medical assistance supplied. Emergency medical officers
will be recruited from the ranks of specialists, retired
medical men, and senior medical students. They will be
invited to volunteer for service in the event of an emergency
being declared, and will be allotted by the organizing
medical secretary to areas as required, where they will
get in touch with the district commandant of the ward
and work in collaboration with him. The organizing
medical secretary will work out the details of the scheme
and be responsible for compiling a roster of emergency
medical officers. In the event of an epidemic he will
be administrative charge of the organization and will
act in collaboration with the medical officer of health for
the city. The Council of the Medical Association has
advised the municipal authorities that this organization,
together with its organizing medical secretary, will be at
the disposal of the medical officer of health for the city
in the event of an outbreak of influenza occurring. It
should be called into being only in time of real emergency.

Correspondence.

DRUGS FOR SLEEPLESSNESS.

As my experience of the use and value of the group of sedatives is very different from that by Sir William Willcox (May 14th, p. 877), I like to place another point of view before your In my experience, sleeplessness is not merely but one of the most common causes of mental , and therefore in the branch of medicine in work lies it is of the utmost importance to every method of treatment which offers any ccess. With this end in view, twenty years to use medinal, first in the way that Sir llcox advises, that is intermittently, but as were very unsatisfactory from the remedial , I varied my methods constantly until at ime, and for twelve years past, my practice smallest dose that gives good results and then it regularly every night until the mental ealth of the patient has been restored and ix or twelve months, and in some cases for In this way I have advised five or seven al or a tablet of dial to be taken for long have never known any bad results from e drugs. On the contrary I have known ved from serious mental breakdown and nd and body to continue their several

gs for patients of any age, and at the ng the many patients whom I know to ill to be taking these sedatives, under here is a girl of 15 who had a severe ck of mental confusion a year ago. t on five grains of medinal every night, ng it continuously up to the present, so for a further six months. The girl spect and has been so for nine months; oint is to prevent relapse, which is so of this age. For unstable pregnant five grains of medinal to be taken the last two or three months of ix months after the baby is born, nown a mental breakdown in any ried out this advice. In men in nervous system has become over- anxiety, a mental breakdown can rted by a prolonged administration one comes to later life, the mental ssened or interfered with by sleep quality or quantity, and I have time who have taken these drugs under medical advice continuously for several years. A professor in one of the universities, who is over 70 years of age, and who for ten years before he took medinal had suffered from defective sleep with all its concomitant disabilities, has now taken five grains of medinal every night for over five years. He has been sleeping well, and during the last few years has been on a higher level of physical and mental health than had been the case for many years previously.

Space will not permit me to give the many other types of person benefited by taking these drugs. Though no one could use them more freely than I have done, I have never seen any bad effects. I have had the metabolic rate taken and other tests made on patients who have been continuously on these drugs, and the results have all been normal. As with all drugs, a few persons have an idiosyncrasy to them, but I have seen nothing more serious than a simple rash which, when the drug is changed for another, as it must be, quickly disappears. To call these drugs dangerous is, in my experience and in that of many other physicians with whom I have discussed their use, entirely without justification in clinical experience. Further, to so label them is to discourage medical men from using them and to antagonize patients against taking them. To warn a nervous patient that the drug that you are giving him is dangerous is to leave in his mind an anxiety which may go a long way towards counteracting the remedy that you have prescribed.

After spending fifteen years in mental hospitals and seeing the wreckage of humanity, much of which might have been prevented, I have spent the next twenty years of my professional life trying to correct the conditions which lead to mental disorder. Defective quality and quantity of sleep stand high in this list, but, notwithstanding that this is widely recognized, frequently nothing is done to remedy it except to give bromides, often in large doses, the effect of which in these cases is commonly to disturb the digestion and to confuse the mind.

As to addiction, from my own experience and from any evidence that I have been able to obtain from other medical men, this is practically non-existent. There are two classes of persons who might tend to become addicts. The first is the degenerate type who in most instances have always been degenerate and whose excesses are not confined to one drug. Little can be done for these, as the drug-taking is not the cause of their degeneracy but an accident in their life history. The second is even more rare, but he is usually one who suffered from sleeplessness which was ineffectively treated and, when at last he finds something which assures him of sleep, he holds to it in terror of ever again having to go through what he has suffered in the past. Sleeplessness quickly and effectively treated leaves no terrors behind, and I have always found it quite easy to stop the sedatives, even after they have been taken for several years.

I must apologize for the length of this letter, but the importance of the subject emboldens me to ask your indulgence.—I am, etc.,

London, N.W.1, May 20th. MAURICE CRAIG.

WEEDS, CANCER, AND ACIDITY.

SIR,—Some time ago I wrote a letter (BRITISH MEDICAL JOURNAL, August 28th, 1926, p. 405) suggesting a possible field of investigation into the cause and treatment of cancer. I pointed out that there might possibly be a similarity between the causation of weeds and that of cancer, and that the determining factor in the growth of certain weeds, such as plantains, daisies, etc., has been proved to depend on the alkalinity of soil, and that these weed seeds will not germinate in soils of a certain degree of acidity.

My letter has brought me communications from all over the world, and almost without exception the replies that I have received confirm my contentions.

On the other hand, one of the letters suggests that salt may be a cause of cancer, and the writer enclosed a pamphlet giving illustrations to support his theory, but his illustrations might be equally applicable to the absorption of an alkali, such as soap, through the skin.

The germination of the above-mentioned weed seeds is undoubtedly due to the application of alkaline manures to soil, and I suggest it is possible that the prevalence of cancer in man and not in animals may be due to similar causes. At any rate, this is a field of investigation which is worth while inquiring into.

When making tests of soil I have frequently noticed that my skin is markedly acid in reaction, but after washing, unless the soap has been thoroughly rinsed off, it is alkaline. I am not suggesting that people should not wash themselves, but simply that they should use clean water to rinse off the soap thoroughly.—I am, etc.,

Moor Allerton Lodge, Leeds, May 18th. A. MACKENZIE.

THE EPIGLOTTIS IN RESPIRATORY OBSTRUCTION UNDER ANAESTHESIA.

SIR,—Mr. H. Mortimer Wharry's account of the behaviour of the epiglottis in respiratory obstruction under anaesthesia (BRITISH MEDICAL JOURNAL, May 21st, p. 914) must evoke considerable interest among anaesthetists.

With the anaesthetic technique available at present, however, it would seem that certain points in the prevention and treatment of the condition call for some comment.

1. The possibility of laryngeal obstruction during the performance of any operation upon the throat can be ruled out by the use of endotracheal anaesthesia, and this method is applicable in all such operations with the exception of those actually involving the vocal cords.

2. In the treatment of laryngeal obstruction during anaesthesia, from whatever cause, the use of an efficiently illuminated direct vision laryngoscope and endotracheal catheter should surely supersede tracheotomy or laryngotomy. The catheter can be passed into the trachea more quickly than laryngotomy can be performed, and the patient thus spared the knowledge of any untoward occurrence during the operation, not to mention the imposition of an unnecessary wound in his throat.

3. In those cases where respiration has actually ceased, once the patency of the glottis has been restored, the exhibition of 10 per cent. carbon dioxide with oxygen will prove more efficacious than the use of oxygen alone.—I am, etc.,

London, W.1, May 21st. I. W. MAGILL.

SIR,—Mr. Mortimer Wharry, in my opinion, attaches too much importance to the action of the epiglottis. The textbooks on physiology have long ago given up the theory that the epiglottis folds over the orifice of the larynx like a lid during deglutition or at any time during respiration. The orifice of the larynx is closed by muscular contraction of the aryteno-epiglottidean folds, and the whole larynx is drawn up against the base of the tongue by the neck muscles. The epiglottis has frequently been removed for lupus, tuberculosis, and other conditions, with absolutely no interference with deglutition; the saliva does not trickle into the larynx, and no cough is produced. The larynx is closed just as effectually without the epiglottis. This has been observed on many occasions by myself and others.

The function of the epiglottis is to direct air into the nasopharynx and promote nasal breathing. In the horse (and other dumb animals) the epiglottis passes up behind the soft palate, and the horse is essentially a nasal breather. In man, with the development of speech, the epiglottis has become vestigial and of less importance.

There is no muscular mechanism by which the epiglottis is made to act as a lid to the larynx, and even in the swallowing of a bolus of food the epiglottis is in close contact with, and overlapped by, the base of the tongue.

The falling back of the tongue and jaw is still the important cause of respiratory obstruction, particularly during the early stages of anaesthesia before relaxation has occurred. Mr. Wharry, in pulling the epiglottis forward, must of necessity pull the base of the tongue away from the larynx.—I am, etc.,

London, W.1, May 23rd. E. D. D. DAVIS.

THE CONSTITUTIONAL FACTOR IN DISEASE.

SIR,—Dr. Hurst has rendered good service in emphasizing the need for taking more interest in this subject. There are good reasons for thinking that if more attention were paid to the teaching of several of the past masters in medicine, and less attention to the results of highly specialized lines of investigation characteristic of modern times, important advances in practical medicine would be made.

I am sure Dr. Hurst will not misunderstand my attitude if I enter a caveat against the too hasty acceptance of the interesting views and recommendations which his researches have led him to make. I view with apprehension the day when "the brothers, sisters, and children of patients with the A.A.-S.C.D.-H.G. syndrome should be given test meals," and, "if they are found to have achlorhydria, they should, in common with everybody-else in whom the condition is discovered, be advised to take a drachm or more of hydrochloric acid, fasting, in the morning and at lunch and dinner for the rest of their lives." This recommendation is apparently based very largely on the results of one investigation in which four out of one hundred students, regarded as normal, showed a condition of achlorhydria. A little reflection on this fact leads me to doubt the wisdom of founding on it a recommendation along the lines indicated.

My main reason in writing, however, has reference to the conclusion to which Dr. Hurst has been led from his experience of migraine. He states that "in migraine the usual stimulus is ocular, and a very thorough investigation in numerous cases under my care has invariably failed to reveal anything in the nature of alimentary toxaemia, hepatic insufficiency or a toxic idiopathy, which could be held responsible, in spite of the fact that on theoretical grounds these have frequently been suggested as the exciting cause of attacks."

My own experience of numerous cases leads me to an opposite conclusion. It would be interesting to hear from Dr. Hurst the precise nature of the tests which he applied, and the results which satisfied him that he could exclude an alimentary toxaemia as an important etiological factor in that disease.—I am, etc.,

Edinburgh, May 16th. CHALMERS WATSON, M.D.

TRAUMA AS A CAUSE OF AURICULAR FIBRILLATION.

SIR,—I never held the opinion imputed to me by Professor Hay (BRITISH MEDICAL JOURNAL, May 14th, p. 897) that fibrillation in itself is evidence of myocardial damage. As a matter of fact, I do not know a case of fibrillation in which there was no other evidence of a damaged heart. If trauma (overexertion) were able to induce fibrillation in a healthy heart one would expect to see a good many of these cases. Moreover, in my experience there is actually a pre-fibrillating stage recognizable in cases which subsequently develop auricular fibrillation. The characteristic feature of this stage is an exaggerated P (auricular wave) signifying enlargement of the auricle. The exaggerated P is not only found in mitral stenosis but also in other types of heart which subsequently develop auricular fibrillation. My main objection, however, to the statement of Professor Hay and his collaborator is based on entirely different grounds. We are told that the problem is of considerable practical importance because of its medico-legal bearing. Surely from this point of view the terms "apparently normal" and "ordinary methods of examination" are meaningless. From a practical point of view all that matters is: Can or cannot trauma induce fibrillation in a healthy heart? The authors say, "It is certainly true that myocardial damage or some toxaemia is generally present as a predisposing factor." It is therefore admitted on all sides that as a general rule fibrillation appears in conjunction with a damaged heart. As long as it is not proved that in a particular case of fibrillation the heart is healthy, or that trauma has actually induced fibrillation, we must assume that the case conforms to the general rule.

Now in four out of five cases on which the authors rely it has not been established that trauma actually induced fibrillation. The condition might have been there before. In Case IV there is some evidence that trauma has induced fibrillation; but in it there is conclusive proof that we are dealing with a damaged heart. There was a history of a heart attack some years before the trauma which the authors believe was fibrillation; and it is admitted by them that it was a case "predisposed" to fibrillation. (The term "predisposed" can only mean a damaged or abnormal heart in some way.) It is evident that the authors have not been able to produce a single case to support their thesis that trauma may produce fibrillation in a healthy heart.

The evidence that the hearts in these cases were healthy is based on an even more slender foundation. Professor Hay asks us to take it for granted that a case of fibrillation showing extra-systole (Fig. 1), relative preponderance of the left ventricle, slurring of R, etc., comes under the category of an apparently healthy heart! The authors have evidently not had a Wassermann test made in the majority of their cases in order to exclude syphilis. Again, it is repeatedly stated by them that the heart was "slightly enlarged." How pronounced must the enlargement be in order to justify the application of the term "unhealthy"? How do they know that fibrillation was the cause of this enlargement? In short, the authors have not produced evidence that the hearts were healthy, but, on the other hand, there is considerable evidence that they were damaged in some degree.

Professor Hay seems to lay great stress on experimental evidence. As is the case with "apparently healthy" and "ordinary methods of examination," the arguments used in this respect, if they are to hold good, will have to be considerably qualified. In the original paper dealing with the experiment (*Heart*, vol. vii, No. 4, p. 194) Sir Thomas Lewis and his collaborators induced fibrillation in an animal by means of electric stimuli, and the following quotation refers to after-effects; that means to the auricular fibrillation which continued after the stimuli had been withdrawn.

> "On many occasions there will be no after-effects; on very many other occasions there will be a short after-effect lasting a few seconds or perhaps a minute; on rare occasions an after-effect of not many minutes' duration; very rarely of thirty or sixty minutes will be seen."

Now it will be seen that Professor Hay and his collaborator in their paper are dealing with trauma which induces chronic persistent fibrillation. Clearly it follows from this experiment that trauma cannot produce chronic persistent fibrillation in a healthy heart, and it is invariably the tendency, even if fibrillation is produced in a healthy heart, for it to come spontaneously to an end within a short time.—I am, etc.,

Liverpool, May 18th. I. HARRIS.

A RISK OF LIQUID PARAFFIN IN CHRONIC CONSTIPATION.

SIR,—In a memorandum (May 14th, p. 876) Dr. Robert Gibson suggests that the administration of liquid paraffin for chronic constipation may lead to the production of cancer.

In view of the fact that many thousands of people are in the habit of taking paraffin as a daily routine, may I put forward some facts which appear to show that all the evidence is directly opposed to this somewhat disquieting suggestion?

The cancer-producing factor in tar and its derivatives and crude mineral oils—for example, Scottish shale oils and crude petroleum—has been the subject of much intensive and valuable research by Drs. Archibald Leitch, E. L. Kennaway, and others. Dr. Kennaway (*Journal Industrial Hygiene*, 1924, p. 462) has demonstrated:

1. That the cancer-producing factor is completely absent in all the known chemically pure fractions of these products.
2. That it is extremely improbable that the mere fact of continued irritation, in the ordinary sense of the word, is responsible for the production of cancer due to mineral oils or tar and its derivatives. For example, soot is not an irritant except in the sense of cancer-producing properties, while substances such as acridine, which are irritants in the ordinary sense, a innocent of cancer-producing power.
3. Since all the known pure derivatives of tar and crude oils have been thoroughly tested on mice and found to pletely devoid of the cancer-producing property, Dr. K suggests that it is not unlikely that the cancer-producing some quite unknown substance and is present in these su in amounts as small as hormones or vitamins.

Hence if liquid paraffin is devoid of the cancer-pr factor before administration, it may be safely assum it will not acquire it during its passage through the intestine.—I am, etc.,

London, W.1, May 19th. G. B. Dow

THE ESSENTIAL OIL TREATMENT OF CHOI

SIR,—*In the article on the treatment of cholera b* tial oils by Dr. Cannon in the issue of the Jou January 15th (p. 98), he appears to attribute the in of that method of treatment to Dr. Tomb. As a of fact, in an article by me (June 10th, 1922) I d this method for, I believe, the first time.

In that article I gave credit for the idea to a officer of the Public Works Department of Indi advised me about twenty-five years ago to try grat megs and rum, which he described as a specific for He mentioned that he had got the idea from som person who had found it useful also in dysente other bowel complaints. In this connexion I shoul tion that General Collins, A.M.S.(ret.), mentioned of cinnamon oil in enteric fever when, in June I recommended to him the use of the essential oils and cinnamon particularly—in the treatment of ch

In my article I explained that I was, after suc with nutmegs and rum, led to use with great suc *the early stages of cholera, a mixture almost i* with that described as Dr. Tomb's. This formula given on bottles supplied for the past thirty or fort by all the Government medical store depots, un name "Pro-diarrhoea mixture." Shortly after t lication of my article I received, and answered, i from Dr. Tomb regarding the method of administe oils, etc. It was therefore a matter of surprise when nearly two years afterwards I received an circular advising the use of these essential cholera. The source of this advice was an artic pamphlet of the Medical Research Council, which Dr. Tomb's article on the subject in the *Indian Gazette*, and, I think, an American medical (I write from memory).

So far, apparently, no credit has been given to man, whose name I cannot recollect, who thought megs and rum, nor to the medical man who thoug scientific explanation of their action and pointed o *the use of certain more potent essential oils—for e* cajuput, cloves, and cinnamon—was even more effe the treatment of this terrible disease.

I see that Drs. Tomb and Cannon further recomm use of small doses of the essential oils as a proph They may prove beneficial in this respect, a point t only be settled by fairly compiled statistics. Apa the difficulty of their administration as a proph their use might divert attention from measures th proved effective and practicable.—I am, etc.,

G. O. F. Sr

Lahore, March 24th. Lieutenant-Colon

DISTRICT ORGANIZATION OF HOSPITALS POST-GRADUATE TEACHING.

SIR,—In the scheme for district organization of facilities which has been foreshadowed by the M of Health it will be a pity if opportunities fo graduate work are not considered along with th aspects of the case.

In the undergraduate schools the teaching arran involve the co-operation and assistance of the stu the general work of the hospital, and this con in no small measure to the success of the hospit a higher plane this relationship might still e qualified practitioners in relation to their local inst

where these are not undergraduate hospitals. It is a commonplace that a doctor's education is never finished, and it may be taken for granted that there are few general practitioners but would admit their desire for a continued and close association with a teaching hospital.

The type of teaching that the post-graduate most needs is probably not the set lecture or course of lectures on various subjects, though these are good up to a point in the form of "refresher" courses; it is rather the team work of hospital life, with its interchange of knowledge and observation, its clash of ideas, and its inexhaustible supply of confidence, that is wanted. In this way our knowledge of medicine is first acquired and is assuredly most easily kept up. Yet it is this type of education which is, by our present methods, most difficult to come by once a man leaves his undergraduate hospital and goes out into general practice.

The undergraduate schools are, of course, always fully occupied. The post-graduate teaching hospitals are few, mostly small institutions, and probably some distance from him, and even in these, unless he can hold a clinical assistantship, he must swallow his pride and be treated like something between a medical student and a complete outsider. What I think he longs for, and needs, is the rights in a hospital which he had as an undergraduate, and to achieve these rights I think he would willingly undertake duties. It may be said that the general practitioner is a busy man, and has no time to undertake these further duties. I suspect that argument is fallacious; in any case, most of us can find time for the things we want to do, and I am convinced that many practitioners would welcome an opportunity of service in a local hospital.

There are other points, too: as regards panel practice, the State might reasonably expect and enable the doctors it employs to spend some of their time keeping abreast of modern medicine. Besides this, the panel doctor on his side undertakes to treat his sick patients, but if, for reasons of his or of theirs, they can be better treated in hospital, he sends them there. Is it unreasonable to suggest that he should follow them up and assist with their treatment in these institutions rather than wash his hands of them? I am speaking broadly, of course; it is not necessary that he should always follow his own individual cases, but rather that, in return for their treatment, he should give some part of his time (say as a clinical assistant) working in the hospital. In this way he would benefit himself, the patients, the institution, and medicine in general.

We talk about medical practitioners engaging in research, and the genius of Mackenzie has already, in a limited field, made this a reality; but we must beware of thinking too much of *research in the sense of set investigations* into individual subjects. The foundation of research is more in the nature of an atmosphere of knowledge and criticism, which every practitioner in his daily work adds to and tests. The set investigations come later, and the discoveries that we acclaim are more in the nature of coping-stones selected and placed in position on an edifice already built. It is this mass and formation of knowledge that we need to strengthen if fruitful research is to go on down the ages, and it is by knitting together the doctors in and through their local hospitals that we shall best do it. What the actual rota of work would be, and how it could be used for the institutions, would be a matter for consideration. That such work can be successfully done is seen in the many cottage hospitals where the local practitioner takes his turn in carrying on the hospital work.

It is, however, in a *reorientation of the Poor Law* hospitals that the greatest opportunity would arise. In these institutions at present the vast amount of clinical material that they contain, though carefully treated, must remain largely uninvestigated, greatly to the loss of the patients, of the institutions themselves, and of the numerous practitioners close outside their walls.

What sort of arrangements for the district organization of hospital facilities will be made remains to be seen; that these are urgently necessary is sufficiently obvious, but unless the use of these hospitals for post-graduate teaching and for bringing *practitioners into closer touch with* institutional medicine is made part of the scheme of reorganization a great opportunity will have been missed.—I am, etc.,

London, W.1, May 17th. T. H. C. BENIANS.

INFLUENZA AND ALBUMINURIA OF PREGNANCY.

SIR,—Mr. R. H. Paramore (May 7th, p. 856) would have been more correct if, instead of stating that he is sorry I "will not allow that compression of the kidney is a cause of albuminuria," he had written "allow that compression of the kidneys is *the* cause of albuminuria in the cases under consideration"—which is all my letter implied.

Mr. Paramore's initial argument was definitely this—the albuminuria of the pregnant woman suffering from influenza must be due to compression of the kidneys, for, (1) only the pregnant woman is affected in this way, and (2) a "terrible" cough adds to the compression produced already by the pregnant uterus. If the compression theory is to be proved, both (1) and (2)—on which the theory is based—must also be proved. As I showed, neither fits in with clinical facts.

Mr. Paramore says that my statement that "nephritis follows influenza oftenest when there is no cough" is "an opinion to be confirmed." Of my last 8 cases of post-influenzal nephritis, 7 followed a very definite tonsillitis which I had observed myself. Any general practitioner who keeps records would probably support this. With reference to Mr. Paramore's objection that *acute nephritis* is very different from acute pyelitis, while admitting that the latter is more of an inflammatory nature than the former, yet I find that both types of case occur at the same seasons and are probably due to the same cause. For instance, I saw between November 3rd and November 18th, 1925, 3 cases of nephritis and 3 of pyelitis. All were due to influenza, and marked tonsillitis was observed in 4 of the cases. I saw but 11 cases during the year. I have had similar "runs" of these cases on other occasions. These were all healthy people, but I have 2 cases of endocarditis whose urine has been smoky during these seasons. One case of endocarditis has passed blood during each of the last three influenza waves. Surely these facts suggest some germ or toxin as the cause of the nephritis.

Mr. Paramore, however, will not admit *that* the "occurrence of . . . nephritis in the non-pregnant, without cough," affects the issue; "for it is by no means certain that these conditions are produced by toxins affecting the kidney." I fail to see how this statement helps the compression theory. He refers to "*other forces* beside cough," but does not specify them.

Some amusement seems to have been caused by my suggestion that accidental haemorrhage may have a connexion with influenza. I have some reason for hazarding the suggestion. If I remember rightly, Browne's recent work included some interesting experiments which showed that the nephritis produced by the coliform group of organisms was most potent in producing thrombosis and infarction of the placenta—the pathological findings in accidental haemorrhage. I remarked on the combination of the influenza toxin and the *B. coli* in my previous letter.

In addition, I have observed during the numerous epidemics of these later years that pulmonary infarction is most certainly a common complication of influenza, and I have evidence that embolism occurs in other organs as well. As already stated, the nephritis cases are probably embolic. In 2 of my cases of post-influenzal nephritis I observed, when the renal symptoms were clearing up, pulmonary infarction, which was followed by the spitting of the bloody-mucous sputa so characteristic of infarction. I have found that pregnant women also get pulmonary infarction during the influenza epidemics, and that the same—as well as pulmonary embolism—also occurs in puerperal women. This may account for the large number of cases of pulmonary embolism after childbirth recently reported in the BRITISH MEDICAL JOURNAL. I have seen 4 such cases since 1920. All this goes to prove that

and thrombosis and infarction
a far cry as Mr. Paramore imagines.—

Aberdare, May 10th. AMBROSE W. OWEN, M.D., B.S.Lond.

"INFAMOUS CONDUCT."

SIR,—Has not the time arrived when it should be brought by the British Medical Association before the General Medical Council that an alteration should be made in disciplinary matters in the form of accusation against a registered medical practitioner? I allude to the term "infamous conduct in any professional respect." The public do not understand what is meant by "any professional respect." The public mind fastens only on the words "infamous conduct" against the accused.

In the navy and army the charge is "conduct unworthy of an officer and a gentleman." Why not in our profession a similar statement—conduct unworthy of a doctor and gentleman? In the public mind the wording in the charge "infamous conduct" carries condemnation before the case is heard.—I am, etc.,

Bournemouth, May 10th. A. HUMPHRY DAVY, M.D.

POST-MORTEM EXAMINATIONS IN GENERAL PRACTICE.

,—I was impressed by Dr. Orton's letter (May 21st, 9) advocating a scheme whereby the making of *post-m* examinations in general practice should become ialty for one particular medical man in a county or division of the country.

neral practitioner suddenly called upon to perform psy is under a great disadvantage; *post-mortem* ations are few and far between for him, and by f this, such a medical witness should not be expected an expert opinion on the cause of death when it is emanded for purposes of accuracy. There should considerations for the citizen, for the relations ead, and also for the doctor who performs the emeanour. It might be, and often is, that the only avail- for obeying the coroner's warrant is in the the deceased. As relations regard anything in e of a *post-mortem* examination with great general practitioner frequently incurs their and also he submits himself to personal risk when he works under cramped conditions.

re, is it fair for a man who is rendering f medical service to the living to proceed to em after doing a necropsy, where there may g. to the conditions under which he worked, acute infection of, say, streptococcus, which to detect or even suspect?

so far as Dr. Orton in his remarks on crime of certificates of death in obscure cases, ith him that there should be a medical inted with pathology, and that such a undertake all the *post-mortem* examina- of counties, and there should be proper a pathologist to do his work.—I am, etc.,

arrowshire, May 23rd. I. H. LLOYD.

C VACCINATION OF THE NEWLY AGAINST TUBERCULOSIS.

nce to the letter of Dr. Major Greenwood, ssue of May 14th (p. 896), I desire to nd's statistical report was printed in as received by me. I have informed he original reports of the medical men vaccine since 1924, preserved in the re open to the inspection of any am, etc.,

A. CALMETTE.

Obituary.

WAREN TAY, F.R.C.S.,

Consulting Surgeon, London Hospital, Royal London Ophthalmic Hospital, and the Hospital for Diseases of the Skin, Blackfriars.

WITH the death of Mr. Waren Tay there has passed away perhaps the last of the men in consulting practice in London who were first general surgeons, but with their general work combined the practice of ophthalmology. There were giants in those days who could excel in more than one branch of medicine. Tay was one of them. Jonathan Hutchinson was another. Tay and Hutchinson were close colleagues and collaborators both in clinical observation and in literary work. Although Tay did not attain the international reputation and fame that was Hutchinson's, yet he made no uncertain mark on ophthalmology. To this day we speak of "Tay's Choroiditis," those fine yellowish spots that appear in the macular region of the fundus of the eye, as one of the signs of senile degeneration; and the discovery of this characteristic lesion was but one of his observations. Besides attaining distinction in the practice of ophthalmology, Tay played no small part as a specialist in diseases of the skin. In his early days he translated into English several foreign medical works, and chief amongst them was Hebra's book on disease of the skin, published by the New Sydenham Society. He was assiduous as a clinician, holding several senior appointments at hospitals. He was first surgeon, and later consulting surgeon, to the London Hospital, where he had received his medical education; he was also surgeon to the Royal London Ophthalmic Hospital, both at the old hospital in Moorfields, and the new buildings in City Road; he was also on the staff of the Blackfriars Hospital for Skin Disease at Blackfriars, and the Queen's Hospital for Children in Hackney Road.

Many as were his hospital appointments, there was no one who was a more conscientious member of a hospital staff than Tay. At Moorfields he was always first at his desk in the out-patient room, and ready to begin seeing his many patients at the stroke of nine o'clock in the morning, thereby setting an example hard for his clinical assistants to follow, who perhaps envied him the short walk that brought him from his home in Finsbury Square to the hospital. He lived and practised in one of the fine old Georgian houses in the city square (now massive office blocks), where formerly were the homes of many consultants before the steady movement to the west of London. But he clave to his old abode until his retirement from practice, to a life of leisure and repose in Croydon, where he died on Sunday, May 15th, at the age of 84. As a man he was shy and retiring, but he had one of the kindliest and gentlest of manners. He was always patient and ready to help a neophyte to understand the intricacies of clinical technique. No trouble was too great for him to undertake. He would even suffer fools gladly, or at least we younger men sometimes thought that this was so.

He attained to the rank of Fellow of the Royal College of Surgeons of England in the year 1869, three years after he had become a Member. In the last issue of the *Calendar* of the College his name comes sixth in chronological order of Fellows, so that there are but five others of the old guard and of greater standing than he was at the time of his death.

N. B. H.

THE LATE PROFESSOR STARLING.

At the meeting of the Académie de Médecine (Paris) on May 10th, the President, Professor Gley, paid a tribute to Professor E. H. Starling, who had very recently been elected a corresponding member. He spoke of his strength of mind, his upright character, his fine spirit, his passionate love for physiology, and his devotion to science. He was, Professor Gley said, a leader of men, who had taken a large part in the development of biology in his own country, and had worthily represented British physiology at international assemblies. His death would be as sincerely lamented by his French physiological and medical colleagues as by his English. At the annual general meeting

of the Lister Institute on May 18th, when Sir James Fowler was in the chair, a vote of condolence with Mrs. Starling was adopted. It recorded the great loss the Institute had sustained by the death of Professor Starling, who for twenty years had devoted to its interests his gifts of a rare ability and a capacity for whole-hearted sympathy with all engaged in the endeavour to promote the advance of science by research. His wise judgement had always proved a safe guide in the conduct of the Institute's affairs.

Dr. NEVILLE THOROLD WOOD, who died on May 14th, aged 69, received his medical education at St. George's Hospital and Paris. He obtained the diplomas M.R.C.S., L.R.C.P. in 1883, the M.R.C.P. in 1892, and graduated M.D.Durham in 1899. A colleague writes: Dr. Neville Wood, who belonged to an old Lincolnshire family and inherited property in that county, was never a very robust man, and, after qualifying, travelled extensively, part of the time as ship surgeon in the P. & O. Co. As a result of his travels he became no mean linguist, knowing French, Spanish, and German. He subsequently settled in Kensington and built up a good high-class practice. He had held the posts of president of the West London Medico-Chirurgical Society, and consulting physician to the Kensington Dispensary and Children's Hospital. Neville Wood will be chiefly remembered for his book on the British health resorts (1912). He had an extensive knowledge of the European waters and climates, and was an active worker in the Section of Balneology and Climatology of the Royal Society of Medicine, of which he became President in 1920 His book on the British health resorts was written in collaboration with a committee of the Section, and contains many articles on the British localities by first-rate authorities. It may be regarded as marking the first step in the co-ordination of the British spas and their recognition as a national asset. Had not his health given way five or six years ago he would doubtless have taken an active part in the post-war developments at the spas in England and in other countries, but his was the task of the pioneer. Men of a strong and determined character like Neville Wood are, inevitably perhaps, a little liable to the "lonely furrow." It is to his honour that in spite of physical weakness, his active and versatile intelligence asserted itself in bold initiation and persevering work.

Dr. SAMUEL EDGAR MARTIN, who died on May 10th, in his 76th year, received his medical education at Queen's College, Belfast, and the London Hospital. He graduated M.D., R.U.I., in 1874, and in the following year obtained the M.Ch. and the diploma M.R.C.S.Eng. In 1877 he was appointed medical officer of Newry Infirmary, from which he retired recently owing to failing health. He was consulting sanitary officer to the Newry Urban and Rural councils, one of the founders of the district nursing society, and a governor of Newry Intermediate School. He was a member of the Ulster Branch of the British Medical Association. Dr. Martin took great interest in Freemasonry, having joined in 1874 St. Patrick's Lodge, Newry, the premier Lodge in Ulster. He rose to be Senior Grand Warden in the Masonic province of Down. He is survived by five sons, four of whom have adopted the medical profession, and by three daughters, one of whom is a nurse.

Surgeon Lieutenant Commander GEORGE AUBREY, R.N., died of pleuropneumonia at Hong-Kong on May 9th. He was the youngest son of Mr. John B. Aubrey of Cowes, was educated at the Middlesex Hospital, took the M.R.C.S. and L.R.C.P.Lond. in 1917, and, after serving as house-physician at Middlesex Hospital, was gazetted surgeon lieutenant, R.N., in January, 1917. He became surgeon lieutenant commander in January, 1923, and had passed for surgeon commander. In May, 1917, he was posted to the monitor M.27, in which he had nearly two years' war service, receiving the medal. In 1919 he was sent to Malta hospital as a specialist in bacteriology and pathology; in 1922 he joined the battleship *Ajax* in the Mediterranean; in 1923 the submarine parent ship *Adamant*; in 1925 the surveying ship *Kellett*, and in 1926 H.M.S. *Tamar*, being also in charge of the dockyard hospital at Hong-Kong.

The following well known foreign medical practitioners have recently died: Dr. K. OOSAWA, emeritus professor in the medical faculty of Tokyo University, one of the first to introduce European methods into medical science in Japan, aged 76; Dr. KARL STARGARDT, professor of ophthalmology and director of the eye clinic at Marburg, aged 51; Dr. A. BEVEROCK, professor of neurology and psychiatry at Prague; Dr. MAX HESSE, extraordinary professor of dermatology at Graz, aged 41.

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

AT a congregation held on May 20th the degree of Bachelor of Medicine (M.B.) was conferred on the Hon. C. B. Buckley.

Dr. T. R. Elliott, F.R.S., has been appointed an elector to the Professorship of Physiology until February, 1933, in the place of the late Professor E. H. Starling, F.R.S.

UNIVERSITY OF LONDON.

MEETING OF THE SENATE.

A MEETING of the Senate was held on May 18th, when it was announced that as the result of the semi-general election of members of the Senate the following have been appointed: by Convocation (medicine), Mr. W. G. Spencer, O.B.E., M.S.; by Royal College of Physicians of London, Dr. J. Fawcett; by Royal College of Surgeons of England, Mr. V. Warren Low, C.B., F.R.C.S.; by the Faculty of Medicine, Lord Dawson of Penn, G.C.V.O., M.D., and Mr. H. L. Eason, C.B., M.D., M.S.

Sir William Collins.

In connexion with the retirement of Sir William Collins from the Senate the following resolution was adopted:

> That Sir William Collins be informed that the Senate have learned with great regret of his decision not to seek reappointment on the [illegible] as one of the representatives of the body, and that they desire to place of the distinguished services which to the University.

Chair of Dietetics.

With reference to the anonymou [illegible] £10,000 towards the establishment c' Wander have intimated their desire the same object.

The Bloomsbury Site.

An anonymous offer of £250 has been received as a contribution towards any preliminary expense involved in the preparation of a comprehensive plan for the development of the Bloomsbury site.

Appointments.

The following appointments were made: Mr. D. MacC. Blair, M.B., Ch.B.Glasg., to the University chair of anatomy at King's College, and Dr. G. S. Wilson to the University readership in bacteriology and immunology tenable at the London School of Hygiene and Tropical Medicine. The title of Emeritus Professor of Ophthalmic Medicine and Surgery at University College has been conferred upon Mr. Percy Flemming, M.D., F.R.C.S.

Exhibitions.

The Dunn exhibitions in anatomy and physiology have been awarded to Mr. K. M. Robertson, an internal student of St. Thomas's Hospital Medical School.

QUEEN'S UNIVERSITY, BELFAST.

THE Senate of Queen's University, Belfast, has decided to confer the honorary degree of Doctor of Science upon Sir Berkeley Moynihan, Bt., K.C.M.G., President of the Royal College of Surgeons of England, and upon Professor G. Elliot Smith, M.D., F.R.S., Professor of Anatomy in University College, London.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

AT a meeting of the College held on May 17th, Dr. A. Logan Turner, President, in the chair, the following were admitted Fellows:

J. N. Adam, H. G. Armstrong, T. O. Chenoweth, A. L. Clowes, A. H. Coleman, K. A. Gilchrist, M.C., A. C. Gillies, P. N. Gokhale, N. D. P. de V. Graaff, G. M. Gray, J. F. Hackwood, W. K. R. Hamilton, B M. Johns, B. G. Kane, J. J. Kelly, H. Lewis, A. N. McMillan, B T. Rao, M. S. Ross, R. R. Simpson, A. Sourasky, W. C. Wilson, Ruth E. Millar.

The Bathgate Memorial prize, consisting of bronze medal and set of books, was, after a competitive examination in materia medica, awarded to C. J. Poh and D. M. O'Flaherty, who obtained equal marks

SOCIETY OF APOTHECARIES OF LONDON.

The following candidates have passed in the subjects indicated:

SURGERY.—P. V. Bamford, F. W. Crossley-Holland, P. F. Fanaken, S. Goldman, H. M. de Hartog, G. L. McDermott, E. H. Roberts, V. K. Samy.

MEI [illegible] D. Neill,

FOR " " Gillatt,

MID " " M. H.

[illegible] Messrs. P. V. Bamford, H. Gillatt, W. Howard, and L. D. Williams.

Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

THIS week the House of Commons made further progress with the Committee stage of the Trade Disputes and Trade Unions Bill, in the course of which references were made to "boycotts" by medical men. Inquiries are being made to ascertain whether the position of the medical profession is covered by the words "trade or industry" in Clause 1 of the bill.

On Tuesday the Prime Minister announced to the House of Commons that the Government had decided to sever diplomatic relations with Soviet Russia.

The address by Lord Dawson of Penn to members of Parliament on the use of animals in experiments has been postponed owing to pressure of other parliamentary business.

International Labour Conventions.

Brief mention was made last week of the debate raised in the House of Lords, on May 17th, by Lord Arnold, on the use of white lead paint. The statement made for the Government by Lord Cecil of Chelwood as to the obligation of the Government to ratify international labour conventions was important. Lord Arnold had pointed out the two aspects the subject assumed—the technical and the moral. While it was true that a vote for a Draft Convention was not constitutionally binding until the Convention had been ratified by Parliament there was a moral obligation to honour the vote given by its delegates, unless, possibly, circumstances altered very materially after the vote had been given. In the case of the Draft White Lead Convention not only had the Government not ratified, but it had passed an Act to do exactly the opposite of what the Convention, approved by ninety delegates from thirty countries, had laid down. What wonder, when this is done, that someone resigns! Countries would say quite properly: What is the good of sending delegates and technical advisers, at great expense, to try and raise the standard of the workers if, after attaining agreement, the vote really carries no obligation at all? There was reason to fear, if this danger was not recognized, that the pernicious effect would react on treaty obligations of the League of Nations itself.

Viscount Cecil (Chancellor of the Duchy of Lancaster), who replied, described the differences in the machinery for negotiating international conventions of the League and international labour conventions of the International Labour Office, which is a branch of the League. In the latter case the technical obligation, as laid down in Article 405 of the Treaty of Versailles, is to "bring the Draft Convention before the authority or authorities within whose competence the matter lies, for the enactment of legislation or other action." In this respect, therefore, it differed from a treaty obligation seeing that the only technical duty is to present it to Parliament. As to the moral obligation, he agreed with *Lord Arnold that it was not* right that a Government at home should ignore altogether the action which its representative had taken in an international assembly and treat his vote, as representing the Government, as of no account at all. "Personally, I think it a very unfortunate thing when it becomes necessary, not only in this case but in any case, for a Government to take a different view from that which is taken by its representative. . . . It gives an impression of infirmity of purpose and vacillation. No one who has had, as I have, to discuss similar topics before international assemblies since these events took place can have failed to feel that the unfortunate circumstance . . . does to some extent weaken the position of the British representatives who are discussing similar matters before international assemblies. It is obvious that it does."

The debate was continued by Viscount Burnham, who said that but for the steady sympathy and support of this country it was doubtful whether the International Labour Office would be in existence; by Lord Parmoor, who considered that there was a strong moral obligation on this country to go forward with ratification; and by Lord Arnold, who thought that the speech of Lord Cecil was a great advance on the previous position taken up by certain members of the Government.

"Trade Unionism" and Medicine.

During the debate on the Trade Unions Bill, on May 23rd, Mr. Lawson said that anyone who had acted towards the medical profession as Mr. Spencer, the Labour member for Broxtowe, had acted towards the Miners' Federation, would have been driven out of the profession. There was the case of Dr. Axham, which had attracted great attention in the press and among the public, but the British Medical Association, despite public opinion, persisted in its action toward that gentleman. In mining districts, where it was considered that the medical service was not as good as it ought to be, arrangements had been made locally to appoint doctors who were given better salaries than they got elsewhere and better instruments, but in every case the British Medical Association had intervened to prevent these men practising.

Dr. Vernon Davies: Do I understand the hon. member to say that the British Medical Association have definitely threatened these men, or that they have simply offered advice to them not to undertake the work?

Mr. Lawson replied that these professional men had been "advised." They had been brought down to meet representatives of the British Medical Association in the country. They had put their case and defended themselves, and there was not a single case where they had not been driven out and intimidated.

Dr. Vernon Davies said that Mr. Lawson seemed to be suffering under some slight misapprehension in his remarks concerning the British Medical Association. That Association was not a trade union, it was a voluntary combination of certain medical men, but there was no compulsion upon any man to join. He had been a member of the Association ever since he went into practice and had sometimes been opposed to its policy. In that House he had voted against their policy on committees, and yet he had not been penalized in any way, threatened, or interfered with. He had given his point of view and said that, as he believed the Association was wrong, he should vote against them, and he had done so and had not suffered. Cases were mentioned where the British Medical Association had interfered with certain appointments. All that the British Medical Association did was this. They said, "We are an Association of medical men out to protect the interests of the medical men and the public. We think a certain job is worth a certain amount of money. This particular society or company is advertising a job at a rate of remuneration which we think is too low. If you accept it you will be very foolish, because if you stick out you can get more." Suppose a man took it, nothing was done to him. All that the British Medical Association did was to say, "You are satisfied with a lower rate; we cannot interfere, we cannot penalize you, and we cannot turn you out of the Association, nor can we advise anybody to have nothing to do with you."

Mr. Lawson: They drive him out.

Dr. Davies: Not at all; that is where hon. members make a mistake. All that the British Medical Association does is to say, "You are foolish if you are prepared to work for a lesser wage," but it cannot, and does not, penalize that man in any shape or form.

Colonel Watts-Morgan asked Dr. Davies to take it from him that he could give him the case of four doctors who had accepted appointments and had been boycotted by all the medical men in the district, who had refused their assistance in operations and in cases in hospitals. If that was not intimidation, heaven knew what intimidation was!

Dr. Davies said that he was referring to the British Medical Association. It might be that the local doctors considered that a man who accepted this appointment was doing what would bring down the rates of remuneration, and they might say, "We do not approve, and, socially, we will not meet you." But, professionally, they were bound to meet him. If any doctor refused to assist his professional brethren who might request consultation he would not receive the backing of the British Medical Association or of any medical man.

Small-pox.

On May 23rd Sir K. Wood told Captain Garro-Jones that the Minister of Health was of opinion that local authorities had all the necessary powers to safeguard the population from small-pox if adequate use were made by the public of the facilities provided for free vaccination. Further cases had occurred in the Hackney Wick area. The Minister was unable to say when the inhabitants would be free from the danger of infection. Captain Garro-Jones asked if the question of overcrowding would be considered in connexion with preventive measures. Dr. Vernon Davies inquired if Sir K. Wood was aware that overcrowding would not cause small-pox. Sir K. Wood: Yes. Mr. Chamberlain, on May 23rd, said that nine small-pox patients (one male and eight female), whose homes were in the urban district of Hendon, had been removed to hospital. One patient was 8 days old, and the others were aged 8, 15, 16, 21, 23, 37, 42, and 47 years respectively. There were five fatal cases. At the time of infection four of these were unvaccinated and one vaccinated. Of the non-fatal cases, two were unvaccinated and two vaccinated at the time of infection. The vaccinated cases were all vaccinated only in infancy.

He was not aware of any special circumstances which contributed to the fatal results. The source of infection had not been traced.

Sir John Gilmour stated that in the year ended April, 1927, the only locality in Scotland where small-pox cases were notified was Dundee; sixty-one cases were notified there.

Mr. Chamberlain could not say how many of the 694,563 children born in England and Wales in 1926 had been vaccinated, nor could he give the cost of treatment of the 12,922 cases of small-pox notified during the year ended April 2nd last. Save in the case of patients who were suffering from the disease on entering the country, no part of this cost fell on the Exchequer. The cost of public vaccination was approximately £175,000 in 1925-26. Answering Mr. Briant, Mr. Chamberlain said he could not yet say when a report would be issued from the committee appointed to inquire into the methods which are available to diminish or remove any risks which may result from vaccination. Mr. Briant, in his question, described this committee as "appointed to consider the question of post-vaccinal encephalitis."

Shop Acts, 1920 and 1921.

On May 18th the committee which is inquiring into the working of the Shop Acts, 1920 and 1921, heard evidence from Mr. G. A. Foan, on behalf of the Hairdressers' Trade Parliamentary Committee. He said that the long hours of labour before the war affected the health of those engaged in the trade, and it was reported in 1914 that one out of every five hairdressers died of consumption. Since the earlier evening closing there had been a perceptible improvement in the health of the personnel of the trade, but even now they were employed for one hour a day later and longer than the majority of shop workers.

Evidence on behalf of the Retail Pharmacists' Union was given by Mr. H. J. Martin and Mr. G. A. Mallinson. The latter said that chemists had to wait for the evening consulting hours of the doctors. Closing hours of 7 or 8 would not fit the pharmacists, because the doctors did not consult until between 6 and 7, and the chemists had to dispense after that. Mr. Martin said that there was no necessity for a later closing hour on Saturdays than on any other night. Doctors did not make a point of seeing many patients on Saturday nights. The witness added that in most towns there were sufficient chemists living on their premises to provide a service of medicine required after regular hours.

Mr. Mallinson explained that if a chemist was on the national health insurance panel then, even if he did not live on the premises, a notice was posted up showing where medicines could be obtained when the shop was closed.

Replying to further questions as to how the public could get medicine in cases of emergency, Mr. Martin said it must be borne in mind that the doctors knew where the service could be got. The Chairman: Where the surgery hours close at 7, is there sufficient time for a member of the public to get his prescription made up before the chemists' closing hour at 8?—Yes, generally speaking. Witness added that he had never heard of any complaints that the closing hours of chemists, so far as prescriptions were concerned, were too early. No complaints on the subject had been made to the union, nor, so far as he was aware, to the Minister of Health on that subject.

A Vaccination Bill.

Mr. Groves presented, on May 18th, a bill "to amend the law relating to compulsory vaccination." This bill, which is supported by other Labour members, proposes to repeal the compulsory clauses of the Vaccination Acts. No time is available for its discussion this session.

The Policy of the Dental Board.—On May 24th Sir K. Wood, in reply to Mr. Hore-Belisha, said that the real balance of the Dental Board, including the invested general reserve fund, was £20,750. The Minister of Health was informed that the main items of the board's expenditure were grants in aid of dental schools, bursaries to dental students of limited means, and research. The board was not under any statutory obligation to spend money for the benefit of any class, but the Minister was informed that since the formation of the board bursaries awarded to sons of "dentists 1921" had amounted to approximately £10,000, and the sum of £3,850 had been spent on lectures and demonstrations for their benefit. In addition, over £10,000 had been allocated to dental health propaganda and £23,000 to research. "Dentists 1921" participated in the benefit derived from expenditure in these two directions in proportion to their numbers.

Invaliding for Rheumatic Heart Disease.—On May 23rd Dr. Vernon Davies asked the Secretary for Air if any, and how many youths under 21 had been invalided out of the Air Force during the past seven years for which statistics were available, for heart disease, the result of rheumatism during their period of service. He also asked similar questions of the First Lord of the Admiralty and the Secretary for War. Sir Samuel Hoare said that to furnish the statistics asked for would entail the scrutiny of a large number of records, and he did not think that the time and labour involved would be justified. Lieut.-Colonel Headlam said that the officers and men under 21 years of age, invalided from the Royal Navy and Royal Marines during the years 1921 to 1925, for organic heart disease numbered 111 in 1921, 67 in 1922, 23 in 1923, 28 in 1924, and 34 in 1925. It was not known how many of those invalidings were the result of rheumatism, and to ascertain the number would involve a considerable expenditure of time and labour, which would not appear to be justified. Captain King, for the War Office, expressed regret that he was unable to give the information asked for by Dr. Davies, which could only be obtained by examination of the documents of all men invalided during the period. Dr. Davies called Captain King's attention to the statistics given by Lieut.-Colonel Headlam, and asked if the War Office could not prepare its figures in a more get-at-able form. Captain King: I listened carefully to the Admiralty answer, and I noticed that it did not give the information for which the hon. member asked.

First Aid and Safety First.—On May 23rd Colonel Ashley told Dr. Vernon Davies that he had no powers to provide first-aid outfits on the roads of the country in case of accidents. In reply to Dr. Vernon Davies, Sir William Joynson-Hicks said every recruit entering the Metropolitan Police had to secure a certificate of proficiency in first aid. About 90 per cent. of the force possessed certificates. He added, in answer to Mr. Sexton, that the chief inspector of factories reported that the regulations for the provision of ambulances and first-aid appliances at docks were now well observed. No increase of inspectors under the dock regulations could be considered at present. The factory department had taken up with employers' and workers' representatives the question of establishing "safety first" organizations at the ports. He hoped for early practical results.

International Conference on Hydrophobia.—Mr. Chamberlain, on May 23rd, said that the Ministry of Agriculture was represented at the International Congress on Hydrophobia, in Paris, by Dr. W. H. Andrews, the Medical Research Council by Captain S. R. Douglas, and the Ministry of Health by Dr. W. M. Scott. In addition, six representatives attended from British institutes overseas at which antirabic work was specially important. The only expenses entailed to the public funds were travelling and subsistence allowances on the ordinary scale for the three delegates from Great Britain.

Protection Against Gas Attack.—On May 24th Mr. Baldwin told Mr. C. Wilson that the problem of protecting the civil population against gas attack was being closely studied, both in its technical and its non-technical aspects. He could not at the present time particularize the steps taken further than to say that they were directed to securing, in the first place, the provision of an adequate personnel suitably equipped and trained in protective measures, and, secondly, the dissemination at the proper time of full information in regard to the best methods of self-protection.

Deaths from Accident Among Miners.—On May 24th Colonel Lane-Fox informed Mr. F. Hall that during 1925 the death rates from accidents per 1,000 persons employed in mines under the Coal Mines Act in the principal districts were: 1.23 in Scotland, 1.52 in Northumberland (including 38 deaths caused by an irruption of water at Montagu Colliery), 0.75 in Durham, 0.84 in Yorkshire, 1.04 in Lancs, Cheshire, and North Wales, 0.83 in Derby, Notts, and Leicester, 0.84 in Stafford, Salop, Worcestershire, and Warwickshire, 1.25 in South Wales and Monmouth, 1.14 in other English districts, and in Great Britain 1.02. Deaths from diseases scheduled under the Workmen's Compensation Act, which in 1925 numbered 3, had no appreciable effect on the figures.

Research on Vitamins.—On May 24th Mr. Chamberlain, in answer to a question, said investigations of fundamental importance had been made recently in the National Institute for Medical Research at Hampstead, where the production of a vitamin of intense potency had been effected by the action of light upon a known chemical substance in pure form. He was glad to be able to say that this country continued to take the leading position in vitamin research, which it had held throughout. He was informed that much important work upon the various vitamins, including that already mentioned, was in progress in various laboratories, and in large part with the support of public funds administered by the Medical Research Council.

Sodium Silicate to Prevent Plumbo-Solvency of Water.—Sir K. Wood, on May 24th, informed Mr. Morris that the Minister of Health was aware that the process of adding sodium silicate to soft water in order to prevent the solvent action of the water on lead pipes had been adopted in a few districts, mainly on an experimental scale. The quantity of sodium silicate used was so small that the proportion in the treated water was much less than that contained in many natural waters used for domestic supplies. The results of the treatment were being carefully watched, and, upon the information so far available, there appeared to be no reason to apprehend any danger to health or any diminution in the wholesomeness of the water.

Notes in Brief.

Mr. Chamberlain states that from the inception of the National Health Insurance Act till the end of 1926 there were paid in England and Wales, for sickness [illegible] and for disablement benefit £31,000,000, for maternity benefit [illegible] and for additional treatment benefits [illegible]. He is unable to make any statement regarding the recommendation of the Royal Commission on National Health Insurance that benefit should be extended to include a consultant and specialist medical service.

Mr. Chamberlain says that no case has been established for reconsidering the grant made by the Ministry of Health for the maintenance of patients in asylums.

The inquiry by a special inspector of the Home Office into the incidence of lead poisoning in potteries is in progress. It cannot be completed for some little time.

Medical News.

A JOINT meeting of the Guildford Branch of the British Medical Association and the Royal and Southern Counties Branches of the National Veterinary Association was held on May 19th, at the Royal Surrey County Hospital, Guildford, when Professor Hobday opened a discussion on clean milk, in which he recommended the appointment of special boards to deal with milk inspection; these should include the medical officer of health, a veterinary officer of health, and a sanitary inspector. Dr. Nathan Raw said that 10 to 12 per cent. of the milk samples examined contained tubercle bacilli, and that pasteurization was, therefore, necessary at present. Dr. Howell, medical officer of health for Hammersmith, agreed that, owing to the present uncertain condition of milk production, pasteurized milk was the cleanest and safest.

THE ninth Carlsbad international post-graduate course in balneology and balneotherapy will be held from September 8th to 24th. Among others, Dr. H. H. Dale, F.R.S., will deliver a lecture on the theory of insulin action. The course is open to all medical practitioners, for whom full opportunities for studying the local therapeutic institutions will be provided. In connexion with the course a Czechoslovakian visa will be supplied without charge and a 33 per cent. reduction allowed on the State railways. Further information may be obtained from the honorary secretary, Dr. Edgar Gauz, Carlsbad, Czechoslovakia.

THE April issue of *The Fight Against Disease*, the journal of the Research Defence Society, contains an account of Lord Lister's evidence before the Royal Commission on Vivisection in 1875, and his letter to Queen Victoria in the same year. Sir Berkeley Moynihan's recent broadcast speech about Lister is printed, and there is a reprint of the account in the BRITISH MEDICAL JOURNAL of April 9th of the conference with reference to the Dogs' Protection Bill held at the House of the Association. The methods and menace of antivivisection are described, and a short reference is made to the benefits which experimental research has brought to animals. The subscription for membership of the society is 10s., and further information may be obtained from the secretary, Dr. G. P. Crowden, at the offices of the society, 11, Chandos Street, W.1, who will also supply copies of *The Fight Against Disease*, price 6d. net.

A PARTY of 120 members of the Inter-State Post-Graduate Assembly of North America will visit London from June 1st to the 3rd. A series of lectures has been arranged at Dartmouth House on the mornings of the three days, and in the afternoons special demonstrations have been arranged at several London hospitals. Receptions will be held at the Royal College of Surgeons, at 5.30 p.m., on June 2nd, and at the Royal Society of Medicine, at 8.30 p.m., on June 3rd.

THE Council of the Medical School, medical women, and medical women students are arranging a fair at the London (Royal Free Hospital) School of Medicine for Women, 8, Hunter Street, Brunswick Square, W.C.1, in aid of the Centenary Fund of the Royal Free Hospital. It will be opened on Friday, June 10th, by Lady Rayleigh, O.B.E.

THE Fellowship of Medicine announces that on May 30th, at 2 p.m., Dr. A. S. Woodwark will deliver a lecture on diabetes at the Royal Waterloo Hospital, and on the same date and at the same hour Mr. W. McK. McCullagh will give a special demonstration at the Samaritan Hospital; the lecture and demonstration are free to medical practitioners. There will be a series of demonstrations during June at the Royal Eye Hospital, the first of which will be given on June 9th, at 3 p.m., by Mr. Letchworth. The Chelsea Hospital staff will hold a special course from June 8th to 21st, including operative technique and lectures on the diseases of women. From June 8th to 29th there will be an afternoon course at the Central London Ophthalmic Hospital and an operative course will be arranged if desired. From June 13th to 25th a combined course in diseases of children will be held at the children's clinic, the Royal Waterloo Hospital, the National Hospital for Diseases of the Heart, and the Royal National Orthopaedic Hospital. An afternoon course has been arranged at the Blackfriars Skin Hospital from June 20th to July 1st; special cases of interest will be shown on each Tuesday. The Victoria Park Hospital will provide a special course from June 27th to July 9th. The Fellowship of Medicine can arrange for practical courses in anaesthetics and obstetrics and for clinical assistantships in gynaecology. Copies of all syllabuses are obtainable from the Secretary of the Fellowship, 1, Wimpole Street, W.1.

A POST-GRADUATE course on the plastic surgery of the face will be given at the St. Louis Hospital, Paris, from June 15th to July 13th, by Dr. Ferris Smith of Grand Rapids and Dr. Eastmann Sheehan, of New York. The course, which will be given in English, will include lectures, clinical work, and practical instruction in operations on the cadaver. As the entry is limited early application should be made to Professor F. Lemaitre, St. Louis Hospital, 40, rue Bichat, Paris, from whom further information may be obtained. At its conclusion Dr. Chevalier-Jackson will commence a complete course on broncho-oesophagoscopy at the Paris Faculty of Medicine.

The house and library of the Royal Society of Medicine, 1, Wimpole Street, W.1, will be closed on Saturday, June 4th, and Monday, June 6th.

THE May issue of the *Tropical Diseases Bulletin* contains an historical section dealing with early records of research in tropical medicine, including Portuguese contributions in the fifteenth and sixteenth centuries, and ancient reports of plague, malaria, dysentery, leprosy, and scurvy.

LIEUT.-COLONEL JAMES CRAN, M.D., O.B.E., V.D., Principal Medical Officer, has been appointed an official member of the Legislative Council of the Colony of British Honduras.

THE seventh annual Congress of German Oto-Rhino-Laryngologists will be held at Vienna from June 2nd to 4th.

THE nineteenth French Congress of Medicine will be held in Paris from October 10th to 13th under the presidency of Professor Teissier. The subjects to be discussed include the symptomatology of the medical septicaemias; the pathology of the oedemas; and the medical indications and therapeutic value of splenectomy. Further information can be obtained from the general secretary, Dr. M. Chiray, 14, rue Pétrarque, Paris XVIe.

IT was reported to a recent meeting of the Standing Committee of the Office International d'Hygiène Publique that leprosy, which for a number of years had been declining in Bosnia and Herzegovina, is now increasing. In Korea, where there are three or four thousand lepers, treatment with the fatty esters of chaulmoogra oil has produced some results. The curious circumstance was disclosed that three cases of indigenous leprosy have recently been detected in Switzerland. The patients lived in a high lonely valley, which can only be reached on mule-back, and had never been away from home. It is conjectured that some old focus of infection has revived.

THE second part (E–L) of the sale catalogue published by *L'Art Ancien*, Lugano, of early books on medicine, natural science, and alchemy has recently appeared. Each entry is accompanied by an explanatory or historical note in English, and the text is freely interspersed with contemporary woodcuts.

A THREE weeks' summer holiday cruise is being arranged by the *Bruxelles Medical* to leave Havre on August 10th and visit Bordeaux, Lisbon, Tangiers, Algiers, Palma, Barcelona, and Marseilles. The cost will be from £16 upwards; further information may be obtained from Dr. F. F. Imianitoff, 29, Boulevard Adolphe Max, Brussels.

THE number of persons attacked by rabies in 1924 in Germany was 41. It was 63 in 1923, 101 in 1922, and 52 in 1921. Deaths from rabies after inoculation numbered 8 in 1921 (1.44 per cent. of those bitten), 9 in 1922 (0.43 per cent.), 6 in 1923 (0.55 per cent.), and 5 in 1924 (0.34 per cent.), while the deaths among the non-inoculated were 4 in 1921 (8.01 per cent. of those bitten), 9 in 1922 (10 per cent.), 10 in 1923 (22.22 per cent.), and 5 in 1924 (2.36 per cent.).

THERE are at present 32,000 medical practitioners in Italy; 800 medical students become qualified annually.

PROFESSOR EUGEN FISCHER, the well known anatomist of Freiburg, has been appointed director of the Kaiser Wilhelm Institute for Anthropology at Berlin, which is to be opened in September on the occasion of the International Congress on Heredity.

AN institute for the study of tuberculosis has been founded in the Hamburg-Eppendorf General Hospital.

THE Chinese Physiological Society has established a new quarterly periodical entitled the *Chinese Journal of Physiology*, under the editorial direction of Drs. R. K. S. Lim, B. E. Read, and Hsien Wu of Peking, and H. G. Earle of Hong-Kong. The first number, January 1st, 1927, contained papers on the pharmacology of Chinese aconite, the use in anaesthesia of mixtures of ephedrine and procaine, observations on the secretion of the transplanted stomach, and reports of investigations of Chinese pharmacological products. The April issue is larger and includes twelve reports of physiological, pharmacological, and biochemical investigations. The articles appear in English, French, or German, with abstracts in Chinese. The journal may be obtained from the Peking Union Medical College; the annual subscription is £1 2s. 6d.

THE Bureau of the Far East at Singapore reports that for the week ending April 16th there were 18 cases of plague with 16 deaths, 213 cases of cholera with 178 deaths, and 600 cases of small-pox with 241 deaths.

Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to ***The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.***

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the BRITISH MEDICAL JOURNAL alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the BRITISH MEDICAL JOURNAL must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the JOURNAL, should be addressed to the Financial Secretary and Business Manager.

The ***TELEPHONE NUMBERS*** of the British Medical Association and the BRITISH MEDICAL JOURNAL are *MUSEUM 9861, 9862, 9863, and 9864* (internal exchange, four lines).

The ***TELEGRAPHIC ADDRESSES*** are:

EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology Westcent, London.*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westcent, London.*

MEDICAL SECRETARY, *Medisecra Westcent, London.*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 4737 Dublin), and of the Scottish Office, 6, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 4361 Central).

QUERIES AND ANSWERS.

MR. F. PEARCE STURM, aural surgeon to the Leigh Infirmary, Lancashire, wishes to consult the English translation of Alexander's *Diseases of the Ear in Children*, but cannot find it in any library. He asks for information.

INCOME TAX.

Deduction for House, etc.

"R.A.M.C.(RET.)" expends £150 in rent and rates, keeps one servant at £50, and uses two rooms (and apparently the garage) for professional purposes; he bought his car six years ago for £250 and is about to replace it at a net cost of £85; he expended £50 on instruments when he began civil practice a year ago.

*** The only safe test as to the amount to be deducted in respect of the house is that it should be reasonable. Assuming that the professional rooms are on the ground floor, we should suggest something between £50 and £75, but it depends on the size, etc., of the house. A somewhat similar proportion should be taken of the cost of the servant, including therein her food, laundry, etc. The amount deductible for the renewal of the car will be £85, or the value of the car when taken into use for the practice a year ago, whichever is the less. No allowance is due for the £50 expended on the provision of the stock of instruments; repairs and renewals will, of course, be deductible.

Motor Car Allowance.

"A. C. R." is informed by his local inspector of taxes that when he claims an allowance for the cost of his car, either by way of depreciation or cost of renewal, it will be necessary for him to produce "accounts" supporting his return.

*** It is, of course, understood that when a special allowance is claimed the Revenue officials have some ground for wishing to have evidence to show that an equivalent allowance has not already been given in one form or another, but the production of accounts hardly seems to be the only way of proving that fact. At the same time the request is one which is difficult to refuse; it is not possible to make an accurate return unless the gross receipts are known and the expenses calculated in detail, and, after all, the inspector is apparently only asking for a copy of statements that *ex hypothesi* have already been prepared.

Expenses.

"W. C. B. S." draws a pension and has bought a share in a partnership, paying his own drug and motor expenses; he asks what deductions he can claim.

*** The pension will, of course, be dealt with by the Government Paymaster, and it should be shown separately in the statement of total income. The partnership income will be included as part of the assessment on the practice as a separate unit, and the necessary joint return will be made by the senior partner. It may be that our correspondent's share will have to be computed wholly or partly according to the earnings of his predecessor—for example, if he bought his share after April 6th, 1926, he will not yet have a full past year's earnings to declare. When it becomes necessary to calculate his own profits for the purpose of the return he should deduct *inter alia* a reasonable sum for professional use of his house, running expenses and depreciation of car, cost of drugs used, telephone, etc. No doubt his colleagues will collaborate with him in this, in view of the necessity for the joint return.

LETTERS, NOTES, ETC.

TRAPS FOR THE UNWARY.

"NEVERMORE" writes: Medical men are not, as a rule, conversant with the many traps that they are liable to fall into in dealing with the numerous circulars they receive through the post. The suspicious nature of some at once put one on guard. But I have been victimized on two occasions, and I should like to warn others.

Some time ago I received a circular pointing out that in the event of a fire occurring on one's premises it would be very difficult to make a claim unless one had a complete schedule of the contents of the house. In response to my inquiry an agent called on me and we discussed the matter, and it appeared that their charge was based on the amount of the valuation, being 1¼ per cent. He suggested that my valuation was probably about £500, and I agreed to have it done, as I thought it would cost me about £5 or £6. A very polite man took two or three days to go over the house, and as a result the total amount was said by him to be £1,500. My bill, therefore, came to over £18, instead of £5 or £6! I refused to pay this amount, and eventually paid £10 to settle.

My next experience was an offer I received from a firm holding themselves out as brokers in connexion with Stock Exchange dealings. They sent me a very full account of the rosy prospects of certain companies in which I could buy shares. I need not put down the whole amount of the purchase money, but I could pay a small amount on each share, and this would give me an option on the shares for three months, or a longer term if arranged. As one of these companies was one that I much fancied, I paid £20 for an option on 200 £1 shares for three months. My impression was that if at the end of the three months the shares were higher than when I bought them, I should get the profit and my £20 back, and if, on the other hand, the shares were lower, I should pay the loss and get my £20 back, or what was left of it. Unfortunately the shares at the end of the three months were exactly the same price as when I bought my option. I received a letter stating that my option was closed and they retained my £20. I am also informed that if the price of the shares had been higher I should still have lost my £20. I have bought my experience; I give this free to my professional brothers.

TREATMENT OF DIABETICS AS OUT-PATIENTS.

DR. C. J. C. EARL (Royal Hospital, Salford) writes: Dr. Lawrence, in his interesting comment (JOURNAL, May 14th, p. 897) on my article under the above heading, claims that most cases of diabetes should be treated as out-patients from the start. I must disagree with him—firstly, upon the grounds that our circumstances are not analogous, and that the daily attendance of patients to which he refers is impossible in a busy provincial hospital such as this. Furthermore, apart from its disciplinary advantages, in-patient treatment allows insulin to be pressed to a degree quite impossible in out-patients, with a consequent increase in the degree of "pancreatic rest" obtained.

BREATHING EXERCISES WITH MOVING ARMS.

WITH reference to the criticism by Surgeon Commander H. Hill, R.N., of the practice of moving the arms during breathing exercises (JOURNAL, March 5th, p. [illegible]
broke Hospital, Wandsworth) writ
co-operation of the vascular system is a necessary part of [illegible]
function of respiration. The output of the right side of the
the rate of the heart beat, and this,
law, varies directly with the amount
nous side. Muscular activity entails
an *increased peripheral distribution of* the blood. When the activity ceases the return of the blood to the heart is improved by steady compression of the veins by the muscles, and, on occasion, by gravity—illustrated best in cardiac embarrassment. Thus the venous input is increased by *steady* leg or arm movements during respiration; the heart beats become more efficient; and the physiological demand for increased oxygenation is better met. This, Dr. Evans considers, is the only real objective of deep breathing. Moreover, the *essential* muscles of respiration benefit by their active contraction against resistance. The slight giddiness caused by simply expanding the chest wall, after exercise, without movements of the limbs, can be experienced by anyone, and witnesses sufficiently to the very important vascular side of respiration. The chest wall is only capable of a certain maximal expansion, which can be achieved despite any opposition by the extra-respiratory muscles.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 36, 37, 40, 41, 42, and 43 of our advertisement columns, and *advertisements as to* partnerships, assistantships, and locumtenencies at pages 38 and 39.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page *219*.

Remarks
ON
THE MEDICAL ASPECTS OF HAEMATURIA.*

BY
SIR THOMAS HORDER, M.D., F.R.C.P.,
PHYSICIAN TO ST. BARTHOLOMEW'S HOSPITAL.

THE title of this discussion is rather a misnomer, for it suggests that cases presenting this very common and important symptom can be divided into two classes: medical and surgical. I suggest that the condition of haematuria demonstrates—what I take it we all believe—that, in the first instance at all events, all patients are both potentially medical and surgical: that is to say, they are suffering from pathological conditions, and we do not know at first—sometimes we do not know at last—whether these conditions lie chiefly in the province of the surgeon or of the physician. Several types of haematuria in their causation interest mutually both sides of our work—nephrolithiasis, for example; tuberculosis; urinary tract infection; neoplasm: all of these are conditions which frequently give rise to haematuria, and they all have both medical and surgical bearings.

Still, I think it is clear what is intended by the title, and I do not propose to deal with certain forms of haematuria which are essentially surgical in their aspects. Trauma, of course, is outside my sphere; so also is neoplasm when it is operable; also calculus of the gross kind giving definite indications for nephrotomy or nephrectomy; again, tuberculosis when the primary condition is renal, as it nearly always is, and radical measures can be employed by way of excision, partial or complete. Further, certain anatomical defects in the vessels and in the position of the organ, when these are diagnosed as being the cause of the haematuria, are outside the sphere of the physician. But I would like to stress the point that haematuria is a symptom which in many cases calls for an approach from both the medical and the surgical aspect in investigation, and very also often in treatment.

As regards definition, I take it that the word as we use it has no reference to microscopic amounts of blood or even to specimens of smoky urine, but to the grosser condition in which blood is present to the naked eye as blood, and at some periods in considerable amount.

I thought it might be useful, as giving me certain types of cases to discuss, if I took a list of cases of haematuria of the kind I have just mentioned—gross, frank haemorrhage—in patients, male and female, who have been in my medical wards, during the past five years, and have therefore been under my own observation, some of them jointly with my colleague Dr. Gow. I have had the cases tabulated—fifty-four in all—in which during the last five years haematuria has been observed either as the main symptom or as a very important and striking symptom. The final diagnoses with regard to these patients were as follow: out of the fifty-four cases, twenty were diagnosed as acute nephritis—nearly one-half the cases, therefore, during these five years have been of this nature—seven were cases of chronic nephritis, four of renal calculus, four of infective endocarditis, three of urinary tract infection, two were suffering from mitral stenosis, and presumably therefore had renal infarction, two were cases of purpura, and two were thought to be prostatic in their origin. There was one of each of the following: Addisonian anaemia, an interesting case of polycythaemia (Vaquez's disease), haematuria following on administration of hexamine in the treatment of encephalitis, and haematuria thought to be due to intensive salicylate treatment. There were also five unclassified cases, and of these five cases I think two come into that ill defined group of haematurias which have been called "essential haematuria."

*The opening paper of a discussion in the Urological Section of the Royal Society of Medicine on April 26th, 1927. The remainder of the discussion is printed at page 1066.

Acute Nephritis.

I will briefly comment upon each type of
haematuria is a common feature. Acut
obviously by far the commonest disease in
come to the physician with haematuria at t
We are still without accurate
which sort of infection is most
rhagic type of urine. It used
tinal nephritis was highly haemorrhagic in
I do not know that that has been borne
experience. Then it has been suggested that
infections are highly haemorrhagic. I cann
own experience that I have confirmed tha
indeed, as I said, I am unable to say fro
perience in which infection—whether with s
pneumococcus or *Staphylococcus aureus*, or
—a bleeding tendency is more likely to be
regard to this point I should like to know
of others. Exacerbations in acute nephriti
turia are rather a striking feature, and co
familiar experience of the physician. To
exacerbations due? Are they due to re-in
intoxication of the kidney from the presu
are they due to some changes taking place
and not necessarily due to haematogeno
I used to hope—and I hope still—that upon
cases of acute nephritis very carefully, maki
every time these crises occur, we might obt
tracking down the cause of the nephritis, bu
in this. These crises, which, by the way,
pyrexial and associated with a little exace
toxic symptoms—with rather more headach
ness—gradually fade out of the picture, and
and persistence in the old-fashioned method
—namely, rest, with vicarious functioning o
of the bowel—most of the cases get well.
like to know whether anyone has some
experience showing what is the exact mech
crises.

Another question which not infrequently a
acute nephritis is, When should septic tonsi
assuming that they are a feature of the
practitioner is led to the conviction that they
causatively with the disease? I think we
longer than we are inclined to wait now. I d
long, even in the presence of haematuri
genesis of the case of acute nephritis in
no faucial or other
of focal sepsis, is
one finds these cas
majority of them—and the past history, the
tion, and a thorough survey of the whole
complete blank as to the nature of the in
are all sorts of theories, but none of them
by the bacteriological or other evidence.

Chronic Nephritis.

With regard to chronic nephritis, I do not
anything to add to the accepted views, t
two conditions in which bleeding may occu
chronic parenchymatous nephritis—that is
nephritis with considerable oedema, a tende
uraemic symptoms and cardio-vascular char
not very marked. It seems to take very lit
of subinfection in a patient subject to la
matous nephritis to produce haematuria. T
is the so-called chronic interstitial nephr
kidney, or contracted kidney, with high
and marked cardio-vascular changes. Pati
condition are subject from time to time t
and definite bouts of haematuria, and these
ciated with subinfection. These facts are
study of the cases which have occurred
The term "renal epistaxis" has been r
from Gull's original meaning to a group
"essential haematuria," to which I shall
later. There is no reason why the term "re
should not be applied to a form of kidney
is not associated with marked vascular cha
was not the original meaning of the expres

Some authorities state that if a chronic nephritis is syphilitic in origin bleeding is more prone to occur. To judge by the positive Wassermann reaction in cases of chronic nephritis, if that can be taken as a guide to cases which are syphilitic, there was, in the four cases of which I have notes, no special tendency to bleeding. Nevertheless, it is sometimes said that syphilitic patients tend to a haemorrhagic type of nephritis if the kidney is affected.

Renal Calculus.

With regard to renal calculus, I wonder sometimes if we ought to diagnose renal calculus in the absence of haematuria, assuming that radiological findings are negative. If they are negative and haematuria has not occurred, I think it is questionable whether pain—even pain that seems to be strikingly like renal colic—should be regarded as the result of calculus. In the four cases in this series that I have had under observation, all showed good evidence, either by radioscopy or by nephrotomy undertaken for the purpose of clearing up the diagnosis; but when I come to the cases that are unclassified it is obvious that some may have been due to calculus. I have here a caution to enter, which one of my cases taught me. I overlooked a large calculus in the kidney for a considerable time in the case of a woman who had a gross coliform infection with symptoms of dysuria and with haematuria. She had no renal pain, her kidney could not be felt, and, as it happened, she was not *x*-rayed for a considerable time. The trouble was not a new growth, but a kidney which had been for years disorganized by the presence of a large calculus. It is a thing to beware of in a case in which infection is very easily demonstrable, and is such as to give rise to haematuria, that calculus may be present as well as the infection.

Acute Infections of the Urinary Tract.

That brings me to acute infection of the urinary tract—another group of cases common to both physicians and surgeons. In one of these cases there was a high temperature—104° F.—dysuria, and very copious bleeding. I think that in this country we are aware of the frequency, or at all events the definiteness, of haematuria as an early sign—perhaps the first sign—of coliform infection of the urinary tract; but, all the same, I wonder how many such cases are still thought to be tuberculous. If epididymitis occur, and it sometimes does, that tends to turn the thoughts still more in the direction of tuberculosis. In one of these cases there was a papilloma of the bladder in addition to the infection—a very deceptive case. The woman had had chronic cholecystitis for some time before she came under observation at St. Bartholomew's Hospital. She had haematuria and a urinary tract infection that was quite marked; but Mr. Ball demonstrated by cystoscopic examination that in spite of all this there was a definite papillomatous condition of the bladder, in a small area actually involving the right ureter.

Like the case of calculus already mentioned, here is another possible source of haemorrhage to bear in mind in cases of infection. This reminds me that although I have not a case amongst this series, I have in private seen a case, and have been partly responsible for the demonstration after nephrectomy, of papilloma of the renal pelvis; so that one should be on the look out for the double cause of haemorrhage—papilloma in the pelvis of the kidney or in the bladder, plus the coliform or other infection of the urinary tract.

Prostate.

Two of my cases were labelled prostatic. The patients were men aged respectively 64 and 74 years, and the diagnosis was not entirely on my responsibility. A surgical colleague agreed that the probable cause of the haemorrhage was the prostate—not malignant—rather soft in one case, and with an unusually large intravesical projection. One of these patients—the man aged 64—had a systolic pressure of 100 and a diastolic pressure of 90, so that possibly the hyperpiesis may have increased the tendency to bleeding.

Haematuria Associated with Heart Disease.

I come now to a more definitely medical class of case—haematuria in association with heart disease. There are three forms of heart disease illustrated in my group. The first is septic endocarditis. As I said at the beginning, I am not concerned with the discovery of a few red blood corpuscles in the urine. That is very important, as we all know, in the diagnosis of septic endocarditis—a very early symptom and a very constant symptom, and one which calls perhaps for daily microscopical examination of the urine over a period of a week or ten days. The pathological condition underlying it is well known, and has been described by Gaskell and others. I am not, however, referring to that, but to frank haematuria, the result of embolism. Sometimes the haematuria is unusually prolonged, lasting for weeks, because the embolus is a septic embolus and no doubt sets up a septic focus in the kidney. The condition is usually painless. But in one of my cases of infective endocarditis—a girl of 18—the patient suffered great pain. Her pain was so severe that I thought for some time there must be some other feature than septic infarction. She complained bitterly of the pain, and once or twice it was so great as to require narcotics. But when she died in hospital of cerebral embolism there was nothing found *post mortem* to cause this pain except the renal infarction.

The second form of heart disease in which haematuria occurs is mitral stenosis. There again the cause is renal infarction. In addition to septic endocarditis and mitral stenosis, there is dilated heart. Patients with chronic cardiac dilatation and chronic renal congestion sometimes have quite a large amount of blood in the urine.

Haematuria Associated with Blood Disorders.

I now come to certain blood states. In this series were two cases of purpura, both of them of Henoch's type. They were children, one of whom is still under observation in the hospital, and has been for a considerable time—three months—and is still bleeding. He is a small boy aged 14, whose illness began ten days before he came to hospital, a few days after eating skate. He vomited and had a rash; a very diffuse petechial eruption was present over the arms and legs, with a few spots on the abdomen; he was very listless. On admission his abdomen was retracted, tender, and he had a little pyrexia. At this time there was no blood in his urine, though a little albumin. He gave a history of having had severe abdominal pain on two occasions preceding this, but there was no history of bleeding. He was put on salicylates when admitted on December 27th, 1926. On January 17th, 1927, for the first time, there was a considerable amount of blood in the urine. On the strength of what one knew to be a fact—namely, that salicylates occasionally produce haematuria, the salicylates were stopped, but the haematuria persisted. He also developed oedema of the hands and forearms. The relation of purpura to haematuria is very complex. The kidney may bleed as an expression of the purpuric state; the toxic element causing the purpura may cause the kidney to bleed. But haemorrhages into the kidney themselves cause renal changes very closely allied to, if not identical with, nephritis, so that it is sometimes very difficult to say what is the sequence of events. This boy had large tonsils which it was thought were septic. In another case of Henoch's purpura the patient had three attacks of haematuria with abdominal pain, and then the condition seemed to clear up.

The case of polycythaemia (Vaquez's disease) which occurred in this series was very interesting. It was that of a woman who had been under observation several times in St. Bartholomew's Hospital and in private—a very typical case of the disease. She had had retinal haemorrhages. She also had an arterial block, I thought, in the artery to the left big toe, where there was commencing gangrene which necessitated amputation. Three months after this amputation of the left big toe she was sea-bathing at Eastbourne, and this was followed twelve hours afterwards by an attack of haematuria which persisted for six weeks, indeed up to the time of her death. It was a very intractable haematuria. The loss of blood was so considerable

uco what had been a polycythaemia to figures re just above those of a normal blood count. s before this event Dr. George Graham helped me ier continuous inhalations of oxygen. We demonat the blood state of these patients is not improved easure.

Haematuria due to Hexamine.

series there is only one case of hexamine haemathink there was no doubt about the causation. ase of acute encephalitis. A *post-mortem* examas made eventually. The patient had been given derate dose—20 grains every six hours—and at f the third day there was a profuse haematuria.

Unclassified Cases.

ere five unclassified cases, and I have already I feel sure that one or perhaps two of them put down as "essential haematuria" by those der that there is a group of cases to which we e that provisional label.

these unclassified cases was a patient with of the thoracic aorta; she had a profuse haema- *days before death. The second of the unclassified* ht possibly be regarded as a case of calculus or iasis. Then there was the case of a boy of 18 r. Ogier Ward sent to me from St. Peter's. I *make a diagnosis*, but Mr. Ball was able to say blood came from one kidney only, and not from e know that in some of these cases of haematuria bvious cause it is one side only that bleeds. That rantee, however, that if nephrectomy is performed kidney the other one may not start a similar

rhaps the most typical case of what is termed il haematuria" was that of a man of 33 (looking iterature I find that the cases coming into this up of haematurias are generally between 20 and of age), a cycle maker, who, in 1921, passed blood ine. He was examined with the cystoscope withhing abnormal being found. In November of that had a certain dull, not acute, pain, but nothing , because again nothing further was found. In 1922, he had a short attack of haematuria with symptoms. When he presented himself at the a third time the left kidney was explored, but th negative findings. He bled a little in February, d then nothing happened until he came under on at St. Bartholomew's Hospital in March, 1923. is no event in his past history or present condition st any reason for *this tendency to bleed*. Radiology e negative, he had no dysuria, there were no arterial changes, no hyperpiesis, no albumin or his urine. Conveniently for our purpose, he had k of *haematuria while thus under observation, but* ination of the urine showed merely that there was leal of blood, a few blood casts, but no other casts, condition cleared up rather quickly; within a week e was normal again. I do not know what has d to him since, but that is what I regard as a type which goes by the name of "essential haematuria." easy to say that this is only a group of cases in e *do not know the cause of the haematuria, but it* king fact that in some patients bleeding from the occurs somewhat easily and without obvious cause. tter has been written about a good deal, not much *country, although* Hale-White[1] has published a it.

e seen one case of this type in private. The bleed- so profuse that everybody was alarmed, and said mething must be done; but everything had been cept nephrectomy, and eventually that was done. completely to find anything wrong with the excised and I was particularly keen on one or two points had been brought to my attention: one was the f the pelvis in view of the possibility of minute nata, and the other was the so-called naevoid con- n the kidney substance itself.

[1] *Quart. Journ. Med.*, 1910-11, iv, 509.

Hale-White says of these cases that there is no satisfactory explanation; he uses the term "renal epistaxis" for them, and comes to the conclusion that there are two factors, one an undue case of bleeding from the kidney and the other some toxic state at present unknown.

In my list there does not happen to be an instance, curiously enough, of tuberculosis, or of drugs other than hexamine. The condition has been brought on by use of carbolic ointments and lotions, and there is our familiar friend rhubarb, to which some patients are susceptible. I have also no instance of bilharzia haematuria. I thought, however, it might be useful to take actual cases as a basis for these rather discursive remarks.

An Address

ON

OBSERVATION, CO-ORDINATION OF KNOWLEDGE, AND JUDGEMENT.

ILLUSTRATED BY THE CARDIO-ARTERIAL SYSTEM.*

BY

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EMERITUS PROFESSOR OF CLINICAL MEDICINE IN THE UNIVERSITY; CONSULTING PHYSICIAN, ROYAL INFIRMARY, EDINBURGH.

WHEN the subject of the address you invited me to give had been settled, I decided, after consideration, that the cardio-arterial system would afford all the illustration my theme required. I was strengthened in this decision by some sentences in one of the Gifford Lectures, which Professor J. S. Haldane of Oxford is delivering at Glasgow University. He is reported as saying, "From its beginnings the mechanistic theory of life was embarked on a hopeless task." "What physiology was progressively revealing was the detail of co-ordinated physiological activity." These quotations are applicable to the system we are to consider. Last century we heard much about the heart as a pump, and the arteries as pipes. I propose to look at them as the co-ordinated system of a *living* pump and *live* tubes, which alter their lumen under a variety of influences, and thereby affect the flow of blood through them.

CO-ORDINATION OF HEART AND ARTERIES.

Beginning with the heart, I ask your attention to the case of a lady who came to Edinburgh a short time ago to consult me.

CASE I.—*Weak Left Ventricle: Constriction of Arteries.*

The patient was a woman, aged 44, the mother of two or three children; she told me that for years she had had a leak at one of her valves. The pulse was 120, regular, small, and cord-like; the brachial artery was in a similar state. There was pulsation between the left sternal edge and the vertical mammary line; the left border of the heart by percussion was beyond that line; the right border was two inches to the right of the sternal edge; the veins, above the right clavicle were greatly distended, and showed a ventricular systolic wave. On auscultation at the apex the first sound was faint and impure. Over the area of pulsation and over the adjoining sternum there was a loud blowing systolic murmur. The pulsation was not "a diffuse apex beat," but was caused by, and the murmur was heard over, the right ventricle. The murmur was therefore tricuspid in origin. The brachial pressure given by the sphygmometer was 130 mm. These observations, co-ordinated with our anatomical and pathological knowledge, showed that the left ventricle was seriously disabled; that the right chambers of the heart and the veins in the neck were distended with blood; that the safety-valve action of the tricuspid had come into play; and that the right ventricle was strong enough to produce a loud murmur as blood was driven back from ventricle to auricle. The pulse rate was 120, the brachial and radial arteries were small and cord-like.

When we have to deal with a weak left ventricle it means that the ventricle does not and cannot empty itself. *The contractions may increase in number, but each* contraction only projects a fraction of the ventricular blood into the aorta; there is, to use Professor MacWilliam's words, "defective cardiac output." The dogma of the

* An address delivered to the Royal Medical Society of Edinburgh.

physiologist is that as a consequence of defective output vaso-constriction occurs, "which tends to keep up aortic pressure." This doctrine of keeping up aortic pressure does not appeal to our clinical judgement when the power of the left ventricle is much lowered. Let me present another view, one which may appeal to clinicians. The aorta and its primary branches constitute a blood cistern, which is kept full by the contraction of the ventricle lifting the weight on the aortic cusps and emptying its contents into the cistern. It must be realized that the pump, which keeps the cistern full, works from below and at a great disadvantage when enfeebled. The cistern, the fullness of which is essential to life, would undoubtedly rapidly empty did the outlets from the cistern retain their normal size; but they become constricted by virtue of possessing a living and active muscular coat, and the fullness of the cistern is assured—up to a point. I submit that this autonomous co-ordination of left ventricle output and arterial constriction is one of the most beautiful arrangements in the body. This is precisely what happened to the patient—namely, a damaged and weakened pump, and a constriction of the arteries easily recognized by the educated finger, yet her so-called blood pressure was 130 mm. Under treatment matters improved. The distension and pulsation in the veins disappeared, the tricuspid murmur ceased, at the apex a loud blowing systolic murmur appeared, the pulse fell to 70, the arteries were twice as large and had lost their cord-like character, and the sphygmometer reading had fallen from 130 to 105 mm. The left heart had regained power, was shooting more blood into the aortic cistern, and the arteries relaxed in virtue of their autonomous co-ordination with cardiac output. The pulse indicated the free outflow from the cistern, and I ask the reader to note that the sphygmometer pressure fell 25 mm.; and we are asked to believe that these records are blood pressure, and indicate heart power.

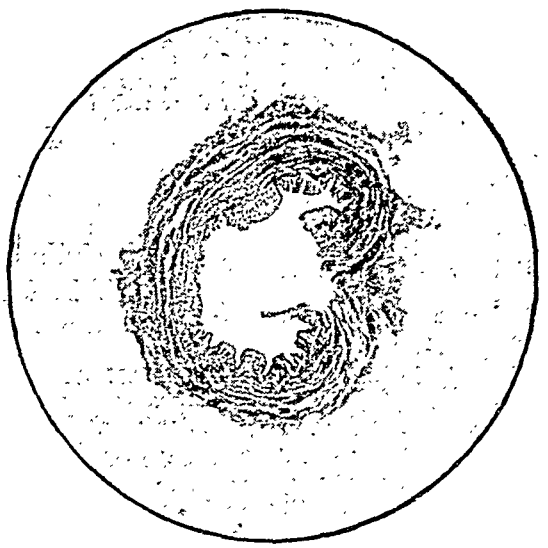


FIG. 1.—Contracted Brachial Artery.

I direct your attention to Fig. 1, which represents a contracted brachial artery; and to Fig. 2, which is a bit of the same artery relaxed (the *post-mortem* appearance of a normal brachial artery). Fig. 1 represents the tightened up artery present in the patient I have spoken of. That that contracted, hypertonic muscular tube, with its thickened wall and much lessened lumen, offers no more resistance to the pressure of the armlet than the artery of Fig. 2, to which, of course, has to be added a normal living degree of tonicity, is a strange belief, and seems to have sprung from the traditional doctrine of the maintenance of aortic pressure even when the left ventricle had lost a large part of its power. Years ago the late Dr. Janeway, in conjunction with Park, experimenting in America with the artery of a bullock, the size of a human artery, came to the conclusion that when hypertonically contracted it required over 60 mm. of pressure to occlude its lumen.

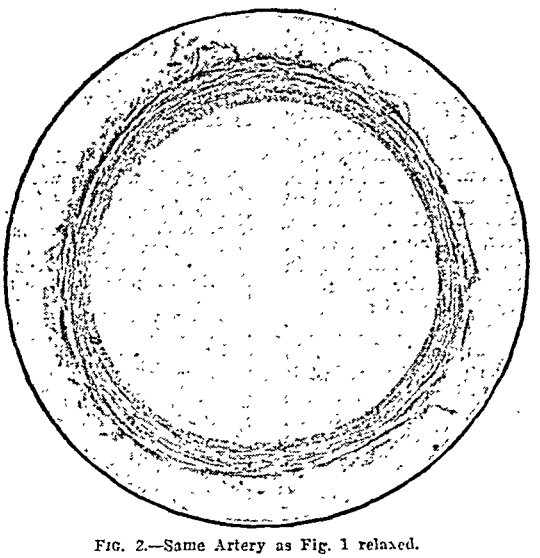


FIG. 2.—Same Artery as Fig. 1 relaxed.

HYPERMYOTONIA IN UNTHICKENED ARTERIES.

I now ask your attention to further clinical manifestations of hypermyotonia in unthickened arteries.

CASE II.—*Hypermyotonia due to Acidosis.*

A man had consulted me when his pressure was 120 mm. Some months later I saw him in the country. He was suffering from insomnia and air hunger; the heart action was irregular, and the arteries were tightened; the sphygmometer pressure was 160 mm. He was given sodium bicarbonate in considerable quantity, and 20 drops of paraldehyde instead of his usual hypnotic. When I saw him the following morning the air hunger was gone, he had slept well, and the pressure had fallen to 135 mm. I suggested that the alkali might be continued as the pressure would probably come down 10 to 15 mm. more. This was clearly a case of hypermyotonia due to acidosis.

CASE III.—*Influence of Emotion on Blood Pressure.*

A man consulted me several times from the end of 1922 into the early months of 1923. The symptoms described to me clearly indicated angina pectoris. The arteries were not thickened, the pulse was soft and regular, the heart sounds were poor. The brachial pressure was about 135 mm.—a normal pressure for over 60 years of age with soft arteries. There was little improvement in the symptoms as I heard them. In April he came into my room after walking some two to three hundred yards from the railway station. His face was pale, he was evidently distressed, he had precordial pain, and he had had to stand still two or three times before he reached my house. His pressure was 158 mm., and his vessels were tightened up. This was clearly the kind of thing he had been describing to me but which I had not seen. He went into a nursing home, where, with rest and some simple treatment, the pressure stabilized to 120 mm. A day or two before he left the home he was sitting up in bed, and offered to show me building plans in which he knew I was interested. This he did, explaining them very clearly and in detail. When he had finished he complained of precordial pain: the pulse was tightened up, and the pressure, which had been 120 mm. before this effort, had risen to 150 mm. Here was an illustration of mental and some emotional stimulation leading to hypertonic arterial constriction and acting back on a myocardium with little reserve of power. I advised him to give up all his country activities, and to confine himself to office and administrative duties. He was an abstainer from alcohol and tobacco. His diet was regulated, a mild laxative was used, and a myocardial tonic taken. He was to avoid everything which threatened to bring on an attack. He has followed out these directions for nearly three years, and has been able to do a great deal of most useful work; but he has still to walk slowly on level ground, and when faced by a slight incline still more leisurely.

These three cases illustrate three causes of arterial constriction in persons with unthickened arteries: (1) lowered cardiac output; (2) blood composition; (3) nervous or emotional influence. In all, when the hypertonia or constriction passed or was overcome, and the left heart recovered, the readings fell; and we are asked to regard them all as blood pressure only.

HYPERMYOTONIA IN SCLEROSED ARTERIES.

Sclerosed arteries are common. Their characteristics are investigated most easily by examining the lower part of the brachial artery, where it is often superficial and its pulsation visible. The finger shows it to be hard and thickened, and often tortuous. The degree of sclerosis, of course, varies in different persons; a tightened up, and therefore hard, normal artery must not be confused with sclerosis.

In Fig. 2[1] the *post-mortem* thickness of a normal brachial artery is shown; but Figs. 3 and 4 represent advanced sclerosis. It will be noted that the thickening is due entirely to the thickening of the middle coat—that is, the muscular coat. This is the kind of artery which, during life, may be felt as hard as a pipe shank; and it was looked upon as a rigid tube. As to its resistance to the pressure of the finger, there was never any doubt until physicians were led away by the claims of the sphygmomanometer, or, as it was first named, the haemodynamometer. This thickened muscular coat is hard; but in many cases it is not a rigid tube, for it can contract and relax, although it has not the range of movement the normal artery has.

At this stage let me point out that the resistance offered by such a structural thickening as is represented in Figs. 3 and 4 cannot be removed; all that remedial measures can effect is to check hypermyotonia, and the power to do this is illustrated in the following cases.

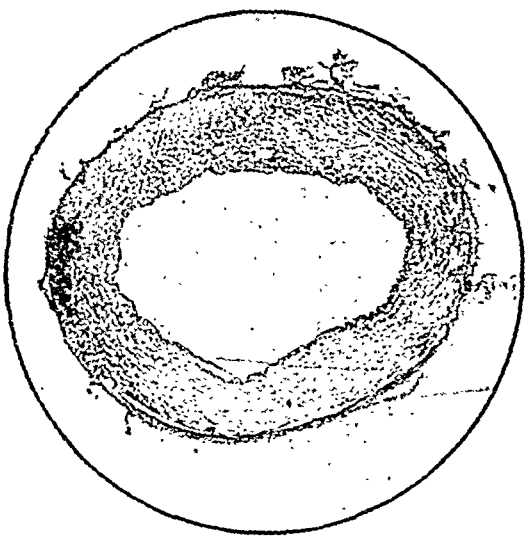


FIG. 3.—Sclerosis of Brachial Artery.

CASE IV.—*Moderate Sclerosis: Hypermyotonia 75 mm.*

A man, aged 58, while seated at his writing table was seized with inability to write, and he could not speak. He was taken home and seen by his doctor soon after arrival. His brachial pressure was 225 mm. He was given a tablet of erythrol tetranitrate. The following morning the pressure was 180, a fall of 45 mm. I saw him two days after his seizure. Speech had improved but was still blurred and it was difficult to make out what he tried to say. The right hand and arm had improved. The radial artery was small and hard, the brachial pressure was 175 mm. The heart sounds were faint. The apex by percussion was in the mammary line. He was given sodium iodide and bicarbonate and tincture of squill. A suitable laxative was suggested. I saw him again seven days later, when the pressure had been 160; my visit put it up to 180. Speech was much improved, but not quite pure, and he was able to write. Thereafter the pressure varied from 125 to 190, but it was promising to stabilize about 150. At that level it could be left, as a certain amount of sclerosis was assumed. Hypermyotonia was responsible for at least 75 mm. There was in this patient a history of habitual constipation, prolonged worry, and considerable tobacco smoking.

CASE V.—*Marked Sclerosis: Hypermyotonia 30 mm.*

A man, aged 68, complained of being drowsy and lethargic, and fit for nothing. I saw him in November, 1923. The brachial artery was hard, thickened, and tortuous; the pressure was 210 mm. He had been taking each morning a purgative which gave him one or more loose motions daily. He was given a laxative which was to be used so as to give one formed motion daily; his diet was regulated, and he was advised to abstain from wine. Two weeks later I saw him again. He had carried out instructions. His unpleasant symptoms had disappeared, he felt quite well, and the pressure was 180 mm. Iodides had no effect in lowering this figure, so they were not persevered with. I saw him last in February, 1924. He had continued well, and the pressure had remained at 180 mm. His death was recorded in August, 1926; but I do not know the cause.

It will be noted that a fall of 30 mm. removed the symptoms complained of, while the structural changes in the arteries made further efforts at reduction unwise.

CASE VI.—*Marked Sclerosis: Hypermyotonia 60 mm.*

A man, aged 54, sent to me at the end of February, 1924, complained of headaches, irritability, and somnolence—he fell asleep when he tried to read, and what he read he forgot in a few hours; he was unfit for work. The pulse was languid and poor. The brachial artery was visible at the bend of the elbow; it was hard, thickened, and tortuous, and the pressure was 240 mm. The heart sounds, including the aortic second, were faint. The urine, acid, specific gravity 1018, contained no albumin or sugar. I had seen this patient ten years before, when the brachial pressure was 170 mm. The outlook now seemed very hopeless, but I suggested cascara and taraxacum as a daily laxative; squill and spirit of nitrous ether; and spare meals. He was a teetotaler. He was sent to me again early in the following May, and I was surprised at the improvement. The drowsiness had gone, and memory had been recovered. The pulse was 84, regular and good, the myocardium had improved and the radial artery had lost its segmented character. The pressure was 180 mm.—a fall of 60 mm., and only 10 mm. above what it had been in 1914.

I need not multiply cases, but there are two others of such great significance that they must be briefly alluded to.

CASE VII.—*Suppression of Urine after Prostatectomy.*

This was a patient with high pressure, who remained well when his pressure was kept about 160 mm. After removal of his prostate he had suppression of urine, and was steadily sinking into coma. The pulse was 140, difficult to count, and felt like a small firm thread. The pressure was 220 mm. With the approval of the surgeon I gave him pituitrin and erythrol tetranitrate—the former to counteract the spasm of renal vessels, which I assumed to be the cause of the suppression, the latter to counteract the constrictive action of pituitrin on the systemic arteries. Within a few hours renal function was re-established; the threatening coma was removed; the pulse was large, slow, and regular; the pressure was 160 mm.

Here there was a fall of 60 mm., with relaxation of arteries and a steady good pulse wave.

CASE VIII.—*Thick Hard Artery; no Radial Pulse; Brachial Pressure 110 mm.*

A man was admitted after a severe attack of pneumonia. He was collapsed and apathetic. There was no pulse at the wrist. There was no heart sound audible anywhere. On examining the brachial artery at the bend of the elbow it was visible, tortuous, and hard, and the pulse could be felt as a mere tap. A pressure of 110 mm. was required to stop the tap. On auscultation no sound was heard as the pressure was applied. Cardiac stimulants were administered, and when I saw him the following morning the pulse at the wrist was easily counted. The pressure was 125 mm.—a rise of 15. How many of the 15 were required to drive the pulse wave from the bend of the elbow to the wrist I do not know.



FIG. 4.—Sclerosis of Brachial Artery.

SUMMARY.

This last case provided a clinical demonstration, more convincing than many experiments, of the positive resistance of a sclerosed living artery, and of the unreasonableness of regarding sphygmometer readings as an index of heart power. Years ago I tested a sclerosed brachial artery, obtained soon after death, and found that it offered a resistance of 100 mm. to compression.[1]

The cases I have reported are examples taken from many. The observations were made in the course of ordinary routine examinations. I have shown constriction of a normal artery, and also the pathological changes which are present in the hard and thickened arteries known as arteriosclerosis. I have given examples of the tightening up of sclerosed arteries, and of the removal of that tightening,

and of the concomitant fall of sphygmometer pressure varying from 30 to 75 or more millimetres. To me the judgement to be pronounced is clear, plain, and inevitable.

CAUSATION.

As to causation, let me refer for a moment to the term "hyperpiesis," introduced to define cases of raised sphygmometer readings in persons without arterio-sclerosis and with no evidence of kidney lesion. They were therefore inexplicable, and were labelled with this name. I have seen many cases of this kind, but I never saw one without palpable constriction of the brachial artery. But the users of this word, and the exponents of what is called "primary and essential hypertension"—hypertension meaning sphygmometer readings—do not recognize that a constricted normal artery, with its living and thickened wall, and lessened lumen, materially affects sphygmometer pressures. I have stated that Janeway and Park gave over 60 mm. for hypertonic contraction in an unthickened artery; the first three cases recorded here gave relaxation readings of 25, 30, and 25 mm.—and that figure after the left ventricle had improved. In Case IV, after the initial fall of 45 mm., the extreme sensitiveness of the arterial wall gave sphygmometer readings which varied from day to day between 120 or 130 and 190 mm. If heart power was being recorded in this case the readings would have indicated an erratic variation of heart power of from 90 to 100 mm. without any indication that the left ventricle was responsible.

As to the influences invoked to account for high pressures, Professor MacWilliam[2] in a recent lecture says:

> "While it is obvious that some powerful agency is at work, the search for definite pressor bodies (from any source) in the circulation has proved to be singularly inconclusive. Clifford Allbutt said: 'Such catch phrases as intestinal toxins, kidney inadequacy, endocrine disorder, and the like are but dust in our eyes.'"

As a clinician who for many years has watched and measured the constriction and relaxation of the arteries examined for clinical purposes, I have learnt the great sensitiveness of this arterial function. The physiological conception that it is mainly, if not wholly, to maintain or regulate blood pressure is much too restricted a view. The arteries respond not only to cardiac output and to nervous influences, but to influences from the alimentary tract, including excess of protein food, wine, tobacco, insufficient removal of hepatic excretion, constipation, and so on. The subtlety of the chemico-vital composition of the blood in different individuals is a fact of which the observant physician has abundant proof, although the laboratory may not be able to explain it or define it by analysis. Biochemistry has done much; but can chemical analysis of the blood determine minor degrees of what is known as acidosis? Yet the clinician removes symptoms, and relaxes hypertonus, by the administration of sodium bicarbonate. So also with treatment directed to biliary secretion and suitable colon emptying; in other cases to the reduction of protein food; in others abstention from wines, and so forth. In all these classes the only feasible explanation is that there is a chemical substance present in the blood which acts directly on the arterial wall. Clinical medicine cannot wait for the advance of biochemical analysis for the confirmation of treatment results. Supposing that large protein feeding acted by increasing the secretion of adrenaline, could biochemistry show its increase in the systemic blood? The same question can be asked with regard to other possible constituents. As a clinician, with some understanding of chemical pathology, I entirely repudiate the doctrine that "such catch phrases as intestinal toxins, kidney inadequacy, endocrine disorder, and the like are but dust in our eyes." Any one of them, or any combination of them, can, and does, cause arterial constriction; and that, as we have seen, means a rise in sphygmometer reading.

The clinical observation which it is most important for us to train ourselves to make is the tightening up of the arteries we examine for clinical purposes. Arterio-sclerosis is the result of more or less continued tightening up in persons whose hearts readily respond to extra strain. It takes years to develop; and it can be checked if tightening is recognized and means are taken to eliminate the factor which is the prime cause. The heart hypertrophy is the response of the heart to the extra strain of driving blood through constricted channels. Kidney changes develop of an interesting and informative type. The renal artery outside the kidney shows the type of change seen in Figs. 3 and 4, whilst the divisions of the artery inside the organ show an irritative and progressive endarteritis. This goes on to the "gouty kidney" of last century, the arterio-sclerotic kidney of a later time.

REFERENCES.

[1] W. Russell: *The Sphygmometer*, Baillière, Tindall and Cox, p. 79.

[2] Professor MacWilliam: BRITISH MEDICAL JOURNAL, January 22nd, 1927, p. 125.

THE HISTOLOGY OF THE PERIODONTAL SULCUS.

BY

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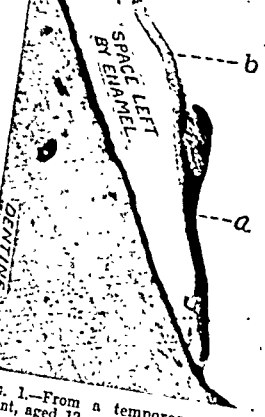
(From the Research Laboratory of the Royal Dental Hospital of London.)

(*With Special Plate.*)

THE importance of the periodontal sulcus as being the seat of origin of pyorrhœa will be patent to all who have grasped the significance of dental sepsis, yet it is a fact that there are no definite data as to its intimate structure. The chief point at issue has been how is epithelial continuity provided for in the normal condition? Does the gum epithelium attach itself to the tooth, or is there normally a breach of epithelial continuity where the tooth projects? In the latter case the apex of the sulcus would be a serious defect in our defensive armament.

For many years I failed in my efforts to get a section of the normal periodontal sulcus, owing to the dissociation of the tissues which occurs during decalcification and sectioning. A few years ago, however, I hit on the plan of embedding in celloidin before decalcifying, and have been able to get some very useful sections. Having no access to the dead-house I have had to rely on the forceps for my material. Obviously the forceps destroys the lingual and labial parts of the periodontal sulcus, so that my observations relate only to the interstitial part. In many cases a piece of the interstitial gum comes away attached to the tooth, probably more or less dissociated, but possibly intact. I have had a large number of such specimens sectioned, and have been led to the conclusion that interstitially at least there may be, possibly should be, no periodontal sulcus. I have found a considerable number of cases in which the gum is attached directly to the tooth-crown, and the attachment has been firm enough to resist disruption at the moment of extraction. Some of these cases show that there was no possibility of a sulcus (Fig. 1), the gum epithelium being prolonged on to the tooth-crown and fusing with Nasmyth's membrane; others leave a possibility that there was a shallow sulcus, not, however, at the neck of the tooth, but in a position halfway along the crown (Fig. 2). Some sections, again, suggest a potential rather than an actual sulcus (Fig. 3).

The question of epithelial continuity may be definitely answered. There should be no breach until the dentine of the tooth is exposed, or the neck denuded. The gum epithelium may spread over the tooth-crown, much as the skin epithelium over a nail (Fig. 1), becoming continuous with Nasmyth's membrane over a wide area; or it may be continuous with Nasmyth's membrane only at the edge, leaving the fibrous gum to take direct attachment to the tooth-crown (Fig. 5); or for a varying distance it may be split away from Nasmyth's membrane, taking a vital attachment only as the neck of the tooth is approached (Fig. 6); or it may take attachment only to the neck of the tooth—that is, to the cementum (Fig. 7). The first and last two cases leave a possibility of a periodontal sulcus which would develop as the gum epithelium split away from Nasmyth's membrane, possibly as the latter became less vital owing to ageing, or as the gum epithelium peels off



. 1.—From a temporary molar nt, aged 12. *a*, Gum epithelium y stained. *b*, Nasmyth's mem- staining badly.

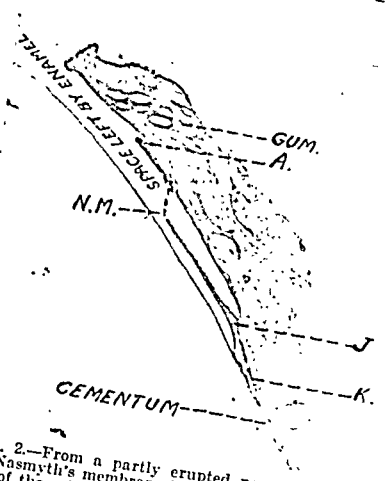
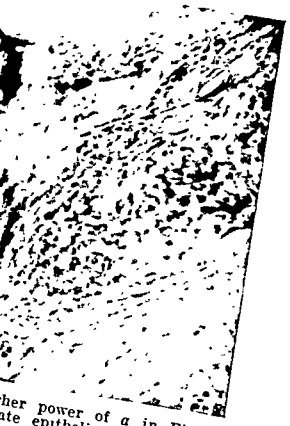


FIG. 2.—From a partly erupted permanent molar. N M, Nasmyth's membrane broken in sectioning. The apex of the sulcus was at A, well up the crown of the tooth. K, Epithelial prolongation along root. J, Junction of gum epithelium with remains of outer portion of enamel organ and Nasmyth's membrane.



FIG. 3.—Temporary canine patient, aged 7. The gum epithelium is attached to the tooth, but between it and Nasmyth's membrane is a line of demarcation (*b*) along which splitting can readily occur. There is thus a potential sulcus.



her power of *a* in Fig. 3. ate epithelium, and so the e enamel organ as its origin.

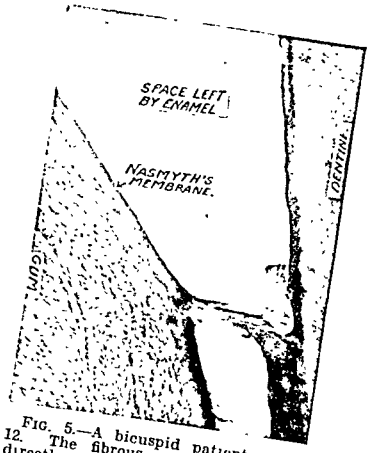


FIG. 5.—A bicuspid patient, aged 12. The fibrous gum is attached directly to Nasmyth's membrane, and there was epithelial continuity only at the edge.

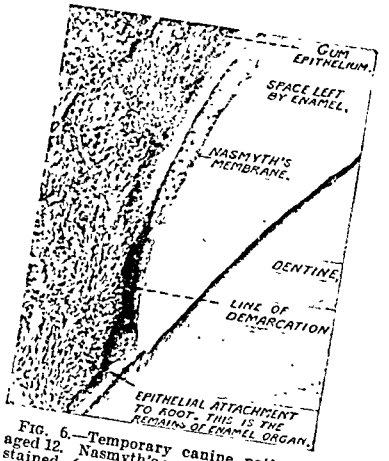


FIG. 6.—Temporary canine patient, aged 12. Nasmyth's membrane is badly stained (necrotic) and vital attachment of gum epithelium to tooth obtained only towards the neck. The sulcus was rather potential than actual.



ed lower f the gum m *a* to *b*. t between pithelium s in the the gum papillary

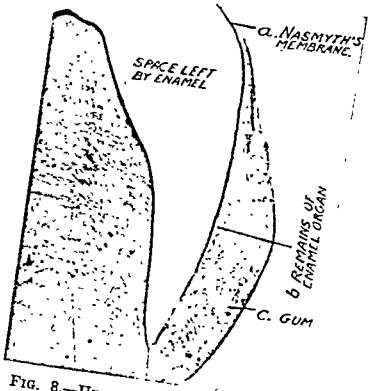


FIG. 8.—Unerupted incisor in a girl aged 9½. Nasmyth's membrane is well defined. The remains of the outermost layer of the enamel organ are seen as a rather discontinuous epithelial layer with small columns and coils reaching out into the adjacent gum. There is no epithelial prolongation along the root.

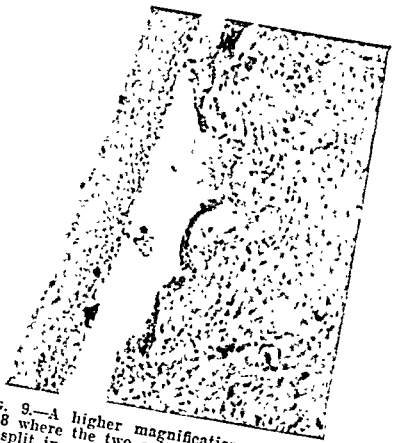


FIG. 9.—A higher magnification of *b* in Fig. 8 where the two epithelial layers have been split in sectioning.

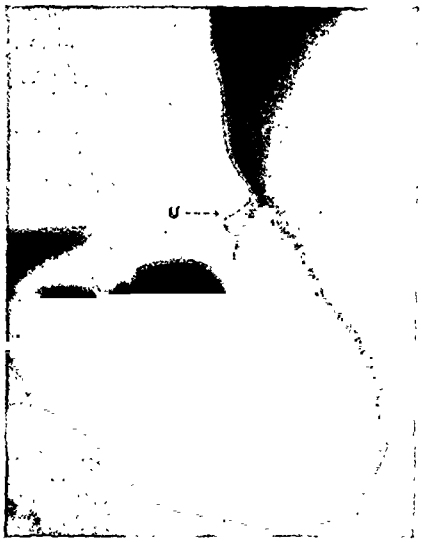


FIG. 1, A.—Ulcer crater on lesser curvature (November 19th, 1926).



FIG. 1, B.—Ulcer crater smaller (November 25th, 1926).



FIG. 1, C.—Ulcer crater still smaller (December 2nd, 1926).

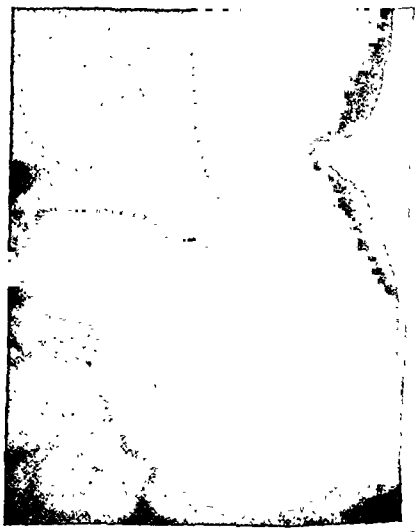


FIG. 1, D.—Ulcer crater has disappeared (December 16th, 1926).



FIG. 2, A.—Large ulcer; confirmed at operation (November, 1925).

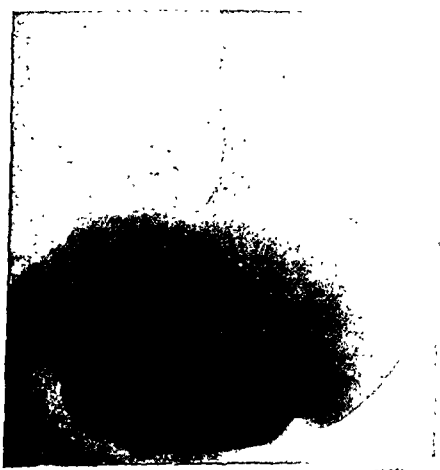


FIG. 2, B.—No *x*-ray sign of ulcer (March, 1926).

the root. The sulcus is thus seen to be a cleft left by the splitting away of gum epithelium from Nasmyth's membrane. When the gum epithelium has split clear away from the whole length of the tooth-crown, or where it never has united with Nasmyth's membrane, it may take a more or less extensive attachment to the root of the tooth (to the cementum).

Thus, though technically there is a breach of epithelial continuity where the attachment of gum to tooth has receded beyond the enamel, practically there is no breach in the defence till the enamel has been worn through to the dentine (by caries or attrition) or till disease (pyorrhœa) has destroyed the epithelial attachment to the tooth.

The nature of the epithelial prolongation which provides for epithelial attachment to the tooth-root is worth further notice.

It is not always present (Fig. 8), and in such cases, if it be due to develop later, it must be provided by the gum epithelium, as was probably the case in Fig. 7, where the gum epithelium can be seen gradually losing its papillary character as it passes along the root. In many cases, however, it seems to have been provided for from the beginning. Most of my sections of this point are taken from temporary teeth, and it is worthy of note that there is no difference in extent of prolongation between teeth about to be shed and those of earlier age (Figs. 3 and 6). There is thus no evidence in the temporary teeth of "continuous eruption." Fig. 7 shows epithelium whose gum origin is indicated by the gradual fading away of the papillary structure; but Figs. 3 and 6 from temporary teeth, and Fig. 2 from a permanent molar, suggest a different origin. A higher magnification (Fig. 4) of the prolongation strongly suggests stellate epithelium—a form of epithelium more likely to arise from epithelium originating from the enamel organ than from the gum. As Figs. 8 and 9 show, there is at the time of eruption an epithelial lining to the tooth-crypt derived from the outermost epithelium of the enamel-forming organ. To allow gum epithelium to take attachment to the tooth this epithelial lining must either atrophy or blend with the gum. I have not been able to decide which, but am inclined to think it generally atrophies, except at its periphery, where it remains capable at need of further growth.

THE HEALING OF GASTRIC ULCERS:

RADIOLOGICAL OBSERVATIONS.

BY

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(*With Special Plate.*)

THE radiological diagnosis of ulcers of the stomach dates from the classical description by Haudek[1] of the characteristic "*niche*" seen in the outline of the stomach after an opaque meal. Much interest has been attached to the disappearance of this "niche" under treatment, and many papers have recently appeared on the subject of the "healing" of gastric ulcers. The terms "healing" and "healed" with reference to gastric ulcer are open to a certain amount of criticism; but it must be accepted that disappearance of a "niche" associated with clinical improvement, disappearance of pain and tenderness, disappearance of occult blood from the stools and vomit, gain in weight, must certainly indicate a *healing* process, as Hamburger[2] has pointed out. If the healing process continues and no recurrence takes place over a period of, say, two years, many observers would consider such cases as "healed." There is certain histological evidence to support this view, and the matter is more fully discussed later.

During the past two years we have investigated a group of cases by *means of repeated opaque meals*, paper we deal with the results. Seventeen selected in which *x*-ray examination disclose "crater" on the lesser curvature of the stom cases occurring at the time when this inve commenced, in which an ulcer was present on or posterior wall of the stomach, have not b since it was found that unless an ulcer could profile in a skiagraph it was very difficult to change in size at subsequent examinations. included in-patients and out-patients, but stances the attendance of the latter for treatn irregular, and no deductions as to the succe of medical treatment are made in this pape such deductions be legitimately made on the forward.

The "double meal" method has been em nights before the examination an ounce of given, and the evening before a light meal is hours previous to the time arranged for radio ounces of barium sulphate are given well bread-and-milk.

At the screen examination notice is taken o of the head of the meal and whether a gast present or not. Occasionally there has been barium in an ulcer crater. Next a mouth barium emulsion is administered, and this "whitewash" the whole of the stomach acc method described by Scott.[3] After a careful e the whole of the stomach by this method the tinues to take barium emulsion until the sto The patient is then rotated, and the stoma from all angles. A skiagram is taken at that shows the maximum size of the crater with of distortion. At the re-examination great that the distance between target and plate, an of the patient, are the same.

Results.

Of the 17 cases in this series all were exa occasions, and 15 on three occasions, the inte the examinations varying from one week to on

TABLE I.—*Results of First Re-examination (I*

(1) "Healed." No evidence of ulceration ...	
(2) "Healing." Definite decrease in size of ulc	
(3) "Stationary." No alteration in size ...	
Average period elapsed since primary examination	

The 11 cases in which no ulcer crater could all clinically free from symptoms, and in good 4 cases in which the ulcer crater was smaller i improving, although the patients were not al from pain. In one of these cases, although *on the lesser curvature had disappeared*, the sistent incisura opposite to the original site and symptoms were still present suggesting tha not complete.

TABLE II.—*Results of Second Re-examina*

(1) No *x*-ray evidence of presence of ulce 11 cases, made up as follows:	
"Healed" cases without recurrence ...	
"Healing" cases now "healed" ...	
"Stationary" case now "healed" ...	
(2) Ulcer again present ("healed" cases relapsed)	
Two cases did not attend; one shown as "he other as "stationary" in Table I.	
Average period between the two re-examinatio half months.	

It will be seen from this table that in 4 cas "healed" in the first examination definite occurred. The clinical symptoms and signs h in all these patients, although at the time re-examination, when no ulcer crater was s 4 cases were clinically free from symptoms. I cases the ulcer crater was definitely larger tha the 11 cases reported as "healed" in Table sented patients in whom the ulcer had remain the whole period of investigation, and the o

whom "healing" had progressed satisfactorily between the two re-examinations.

In view of the great variability in the rate of healing present in this series of cases, quite apart from any question of special treatment, the results were further analysed with regard to length of history, since it might be expected that only ulcers with a short history would heal quickly or at all.

TABLE III.—*Results in Relation to Length of History.*

Group 1.
Cases found "healed" at both re-examinations ... 6
Length of history—9, 8, 6, 4, 1 (years), 6 months.

Group 2.
Cases found "healed" at first re-examination which were found relapsed at the second re-examination 4
Length of history—15, 4, 4 (years), 9 months.

Group 3.
Cases with ulcer still present at first re-examination which were "healed" at second re-examination 5
Length of history—10, 3, 1, 1 (years), 4 months.

These figures indicate that in our series of cases the healing of an ulcer has very little, if any, relation to the length of a patient's symptoms. It will be seen that the longest "history" in this series was fifteen years, and the shortest four months.

COMMENTARY.

The results here described confirm the value of *x*-ray examinations to check the healing of gastric ulcers. The ulcer may disappear very quickly; in one of our cases examined at weekly intervals it was no longer visible at the end of four weeks (Fig. 1). In another very striking case a huge crater suggestive of a malignant ulcer was discovered on radiological examination. At a subsequent laparotomy the large mass then found was so adherent to surrounding structures that the case was considered unsuitable for surgical removal. On a second radiological examination four months later there was no sign of a crater and the stomach appeared normal (Fig. 2). The "base" of the ulcer shadow was measured in each of our cases, and ranged from 3.5 cm. to 0.5 cm. In this series the size of the ulcer appeared to have very little connexion with the question of whether it would heal or not.

Healing and recurrence have taken place without any sort of treatment in patients who refused to attend regularly, and the "natural periodicity" of the peptic ulcer, as it has been called, has been very well shown. An important point arises from this with regard to the period at which a patient is submitted to radiological examination. By keeping careful clinical records of the patients here described we have found that as a rule pain disappears as the ulcer heals, but it is often gone before the complete disappearance of the crater. Also pain tends to reappear in a patient with recurrence before the ulcer can be shown on radiological examination. Consequently a negative *x*-ray examination between two "attacks" of gastric ulcer or even at the beginning of an attack must not be taken to exclude the existence of an ulcer.

Possible Fallacies.

In reading the literature on the healing of gastric ulcers we have been impressed with the possibility of certain fallacies with regard to the disappearance of the "niche."

Hamburger[2] has pointed out that when the "niche" on the lesser curvature disappears it probably means that scar tissue has filled up the ulcer crater. He holds, therefore, that disappearance of the "niche" and improvement in the clinical condition must occur together and be maintained for six months to two years before the cases are to be regarded as cured. In one group of his cases the "niche" disappeared, but peristaltic waves failed to pass over the ulcer area, indicating that a pathological condition was persisting.

The "niche" may possibly appear smaller because it contains food, as pointed out by F. W. White,[4] or mucus, as stressed by Hollander,[5] but we think that this source of fallacy is largely overcome by the use of the "double meal" technique, since we believe that the first meal acts as a cleanser of the stomach and there is much less risk of mucus or food debris being present in the floor of the ulcer when the second meal is given six hours later. White further stresses the importance of taking all the *x*-ray pictures from the same angle, a point to which we have paid attention. Hollander is inclined to doubt the value of the disappearance of the "niche" as an indication of healing, on account of one case in which healing was reported but haematemesis occurred soon afterwards, and a large chronic ulcer was found at operation. He suggests that an ulcer crater may possibly be obliterated by the pressure of surrounding organs. The probability in such a case is, however, that clinical signs and symptoms would still be present.

A paper on gastric ulcer by Büscher[6] contains certain interesting points in connexion with healing. This paper deals with 643 cases and is a study of the pathology and treatment of the condition. The author states emphatically that radiological observation of the disappearance of the "niche" during treatment is a most valuable estimation of the success of treatment. He stresses certain necessary precautions in technique, but in his wide experience he has not met with many cases where an error was made. Büscher points out, however, that the "niche" may disappear and quickly recur, so that in exceptional cases, such as that reported by Hollander with haematemesis after "healing," an ulcer reported as "healed" may be found at operation. Two recent papers by Crohn, Weiskopf, and Aschner[7] give support to the value of radiological evidence of "healing" of an ulcer. In the first of these they describe a group of 20 cases kept under constant clinical observation. They point out that certain mistakes may be made; a false impression of a "niche" may be produced by persistent peristaltic waves overlying shadows of barium-filled intestines, perigastric adhesions, or localized spasms. They believe, however, that the percentage of errors is very small, and that most objections are theoretical. They point out that whether disappearance of a "niche" means a fully healed ulcer, or the temporary filling of a crater with granulation tissue, can only be settled by examination of a stomach removed at operation from a case in which the "niche" has been shown to have disappeared.

In their second paper they deal specifically with this point, describing two cases of gastric ulcer operated upon. In one of these healing of the ulcer was far advanced, and definitely in progress in the other. Such healing had been associated in these two cases with the regression of subjective clinical symptoms, and the objective evidence of subsistence of the "niche" formation found radiologically. This evidence confirms the previous clinical evidence as to the value of *x*-ray examinations for observing the healing of gastric ulcers, and justifies the conclusion that radiological investigation of "healing" is a most valuable method.

SUMMARY.

1. Seventeen cases of gastric ulcer showing a crater on the lesser curvature have been observed radiologically and clinically over a period of two years.

2. The disappearance and reappearance of the characteristic "niche" have been observed and were associated with remission and recurrence respectively of clinical symptoms and signs.

3. No relation was found either between the length of history or the size of an ulcer and the rate or permanence of healing.

4. Certain fallacies are discussed, but on the whole *x*-ray evidence of healing appears to be of great value.

We are greatly indebted to the physicians and surgeons of the Middlesex Hospital for permission to examine patients under their care.

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UNEXPECTED DEATHS IN THE POST-OPERATIVE PERIOD.

BY

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THE material on which this study is based is contained in the accompanying tables.

It will be observed that during the ten-year period, and out of a total of about 16,000 operations, there were seven deaths on the table. In our study of deaths in the post-operative period we have excluded cases of cancer, intestinal obstruction, etc., but not when deaths on the table are considered. Of these seven, two were anaesthetic deaths, four must be attributed to the surgical procedure, and the other was moribund from strangulated umbilical hernia, and died after inhaling only a few drops of ether.

Anaesthetic Deaths.—The first was a man of 48, with an appendix abscess complicated by tuberculous peritonitis. He died during the induction stage. The autopsy showed a flabby degenerated myocardium. The second was a woman of 77, with acute intestinal obstruction, who died during induction. The probable cause was cardiac failure. Open ether, with a little chloroform occasionally during the induction stage, is the almost invariable anaesthetic agent used.

Deaths on the Table from the Surgical Procedure.—The first was a lad in a very feeble condition, with a temperature swinging to 103°, suffering from psoas abscess. He died during the operation. The autopsy showed a flabby heart. Another was a man of 43, with a subclavian aneurysm. He died of haemorrhage. The third had traumatic middle meningeal haemorrhage, and died of bleeding and cerebral compression. The fourth was a baby with bronchopneumonia (temperature 100°, pulse 144). An abscess in the groin was opened without an anaesthetic.

DEATHS IN THE POST-OPERATIVE PERIOD.

The table fully bears out what is well known to the profession, but what the public is slow to learn—that the real dangers of an operation are not during, but after. It will be seen that, except in babies under a year, the risks of surgery are very small indeed until the age of 30 in women and 40 in men. If our statistics had included out-patients and throat cases, a few deaths from the tonsil operation might have appeared to detract from this conclusion. Our figures show no deaths from status lymphaticus. Another ancient bugbear that does not appear is entry of air into a vein. Only one death due to air embolism was noted during the period under discussion, and that was a case of cut throat with partial severance of the external jugular vein. Surgery seems to furnish rather more calamities in men than in women, but this is partly due to a slight preponderance of males operated upon, and especially to the prostate deaths in old men.

It will further be observed that the bulk of the deaths followed operation for three conditions—namely, enlarged prostate, gastric or duodenal ulcer, and gall stones or cholecystitis—and here the principal gains are to be hoped for in the future.

A special table is given of what are described as utterly unexpected deaths, eighteen in number. This includes such disasters as the following:

A man, aged 45, who collapsed suddenly on the fourteenth day after operation for hernia, was thought to be bleeding internally; laparotomy was performed, but nothing found. At necropsy he was found to have had a dilated and fatty heart and atheroma of the aorta.

A man, aged 50, died of tuberculous meningitis eight days after orchidectomy for tuberculous testis.

CONSIDERATION OF THE ASSIGNED CAUSES OF DEATH.

It will be observed that the greatest number of post-operative deaths are attributed to pneumonia, bronchitis, or massive pulmonary collapse (27 out of 109). Of these, 7 followed operation for gastric or duodenal ul 3 were after gall-bladder surgery. As has of remarked, this shows that there is some special c this complication after these as compared with oth tive procedures of equal length and severity. How account for these cases? In 5 or 6 the notes s bronchitis was present before operation, and in we suspect that an appendix was removed in error real diagnosis should have been incipient pneumo have several times given rectal ether instead of a anaesthetic in bronchities or phthisies, but have t pneumonia or collapse of the lung follow—fortun fatal.

It is not probable that sepsis, *per se*, gives ri bulk of the lung complications. Many of those were clean cases; *pneumonias rarely followed opera* cellulitis, pyaemia, and abscesses. Several fact be regarded as possibly acting. The operative proc the upper abdomen probably gives rise to reflex i of the diaphragm, which in its turn is followed by of the lung, and that again by infection. Minut carrying germs may be a factor. The anaesthe some part, no doubt, but not so large a one as recently supposed. Inhalation of vomit may s occur. The subject has been reviewed within year by Featherstone of Birmingham, after stu considerable volume of statistics. He thinks inhi the diaphragm is the principal cause, and the f of lung complications after upper abdomen oper certainly suggestive of this. According to previous gastric lavage and the substitution of inhalation anaesthesia reduce the incidence of po tive pneumonia in gastric cases from 21 to 9 per

And how may we attain the greatest success in *this most dangerous sequel?* First, and principall collection of evidence as to the exact cause. Unt more accurately known very little progress is lik our present information the following rules may down:

1. To avoid as far as possible operating or with bronchitis, or to operate under local ana
2. Careful guarding against inhalation of v
3. As little moving through cold corridors a on the way back to bed.
4. The use of novocain or quinine-urea t the inhibition reflex in upper abdomen op no drainage tubes just under the liver to in descent; no tight binders.
5. After returning to bed to prop the pa when possible, and coax him to draw deep as soon as conscious.

A striking and rather unusual example of suc expected death falling into this class is the follow

A woman, aged 36, had a trifling incision made, under anaesthetic, over a supposed lump in the groin, whic to be nothing. She seemed well afterwards, and on the f got out of bed to go home. She became cyanosed an breathing. The pulse went on beating for a while, then The *post-mortem* examination showed collapse of the ri old-standing bronchitis, and fatty heart.

It seems probable that an examination of the the lung would have saved her.

Pulmonary Embolism.

Contrary to the usual opinion, this seems to b cause of sudden post-operative death. It has oft suspected, rarely found. What had been diagn pulmonary embolism generally turned out to be cardiac failure. Only two cases appear in our series. One of these, occurring on the thirtee after operation for salpingo-oöphoritis, was typica both as to symptoms and *post-mortem* findings. Th following on the eleventh day after a gastro-jeju was atypical, and the clot in the pulmonary art evidently been present unsuspected for some day death. A few cases may have been overlooked of an autopsy, but, if so, the symptoms were n usually associated with this disaster.

It is stated that getting patients up early, or, ir of this, making them move the legs in bed, helps

the thrombosis which determines the embolism. At the Mayo Clinic there were 146 deaths from post-operative pulmonary embolism from 1889 to 1920—that is, about one to every 1,200 operations. It was especially frequent after pelvic surgery (Heard). At the Zürich clinic during the past twenty years, fatal pulmonary embolism occurred in 1.25 per cent. of the operations for uterine myoma (Holzmann).

Cardiac Failure.

Here we approach the most inscrutable, the most tragic, and probably the least preventable of the causes of death in the post-operative period. There is, of course, room for difference of opinion as to classification, but we have blamed the heart for 11 out of 109 deaths, and in 6 of these the event is tabulated as "totally unexpected," on account of the slightness of the operation or the good progress made heretofore.

A few examples typical of various groups may be given.

1. A man, aged 63, underwent Bassini's operation for hernia; he did well till the seventh day, then showed signs of cardio-vascular failure, and died the next day. *Post-mortem* examination showed marked coronary atheroma and myocardial degeneration.

2. A man, aged 58, fell down pulseless whilst crossing the ward nine days after operation for varicocele, and died on the spot after feeble movements of the arms and legs. A dilated left heart was found at necropsy, with flabby muscle and atheromatous coronary arteries.

3. A woman, aged 51, whose gall bladder was drained for cholecystitis without stones, following on repeated attacks of acute cholecystitis with rigors and jaundice. She had a rigor on returning from the theatre. The legs became oedematous on the second day. The temperature never settled to normal; on the seventh day she became collapsed, and later died. At the *post-mortem* examination the liver was swollen and mottled, the ducts dilated and oozing pus, there were stones in the common duct, and patches of ulcerative endocarditis on the aortic valves, which showed ruptures in two places.

The third example can scarcely be called an unexpected death, but the others illustrate how cardiac failure may be either gradual or sudden.

Omitting a few fatalities from endocarditis and pericarditis, we observe that the remaining cardiac deaths include 5 in men, all over 45, and 3 in women. Of the men, 3 followed operation for hernia or varicocele, and one each after gastro-jejunostomy and enlarged prostate. In the first three of these there is no note that any warning of heart weakness had been given. The fourth (the gastric case) did very well for nine days, and then died suddenly. The day before death he vomited without obvious reason and without alteration of the pulse. The next day he suddenly fainted and had "a sort of fit." The pulse disappeared. There was no pain and no vomiting, and no signs of tenderness or rigidity or distension of the abdomen. Finally, the breathing stopped half an hour after the seizure. There was no necropsy. It transpired afterwards that a brother and an aunt and other relatives had also died suddenly, two of them after operations. The fifth patient, who died three days after prostatectomy, had had anginal symptoms, though without signs. The necropsy showed atheroma of the coronary arteries.

Of the women, one was 39, the others older. Two had had attacks of faintness before operation.

Some such patients die probably because an infected area has been stirred up by the surgeon, and a heavy dose of toxin absorbed. In others chloroform may have a share, but probably not ether to any serious extent. The deadly nature of the chloroform-adrenaline combination is or ought to be well known. Several of the cases have occurred just when the patient was getting up again, and the strain has been too much. In a few cases it has seemed possible that post-operative semi-starvation has just turned the scale against them.

How may disaster be averted? In patients over 45 careful inquiry ought to be made into their response to hill-climbing and walking exercise. In cases where there is any ground for suspicion, we should do as little as possible to disturb an infected area, avoid chloroform, feed as well as possible, and exercise special care about getting the patient up again. But the surgeon is apt to be caught in a dilemma when there is some suspicion about the heart, and yet the condition demands intervention. Surgery will always need courage.

Haemorrhage and Shock.

Little need be said under this heading. It is important to realize that catgut knots are apt to be insecure, and it is wise to use a three-cast knot instead of two, and to transfix with a needle if the hold will not be perfectly reliable. In operations on the neck it is well to let the patient cough or vomit just before suturing the skin. If the patient is jaundiced the coagulation time should be taken, and if it is delayed a prophylactic intravenous injection of calcium chloride should be given (10 per cent. in 5 c.cm. doses per 60 kilo body weight, on one, two, or three successive days). If gastro-jejunostomy is being done with clamps we earnestly advocate using an interlocking inner suture line, and taking off the clamps before the conclusion of the inner (through-all-coats) suture line to inspect for bleeding points.

Two of the eight deaths after gastro-jejunostomy succumbed to secondary haemorrhage more than a week after operation. Three were very exsanguinated when operated on, and probably it would have been wiser to let them alone. In one case a patient bled to death after splitting the kidney; it would have been better to remove it (for persistent unilateral idiopathic renal haematuria).

It will be noted that most of the deaths from shock were after gall-bladder surgery. It is probable that there was some underlying defect in the liver. Other fatalities classified here include an amputation at the hip-joint for tubercle, an abdominal nephrectomy, and an Albee operation on the spine, with aspiration of a psoas abscess.

Late Anaesthetic Deaths.

To what extent anaesthetics contributed to some of the deaths from chest complications is a difficult question to which we have already referred, and we shall shortly consider their relation to liver deaths. A woman, aged 47, operated on for interval appendix, died the next day, with cyanosis and dyspnoea. She appears to have inhaled vomit into the trachea. There was no necropsy.

Renal Deaths.

Fourteen fatalities in our series are attributed to this cause. In 7 cases the operation was a prostatectomy; in 5 others the diagnosis was papilloma of the bladder, vesical calculus, and stricture (three). One patient died of anuria after nephrectomy, on the fifth day; this was a case of pyonephrosis and perinephric abscess. The remaining case was a curious one.

A mentally deficient woman, with incontinence of urine and faeces, had a needle in her thigh, and an attempt to remove it under a local anaesthetic failed; it was therefore taken out under ether. The temperature ran up to 102° that night, and she died the next day in a condition of cyanosis and dyspnoea. At the *post-mortem* examination chronic nephritis and a fatty heart were found.

Deaths from renal bankruptcy in urinary surgery, and especially after prostatectomy, are much less frequent than they were, but it seems probable that further improvement can be obtained. The use of the two-stage operation, and the preliminary testing of the kidneys by the urea concentration test and the estimation of blood urea, as well as the routine examination and measurement of the urine, and it may be of the Rowntree-Geraghty and other tests, enable us to avoid some dangerous pitfalls. We now know that the patient may look and feel in good health, and there may be no cystitis, and yet the kidneys may be on the verge of a final breakdown. On the other hand, they are sometimes surprisingly little affected even in a man who has carried a bladder up to his umbilicus for months. My own practice has been to perform the two-stage operation in all cases in which the urea concentration test is below 1.5 per cent. But this does not avert all danger. Out of our 16 deaths following prostatectomy all but two underwent the two-stage operation, 4 dying after the cystotomy and 10 after the removal of the prostate. Not all these deaths were renal, however.

We believe that even very gravely affected kidneys will improve if they are relieved of back-pressure, and then given plenty of time. In two recent cases in the practice of one of us, men who nearly died after the first stage were left for three months wearing a Pezzer tube, and both did well after the prostatectomy. In a third the

percentage of urea before giving any by the mouth was 0.5, and the administration of 15 grams did not raise it in the least. A Pezzer tube was inserted, and after three months the urea concentration test showed 1.1 per cent. The prostate was removed, and he never gave any anxiety.

Liver and Pancreatic Deaths.

Far too many patients have died, as will be seen from the tables, after gall-bladder surgery, and the deaths have often been somewhat mysterious, and unlike those following other operative procedures. Three such fatalities are classed as of "uncertain" cause. Four were probably due to defects of the liver or pancreas, and five occurred under forty-eight hours, and are attributed to "shock," but it seems likely that there was some underlying hepatic deficiency.

Heyd has been in the habit of removing small pieces of liver for the microscope at gall-bladder operations, and has found that there is often a good deal of cell change, fibrosis, etc. He describes three types of death after operations for cholelithiasis. In the first they die in a few hours in a drowsy state, and the operation may have been an easy and simple one. The second type do well for a couple of days, and then develop vasomotor collapse, and may die, or may be saved by proctoclysis and the administration of salines and glucose. In the third the interval before symptoms occur is longer, about five days, and they die in coma. All these are probably due to liver inadequacy. The liver contributes fibrinogen to the blood, so deaths from uncontrollable oozing may also be assigned to hepatic inefficiency.

In our series 9 out of the 20 deaths followed operation either during an acute febrile attack or within a day or two of one. In such circumstances the liver poisoning would be at its worst. Three cases classed as liver deaths were as follows:

1. A woman, aged 30, underwent cholecystectomy during an attack of biliary colic. The gall bladder was very thick and inflamed, but was not adherent; two small stones were removed. The next day she passed into a very collapsed state, with very feeble pulse, temperature 97°, blood pressure (on eighth day) only 60. There were no abdominal signs. The legs became paralysed, and she died on the eleventh day. This seems to belong to Heyd's second type.

2. A woman, aged 62. Cholecystenterostomy was performed for deep jaundice. A lot of oozing followed the operation. She never recovered from the feeble condition, and died on the seventh day. *Post-mortem* examination showed stones in the gall bladder and bile ducts, chronic fibrotic pancreatitis, and much dilatation of the liver ducts and signs of toxaemia.

3. A woman, aged 59, with acute febrile cholecystitis and jaundice, for which cholecystectomy was performed. She did well at first, but the appetite became poor and the pulse very feeble, and she died on the seventh day. *Post-mortem* examination showed a stone in the ampulla of Vater, dilated bile ducts, and flabby dilated heart.

One case classified as a pancreatic death showed fat necrosis at necropsy. The patient died on the twelfth day after cholecystotomy for a "strawberry" gall bladder. The case was admitted as an urgent one. The liver showed parenchymatous infection. There was pus in the gall bladder, but no stones.

The case returned as a liver death apart from gall-bladder surgery was a girl with tuberculous peritonitis, who at necropsy was found to have advanced hepatic cirrhosis.

How, then, is safety to be obtained in gall-stone cases? Certainly, by doing our utmost to avoid operating on febrile patients, or in the presence of an acute attack of biliary colic (unless done on the first day, before the liver has had time to be poisoned). Much is gained if we can tide the patient over for a fortnight or more. Inasmuch as chloroform and ether are well-known to be hepatic poisons, they should be avoided when liver toxaemia is suspected. If we must intervene, let us do as little as possible; if the patient is not jaundiced, it may suffice to drain the gall bladder under local anaesthesia without disturbing adhesions. If jaundice is present, of course more must be done, and the risks in a febrile toxaemic patient are sure to be considerable. With the gall bladder, as with other organs, interval surgery is safe surgery.

The diagnosis of liver toxaemia rests on the following tests: (1) Rosenthal's bromsulphalein test; (2) the laevulose tolerance test; (3) van den Bergh's test for the detection of latent jaundice. In several recent cases the laevulose test has warned us to wait a little longer before operating on patients who have recently had an acute attack, and the operation findings have shown that the delay was wise.

Other Causes.

The remaining causes of unexpected death in the post-operative period do not call for much remark.

A patient died of peritonitis after cystotomy for enlarged prostate, without any direct leakage, by infection tracking up in the layers of muscle. Two cases developed meningitis: one, a man, after orchidectomy for tuberculous testis; and the other, a child, after removal of the cuboid for talipes (in the latter the meningitis was not verified *post mortem*). Three cases of persistent vomiting after gastro-jejunostomy were presumably due to vicious circle or faulty lie, as there was no evidence of leakage.

As an example of a strange fatality after operation the following may be given:

A woman, aged 53, was sigmoidoscoped, and piles were ligatured under a general anaesthetic. A little bronchitis was present. During the night the pulse dropped to 50, and there was extreme feebleness. She died twenty hours after the operation. At the necropsy no injury to the bowel was found, but it "showed signs of absorption of toxins," and there was "slight peritonitis"; the lungs were congested, and liver and heart showed slight fatty degeneration; there was atheroma of the aorta and right coronary artery, and old pericarditis; the heart muscle was weak. The spleen and kidneys were toxaemic. Death was attributed to peritonitis and heart failure.

The tables refer to cases during the ten years 1915 to 1924 at the Bristol Royal Infirmary, under six surgeons, also the private practice of one of us (A. R. S.) during the same period. They include all deaths on the table, from whatever cause; all deaths within fourteen days of operation, amongst in-patients in the surgical wards, or in a nursing home or private house, except those specifically excluded. Many of the deaths were therefore not entirely unexpected. For instance, all deaths following operation for enlarged prostate, gastric or duodenal ulcer and gall stones are included. The cases excluded comprise out-patients; eye, ear, nose, throat, and gynaecological cases, except when operated on by a general surgeon; big accident cases; cases of cancer, intestinal obstruction, strangulated hernia, peritonitis, osteomyelitis, septicaemia, pyaemia, cellulitis, carbuncle, diabetic gangrene, myelocele, cerebral tumour, and exophthalmic goitre. Two or three deaths due to a technical error in the operation are also excluded.

The total operations in the period numbered about 16,000.

Classification by Cause of Death.

Cause of Death.	Peptic Ulcer.	Prostate.	Gall Bladder.	Unclassed.	Totals
Pneumonia or empyema...	7	3	3	14	27
Pulmonary embolism ...	1	—	—	1	2
Cardiac...	1	2	2	6	11
Haemorrhage	8	—	1	3	12
Shock	2	2	5	3	12
Late anaesthetic deaths...	—	—	—	1	1
Renal	—	7	—	7	14
Liver	—	—	3	1	4
Pancreatic	—	—	1	—	1
Ileus or peritonitis... ...	2	1	2	3	8
Meningitis	—	—	—	2	2
Sepsis	—	1	—	3	4
Vomiting	3	—	—	—	3
Uncertain	2	—	3	3	8
Totals	26	16	20	47	109

Deaths in the Series.

On the operating table	7
During post-operative period	109
Total	116

Age and Sex.

	Under 1.	1-10.	10-20.	20-30.	30-40.	40-50.	50-60.	60-70.	70-.
Males	2	2	4	1	2	16	13	12	10
Females ...	5	1	2	2	9	6	15	8	3
Total ...	7	3	6	3	11	22	28	20	13

Total males, 62; total females, 51.

Totally Unexpected Deaths.

Cardiac	6
Pneumonia	3
Pulmonary embolism	2
Late anaesthetic	1
Ileus	1
Strangulation after hernia operation	1
Meningitis	2
Renal	1
Sepsis	1
Total	18

We are greatly indebted to our surgical colleagues, past and present, for their kind permission to use their notes of cases; also to Dr. Dorothy Staley for clerical assistance.

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NASAL INFECTION IN CHILDREN.

AN ANALYSIS OF 85 CASES TREATED BY AUTOGENOUS VACCINE.

BY

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IN response to the suggestion of a medical colleague specially interested in diseases of children, I turned up the records of all the children (85) who had been brought to consult me between 1915 and 1925, whose illnesses I attributed to nasal infections, and for whom I had prepared autogenous vaccines.

I then wrote to each child's medical attendant and asked: What was the result of the vaccine treatment? and Did the administration of the vaccine upset the child?

I received answers from all. In eighty-three cases the inoculations caused no inconvenience and the full course was administered; in one case the reactions were so severe that the vaccine was discontinued, and in one case the vaccine was stopped because the child got whooping-cough. The therapeutic effect of the treatment appears later, and is so satisfactory that some analysis of the cases cannot fail to be of some scientific and clinical interest.

The average age of the children was 8 years. The following table shows the complaint for which I was consulted, and the result as reported recently by the medical attendant.

Complaints.	Cured.	Much Improved.	Little or no Improvement.
Asthma	1	1	0
Bronchitis and asthma	5	7	0
Chronic bronchitis	11	2	2
Chronic bronchitis and nasal catarrh	12	6	1
Chronic nasal catarrh	17	11	2
Recurrent pyrexial attacks	3	0	0
Recurrent pneumonia	2	0	0
Total	51	27	5

Naturally every child was brought to me by the father or mother, whose anxiety centred either on the poorness of the child's general health, the fear that "consumption" would develop, or the inability of the child to attend school. These children for the most part had had prolonged medical treatment, had failed to benefit from a change at the sea, and the tonsils and adenoids had been removed.

When the vaccine was begun all other treatment ceased. In every case the vaccine was given every week for twelve or fourteen weeks.

The bacteriological findings were as follows:

Pneumococcus	73 cases
B. influenzae	31 "
Friedländer's bacillus	17 "
Staphylococcus aureus	11 "
M. catarrhalis	9 "
Streptococcus	*6* "
Streptococcus pyogenes	2 "
Bordet's bacillus	1 case.

From these figures it will be seen that although the pneumococcus was present in nearly all cases, in most instances one of the other germs was present also. No notice was taken and no record kept of diphtheroid bacilli, hard colonies of chromogenic diplococci, or any other germs which were regarded as unimportant.

The vaccines were usually made from primary cultures or first subcultures, sterilized by heat. Their strength varied with the ages of the children. In a child of 8 the initial dose was about five million and the final dose fifty million of each germ employed.

The cultures were made from nasal swabs on plates of blood agar and pepsinized blood influenza medium. *Never more than five minutes was allowed to elapse between the taking of the swabs and the inoculation of the media.*

In some cases sputum was available, but added nothing to the bacteriological findings from the nasal cultures. The cultures were usually so profuse as to leave no doubt as to the reality of the infection.

My own belief is that the infection in such cases lies in *one or more of the nasal sinuses*, and the results confirm the opinion, which I have held for many years and expressed in the JOURNAL on more than one occasion in the past, that not only in nasal catarrh, but also in chronic bronchitis, certain types of asthma, and some cases of unexplained pyrexia, the cause must be sought in the nasal passages. *That one should have been so fortunate as to* get satisfactory results in over 90 per cent. of cases which had defied other forms of treatment is the excuse offered for publishing these notes.

THE DIAGNOSIS OF TUBAL ABORTION AND RUPTURE.

BY

J. S. M. CONNELL, F.R.C.S.ED.,

GYNAECOLOGICAL AND OBSTETRIC OFFICER, DUDLEY ROAD HOSPITAL, BIRMINGHAM.

TEACHERS of gynaecology and obstetrics are compelled to be somewhat dogmatic when lecturing to undergraduates; and even by the bedside they have to try to impress the student's mind with a fairly definite picture of the various types of pelvic lesions with which he is expected to deal in after-life. I think most young graduates feel that whatever else they do not know, they are not going to fail to diagnose the classical case of tubal abortion or rupture. The history that one or two regular menstrual periods have been missed; the sudden onset of pain in either iliac region, with extreme tenderness and rigidity of the abdominal muscles; the slight loss per vaginam; the rapid pulse; the pallor of the patient; and the discovery of a fluctuant mass in the posterior fornix—when all these are present there is no difficulty in coming to a quick and correct diagnosis.

This picture, however, is seldom seen, and many cases have come under my care where the diagnosis has not been made or has been made very late. When the case has been diagnosed early the prognosis is very good, but becomes rapidly worse the longer the patient continues to bleed—for two reasons: first, the drainage of blood, apart from the primary risk of death by syncope, exhausts the haemopoietic tissues, and postpones the re-establishment of an efficient blood supply; secondly, the continued

presence of blood in the peritoneal cavity increases the chances of infection from the bowel, contributed to by the invariable constipation, or, more rarely, from latent infection of the adnexa. The classical picture may fail us in the following respects:

The Missed Period.—(*a*) It is frequently observed that the first two or three months of intrauterine pregnancy are associated with menstrual loss more or less normal. This may also be the case when the pregnancy is extrauterine, and hence the history of missed periods may be entirely absent. (*b*) When the periods have been perfectly regular previously, the occurrence of intraperitoneal haemorrhage before the onset of the first menses is very rare, but the abortion or rupture may occur synchronously with the expected menses, and the condition be diagnosed as dysmenorrhoea. (*c*) The patient may be lactating, with the associated amenorrhoea, and she may be very emphatic as to the impossibility of conception having taken place. The first menstrual period after lactation and amenorrhoea is frequently copious and of long duration, and on this account the extrauterine disturbance may be overlooked. (*d*) Another group is common, in which an apparently normal period has continued for several weeks with occasional attacks of abdominal pain and faintness of varying intensity. If a period or two have been missed the diagnosis is threatened abortion, until a severe paroxysm of pain leads to more careful examination, and the pelvis is found full of blood clot, with recent blood in the abdomen.

Pain.—The first attack of pain is nearly always typical. The intensity varies from the acute disabling spasm to very slight pain, but it is always definite, always sudden, and nearly always associated with a varying degree of faintness. It passes away to a great extent in a short time (an hour or two), if the patient is at rest and no further bleeding takes place. These are points of difference from all but the rarest cases of appendicitis, with which the condition is commonly confused, owing to the associated constipation and one or two attacks of vomiting. Blood is said to be highly irritating to the peritoneum, and this is so when it is first effused, but the irritation passes off, and cases are not rare in which severe attacks of pain have occurred at intervals of a week or more, the patient going about her usual avocation, and in which, at operation, very old organizing blood clot has been found in the pelvis. The site of the pain varies. Usually in either iliac region, it may originally be umbilical or even epigastric, and in three of my cases has extended later to the left shoulder, presumably owing to the blood getting up to the subdiaphragmatic region and irritating the phrenic nerve. The point of maximum tenderness is always pelvic.

Decidual Cast.—The slight loss from the vagina is so commonly mistaken for a normal period as to call for only cursory mention, and the passing of a uterine decidual cast, in about a third of the cases, is not often noted by the patient or inquired into by the doctor, but when found it gives a positive diagnosis. The loss is usually dark brown.

General Signs.

Pulse.—The rapidity of the pulse rate varies with the rapidity of the bleeding. I have seen a case with abdomen full of blood, with a pulse rate of only 90—she had been bleeding intermittently for three weeks. Severe bleeding may also cause much surgical shock, in which case the pulse rate occasionally is low, even down to 80.

Temperature.—The usually normal or subnormal temperature does not assist very much in diagnosis. Many abdominal emergencies show similar conditions, and a late case of blood in the peritoneum may have a temperature as high as 100°.

Pallor is almost always present in both early and late cases, and this sign is not given the important place it should have in the textbooks.

Local Signs.

Rigidity and Tenderness.—Rigidity and extreme tenderness of the abdomen are by no means invariably present. In more than half of my cases the abdomen was comparatively flaccid and only slightly tender, with the peritoneal cavity full of blood. These cases include early and late ones. As in the case of pain, the irritation of the effused blood apparently passes quickly, unlike that caused by acute inflammation, where the rigidity tends to increase. In my experience the absence of this sign, more than that of any other, has given rise to mistakes by general surgeons.

Fluctuation.—The fluctuant mass in the pelvis is only found in the textbooks or in late cases. Fluctuation implies some tension, and no tension is present until the irritation of the blood has led to some peritoneal adhesions of loops of bowel, to form a roof to the pelvis (the omentum does not take much part in this, as in inflammatory lesions). These adhesions are formed only after several days, and the only sign in the pelvis is tenderness, usually extreme, and usually in all the fornices—not particularly the posterior. This helps to differentiate from suppurative conditions, where the tenderness is nearly always posterior. The fluctuant mass is an intermediate stage and not often found, the common sign being an irregular doughy mass in cases of a week's standing or longer.

It seems clear, then, that the diagnosis of tubal abortion or rupture is not the easy matter we are led to expect, and in many cases can be arrived at only after detailed examination of the history and careful investigation of the physical signs.

I now put most faith in the following: The history of sudden onset, almost always while the patient is in motion—that is, going about her work; the feeling of faintness; the missed menses, if any; the pallor of the patient, and the presence of evenly distributed tenderness in the fornices.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

POISONING BY OIL OF EUCALYPTUS.

As I fail to find any record in any textbook of toxic symptoms produced by eucalyptus the following case may be of interest.

On April 27th I was called to see Mr. T., and was informed by his wife that he had taken an overdose of eucalyptus oil.

The patient was cyanosed, the respirations were very shallow, the rate being about 12 a minute. He was in a condition of stupor, and could be roused but refused to speak. The pulse rate was 50 and very feeble. The pupils were contracted to pin-point and did not react to light. The reflexes were very sluggish and there was considerable loss of muscular tone. The body was cold and clammy.

Strychnine 1/60 grain was given hypodermically and 2 drachms of mustard in water by the mouth. He vomited soon after, and the vomitus smelt strongly of the essential oil. A stomach tube was passed and the stomach washed out with two quarts of water. The patient's condition improved gradually. On regaining his normal mental condition he stated that after taking about 4 drachms of oil of eucalyptus he at once felt a pain in his stomach. A feeling of nausea soon followed, but he did not vomit. His limbs began to get weak, and this was followed by giddiness. Cold sweats and rigors were also felt, as well as severe headache. He gradually became more exhausted and then lost all recollection.

Pentre, Rhondda. PHILLIP GIBBIN.

VOLVULUS NEONATORUM.

I WAS extremely interested in the article by Mr. Norman M. Dott in the BRITISH MEDICAL JOURNAL of February 5th, 1927 (p. 230), and for statistical purposes should like to record a case of volvulus that occurred in my practice.

A full-term male child, weighing 7½ lb. was born on March 14th, 1927. No meconium was passed for some four hours after birth, when about two teaspoonfuls were expelled. Thirty hours after birth the child refused the breast and appeared to be in pain. The abdomen was slightly distended, but the general appearance was good. An enema (1 drachm of glycerin to an ounce of water) brought away about a dessertspoonful of meconium. Six hours later there had been no further passage of intestinal contents, and the abdomen was more distended. Rectal examination failed to locate any abnormality. The next morning, or fifty-two hours after birth, as obstruction was evidently complete, a small amount of mucus only being passed after rectal examination, operation was decided upon. The baby was extremely ill, and the father was given the option of refusing the operation, as the chance of success seemed so remote.

Under open ether the abdomen was opened, and a condition identical with that described by Mr. Dott was found. The volvulus was of the small intestine, the twist being in clockwise direction and through 360 degrees. The intestine was extremely dilated above the site of the stricture, which was marked by a transverse yellowish-white line, almost gangrenous, owing to pressure. This occlusion of the bowel was about eighteen inches below the upper end of the jejunum. The baby died some four hours after the operation.

I must congratulate Mr. Dott on his masterly description of the symptoms and probable etiology of the condition, but would like to point out one or two points of difference. *In this instance the volvulus must have been present at* birth, or more meconium would have passed. There was at no time any faecal material passed.

There was little vomiting, this being due probably to the fact that the site of obstruction was some inches down the jejunum, and not at the third part of the duodenum. The baby hiccuped and brought up a few mouthfuls of water towards the end. The abdominal distension was general, and by no means limited to the upper abdomen, this being accounted for by the same reason.

I think that all cases of volvulus neonatorum should be investigated fully, and reported so that practitioners may be more on the look out for them. In view of the fact that volvulus is such an eminently relievable condition should a diagnosis be made early enough, we should have the possibility of its occurrence always in mind, instead of dismissing it once examinations are over. I believe that had we been bold enough to operate when this baby was but forty-eight hours old, we might have saved him.

F. M. SPENCER, M.D.,
Hamilton, New Zealand. F.R.C.S.Ed.

DOUBLE TUBAL PREGNANCY.

THE following case seems of sufficient interest to warrant placing on record.

A married woman, aged 30, with one child, 16 months old, was admitted to hospital on June 19th, 1925, complaining of pain in the lower part of the abdomen, chiefly on the right side, near the middle line, about three inches above the pubes. The pulse was 80 and the temperature normal.

Menstruation had been normal until April, the first day after last period being the 23rd of that month. On May 30th she felt a sudden acute pain in the abdomen, which was followed by a gush of blood from the vagina. This flow continued for about an hour, when the pain disappeared. She had not done anything of a strenuous nature to account for these phenomena. There was no more pain until June 14th, when the same thing occurred in the afternoon. The following day, after a bath, there was another gush of blood, which soon ceased, and, on June 17th, whilst out walking, the violent pain recurred, but was unaccompanied by the usual haemorrhage. On June 19th she was sent into hospital by her medical attendant as a case of suspected tubal pregnancy.

On admission the patient did not look very ill, and pulse and temperature were normal. Marked tenderness was found at a spot about three inches above the pubes and two inches from the middle line on the right side. Vaginal examination was very difficult, as the patient was somewhat hysterical, but a lump was located to the left of the uterus. As there were no urgent symptoms the patient was put to bed and watched. The next day a thorough examination was made under a general anaesthetic.

The uterus was slightly enlarged, and Douglas's pouch was felt to be boggy. Nothing much could be made out to the right of the uterus. There was a lump about the size of a small hen's egg to the left of the uterus. Operation was carried out under open ether anaesthesia, and a ruptured tubal pregnancy was found on the right side. The tube was removed and the pelvis cleared of blood clot. The lump on the left side proved to be an unruptured tubal pregnancy, which was removed. The patient made an uneventful recovery.

Nairobi, Kenya. N. P. JEWELL, F.R.C.S.I.

HYDATIDIFORM MOLE.

THE following case seems worthy of record, both because of the response to treatment and the rarity of the condition; Madame Boivin of Paris found it in one of 20,000 cases, and Clifton Edgar found it in a series of 15,000.

A multipara, aged 35, with a previously uneventful obstetrical history began to suffer regular bleeding and slight "bearing down" pains; the uterus was enlarged to the size of a three months' pregnancy as vague as to dates, but had had amenorrhoea. All symptoms ceased under appropriate treatment.

A month later I was called urgently and found the patient in a critical condition. She was bleeding profusely, was extremely blanched, and the pulse was almost imperceptible. Some vesicles had been passed and established the diagnosis. Measures, amongst which was the injection of pituitrin, 1/2 c.cm., were used to counteract the shock. When the patient's condition warranted, the uterus was cleared by the gloved finger with due asepsis, and another dose of pituitrin, 1/2 c.cm., administered. Stypticin was subsequently given by the mouth in the recommended dosage. In four days the bleeding was reduced to a mere stain, and in seven days had entirely ceased. There have been no further symptoms. Pathological examination showed no evidence of chorion epithelioma, but the possibility of its later occurrence is not lost sight of.

The points of interest are: (1) the immediate control of the haemorrhage by stypticin, and (2) the fact that, apart from the "doughy" feel attributed to the uterus in this condition, there appears to be little on which to base a diagnosis when the cervix is undilated, as was the case when this patient was first seen.

I am indebted to Dr. L. A. Mackenzie of Bradford for permission to publish this note.

HENRY P. O'KEEFFE, M.R.C.S., L.R.C.P.
Westgate-on-Sea.

INFLAMMATORY SEALING OF THE EXTERNAL OS CAUSING DELAY IN LABOUR.

THE following case is placed on record because of the extreme rarity of the condition.

A woman, aged 42, who had had ten pregnancies, was admitted to the Birkenhead Maternity Hospital on April 1st. Her seventh, eighth, and ninth pregnancies had all ended in miscarriage, and she had been curetted after the last two of these. She had suffered for years from a chronic vaginal discharge, and latterly there had been prolapse of the uterus with rectocele and cystocele.

On admission the patient showed definite evidence of myocarditis with albuminuria.

Labour began at 6 a.m. on April 29th, and eight and a half hours later I was called to the case. The pains were then very severe and frequent, and accompanied by bulging of the perineum and extrusion of the vaginal wall through the vulva. Examination with the gloved hand revealed a smooth, tense, rounded swelling which completely filled up the cavity of the pelvis, and came well down on the pelvic floor with each pain. Through this swelling a foetal head could be felt, but not a trace of cervix or external os could be made out. The gloves were then dispensed with, and the ungloved fingers could just detect a very faint furrow about half an inch long, running in the line of the diagonal conjugate, on the surface of the swelling. This furrow was carefully deepened with the tip of the finger and finger-nail, and after considerable resistance it resolved itself into the external os, through which a bag of membranes immediately protruded. The presentation was left occipito-anterior, the patient's condition did not cause any anxiety, and about an hour and a half later a healthy child, weighing 7 lb., was born without further difficulty or intervention.

Birkenhead. RIDTON BLAIR, *M.C.*, M.B., B.Ch.

APPENDICITIS IN AN INFANT.

THE following case seems worthy of record owing to the youth of the patient, as the youngest case I can find recorded was 7 weeks old.

A baby, 12 days old, was admitted to the Bristol Royal Infirmary on January 25th, 1927, with a history of one day's swelling of the right side of the scrotum. Vomiting occurred once, and the infant did not take the breast well, but did not seem in pain, unless the scrotum was touched. The temperature was 101°, pulse 160. There was a hard swelling of the right side of the scrotum and inguinal canal, with redness of the skin over the swelling. Mr. Rendle Short operated about two hours after admission. A scrotal hernia was found, containing the caecum and a gangrenous appendix. The appendix was removed. Apart from a small faecal fistula the child made an uneventful recovery.

I am indebted to Mr. Short for permission to publish this case.

C. I. HAM, M.R.C.S., L.R.C.P.,
House-Surgeon, Bristol Royal Infirmary.

Reports of Societies.

MEDICAL ASPECTS OF HAEMATURIA.

A MEETING of the Section of Urology of the Royal Society of Medicine was held on April 28th, the President, Mr. W. GIRLING BALL, in the chair. The discussion was opened by Sir THOMAS HORDER, whose paper is published in full at page 993 of this issue of the JOURNAL.

The PRESIDENT said that Sir Thomas Horder's remarks had illustrated the desirability of collaboration between physicians and surgeons in such a field as this. Many cases which used to be called essential haematuria were now, as a result of more perfect methods of investigation, classified in other categories.

Dr. GEORGE GRAHAM thought it remarkable that in a series of cases covering five years in the medical wards there should not have been an instance of oxaluria. A case of haematuria in an elderly woman had come under his

and there had appeared to be nothing to
the condition except the fact that she had
a great deal of ginger. The oil of ginger,
so potent as turpentine, was said to cause

THOMSON-WALKER said that it did not seem to
brought out quite clearly whether haematuria
imary or most important symptom, or was only
y symptom. At the same time, having had
he subject, he had been convinced by Sir Thomas
it there were medical cases of haematuria, or
jects of the condition. *Sir Thomas Horder, in*
f the prostate, had appeared to imply that more
ge was likely in a malignant prostate; but, in
orrhage occurred much more easily and freely
ge oedematous prostate than from a malignant

GH LETT said that in his experience the worst
ges in connexion with enlargement of the prostate
cases in which stone was present in the bladder

IFT JOLY asked whether in chronic interstitial
t was the common experience to find the bleeding
He had cystoscoped three of these cases, and
em the bleeding came entirely from one kidney.

IL NITCH said that he knew of one man who by
vas given a concentrated solution of hexamine,
480 grains of the drug, and it did not have
st effect in causing haematuria.

MAS HORDER, in reply, agreed with Dr. Graham
r oxalic "storms" were not as common as they
e or that our views of the significance of oxalic
n the urine had altered; he was not sure that
they did not take the presence of such crystals
sly. He would not suggest enucleation of the
a stage in acute nephritis when the renal function
deficient. He proceeded early with enucleation
in which the state of the tonsils seemed to indicate
cedure, but during a relatively quiescent phase
sease. The physician saw all cases of haematuria
l cases until he proved them to be surgical, but
on saw all cases of haematuria as surgical until
l them to be medical. Provided both physician
eon pursued their respective methods of approach
d, the patient got the benefit either way. There
nnexion between his remarks that evening and his
per of some years ago on renal decapsulation. He
speaking on that occasion of a particular type
itis which he thought was eminently amenable to
treatment. That was quite a different type of
n any he had been discussing that evening. He
quite sure that there was not a possible fallacy
hn Thomson-Walker's reference to areas of fibrosis
ys removed on account of bleeding. Might those
t be the result of the bleeding into the kidney
han the cause of it? If these patients bled from
is, then any changes found microscopically in this
after the kidney was excised, or detected *post*
might be regarded as presumptive evidence that
on was associated with the bleeding. But if the
occurred into the kidney substance, might not the
found afterwards be the effect of these haemor-
He was interested in Mr. Lett's reference to the
congenital cystic disease causing haemorrhage. He
seen a severe haemorrhage in congenital cystic
He supposed that if the patient was dying of the
hage it would be justifiable to remove the affected
even with the knowledge that the other kidney
eased, as indeed it always was. Mr. Joly had
to epistaxis in chronic interstitial nephritis, and
act that the haemorrhage was unilateral at times;
d be interested to know of Mr. Joly's experience.
not himself obtained proof that such unilateral
did occur, but he was not surprised to hear of
would suggest that probably this was more often
e than not, for surely this "renal epistaxis" was
matter of diseased arteries than of diseased kidney
So also in cerebral haemorrhage. The patient,
sult of cerebral haemorrhage, suddenly developed
gia, when considering himself to be quite well.

PERINEAL PROSTATECTOMY.

At the meeting of the Section of Urology of the Royal Society of Medicine on May 26th, Mr. GIRLING BALL presiding, an address on prostatectomy was given by Professor HANS WILDBOLZ, of Berne.

Professor Wildbolz advocated the perineal operation, which, he said, was performed seldom in this country, but which was favoured by many Continental surgeons and by a school of surgery in the United States. He opposed the performance of prostatectomy as a prophylactic measure; it was never a harmless intervention, and it was only required when the patient was in real danger. He dwelt at length on the tests of renal function now generally employed before deciding upon operation, and gave the figures obtained with his patients for the blood urea test, the phenolphthalein test, and the test for determining the specific gravity of the urine by freezing. He added that no reliance should be placed upon any one kind of determination, but only upon a comparison of several. With regard to the blood urea test, a high quantity of urea certainly forbade prostatectomy, but a normal quantity was no proof of renal adequacy. Renal function would improve quickly under treatment, with intermittent or continuous drainage by catheter, and the patient would become in a few weeks fit for operation. The lecturer went on to claim certain advantages for perineal prostatectomy as against the suprapubic operation. The perineal method, in his opinion, produced far less shock. Moreover, suprapubic intervention was followed by an increase of blood urea during the first days after operation, while perineal prostatectomy hardly ever caused such an increase. Only 18 per cent. of the patients upon whom he had performed the perineal operation showed an increase in blood urea, and that only of a trifling order; while many patients showed a lowered quantity. The perineal operation did not cause nearly so much bleeding as the suprapubic, nor did it damage so seriously the tissues of the neck of the bladder. Professor Wildbolz gave a brief description of his technique, illustrated by a series of coloured drawings of the different stages of the operation, and explained wherein his own procedure differed from that of Young and others who also practised the perineal method. He drew attention especially to his complete resection of the part of the prostatic urethra which was encircled by the adenoma, also the suture between the neck of the bladder and the urethra, and the suture of the incised prostatic capsule. Little damage was caused to the tissues by his operation, and the only bleeding of any importance was stopped nearly completely by his method of sutures. Serious post-operative bleeding very rarely happened. He had seen symptoms of sepsis in only four out of three hundred operation cases, which he thought was a better record than that of the suprapubic method. His tabulated results for 300 perineal prostatectomies showed a mortality of 6.5 per cent., whereas the mortality he had had previously with the suprapubic method of operation was 15 per cent. In 227 patients recovery followed within two weeks of the operation; in 44 cases within three weeks; in 22 cases within four weeks, and in only 7 cases was the period before recovery prolonged to five weeks or more. By some mischance lesion of the rectum occurred in 7 cases out of the 300, and in 11 some incontinence persisted, not, however, of a serious character, but usually a dribble if the patient sneezed or laughed. He urged British surgeons to give perineal prostatectomy a trial.

Sir J. W. THOMSON-WALKER said that it was rather a bold thing to recommend another method in London, where all urologists were performing the suprapubic operation, not because of antipathy to any other, but because it best suited them. Professor Wildbolz had criticized the tendency to operate early, more or less as a preventive measure. Sir J. W. Thomson-Walker had been one of those surgeons who had always advocated early operation in enlarged prostate, on the contention that a large number of enlarged prostates at the present time were neglected too long. The symptom of frequency of micturition had been looked upon as a physiological condition of old age, and its true significance in relation to the prostate had been disregarded. Every old man who had frequency of micturition ought to

be examined to see if he had any residual urine. If all the cases which were known as "silent prostates" were examined the condition of enlarged prostate would be found at an earlier stage than at present. With regard to tests for renal function, urologists had seen many of these come and go, and he was interested to notice that Professor Wildbolz had again advocated a test which was much used in this country twenty years ago, showing the specific gravity of the urine by freezing. The disadvantage of this test was that it was too variable under a slight change in the condition, such as sweating or a little diarrhoea or fever. The test which most British surgeons employed was that of the urea, but no determination by itself was quite reliable. The question with all tests was how far they ought to be allowed to decide surgical action. It was pleasant to think that a figure could be obtained from the laboratory to determine whether prostatectomy should or should not be performed, but in fact this could not be forthcoming. The only use of these tests was to show that operation was attended by a greater or a less risk; they must be used as a guide, not as a bogy. Patients could not be refused prostatectomy on all occasions where the urea was low in the urine or where the kidney tests were not good. Professor Wildbolz had given certain reasons for thinking that the perineal operation was better than the suprapubic. He had said that it did not raise the blood urea. But the suprapubic operation in itself did not raise the blood urea; it was the operation of draining the bladder which did so. With care it was possible to operate with higher blood urea concentrations even than 80 mgm. in 100 c.cm. With regard to shock, he could not see that the patients upon whom suprapubic operation was performed suffered greatly. Shock was largely a question of haemorrhage, and really serious haemorrhage was now not often found after prostatectomy. Nor did he think there need be as much sepsis as Professor Wildbolz had suggested. Quite often his own patients healed with clear urine; he could not always secure this, and it required a great deal of care, but it was not impossible. The mortality figure of 15 per cent. for suprapubic prostatectomy which Professor Wildbolz had mentioned might have been correct years ago, but it was not true now. In his last 156 cases the mortality was 4.4 per cent., which was below the figure (6.5) Professor Wildbolz had given them for the perineal operation.

Mr. RALPH THOMPSON stated that he had performed 25 perineal prostatectomies. It was not a question of what was advised by one school or another, but of what should be done for a particular patient. There were a great many prostates for which perineal prostatectomy would be preferable to the other, and vice versa. In his few cases of perineal prostatectomy shock seemed to be very much reduced. He thought, however, that there was less bleeding with the suprapubic than with the perineal. With regard to malignant disease of the prostate, provided they were certain of its extent, the perineal route was the better. But there was one great disadvantage attending the perineal operation; the smaller the adenoma the greater was the likelihood of incontinence after operation, and because this was so distressing, he felt inclined, after having performed 25 such operations, to do no more perineal prostatectomies.

Mr. JOCELYN SWAN urged that reliance should be placed on a combination of tests, not on one test, of renal function. As for the perineal operation, he had reserved it for early malignant disease. Mr. PANNETT urged that the haemoglobin estimation should be made before every prostatectomy. He believed that there was less shock after the perineal operation, and certainly one had a better view of the prostatic pouch by that route. Mr. FRANK KIDD had always felt that the perineal operation was more scientific, and he thought it safer, provided always that it was done by a surgeon thoroughly conversant with the technique; otherwise it could be much more disastrous than the suprapubic in hands similarly inexpert.

Professor WILDBOLZ, in a brief reply, said that the main objection brought against the perineal method appeared to be persisting incontinence. But in fact, in his own 300 cases, he had had not a single instance of permanent incontinence, and in the eleven cases in which incontinence had continued for more than a few days it was of a trifling character and entirely disappeared within a few months.

PROPHYLAXIS OF MEASLES.

AT a meeting of the Section of Epidemiology of the Royal Society of Medicine held on May 27th, with the President, Dr. S. MONCKTON COPEMAN, F.R.S., in the chair, Dr. W. S. C. COPEMAN read a paper on the prophylaxis of measles, with a suggested scheme for dealing with epidemics.

Dr. Copeman first briefly discussed the infectivity of measles, its mortality, and the present methods of prophylaxis. He then reviewed the history of serological methods of prophylaxis and described in some detail the methods of collecting, preserving, and employing the serum of convalescent cases of measles or of adults who have had the disease in childhood. Since the early days of serum prophylaxis, he said, scientific opinion had gradually been turning from the desirability of producing a passive immunity in time of danger to that of producing an active immunity at an earlier period. One of the methods of employing serum—"sero-attenuation," preferred by Debré and others—had the double merit of being applicable during an epidemic and yet of producing active immunity. Reviewing the results published and his own experience, Dr. Copeman put forward the following conclusions:

1. That the serum or blood of persons who have, in the past, suffered from, or are convalescent from measles, has a definite prophylactic value in this disease.

2. That if it be injected in sufficient dose, during the first five or six days after injection it will produce a passive immunity which will last for some weeks; whilst if injected between the fifth and ninth day of the incubation period, a modified form of the disease will develop, which in turn leads to the establishment of an active immunity which some observers consider to be permanent. That if it be injected later than this, no benefit will result.

3. That in the absence of certain contraindications, which have been mentioned, it is better to allow an attenuated form of the disease to develop ("sero-attenuation") than to rely on renewing the patients' passive immunity in time of danger by means of serum.

4. The use of convalescent serum in this latter way ("sero-prevention") should be limited, normally, to children under 3 years of age, since these supply 70 per cent. of the measles mortality. In this way the disease may be warded off until the child is of an age when it is no longer so dangerous. It is also indicated in the case of children suffering with tuberculosis, rickets, diphtheria, whooping-cough, and in feeble children, in very cold weather, and in institutions.

5. The prophylactic dose of serum has to be increased in direct ratio to the time of exposure to the disease.

Dr. Copeman then outlined his suggested scheme for dealing with measles epidemics, explaining that this was based on the creation of a centre for the distribution of prophylactic serum, and that it was a potpourri of the writings and ideas of many workers, notably of Debré and Godfrey. Following a recommendation of the Academy of Medicine of Paris in 1925 two centres were established for the collection and storage of serum from cases of measles and whooping-cough. At the centre to which Dr. Copeman was attached for a time 10 litres of serum, or 2,000 protective doses, were collected in the first five months, and this was sufficient for all needs. The aim at present, in England, was to prevent every case of measles, and the measure of success may be judged by the fact that about 90 per cent. of adults had suffered with the disease. In the light of present-day epidemiological knowledge, it appeared to be a policy of doubtful wisdom to endeavour to do so, unless adequate artificial immunization were insisted upon, since sooner or later, if we were successful, the infection would return, and, finding virgin soil, the tragedy of the Faroe or the Fiji islands would be repeated, on an even larger scale. P. L. Marie's terse statement, "le but n'est pas tant de faire disparaître la maladie de la face du monde, que de reculer son apparition jusqu'à un âge où les risques qu'elle fait courir deviennent très minimes," summed up the outlook towards the disease which should become general in this country. We should endeavour, by means

ent organization, with clear-cut aims and methods, rol the disease, rather than to stamp it out. Since cent. of all deaths from measles occurred under of 3 years, it was during these fatal first three hat we must eliminate the disease; postponing it, ssary, until the child was over this age and there- ore able to combat it. Few healthy children over s died of measles. It had been well said that attacked without distinction, but killed with dis- tion. If we could accomplish this, a great step l would have been taken by reducing the mortality, the morbidity, of measles. The methods by which d become possible to achieve this aim were twofold. a skeleton corps of trained public health workers, ould have the power to call upon less specifically l workers in allied departments, such as welfare , since the need would be for a large body of workers short time. Secondly, a knowledge of the where- of the children under 3 years whom it was desired tect. This system would obviously be easier of tion in large towns than in smaller places, and measles appeared to be more fatal in these areas, from the case morbidity, this seemed to some extent ision on the part of Providence. Compulsory notifi- would have to be instituted.

Copeman suggested that a serum-collecting station, sing a small laboratory and waiting room, and pre- attached to some institution where measles cases vailable, should form the centre of every unit of the ; a unit would in most cases comprise a large town, ie medical officer of health would be the central ity for the unit. The personnel of the centre would he "skeleton corps" of trained men who would, in f epidemic, take control of it under the supervision medical officer of health. Between epidemics they collect a store of both adult and convalescent serum ortunity arose, and work on the following lines:

educate the parents of small children in the belief that ics could roughly be predicted; thereby preparing the for a future campaign.

educate parents in the belief that measles in children three was dangerous, and the younger the child the more ous the attack, and that it was dangerous at any age if ld were weakly. They must beware of saying that "measles erous" without specifying "under three," since the public hat in older children it was not particularly dangerous.

make it known that serum was available for these cases, at its amount was limited, and that donors (voluntary or sated) were continually required to "save the children." ersonnel could visit the scene of epidemics and deal with n the spot, on application from general practitioners. They ot limit their activities to measles, although this would be le in the initial stages.

chief available channels for this propaganda were ewspapers, private doctors, occasional public lectures re or less popular lines, and notices, such as were dis- l in some boroughs. In addition, the staff concerned l have at their disposal a card index, containing the s and addresses of all children under 3 years of age ir area. This could be managed easily if duplicated of birth certificates reaching the medical officer of were sent to them. This would probably account ore than 90 per cent. of the true number of births. ames of the children could be indexed by streets or cts, and all notifications and child death certificates l be sent through this department. The names of on their index thus known to have died or had measles l be removed. The index would be revised every year moving all those cards relating to children more than rs of age.

e paper was followed by a brisk discussion, which was d by Sir GEORGE BUCHANAN, who outlined what were, s opinion, the chief difficulties in the way of Dr. AN's scheme. He thought, however, that it should be on a small scale to begin with, and that this would be teresting and valuable experiment. He was followed ir WILLIAM HAMER, Dr. J. D. ROLLESTON, Dr. J. AM FORBES, Dr. O'BRIEN, Fleet Surgeon HOME, and S, all of whom expressed interest in the paper and the osed scheme, and hoped that it might be possible to try this country.

ANTE-NATAL PREVENTION OF DIFFICULT LABOUR.

AT a meeting of the Forfarshire Medical Association on April 21st, at University College, Dundee, the President, Dr. R. C. BUIST, in the chair, Professor J. A. KYNOCH opened a discussion on ante-natal measures for the avoidance of difficult labour.

Professor Kynoch said the chief aims of supervision of pregnancy were, in the early months, to preserve the pregnancy, and in the last three months to foresee and prevent difficulties and complications in labour. To be of most value, ante-natal supervision must begin early in pregnancy. In malpositions a transverse position could always be corrected by external version even up to the commencement of labour. With a breech presentation in a primiparous patient an attempt at conversion should always be made by external version, but not until the last week or two, since, if performed earlier, there was apt to be a return to the old position. In occipito-posterior positions he advocated the use of pads and binders, as recommended by Dr. R. C. Buist. Another cause of difficulty in labour was undue prolongation of pregnancy. If the patient could give accurate dates, and the pregnancy lasted fourteen days beyond the expected time, then induction of labour should not be delayed. In connexion with pelvic deformity as a cause of difficult labour, pelvimetry during pregnancy was of great importance. It was well, however, to remember Barbour's axiom: "The child's head is the best pelvimeter." Failure of the head to enter the brim in the last weeks of pregnancy in a primiparous patient must always be taken as a warning of possible trouble. X-ray examination was occasionally of service in ante-natal diagnosis, especially in breech and transverse presentations and in multiple pregnancy. It was also of value in the diagnosis of some of the rarer varieties of pelvic contraction. In conclusion Professor Kynoch remarked that modern life did not predispose to an easy labour. He added that the excessive craze for athletics might favour in young women the occurrence of the male type of pelvis with its obstetrical disadvantages.

Mr. A. E. CHISHOLM emphasized the importance of abdominal examination, and advocated measurement of the fundus in estimating the time of labour. In locating the foetal heart sounds the Pinard stethoscope was of the greatest value.

Dr. GEORGE WHYTE was in favour of combined abdominal and vaginal examination. One cause of difficulty was an unusually large child with labour occurring at the right time; here also induction might be indicated.

Dr. JAMES STALKER, while agreeing that abdominal examination was preferable, found that he had to rely very much on vaginal. The most difficult position to diagnose was the occipito-posterior. For listening to the heart sounds, he preferred the stethoscope he used every day.

Dr. GEORGE MILLER also mentioned the difficulty in diagnosing occipito-posterior positions. He agreed that the Pinard stethoscope was of great help.

Dr. MARGARET FAIRLIE thought that in a breech case version should be performed three or four weeks before labour, and pads and bandages applied to maintain the new position. In cases of difficult labour she considered it essential to have an anaesthetist.

Dr. J. M. MORGAN could not agree that there was any special tendency to difficulty in labour in the athletic type. On the contrary he considered that owing to more hygienic fashions in dress, first confinements were becoming easy and rapid in an increasing number of cases.

Dr. F. M. SKAE asked how a hydrocephalic head could be diagnosed with any certainty, especially without vaginal examination.

The PRESIDENT said that difficulties in labour arose in two or three simple ways. There was first the position of the child, requiring chiefly abdominal examination for the diagnosis, and external version and the method of the pad and binder for treatment. Secondly, there was disproportion in size, when induction of labour had to be considered. He described a method of tapping the amnion above the foetal head. The third factor was the power of the patient, which, at times, quinine usefully reinforced.

Reviews.

VACCINATION: HISTORY AND SOCIOLOGY.

THE vaccination controversy, which began after Edward Jenner's inoculation of James Phipps with cow-pox in 1796, is the subject of a work of modest dimensions by Mr. BERNHARD J. STERN,[1] Instructor of Sociology at Columbia University. His interest in the subject is historical and social rather than medical, and he moves among the antipathies of the contending parties with serene detachment.

The first outspoken opponents of Jenner's vaccination against small-pox were [illegible] Continent, and Sims and Moseley in [illegible] died within the year, and Sims, though he suspended judgement at first, afterwards became a zealous advocate, but Moseley's hostility was unwavering. "Who knows," he said, "but that the human character may undergo strange mutations from quadrupedian sympathy and that some modern Pasiphaë may rival the fables of old?" Merry of Bath, a practitioner of variolation, held like views. He stated that vaccination was "comparable with incest, introducing into the human body a disease of bestial origin similar to syphilis." The unbridled style was not peculiar to the opposition. Jenner himself was most resentful of criticism, and one of his defenders described those who queried the merits of the cow-pox inoculation as "reptiles that plant themselves in the high road of improvement and try to hiss back all who would advance." When Goldson in 1804 proposed that experiments should be instituted to determine whether there was not a limited period to the preservative power of vaccination, Ring of the Royal Jennerian Society, then in its second year, wrote that the society, fully convinced of the absurdity of the hypothesis, did not think it necessary to comply with his request. Yet Goldson's idea was correct. Through such exchanges and in other ways some popular feeling was aroused, and in 1808 the Royal Jennerian Society had to close its doors.

Notwithstanding opposition in various quarters, however, the vogue of vaccination grew. The Jennerian Society was succeeded in 1809 by the National Vaccine Institution, and the Vaccination Act of 1840 provided for gratuitous vaccination. But with the passing of the Vaccination Act of 1853, which made vaccination compulsory, the conflict took on new vigour. Hitherto mainly an affair of experts contending on points of medical practice, it transferred itself to a wider field. It was a question now for the people of England. The cause was the sacred cause of freedom. The opposition availed themselves of the weapons thus supplied. They obtained religious support. They founded the Anti-compulsory Vaccination League. Evasion of the Act, despite prosecutions, became persistent, and in some areas the measure was a nullity. Great protagonists came down into the arena. John Bright and Herbert Spencer were opposed to compulsion. A. R. Wallace said that liberty was greater than science, and that vaccination was a terrible blunder. The plea of sanitation as an alternative to vaccination enlisted the active support of thousands. The Leicester experiment was undertaken. The Royal Commission sat and reported, and the Vaccination Act of 1898 recognized the position of the conscientious objector, who in 1907 was awarded the further concession of the statutory declaration.

Such, in summary, was the course of the vaccination controversy in England as surveyed by Mr. Stern. Analysing its motives, he comments on the intolerance of Jenner and his allies. It must be recalled, however, that they were intensely in earnest. They had found the preservative for the scourge of their times. Mr. Stern thinks that the early opponents were insincere, desiring to keep variolation alive on interested grounds. Some perhaps were disingenuous, but others were doubtless honest, if self-conceited, brethren, "giving liking to nothing but what is framed by themselves." Medicine, as well as the Church, has witnessed such, both then and since. Both sides used strong language, and with expressions like "incest" and "reptiles" flying, it is easy to see how the dispute thus early assumed an intemperate character which to some extent set the tone of its later phases. The agitation which followed the compulsory Act of 1853 was inspired by a new motive, quite genuine on the part of many. They were concerned for liberty. The Englishman's right, as Dr. Gregory had put it, of going to the devil in his own way, appeared to be at stake. But the antivaccinationists, pursuing their ends, diligently fanned the popular prejudice and imported into the campaign a good deal of the acrimony which had made itself apparent earlier in the movement.

The same kind of opposition as was met with in England was experienced in America and European countries. Vaccination throughout has suffered from the fact that it was a prodigy at the time of its birth. Had it seen the light first a hundred years later, in a world which was better informed, it would probably have aroused as little antagonism as diphtheria antitoxin.

[1] *Should We be Vaccinated?* By Bernhard J. Stern. New York and London: Harper and Brothers. 1927. (Cr. 8vo, pp. 146. 1.50 dollars.)

THE EGO.

THE nature of that elusive entity—the ego—has been the subject of much speculation throughout the ages, and many are the egos which have been conceived by the minds of philosophers. Thus there is the empirical or objective ego of the academic psychologist. This is just an object like other objects which becomes differentiated from the external world by the individual in the course of his mental development. For William James "the empirical self of each of us is all that he is tempted to call by the name of *me*." When this *me* is introspectively studied it is found to have fairly constant and somewhat uninspiring constituents: a visual perception or idea of the body, organic and kinaesthetic sensations, and the verbal ideas of "I" and "my." Titchener, who writes with authority, informs us that the usual pictorial image of the self consists in a picture of the body in some unaccustomed dress or posture. Certainly the idea we have of ourselves is very different from that which other people have of us. Then there is the intangible subjective or "transcendental" ego of Kant. This has no positive attributes, cannot be directly known by introspection, and from it nothing can be deduced. It tells us, in contrast to the empirical ego, "not how we appear, not how we inwardly are, but only *that* we are."

In contrast with this nebulous and unknowable ego is the personified unconscious "super-ego" which FREUD has discovered in the course of his psycho-analytic investigations. The functions, attributes, activities, origin, development, and location in the mind of this new entity are described in a monograph entitled *The Ego and the Id*.[2]

This super-ego or ego-ideal may be said to be already known to us in a measure as it would appear more or less to correspond to the "still small voice" of conscience. It is the hidden force, so Freud believes, which dominates and restricts the actions of the conscious personality. It is the "Thou shalt" of the moral law; the categorical imperative of Kant—"An imperative, which, irrespective of every ulterior end or aim, commands categorically." Freud states that the super-ego develops from the father-complex; it is the representative of our relation to our parents. When we were young we admired and feared them, and later we took them into ourselves, and they became unconsciously part of our own personality. Further, though this super-ego is amenable to later influences, it preserves throughout life the character given to it by its derivation from the father-complex—namely, the capacity to stand apart from the ego and rule it. It is a relic of the former weakness and dependence of the ego, and the mature ego remains subject to its domination throughout life. As the child was once compelled to obey its parents, so the ego submits to the categorical imperative pronounced by its super-ego. It is this unconscious part of our ego which Freud considers is responsible for the higher moral, spiritual side of our natures, and which is also the repressing force which inhibits the "id" (the primitive,

[2] *The Ego and the Id.* By Sigm. Freud, M.D., LL.D. Authorized translation by Joan Riviere. The International Psycho-Analytical Library, No. 12. London: L. and V. Woolf, the Hogarth Press. 1927. (Roy. 8vo, pp. 88; 1 figure. 6s. net.)

non-moral unconscious) from invading the psychic life and controlling the behaviour. Briefly, it appears to be Freud's much criticized and hitherto undefined *censor* whose function it is to protect the conscious mind (both waking and sleeping) from the encroachments of the primitive life impulses.

A different view as to the nature of the ego or "kernel of the personality" is expressed by Dr. William Brown in his recent book on *Mind and Personality*.[3] The aim of this volume is to consider the general problem of personality from various points of view, and to attempt to adjust them to one another. With this end in view he discusses his thesis from the standpoints of biology and physiology, of the various schools of psychology, psychopathology, logic, ethics, and metaphysics, and finally from that of the theory of religious experience. As a result of these studies he arrives at the conclusion that, in addition to the self or mind which the psychologist deals with, there is a something which expresses itself in the realization of the absolute values—truth, beauty, and goodness—and which constitutes the soul or true ego of man. Briefly, he takes the view with which the Dean of St. Paul's has made us familiar, that the world of values, which forms the content of idealistic thought and aspiration, is the real world; and that in this world we find our own immortality. Leaving aside any question as to the validity or otherwise of the mystical doctrine to which Dr. Brown gives his adherence, there is something to be said for the view that appreciation of values is part of the innate equipment mankind. Further, goodness, as distinct from conventional morality, is a quality which often appears to emerge ite naturally in the course of mental development, and opendently of impositions from without or within. There ld seem to be something pathological in the personified science or super-ego which Freud regards as responsible the development of spiritual qualities in mankind, gh we do not question the importance of parental ence in the formation of character. What are termed al relations appear to be a natural development of the rs of life in a social medium; they represent the onal aspects of the mutual adjustment between the nts of the social aggregate which are essential for tinuance and development. It may be pointed out, hat animals often exhibit behaviour to which the ethical" may be suitably applied. In such cases the ess" is clearly natural and unconscious, and there ecessity to assume the existence of a super-ego to for its occurrence.

REATMENT OF VENEREAL DISEASE.

ears numerous works—good, bad, and indifferent peared on the diagnosis and treatment of venereal The recognition of the importance of venereal a factor in national health and the establishee clinics throughout the country have stimulated t of the profession in what was once a neglected nedicine. Dr. David Lees's recently published is subject has the advantage of being eminently n its outlook. The author is lecturer in eases to the University of Edinburgh as well in charge of the venereal department in the ary and the Royal Maternity Hospital. He e at his disposal an enormous amount of rial, as well as a special knowledge of the ersity students and post-graduates. His book, utcome of his work at Edinburgh, is intended of students and practitioners, and has no be a work of reference. His sense of what ould be taught has led him to stress the f his subject, and the lesson that he inculothers is that the disappearance of the ptoms of the disease does not necessarily mean the cure of either syphilis or gonorrhœa. Unlike many other authors who have dealt at length with the subject of syphilis and have scamped the more difficult one of gonorrhœa, Dr. David Lees has devoted a large part of his book to the latter subject. It is only the enthusiast who is able to avoid striking a pessimistic note when dealing with the treatment of gonorrhœa, and, fortunately, the author is an enthusiast. Our failure to achieve any substantial advancement in the treatment of this disease during the last ten years has not damped his ardour, and there is no reputable remedy to which he has not given a trial. After dealing with the various antiseptics which may be used for irrigation, and with such local methods of treatment as dilatation and cauterization, he discusses vaccines. In his opinion an autogenous vaccine prepared from the patient's own organisms is not in general so effective as a polyvalent detoxicated vaccine. The explanation, he considers, is to be found in the fact that the infecting organism does not, as a rule, serve as a good antigen, but that with the use of a polyvalent vaccine containing numerous strains there is a greater probability of obtaining some of better antigenic value. The ideal would appear to be the combination of a polyvalent detoxicated gonococcal vaccine with an autogenous vaccine of the patient's infecting organism. By this combination is obtained polyvalency and strong antigenic properties, and at the same time absolute specificity. The treatment that he advocates in both male and female may be summed up as follows: local antiseptic therapy by irrigation, instrumental treatment to establish good drainage, prostatic and vesicular massage to open up all foci of infection and provide them with a good blood supply, and, finally, the use of a vaccine as a means of increasing the patient's resistance to the infecting organism. A useful feature of the book is the addition of formulae likely to be of service in the treatment of venereal disease. The work is illustrated by photographs obtained from the author's own cases; they have been well chosen and, without being unnecessarily numerous, are such as to serve their purpose of rendering the text more easily understood. We can confidently recommend *Diagnosis and Treatment of Venereal Diseases* to all students and practitioners wishing to bring up to date their knowledge of venereal disease. It should acquire a popularity as great as that enjoyed by Colonel Harrison's book on the same subject.

Treatment of Venereal Disease in General Practice,[4] by E. T. Burke, has been written for practitioners undertaking a certain amount of treatment of venereal disease. The author in his preface complains that medical bookshops are lumbered with colourless tomes on venereal disease, stamped with the hall-mark of mediocrity and giving the impression that the treatment of venereal disease is bristling with difficulties that can only be overcome by a highly trained specialist; as the result, the practitioner throws up the sponge and salves his conscience by doling out bottles of ineffectual medicine. Though we have here yet another work on the subject, the most hostile critic would find it impossible to apply to it the word "colourless" or to suggest that it is merely a rehash of previously published manuals. From the start emphasis is laid on treatment, and instead of general and somewhat vague therapeutic directions precise instructions are given. In a chapter labelled "Obiter dicta Syphilitica," the author expresses his opinions with refreshing vigour. "To treat the cutaneous manifestations of syphilis as if the disease were merely one affecting the skin, is as sane as painting the leopard's spots yellow and then introducing him into the home as a domestic pet." In discussing the treatment of gonorrhœa, the author speaks forcibly of the use of vaccines. "It is no more justifiable to omit vaccines in the treatment of gonorrhœa than to omit antitoxins in diphtheria." And again: "The chief causes of complicated and chronic gonorrhœa are over-treatment, too early and too frequent prostatic massage, the use of small

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[3] *...ality*. By William Brown, M.D., D.Sc. London: ...don Press, Ltd. 1926. (Med. 8vo, pp. x + 344.

[4] *...in the Diagnosis and Treatment of Venereal Diseases.* ...O., M.A., M.B., F.R.C.S. With an introduction by ...M.D., F.R.C.P., D.P.H. Edinburgh: E. and S. ...r. 8vo, pp. xvi + 605; 87 figures. 15s. net.)

[5] *Treatment of Venereal Disease in General Practice.* By E. T. Burke, D.S.O., M.B., Ch.B.Glas. London: Faber and Gwyer, Ltd. 1927. (Cr. 8vo, pp. vi + 162; 7 figures. 5s. net.)

hand syringes, and the omission of vaccines." Whether we agree or disagree with some of the statements, it is refreshing to find a book which reflects so truly the ideas of the author, and borrows so little from other manuals.

EPIDEMIC DISEASES OF THE CENTRAL NERVOUS SYSTEM.

DR. ARTHUR SALUSBURY MACNALTY has now produced in expanded form his Milroy Lectures delivered in 1925 on the *Epidemic Diseases of the Central Nervous System*.[6] The work is published in an attractive volume of some 200 pages by Messrs. Faber and Gwyer (the Scientific Press). Dr. MacNalty has earned the right, by his well known personal researches as a medical officer of the Ministry of Health, to review with authority the facts which are known, and the hypotheses which exist, with regard to the epidemic manifestations of the three diseases with which the lectures dealt—namely, cerebro-spinal fever, acute poliomyelitis and polio-encephalitis, and encephalitis lethargica.

The earlier chapters are concerned with the various theories which have been advanced to explain the epidemicity of these diseases in general. Dr. MacNalty accepts the view that epidemics have been favoured by the increased opportunities for infection resulting from modern transport facilities, as was seen especially during the war, but is of opinion that this can only be a partial explanation. He is not impressed by the evidence in favour of epidemic cycles in poliomyelitis and encephalitis lethargica, though that as to periodical cycles is well established in the case of cerebro-spinal fever. Neither is he as yet prepared to accept the view that these three diseases are related in some way to pandemics of influenza, and considers it wise still to regard them as separate diseases not arising from some common condition or "epidemic constitution." He is inclined to favour the belief that modern conditions of stress have increased the susceptibility of the nervous system to infection. An interesting chapter on epidemic nervous diseases in animals concludes with the opinion that insufficient evidence exists to associate such diseases with the increased incidence in man of the three diseases under consideration. The history of these diseases is then considered and the evidence reviewed which has gradually accumulated in favour of their epidemic nature. In respect of cerebro-spinal fever and poliomyelitis it is indisputable and well recognized, and especially the importance of carriers, but it is necessarily more scanty as regards encephalitis lethargica. The summary of the evidences of personal infection which the author provides is therefore of special interest.

Succeeding chapters deal with the epidemiological features of each disease in detail, and with the practical principles which arise therefrom in respect of the prevention and control of epidemics. The author's final appeal is for a closer study of the little-explored subject of personal variation in susceptibility to infection, a subject in which the clinician and bacteriologist may well collaborate with the epidemiologist.

SUPERFICIAL RADIUM THERAPY.

THE scope of radium therapy has been widening so rapidly during recent years that a concise and up-to-date account of this line of treatment is desirable, if only as a milestone. Mr. A. E. HAYWARD PINCH, medical superintendent of the Radium Institute, London, has therefore set himself to review the valuable clinical material which has been collected in the course of the sixteen years' existence of that institution in order to define the curative possibilities of this remedy. In his book *Superficial Radium Therapy*[7] he deals with the treatment of growths or lesions which do not extend more than one centimetre below the surface of the body, the apparatus used being unscreened or so lightly screened as to permit the passage of a preponderant beta radiation. Mr. Pinch proposes to issue at a later date a companion volume on deep radium therapy.

In his present book he devotes the first three chapters to the methods he employs, and to the histology of the skin and its appendages. He then considers hypertrophies, new growths, and congenital affections of the epidermis; neoplasms of the corium; angiomata; and inflammatory conditions of the skin. He devotes special chapters to tuberculosis, affections of the hair and mucous membranes, actinomycosis, and pruritus. A prominent feature of the book is a series of forty-eight full-page photographs illustrating the clinical conditions before and after radium treatment. The great mass of information is very skilfully condensed, the arrangement is good, and the various practical points are clearly detailed. Careful revision has removed superfluous descriptions, and the requirements of both experts and novices in radium therapy have been kept in view. The sound, scientific treatment of the subject is refreshing in these days of rather noisy advocacy of therapeutic procedures, and the claims he makes cannot be branded as excessive. The book can be cordially commended to general practitioners, by whom it may be obtained free on application to the secretary of the Radium Institute, 16, Riding House Street, Portland Place, W.1.

TREATMENT OF DIABETES MELLITUS.

THE earlier editions of Dr. OTTO LEYTON'S small guide to the *Treatment of Diabetes Mellitus*[8] appeared before the use of insulin had revolutionized our methods of dealing with that disease. The fourth edition has therefore undergone considerable modifications, and the employment of insulin is discussed. Dr. Leyton considers the treatment of diabetes under three headings: (1) by diet alone; (2) by diet with insulin; (3) by other preparations with or without insulin. Of the third method he says that none of the drugs other than insulin which have so far been tried has proved satisfactory. Some of them lead to a diminution of sugar in the urine, but none of them increases the power of the individual to burn or store carbohydrate, and therefore the benefit derived is apparent rather than real. Moreover, he insists that insulin is only efficacious when administered by hypodermic, intramuscular, or intravenous injection. The truth and importance of these remarks deserve the widest acceptance and reiteration. Nothing can be more distressing than to meet with patients suffering from diabetes mellitus who are led to hope that the mere decrease of glycosuria is an evidence of return to health.

Leyton's advice as to the selection of patients suitable for treatment by diet alone is excellent, and in nothing is his good judgement better displayed than in his criticism of attempts to standardize diet according to the height and weight of the patient. "The energy in the diet of the patient should be," he says, "the least which will allow the patient to maintain his weight and to carry on his work." If the patient cannot tolerate such a diet without a rise of blood sugar above 0.15 per cent., treatment with insulin becomes imperative.

His plan for the use of insulin with diet is simply described and based on sound foundations. He starts with an adequate maintenance diet and finds the dose of insulin required to enable it to be utilized. He does not make the patient fast, nor approach the adequate maintenance diet by gradual steps. He holds that his plan gives the pancreas the necessary rest and nourishment to allow it to regenerate. His experience of the degree of recovery possible even in severe cases may be received with some scepticism by those who have limited their patients' diets and allowed the barest minimum of insulin. His section on prognosis may seem to some readers unduly sanguine, but he is not alone in his experience that if the disease is of comparatively recent origin, and the blood sugar is kept below 0.15 per cent., then with adequate diet and adequate insulin the patient will, as time passes, require less and less insulin. Dr. Leyton instructs his patients whenever possible to estimate their own blood sugar, and apparently he is fortunate enough to find many patients sufficiently intelligent to do this. There can be little doubt that the prognosis in patients of this degree of intelligence

[6] *Epidemic Diseases of the Central Nervous System.* By Arthur Salusbury MacNalty, M.A., M.D.Oxon., M.R.C.P. London: Faber and Gwyer, Ltd. (Demy 8vo, pp. xiii + 194. 12s. 6d. net.)

[7] *Superficial Radium Therapy.* By A. E. Hayward Pinch, F.R.C.S. London: The Radium Institute. 1927. (Demy 8vo, pp. xv + 64; 50 plates.)

[8] *Treatment of Diabetes Mellitus.* By O. Leyton, M.D., D.Sc., F.R.C.P. Fourth edition. London: Adlard and Son, Ltd. 1927. (Cr. 8vo, pp. iii + 88. 6s. net.)

describes a method of treatment without blood sugar estimation which may prove useful to practitioners in country districts where laboratory facilities are lacking. Dr. Leyton has devoted one section to the cases where insulin fails, and he uses the expression, "When one is quite satisfied that insulin fails to act." But the question is: Should one ever be "quite satisfied" on this point? Professor Marcel Labbé (JOURNAL, March 19th, 1927, p. 530) has brought forward cogent reasons that should make us hesitate. We feel fairly sure from other parts of his book that Dr. Leyton takes more than a little satisfying too. His book is a thoughtful and practical guide well suited for the busy doctor.

Dr. WILDER, who is in charge of the section on nutrition the medical division of the Mayo Clinic, has just brought t a further impression of the third edition of his *Primer Diabetic Patients*.[9] The book is not intended as a guide self-treatment, but to give the patient sufficient informato enable the physician's directions to be carried out understanding and willing co-operation. In order that otony in diet may be avoided the patient is shown how range his diet according to a given prescription based rams of carbohydrate, protein, and fat. Numerous ry recipes are included, which will be found really . There is no disease in which it is so essential for atient to be well instructed. Only experience can how far that instruction may wisely go. The fact Dr. Wilder's book has run through three editions suggests that he has been successful in reaching, t overstepping, the limits of useful information for e patients.

NOTES ON BOOKS.

little difficult to understand why a barrister and man should spend much time in translating from n a verbose book such as *Woman*,[10] by Dr. BERNHARD , a gynaecologist of Vienna. Yet Dr. NORMAN d Mr. E. S. JERDAN have apparently thought it le to place it within the reach of those who cannot an. The preface to the translation concludes with nt that it "is intended primarily for the medical, educational professions"; the most optimistic foreresume that its circulation will be very large. ife clear what the motive can be for bringing such a medical practitioners. It does not contain any aterial that has not already been dealt with in ations and English books. Citations of sexual ther countries, which are made at some length, id to be of value to the British practitioner, interested in comparative and historical surveys t, in which case he would obtain information ealing with these matters. The book is lengthy t, and contains the author's own opinion on ts. It is arranged in five parts: the first deals le body and its functions, the second with the oman, the third with the sexual life of woman, h the erotic life of woman, and the last with rriage. There is an appendix on prostitution from Austrian observations and statistics.

h Veterinary Series, under the general editor- C. Bradley, is now well known as providing and reliable textbooks for veterinary students the best in use among medical students— ddition to this series, by R. G. LINTON, on *and Veterinary Dietetics*,[11] is no exception t the subject is important is a commonplace, knowledge of animal nutrition is responsible more disease among animals than any other ually well known. It is, therefore, the more adequate book on the subject has previously untry. The present volume, however, more or the delay. Mr. Linton considers nutri-

tic Patients. By Russell M Wilder, M.D. Third lphia and London: W. B. Saunders Company. 4 figures. 7s. 6d. net.)
u Weibl). By Dr. Bernhard A. Bauer. Translated L.B., Barrister-at-Law, and Norman Haire, Ch.M., n introduction, by the latter. London: J. Cape, p. 413. 25s. net.)
and Veterinary Dietetics. By R. G. Linton, Veterinary Series. Edinburgh: W. Green and vo, pp. xi + 393; 12 figures, 4 plates. 21s. net.)

tion in its general aspects, discusses the various foodstuffs available, their nutritive value, and their preparation and storage, and gives detailed instructions for the feeding of farm animals, dogs, and poultry. It is written in an easily understandable manner, and ought to find its way into the hands of everyone interested in the care of animals. We would suggest that in the next edition there should be included instructions for the feeding of goats, cats, and the various laboratory animals. Even with this omission, however, this book has a value far beyond the limits of the veterinary profession, and we congratulate its writer on a very desirable contribution to the science of animal nutrition and dietetics.

Dr. PIERRE KAHN'S *Guide de Psychiatrie*[12] is not a comprehensive treatise on mental disorders, but, as its title indicates, a guide to the understanding of these maladies; and it is everything a guide should be; eminently practical, free from unnecessary technical phraseology, and unburdened with metaphysical speculation, it presents an accurate picture of the various psychoses, especially in their bearing on the many problems that confront the practitioner in their diagnosis and treatment. It may also be read with profit as an introduction to the larger textbooks on the subject of mental disease. The chapter on the method of examining a mental case is particularly good, and the section devoted to the diagnosis and treatment of toxic confusional states is of great practical utility. The author's account of schizophrenia and its occasional development in the course of a toxic confusional insanity is both interesting and helpful. The chapters dealing with certification in France and with the medico-legal implications of insanity, good as they are, will necessarily make only a limited appeal to British practitioners. A useful vocabulary of technical terms completes the work. Dr. Kahn is to be congratulated on the production of so excellent a guide.

The forty-sixth volume of the *Transactions of the Ophthalmological Society of the United Kingdom*[13] contains the proceedings during the past year of this society and also of the Midland and North of England Ophthalmological Societies, and of the Oxford Ophthalmological Congress in 1926. The various papers are well illustrated, and the book is a useful record of recent progress made in this subject in Great Britain.

[12] *Guide de Psychiatrie*. Par Pierre Kahn. Paris: N. Maloine. 1927. (Imp. 16mo, pp. 252. 18 fr.)
[13] *Transactions of the Ophthalmological Society of the United Kingdom*. Vol. xlvi. London: J. and A. Churchill. 1927. (Demy 8vo, pp. xlix + 410; illustrated. 30s. net.)

THE CRISIS IN CHINA.

A MEDICAL REPORT.

FURTHER details have now been received about the serious occurrences in Southern China, indicated in the cable sent from Shanghai to the headquarters of the British Medical Association, which was reproduced in our issue of April 9th (p. 680). The signatories of the cable, numbering thirty-two, include the most prominent medical practitioners in the disturbed areas, and the information now supplied by Drs. E. L. Marsh, J. L. Maxwell, and Gordon Thompson illustrates the grave nature of the threat to Shanghai. Dr. Marsh, who is vice-president of the Shanghai Medical Society, has replied as follows to the cable of sympathy sent by the Council of the British Medical Association at its meeting on April 7th: "On behalf of the British medical profession in Shanghai I wish to express our sincere thanks to you for this very kind and helpful message. We greatly appreciate the Council's sympathetic and powerful interest at this time. The prompt action of the Council in response to our request is noted and appreciated with much satisfaction. Please convey to the Council our most grateful thanks. Before I conclude, I must refer to our Government's splendid effort in sending troops to defend us. This generous help has given not only our own nationals, but all others in Shanghai, a special sense of security and protection, which is constantly receiving heartfelt acknowledgement through telegrams, public press, and platform."

Attacks on Hospitals and Medical Colleges.

The following record of destructive assaults on various hospitals and medical colleges illustrates the blind fury of the Chinese nationals against philanthropic institutions

which, supported by foreign generosity, have for many years ministered gratuitously to the bodily needs of the local inhabitants, and have established educational centres where Chinese students may be trained in the prevention and cure of disease. Dr. Maxwell states that, while the Northern troops have been often justly accused of looting, he knows of no damage having been done by any retreating army, all the outrages being attributable to Southern troops or their civilian sympathizers. From nearly all areas come reports of unprovoked outrages on the foreign and loyal Chinese staffs; the foreign doctor in peril of death, or pleading with howling mobs for leave to continue the hospital activities; looting and destruction of property; broken promises to hospital authorities and revengeful cruelty to the innocent and unprotected; confiscation and robbery under arms; and the infliction of needless misery upon thousands of suffering patients.

Canton.—The first institution to suffer was the Canton Hospital, which was closed in March, 1926, in circumstances described in our issue of April 24th, 1926 (p. 753). This hospital—the oldest in China—had existed for ninety years, and in it had been treated more than two million Chinese patients. It was administered by a local missionary union, and Dr. J. O. Thompson, its medical superintendent, is a Canadian. Dr. Sun Yat-Sen was at one time a student there, and retained deep interest in it until his death. The local labour union, after issuing an absurd ultimatum, cut off the supplies of food, light, and heat, with the connivance of the Canton Government, so that seriously ill patients had to be turned out into the street. The hospital is still closed, and the buildings are falling to pieces, no repairs of any kind being permitted. The Kung-Yee medical school, which was one of the finest of the Chinese institutions, and was governed by a board of Chinese trustees, with foreign assistance, was the next to suffer. It was confiscated by the local government, and is now empty and heavily in debt. The J. G. Kerr Hospital for the Insane, which is controlled by the American Presbyterian Mission, was recently compelled to close; the nature of the interference with this institution has already been described in our issues of February 26th (p. 392) and March 26th (p. 581). The local government forcibly entered part of the empty building, and is now using it for asylum purposes. This is a particularly senseless outrage, as the hospital was the only properly organized one of its size for the insane in the whole of China, and accommodated some 800 patients when in proper working order.

Wuchow.—The work of the hospital of the American Baptists here was stopped by local malcontents, despite official promises to the contrary. The institution was sealed officially with Chinese and American seals, but these were shortly afterwards broken by the military authorities, who used the buildings for a time for their own purposes. More recently the local government compelled the evacuation of the hospital, and it was handed back to the Mission, which reopened it.

Fatshan.—The English Wesleyan Mission Hospital here was seized shortly after the closure of the Canton Hospital, and for a short time was used by the troops for barracks. This hospital was later returned to the Mission and medical work was recommenced.

Kongmoon and Shiuchow.—In each of these places there was a British Hospital, the first belonging to the Canadians and the second to the English Wesleyans. Both hospitals were closed for a time and the present position is unknown.

Changsha.—In the march of the Southern army from these towns to Hankow the next place of importance as regards hospitals was Changsha, with a group of institutions in neighbouring towns centred on it. For about a month after its occupation by Cantonese troops peace was maintained, but, with the arrival of communist agents, the story of Canton was repeated on an even worse scale. When these agents travelled on to Central China the position in the Changsha area became decidedly easier again, which explains the reopening of the hospitals here as at Wuchow, Fatshan, and Kongmoon. In Changsha is situated one of the leading medical schools, under joint American and Chinese administration, and a large American hospital. The school has been completely broken up, and the hospital is believed to be closed. An added outrage in this case, as in most of the recent attacks on hospitals, has been the refusal to allow the medical staff to remove their personal property, the authorities claiming that the hospitals and all their contents belong to the local governments. Every hospital in the province of Hunan, with the possible exception of one small institution, has been closed, and in many instances large sums of money have had to be paid to the Chinese employees before even this has been permitted. This robbery has invariably had the connivance, and often the open consent, of the local authorities.

Hankow.—The position in Hankow has been on the whole easier than elsewhere, possibly because it has been more prominently in the public view. Of the two large British institutions here the London Mission Hospital continues to function with comparatively little trouble. The Wesleyan Hospital was the scene of great disturbances at first, but is still continuing its work after a fashion, though under Chinese management and not at all satisfactorily. Details are generally lacking as regards the other hospitals in the province of Hupeh, north of Hankow, with the exception of one large hospital at Siaokan, where the soldiers are occupying the women's hospital and the greater part of the men's hospital, leaving only a few rooms in which a Chinese doctor is attempting to carry on.

Kiangsi.—The next attack of the Southern army was directed against the province of Kiangsi, where the few hospitals escaped lightly on the whole, probably because the military forces concerned were Chiang Kai-Shek's personal troops, among whom the communist element is lacking. Four of the eight hospitals in this province are known to have continued work smoothly until recently, but owing to the evacuation of all foreigners from this region it is impossible to say what is happening now. No details are yet available about hospitals in Anhwei and Kiangsu as the occupation of those places is too recent for much news to have come to hand. One American and one British hospital in Chinkiang have been looted, probably by the Southern troops and their sympathizers. The American hospital at Yangchow, across the river from Chinkiang, has been completely looted and stripped, apparently by Southern sympathizers and not directly by the army.

Nanking.—In the recent infamous outrages at Nanking the hospitals did not escape. The large University Hospital (American) accommodated in one half of it a large number of wounded Southern troops under the treatment of the foreign and Chinese medical staff. This part of the hospital is believed to have escaped serious damage, but the other half was thoroughly looted by Southern troops in uniform.

Fukien Province.—The 17th Nationalist army, which marched up the coast through this province, is notorious for its *looting* proclivities as regards foreign property. The British General Hospital at Chinchow was seized, the medical officer being threatened by men with revolvers. The place was then used as a barracks and its new buildings were defaced and fouled. Eventually one of the military officers in the city, who had been the patient of the doctor in charge, heard of this and cleared the troops out of the hospital. The same army went on to Foochow and added outrages, one of the principal buildings to suffer being the large British hospital of the Church Missionary Society. The tuberculosis block and the pathological department of the men's hospital were completely wrecked, while the fine new building for women patients was thoroughly looted.

Hangchow (Chekiang Province).—The British hospital and medical school of the Church Missionary Society at Hangchow, with its convalescent homes, maternity hospital, and branch institutions for the treatment of tuberculosis, leprosy, and insanity, was built up by Dr. Duncan Main, who retired last November, after forty-five years of devoted service. The hospital with its annexes contained 500 beds, and the medical school opened three years ago cost over £10,000 to build. The school was recently registered provisionally by the China Medical Association as an approved institution for medical training. When the Southern army obtained control of Hangchow the situation necessitated the immediate withdrawal of all British subjects. The Chinese medical staff was left in charge of the hospital, but immediately after the evacuation of the British hospital was visited by delegates from a "Union to take back the Kwang Tsi I Uen," the Chinese name of this institution. Notices were exhibited announcing the determination of the union to expel from the hospital all except Chinese. On the following day a mob composed of members of the Students' Union, the Anti-Christian Union, the Workers' Union, and other bodies broke into the hospital compound, imprisoned one of the loyal Chinese doctors, and maltreated other members of the staff. The hospital was later commandeered by Southern officials, and is now conducted partly as a barracks and partly as a hospital, with a vague promise that its ownership will be considered later. This appropriation has involved the disappearance of much of the equipment and the use by unauthorized persons of the valuable stock of drugs without any sanction from the real trustees of the property. The one bright spot in the dark picture is the continued loyalty of many of the Chinese staff, who have risked, and even lost, everything while trying to do their duty.

THE SPAS OF CZECHOSLOVAKIA.

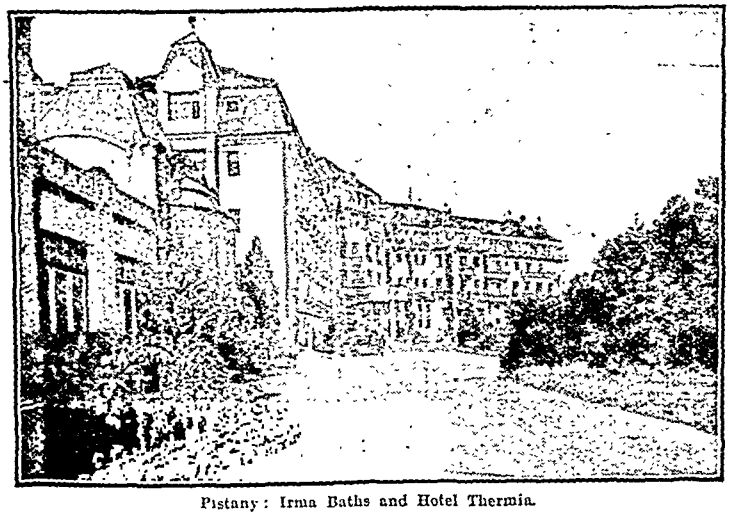
A MEDICAL TOUR OF PISTANY AND THE HIGH TATRA HEALTH RESORTS.



Trencsénteplicz.

ON April 24th the party of British doctors, whose earlier travels in Czechoslovakia have been recorded,* left Prague for Trencsénteplicz, formerly one of the best known watering-places in Hungary, but now within the frontiers of the new Republic. The ten-hour journey eastwards took them through Brno (Brünn), the capital of Moravia, where they were greeted by members of the Anglo-American colony. Brno has long been famous for its cloth factories, and is to-day a medical centre of growing importance and the seat of one of the two new Czech universities.

Trencsénteplicz is hard enough to pronounce, and its Slovak name, *Trencianské-Teplice*, moves even less trippingly on English tongues. This picturesque little town, 850 feet above sea level, stands in hilly forest country at the foot of the Carpathians, and the virtues of its hot sulphur waters have been known in Central Europe for 500 years. There are now eight mineral springs—six for bathing and two for the "trink-kur." In chemical composition all the waters are much alike; they rise at temperatures between 95.8° and 107.6° F. The new baths, oriental in design, are immediately over the springs, so that little of the natural sulphur gas and radium emanation is lost. Beyond its thermal sulphur baths Trencsénteplicz specializes in hot mud packs, and a descriptive leaflet tells us that in the summer months there is no lack of "dispersing and entertainments which in moderate measures are intended to attain a cheering up of the depressed state of health." It was much too early in the year to form an impression of what this spa is like at the high season; but its natural charm could not escape the eye, and the local doctors were eager to show and explain its equipment to their colleagues.



Pistany: Irma Baths and Hotel Thermia.

THE BATHS OF PISTANY.

Pistany, celebrated for its mud baths, is a beautiful spa whose name, however spelt, is becoming each year better known to British physicians. It lies in the broad valley of the Waag, at an altitude of 500 feet, some 300 miles south-east of Prague, and is well served with trains. Its reputation in the treatment of chronic rheumatic affections, sciatica, and the after-effects of injury is due in large part to the hot sulphur springs and the volcanic mud deposited by them along the bed of the winding river. Both water and mud have to be cooled before use, for their temperature at the source is over 150° F. How and why they leave the bowels of the earth is a question the clinician may leave to geologists, just as their physical and chemical properties are to him of less moment than their indications, mode of use, and effects.

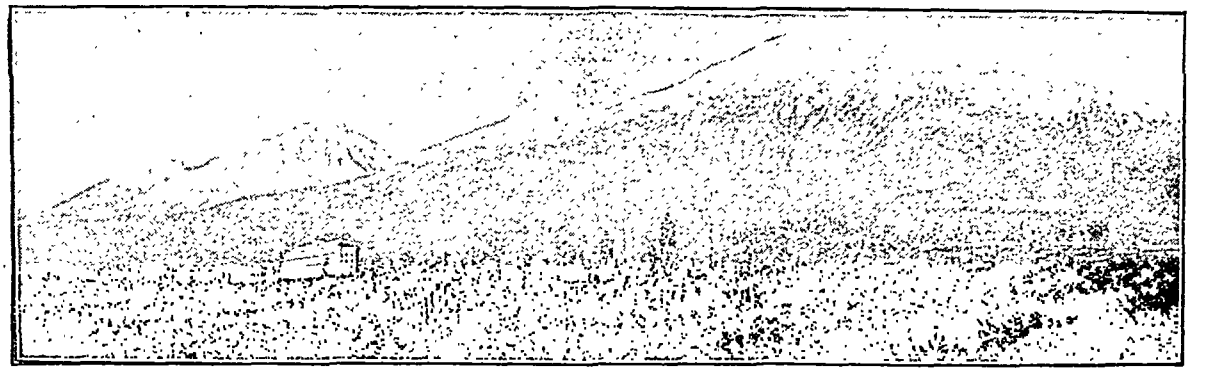
It is forty years since Sir Spencer Wells made a pilgrimage to Pistany, but a reprint of what he wrote in these columns† is still handed to medical visitors from English-speaking countries. A great deal of healing mud and water has come to the surface in the interval, and the primitive village bathing-place of 1887 has been transformed, under the enterprising management of the Winter family, into the luxurious and highly efficient spa of 1927. The two principal hotels are first-rate in all respects, and the larger, the Thermia Palace, leads direct into the baths. The radio-active sulphurous mud is dark greenish-grey, and butter-like to the touch. It is scooped up in wooden buckets, cooled to the prescribed temperature, and clapped upon the skin by deft hands. The patient, thus immobilized and swathed in cloths and blankets, looks very like a mummy, though pinker and less shrivelled perhaps. The clinging mud is presently rinsed off with hot sulphur water, and, after a sweat and a rest and a bathe in the hyperthermal pool, those who have any distance to go are taken back to bed in a wheeled sedan chair of the kind shown in Dr. Crocket's photograph.

The hospitality of Pistany was even more abundant than its balneological literature, and that is saying much. The party was received with every courtesy at the railway station and welcomed later at dinner in the Hotel Royal. Next day, having tried the hot mud and learnt by personal experience that after a bout of fever rest is needed, they were shown over the Irma Bath Establishment, and the Pro Patria Hospital for the free bath treatment of insured persons; and Dr. A. Reichart gave them an interesting address on the action and uses of mud baths and demonstrated the Pistany pack. Lunch was followed by a lantern lecture on the history of the spa by Dr. Paul Veres, and a visit to the sanatorium on the river-side kept by Drs. L. Schmidt and E. Weisz. At a banquet in the Thermia Palace Dr. Smély of the Czech Ministry of Health spoke for his government; Dr. Schmidt for the [illegible] medical profession; and Mr. Imri Winter [illegible] us of the spa, for the baths management [illegible] that the visitors heard for the first time a real gipsy band and saw peasant dances in the Slovak national costume.

Here it should perhaps be said that all through their trip they had skilled linguists with them. Mr. Henry Baerlein, the writer and traveller (who had had a big share in planning the tour), shepherded the party as far as the Czech frontier, and often helped them and their hosts to make friends by his lively impromptu translations. Dr. Karel Driml, head of the propaganda department of the Czech Ministry of Health, went everywhere with them in his own country and spent himself in their service; at a moment's notice he would give the gist of a speech, in English or Czech or German, to those who had not followed a word of it. And as for the bothers of travel in a strange land, these were all taken over and smoothed out by Mr. John Zlámal, of Pistany, secretary of the Union of Slovakian Spas.

* BRITISH MEDICAL JOURNAL, May 14th, pp. 885-85; May 28th, pp. 966-68.

† Notes on a Visit to Pistyán, BRITISH MEDICAL JOURNAL, May 5th, 1883.

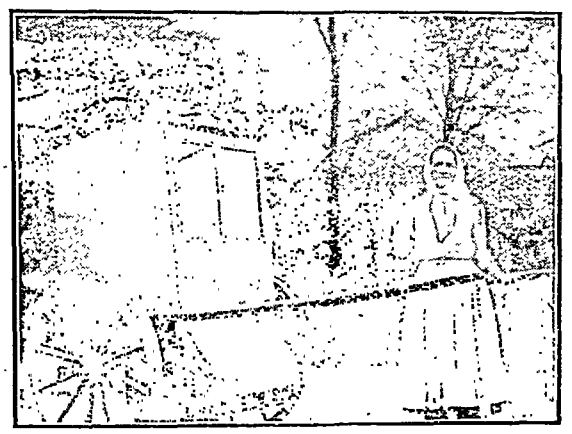


Palace Sanatorium, Novy Smokovec, High Tatra.

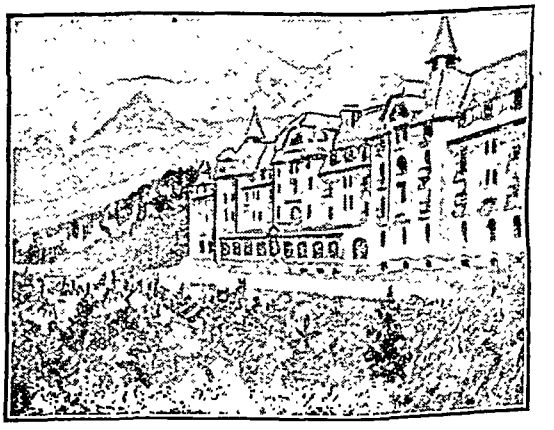
THE HIGH TATRA.

The central and highest group of the Carpathians, known as the High Tatra, is the most impressive mountain range in Europe, for it rises sheer out of the surrounding plateau, like a vast wall, 8,000 feet and more above the sea.

Leaving Pistany behind, with the regret to which they had become hardened after a kaleidoscopic fortnight among the spas, the travellers headed north and then east again for the last stage of their outward journey. Five or six hours in the train, towards and between the foot-hills of the Carpathians, brought them abruptly face to face with High Tatra, towering over the landscape. Then from the junction at Poprad Velká they mounted to Tatranská Lomnica, one of the many small health resorts dotted about the lower slopes of the range. This, "the Czechoslovakian Davos," faces south, at an altitude of 3,000 feet above the sea; it is one of the State-owned health resorts, like Strbské Pleso, which stands 1,400 feet higher on the borders of a mountain lake.



Pistany: Wheeled Sedan Chair.



Tatranska Lomnica: Grand Hotel Praha.

The Alpine scenery around Tatranská Lomnica is very beautiful. At every turn one sees two huge snow-capped peaks rising above the pine woods. On their far side is Poland. The Grand Hotel Praha, a luxurious building, does not open so early in the year, and the visitors put up at the châlet-like Slovensky Dum and feasted at the Lomnica—two inns that lay themselves out for winter sport. Here they tasted Tokay, and met a group of the sturdy ambulance doctors who take medical charge of a scattered mountain population. Speech-making became more frequent, though not more formal, in the thin, sharp air of the Slovak highlands.

On the following afternoon they passed on to Novy Smokovec, a climatic station of growing repute, and spent the night as the guests of Dr. Nicholas Szontagh at the Palace Sanatorium. This is surely one of the finest institutions of its kind in Europe. It is, in fact, a palatial sun-trap, with the mountains behind and a wide valley spreading below. Many cases besides those of tuberculosis are received. The building is so planned that each of the five upper floors has a south balcony running from end to end, and nearly every bedroom leads straight out on to its own partitioned and glass-roofed piece of verandah, so that a patient can rest on a couch in the open or be wheeled into the sunshine on his bed. The whole lay-out of Dr. Szontagh's hospital-hotel is most ingenious, and the life of every patient appears to be most carefully ordered. Some idea of its situation at the foot of High Tatra may be got from the illustration at the head of this page. Strbské Pleso lies to the left nearer the snow line, and Tatranská Lomnica a few miles away to the right. All these resorts are linked up with one another, and with the main line junction at Zilina, by electric railways.

The last twenty-four hours before beginning the long journey home were spent partly at Novy Smokovec and its neighbour Stary Smokovec, looking over their sanatoriums large and small, or climbing hills; and partly in taking train up the mountain side to Strbské Pleso, with its delightful hotels at the top of the world. On the way down the travellers stopped at Tatranská Polianka to see Dr. Gúhr's admirable sanatorium for the treatment of exophthalmic goitre. In the High Tatra, just as in Bohemia and the eastern spas, kindness awaited them at every halt, and this medical tour through Czechoslovakia might almost have been a royal progress, so much honour was paid them from day to day.

It will be gathered from what we have written that Czechoslovakia takes its spas very seriously. Not only those owned by the State, but all the health resorts of the country, are watched over by the Government with a fatherly eye. The Ministry of Health periodically sends out a medical officer to inspect and advise, and the State railways make a large reduction in fares to visitors who mean to spend more than ten days at one or other of the resorts and give proof of their intention when crossing the frontier. How to get this concession may be learnt by writing direct to the management of the spa, or to the "Cedok" Tourist Bureau, Mikulandská 7, Prague II, or to any agency of the Cie Internationale des Wagons Lits.

Nova et Vetera.

THE FIRST OPERATION OF SYMPHYSIOTOMY.

IN the year 1768 a young medical student named Sigault suggested to the Académie de Chirurgie in Paris that women in labour in whom the pelvis was considerably contracted might be delivered with no serious risk after division of the symphysis pubis, and that this operation might take the place of Caesarean section. The proposal was ridiculed, and for many years nothing more was heard of the subject. In 1777, however, Sigault, who had always had the greatest belief in his operation, found a patient for whom he thought his procedure was justifiable. She was a Madame Souchot, a small deformed woman with a pelvis so narrow that natural delivery of the child was impossible. With the assistance of the well known surgeon Le Roy he performed the operation of symphysiotomy, and the result was most satisfactory, both mother and child surviving. Sigault at once became famous. The Académie de Médecine struck a medal in honour of the operation, and the operator was received with open arms. M. Le Roy thus describes the case.

I observed that the child presented by its feet, that the orifice of the uterus was much dilated, and that the diameter, from the anterior to the posterior part of the pelvis, did not exceed two inches and a half. I told M. Sigault that as the diameter of the child's head at its birth usually is at least three inches and a quarter, it would be impossible for it to be delivered at an aperture of only two inches and a half; that consequently she must submit to the Caesarean operation, or that which we intended to substitute for it, to which last she consented.

Everything being got ready, we folded the mattress three times, and placed her on it. We began to feel for the middle part of the cartilage of the symphysis, which we readily discovered by the finger. I advised M. Sigault to begin the section of the superior part of the symphysis, but not above the pyramidal muscles, and to do it by two incisions. First, to divide the integuments as far as the middle of the pubes, while I held the lower part downwards, and then to begin the section of the cartilage. Secondly, to finish the incision of the integuments, without any fear of haemorrhage obstructing him in the section of the cartilage. M. Sigault had nothing but a common bistoury to perform this operation with. The thighs being opened and raised, he performed it in the manner mentioned. The moment the separation was complete, the pubes parted, as if the string of a bow had been divided, and receded to each side under the integuments. I immediately began to extract the child after M. Sigault had broken the membrane, and brought the feet as far as the os externum. I first made myself sure of the extent of the separation which we had gained by the section [that is, the side-to-side diameter], which measured two inches and a half, an extent somewhat more than that which I had gained upon the body of Mrs. Brasseur, which gave me pleasure. [Mrs. Brasseur was a woman on whom M. Le Roy made trial of the operation directly after her death. An attempt had been made by an incompetent midwife to deliver her of a child.] The child's heels were turned on the right side, and I extracted the body by gentle efforts, which I directed towards the lateral parts entirely, and not to the spine. I disengaged the left arm, and then the right; the head being still above the brim of the pelvis, I applied my hand to the face, which corresponded with the symphysis of the left ilium; I opened her thighs as far as I could, and fixed the largest portion of the right parietal in the separation. The integuments projected; I made the left parietal answer to the right lateral side of the hollow of the sacrum; afterwards, upon raising the body of the child, I drew out the left lateral side of the head, while at the same time with the right hand applied to the nasal fossa, I brought the chin downwards. By these united efforts I overcame the greatest resistance at the brim of the pelvis. When it had now gained the hollow of the sacrum, I brought the occiput between the separation, and disengaged the chin at the inferior part of the os externum by rais body. The rest of the body followed pres patient was delivered, to her great joy, of a h thighs being lowered, the separation appeared eight lines. I immediately extracted the pl the uterus began to contract itself exceedingly.

During the operation, which was neither ve tedious, the woman lost very little blood, an being called in could scarcely give credit to s speedy a delivery. We applied some lint to removed the patient on the mattress in order to Upon the least opening of her thighs she felt v in the left posterior side of the loins and pelv a napkin by way of a bandage, to keep the p position, to which we fastened two ribands the right, the other on the left, and broug the thighs in order to tie them before. When found her pulse was not affected, and, enraptur a mother, she requested us to give her the ch suckle it.

BETHLEM ROYAL HOSPIT

ITS APPROACHING REMOVAL.

THE transference of Bethlem Royal Hospita site in Southwark calls to mind its history, w in the annals of English institutions devote and treatment of mental and nervous di probably but little known that its foundati as far as the year 1247, and that the work by Simon Fitz-Mary has been carried on wi ever since. In 1546 it was re-founded a Charter by Henry VIII. It is of special in the early activities of Bethlem Hospital, f or thereabouts there was not a single pul borough asylum, and such institutions as c only due to royal or private benevolence.

Up to the commencement of the nineteent mentally afflicted were housed in gaols, hou tion, poor-houses, and houses of industry. far away when the conception reigned that afflicted were demoniacally possessed and tre consisted of exorcism through punitive mea later theory that mental disease had its orig and humours within the individual, which me by bleeding, purgation, starvation, the us and mechanical restraint.

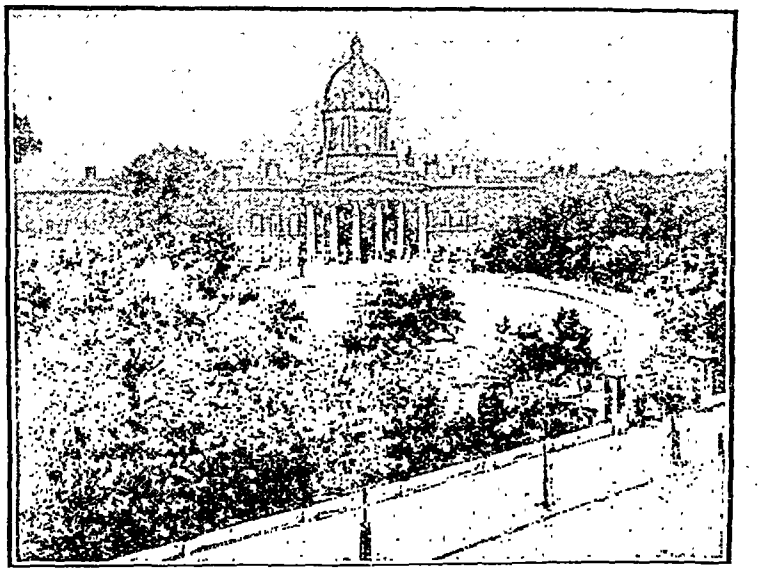
Since the first appointment (in 1845) o Commissioners, who were succeeded at the e the Board of Control, the attitude to the me has been ever progressive, and in this huma tific advance Bethlem Hospital has always forefront. From the year 1815 it has occupi site on about 10 acres of land, but its envi was that of fields and open spaces. How, d century, bricks and mortar have encroached hemmed it in is, unfortunately, only too p one who knows the neighbourhood.

Notwithstanding its age, a visitor would, astonished to find that in its equipment t evidence of modernity which could hardly unfavourably with much later built insti long series of physician superintendents and medical staff have always been psychiatris and the efficiency of the hospital in the realr and treatment and education has developed on the most up-to-date lines. It is now, for years, the great centre for the teaching of psychological medicine, and its value in can hardly be overestimated. Now incorpor University of London, many students from pitals are taught by their respective lecture clinical instruction are held daily; and two c Diploma in Psychological Medicine are h Much interesting and fruitful research has c the Pathological Laboratory, while through t of the president of the hospital, Sir Charles V

one of the best and most modern x-ray installations has been in use for some years. In fact, no stone has been left unturned in the provision of such a scientific equipment as shall make it possible to attack mental disease from every possible angle.

The inauguration of an out-patient department in a separate building in 1919 showed how much in the vanguard of modern medicine the authorities were. Here the neurologist and psychiatrist have, hand in hand, studied the intricacies of early psychopathological symptoms, with the ideal aim of prophylaxis in view. Notwithstanding the fact that the hospital so admirably fulfils its medical and academic functions, it has to follow in the train of other institutions and seek its habitat further afield where greater space and purer air may add still more to its scientific value. Though there are many advantages which naturally accrue to its present central position, it is evident that these are outweighed by the benefit which more spacious buildings in a more open and yet accessible neighbourhood will bring to the patients, whose welfare must, of course, be the paramount consideration.

Psychiatry has advanced in many directions of late years, and in the new hospital the accommodation will be so planned that the various types of cases can be differentiated and segregated in a way that will not only add to the comfort of the patients, but tend to aid still further a recovery rate which already on an average is 50 per cent. or more. On an estate of 350 acres known as Monks Orchard at West Wickham in Kent, between Addington and Bromley, the reborn Bethlem Hospital will be constructed on the most modern lines for the accommodation and treatment of about 250 patients. There are many reasons why the old caravanserai building is unsuitable, and the detached unit principle which will be adopted is one which lends itself to the most recent ideas concerning psychiatric administration. Such a system undoubtedly to a great extent renders the environment less like an institution and more homely, and these are the great factors in creating an atmosphere conducive to the patients' well-being. It will thus be possible through the separate units, each with its large special garden for exercise and recreation, to carry out the all-important practice of classifying the inmates in accordance with their adaptive needs.



Bethlem Royal Hospital.

Offices for the various departments will be provided in the main administrative block. In the science and treatment unit will be the pathological, bacteriological, psychological, dental, and electrical departments, and a lecture theatre and museum. This will render the scientific equipment of the hospital such that it will be able to carry on its academic work on the most up-to-date lines and enhance its already high status as a special medical school of the University of London. Though in the different hospital units provision will be made for all methods of special treatment, these, with the addition of hydrotherapy, massage, and physical culture, will be carried out principally in the main treatment block.

Of late years occupational therapy has rightly been much developed, and this feature has received special consideration. Not less important is the organization of facilities for both indoor and outdoor amusement. Within, social evenings, whist drives, concerts, dances, cinema entertainments, will be arranged for in the large entertainment hall. Without, patients will be stimulated to the external interests of sport, gardening, natural history, and agriculture.

There is no doubt that in the past mental hospital construction has been of such a nature that voluntary boarders or those who have only just passed over the psychotic threshold have had to be associated in the wards with patients who evince acute mental reactions. In the New Bethlem an integral part of the institution will be the convalescent unit, where this patent drawback can be obviated. Here incipient cases, mild types, and those approaching normality can find everything most calculated to give peace of mind and aid recovery.

Notwithstanding all these excellent arrangements for the main organization of the hospital, it has to be realized that without a suitably trained nursing staff any medical efforts to combat mental illness tend to be much impeded or nullified. In order to attract the type of nurse who will be competent to form an intelligent understanding of the meaning of mental disorder and create that atmosphere which is so essential to her charges, she must be catered for in a worthy manner. The hospital will not only see that she has every facility for good training, but the Nurses' Home, with its library, recreation hall, and provision for all forms of amusement, will give her that happy and comfortable home which is the more imperative considering the arduous nature of her duties. Each nurse will have her own separate bedroom, and in her hours of leisure will be able to detach herself from the hospital environment, and so gain that mental rest which she so well earns.

It seems, then, when we review the constructive plans and organization of the New Bethlem Hospital, that nothing will be left undone to render it psychiatrically efficient in every sense of the word, and that the highest aims of modern treatment and the dissemination of knowledge of psychological medicine will be amply fulfilled.

The conservative spirit necessarily reigns within most of us, and the removal of an old London landmark will be regretted by many. Bethlem has always held a special place in the world of mental medicine, and those of an older school have noted with great interest the gradual evolution of Bethlem Hospital until it has reached its present position and holds the highest rank for efficiency in every respect. Nevertheless, circumstances have made it necessary that the hospital should find a site where the great work can be carried out with still further opportunities of advance and where those mentally alienated may have an even better chance of regaining *mens sana in corpore sano*.

Of late years lunacy administration has undergone much unfair criticism from those who, doubtless with the best intentions, do not understand the difficulties that must always beset its path. The Royal Commission on Lunacy and Mental Disorder, which issued its report last year, made many recommendations. All these will be fundamentally met in the New Bethlem Hospital, which, soon to arise, will mark another milestone in psychiatric history.

British Medical Journal.

SATURDAY, JUNE 4TH, 1927.

A GENERATION PASSES.

THE British Medical Association has entered upon the fourth generation of men since its foundation in 1832. It was early in the third generation—almost exactly a generation ago—that the Annual Meeting was last held in Edinburgh. It is appropriate, therefore, in view of the forthcoming meeting, to look back upon the changes in medicine during the past thirty years. The task is not easy. However rapid the changes may be, they seem to occur in such natural sequence during the observer's lifetime that he has usually forgotten the beliefs and conditions under which he worked at the outset of his career. It is difficult, for instance, to remember that in 1898 no doctor could trust a motor car to take him on his rounds.

Some indication of the advances that have been made in medicine, and of the changes in medical interest, may be found in the list of Sections in which discussion took place in 1898 and will take place this year. At the meeting in 1898 there were sixteen Sections; this year there are twenty-one. Of these twenty-one, fourteen are practically identical with those of 1898. Two of the former series no longer exist—namely, that of Medicine in Relation to Life Assurance and that of Anatomy. Of the seven newer Sections in the 1927 list, that of Radiology at once recalls a line of progress which has been of inestimable benefit to medicine. The Section of Medical Sociology typifies the closer relationship into which the medical man has been brought with large questions affecting the community as a whole. His appearance in this role is emphasized also by the Section of Venereal Disease, and, apart from its acknowledgement of the achievements of the incoming President, Sir Robert Philip, by the Section of Tuberculosis. The widening of interests in the medical profession is shown by the Sections of Comparative Medicine and the History of Medicine. Why forensic medicine was considered unworthy of a Section in 1898 we do not know; the police surgeon was even then of sufficient importance, though the difficu't question of alcohol and the motorist had not arisen.

Looking at the subjects to be debated at Edinburgh in July, some may suggest that the medical mind is still agitated by questions which were unanswered in 1898. But many others reveal progress which was then unthought of. Such are the results of insulin in the treatment of diabetes mellitus; the action of ovarian extracts; the influence of internal secretions on the sex characters; and the revolution in the views on cardiac disease. New methods of diagnosis are to be found in the Schick and Dick tests, and in the examination of cerebro-spinal fluid in venereal disease. A newly distinguished disease is represented by epidemic encephalitis; new treatment by a discussion on ultra-violet emanations; and a new relation of the State to the individual and to voluntary effort in the debates on the State's duty to the nation's food supply, regarding instruction to parents, and on the future relationship of municipalities to the voluntary hospitals of this country. Many of these topics would have gladdened the heart of the bygone generation; others might have shocked those trained in principles of *laisser faire*.

Formerly, in addition to the new President's address, general addresses were given in medicine, surgery, and psychology. In 1898 the address in medicine, on "The Toxic Origin of Disease," was given by Sir Thomas Fraser. In surgery Mr. Thomas Annandale described "The Present Position of Surgery"; and Sir John Batty Tuke opened the Section of Psychology with an address on "Modern Conceptions of the Etiology of the Insanities." The President in 1898, Sir Thomas Grainger Stewart, surely in prophetic vein, dealt with "The Reciprocal Duties of our Profession to the Community and of the Community to the Profession." He thought that professional customs did not lend themselves readily to the issue of clear and popular statements by the leaders of medical opinion. He desired to see the Legislature refer questions to the British Medical Association. He wanted the Local Government Board to be entrusted with every question affecting the prevention of disease, and money of the State spent on the endowment of research. As an argument to show that knowledge provided us with precautionary measures, he pointed out that the tuberculosis mortality had fallen by one-third in the previous thirty years. The addresses in medicine, surgery, and psychology are no longer given; but the Presidential Address this year will be delivered on July 19th by Sir Robert Philip, who was secretary, with Mr. John Shaw McLaren, to the meeting in Edinburgh in 1898. The title of the address will probably be "The Strategic Front of Medicine To-day," and it will, we understand, be in part reminiscent and in part prospective.

A special feature this year is the decision to hold the Edinburgh celebrations of the centenary of Lord Lister's birth during the Annual Meeting of the British Medical Association. To commemorate the event a Lister Memorial Volume, edited by Dr. Logan Turner and containing contributions by well known medical writers, will be presented to each member of the Association who attends the meeting. Among the exhibitions at Edinburgh there will be a museum of Lister relics, and a [illegible]m, which is now a regular feature.

In 1898 there was no Representative Meeting. Reconstitution of the Association had not taken place, and it was not until 1903 that the first Representative Body met at Swansea. Before that date the only opportunity available to the ordinary member for criticizing the administration of the Association or airing his views was at the Annual General Meeting. The reconstitution was a sign of the adaptability of the Association to changing circumstances, and helped to further the desire of Sir Thomas Grainger Stewart that the Legislature should refer questions to the British Medical Association. If anyone requires evidence of the value of the change, it is only necessary to compare the position of the panel doctor in England with that of the insurance doctor in Germany, who is still ground under the heel of the Krankencassen, or approved society, officials. In England, where a powerful professional organization existed before the Insurance Acts were thought of, control of the doctor became vested in very different hands.

Those who attend this year's Annual Meeting will receive from Edinburgh no less cordial welcome than in 1898. They will find that one thing has not changed one whit in the course of a generation—namely, Scotland's reputation for hospitality. They will be offered a scientific programme of the greatest interest, social amenities, and the opportunity of seeing some of the beautiful scenery of Scotland. Details of

all this will be found in the SUPPLEMENT. In preparing its welcome Edinburgh may well have felt some trepidation, seeing that the body from which her guests were drawn in 1898 has nearly doubled its membership, having grown from 17,700 to 32,300. But Edinburgh will be justly proud of the part which she has taken in achieving this success. The assumption of the office of President of the Association by the distinguished secretary of 1898 marks continuity with the past, gives prestige in the present, and assures yet greater achievements in the future.

LOCAL IMMUNIZATION IN SEPSIS.

WHEN Professor Besredka, after much investigation, expressed the opinion that the reaction of the body to some diseases was not general, but local, it was at once evident that important therapeutical conclusions might be drawn. In a book,[1] published two years ago, he dealt with anthrax bacilli, staphylococci, and streptococci as organisms in which the processes of infection and immunization were primarily in the skin.

Superficial septic conditions obviously afford a good field for experimental study, and an attempt was made to prepare some agent which could be applied locally in order to attack the infecting organisms directly or indirectly. Making use of the well known fact that bacteria, when freely grown, produced poisons inimical to themselves, cultures eight to ten days old were filtered and their toxins removed by heat in order to make application to septic areas safe; to these preparations the term "antivirus" was given. Recent reports indicate that such bacterial filtrates may have a therapeutic value. H. Lehndorff and Margarethe Brumlik[2] demonstrated that each antivirus had a specific inhibiting effect on the growth of the group of organisms from which it was prepared, and also increased leucocytic phagocytosis. A hanging-drop preparation of a twenty-four-hour culture of *B. coli* showed diminished motility when the specific antivirus was used. Since the antivirus is an alkaline fluid of the same *p*H as the body fluids, it does not injure the tissues when brought into contact with them in order to produce its full local effect. Lehndorff and Brumlik, and also Besredka, recommend that for ordinary pyogenic infections a polyvalent antivirus consisting of a mixture of streptococcal and staphylococcal antivirus is desirable. P. Moritsch and R. Oppolzer, however, employed a monovalent preparation in a certain number of their cases, restricting the polyvalent antivirus to those in which a mixed infection seemed probable or had actually been demonstrated in smears and cultures. When the antivirus was applied as a wet dressing in fifty-two cases of such suppurative conditions as acute mastitis, paronychia, whitlows, and furunculosis, in conjunction with the usual simple surgical measures, these investigators found that the exudate from the wound diminished, pain was relieved, the signs of inflammation rapidly subsided, and healing was accelerated. It produced no effect, however, when applied to the unbroken skin over an abscess, and failed in one case of severe generalized erysipelas. As already noted in the *Epitome* (April 16th, para. 433), P. Tron found the treatment valuable in puerperal sepsis, while Schlein has obtained beneficial effects in a small number of cases of buccal sepsis from a mixed antivirus containing staphylococci and streptococci. It relieved pain in acute periodontitis, and one case of severe ulcerative stomatitis which had resisted other forms of treatment for three months subsided three days after the application of the antivirus.

Various theoretical explanations of the effects observed have been offered. Lehndorff and Brumlik consider that each antivirus, besides having a damaging effect on a specific type of organism, also modifies the tissues, rendering them a less suitable nutrient medium for bacterial growth. These authors do not regard antivirus as in any way related to Twort d'Herelle's bacteriophage, though they think that the activity of ferments may play some part in the process. Citron explains the results as due, not to a direct action on the organism, but to a local immunization of the tissues. Besredka has suggested that a soluble antivirus is liberated ordinarily during the phagocytosis of organisms, and that the "sessile phagocytes, or the reticulo-endothelial cells, when artificially impregnated with antivirus, become desensitized to pathogenic organisms, and are thus enabled to engulf and destroy large numbers as freely as if they were non-pathogenic. Though these hypotheses are as yet unconfirmed, the clinical results obtained appear to indicate that further investigations may produce results of considerable practical as well as theoretical importance.

[1] *Immunisation Locale*, reviewed on December 19th, 1925 (p. 1184).
[2] *Wien. klin. Woch.*, April 14th, 1927

MENTAL DEFICIENCY ADMINISTRATION.

THE Report of the Board of Control for 1925 was issued nine months ago. An article epitomizing some portions of it was published in the JOURNAL of September 11th last (p. 487). That part of the report which deals with mental deficiency has not, perhaps, received as much attention from the medical profession as it should have had. Such attention will probably be stimulated by a memorandum on the subject drawn up by a county medical officer of health, approved by the Association of County Medical Officers, and more recently adopted, without material alteration and after perhaps insufficiently detailed consideration, by the Council of the Society of Medical Officers of Health. The attitude towards the Board of Control disclosed by the memorandum is one of active hostility, and the criticisms of the Board's report and supposed intentions are not restrained. It would, however, easily be possible for the Board to reply that its intentions have not always been correctly described, and that a more careful study of some of the paragraphs of its report might have prevented what is an evident misunderstanding of their tenor.

Nevertheless, the main principle for which the memorandum contends—that the work of mental deficiency administration should not be isolated from all the other medical work of a local authority, but should be regarded as an integral part of public health work under the administrative control of one principal medical officer in each area—has on more than one occasion been declared emphatically as part of the policy of the British Medical Association. It cannot be gainsaid that there is a real necessity for insistence on this principle at the present time, and that there is considerable anxiety as to the attitude of the Board of Control with regard thereto, and, indeed, as to the full appreciation by that Board of the facts and problems of public health administration in general, and of the relation of those facts and problems to its own special field. The circumstance that this special field is concerned only with mental defects and disorders will not justify administrative isolation. The Ministry of Health Act makes it the duty of the Minister to "secure the preparation, effective carrying out, and

co-ordination of measures conducing to the health of the people, including measures for the prevention and cure of diseases and the treatment of physical *and mental* defects." The Chief Medical Officer of the Ministry of Health, in his report for 1925, said that the problem of the mentally subnormal child " should not be dealt with only as a form of curative or ameliorative medicine, but as an integral part of preventive medicine." The Report of the Royal Commission on Lunacy and Mental Disorder said (para. 38): " It has become increasingly evident that there is no clear line of demarcation between mental illness and physical illness "; and (para. 50): " The problem of insanity is essentially a public health problem, to be dealt with on modern public health lines." In that unification of public health administration, both centrally and locally, for which the Association is striving in the interest of national health there is no propriety in excepting any particular health service. It is unfortunate that the school medical service is still regarded primarily as part of our educational machinery and not as part of our public health machinery so far as its administration is concerned; though the effects of this separation are minimized by the happy circumstances that the Chief Medical Officer of the Ministry of Health and the Chief Medical Officer of the Board of Education are the same person, and that in almost all areas the medical officer of health is also the school medical officer. On the ground that mental deficiency in the child cannot be divorced from the work of the school medical service, as well as on the ground that the mental deficiency in the adult or adolescent cannot be properly considered apart from the same condition in the child, it is desirable that responsibility for these spheres of health work, as well as the others, should be placed upon one chief administrative health officer in each local government area. Any tendency of the Board of Control to encourage action on lines contrary to this principle must be carefully watched; but it may still be hoped that no such tendency will appear.

Even were such administrative unification actively encouraged or firmly established, however, this would not refute the statements of the Board of Control in its report: (1) that a large number of local authorities are still failing, in a greater or less degree, to carry out their statutory duties in connexion with mental deficiency; and (2) that there are a not inconsiderable number of members of the public health service, whether medical officers or their lay subordinates, who show very little or no interest in, and but slight if any knowledge of, this work. The memorandum of the Association of County Medical Officers and the Council of the Society of Medical Officers of Health would appear to be intended to imply that these statements are incorrect, but no one with a wide knowledge either of educational administration or mental deficiency work will be likely to question their truth. Such blame as there may be does not lie wholly with the local authorities, or still less with their officers. Pressure from the Board of Control upon what may be regarded as the most backward authorities can scarcely be described as severe, and for some time past the President of the Board of Education has been discouraging education authorities from making that provision for mentally defective children which is part of their statutory duty. When the council of the local authority in these circumstances deliberately neglects or has only a perfunctory regard to this part of its work, the medical officer and his staff can scarcely be blamed if they devote their energies to those public health duties in which they can do effectiv and are less zealous to acquire skill in or de time to spheres of work in which they employing authority will take no effectiv Nevertheless, there are many areas in which authority is primarily at fault, and some in responsible medical officer and his subordi imperfectly equipped for this portion of their

The duties of the local authority towards deficient persons are (1) ascertainment, (2) so far as possible, between the ages of 7 and (3) care by way of supervision, guardianship dential institution provision. The first and these lie mainly with the education authority, with the mental deficiency authority. None is easy to perform completely and effectivel all require a good deal of special medical ski as vigilant and instructed lay help. Over a of the country there is a disastrously incom vision both for education and for supervision and though ascertainment is supposed to be u carried out, it is clear that in many cases both persistence are lacking with regard even to that very varying standards are applied. instances no active search for defectives is n only those cases are known which are casually from time to time at the county or borou In other instances the educational or officers of the authority, or the relieving of directed to report any cases they come a as a rule they have no special training in t Further, where the work of ascertainment mainly by a voluntary association there is a of practice. In some areas every case notice is handed on to the local authority; only those which, besides being mentally defe " subject to be dealt with " under the Acts.

It is scarcely to be wondered at, therefore Board's figures may be challenged; or that should insistently demand some degree, or degree, of skill and training in this w those persons, whether medical or lay, in wh is placed the duty of ascertainment—still ascertainment, classification, and supervisio we believe, the medical officer of health shou responsible person, whether or no he has o (either as a school medical officer or otherwis medical man or woman with special dutie connexion, it is essential that he should hi considerable knowledge of this subject; and with regard to mental deficiency are assigned nurses, health visitors, or others on his s equally essential that they should have re appropriate training. This is emphatically with regard to any medical officer who is r for the actual certification of cases; and in nexion it must be remembered that the D Public Health does not involve such t experience, that even the Diploma in Psy Medicine may be held by a person who nothing of mental deficiency work, and medical superintendent of a mental hospita not interested in defectives, has usually lit ledge of home conditions, and is not always with the general public health work in his these circumstances it is fortunate that th Association for Mental Welfare has provid courses of training, which are officially recog social workers, and also, in conjunction University of London, for medical officers. It that the services of the Central Associatio and in other directions, should be acknowledg

ATTENUATION: "A STUNNING SUCCESS."

LAST Thursday was the forty-sixth anniversary of the crucial practical test of the validity of Pasteur's method for the protection of farm animals, especially sheep, against anthrax. On March 21st, 1881, he had made a final report to the Académie des Sciences on his experiments to produce anthrax bacilli of a greatly reduced degree of virulence. The bacillus would grow freely in a suitable medium, but its virulence was greatly attenuated or abolished. At the end of April, 1881, Pasteur arranged with the president of the Agricultural Society of Melun to put preventive inoculation to a practical test. He proposed that sixty sheep should be used for the experiment, but consented, at the request of the president of the society, to extend the experiment to ten cows. He foretold that after inoculation with a very virulent virus all the sheep not protected by inoculations of attenuated virus would die; that all the cows not so protected would be at least made ill, and that some would die; that the protected sheep would survive inoculation with this very virulent virus, and that the protected cows would not be made ill. The experiment was made at the farm of M. Rossignol at Pouilly-le-Fort, Melun. The animals actually used were 58 sheep of both sexes and of varying age; 2 goats, 8 cows, 1 ox, and 1 bull. On May 5th 24 sheep, 1 goat, and 6 cows were inoculated with the attenuated virus. On May 17th they were again inoculated with a second virus less attenuated than the first. On May 31st 60 animals were inoculated with a very virulent virus—namely, 48 sheep, of whom 24 had been vaccinated and 24 not; 2 goats, 1 vaccinated and 1 not vaccinated; 10 bovine animals, 6 vaccinated and 4 not vaccinated; 10 sheep, neither vaccinated nor inoculated, were kept as controls. Forty-eight hours later (on the morning of June 2nd) a large number of spectators assembled at the farm. It was an anxious moment for Pasteur, because, though he was certain of his laboratory facts, a practical test under farm conditions was another matter, for so many accidents might happen; his mind had, however, already been relieved by the receipt of a telegram on the previous evening telling him that things were turning out as he had foretold; the telegram ended with the words "stunning success." Pasteur reached the farm at 2 o'clock on the afternoon of June 2nd. He saw laid out the carcasses of 21 of the 24 sheep which had not been protected by inoculation of the attenuated virus, and of the one unprotected goat. The 24 sheep and the goat protected by inoculation appeared to be in good health. None of the bovine animals was dead, but the 4 unprotected presented extensive oedematous swellings around the point of inoculation, and by the following day the swellings were much larger and the animals had fever. The 6 bovine animals protected by the attenuated virus did not suffer any elevation of temperature, swelling, or loss of appetite. By the evening of June 2nd the three remaining unprotected sheep were dead. The success of this farmyard experiment was at once widely acknowledged by practical veterinarians, and the importance of the principle established was by degrees gradually recognized by the medical profession. From it may be dated the beginning of the enormous amount of experimental and clinical work which has been done on attenuation and immunity.

THE COLSTON RESEARCH SOCIETY, BRISTOL.

THE universal respect in which the memory of Edward Colston, the philanthropist of Bristol, is held in his native city is reflected in the societies which have been established there from time to time to keep his memory fresh. The parent society still holds its meetings; but as these are conducted in private the nature of its deliberations is unrevealed, although it is known that there was a time when heavy feasting and hard drinking formed part of the agenda. Then there are the opposing political societies—the Anchor and the Dolphin—for those who delight in political fisticuffs; and a haven of peace for those who have forsworn politics for good—the Grateful. More recently a desire arose to make some adequate commemoration of the educational, as distinguished from the purely charitable work of Colston. The late Mr. Walter Reid, founder of the *Western Daily Press*, with this end in view, proposed to establish another Colston Society, which should not only commemorate Colston, but also work for the conversion of the Bristol University College into a university. A Colston Research Society was accordingly founded, and it exercised considerable influence in securing the University Charter which was applied for in 1903. In recent years the funds of the Research Society have been used in grants for definite branches of investigation, and the same broad and varied outlook has been exhibited by the committee in the application of their grants as the townsmen have shown in the activities of their various societies. Thus, the list for the current year includes such items as the use of heavy fuel in engines, the processes of soap-boiling and tanning, the measurement of temperature and pressure in internal combustion engines, certain matters of literary and artistic import, and, not least in importance, the study of rheumatic heart affections. At a dinner given by the Research Society at the Victoria Rooms, Bristol, on May 23rd, at which Sir William Hardy and Sir Humphry Rolleston were the guests of the evening, the honorary secretary, Mr. J. A. Arrowsmith-Brown, announced that a sum of £200 had been given by six subscribers for a research fellowship in connexion with the Institute of Cardiac Research, which is to be established shortly at the Bristol General Hospital and will be equipped by the University. Work in relation to heart disease has already been assisted by the society, and is being carried out under the supervision of Dr. Carey Coombs; the fellowship will enable the whole-time service of a skilled assistant in the work to be secured. By the generosity of the donors the payment is made possible for two years. Sir Humphry Rolleston, in replying to the toast of "The Guests," referred to the change of attitude which was observable in regard to the value of scientific research. It was now recognized, even by the Government, that from a commercial point of view the new knowledge gained by a comparatively small expenditure on investigation by skilled hands might effect great and lasting economies. The recent scientific study of industries and the condition of the workers had been revolutionary in respect of the methods for preventing waste of time and ill health. Organized medical research in the laboratory, he stated, was no less fruitful in furnishing exact results, although systematized clinical research was of equal importance, and, from the complexity of the conditions involved, of greater difficulty. By systematized clinical research alone was it possible to ensure the detection of the earliest signs of disease, and so to facilitate the ideal of medicine—namely, the prevention rather than the cure of disease. Sir Humphry congratulated the city and University of Bristol in having in Dr. Carey Coombs one who was following out both these lines of research in investigating the incidence of rheumatic disease in children; it was appropriate that Bristol, the home of merchant adventurers, should be the home of the Colston Research Society, which endowed and encouraged the search after truth in so many branches of knowledge. The subject of acute rheumatism and its cardiac complications has been brought prominently before the profession during the last few months. A subcommittee of the British Medical Association published a report on rheumatic heart disease in July last, and a second report from the same source appeared in the SUPPLEMENT of April 16th (p. 121), with an appendix prepared by Dr. Reginald Miller on the prevention and control of juvenile rheumatism. In March

last a report on social conditions and acute rheumatism was published by the Medical Research Council, and in an article which appeared in our last issue Dr. Miller compared the reports and summed up the conclusions to be deduced from them.

INTRATRACHEAL INJECTION OF IODIZED OILS.

NEW diagnostic and therapeutic procedures arouse frequently a degree of enthusiasm which carries with it a tendency to overlook or minimize any risks entailed. The unquestioned value of iodized oils in radiography of the chest has led to the adoption of this method of examination on so considerable a scale that the possibility of undesirable effects has been less emphasized than is altogether desirable. Drs. E. Archibald of Montreal and A. L. Brown of San Francisco have, therefore, rendered distinct service by publishing[1] a careful estimation of the dangers of introducing iodized oil into the tracheobronchial system. Although they agree that the practice is, as a rule, safe, they add that, whether the introduction of the oil is transthoracic, transglottic, infraglottic, intercricothyroid, bronchoscopic, or by deglutition, it is possible to cause local sepsis, laryngeal oedema, or a false passage, while excessive quantities of oil may reach the stomach and set up poisoning. Though probably a rare event, infective material from the mouth or larynx may be carried into the alveoli, and the authors have shown by experiment that the presumed antiseptic character of the oil is not to be trusted. The coughing usually caused by introduction of the oil may intensify a pathological process in the lungs, or infect healthy alveoli and induce bronchopneumonia. Respiratory embarrassment may be caused by the oil plugging the smaller bronchi, and this may prevent the entry of air into a considerable portion of the lung with retention and possible absorption of the purulent products. Since it is impossible to regulate the rate or amount of absorption of the oil, the danger of iodism cannot be excluded, and the authors suggest that preliminary determination of the iodine tolerance of the patient would be a useful precaution. In this connexion the possibility of sensitization effects in tuberculous patients must be remembered, since the congestive action of the iodine may light up a quiescent tuberculous process, or cause exacerbation of a chronic mild infection. That these dangers are not hypothetical is shown by reference to the literature and by reports of three cases observed at the Royal Victoria Hospital, Montreal. A man, aged 36, with chronic bronchitis and bronchiectatic dilatations, died after the administration of lipiodol, which provoked an acute pneumonic process. In a woman, aged 27, the introduction of this oil brought about an immediate severe reaction, with rise of temperature and increased pulse rate. In the third case, a woman, aged 28, with quiescent pulmonary tuberculosis, the injection of lipiodol caused a severe febrile reaction, with dyspnoea, cough, and increased expectoration; the exacerbation subsided in a week. Conditions which should be regarded as contra-indicating absolutely the employment of such intratracheal injections are pulmonary tuberculosis, with haemorrhage or pyrexia; suppurative bronchorrhea, with fever; and pulmonary gangrene. It seems clear, therefore, that the introduction of iodized oil into the bronchi should not be employed indiscriminately. The possibility of untoward sequels must be recognized and precautions taken to avoid its use in unsuitable cases.

[1] *Journ. Amer. Med. Assoc.*, April 23rd, 1927, p. 1310.

BOTULISM.

THE tragic episode at Loch Maree in 1922, when eight persons lost their lives through eating sandwiches containing potted wild duck paste, is happily the only authentic instance of botulism recorded in Great Britain. This comparative immunity is in strong contrast wit experience in North America. A recent return shows tha there have been reported in the United States an Canada, from 1899 to 1926, outbreaks to the number c 146, with a total of 496 cases and 329 deaths, givin a case mortality of 66 per cent. During the eight yea 1918 to 1925 there were on an average thirteen outbreak annually. In 1926, the last of the years under notice the number fell to three, in Wyoming, Oregon, an California respectively, all western states. The peccan foods were string beans, trout or salmon, and asparagus all home-canned. The *Bacillus botulinus*, an anaerobi spore-forming organism, is widely distributed in nature It is found in the soil, in dust and, as the casualtie show, in various food stuffs. The frequency of botulis to the west of the Rocky Mountains and especially i Southern California has been ascribed to an abundanc of the spores of the bacillus in the soil of these area The disease, which derived its name originally from it association with sausages, is usually caused by preserve or processed foods, meats for the most part on th European continent. In North America, however, man other articles of diet, such as cheese, spinach, olives, an those above mentioned, have been implicated. Prevention secured by the use of fresh foods, by cleanliness in prepa ing them and by applying sufficient heat to kill the spore Brine or syrup in adequate strength is a safeguard. Aci fruits appear to be guiltless. Thorough cooking tends t protect, but in infected foods the toxin may form again Though only one outbreak of botulism is known to hav occurred in Great Britain, food poisoning accredited t other bacteria such as those of the Salmonella group not uncommon. In England in 1925 there were abou twelve visitations of this kind, one at Plymouth of 30 cases and others at Lynmouth, Clacton, Scunthorpe, Lan beth, Neston, Stepney, Harrogate, Hampstead, and else where. In Scotland during the same year six outbreak were recorded, including a widespread infection Aberdeen involving 497 persons. The total deatl for the year appear to have been two in England and on in Scotland, a different tale from the high mortality c botulism. Botulism in the United States has frequentl followed the eating of home-preserved foods. There a considerable amount of home preserving in this country but the Loch Maree outbreak was caused by a factor product, contained in glass jars. The reporter to th Scottish Board of Health on the outbreak expressed th view at the time that the reputable firms take ever reasonable care and precaution, but said that he woul like to see glass jars abolished, since they do not stan heating to the thermal death point of pathogenic spor so well as metal containers. In order to supply for futur cases, should they occur, such remedy, if any, as may b possible once the signs of poisoning have appeared, an for the protection of persons in the entourage of case who may be presumed to have been exposed to risk, th Scottish Board has caused stocks of antitoxin to be hel available in Fever Hospitals at Aberdeen, Dundee, Edi burgh, and Glasgow for issue as occasion demands.

BLOOD PLASMA AND SENILITY.

IN his Cavendish Lecture at the West London Medico Chirurgical Society on May 27th, Dr. Leonard William epigrammatically remarked that "senescence, like love, i a story which never grows old," and has taken this oppor tunity of touching on some old views in the light o modern research in tissue culture, endocrinology, and s forth. Thus attention is called to Dr. Harry Campbell' insistence twenty years ago on the importance of the bloo plasma, as contrasted with the more easily investigate corpuscles, in the life, health, and disease of the body. A the plasma is built up from the products of digestion an

the internal secretions of the endocrine glands, the tissues, which it bathes and nourishes or poisons, are likely to pay the penalty for dietetic errors and to respond to the stimulus, or remain quiescent in its absence, of the hormones of the ductless glands. On the subject of cookery and food Dr. Leonard Williams follows fairly closely the principles of Metchnikoff, and with a firm but light hand has much to say on "the subtle sins of sloth and gloomy gluttony"; his comment on the treatment of disease, which may result in interference with the saving grace of *vis medicatrix naturae*, gives us the *obiter dictum* that "in comparison with the ordinary British invalid, the forcibly fed Strasbourg goose is an ascetic." Fasting, he points out, is the simplest and safest of remedies in many, especially metabolic, disorders, but, being devoid of mystery, is far from popular. We remember a sanatorium in America the inmates of which were encouraged to eat nothing for weeks at a time. Rejuvenation is, Dr. Leonard Williams said, the motto of the moment, and surgical measures, such as those of Steinach and Voronoff, are much in the limelight, but they should never be needed if moderation in diet punctuated by fasting were universally practised. The lecturer believed Voronoff's reasoning to be sound, and had seen excellent result follow his grafting operation; under the present widespread conditions of overfeeding there were many who might be benefited by the grafting operation, not by the prolongation of life, but by the prevention of senility and the maintenance of efficiency during the duration of life. Sooner or later, of course, and in spite of "laborious days, occasional fasts and grafts," the inevitable stage of the lean and slippered pantaloon arrives, and the final burst of the bubble is probably often brought about by adrenal failure to preserve vascular tone, with the resulting sudden hypotension, as in surgical shock or in collapse, "sometimes fortunately without the surgery."

THE HOSPITAL ALMONER.

A WELL attended meeting, under the auspices of the Institute of Hospital Almoners, was held in London on May 26th, with Lady Bradford in the chair, to inform the public of the work of the hospital almoner, and to stimulate interest in this form of social service. After Dr. Gray had described the functions of the institute, which arranges for the training of candidates as almoners and certifies and registers them, an address was delivered by Sir John Rose Bradford, P.R.C.P., who approached the subject from the point of view of after-care. The need of after-care, he said, loomed constantly in the mind of those who had to do with the treatment of disease. What had for long been recognized as necessary in mental cases was now seen to be no less necessary in physical illness. Working people who had been suffering from rheumatic fever, for instance, were very prone to imagine that immediately after the cessation of any serious symptoms they might resume work under the same conditions as before, and often this meant that the benefit they had received under treatment was undone. In cases of this kind the work of the hospital almoner was particularly valuable, for she was able, with her trained eye, to keep a watch on the patient and to ensure that as far as possible what had been done for him in the way of treatment had its proper chance. Sir Berkeley Moynihan, P.R.C.S., also addressed the gathering, speaking more particularly of the social service department in the hospital from the point of view of the medical staff. He said that those who watched hospital cases over a period of years soon realized that, however brilliant might be the success of the physicians and surgeons in respect to the immediate result, very much remained to be done. Years ago the need was felt in hospital work for somebody who would see that the suggestions and instructions for the after-care of the patient were carried out. Otherwise the efforts made to restore a patient to health or to repair a mechanical defect or deformity never reached their full fruition. This was tantamount to saying that one of the necessary corollaries and completions of surgical work was social service. Since the system of almoners at Leeds Royal Infirmary had been started he had been impressed by the saving of human life and the diminution of misery which had resulted from their constant and devoted work. Not only was the almoner effective in the matter of after-care, but she could do much in the preparation of the patient for effective hospital treatment. Many patients who ought to undergo operation had first of all to be brought back to life before the surgeon could hope to restore them to health. The doctor, the nurse, and the almoner were the tripod on which successful treatment depended. But it was necessary that the almoner should be competent and trained, and should have special gifts for the work. The ideal almoner was a gentlewoman, a person of good breeding and high character, in love with her job, and with a sense of compassion for others. In the north they were finding exactly the kind of gentlewomen needed. At her best the almoner was really the doctor's ambassador on the domestic hearth. Unless every hospital in the future had at least one almoner as a recognized member of its staff, the work done in that hospital would not reach its full effect and would mean a waste of effort and of money. He *himself* at first had been reluctant to admit the almoner into their counsels, but he had come to see that the moment when the surgeon was most delighted with the perfect healing of a wound was the moment at which the almoner should begin her work. The Leeds Infirmary now had five. Sir Arthur Stanley spoke on the value of the social service department in hospital administration, and Sir StClair Thomson wound up with a vote of thanks.

THE MEDICAL MAN IN PARLIAMENT.

DR. GRAHAM LITTLE, M.P. for the University of London, in an address to the Chelsea Clinical Society on May 31st, lamented that a profession so important to the community as the medical should muster no more than a dozen members in a House of 615. For a medical man to serve in Parliament entailed sacrifice of money and leisure, yet it ought not to be difficult for a man in consulting practice, at all events, to perform his parliamentary duties as efficiently as the practising lawyer, of whom there were about 200 in the House of Commons. Parliamentary proceedings needed very careful watching. A bill of quite considerable effect for large numbers of the community might slip through an almost empty House with practically no discussion. In the case of the Dogs' Protection Bill, had not a small number of members resolute in opposition been present the bill would undoubtedly have gone through in the forty-five minutes available, with disastrous results to medical research in this country. It was not enough to have public agitation outside the House; the position must be secured within the chamber. Medical men were in Parliament by accident. With the exception of a small effort by the British Medical Association, there had been no attempt by medical bodies to secure the parliamentary representation of medicine. The medical profession was freely assailed with the accusation that it was a trade union actuated by sordid motives of self-interest, but it was difficult to imagine any trade union so blind as the medical profession to the importance of taking action where action could be most fruitful—namely, on the floor and in the committee rooms of the House. When he entered the House in 1924 the medical members held an informal dinner and discussed the possibility of forming themselves into a medical group to take corporate action when medical matters were involved. The majority of those present appeared to believe that political differences were too deep to permit of common action from a professional point of view. He

ventured to express an opposite opinion, and suggested that when the group could agree upon a policy that policy should be pursued by common action on the part of the group, but that when there were differences of opinion the group as a group should not act, its members being free to take what course they chose. The group held regular meetings throughout the session, usually fortnightly; it had received deputations from various medical bodies, and two of its members, Sir Richard Luce and himself, acted as unofficial liaison officers between the group and the Medico-Political Committee of the British Medical Association. It had been found possible to present a united front on many professional matters, notwithstanding political differences; three of the group were Labour members, he himself was an Independent, and the others were Conservatives. There were some questions on which the group was divided, and no common action was possible; one of these was the Spahlinger treatment of tuberculosis. Yet considering the smallness of the group it was surprisingly influential, even in a place where so many misconceptions as to medicine prevailed as in the House of Commons, and where the quacks had so many friends. Medical interests arose in many ways. In the present bill proposing to deal with leasehold property there was a clause specifically excluding professional premises from its beneficent operation. He pleaded on the second reading for the inclusion of such premises, and although his speech was limited to three minutes (in deference to the Speaker, whose list of members taking part in the debate was already full) it elicited a promise from the Solicitor-General that he would give the plea most favourable consideration. Amendments had accordingly been tabled whereby the bill would be made to apply to the premises of medical men. With regard to social aspects of the House of Commons, Dr. Little said that the description of it as the best club in London was fully justified. A certain dullness was ineritable in routine business. Nevertheless, the House attracted many interesting figures and outstanding personalities. It was truly said that there was no subject upon which an expert could not be found on the green benches. It was a pleasant unwritten law that every member was upon equality, and titles were dropped, except in the case of the Prime Minister. Outside the chamber party distinctions were forgotten, although in the dining room there were Conservative, Liberal, and Labour tables. There was no rancour, and the friendship among members of different political views was a source of astonishment to visitors from foreign legislatures. Indeed, so attractive was parliamentary life that it was not surprising that those who had once tasted its joys were very loath to relinquish them, and were ready to make astonishing sacrifices of time and money to retain their seats.

PSYCHOLOGY IN GOLF.

PSYCHOLOGY is spreading like star weed. It has invaded the golf courses. The latest example of this is a small volume[1] on mental handicaps in golf, by Dr. T. B. Hyslop, who is not only an enthusiastic golfer, but also an entertaining writer. Before we opened it we felt instinctively that the book would add another to those distractions which afflicted the centipede of fable, and indeed the honorary secretary of the Medical Golfing Society (to whose members Dr. Hyslop dedicates his volume with sympathy and regard) appears to have a similar feeling, for he quotes the whole of the fable in a foreword. Incidentally he quotes it wrongly, but that is another matter. Hitherto we have been under the impression that golfers and poets had one common characteristic in and not made; the golfer, of course, being a wooden spoon in his mouth. But after re Dr. Hyslop has to say on mental handicaps we to the conclusion that a babe with the minimun instincts may grow into a golf champion, p attends to his mental stance, when sufficiently that he is neither too optimistic nor too de addressing the ball, and keeps his mind off hi and his opponent's mind. Moreover, if he s bunkeritis, putterphobia, or any of those othe to which he is subject between the tee and, let the putting green, he need only consult a psyc better still, read Dr. Hyslop's book, which does ever, tell us much in a therapeutic sense. Et diagnosis are its prominent features. Nor is that lends itself to analysis. Its ten short ch concerned with such subjects as prodromata, mental stances, automatism, stigmata of de time-reactions, psychotherapy, the tee-side ma anecdotage. We hoped to enjoy some new golf the last chapter, but it contains none. The oth contain several. The ultimate result of mental is, in the author's own words, that "reserve and reason are the three best clubs for a golfe bag, and these three mental characteristics are triumvirate of potential champions." Altoge a most entertaining volume if not taken too Taken seriously it is distracting and brings us to the fable of the centipede. We note that M name is spelt incorrectly, and we prefer our Colonel Bogey to Dr. Hyslop's Mr. Par.

[1] *Mental Handicaps in Golf.* By Theo. B. Hyslop, M.D., F.R.S.E. With forewords by Rolf Creasy, M.R.C.S., L.R.C.P., and John Henry Taylor. London:

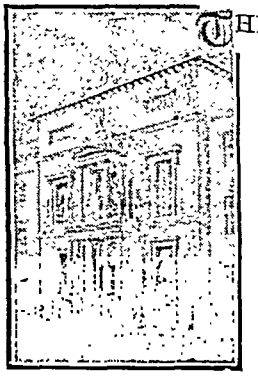
THE BIRTH AND DEATH RATES.

INFLUENZA and the falling birth rate combined a decrease of population in the first quarter of when registered deaths exceeded registered birth in the previous quarter the excess of births o was 43,477. There has not been an excess of d births in any quarter since the March quarte when (owing to the third wave of the great p influenza) the deficit was 47,128. In the last 1918—that is, in the worst phase of the pa influenza—the deficit was 79,379. Although we expect a negative balance to be a frequent re quarterly statement of our vital banking operat near future, the time cannot be very far distant will ordinarily be so little difference between the death rates that much smaller prevalences o disease than that of this spring will lead to a de

THE GENERAL MEDICAL COUNCIL.

THE session of the General Medical Council, wh under the presidency of Sir Donald MacAlister o May 24th, occupied only four days. Although a disciplinary cases were considered, no medical n was erased from the *Register* for misconduct, fewer than six cases judgement was postponed u session. The cases included three in which pract Scotland had been keeping a medical hall or where scheduled poisons had been sold to the an assistant not legally qualified, who, it w was acting under the doctor's "cover." Of disciplinary cases one was concerned with a another with lax certification, and a third with for drunkenness. One case in which the c that of "covering" uncertified women acting a was stopped before the defence was concluded missed. The other business of the Council was

NINETY-FIFTH ANNUAL MEETING
of the
British Medical Association,
EDINBURGH, 1927.



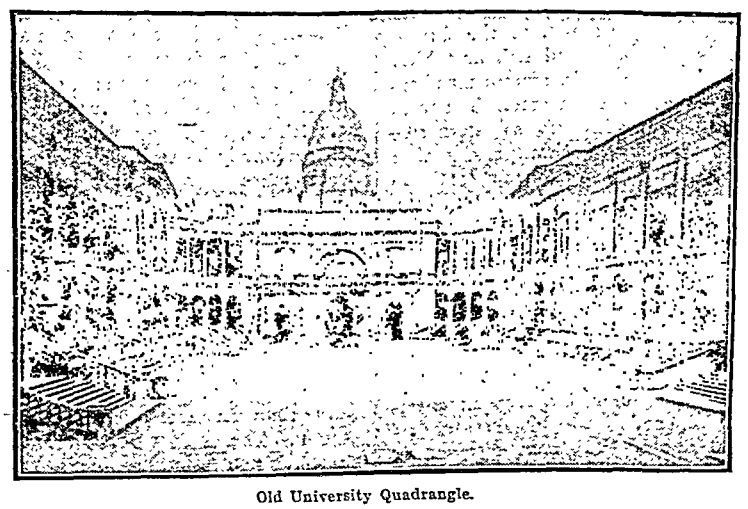
Royal College of Physicians of Edinburgh.

THE ninety-fifth Annual Meeting of the British Medical Association will be held in Edinburg next month under the presidency of Sir Robert Philip, M.D., LL.D., honorary physician to the King in Scotland, who will deliver his address to the Association on the evening Tuesday, July 19th. The scientific and clinical work of the meeting will occupy, as usua the three following days, and on this occasion it will be divided among twenty-one Section The names of the officers of Sections and other preliminary announcements are publishe in the SUPPLEMENT this week; the full programme of scientific business and further detai of the arrangements for the Annual Meeting will appear in later issues. The Annu Representative Meeting, for the transaction of medico-political business, will begin o Friday, July 15th. On the last day of the meeting (Saturday, July 23rd) there will be a excursion to Fife and St. Andrews. We print below the fourth of a series of descriptiv and historical notes on the Scottish metropolis and its relations with the science an practice of medicine. The first article, published on December 4th, 1926, dealt with ol Edinburgh and the beginning of the Medical School; the second, on January 1st, wit the Medical School from 1726 to the middle of the nineteenth century; and the third, o March 26th, with Edinburgh medical institutions.

It has been decided to make the Edinburgh celebrations of the centenary of Lord Lister's birth coincide wit the Annual Meeting of the British Medical Association. A book dedicated to Lister's life and writings is being prepared for the occasion, and throughout the week a museum of Lister relics will be on view in the Upper Library of the old University. On Wednesday, July 20th, at 8 p.m., a public meeting will be held in the McEwan Hall with the Earl of Balfour, K.G., in the chair, when short commemorative addresses will be delivered.

THE UNIVERSITY AND ROYAL COLLEGES AT EDINBURGH.

THE University of Edinburgh took its rise in the Town's College, founded by the town council at the instigation of King James VI of Scotland in 1582. The College was at first housed in the buildings of the Kirk o' Field, the scene of the murder of Darnley in 1567. Although these buildings were subsequently renovated, it was found by 1768 that the buildings, "poor in themselves, seem not to have been carried on according to any regular plan, such as takes place in other academical structures which have been erected on more opulent foundations; and hence the whole fabric has a mean, irregular, and contemptible appearance." At this time the number of students was between 600 and 700, and that of the professors 21. A Medical Faculty had been added about the year 1726. A scheme for rebuilding was taken up seriously by the town council, encouraged by the promise of liberal aid from Government, and the foundation stone of the new College, from a plan by Robert Adam, then at the height of his great reputation, was laid on November 16th, 1789. This building, begun on the eastern and northern sides, was greatly delayed by the death of the architect in 1792 and by failure of funds. The remaining two sides of the quadrangle were finished by a Government Commission appointed in 1815, from plans by William Henry Playfair. This work was practically completed in 1828, at a total cost of about £161,000. The building, and especially its façade with monolithic columns 22 feet in height, forms a magnificent example of the work of these two great architects. One of the most striking interior features of the building is the great hall of the Library, 185 feet long with arched ceiling enriched with cassettes. In this hall the British Medical Association is to show a historical exhibition at the time of the July meeting.

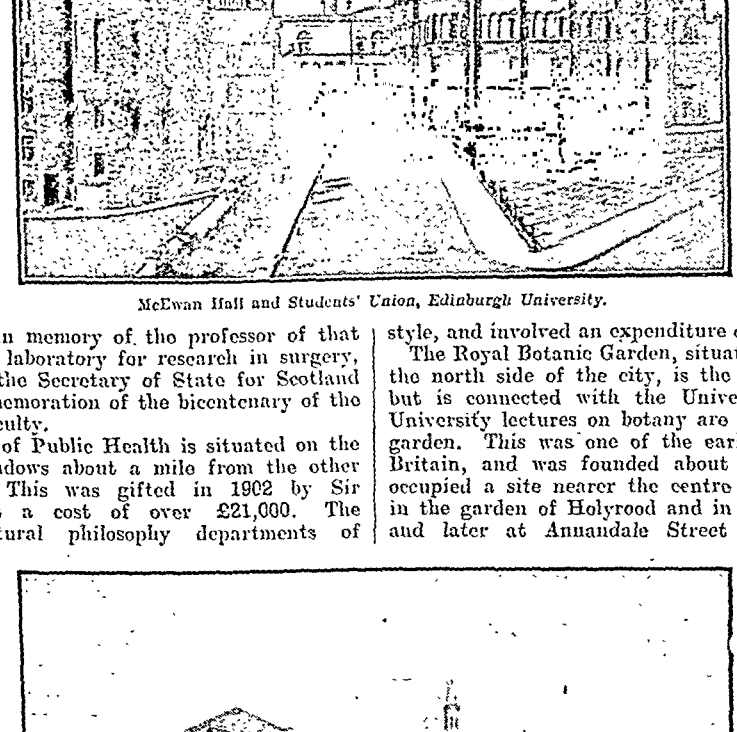


Old University Quadrangle.

The present dome, from designs by Sir R. Rowand Anderson, was not completed until 1883, and a war memorial, consisting of five tablets with the names of approximately 1,000 students and alumni of the University who fell in the great war, has been erected under the portico at the western end of the quadrangle.

In 1869 the number of students had risen to 1,500 and that of professors to 33, while there were only 17 classrooms in the University buildings for their use. Extension, therefore, became indispensable, and an appeal was made to the public for subscriptions to provide a new site, and the erection of classrooms, theatres, laboratories, etc., for the Faculty of Medicine. This appeal yielded a sum of

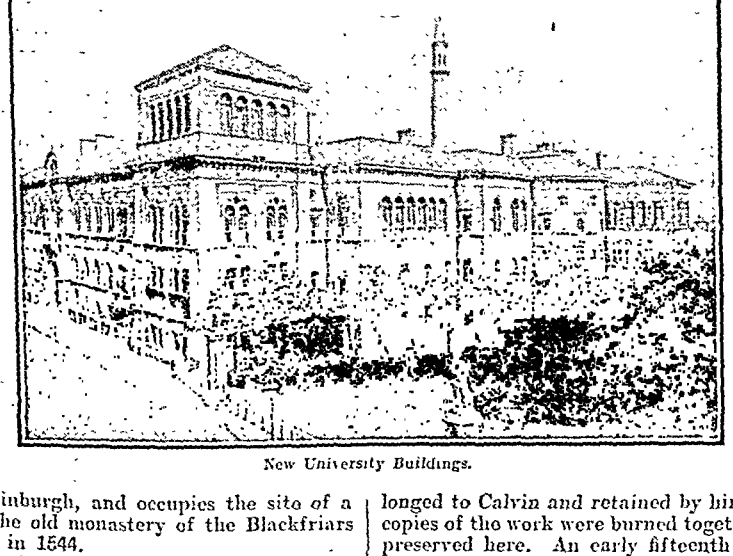
approximately £150,000, to which the Government added a grant of £80,000. The University new buildings situated in Teviot Place were therefore begun in 1878 and opened for teaching purposes in October, 1880. In these buildings the British Medical Association is to hold its meeting in July. The style of architecture is Italian of the Cinquecento period, and is in harmony with the McEwan Hall, gifted by Mr. William McEwan, M.P., and finished in 1857 at a cost of about £115,000. This hall is capable of holding upwards of 2,000 people, and will be used for the Representative Meeting of the British Medical Association, the Lister Centenary Meeting, and various other receptions in July.



McEwan Hall and Students' Union, Edinburgh University.

More recent additions to the University new buildings (School of Medicine) have been made in the Hughes Bennett Physiology Laboratory, erected in 1901 in memory of the professor of that name, and in the new laboratory for research in surgery, which was opened by the Secretary of State for Scotland in June, 1926, in commemoration of the bicentenary of the Edinburgh Medical Faculty.

The Usher Institute of Public Health is situated on the south side of the Meadows about a mile from the other University buildings. This was gifted in 1902 by Sir John Usher, Bt., at a cost of over £21,000. The engineering and natural philosophy departments of the University are situated some 200 yards to the east of the old University and occupy buildings of much historic interest in connexion with the Medical School. The natural philosophy building was completed in 1907 by the reconstruction of the old Surgical Hospital, the outer walls being preserved almost without change. The engineering department occupies a building which was previously the part of the old Surgical Hospital in which Lister's wards were situated while he was professor of clinical surgery at Edinburgh. The building was formerly the High School of Edinburgh, and occupies the site of a churchyard adjoining the old monastery of the Blackfriars burned by the English in 1544.



New University Buildings.

Minto House, situated at Nos. 18 and 20, Chambers Street, is used for the University departments of English and Modern Languages, and occupies the site of a mansion originally the town house of the Earls of Minto, which for a time was taken by James Syme as a hospital, where some of his most celebrated operations were performed.

The King's Buildings of the University, situated on the slope of Blackford Hill beyond the southern margin of the city, comprise a range of laboratories which were opened for teaching purposes in October, 1920. These buildi include the department of technical chemistry, the dep ment of geology, and the animal breeding rese department. A considerable extension of these buildi is planned for housing other scientific departments.

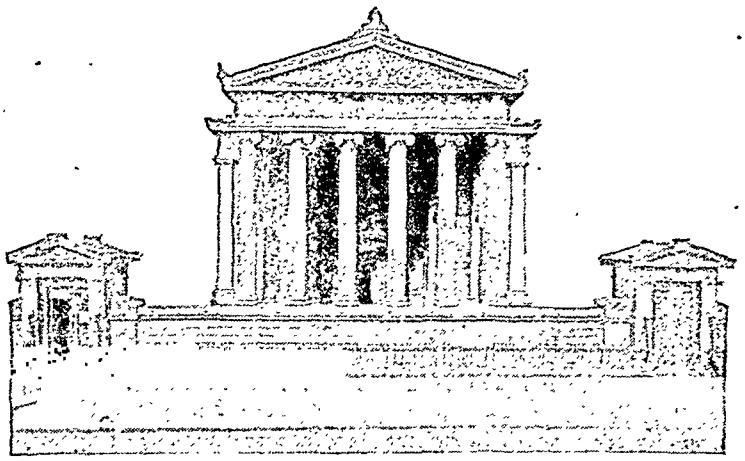
The University Union occupies a site in Park Pl close to the McE Hall and adjoin the music classro The Union was stituted in the y 1884, when t Students' Represen tive Council starte movement to col funds for its erecti In 1900 and in 1 extensions were fo necessary to acc modato the increa number of stude Part of the extens occupies the site the famous "H House," to which Walter Scott re in Redgauntlet. buildings form handsome exampl the Scottish baro style, and involved an expenditure of some £41,000.

The Royal Botanic Garden, situated in Inverleith Row the north side of the city, is the property of the Cro but is connected with the University in so far as University lectures on botany are given in the hall of garden. This was one of the earliest botanic gardens Britain, and was founded about 1670, although it t occupied a site nearer the centre of the city, first of in the garden of Holyrood and in that of Trinity Coll and later at Annandale Street near Gayfield Squ whence it was moved to its pres site in 1822-24.

The Univers Library conta about 300,000 volu and some 8,000 ma scripts, of which m are very valua The Library had origin in a collect of some 300 volu bequeathed in 1580 Mr. Clement Litti "Edinburgh and K of God," transfer by the town counci the keeping of University. Am the later collecti are valuable e copies of Shakespe and other Elizabeth writers. One of three copies ext of the Christiani Restitutio of Servet supposed to have longed to Calvin and retained by him when all the availa copies of the work were burned together with their autho preserved here. An early fifteenth century Gaelic medi manuscript and various mediaeval illuminated works also possessed by the Library. Here, too, are some fo busts of former professors in the University.

The Royal College of Physicians, which at the pres day has its Hall at No. 9, Queen Street, was founded 1681, in virtue of a charter obtained from Charles II. College was instituted mainly for the regulation of med practice in Edinburgh and its suburbs, and at an e date (in 1699) it produced a Pharmacopoeia for use

Scotland and about the same time commenced the formation of a library. A new charter, dealing especially with the [illegible] College property and the method of [illegible] and Fellows, was obtained by the College in 1681. Various halls have been occupied by this College. The first was purchased in 1704, and consisted of a house and grounds in Fountain Close in the High Street, adjoining the house of the Marquess of Tweeddale, and the College shortly thereafter purchased a garden extending down to what was then the fashionable street of Cowgate. Permission to walk in the gardens and shrubbery of the physicians was regarded as a privilege by the neighbouring gentry. Here, too, the physicians established a bath, which was open to the inhabitants generally at a charge of twelve shillings Scots, from which the College made a considerable revenue. In 1722 a new hall was erected in the garden, but this proving rather unsatisfactory, the foundation stone of a hall in George Street was laid by Dr. William Cullen in 1776, and the College removed there for the first time in 1781. Finally, in 1846, it removed to the present building. The active part taken by the College of Physicians in the foundation of the Royal Infirmary was described in the BRITISH MEDICAL JOURNAL for March 26th (p. 573) and a somewhat similar patronage was exercised by the College in the foundation at Morningside of the Royal Asylum for the Insane. The library of the College has gradually increased from the time of its foundation, and it possesses a very valuable collection of the works of early medical authors. Many of the manuscript lectures or lecture notes of early teachers in the Edinburgh Medical School are also deposited here. The library now contains about 100,000 volumes. About 1885 a proposal was made to found a laboratory for research, and this laboratory, now situated in Forrest Road, was first opened in 1889. Much valuable scientific work on subjects connected with medicine has been carried out here, and the laboratory is now to a large extent financed by the Carnegie Trust of the Scottish universities. After the passing of the Medical Act of 1858 an important arrangement was made between this College, the Royal College of Surgeons of Edinburgh, and the Glasgow Faculty of Physicians and Surgeons, by which the examinations of the three bodies were to be conducted conjointly, and a triple qualification issued to their licentiates. In addition to the licence the College of Physicians now admits Members and Fellows to its roll.



From a photograph by] [Francis Caird Inglis, Edinburgh.

Royal College of Surgeons of Edinburgh.

The Royal College of Surgeons took its origin from the Guild of Surgeons and Barbers, which received a seal of cause or charter of incorporation from the town council in the year 1505. The activities of this body in its early days have already been described in the BRITISH MEDICAL JOURNAL for December 4th, 1926. One of the chief, as well as one of the earliest, contributions to the establishment of medical study in Scotland was made by this body in the introduction of early anatomical instruction at Edinburgh. Their teacher of anatomy, in the person of Alexander Monro, was taken into the Town's College as professor of anatomy in 1720. For about a century surgery was taught as a part of anatomy in the University of Edinburgh, and the College of Surgeons in 1804 decided that this should be changed. They accordingly appointed one of their Fellows, John Thomson, to be professor of surgery of the Royal College of Surgeons. This was opposed by the University on the plea that a university only might appoint professors, but the College of Surgeons continued their appointment later in the persons of Mr. John William Turner and Mr. John Lizars. Finally, in 1831, the Crown, on the recommendation of the town council, established a chair of systematic surgery within the University. The College of Surgeons also took a part in the foundation of the Royal Infirmary of Edinburgh, although their share in this work was not so great as that of the College of Physicians.

The hall erected for the Incorporation of Surgeons in 1697 is still to be seen, somewhat modified, standing to the east of the physics department of the University. The present handsome building, with a frontage adorned by Ionic columns on Nicolson Street, was opened in 1832. Here are situated the hall with a collection of old portraits, and the examination rooms of the College, together with its museum. This includes, among other things, the anatomical and pathological museum purchased from Sir Charles Bell in 1826. The Guild of Surgeons was erected into a Royal College of Surgeons with new privileges under the Great Seal by George III on May 12th, 1778. In the early part of the nineteenth century the licence of this College was a popular qualification sought in great numbers by men desiring to engage in general practice or to enter one of the services, and after the passing of the Medical Act the Royal College of Surgeons united with the College of Physicians and Faculty of Physicians and Surgeons in Glasgow to grant a triple qualification. The College of Surgeons has also established a licentiateship in dentistry, and grants its Fellowship as a higher diploma obtainable after examination.

England and Wales.

FREEDOM OF HARTLEPOOL FOR DR. W. S. GIBB.

DR. WILLIAM SCOTT GIBB, honorary physician to the Hartlepools Hospital, who has been a member of the Hartlepool Town Council for twenty-seven years, and who was for a period of three years mayor of the borough, was presented on May 24th with the Freedom of Hartlepool. The scroll conveying the Freedom was contained in a silver casket. Dr. Gibb, returning thanks for the gift, regretted the modern tendency on the part of the Legislature to confine legislation to county councils and county borough councils, ignoring small non-county boroughs, which in many instances had long historic traditions. He thought that this policy should be opposed in every possible way, since in many cases economy and greater efficiency would result from such boroughs having control of the expenditure within their own areas. Referring to the influenza epidemic in Hartlepool in 1918, Dr. Gibb pleaded for financial support of research into this infection, in order that medical practitioners in future might be placed in a better position to fight such serious visitations. He mentioned that during the first quarter of the present year the number of deaths had exceeded the number of births; this was mainly attributable to the occurrence of a relatively mild epidemic of influenza in these months.

THE TUBERCULIN DISPENSARY.

The first annual meeting of the Tuberculin Dispensary Benevolent Society, successor to the Tuberculin Dispensary League, was held at the residence of the Earl of Mayo on May 26th. Dr. W. Camac Wilkinson was in the chair.

om the report it appeared that eighty tuberculous tients had been treated with tuberculin at the dispen- ry, 32, Fitzroy Street, during the year, of whom only o had died, one from exophthalmic goitre complicating o disease. Dr. Charles Buttar, in moving the adoption the report, expressed admiration for the coherence in eory and economy in practice of Dr. Camac Wilkinson's ork. Sanatorium treatment seemed to him excessively stly in working, and so incoherent that its advocates ill disagreed whether its main object was to cure early ses or to segregate advanced cases. Dr. Buttar pported the proposal made recently by Dr. Wilkinson the *Times*, that a research institute for tuberculosis ould be established. An address was read by Dr. Camac ilkinson in which he suggested that the recent decline the death rate from tuberculosis was partly due to the ss of 700,000 men in the prime of life during the war. ad they not been killed, probably at least 10 per cent. ould have died of tuberculosis. Dr. Wilkinson pleaded r a fair and judicial trial of every system of treatment hich seemed economically sound and did not demand too reat sacrifices from sufferers from the disease. He urged ie necessity for a five years' trial, under specified condi- ions, of any proposed system of treatment; and asserted hat such trials could only be carried out in an independent nd self-contained institution for the study of tuberculosis. he treasurer, Mr. Randall Davies, mentioned that enerous financial help had been received from Sir Robert IcAlpine, from the Catering Trades Dividing Societies, hrough Mr. F. W. Edwards, and from many others.

THE WELSH NATIONAL MEMORIAL ASSOCIATION.

Spahlinger Treatment.

It has already been reported that at the last quarterly eeting of the Welsh National Memorial Association a eport on the Spahlinger treatment was presented by he Medical Committee. A discussion ensued, but was djourned to a special meeting which has now been held t Shrewsbury. The full text of the report of the Medical ommittee was published in the BRITISH MEDICAL JOURNAL f May 7th (p. 851). It consisted of three parts: in the irst it was recognized that M. Spahlinger had created a odern laboratory at Carouge, near Geneva, and had hown much ability in devising apparatus for special ranches of bacteriology, but that the secrecy maintained s to fundamental details of technique made it almost mpossible to judge the value of his work, while all ttempts to obtain supplies of the Spahlinger prepara- ions for systematic tests by competent authorities had ailed.

In the second part of the report the committee xpressed the view that the remedies obviously did not ffer a "certain" cure for tuberculosis, and that con- lusive evidence had not been forthcoming that they had materially altered the course of the disease. In these circumstances the committee advised the council to maintain the attitude it had adopted on April 23rd, 1926, recommending that as M. Spahlinger had promised supplies of his remedies to the Ministry of Health, which had arranged to make a full investigation (in which the association might probably be asked to participate), it would be well for the association to await the inquiry promised by the Ministry. In the third part of the report the committee stated that it could not recommend the application of public funds towards the Spahlinger Institute, and that the publicity campaign on behalf of the Spahlinger movement was to be deprecated as unjusti- fied by the evidence so far adduced and to be deplored as raising false hopes in the minds of sufferers from tuber- culosis. At the adjourned meeting considerable discussion took place, but eventually the first two parts of the report were adopted unanimously; the third was omitted.

MANCHESTER RADIUM INSTITUTE.

At the annual meeting of the Manchester and District Radium Institute, on May 25th, the possibility of exten- sion was discussed. For some years after the establishment of the Institute in 1915, radium treatment in Manchester was carried on at the Royal Infirmary under a sch elaborated by Sir William Milligan. In the autumn 1921 the work was transferred to a house, furnished a hospital and presented by Sir Edward Holt; an acco of the new facilities thus made available appeared in issue of October 22nd, 1921 (p. 667). Since then work has increased so steadily that the present accom dation has become inadequate. The number of attenda during 1926 was 6,775, an increase of 296 over the prev year. There are only eleven beds in the Institute, a very considerable period of waiting for admissio inevitable in many cases. Sir Edward Holt, speakin the suggested extension, said that the longer treatm now being given rendered the administration of the pital more costly than previously. Sir William Mill supported the proposed public appeal for funds to ex the Institute, in view of the gratifying success that been obtained; many applications for treatment f places outside the Manchester district had to be rejec It was stated that no systematic appeal on behalf of Institute had been made in recent years.

THE ROYAL SUSSEX COUNTY HOSPITAL, BRIGHTON.

Mr. Bernhard Baron has just given £10,000 to Centenary Fund of the Royal Sussex County Hosp The fund was started to increase the accommodation vided, and in particular to add a casualty departm and new buildings for the nursing and domestic s The appeal received the approval of the people of Brig and also of the medical profession there. The institut which was founded in 1826, is the chief general hosp in that part of England, and is held in high esteem by the profession and the public. It contains 225 b and has a special pathological department, establishe a memorial to the late Mr. Stephen Ralli. Many subsc tions were received when the appeal was first made, interest seems to have flagged, and the amount in han not enough to carry out the scheme of the Cente Fund, which includes the addition of sixty extra beds, alternatively, an auxiliary or recovery home for the re tion of a similar number of partially convalescent patie This will involve the provision of bedrooms for more nu and a lecture room; the extension and alteration of operating theatres; the reconstruction and enlargemen the *x*-ray department; the extension of the massage dep ment, with its school for pupils; and the enlargemen the casualty department. The quarters for the ma and resident medical officers are to be enlarged, adequate rooms provided for the domestic staff. Baron has previously made many large contribut to hospitals and kindred institutions; it is hoped that new generous gift of his may stimulate other givers lead to a rapid increase in the Centenary Fund.

Scotland.

MOSQUITOS IN RENFREWSHIRE.

A PETITION of an unusual nature, said to be the firs the kind in Great Britain, was brought before Sh Hamilton at Paisley on May 10th. The local autho of the upper district of the county of Renfrew petitio for the removal of a nuisance alleged to be caused ditches in the district of Muirend, Catheart, which asserted to be breeding-places for mosquitos. Larvae pupae of mosquitos had been obtained in these dit in 1926, and had survived the winter, so that they likely to hatch out in the present summer. Trustees of property affected contend that the existence of mosq does not constitute a nuisance under the Public Health Various expert witnesses, including Professor Ashworth Colonel Glen Liston, Edinburgh, and Dr. MacGregor, med officer of health for Glasgow, have been called, as as a number of residents in the district who had bitten last year by mosquitos. The hearing was expe to last several days.

PROPOSED HOUSING AND HEALTH EXHIBITION IN GLASGOW.

The new Kelvin Hall, Glasgow, is to be formally opened by the King on July 12th, and the corporation is promoting a housing and health exhibition, to be held in the building from September 21st till October 15th. The new Kelvin Hall, on the site of the old hall burned down two years ago, is a fireproof building of ferro-concrete, occupying an area of 240,000 square feet, and will be the largest exhibition hall outside London. The exhibition is to consist of model houses, sanitary appliances, house furnishings, including lighting, heating, and labour-saving devices, appliances for home nursing and welfare, etc. Housing is to be a special feature, and several cottages or bungalows are to be shown fitted with labour-saving appliances.

PURE MILK SUPPLY.

Dr. J. Hume Paterson, medical officer of health for Lanarkshire, gave an address at a meeting in Glasgow of the West of Scotland Division of the National Veterinary Medical Association on May 19th. He gave a short historical sketch of the various Acts, Orders, and Regulations designed to ensure purity of the milk supply. The Special Designations Order had been, he said, the greatest advance that had taken place during recent years in this matter, as it had both raised the chemical standard of milk and had ensured cleanliness by establishing a standard for bacteria, which he believed was the only reliable standard for invisible dirt. In the county of Lanark at the present moment the licences held for supplying the various grades of milk numbered: certified milk, 13; Grade A (T.T.), 19; Grade A, 4; and pasteurized milk, 1. An additional safeguard would be furnished by having composite samples of milk from a Grade A herd examined at intervals of, say, three months for the presence of tubercle bacilli. If any were found, the veterinary inspector should then examine the herd to find the offending animal. Pasteurized milk, Dr. Paterson thought, should be abolished, because pasteurization was no guarantee that clean milk was being supplied, since no standard was set for the original milk before it was pasteurized. He suggested that the grades of milk should not be more than two—namely certified milk and Grade A milk.

ABERDEEN STUDENTS' HOSPITAL COLLECTION.

As a result of the recent hospital gala week in Aberdeen the sum of £5,577 has been distributed by Aberdeen University students to the Aberdeen Royal Infirmary and other hospitals in the city. The sum collected was an increase of £857 over last year's total. During the past eight years the students, by these annual gala weeks, have raised nearly £33,000 for the hospitals of the city. The allocation of the money collected this year was as follows: Aberdeen Royal Infirmary £3,323, Maternity Hospital £1,200, Aberdeen Royal Hospital for Sick Children £800, Aberdeen Eye Institution £100, District Nursing Association £100; carried forward to next year, £54.

Ireland.

PRIVATE PATIENTS IN COUNTY HOSPITALS.

THE County Wexford Health Board received recently a medical deputation with reference to the question of fixing the terms of remuneration of Dr. O'Brien, surgeon to the County Hospital. The deputation consisted of Dr. T. Hennessy, Irish Medical Secretary; Dr. W. W. Murphy (Coolgreany) secretary of the County Wexford Medical Association; Dr. W. C. Lawler (Bunclody); Dr. G. A. Hickey (New Ross), and Dr. O'Brien, County Hospital. Dr. Clinch, Inspector of the Local Government Department, was also present. Dr. Hennessy said the whole question in dispute between the Health Board and Dr. O'Brien was whether he should be allowed to charge for private patients. From the legal aspect, only patients of a certain class were entitled to hospital treatment; they corresponded approximately with those entitled to free treatment in the dispensary. The idea in the scher of treating private patients in the county hospitals w partly to benefit the local ratepayers and partly to suppl ment the inadequate official salary of the county hospit surgeon. The medical profession as a body never look too favourably on the arrangement, but they did not de the boon it would be to the local ratepayers, especially tho with limited means, to be treated in the local hospital. I could quite understand that a Wexford farmer who cou have an operation done in Wexford for £25 or £30 wou be getting a great boon, because if he went to Dublin would possibly cost him £100, as he might be six or seve weeks in a home at a charge of eight to ten guineas week and have to pay medical fees besides. By having th operations in Wexford means would be afforded to th surgeon to supplement what would generally be admitted t be an inadequate salary. The county surgeon (Dr. O'Brie had an official salary of £500 a year. The district justic had £1,200 a year. He thought a good operating surgeo should be as great an asset to the county as a leg administrator such as a district justice. There was, D Hennessy said, a proposal to give Dr. O'Brien an inclusiv salary, to treat both Poor Law patients and privat patients. That would not be sanctioned by the Loca Government Department. An inclusive salary was out o the question. The cost of medical treatment of privat patients must be entirely an arrangement between ther and the hospital surgeon, as in the case of private medica practitioners and their private patients outside th hospital. Dr. Clinch, Inspector of the Local Governmen Department, explained the attitude of that departmen with regard to the draft regulations which it drew up t govern the admission of paying patients to county healt board hospitals. He also informed the board that the Local Government Department would not sanction a salary for the surgeon of the county hospital to include fees which should be alone chargeable to his private patients, as to do so would be an injustice to the ratepayers and to the profession. After a long discussion, the whole matter was, on the suggestion of the chairman, adjourned to the next meeting, pending a reply from the department about the draft regulations made at a special meeting of the Board in Wexford on April 23rd. The chief provision was to admit paying patients at 9s. a day in private wards and 6s. a day in semi-private wards, with appropriate charges in addition for any special nursing, medical fees, or other expenses. The surgeon would be required under the proposed regulations to treat all patients admitted to the hospital, and in consideration of these services the Health Board would pay him £300 per annum in addition to his present salary of £500 with allowances. It was also provided that the surgeon should, if the patient required it, permit any other doctor to have access to the patient, and should, as far as possible, act in consultation with such doctor. If a patient was refused admission by the county surgeon, or the matron in his absence, a report should be furnished at the next meeting of the Health Board on the reasons for such refusal.

NOTIFICATION OF TUBERCULOSIS.

A memorandum dealing with the notification of tuberculosis has been sent to each sanitary authority in Northern Ireland by the Ministry of Home Affairs. The memorandum states that it is the duty of any medical practitioner attending on any person within a district in which part of the Tuberculosis Prevention (1) Act, 1908, has been adopted, on becoming aware that such person is suffering in any prescribed circumstances from tuberculosis of any prescribed form or at any prescribed stage, within seven days after he becomes aware of the fact, to send to the medical officer of health a certificate in regard to the case. Under section 1 (4) of the same Act it is enacted that a medical practitioner who fails to send the certificate within the period specified shall be liable on summary conviction to a penalty not exceeding 40s.

ULSTER MEDICAL SOCIETY.

The annual meeting of the society was held in the Medical Institute, Belfast, on May 24th; Dr. Loughridge, vice-president, occupied the chair. The reports from the

honorary secretary and treasurer, and librarian, were received and adopted; 197 Fellows and 58 members had now joined; the statement of accounts showed a balance of £589 to the credit—this balance would be reduced by about £300 before the winter session by the purchase of an epidiascope. Dr. Calwell raised the question of reduction of the annual subscription with the object of increasing the number of Fellows and members, but it was considered advisable to postpone its consideration. Professor Thomson proposed that a small committee should be appointed to discuss with the Library Committee of the Queen's University the possibility of coming to some agreement to avoid the duplication of periodicals; this was agreed to, and the officials of the society, with Sir Thomas Houston, Professor Fullerton, Mr. Craig, Mr. Crymble, and Professor Lowry, with Professor Thomson as chairman and convener, were appointed. The following officers were elected: President, Dr. J. C. Rankin, Belfast; Ex-president, Dr. J. Nolan, Downpatrick; Vice-presidents, Mr. Henry Hanna, Belfast, and Mr. T. Killen, Larne; Council, Drs. Loughridge, Burns, Mr. Crymble, Drs. Marshall, O'Flaherty, and Peatt; Honorary Treasurer, Dr. J. T. Lewis; Honorary Secretary, Dr. R. M. Beath; Honorary Editorial Secretary, Dr. J. A. Smyth; Honorary Librarian, Dr. W. L. Storey.

Correspondence.

DRUGS FOR SLEEPLESSNESS.

SIR,—"*And what he greatly thought, he nobly dared.*" I and many other alienists will rejoice to see that Sir Maurice Craig has "dared to be a Daniel" on the question of sedatives in early mental diseases.

We live in a world of inconsistencies and paradoxes. The doctor who gives a dose of medicine which relieves agonizing physical pain is thought "thrice blessed" by the grateful patient, while in many cases the alienist who attempts to relieve mental pain and anguishing sleeplessness is said to be "drugging" the patient or "promoting a drug habit." Hilton taught us what was meant by relief of physical pain, while my old friend and teacher, Maudsley, impressed upon all how necessary it was to give relief to mental suffering. Many an early case of melancholia has been quickly cured by recognizing this necessity. I wish Sir Maurice Craig had not confined himself to the barbitone group of drugs, though their usefulness is known to all alienists. Sleeplessness must be often combated by more scientific therapeutics than reliance on any one class of drug. Idiosyncrasies have to be studied, the state of the circulation has to be gauged.

For insomnia with a high blood pressure there is no drug so useful as chloral, while in patients with a low blood pressure some drug of a stimulating character like opium, either in the form of Batley's solution or nepenthe, must be our sheet anchor. In many cases, however, in which neither of these extremes is met with, I think of all this group medinal is the best.

Much might be written on this subject of the necessity for drugs in cases of insomnia and of the many varieties of such drugs. My constant rule has been to give such drugs into the safe keeping of a second person, and during my fifty years of practice I have never had a case of "drug habit" developed by the use of any drug I have ordered, and many cases have been able, once the sleep habit has been established, to leave off the drug immediately with no ill effect.

I trust other alienists will come forward to help all those who believe sleep and relief from mental pain are necessities if hope of early recovery in mental disease is to be an accomplished fact.—I am, etc.,

Bournemouth, May 29th. LIONEL A. WEATHERLY, M.D.

SIR,—On May 10th, 1927, at the annual meeting of the Section of Therapeutics and Pharmacology of the Royal Society of Medicine papers were read by Dr. F. A. Pickworth, Dr. Helen Young, and myself on the clinical and pathological effects of hypnotic drugs of the barbituric acid and sulphonal groups. The meeting was well attended and representative of those engaged in the teac pharmacology—Professor Gunn of Oxford, Professo Dixon from Cambridge, Dr. P. Hamill, and many were present. A full discussion followed the pap general agreement was expressed with the con arrived at.

It is unfortunate that Sir Maurice Craig did not the meeting and take part in the debate, for I f the most suitable place for a critical discussion subject would have been the meeting at which the were read. It is, I fear, trespassing somewhat on your generosity and your valuable space by spondence which would more appropriately have part of the Society's discussion.

It may be added that my paper has not y published in the *Transactions* of the Royal Soc Medicine, so that the criticism of Sir Maurice somewhat premature.

Since the introduction of the barbituric acid con (from 1906 to 1925 inclusive) no fewer than 253 from poisoning by these drugs have been recorded Registrar-General's statistics for England and Wa 1925 there were twenty-two deaths. These figure means express the actual number of fatal cases, Registrar-General's returns contain, in addition, of deaths due to narcotic poisoning, "kind not some of which were doubtless due to barbitu compounds. In addition, as pointed out in my pa veronal compounds in large doses commonly cau and bronchopneumonia, and some deaths from poisoning are undoubtedly certified as pneumonia.

I personally saw a number of the fatal cases of po and in a large proportion of these found that the possessed a medical prescription and had been tak drug over a long period. There was often clear of addiction to the drug. As a result of this ad together with the consequent mental depression, a la fatal overdose had been taken. Very many of the were in persons of education and in the prime of li

When fatal poisoning occurs the physician who h the prescription is not usually called in to deal grave emergency, and in all probability never hear fatal consequences. Are the frequent deaths from ing by veronal, medinal, and their allies to be brushed aside as of no consequence?

My clinical experience of a large number of thes cases compels me to raise my voice against the pra prescribing these drugs over long periods and of patients to believe that they are harmless. To quot cases:

On February 21st, 1921, a married woman, who had tak 5 grain medinal powders, was seen by me. This patient taking a *daily dose of 5 grains of medinal over a long p* the prescription of an eminent physician. This culminate taking forty powders at once with fatal result.

On April 29th, 1921, I saw an unmarried woman who one year been taking 10 grains of veronal every night on prescription. This caused mental depression, leading her 10 ounces of pure lysol with fatal result.

On November 25th, 1924, I saw a married woman sufferi veronal poisoning and consequent pneumonia, which te fatally. A very large dose had been taken and a similar of the taking of veronal on medical prescription over period was obtained.

On February 22nd, 1927, I saw a man suffering from poisoning and consequent pneumonia. This patient had the habit of taking veronal on medical prescription nightl long period. He then took a large and fatal overdose.

I have notes of many other similar cases.

I do not question that it is safe for so ex physician as Sir Maurice Craig to prescribe ver medinal over long periods to patients under his co personal observation, but to give a patient a pres for prolonged use when not under continued skilled observation is, I unhesitatingly say, a dangerous pr

Addiction to the barbituric acid compounds undo occurs, and is a real danger. I have personally see cases of marked addiction. The literature on the has been carefully collected by Dr. Helen Young, the references are at the disposal of Sir Maurice The evidence from this is overwhelming.

In 1912 a fatal case of veronal poisoning in a young man was investigated by the Director of Public Prosecutions in conjunction with the coroner. I have before me the deposition of the distressed mother, which states:

"I knew he took veronal for years; I implored him to give it up, but he said he could not. . . . He took it first for pneumonia and never could give it up. . . . He had been taking veronal for six years. . . . He told me he should never be able to give it up. . . . He seemed to lose all self-control when he wanted it. . . . Apart from that he was mentally all right."

What stronger evidence of veronal addiction could one have than that?

Addiction is only discovered when the drug is withheld. If Sir Maurice Craig advocates the taking of veronal and medinal daily over long periods I can readily understand how he does not discover when his patients have in fact developed addiction.

Sir Maurice Craig expresses the opinion that addiction to barbituric acid compounds is "practically non-existent," and then goes on to quote two classes of persons who might become addicts, the chief being the degenerate type. Such a statement is in direct contradiction to my clinical experience. Even a perfectly normal person, if exposed to the continued action of veronal and its allies in moderate doses over long periods, runs a grave risk of becoming an addict to the drug.

The late Sir Frederick Mott was deeply interested in the pathological effects of the barbituric acid group of drugs, and in conjunction with Dr. Pickworth and Mr. D. L. Woodhouse, M.Sc., carried out during the last two years of his life a research into this subject. The pathological evidence from this research, which was published in the *British Journal of Experimental Pathology* in 1926, shows conclusively that organic changes are caused in the central nervous system by the continued taking of such drugs, and that when the drugs are discontinued these changes gradually clear up.

Clinical evidence supports this research. I have on many occasions seen definite objective nervous symptoms, such as ataxic gait, diplopia, anarthria, paralyses, etc., result from the continued daily administration of a veronal compound in a therapeutic dose.

On November 27th, 1926, I saw a patient suffering from ataxic gait, diplopia, and defective articulation. This patient had been taking a full dose of allonal daily for six weeks. On December 25th, 1926, I saw a patient suffering from ataxia, drowsiness, diplopia, and thick speech. In this case veronal was found in the urine and cerebro-spinal fluid. In both of these cases the symptoms completely cleared up on discontinuance of the drug. Sir James Purves-Stewart saw these two cases in consultation with me, and I have his permission to state his entire agreement with the diagnosis of poisoning by barbituric acid compounds.

The occurrence of definite objective nervous symptoms following the continued use of these drugs in therapeutic doses is a strong reason for the exercise of caution in their use.

I am compelled to express my conviction that to advocate the daily use of the barbituric acid compounds over a long period, unless the patient is under continued skilled medical supervision, is misleading to the medical profession, dangerous to the public, and, above all, highly dangerous to the patient.—I am, etc.,

W. H. WILLCOX.

London, W.1, May 31st.

SIR,—In regard to the letter from Sir Maurice Craig published in your issue of May 28th (p. 983) it may be of interest to state that I have had a patient who suffered for many years from paranoia of the persecutory type. This woman had taken medinal on the advice of a mental specialist almost continually for twenty years, and finally such was her mental deterioration that she committed suicide by taking the contents of forty powders of 5 grains each. The mental deterioration may, of course, have been due partially or wholly to the normal trend of the pathological condition, but the medinal had apparently no beneficial effect.—I am, etc.,

London, N.W.11, May 28th. L. S. WOOLF.

RHEUMATIC INFECTION IN CHILDREN.

SIR,—My first duty in replying to Dr. Miller's rejoinder (May 21st, p. 937) to my letter published on May 7th (p. 854) is to thank him for his gracious acknowledgement of the work done at Glasgow in connexion with the rheumatic child.

I can now see that all the difference between the subcommittee's idea of a "rheumatism supervisory centre" and a "cardiac clinic," so-called, is one of name, as the objects seem to be identical, and Dr. Miller admits that he intends treating all types of the rheumatic infection, that medicinal treatment will be given, and that cases will be referred to the wards or to the various special clinics (dental and laryngological) if necessary, and I suppose also for residence in the country if such can be arranged. These, as Dr. Miller knows, are just the very facilities which we provide in Glasgow. I don't suppose anyone has ever been so rash as to suggest the setting up of a special clinic complete in itself with beds and dental, laryngological departments, etc.

I think it is perhaps a pity that "the subcommittee did not consider such matters as the classification of cases." Though this may at first sight seem a somewhat subsidiary matter, I can assure Dr. Miller that it is one of great importance for the welfare of the clinic. The necessity for accurate classification calls for the most serious consideration of the case, so that the patient will in all probability be more carefully examined. From a satisfactory classification, too, it is possible easily to analyse the results obtained in any one clinic, and, if a uniform classification were adopted, the findings of the different clinics would be readily comparable.—I am, etc.,

Glasgow, May 25th. LEONARD FINDLAY.

THE CONSTITUTIONAL FACTOR IN DISEASE.

SIR,—I cannot understand why Dr. Chalmers Watson, in his letter to the JOURNAL of May 28th (p. 984), should assume that I base my recommendation for giving hydrochloric acid to those relatives of patients with Addison's anaemia and subacute combined degeneration of the cord who are found to have achylia gastrica, as a prophylactic against the disease, on the fact that 4 out of 100 healthy medical students had achlorhydria. I gave my reasons in my address on the constitutional factor in disease, but as he has misunderstood me, I hope I may be forgiven for repeating them.

(1) Addison's anaemia and subacute combined degeneration are always, or almost always, associated from their earliest stages with achlorhydria.

(2) Achlorhydria probably always precedes the development of A.A. and S.C.D.; it has been actually known to exist between one and twenty-five years before the first symptoms in 22 recorded cases.

(3) A.A. and S.C.D. are often familial, and as many as six members of a family have been affected; it was so in 28 per cent. of my private cases, and a family history has been recorded in at least 65 cases by other authors.

(4) Achlorhydria is often familial. Moreover, Addison's anaemia occurred in one or more members of the family of six patients of mine with achlorhydria suffering from various conditions, who were found to have a normal blood picture and a normal nervous system, and twenty-six similar family histories have been recorded by others.

As achylia gastrica is a constitutional and familial condition, which may lead to the development of Addison's anaemia and subacute combined degeneration of the cord in one or more members of a family, it seems reasonable to try to discover its presence before it has led to any ill result, as by giving hydrochloric acid we may hope to prevent the development of the very serious diseases which constitute the A.A.-S.C.D. syndrome, as well as the various digestive and general disorders to which it predisposes.

I wish Dr. Chalmers Watson would give us details of the investigations which have taught him that migraine is due to an alimentary toxaemia. We have never found any abnormality by means of test meals, microscopical, chemical, and bacteriological examinations of the stools and urine,

radiological examinations of the alimentary tract, the laevulose test for hepatic efficiency, estimation of blood sugar, urea, and uric acid, blood counts, and cutaneous tests for protein sensitization.—I am, etc.,

ARTHUR F. HURST.

New Lodge Clinic, Windsor Forest, May 30th.

CATARRHAL VACCINES.

SIR,—The letter from Dr. L. R. Lempriere, medical officer of Haileybury College, in your issue of April 2nd (p. 642) is a valuable contribution to our knowledge of this subject, and it is to be hoped that statistics on similar lines will be worked out elsewhere.

Unlike Haileybury, the medical interest in Eton College is divided, and it is not at present proposed to issue detailed statistics of the results of prophylactic vaccines for the school as a whole. The following figures, which I have worked out for a small section of the school, may, however, be of interest. They refer to boys in three of the houses. In almost every case the inoculated boys had three injections of the St. Mary's Hospital anticatarrh vaccine (supplied by Messrs. Parke, Davis and Co.) during the summer holidays or at the beginning of the Michaelmas term. There were no serious complications in this series.

	Inoculated Group.	Uninoculated Group.
Number investigated	26	54
[illegible] on account	9	28
... ...	34.6%	51.8%
Total number of working days lost	64	257
Average number of days lost per head of each	2.5	4.8
[illegible] of those	7.1	9.2

The numbers involved are too small to form the basis of any final conclusions, but so far as they go agree with Dr. Lempriere's figures as indicating a slight but definite advantage in favour of inoculation. So far as this section of the school was concerned the inoculated boy was less likely to be taken ill, and if he were taken ill was likely to be ill for a slightly shorter time than the uninoculated boy.

The value of inoculation may, however, in certain circumstances, be much greater than these figures suggest, for the following reasons:

1. In this series the decision whether or not a boy should be inoculated rested entirely with the parents, with the result that those boys who were known to be particularly prone to colds and influenza, or were regarded by their parents as being delicate, fell mostly in the inoculated group, while those who were least susceptible and gave their parents least anxiety on grounds of health fell mostly in the uninoculated group. A better comparison for statistical purposes would be obtained if all the members of certain houses consented to be inoculated, while all the members of other houses refrained from inoculation. The two groups would then be roughly comparable as regards susceptibility.

2. The inoculations were made in or about September, whereas none of these boys in either group fell sick with influenza or feverish colds till four or five months later, when the effect of the inoculations must have largely worn off. If the epidemic had occurred in the Michaelmas term instead of the Lent term, or if the inoculations had been made in the Christmas holidays instead of the summer holidays, the advantage to the inoculated would presumably have been very much more marked. There is much to be said in favour of maintaining the immunity of susceptible individuals by giving them supplementary injections once a month throughout the winter season.

3. Anticatarrh vaccines are at least as likely to help the ordinary non-febrile catarrhal rhinitis and bronchitis, or to curtail the catarrhal stages which follow a feverish attack, as they are to help the feverish cold or influenza. But in so far as the merely unpleasant afebrile catarrhal stages are not often sufficiently serious to keep a bo out of school, the advantage of the vaccine in preventin or shortening these stages does not appear in the abov figures.

4. The value of inoculation is least evident where onl a small proportion of individuals is inoculated (as in th present instance), and would be most evident where all th individuals of a community were protected. For in th latter case each individual would reap the benefit o inoculation in two different ways: his immunity would b raised in virtue of his own inoculation, and his chanc of infection would be lowered by reason of the inoculatio of the others.—I am, etc.,

Eton, May 30th. NORMAN A. SPROTT.

BIOLOGY AND MEDICINE.

SIR,—In his address on biology and medicine (May 21s p. 909) Dr. Haldane, after exposing the futility of vitalism points out clearly that "the mechanistic conception of li is inadequate in physiology and morphology. For the san fundamental reasons it is inadequate in Medicine, and i pathology, pharmacology, and therapeutics." He adop a middle course by accepting the "Hippocratic conceptio of life as a struggle in Nature against chaos." Since n man knows better than he that "in the process o clearing our minds controversy is unavoidable," he wi forgive me when I pit my opinions against his.

Every thinking human being must be troubled with th difficulties ably set forth by Dr. Haldane. We must s realize the impossibility of vitalism on the one hand an materialism on the other. But I venture to think tha Dr. Haldane, in his desire to find the way for us out o our difficulties, has added to them in two ways. H has emphasized the differences between organisms an inorganic nature at the expense of their correspondence and has raised an unnecessary difficulty when he compare the orderliness of "life" with the chaos of the rest o the universe. But are there signs of chaos? Is not th simplest chemical formula the expression of order, an would it be possible to write it down if it were not? Wh does $H_2+O=H_2O$? For two reasons. Because of th inherited normal structure of the H and O atoms—I us the adjective advisedly—and because of the orderly actio of the environment, the action of an appropriate stimul and the presence of an auxetic, catalyst, ferment, or wha ever we like to call it—namely, a trace of moisture. Ther is no chaos here, but cosmos, normality, law, order, an necessity. There is more: a true expression of what w call "life" in its simplest and most rudimentary form And once the molecule of H_2O is formed it functions as whole, and its functions are very different from those o H and O. It keeps its normal composition—its indiv duality—as long as it can, as long as its environmen permits. The most highly developed organism achieve little, if anything, more. Everywhere there is a per petual reaction to, or struggle against, the environment as is shown by pathology, medicine, and therapeutics.

Is not the realization that vitalism and materialism ar synonymous the only way out of our difficulties? The on emphasizes function, the other structure; the inseparabl aspects of a duality present alike in organic and inorgani Nature the expressions of its very essence or "life."— I am, etc.,

Guy's Hospital, S.E., May 24th. G. W. NICHOLSON.

THE DIAGNOSIS OF GANGRENE OF THE SMALL INTESTINE.

SIR,—In the BRITISH MEDICAL JOURNAL of May 7t (p. 836) Dr. B. W. Rycroft gives a most interestin account of a case of embolism of the superior mesenteri artery, in which, "puzzled by the combination of faeca vomiting, indicating bowel obstruction, and continuou [? "continued"—A.E.R.] passage of flatus, indicatin bowel patency," he "made a tentative diagnosis of partia intestinal obstruction"—a very good and logical one, i may be allowed. He thinks that "the combination o faecal vomiting with persistent passage of flatus mus surely be unique," and suggests that "the combination o

persistent faecal vomiting with the continued passage of flatus is so rare as to be pathognomonic of the condition of intestinal stasis due to gangrene of the small bowel following on deprivation of blood supply."

But his own diagnosis of partial intestinal obstruction includes the possibility of a Richter's hernia, in speaking of which Rose and Carless say that "if less than half the circumference of the bowel is constricted, the obstruction is not always complete at first, flatus and faeces being sometimes passed; but where more than half the circumference of the bowel is engaged, complete obstruction from kinking or paralysis of the gut ensues. The vomiting is less marked than in other cases, and is not so commonly faeculent."

"Faeculent," by the way, or "stercoraceous," is a more accurate term than "faecal" to describe the vomiting of intestinal obstruction, the word "faecal," though frequently used loosely, being better restricted to the description of the vomited matter in cases of gastro-colic fistula, in which true faecal masses may be ejected.

Richter's hernia, then, even according to the textbooks, is a condition in which the symptom of faeculent vomiting may be associated with the ability to pass flatus; and in this connexion may be mentioned the case of a man admitted to St. Bartholomew's Hospital on May 16th with a Richter's hernia of five days' duration, who vomited faeculent material (not for the first time) on arrival at hospital, and whose abdomen showed typically the characteristic ladder-pattern of small intestine obstruction, though it was only very slightly distended, owing to his continued, but impaired, ability to pass flatus—these symptoms, in conjunction with the presence of a tense tender swelling of the size of a cherry in the position of a right femoral hernia, enabling the diagnosis of a Richter's hernia to be made. Operation verified this, and showed that about two-thirds of the bowel circumference were involved. The gut was deep purple, and did not regain its normal colour on releasing the constriction; but it bled when pricked, and so far its reposition in the peritoneal cavity has been justified by the event.

The answer, then, to Dr. Rycroft is that the association of faeculent vomiting with continued ability to pass flatus is highly suggestive of partial intestinal obstruction (such a combination might also conceivably occur in peritonitis without a mechanical block), but is not "pathognomonic of gangrene of the small bowel following on deprivation of blood supply," the question of the occurrence of gangrene being irrelevant. Gangrene was not present in the case just described.—I am, etc.,

ALEX. E. ROCHE, M.D., M.Ch., F.R.C.S.,
Chief Assistant to a Surgical Unit, St. Bartholomew's Hospital.

May 21st.

SIR,—The account in your issue of May 7th (p. 836) of a case of gangrene of the small intestine prompts me to publish some notes which I once compiled on a similar case.

A man of 55, who had never had a day's illness in his life, was, after a preliminary feeling of nausea, suddenly overcome by an agonizing and persistent pain in the abdomen. He was removed next day to hospital, where I saw him. His appearance and his outcry were painful to witness, to such a degree that I felt I was confronted with a functional case. He sat bolt upright in bed, jealously guarding his abdomen from any contact, and shifting his position very gingerly from time to time. At intervals of about ten minutes, punctuated by sonorous eructations, he vomited some bilious fluid. His temperature was normal, his pulse rate 90 per minute. The pain was continuous and localized to the right of the navel. I was able to feel his abdomen only after an opiate had been given. There was neither rigidity nor distension, and nothing abnormal to be felt. The percussion note was dull in both flanks and tympanitic in front. The bowels were constipated, but were moved by an enema, an ordinary motion resulting, free from blood or slime. Some flatus was passed with this motion, but at no other time. The tongue was clean.

Next morning, when the effects of morphine had faded, his symptoms were renewed with zest. The temperature remained normal, but the pulse rate had risen to 120 per minute. Another enema was returned clear. There was a vague swelling, dull on percussion, over the painful area. Distension was still absent, and rigidity of the abdominal muscles was not marked. The vomit was bilious and not faecal. He was seen by Dr. Allan of Barrow-in-Furness, who diagnosed acute intestinal obstruction, with reservations as to the cause.

At operation, forty-eight hours after the onset, a copious blood-stained fluid welled out of the abdomen. Near the lower end of the ileum a segment of bowel, six inches long, was found, dull, indurated, and of a deep purple colour. The corresponding wedge of mesentery was deeply congested. Clamps were applied well to either side of this segment and a yard of gut was resected, together with its mesentery, right down to the root. Side-by-side anastomosis was done and the abdomen closed.

The pain persisted, apparently undiminished, for twenty-four hours after the operation. Turpentine enemata and pituitrin were given, and soon the bowels were moving spontaneously. Three days after operation a faecal fistula developed, but closed in less than a month. The man was discharged well, two months after admission. A year later he was in robust health and engaged in arduous labour.

From examination of the specimen the case was considered to be one of mesenteric thrombosis. Physical examination of the patient afforded no clue to the predisposing cause.

The delay in correct diagnosis arose through a certain resemblance to an attack of tabetic crisis. This was supported by the presence of very small and sluggish pupils, the failure to elicit knee-jerks, and the almost hysterical behaviour of the patient. The small amount of flatus passed may have been introduced with the enema.

The chief difficulty encountered at operation was that of determining the limits of the infarct. Even at a distance of a foot from the edges of the congested piece of bowel devascularization was apparent, and the occurrence of the faecal fistula can only be explained by the inclusion of unhealthy bowel in the stump.

References in literature to this condition are surprisingly rare, and such as do exist show a distinct variety in the clinical pictures that they present. In some instances intestinal obstruction has only been vaguely suggested. A constant factor is the prognosis, which, with or without operation, is sinister in the extreme. If untreated, the condition is fatal, after a period varying from three days to three weeks. The operation mortality is 85 per cent.

I have the kind permission of Dr. Allan, honorary surgeon to the North Lonsdale Hospital, Barrow-in-Furness, to make this publication.—I am, etc.,

A. LYLE GALBRAITH, M.B., Ch.B.

Worcester, May 29th.

ROOT TUBERCULOSIS IN CHILDREN.

SIR,—In the review of our book *Tuberculosis of the Lungs* in your issue of May 21st (p. 922), your reviewer condemns as wholly unjustifiable the inference we have drawn from a somewhat extended experience that in most cases of root tuberculosis in children the infection is of bovine origin. Reference to the findings of the Royal Commission on Tuberculosis, with which he suggests we are not familiar, would reveal the fact that no detailed investigation into the etiological factors in the causation of tuberculosis of bronchial glands in children was made, and that in 50 per cent. of such cases as were investigated the type of the bacillus was doubtful.

Your reviewer appears to have overlooked the fact that since the publication of the report of the Royal Commission on Tuberculosis a considerable amount of investigation has been conducted as to the cause of root tuberculosis in children, and our inference that this type of tuberculosis is probably of bovine origin is supported by recent investigation. In the eighth annual report on the work of the Glenlomond Sanatorium, Scotland, Dr. W. T. Munro states: "In an investigation into the type of tubercle bacilli found in the tracheo-bronchial glands in children who have died from any cause, in over 50 per cent. of the cases the bacilli have so far been found to be bovine."—We are, etc.,

H. HYSLOP THOMSON.
A. P. FORD.

Hertford, May 23th.

THE EPIGLOTTIS IN RESPIRATORY OBSTRUCTION UNDER ANAESTHESIA.

SIR,—Mr. H. Mortimer Wharry in his account of respiratory obstruction caused by the epiglottis raises many interesting points, as also do Dr. Magill and Mr. E. D. D. Davis in their letters on this subject.

In my opinion the normal epiglottis never causes respiratory obstruction, but I have from time to time observed the epiglottis to be so soft that it can fall into the position described by Mr. Wharry. Such softening occurs only in cases of chronic inflammation where perichondritis of the epiglottis has been a feature.

The remedy for such a difficulty in respiration would appear, however, to be much simpler than that described by Mr. Wharry, for if the epiglottis does fall down it is only necessary to introduce a large-sized tongue depressor such as Lack's and, passing it well behind the tongue, pull strongly forwards and with the other hand do artificial respiration. In cases of real difficulty, of which I have met one, the introduction of the tongue depressor in this way and of a Hewitt's airway tube passed down behind it, and kept in its position by packing gauze deeply along each side of it, will not only keep the epiglottis in position, but will control any bleeding that is going on.

It must be emphasized that such cases are of exceeding rarity, and that generally it is the tongue which causes the obstruction. Tracheotomy or laryngotomy should, in my opinion, never be necessary for such obstruction. It would, however, not be possible, I think, to pass a catheter into the trachea in such a case, for obstruction such as this does not occur during the quiet breathing of deep anaesthesia. If it occurs at all, obstruction by the epiglottis must take place either during the later stages of induction, or, as in my cases, at a time when the patient is beginning to pass out of surgical anaesthesia. It is necessary for the patient to be deeply anaesthetized if we are to pass a tube into the trachea without undue delay.

That the epiglottis has a protective function of guarding the larynx against infected saliva dribbling on to its most anterior part as Mr. Wharry suggests can, I think, be proved to be true, for if we let a patient swallow a mouthful of any harmless dye such as 0.4 per cent. indigo carmine solution, we observe the dye to be retained in the pouch between the tongue and epiglottis, from which it passes slowly to the oesophagus by way of the sinus pyriformis. It is, moreover, on the posterior portion of the larynx that infection mainly falls when this is due to swallowing the infective products of septic teeth. A secondary mechanism of course exists, which, when the epiglottis is removed, prevents saliva dribbling on the vocal cords.—I am, etc.,

Wolverhampton, May 23th. A. LOWNDES YATES.

EARLY RECORDS OF THE ASSOCIATION OF APHASIA WITH RIGHT-SIDED HEMIPLEGIA.

SIR,—It has seemed to me remarkable that any special association of aphasia with right-sided hemiplegia was not recognized till modern times. In ancient and mediaeval times the death of princes and distinguished persons was often described, and a considerable number of these must have died from cerebral haemorrhage or thrombosis; not only was any connexion between the two above-mentioned symptoms not recognized, but even their association seems hardly to have been noted.

Richard Plantagenet, Earl of Cornwall and "King of the Romans," died at Berkhamstead Castle in 1272, not very long after hearing that his eldest son, Henry, had been murdered (1271) in the Cathedral of Viterbo by Guy de Montfort. Judging from the account of Thomas Wikes, Richard's cerebral attack commenced with right-sided hemiplegia and aphasia (see Thomas Gale, *Historiae Anglicanae Scriptores Quinque*, 1687, vol. ii. p. 96). I should like to hear of other early records of the association of aphasia with right-sided hemiplegia.—I am, etc.,

London, W.1, May 28th. F. PARKES WEBER.

Obituary.

BRYDEN GLENDINING, F.R.C.S.,

Late Research Scholar, Cancer Laboratories, Middlesex Hospita

We regret to record the death of Bryden Glendining, whi occurred at Aspley Guise, Bedfordshire, on May 18th.

He was born at Dunedin, New Zealand, in 1880. came to England in 1898, and entered Guy's Hospital; took the degrees of M.B., B.S.Durham in 1903. He h house appointments at Guy's Hospital during 1903 and 19 under Sir (then Mr.) Arbuthnot Lane, and later w resident surgeon at the Hertford British Hospital in Par He accompanied the present Queen of Spain to Madrid the occasion of her marriage, and he stayed in Spain about two years as the personal medical attendant of H Majesty.

After his return to England he became associated wi Mr. Comyns Berkeley and Mr. Victor Bonney, and w made pathologist to the Chelsea Hospital for Women; wh continuing to hold this post, he was elected in 1911 an Emden Research Scholarship in the Cancer Resear Laboratories of the Middlesex Hospital. During his th years' tenure of this scholarship he wrote nine pape nearly all of which were on the subject of malignant disea in its relation to gynaecology; perhaps the most importa was that on the spread of carcinoma by the Fallopian tu in which he put forward an entirely new view as to t invasion of the Fallopian tube by carcinoma from t uterus and ovary. He adduced evidence that it may brought about "by cancer cells which, coming in cont with the fimbriae or being swept into the lumen, engr themselves upon the columnar cells and thence travel deeper parts." This conclusion is of special interest view of the opinion now held by most pathologists th pelvic endometriomatosis is in many cases due to shifti of the epithelium lining the tubes or uterus. With t caution which characterized him, he saw that the possibil of lymphatic permeation from the ovarian growths co not be entirely excluded.

By this time he was definitely committed to gynae logical work, for he had become assistant surgeon to t Chelsea Hospital for Women as well as obstetric tutor a registrar to the Middlesex Hospital; in 1912 he beca gynaecological surgeon to the Hampstead General and Nor West London Hospital, but continued, among all these duti to carry out research work. He was already a m marked down among his fellows as destined to make a na for himself in the specialty at which he had worked persistently. Late in 1913 his friends learned with disn of a breakdown in his health. However, he resumed act work in 1914 at the Chelsea Hospital for Women and at t Hampstead Hospital, and became surgeon to the Duch of Bedford's War Hospital, which contained 102 beds Woburn Abbey and Woburn Cottage Hospital. He w now confronted with work of a general surgical charact and he had the fullest scope for the display of the pa cular genius he had for combining diagnostic acumen w operative skill. He was a bold operator, not hesitating undertake what his pathological knowledge told him w necessary; yet in actual manipulations a lightness a sureness of touch was shown in everything he did.

A second breakdown in health at the end of 1916 entai a rest of some months, but he returned to active work n year, and remained surgeon to the Woburn War Hospi until it was closed in 1920; he continued to act as surg to the Woburn Cottage Hospital until the early part 1925, when failing health compelled him to retire from a active work. The last years were borne with a patie and courage that nothing could dim.

The blow of 1913 was one from which he never rea recovered physically, but it brought into high relief fine qualities of the man. The splendid work he did in face of such a handicap will always be remembered by th who were in any way associated with him in it. married the daughter of Captain G. E. Hodgson, late 4 Regiment, who survives him with an only son.

A VETERAN.—The number of officers of the Indian Medical Service who joined it under the old East India Company is rapidly diminishing. The number surviving, so far as is known, was until the other day five. It is now reduced to four by the death on March 16th of Surgeon Major JOHN THOMAS DENISON MACKENZIE, M.D., Bombay Medical Service (ret.), aged 91. He took the M.R.C.S. in 1857 and the F.R.C.S. in 1870. He entered the I.M.S. as assistant surgeon on July 23rd, 1858, passing in second, became surgeon major on July 1st, 1873, and retired on May 8th, 1878, nearly half a century ago.

Medico-Legal.

HARNETT *v.* FISHER.

JUDGEMENT OF THE HOUSE OF LORDS.

THE House of Lords, consisting of Lords Sumner, Atkinson, Wrenbury, Carson, and Blanesburgh, on May 27th, 1927, dismissed the appeal of Mr. William Smart Harnett, farmer and fruit grower of Newington, near Sittingbourne, Kent, against the verdict and judgement entered for the defendant, Dr. *Holdrich Fisher, a medical practitioner of Sittingbourne*, at the trial of the action brought by Mr. Harnett before Mr. Justice Horridge and a special jury in the King's Bench Division, for damages for alleged negligence in certifying Mr. Harnett as a proper person to be detained under care and treatment under the Lunacy Act, 1890.

The certificate was signed on November 10th, 1912, and the writ in the action was issued on May 31st, 1922.

The defendant pleaded, first, that he acted in good faith and, with reasonable care in signing the certificate, claiming the protection of Section 330 of the Lunacy Act, 1890; and, secondly, that as the plaintiff had not issued his writ until May 31st, 1922—more than six years after the date of certification—he had allowed his right of action to be barred by the Statute of Limitations.

At the trial of the action the questions of the judge and the answers of the jury were as follows:

1. Was Mr. Harnett of unsound mind on November 10th, 1912, when he was certified by Dr. Fisher?—No.
2. Did Dr. Fisher act with reasonable care in certifying him?—No.
3. Damages?—£500.

Legal argument ensued as to whether the plaintiff's right of action was barred because he did not issue his writ within six years of the date of certification. The defence urged that, as the jury had found the plaintiff sane on November 10th, 1912, the Statute commenced to run against him on November 10th, 1918, but the plaintiff replied that although the jury had found him to be sane on November 10th, 1912, he was, in fact, detained as a lunatic, and it was this disability—specially excepted by the Statute—which prevented him from bringing his action, and he must be deemed to have been insane for the purposes of the exception.

Mr. Justice Horridge, however, entered judgement for Dr. Fisher, accepting the argument of the defence that the jury, having found that on November 10th, 1912, the plaintiff was a sane man, his right of action was barred by the Statute of Limitations, and this judgement was affirmed by the Court of Appeal, consisting of the Master of the Rolls, Warrington, and Scrutton, L.JJ., subject to a variation as to costs.

The facts of the case are fully stated in the case Harnett *v.* Bond and Adam, reported in the BRITISH MEDICAL JOURNAL of March 8th and April 12th, 1924. March 14th and May 23rd, 1925, whilst the arguments on the appeal in the present case in the House of Lords are reported in the issue of March 12th, 1927, at page 496.

The appellant appeared in person; Mr. Neilson, K.C., and Mr. Carthew (instructed by Messrs. Le Brasseur and Oakley, for the London and Counties Medical Protection Society) appeared for the respondent doctor.

Appeal Dismissed.

Lord Sumner, in his judgement, said the ground of the decision of both courts below could be tersely put thus. The jury found conclusively that on the day of the examination the appellant was of sound mind, and he was not shown ever to have been otherwise. If, then, the appellant never had been *non compos mentis* he could not bring himself within the disability section (s. 7) of the Statute of James, and the period of six years ran from November 10th, 1912. The appellant could not be allowed to blow hot and cold, and to say for the purpose of getting the verdict and damages that he was sane all along, and yet for the purpose of meeting the plea of the statute that he must nevertheless be deemed to have been insane so as to prevent time from running. The appellant, who appeared at their lordships' bar in person, not only conducted himself with great propriety and moderation, but laid his legal argument before their lordships in a way which was equally of assistance to their lordships and to his own case. He said, briefly, that under the Lunacy Act and for its purposes he was made a lunatic and treated in person and property accordingly, and that for the purpose of bringing the present action he was, in fact, to all intents, as much disabled as if he had been *non compos mentis*; that, as a practical matter, it would have been impossible for him to have begun his action till after he had made his escape; and that, on a "liberal" construction, the statute should be read as bringing that state of things within the disability section. To this his lordship was afraid he must say, as was said by both courts below,, that the Act did not say so, and could not be made to say so, without wresting it from its language in a way that was not permitted to them. The object of the Act was to protect defendants against belated claims, and not merely to protect those defendants who had a good defence, and to that extent needed no protection, but to protect those also who had not, or who owing to lapse of time could no longer count on making out a sufficient answer. The present action was an action on the case, and being within the Act was prima facie barred unless the appellant could bring himself within the only words in the disability section which touched him—namely, *non compos mentis*. What those plain words meant was further shown, if that were necessary, by the words used to express the opposite state—namely, "of sound memory." They described an actual mental condition, which the jury's word "sane" negatived, and not a treatment imposed, or a disability suffered because the plaintiff had been wrongly supposed to be in that mental state, by whosesoever fault—even that of the defendant himself—it might have been brought about. On one occasion, about a month after the reception order was made, the appellant was allowed to leave the asylum provisionally, and was actually at large for some two days. After his return he was in frequent communication with his solicitor, and occasionally saw him personally. His lordship thought, however, that one might accept the statement that even the issue of a writ against the respondent was beyond his power, much as it would have been if, though sane, he had been bedridden and in poverty. But, in the latter case, no one could doubt that his disability was not one of those named in the section. Neither would it do, if he were called insane, when he was really sane. The question was not, as the appellant put it, of the status of a lunatic imposed on him after the making of the reception order, but of his mental condition of sanity or insanity, and that had been finally disposed of in his favour by the verdict. His lordship was not concerned to justify what the Legislature had enacted, or to regret that it had gone no further to assist persons in the appellant's position. He, therefore, agreed entirely with the conclusion of the Court of Appeal.

A question was raised by one of their lordships whether the right statutory limitation had been relied on, and whether Section 331 of the Lunacy Act, 1890, or the Public Authorities Protection Act, 1893, by which that section had been repealed, did not apply. All their lordships were of opinion that leave to amend ought to be granted to the respondent in the circumstances to enable him to plead the Act of 1893, but it appeared to him (Lord Sumner) that no amendment was needed, because it really was the Statute of James that applied to this case. What was the action to which the Act of 1893 applied? It was one brought for doing, or neglecting to do, an act under any statute of the kind described, in this case the Lunacy Act. So far as the present action was concerned, the only such act was signing the certificate in the prescribed form. When, however, one looked at the statement of claim, and still more at the substance of the case as proved at the trial and since alleged on two appeals, the gist of the action was not the signing of the prescribed form of certificate but the lack of care in examining into the appellant's mental state and in forming an adverse opinion about it. The negligence for which the action was brought could only arise in that connexion. The claim was not for breach of a statutory but of a common-law duty. Negligence as a medical practitioner acting in the course of his private practice was what was charged against the respondent. Any principle on which that cause of action could be sustained would be equally applicable if the defendant had signed nothing, but had given his opinion to the magistrate orally. The rest was either a separate cause of action under the Lunacy Act, for which no damage could be recovered, since the detention order was the order of the justice and not of the doctor, or was a mere item in the damages claimed for the negligence. It might be that in view of Section 317 (2) of the Lunacy Act, 1890, the proceedings to be taken in case of misstatements made in medical certificates under the Act were criminal proceedings only. In his opinion the present cause of action being on the case for an alleged common-law breach of duty, the Statute of James was the statute applicable. He thought that, whether the pleadings were amended or not, the appeal ought to be dismissed with costs.

Judgement of Lord Atkinson.

Lord Atkinson, in his judgement, said their lordships concurred with the Court of Appeal. They thought the decision of the Court of Appeal was perfectly sound and right on the question raised before them. During the progress of the hearing in that House, however, attention was called by one noble lord to the question of the possible application of the provisions of the Public Authorities Protection Act, 1893, to certain provisions of the Lunacy Act of 1890. This was a matter of such importance that it should be dealt with. The Act of 1893 repealed Section 331 of the Lunacy Act, 1890, which provided that any action brought by any person who had been detained as a lunatic against any person for anything done should be commenced within twelve months next after the release of the party bringing the action. This section would not apply to the appellant, even if not repealed, as he was not

detained,

mental state of health, was bound to do the work he had undertaken to do with reasonable care and skill. In this case it was found by the jury that the respondent was guilty of negligence in giving a certificate pursuant to the provisions of Section 4 of the Lunacy Act, 1890. Well, negligence was a breach of duty, but the question was to whom was this duty to use reasonable skill and care owed. This action was founded on the assumption that it was owed to the appellant. The additional question whether it was owed to any other person or body, and if so, to whom or what authority was the alleged act of the defendant in exercising due and reasonable skill and care in granting his certificate, an act done in pursuance or execution or intended execution of an Act of Parliament, or of any public duty, or authority, or in respect of any alleged neglect or default in the discharge of a public duty or in the direct execution of a statute or language of the Act did not cover all the acts which a local authority had power to perform. It was because the act was one which was either an act in the direct execution of a statute or in the discharge of a public duty or in the exercise of a public duty that it was covered. It was difficult to see on what principle a petitioner who was guilty of negligence in framing his statement of particulars, but not guilty of misstatements of any material fact, should not be liable to be sued for that negligence, or a doctor might be who negligently framed his certificate on which the alleged lunatic. If the latter came within the Act of 1893, the former would seem necessarily to be within it, as he was within the 317th section of the Act of 1890, and also to be referred to Section 28 of the Act of 1890, and also to sections 29, 31, 32, and 33, and proceeded to say that thus a practitioner who signed one of these certificates from the institution in which the lunatic was to be confined. not have any interest in the payments made on account patient confined. In one sense, the general public in a had an interest in the ability, skill, qualification, and ss of the medical men residing and practising in that . The aid of one or more of these could, in any case, be obtained by private contract, but in the matter of on of an alleged lunatic to an asylum or house licensed, of a certificate owed no duty to the general public or to institution or authority *whatever*. He was not a employee of the State or of any municipal body certain services for such bodies. He was simply a medical man by a patient to give an opinion as to 's state of health, as he would be to diagnose the lth of any patient who, in his daily practice, called prescribe for him. Lord Atkinson, therefore, was nion that the Public Authorities Protection Act, 1893, to the appellant's action, and that his remedy was Act of James.

Judgement of Lord Blanesburgh.

burgh, in his judgement, said by the verdicts now the plaintiff, in Lord Buckmaster's words in nd: "while a sane man has been imprisoned in ic asylum and it follows that he has suffered a for which no money payment can provide an nsation." The plaintiff's moderation and ability s case only served to disclose as in a flash the rong. But great as it had been it could furnish for an order upon the respondent to make the which the jury here had awarded against him, appellant's claim against the respondent was he objection that it was had been properly taken. te of James applied to this case at all, it must action was out of time. The argument of the e construction of that Act, sensible and forcible ft almost untouched the reasoning and con- orridge J. and the Court of Appeal, but that his (Lord Blanesburgh's) mind, at all events, whether the limitation statute to which such applicable could really have been left by govern this particular claim. If it were appropriate limitation period to hold the n the plaintiff and defendant, the Statute of e singularly unsuited to a claim like the indeed, whether its true construction was ppellant contended, or that put forward by either view, the statute must, if applicable, similar cases, dire results in its train. If, llant's contention were to be upheld that in e duration of a plaintiff's *de facto* insanity esult of the defendant's certificate was, like sanity, to be excised from the limitation d be oppressive on a medical defendant t here acted, in perfect good faith, that, iod after the disability ceased, but in a s later, he might be called upon to justify ost, if not entirely, forgotten. If, on the ame *de facto* disability, with consequences ing and paralysing in their incidents and in fact insane, time, as the respondent sly running in favour of the defendant, y that the period of restraint should be the wrong done to the plaintiff in that s, for him to be deprived by the statute unjustifiable, or even malicious, the ve been. But the improbability that

the Legislature had left a claim of this kind to be governed in the matter of limitation by a statute so clumsily inappropriate was shown also by considerations still more pertinent. The provisions of Section 82 of the Lunacy Act itself were even more significant in that direction. By that section it was provided that the Secretary to the Commissioners should, *upon the discharge* of a lunatic, furnish to him upon his request, free of expense, a copy of the reception order and certificate or certificates upon which he was confined, and, if the order was made upon petition, also of the petition and statement of particulars upon which the reception order was made. That was to say, it was only upon his discharge that the person considering himself to have been unjustly confined was to be supplied with a copy of the certificate upon which his claim to redress in such an action as this depended. Could it have been supposed by the Legislature when enacting that section that the claim of the person so unjustly confined might by that time have become statute-barred? He (Lord Blanesburgh) did not think so, and thus was he led to inquire for himself whether some other period of limitation than that devised by the Legislature for a claim like this, a limitation period which would be consistent with the injustice to those in the appellant's position which the Statute of James, had it been left applicable, might bring in its train. And, on examination, he had reached the conclusion that there was such a limitation period in fact specially prescribed by statute; and, relatively unimportant as in the present instance the result might be to the appellant, the principle involved might be of such wide-reaching consequences in other cases that he made no apology for directing their lordships' attention to the matter with some particularity. In his original defence the respondent had pleaded only one limitation, Section 331 of the Lunacy Act, 1890, which provided that "any action brought by any person who has been detained as a lunatic against any person for anything done under this Act shall be commenced within twelve months next after the release of the party bringing the action," a provision which, it would be noted, was in entire consonance with Section 82, to which reference had already been made. The corresponding Section 105 of the Lunacy Act, 1845, then in force, was treated by Crompton J. in *Hall v. Simple* as the appropriate limitation statute in a case like this. Section 331 of the Lunacy Act was accordingly well pleaded, but that section was repealed in 1893, a fact which apparently was overlooked when the defence was delivered. Presumably, the repeal was subsequently discovered by the defendant's advisers, and, under an order dated December 16th, 1925, the defence was amended by adding a paragraph to the effect that the plaintiff's alleged rights of action were barred by the Statute of James, the Limitation Act, 1623. In other respects, however, the defence remained unamended; Section 331 of the Lunacy Act, 1890, was still pleaded in paragraph 4. If he (Lord Blanesburgh) had correctly appreciated and faithfully recorded the true limits and scope of this suit as fought and decided, he could not himself doubt that if Section 331 of the Lunacy Act had remained unrepealed, that section, and it alone, prescribed the only period of limitation to which this action was subjected. Was, then, that position, which went back at all events to 1845, entirely lost now, although Section 82 of the Act still remained in force? In his (Lord Blanesburgh's) judgement, no. The section, although repealed, still spoke, albeit in modified terms. The repeal was effected by the Public Authorities Protection Act, 1893, an enactment whose purpose was to generalize and amend certain statutory provisions for the protection of persons acting in the execution of statutory or other public duties, and difficult as it had been in many cases to ascertain the true effect of that enactment, no difficulty arose in that instance. Lord Blanesburgh read the provision in the Act of 1893, prescribing a limitation of six months, and said he had no doubt that in that amended form Section 331 of the Act of 1890 still operated, applicable as before to the respondent's certificate but shortening the period after what in the Act of 1890, in the case of a plaintiff who had been detained as a lunatic, was termed his "release," to a term which without doubt or possible question made it a complete bar to the present suit. For while, if Section 331 had been the section applicable, there might have been some question whether the detention for which the respondent was responsible came to an end within twelve months before the institution of the action, he (Lord Blanesburgh) —in agreement with Lord Atkinson—thought it had come to an end more than six months before its institution. The appellant escaped finally from confinement on October 15th, 1921, and this action was not commenced until May 31st, 1922. In his (Lord Blanesburgh's) judgement, therefore, the Act of 1893 was the Statute of Limitations, and the only Statute of Limitations, which applied to that action. If pleaded, it would have been a complete answer. But it was not pleaded. Accordingly, unless leave was now given to the respondent to amend his defence by rectifying that omission, he had no answer to this appeal.

Lord Blanesburgh proceeded to say that the terms on which leave should be given to amend, if they rested with him, would be that as the price of the amendment the respondent should lose the costs of the appeal. As would be seen, however, the appellant gained little by this finding in his favour, but other plaintiffs in his position might gain much. The view he (Lord Blanesburgh) had presented might be wrong. But, if it was, a very serious state of things was thereby disclosed. For it resulted that Section 331, prescribing a period of limitation at least as old as the Act of 1845, and sensible and fair in its operation, had been repealed by a general Act with no corresponding provision substituted, and with the result that plaintiffs in the position of the appellant were now, for the first time, he (Lord Blanesburgh) thought, relegated to the Statute of James, which was entirely inappropriate to their case. If this appeal fulfilled no other

useful purpose it would at least have served to draw the attention of those engaged in the amendment of the Lunacy Laws to a matter which was not unworthy of their consideration.

Lord Wrenbury and Lord Carson concurred.

DE FREVILLE *v.* DILL: RE-HEARING.

AFTER a hearing, which lasted eight days, of the action in the King's Bench Division, before Mr. Justice McCardie and a special jury, brought by Mrs. May de Freville against Dr. A. V. Dill, a medical practitioner of Brimscombe, Stroud, for damages for alleged lack of reasonable care in certifying her to be a lunatic on June 9th, 1926, and for alleged assault and false imprisonment, the jury, on May 28th, returned a verdict for the plaintiff and assessed the damages at £50. Judgement was deferred until next term.

Dr. Dill pleaded that he signed the certificate in good faith and that he acted with reasonable care, claiming the protection of Section 330 of the Lunacy Act, 1890; he further said that his conclusions regarding the plaintiff's condition at the time of her certification were correct.

It will be remembered that when this case was first heard before Mr. Justice Avory the special jury came to a premature decision adverse to the defendant before the evidence for the defence was concluded, and that, in those circumstances, Mr. Justice Avory discharged the jury without recording their verdict. The facts of the case are fully set out in the report of the previous hearing, which is contained in the issue of the BRITISH MEDICAL JOURNAL of April 9th, at page 705.

Briefly, the plaintiff's case was, that on June 9th, 1926, when she returned to Oakridge Vicarage after visiting her father, her husband put her out of the vicarage. She was very angry, and, as she desired to see her little son, she entered the vicarage by the servants' entrance. Her father-in-law, the vicar, however, kept her in the servants' hall while he telephoned to the defendant, who came and certified her as suffering from acute mania, ordering her removal to Gloucester County Asylum. The following day the plaintiff was duly examined, pronounced sane, and discharged.

Mr. J. W. J. Cremlyn and Mr. Comyn Maitland (instructed by Mr. H. Coulson) appeared for the plaintiff; Mr. Singleton, K.C., and Mr. W. H. Gattie (instructed by Messrs. Le Brasseur and Oakley, for the London and Counties Medical Protection Society) appeared for the defendant.

The Summing-up of Mr. Justice McCardie.

On the eighth day of the hearing Mr. Justice McCardie summed up, and said that, as any suggestion of bad faith had been wholly withdrawn, the only issue for the jury to consider was whether Dr. Dill had exercised reasonable care in certifying the plaintiff. The action was important, first, from the point of view of Mrs. de Freville, because it involved the liberty of the subject; secondly, from the point of view of Dr. Dill, because it affected his character and reputation as a medical man; and thirdly, from the point of view of the general public, to whom the administration of the lunacy law was of vital concern. Litigation of the character of the present case had not been infrequent in recent years, and it might be that, as a result of it, many medical men had refused to take any part in certifying patients under the Lunacy Acts. It might be that, whatever was the verdict of the jury in the present case, many more medical men would decline to give certificates if they might be made subject to litigation because they had become embroiled in embittered family strife with which they had nothing to do. It was a serious matter that the Lunacy Acts contained no definition whatever of insanity, of unsoundness of mind, or of lunacy; that they provided no test, set no standard, and gave no guidance with regard to those matters. The keynote throughout the Acts was, first, the welfare of the patient, and secondly, the public safety, which might require that the patient be put under care and treatment. From the medical point of view no textbook gave any definition of insanity, unsoundness of mind, or lunacy, and he had never in the course of his experience at the Bar and on the Bench known a doctor who was able to give a definition of those things. That illustrated the grave considerations which should be present to the mind of a jury who had to decide whether or not a doctor had acted with reasonable care. A doctor who was called in to deal with an alleged lunatic was dealing with the most difficult subject known to the medical profession. The forms taken by unsoundness of mind were many, while diagnosis and classification were difficult. Not only did the forms and symptoms vary, but each varied in degree, in gravity, and in intensity. Symptoms and outbreaks might be intermittent, and might vary year by year, month by month, and day by day. What, then, was the position of a doctor who was dealing with a question such as that? The matter had been put in the best and most practical working form for the consideration of a jury by Lord Haldane, in the course of the judgement he delivered in the House of Lords in Everett *v.* Griffiths, reported in the Law Reports, 1921, 1. A.C., 631, at page 654, when he said of the plaintiff in that case: "To-day he is sane in his conduct, and probably was so very soon after the occurrences in question. But the point is, whether at the time of these occurrences he had so lost his capacity for self-control as to be, temporarily at least, to all appearances of unsound mind within the meaning of the statute which takes account of his relations to others as well as to himself." The jury must remember that the Lunacy Acts had to be administered and certificates had to be given not only by London specialists and other experienced practitioners in great cities, but also often by ordinary country doctors. It was one thing to come to a decision whether or not a certificate should have been given in the present case after several days' hearing of the evidence on both sides and the addresses of counsel; it was another thing to come to a decision in a room in a country parsonage. A general medical practitioner gave no warranty of special skill or knowledge. He was bound to exercise due care having regard to the skill and knowledge which he actually possessed.

Universities and Colleges.

VICTORIA UNIVERSITY OF MANCHESTER.

THE county borough of Stockport has increased its annual grant to the University from £250 to £400.

The Council has accepted the resignation of Dr. G. S. Wilson, Lecturer in Bacteriology and Assistant Director of the Public Health Laboratory, on his appointment as Reader in Bacteriology and Immunology in the University of London.

NATIONAL UNIVERSITY OF IRELAND.

THE following appointments have been made:

University College, Dublin.—Professorship of Medicine, Henry F. Moore, M.D., D.Sc.; Professorship of Syste[illegible]nan, M.B., B.Ch.; Professorship of Pathology, O'Farrell, F.R.C.S.I.; Professorship of Publi[illegible] William D. O'Kelly, M.D., D.Sc.

The following degrees and diplomas were conferred on May 14th

M.B., B.Ch., B.A.O.—T. F. J. Ryan, J. A. Browne, M. Coghlan, C. J. McCarthy, J. V. McLoughlin, J. E. MacMahon, J. P. Marren, A. V. O'Brien, Catherine Purcell, J. G. Ryan, E. P. Walsh.

M.D.—J. M. Hayden, H. J. Phillips, J. C. Troy.

D.P.H.—Margaret Bergin, M. Downey, Hilda M. Doyle, Mary P. Power.

The Services.

INDIAN MEDICAL SERVICE DINNER.

THE annual dinner of the Indian Medical Service will be held at the Trocadero Restaurant on Wednesday, June 15th, at 7.15 for 7.30 p.m. Major-General R. W. S. Lyons has been invited to take the chair. Tickets and all particulars may be obtained from the joint honorary secretary, Colonel J. J. Pratt, I.M.S. (ret.), 18, Nevern Mansions, Warwick Road, London, S.W.5.

DEATHS IN THE SERVICES.

LIEUT.-COLONEL JOSEPH WILLIAM TOWNSEND ANDERSON, Bombay Medical Service (ret.), died at West Kensington on May 12th. He was born at Karachi on November 5th, 1852, the son of Joseph Anderson of the I.M.D., and studied at the medical schools of St. [illegible] Charing Cross, and at Edinburgh and St. [illegible] he took the L.S.A. in 1878, and the L.R. [illegible] he became F.R.C.S.Ed. in 1891. Entering the I.M.S. as surgeon on October 2nd, 1880, he became lieutenant-colonel after twenty years' service, and retired, with an extra pension, on April 15th, 1906. For some years before his retirement he had been civil surgeon of Ahmedabad, and superintendent of the Byramji Jijibhai medical school, and of the lunatic asylum at that station. He served in the Burma war in 1886-87.

Lieut.-Colonel William Hamilton Kenrick, Indian Medical Service (ret.), died at Virginia Water on May 7th, aged 58. He was the son of William Wynn Kenrick, colliery proprietor and mining engineer, of Ruabon, and, after taking the M.R.C.S. and L.R.C.P. in London in 1895, entered the I.M.S. on January 28th, 1897, being one of the first batch gazetted to the General List of the I.M.S., which started in that year. He became lieutenant-colonel on July 29th, 1916, and retired on July 28th, 1924. He served on the North-West Frontier in the campaigns of 1897-98, including the Tochi Valley campaign (medal with clasp); the operations on Samana and in the Kurram Valley (clasp); and Tirah, in the actions at Dargai and on the Sampagha and Arhanga Passes (clasp); also in the China war of 1900, when he took part in the relief of Pekin, and in the actions at Pientsan and Yangtsen he was mentioned in dispatches and received the medal with a clasp. In May, 1905, he took civil employment in the Central Provinces, and remained there for the rest of his service, except that he was recalled to military duty from October, 1918, to May, 1921. He was the author of a work on *Malaria in the Central Provinces*, 1916.

Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

House of Commons, after spending another three days ommittee on the Trade Disputes and Trade Unions Bill, urned over Whitsuntide on June 2nd. On May 31st Mr. on introduced a bill to provide for the humane slaughtering nimals. The backers of this bill included Dr. Drummond ls.

"Trade Unionism" and Medicine.

May 27th, when the House of Commons was in Committee Clause 4 of the Trade Disputes and Trade Unions Bill, Vernon Davies made a personal statement. He had found some of the statements which he had made on May 23rd. answering allegations by Mr. J. J. Lawson concerning the ish Medical Association, were inaccurate. Dr. Davies asked per- ion to read a letter from the Medical Secretary of the British ical Association, saying this fully explained the matter. He d that he was not reflecting in any way on Mr. Lawson, merely wished to put himself right at the first opportunity. Chairman (Mr. J. F. Hope) said there could be no objection hat. Dr. Davies then read the letter he had received from Medical Secretary of the Association. This ran:

"In your references to the British Medical Association you made certain statements which are not borne out by the facts, and I feel sure you would like to be put right in case the question should arise on a future occasion. The form of application for membership of the British Medical Association which a man who wishes to join signs, says: 'I agree if elected to pay the subscription and to abide by the articles and by-laws of the Association for the time being in force, and the rules of the Division or Branch to which I may at any time belong.'

"In twenty-five years only 35 members have been expelled, and these have all been for conduct which has been declared after a careful inquiry to be 'detrimental to the honour and interests of the medical profession.' Then, you go on to describe what happens if a man takes an appointment to which the Association objects. You say the Association says, 'We cannot penalize you. We cannot turn you out of the Association, and we cannot advise anybody to have nothing to do with you.' We can, as a matter of fact, turn such a man out of the Association, and very occasionally we have done so. As regards advising people to have nothing to do with him, there is the power, after a careful inquiry surrounded by all sorts of safeguards, and after declaring that the conduct of the practitioner has been 'detrimental to the honour and interests of the medical profession,' for a Division to issue a notice to its members stating that 'It is undesirable that a member of the Division should meet in consultation or accord any professional recognition (other than such as may be necessary in the discharge of an official duty by a public medical officer or in circumstances of great urgency affecting the life of a patient) to a medical practitioner who shall have been declared by resolution of the Division to have acted in contravention of any rule or resolution of the Division as to professional conduct, of which such practitioner shall be proved to have had notice in accordance with these rules, or who shall have been declared by resolution of the Division to be deemed guilty of conduct detrimental to the honour and interests of the medical profession.' This action has only been taken with regard to seven practitioners since 1962. I think it only right that I should make clear to you that, like all other associations, we have certain legal powers of dealing with members whose conduct is considered to be against the interests of the Association, and we also have the right, as has been proved by legal decisions, both general and in our own case specifically, to decline to meet persons professionally after an inquiry made in a judicial manner and in accordance with rules which are carefully laid down."

The Chairman remarked that this appeared to be a statement ling with the disciplinary regulations of the British Medical ociation. It could not be discussed and was not relevant to a ussion on the political funds of trade unions. Dr. Davies arked that on May 23rd he had stated specifically that members the British Medical Association were not expelled and that they re compelled to meet in consultation, when a life was at stake, ofessional men of whose conduct they disapproved. The letter had read, an official letter from the British Medical Association, wed that members had been expelled from the Association and at they could withdraw. He thanked the House for allowing n to make the explanation. Mr. A. V. Alexander asked Dr. avies to tell the Committee whether the British Medical Associa- n paid any of the election expenses of doctors who sat in the use; whether they kept their funds separate, and whether any mber could reclaim. The Chairman intervened, and Dr. Davies marked that Mr. Alexander's question was irrelevant, but that would afterwards give the information asked, so that it could passed on to Labour members. Speaking on the amendment fore the House, Dr. Davies said that in Lancashire trade union ficials and those of other bodies had a method of canvassing d collecting subscriptions at the workers' houses, usually from e wives. He argued that the collection of the political levy such means should be prohibited. Mr. Lee asked if Dr. Davies w that medical men's salaries were paid in Lancashire by this ribed. Dr. Davies said he wished that members would forget r the moment that he was a medical man. He was speaking as the representative of an industrial constituency, with a knowledge of the industrial and social life of the workers, acquired as a factory surgeon. Mr. Tinker congratulated Dr. Davies on having the courage to rectify the mistake he had made.

Mr. Cape said that certain medical men had resorted to the canvassing methods against which Dr. Davies had spoken. They had done so not for political but for financial purposes. When health insurance became compulsory, doctors who had been the medical advisers of men, asked those men to sign forms so that those practitioners might become their panel doctors. Mr. Mackinder also referred to Dr. Davies's statement about the collection of trade union subscriptions from door to door and declared that hon. member did not understand the trade union movement.

Small-pox.

Answering Mr. West Russell, on May 26th, Sir Kingsley Wood said small-pox had been prevalent in Northumberland since 1924. Up to May 21st, 1927, approximately 2,300 cases had been notified. The areas chiefly affected were Ashington, Bedlington, Newcastle, Morpeth, Prudhoe, and Tynemouth. The Minister of Health thought the local authorities had adequate powers and that these powers were being exercised. The original source of the infection was unknown. In a number of cases where vaccination failed to protect it had been done many years ago. The Minister desired the public to know that the most effective measure against small-pox was to make free use of public vaccination. Dr. Salter asked whether the Ministry was satisfied that the mild disease in Northumberland and Durham was the same as the disease recently so fatal at Hendon. Sir Kingsley Wood said the Ministry was satisfied that the disease was small-pox and that vaccination was the best preventive.

On May 30th Sir K. Wood told Sir N. Grattan Doyle that the Minister of Health had not yet obtained complete information as to the vaccinal condition of those cases of small-pox which had occurred in Northumberland and Durham during the past eight weeks. This information, which should cover all cases at present known to be infected, would shortly be available.

Asked whether he was prepared to take steps to ensure that statutory declarations of parents against vaccination should not be open to public inspection, Mr. Chamberlain said this course would not serve a useful purpose. The register under the Vaccination Act of 1867 would still be open to inspection.

Government Vaccine Lymph.

On May 30th Sir K. Wood, replying to Sir W. Davison and Dr. Vernon Davies, said that the reputation of Government lymph had been achieved, not only by its quality and consistency, but by the close attention given to its results by means of official inspection and records. If Government lymph were to be made available to private practitioners generally, it would appear very difficult, if not impossible, to ensure similar checks and controls. As from August next all vaccine lymph sold in this country would by virtue of the Therapeutic Substances Act, 1925, come under official control and would be required to conform to prescribed standards of potency and purity. The Minister of Health proposed to give some further consideration to the question, but it seemed doubtful, in view of the foregoing observations, whether any departure from present practice would be justified.

Dr. Davies asked if Sir Kingsley Wood had seen the letter on this subject from Dr. S. Monckton Copeman—who was one of those who originally used "glycerinated lymph"—which had appeared in the *Times*. Having in mind the prevalence of small-pox, would it not be possible to see that Government lymph was sold to practitioners? Sir K. Wood said that there was no mention in the letter of the very important effect the Therapeutic Substances Act would have. Sir W. Davison asked whether it would not be desirable to make some temporary arrangement until August to supply lymph to any practitioners who desired to have it. Sir K. Wood replied that in all cases where there was an epidemic arrangements were made with the medical practitioners for the supply of Government lymph. Under the new Act the natural desire, which everyone shared, that all lymph should be of the proper standard of efficiency would be achieved.

Shop Acts, 1920 and 1921.

On May 25th, at a sitting of the Committee which is inquiring into the working of the Early Closing Acts, evidence as to the nutritive value of ice-cream was given by Mr. A. Pompa, secretary of the Ice-cream and Temperance Traders' Federation of Great Britain. He said that ice-cream had three or four times the calorie content of fresh milk. When ice-cream was unsold at night it was not necessarily thrown away. More ice and salt were packed round the freezer in the tub so as to keep the ice-cream hard and prevent bacterial contamination, and the ice-cream was sold the next day. In the case of small shops, it could be taken for granted that extra supplies of ice and perhaps of freezing salt were not available until the next morning. In this case ice-cream melted during the night and bacteria bred. It probably also picked up metallic contamination from the metal freezer. The Committee adjourned till May 31st.

National Health Insurance.—Answering Mr. Cooper, Mr. Chamberlain said he had submitted the recommendations of the Royal Commission on National Health Insurance to the Consultative Council on Approved Societies' Work. Five meetings had been devoted to considering the recommendations, and the views of the Council thereon had been communicated to him.

A few recommendations remained to be considered and would come before the Council at an early date. An amending bill would then be prepared, but there was little likelihood of its introduction during the present session.

Foot-and-Mouth Disease in Switzerland.—On May 30th Major Ainsworth asked whether, in view of the existence of foot-and-mouth disease in Switzerland, the Minister of Agriculture was satisfied that the condensed milk imported into Great Britain from that county was free from contamination. Mr. Guinness said that he was informed that the process of condensing milk necessitated the maintenance for some time of temperatures sufficient to destroy the virus of foot-and-mouth disease.

Shanghai Defence Force.—On May 31st Sir L. Worthington-Evans said that he was unable to state the total number of admissions to hospital of troops of the Shanghai Defence Force. The average weekly number of officers and men of the force and the permanent garrison at Hong-Kong, including Indian troops, who were in hospital during the four weeks ending May 20th was 15 and 860 respectively.

Motor Horns.—Colonel Ashley, replying on May 31st to Mr. Pethick-Lawrence, who asked if he had received complaints as to cases of nervous shock caused by the unnecessary use of strident motor horns, said he was aware that unnecessary noise was sometimes made. The point had been under consideration in connexion with the Draft Road Traffic Bill, but it seemed to him more a question of education in the courtesies of the road than a matter for legislation, as it would be extremely difficult to lay down a definite and enforceable standard of noise.

Dirty Milk.—Sir K. Wood, replying to a question on May 31st, said that the Minister of Health had seen the report of the medical officer of health for Workington, in which it was stated that 79 per cent. of the milk for sale was found to contain cow-dung, hairs, and dirt. The samples mentioned in that report were classified as 31 per cent. clean, 31 per cent. fair, and 38 per cent. dirty. In a later report, which had been presented to the town council within the last few days, a marked improvement was indicated, the result of an examination of a further set of samples being given as 75 per cent. clean, 12.5 per cent. fair, and 12.5 per cent. dirty. In reply to another question it was stated that the Minister of Health had no reason to believe that the licence fees paid by producers of graded milk, which represented only a part of the cost of inspection and bacteriological examination, had had a deterrent effect on the production of clean milk. He did not at present propose to abolish the fees.

Ornamental Waters.—Captain Hacking, replying on May 30th to Sir W. Davison, who asked if his attention had been called to the odour arising from the ornamental water in St. James's Park, "which in some cases had caused sore throats to those sitting by the water," said that attention had been drawn to the matter. Measures were being taken which, it was hoped, would provide an effective remedy. Sir W. Davison asked if Captain Hacking was aware that the same thing occurred in 1910 and 1911, and that then it was successfully dealt with. Captain Hacking said that the Office of Works, in order to effect economy, had not run fresh water continuously into St. James's Park lake. The pumping of water from the Serpentine, however, was creating a current which would probably have the desired effect.

Pasteurized Milk.—The Ministry of Health provisionally estimates that between 5 and 10 per cent. of the liquid milk sold in England and Wales is pasteurized.

THE COLONIAL CONFERENCE.

NEED FOR RESEARCH, MEDICAL AND OTHER.

THE Colonial Office Conference, in which officials representing Crown Colonies and Protectorates have been meeting the Colonial Secretary, Mr. Amery, at Downing Street, ended on May 31st. In his closing statement, Mr. Amery remarked that the Conference had endorsed wholeheartedly the principle of an efficient central organization in the field of scientific research. The Conference had instructed the new joint Medical Research Council, of whose setting up it had approved, to work out proposals for a scheme of medical research which would be on no less broad a basis than the scheme of agricultural research which the Conference had considered and approved on May 27th. In the same report the Conference's Committee on Colonial Scientific and Research Services stated that the British Colonial administrations were responsible for the health and prosperity of a large number of human beings, though the number was small in proportion to the territory they inhabit. This comparative sparsity of population was most noticeable in tropical Africa. The area of the tropical African dependencies was greater than that of India and Burma, but their population was less than one-sixth of that of those countries. This sparsity of population was mainly due, on the one hand, to centuries of warfare and to the slave trade; on the other, to the ravages of disease—diseases of man and diseases of stock. The establishment of the Pax Britannica and the development of an efficient administration had done away with warfare and the slave trade, but the Committee remarked that medicine, in alliance with veterinary science, could alone combat disease. The population of the Colonies should increase rapidly as the result [illegible] the progress in tropical medicine of the necessity for shielding the [illegible] f disease the Committee recalled more than one-tenth of the native population of Uganda was wiped out by trypanosomiasis. There was no organization whatsoever in the Colonies which viewed the problems of science as a whole.

Reviewing the present position of medicine in the Colonies, the report remarked that the first great stimulus to research in any branch of science was given in the closing years of last century, though much work of great value had previously been done. While Mr. Joseph Chamberlain held the seals of the Colonial Department two great institutions were founded—the London and Liverpool Schools of Tropical Medicine. At the same period the Tropical Diseases Research Fund, with an advisory committee, was created to advise the Secretary of State on the administration of the Fund and on any matters connected with medical research that might be referred to it. Since that time the Bureau of Hygiene and Tropical Diseases had been instituted to deal with the collection and distribution of information with regard to hygiene and tropical diseases, including the diseases of animals.

The Advisory Committee of the Tropical Diseases Research Fund was now in progress of reconstitution. A new body was being formed by the Secretary of State for the Colonies, partly of nominees of the Medical Research Council and partly of members nominated for their knowledge of medical research in the tropics. The chairman was to be a layman, and the duties of the new body would be to advise the Secretary of State on questions affecting research in the Colonies, to advise on the administration of the Research Fund, and to form the connecting link between the developments of medical science at home and in the Colonies. A chief medical adviser to the Secretary of State for the Colonies had also recently been appointed.

The Committee further reported that it had decided to leave the question of medical organization on one side, as the new Medical Research Committee had only recently been constituted and it was desirable to allow it to examine the position fully before embarking on any definite proposals. The conference, however, recommended that it should be one of the first duties of the new Colonial Medical Research Committee to consider the establishment of a Colonial Medical Research Service. A unified research service was recommended for Colonial agriculture, and the hope was expressed that the veterinary service might be similarly organized before long.

Medical News.

THE Mackenzie Davidson Memorial Lecture for this year—the eighth of the series—will be given by Sir Humphry Rolleston, Bt., Regius Professor of Physic in the University of Cambridge. The subject will be protection and other radiological problems; it will be delivered at the house of the Royal Society of Medicine on Thursday, June 30th, at 8 p.m. [illegible] y the Röntgen Society and the [illegible] of the Royal Society of Medicine.

Sylvanus Thompson Memorial Lecture of the Röntgen Society will be given by Sir J. J. Thomson, O.M., F.R.S., on Tuesday, June 14th, at the same place at 8.30 p.m. The subject is the structure of the atom and radiation.

THE Bolingbroke Lecture of the South-West London Medical Society will be delivered by Mr. W. McAdam Eccles, M.S., F.R.C.S., in the Bolingbroke Hospital, Wandsworth Common, S.W.11, on Wednesday, June 8th, at 9 p.m. The subject will be the romance of foetal pathology. The lecture will be open to any member of the medical profession.

MR. T. W. LETCHWORTH will give a special clinical demonstration for the Fellowship of Medicine at the Royal Eye Hospital on June 9th, at 3 p.m., free to medical practitioners. The Chelsea Hospital for Women hold a two weeks' course in Gynaecology from June 8th to 21st, and an afternoon course will be provided at the Central London Ophthalmic Hospital from June 8th to 29th, with an operative class if desired. The Children's Clinic in conjunction with the National Hospital for Diseases of the Heart, the Royal National Orthopaedic Hospital, and the Royal Waterloo Hospital will hold a special course in diseases of children from June 13th to 25th. There will be an afternoon course at the Hospital for Diseases of the Skin, Blackfriars, from June 20th to July 1st; special cases of interest will be shown each Tuesday. From June 27th to July 9th the Victoria Park Hospital will provide a special course in all forms of pulmonary disease. The Fellowship of Medicine can arrange for practical courses in anaesthetics and obstetrics and for clinical assistantships in gynaecology. Copies of all syllabuses and of the *Post-Graduate Medical Journal* are obtainable from the secretary of the Fellowship, 1, Wimpole Street, W.1.

SIR DONALD MACALISTER, Bt., has been reappointed a member of the governing body of the Imperial College of Science and Technology for a further term of four years.

SIR JAMES PURVES-STEWART has been elected a foreign member of the Copenhagen Medical Society.

SIR ALFRED RICE-OXLEY, C.B.E., M.D., has, on the occasion of the visit of the French President to Great Britain, received from the French Government the decoration of the *Legion of Honour*, as an acknowledgement of the services he has rendered to France as a member of the British League of Help.

Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to **The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.**

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All communications with reference to ADVERTISEMENTS, as well as orders for copies of the JOURNAL, should be addressed to the Financial Secretary and Business Manager.

The **TELEPHONE NUMBERS** of the British Medical Association and the BRITISH MEDICAL JOURNAL are *MUSEUM 9861, 9862, 9863, and 9864* (internal exchange, four lines).

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The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 4737 Dublin), and of the Scottish Office, 6, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 4361 Central).

QUERIES AND ANSWERS.

INCOME TAX.

Motor Car Depreciation.

"H. A. M." claimed last year a deduction of £190 for replacement of car, but owing to the change from the three years' average he will only benefit in effect to the extent of one-third of that amount. The inspector of taxes has refused to make an allowance for depreciation.

*** It was decided in the case of the Caledonian Railway Company *v.* Banks that where the question of capital exhaustion was being dealt with by allowing the cost of renewals, no further allowance should be made for depreciation. As matters have turned out, it is, of course, unfortunate that our correspondent did not claim the depreciation allowance as from the first year it was obtainable; if he had done so the "renewal" allowance would have been modified and have become the statutory "obsolescence" allowance, which would not have barred the subsequent depreciation claim. In the circumstances we can only suggest that our correspondent should send to the Secretary, Inland Revenue, Somerset House, a full statement of the facts, asking that in the special circumstances the "renewal" claim should be disregarded (or looked upon as an obsolescence claim), or alternatively that he should be allowed to withdraw that claim, and should pay tax upon one-third of the £190, and thereby remove the barrier to the grant of the depreciation allowance.

Educational Fund.

"BURMAH" has formed an educational trust for the benefit of his children, providing for payments out of the funds to be made for their education, or, at the option of the trustees, to their parents for their benefit.

*** If the trust is revocable by the settlor without the consent of any other person (not being the settlor's wife), so that he can obtain for himself the beneficial enjoyment of the income, or if the period for which the income is payable to the children is less than their lives, the income must, in accordance with Sec. 20 of the Finance Act, 1922, be deemed to be the income of the settlor. In that case the income will not be regarded as the income of the children in their "own right," and "Burmah" can claim the usual statutory allowance. If the trust is not within the scope of Section 20, the amount of income expended on each child will be regarded as the income of that child (see Drummond *v.* Collins [1915], A. C. 1011), and "Burmah" can put in repayment claims thereon as natural guardian of the children. It would seem that in that case he would be unable to claim the allowance where the child's income exceeded £40, though the precise meaning attaching to the stipulation that the income shall be in the "own right" of the child may be open to doubt.

Special Repairs to House.

"H. G. P." had to purchase his house a year ago, and found it necessary to spend £140 in putting it into proper condition. His claim to deduct this amount has been refused on the ground that it was "capital" expenditure.

*** The claim which "H. G. P." can make is under *Rule* 8, No. v, Sch. A, of the Income Tax Act of 1918. He should ask the local inspector of taxes to supply him with the form of claim provided in connexion with that section, and will find the relevant clauses explained therein. It may be that there is some capital element in the total amount, representing an improvement as compared with the original property, but it seems clear that the great bulk of the expenditure is a proper subject of claim. The statutory allowance is based on an average of five years, but "H. G. P." can no doubt obtain approximate estimates of the expenditure of past years from the previous owner or his agent.

Expenses and "Earned" Relief.

"S. A. J." earned £248 last year and claimed to deduct £7 medical journals, £18 (being one-third) annual value of house, telephone £4, travelling £3, total £32, and earned income relief.

*** The assessor says the assessment for 1927–28 will be £222, apparently accepting all the deductions as claimed, except the one-third of the annual value, for which he substitutes £12. The earned income relief is not a deduction in arriving at the assessment, but is taken into account in computing the tax payable thereon. The only point which may be worth while pressing on the assessor's attention is that the deduction in respect of the use of the house should include something in respect of rates, light, and heat, and on that ground he might be urged to restore the £18 as claimed.

LETTERS, NOTES, ETC.

EARLY PARENTHOOD.

DR. LEBON, M.R.C.S. (Sarreguemines, Moselle), writes: As regards early parenthood, may I mention the following occurrence. On April 29th last I was called to a barge to see a girl who had been delivered of a child two days previously. She was 12 years old in January, and had been the victim of a rape. She had a big laceration of the perineum, which, owing to the difficulty of getting a doctor, had not been sutured. She had risen from bed on going to stool, and afterwards had a complete inversion of the uterus, which was lying in front of the vulva. I had her taken to hospital and tried in vain to reduce the inversion under anaesthesia. I renewed the attempt on the following morning, but still failed. As the girl was very anaemic and got fever, I had to give up all further manipulation. She left hospital on May 1st with her uterus still inverted, lying inside the vagina, as her parents, having in the meantime had their barge loaded, were returning to Paris, where I expect further treatment will take place. What struck me most in this case was the rapidity with which the lacerated perineum healed up without any attempt being made at restoration by suture.

PREVENTION OF TUBERCULOSIS IN GUERNSEY.

DR. H. D. BISHOP (M.O.H. for Guernsey), who recently drew attention to the very low incidence of bovine tuberculosis in that island (JOURNAL, April 16th, p. 749), now sends a comparison of the human and bovine statistics in 1910 to 1919 with those of 1924 to 1926, both years included. During the last three years 2,882 cattle were tested with tuberculin and 2 reacted, while in the previous period, out of 2,426 so tested officially, as many as 191 reacted. As regards human tuberculosis the total mortality in the first period was 478 (357 pulmonary and 121 other forms), and in the second period 123 (103 pulmonary and 20 other forms). Whereas in the earlier period the deaths of children under 5 numbered 41, representing 8.5 per cent. of the total tuberculosis mortality, in the last three years only 2 children died, the percentage having thus fallen to 1.7.

AN ALTERNATIVE TO CIRCUMCISION IN PHIMOSIS.

DR. D. R. LEWIS (Burma Medical Service) writes: As one who has performed over 500 operations [illegible] urse of nine years, while attached [illegible] the Rangoon General Hospital, B [illegible] that Dr. Whitfield's method, as mentioned on page 187 of the BRITISH MEDICAL JOURNAL of January 29th, cannot be recommended, for the following reasons, as an alternative to the usual method of circumcision: first, bleeding from the glans (a very vascular region) is apt to be troublesome, and it does not admit of the usual method of haemostasis, as it is a condition of general oozing; secondly, the narrow orifice of the prepuce cannot be readily retracted as far as the corona glandis without centripetal lacerations. When these heal there is bound to be a certain amount of constriction of the prepuce once again. From his description I understand that he relies on a good nurse to hold the baby, rather than employ an anaesthetic. This procedure certainly inflicts upon the baby unnecessary pain. It is much easier to give the baby a few whiffs of chloroform, slit the prepuce, retract it, and put a suture at each end of the cut margin—a very rapid and easy proceeding. If there is any objection to an anaesthetic the prepuce may be dilated daily, during the bath, first with a probe and then with a Spencer Wells artery forceps; the condition is generally relieved in a month's time. In the case of adults nothing gives better results than the orthodox method of circumcision.

THE STUDENT WHO SMOKES.

DR. FREDERICK BACK (Ryhope, Sunderland) writes: With reference to your commentary on Dr. Earp's "Study of the student who smokes" (May 28th, p. 973) and his hypotheses to explain why, of the students who fail to reach diploma standard, the heavy smokers are twice as numerous as the non-smokers, I think there is a tendency to confuse cause and effect. I suggest that it is not so much the fact that heavy smoking causes inefficiency as that inefficient people smoke excessively. For people with deficient mental energy and inability to concentrate it is so much easier to smoke a cigarette or chain of cigarettes than to do what is required—whether it be to make a decision, to perform some action, or to consider a subject—for one obtains the illusion you mention of doing something when, in reality, doing nothing.

MEDICAL GOLFERS.

THE medical profession has the distinction this year of supplying the amateur champion in Dr. William Tweddell of Stourbridge. Needless to say when the stage of the final round in the Amateur Championship was reached both players were very excellent golfers. It seems to be generally agreed that Dr. Tweddell owed his success, which in the end was rather hollow, to steadiness. In golf, as in many other of the affairs of men, the final event is determined rather by the faults of the rival than by the excellencies of the winner, though, as has been said, a high degree of excellence is essential. We may be allowed to congratulate Dr. Tweddell on his success.

But these high excellences would not be reached if there were not many nurseries for golfers. One of these is the Manchester and District Medical Golfers' Association, which, on May 25th, held its annual medal competition over eighteen holes. The challenge cup for the best net return was won by Dr. J. L. Bradley of Salford with a score of 71, playing from a handicap of 10. The Walter gold medal for the best scratch score was won by Dr. A. A. Smalley of Manchester with a round of 77; Dr. Bradley also secured the Walter silver medal presented for the best gross score by players with handicaps of 10 and upwards. Club prizes were won by Dr. J. Clark and Dr. J. Leech for the best net scores for holes 1 to 9 and holes 10 to 18 respectively; 122 players competed.

It will be remembered that three competitions will be played out during the Annual Meeting of the British Medical Association at Edinburgh: (1) for the Ulster and Childe Cups at Muirfield on July 21st, (2) for the Treasurer's Cup on Friday, July 22nd, at Gullane, and a ladies' competition on the morning of July 20th at Cammo.

JOHN JONES.

A [illegible] pathetic writer in the issue of the *Medical* February 2nd gives an interesting account oneer of American surgery, who was born died in 1791. After completing his studies in Philadelphia he went to Europe, where he attended the lectures of John Hunter and Percival Pott in London and of Petit Le Cat and Le Dran in Paris; he spent some time also at Edinburgh and Leyden. On his return to America he settled in New York, where his professional attainments as a surgeon and obstetrician soon procured him an extensive practice. He was the first to perform the operation of lithotomy in that city, and his fame as an operator spread throughout the middle and eastern states of America. He served with distinction in the campaign against the French in 1758 and gained the gratitude of the wounded French commander, General D'Escaux, who had been taken prisoner, for his skilful attention. When the medical school in the College of New York was founded Dr. Jones was appointed professor of surgery. After a second trip to Europe, when he renewed his acquaintance with Hunter and Pott, he published, in 1775, his *Plain Remarks upon Wounds and Fractures*, which was the first work on surgery by an American author in the United States prior to 1800, and was used as a manual of the American army surgeons during the revolutionary war. On the evacuation of Philadelphia by the British troops in 1778 he removed to that city and remained there until his death thirteen years later. He was not only the intimate friend, but was also the physician of Benjamin Franklin, whom he attended in his last illness, which was caused by renal calculus complicated by pulmonary abscess. At the time of his death Jones was physician to the Pennsylvanian Hospital, president of the Humane Society, and vice-president of the Medical College, in the formation of which he had taken an active part.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 59, 60, 61, 64, 65, and 66 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 62 and 63.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 231.

A British Medical Association Lecture

ON

THE NATURE AND TREATMENT OF AURICULAR FIBRILLATION.*

BY

GEORGE J. LANGLEY, M.D.Lond., M.R.C.P.,

HONORARY PHYSICIAN, ANCOATS HOSPITAL AND SALFORD ROYAL HOSPITAL; HONORARY ASSISTANT LECTURER IN HUMAN PHYSIOLOGY, UNIVERSITY OF MANCHESTER.

THE choice of this subject has been largely determined by three considerations: (*a*) the disease is very common, (*b*) its nature is comparatively well understood, (*c*) much can be done by adequate treatment.

Intelligent treatment of the condition must depend upon an appreciation of the functional pathology of the disease, any understanding of which, in turn, connotes a familiarity with the present teachings of cardiac physiology.

Normal cardiac contraction is determined by the rhythmic generation of impulse material at the pacemaker—that mass of primitive tissue lying in the right auricle, near its junction with the superior cava, known as the sino-auricular node. Experimental proof of this does not come within the scope of this paper, but can be found elsewhere very clearly presented.[1]

The speed of the pacemaker is controlled by the interaction of (*a*) the vagus, stimulation of which slows the pacemaker, and (*b*) the sympathetic, which in turn raises the speed. The contraction impulse, having been formed in the sino-auricular node, spreads throughout the myocardium in definite orderly sequence. There is much evidence to show, and it is now generally believed, that the impulse spreads across the sheet of auricular muscle by contiguity of muscle fibre, and in no other way. Each auricular fibre is believed to hand on its stimulus to its neighbour, by which means the whole sheet is put into contraction, commencing around the great veins, and ending at the auriculo-ventricular junction.

Conduction of the contraction impulse is carried in turn to the ventricle, by means of the auriculo-ventricular node and bundle, and again in no other way, for total destruction of the bundle, by disease or experiment, prevents the auricular impulse from reaching the ventricle, and the auricular contraction is then followed by no ventricular response. The auriculo-ventricular bundle, on reaching the ventricular area, divides into right and left branches to be distributed to each ventricle respectively, by means of complex branching and arborization on the endocardial surface of the muscle, and ends in the Purkinje tissue, by means of which the impulse is believed to be handed on to the ventricular musculature.

There is, then, a complex and elaborate conduction system which carries the contraction impulse from the auricle, across the tissue of the auriculo-ventricular junction, and distributes the impulse to the ventricular muscle—an arrangement in sharp contrast to that of the auricle, where the impulse-spread, from its point of generation at the sino-auricular node, depends upon contiguity of muscle fibre only, and no conduction system exists.

It has long been known that the heart will respond to direct electrical stimulation, and if this be carried out at the apex of the auricular appendix, the speed of the heart can be raised above the speed dictated by the pacemaker; but if the speed be raised to 250 beats a minute, or thereabouts, a certain number of impulses fail to reach the ventricle. In fact, the auriculo-ventricular junctional tissue shows phenomena of fatigue before the cardiac muscle mass.

It is further known that stimulation of the vagus, particularly on the left side, is capable of reducing the conduction capacity of the bundle, even when the heart is not beating at high speed, and so a certain number of auricular impulses are prevented from reaching the ventricle—in other words, the auriculo-ventricular conduction system may be partly or completely "blocked" to auricular impulses by disease or other damage to the bundle, or by vagal stimulation. When complete block occurs, the ventricle initiates its own rhythm, which is regular, but very much slower than normal, perhaps 30 a minute, rhythm, and is usually about 32 a minute, but may be either higher or lower.

From this it follows that, when the auricle is beating at high speed, a very slight depreciation of the power to conduct possessed by the bundle will suffice to prevent a certain number of auricular impulses; in this way the ventricle may be guarded against the fatigue and overwork of a high auricular rate, and a sufficient depression of conduction would be easily brought about by vagal stimulation of a mild grade.

A great deal of experimental work has been done upon the results of high-speed direct stimulation of the auricular appendix. It is found that when the stimulation speed rises to 300 to 500 a minute the ventricular responses are usually grossly irregular in force and rhythm. In some cases cessation of stimulation is not followed by return to normal rhythm, but the events in the auricle continue exactly as if electrical stimulation were still going on.

It is believed that this phenomenon is due to the fatigue of the auricular muscle, with the result that the contraction wave runs round a ring of the muscle, probably that muscular band which embraces the orifices of the great veins. The impulse is believed to run in one direction only, and to act as the stimulus for the next auricular muscle. The condition is known as circus movement; it can only occur at high speeds, and no effective organized muscular contraction results; the capacity of the auricular cavity is not reduced by the muscular contractions, the fibres of the muscle being in a condition of continual quiver.

There is evidence to show that at speeds of about 300 a minute the path of the circus movement is practically identical, as does the path of its offsets, but when the auriculo-ventricular bundle is unable to conduct all the impulses reaching it (300), with the result that every second or every third beat only is allowed to reach the ventricle, constituting 2:1 or 3:1 block, and yielding a ventricular rate of 150 or 100 respectively. This condition is known as auricular flutter.

When, however, the speed of circus movement in the auricular muscle rises to 450 a minute or thereabouts, the path of the circuit is constantly changing, as is the path of the offset waves, the progress of both being constantly impeded by fibres still fatigued, and therefore not responsive to stimulation. The result is an irregular circus movement, constantly changing its course, and irregular offset waves which may, or may not, succeed in traversing the whole mass of the auricular muscle sheet. From this it follows that the arrival of impulses at the auriculo-ventricular junctional tissue will be both high in speed and irregular in rhythm. The consequent ventricular responses will show a high rate, and the ventricular stroke, therefore, becomes rapid, irregular and of high speed. This condition constitutes auricular fibrillation.

Our knowledge of this condition as it at present exists is due almost entirely to electro-cardiography, and any consideration of the disease must include some reference to graphic records obtained by this means. The normal electro-cardiogram demonstrates a wave due to auricular activity, which is easily recognized and identified as such. From the deviations due to ventricular activity in auricular fibrillation the auricular wave disappears, being replaced by undulations which are irregular in form and which appear and disappear in the length of the tracing. The ventricular complexes are grossly irregular in rhythm and in size, but their form remains unaltered. From this it was concluded (*a*) that no organized sequential auricular contraction takes place, (*b*) that the stimulus to ventricular contraction reaches the muscle by the usual paths—that is, the auriculo-ventricular bundle and its branches. The irregular and ever-varying undulations are attributed to the ever-changing course of the circus movement within the auricular muscle.

Clinically auricular fibrillation is too familiar to need much description: the pulse is perpetually and

* The substance of a lecture delivered before the Hastings Division, March, 1927.

irregular; the speed is usually raised, in which case all the beats do not usually reach the radial artery; there is a definite "pulse difference" between the apical rate and the radial pulse. Signs of cardiac insufficiency are usually present, but may be declared by any phase between undue pulse rise and dyspnoea on effort, up to fully developed orthopnoea and anasarca.

The grade of the disease is usually estimated by the speed of the resting pulse—in most cases the higher the speed the more the discomfort; but this is not constantly so—there is a group in which the cardiac speed is never high, but the cardiac insufficiency is marked and obvious; this, however, is the exception rather than the rule.

The rise in the cardiac speed is probably the largest factor in the heart's breakdown. There is no auricular stroke to fill the ventricle, so that any shortening of diastole must leave the ventricles inadequately filled, the muscle inadequately stretched, the ventricular stroke of poor force, and the consequent circulatory effect indifferent.

If by any means the ventricular speed can be controlled and reduced a definite sequence of events will follow: the prolongation of diastole will permit of adequate ventricular filling; the ventricular muscle fibres will be thereby sufficiently lengthened to yield a contraction of good force; the ventricular muscle will receive sufficient rest for full recovery after each contraction; the general nutritional state of the heart muscle by way of the coronary arteries will be materially improved.

The treatment of auricular fibrillation may be considered under two heads: (1) the control of the high ventricular speed with consequent general improvement of the circulation, and (2) the re-establishment of a normal cardiac rhythm.

For the control of ventricular speed drugs of the digitalis group have enjoyed a very long reputation, but the large number of preparations at present offered to the profession would argue rather that the results obtained are by no means always satisfactory, and a review of the effect of the drugs under scientific observation may not be out of place. The criterion of action of the drug must be ventricular slowing, for that is the most usual result aimed at in administration.

In judging of the effects of the drug three factors must obviously be considered: (*a*) the dose given, (*b*) the preparation used, and (*c*) the potency of the preparation. At the outset, for purposes of careful clinical observation, it becomes necessary to limit investigation to one preparation of one drug, and the vast bulk of the work has been done with tincture of digitalis. The use of other preparations of other drugs will not give easily comparable results. Even so, the potency of various tinctures has been shown to vary sufficiently to make comparisons difficult, and preparations are now frequently labelled "standardized by physiological assay" in an attempt to overcome this difficulty. Without entering into the technicalities of physiological tests of this sort many methods have been tried, but it must be remembered that effects produced in the artificially perfused heart do not necessarily represent results obtainable under clinical conditions, and that injection methods allow the whole contents of the tincture to act, whereas gastro-intestinal absorption may only be possible to certain compounds in the galenical preparation.

A recent method which we owe to the Pharmaceutical Society's laboratories is to hold a standard powdered leaf, and from this to make a tincture by a standard method, to compare the results obtained by experiment with this standard tincture to results obtained under identical conditions with the unknown tincture to be tested, and to express the result in percentage potency of the standard. Even so, it is tenable that the result attained must be corrected by observation under clinical conditions, as matters at present stand.

The dose of the drug, the preparation used, and the potency of the preparation all having been fixed, there yet remains another factor. It has been clearly recognized ever since Mackenzie's early work on the irregular pulse that the results obtained by digitalis administration in auricular fibrillation are totally different from the results obtainable by giving the drug to the patients with high speed pulses from any other cause,[2] the one possib exception being auricular flutter.

In using the ordinary pharmacopoeial dose of the dr it is well known that immediate results are not to be look for. The drug is said to be dangerous because its acti is cumulative, and, under ordinary dosage, benefit can expected after about a week. It would appear from th that the drug must be allowed to cumulate in the bod until a certain degree of concentration or saturation h been attained. On the other hand, it would seem somewh illogical to induce the saturation point slowly while t patient is suffering all the distress and discomfort complete cardiac failure. Mackenzie has shown that t full effect of the drug can be attained by giving the tinc ture at the rate of a drachm a day,[3] and that the tim occupied is five to seven days.

The matter was carried considerably further b *Eggleston,*[4] who worked with a tincture which had bee standardized by the Hatcher and Brody cat unit method The minimal lethal dose per kilo of body weight of cat ha been carefully determined, and the tincture was used b Eggleston in the treatment of auricular fibrillation, th action of the drug being carefully watched both clinicall and graphically. By this means it was found that on cat unit was usually represented by one cubic centimetr of a good-class active tincture, and that the full thera peutic effect could be attained clinically by the administra tion of a dose calculated on the basis of 0.1 c.cm. per lb body weight of the patient. This dose was administered i three portions extending over a period of eight to twelv hours.

This is now known as Eggleston's method of massive digitalis administration. Toxic results do not follow, as the dose is carefully calculated to fall short of the toxic amount. The method has permitted of a much closer and more satisfactory study of digitalis effects. Robinson[5] has shown that some therapeutic effect is recognizable within two to four hours after administration, and that the full therapeutic effect is attained usually at the end of six hours. Pardee[6] has estimated that the duration of the good effect is from six to ten days, and that the rate of elimination is about 25 minims a day.

Given by this method of massive dose, therapeutic results are very rapidly attained, but it is imperative that the potency of the tincture used be fully known.

A modification of this method has been in use in my hospital service—the full calculated dose at the rate of 0.1 c.cm. per lb. body weight of patient has been given as a haustus made up to ʒ iij with sodium bicarbonate, aromatic spirits of ammonia, and chloroform water. Electro-cardiograms have been taken before and every two hours after administration, until five or six tracings have been made. With the particular tincture used, and at this rate of calculation, a full therapeutic effect was not frequently attained, and the tincture would therefore appear to be somewhat weaker than that used by Eggleston. The T-wave of the electro-cardiogram in Lead II was not usually inverted even at the end of eight hours, but the slowing effect was well marked in nearly all cases within that time. Toxic effects did not occur except in one case; the nature of the changes in this case are not understood, but the pulse rose considerably in frequency and the electro-cardiogram became profoundly altered, suggesting some severe toxic effect upon the heart, but nausea and vomiting did not manifest themselves.[7]

Altogether 54 cases have been treated by this method. The average dose of the tincture administered was 13 c.cm.; the average pulse speed before administration was 140, whereas eight hours later the average speed was 91. The average duration of satisfactory effect was six days, so that small routine doses of the tincture were usually necessary at the end of a week. Vomiting occurred in two cases, both of which had been given a dose calculated on a basis of 0.15 c.cm. per lb. body weight, a rate which was too high for the tincture used.

That the effect of digitalis in auricular fibrillation stands by itself, and has no counterpart when the drug is administered to hearts at normal rhythm, is clearly shown in the following table, in which it will be noticed

that no slowing of the pulse takes place as the result of exhibition of the calculated dose.

	Age.	Dose.	Before.	After.
Normal rhythm.				
Wy.; F.	48	11.3 c.cm.	132	132
Bs.; M.	41	15.9 c.cm.	103	108
Sd.; M.	35	13.7 c.cm.	84	84
Fibrillation.				
Tn.; M.	55	11.2 c.cm.	144	90
Lp.; M.	41	15.6 c.cm.	132	108
Ht.; F.	57	13.0 c.cm.	144	84
Fibrillation on a larger dose.				
Cd.; F.	36	36.5 c.cm.	180	96 (vomited)
Wy.; F.	39	20.0 c.cm.	144	96 (vomited)

The clinical indications for this method of administration of the drug would appear to be clear—a large dose is only indicated to save time and suffering, and therefore only in the presence of cardiac breakdown of the major type, with dyspnœa to the point of distress, or marked anasarca.

Under such conditions the pulse speed, or rather the apical cardiac rate, is materially raised in most cases, and it is in these that the most brilliant demonstrable results are attained. At the same time the method has been used where cardiac failure with fibrillation is present in spite of an apical rate of under 100 a minute, and under these conditions the results are just as satisfactory and no untoward effects have occurred.

In a considerable proportion of cases the patient has already been given digitalis, or members of that therapeutic group in some form or other, and toxic effects are certain to result if a large dose be administered when the patient is already to some extent under the influence of the drug. In view of the calculated excretory rate of 25 minims a day, and the duration of effect as seven days,[6] some estimate of the therapeutic position is best arrived at by calculating the excess of tincture received in the previous week over (175 ♏ or) ʒ iij, and deducting this from the therapeutic dose calculated at 0.1 c.cm. per lb. body weight.

A very real difficulty, however, remains with regard to the potency of the tincture which is actually administered to the patient; provided the preparation is in constant use and under careful clinical criticism, the difficulty is small, but this is only likely to be so in hospital service. At the same time, the calculation at the rate given above is sufficiently far removed from the toxic dose to permit of 25 per cent. increase in potency of any tincture over the normal, without producing any severe toxic signs.[4] And moreover, since vomiting is an early toxic effect, it will probably mechanically protect the patient from further absorption, and thus from further damage. It may be remarked in passing that preparations of digitalis which cannot produce vomiting are likely to be inert in all other respects, and that the vomiting itself is a valuable indication. Want of response to digitalis therapy in auricular fibrillation is not a tenable statement, unless and until vomiting has been caused by the drug. It has been remarked, however, that the vomiting caused by a massive dose of digitalis differs materially from that which arises in the course of prolonged and continuous administration of the drug. Of the two cases in this series in which vomiting occurred one vomited twice within three hours, and the other four times within five hours; in both cases no further gastric disturbance was observed. This differs widely from the results of long-continued digitalis administration, in which, when vomiting starts, it is most likely to continue for four days, with much gastric disturbance.

As already stated, the administration of a massive dose of digitalis is only advocated as a measure of urgency, to overcome the suffering and discomfort always associated with complete cardiac breakdown. This having b accomplished, there yet remains the future condition the patient to be considered and treated. The benefic effects of a massive dose usually begin to disappear the end of six or seven days, the indication being distinct rise in the pulse frequency. All the cases this series have remained at rest in bed for at least a we after the initial large dose; usually at the end of th time the pulse has returned to 100 a minute or the abouts. The patient is then allowed up for a short ti each day, and is started on tincture of digitalis, 5 mini three times daily. It is usually necessary to increase t amount up to 10 minims thrice daily, in order to maint the pulse at 90 a minute after half an hour's rest in t recumbent position immediately after the mid-day me Lewis has pointed out that in auricular fibrillation t pulse speed may be set to a nicety by means of digitali the speed and conditions quoted above are the ones wh are aimed at.

Experience goes to show that one large factor in t causation of cardiac breakdown in auricular fibrillation the cessation of digitalis dosage. This has been repeate emphasized in the past,[9] and it is probably true that enter upon digitalis life is much the same as to en upon catheter life—continuance of the usage is imperati The bugbear of "cumulative effect" still appears to sw the mind of the profession, but, as has already been point out, the drug is probably inactive until a certain deg of cumulation has taken place, and it is only the ma tenance of this cumulative effect that will save the patie from disaster.

The precise method of action of digitalis yet rema unproven, but for purposes of therapeutic judgement it wise to regard the drug as affecting the vagus.[10] Sufficient drug must be used to stimulate the vagus up a point where the degree of auriculo-ventricular block just sufficient to allow impulses to pass at about norn speed from auricle to ventricle; when the block exceeds t in degree, and particularly when coupled beats, givi bigeminy, arise, the vagus is being overstimulated a vomiting is near.

An estimate of the daily excretory loss of the drug c be formed, as Pardee has pointed out, by determining t average daily dose necessary to maintain a certain clini effect over a period of time. In the out-patient cli the usual dose necessary for patients up and about a following such light occupations as auricular fibrillati will generally permit is 30 minims daily, and it is giv in three daily doses. Over a large series of cases it found that smaller doses require periodic increase, wh larger doses require periodic decrease.

The general supervision and treatment of these patie calls for careful and frequent examination, and consta small adjustments of their lives, requiring experience a worldly wisdom, but the results attained are very sat factory. No effect whatever must be looked for upon t irregularity of the pulse under digitalis treatment; t rhythm will remain as chaotically irregular as ever und correct dosage, but the pulse difference (the difference speed between apical and radial counts) will be materia reduced, and in many cases will disappear altogether.

Any statistical study of the results of auricular fibril tion is rendered difficult by the usually long duration the condition, and also by the fact that it may in so cases be "spasmodic," and occur in attacks of sudd onset, variable duration, and spontaneous disappearanc

Of 133 cases studied recently the sex incidence w equal, but a history of rheumatic origin was obtained 50 per cent. of females, and in only 30 per cent. of mal The additional frequency of mitral stenosis in women, an still further, the frequency of fibrillation as the third sta of stenosis, might have been expected to raise the fema percentage much higher. The frequency of auricul fibrillation in chronic interstitial nephritis, bronchitis, a as a part of general senile changes could not be direct estimated. The group caused by exophthalmic goit accounted for only 11 cases, 5 male and 6 female, but th all appear to have responded indifferently to digital Parturition appeared to have been the immediate cause 3 cases, 1 of which died and 2 responded very badly

treatment. The importance of this group can hardly be overestimated, more particularly in view of a recent paper by Robinson,[12] in which 13 deaths occurred as the result of parturition in the 16 cases studied. Hemiplegia occurred in 5 cases, and death took place while under treatment in 14 cases, but this cannot represent the real mortality, for most of the patients attended the out-patient clinic, and such are frequently lost sight of, and cannot be traced. Poor results of treatment were obtained in 19 cases, presumably on account of extensive myocardial damage, although this was by no means always demonstrable by any diagnostic method—for example, in the exophthalmic goitre group. No digitalis was given to 14 patients, there being little or no sign of cardiac insufficiency.

Cases of typical auricular fibrillation are frequently reported in which the pulse speed is at, or about, 80 a minute, and, although grossly irregular, yet the pulse rise on effort is not great and the capacity of the patient for work is sufficiently high to allow him to continue fairly laborious occupations. It was in this group that no digitalis was used.

In a small number of cases there is a real difficulty in the administration of any digitalis, because the passive congestion of cardiac failure has itself already caused vomiting. It was thought that if the active principle of the drug were a glucoside, and glucose could be readily absorbed by the rectum, it might be possible to administer a massive dose by that route. The calculated massive dose of the tincture was so administered in two cases, but, although the enema was well retained, no effect upon the pulse speed was observed. This result corresponds well with results obtained by the administration of glucose by the rectum, in which no rise in blood sugar could be found, and it is probable that no absorption takes place.[13]

The treatment of auricular fibrillation by digitalis or its allies does not aim at the correction of the abnormal rhythm, nor at the cure of the causative condition, and no such result is attained. The drug is merely a means, and a very valuable one, for defending the ventricle adequately against the onslaught of auricular stimuli of high frequency, by which means the ventricle is given adequate diastole for reasonable filling and reasonable rest; apart from this, complete cardiac breakdown is both proximate and inevitable.

The principle underlying the quinidine treatment of auricular fibrillation is, of course, entirely different. Here a definite attempt is made to restore the normal cardiac rhythm. This line of treatment is not in the least applicable to patients showing any serious grade of cardiac insufficiency. In the majority of cases a preliminary course of digitalis is necessary to re-establish the circulatory balance, and it is usually believed that the high speed pulse is a definite contraindication to quinidine.

The question of potency in the preparation does not arise, since it is a crystalline substance of high purity, and is readily soluble in acid solution in the same way and much to the same degree as quinine.

The success of the drug turns upon the fact that the continuance of circus movement within the auricular muscle depends upon three factors—the length of the circuit, the impulse conduction time, and the refractory period of the muscle.[14] Any considerable change in one or other of these three factors would terminate the circus movement, and quinidine has been shown to prolong the refractory period of the muscle to an extent sufficient to bring the circus movement to an end. Immediately this occurs the cardiac pacemaker comes into action, normal rhythm is re-established, and the auricular muscle performs a definite systole, thus once more filling the ventricle normally. The fact remains, however, that the primary cause of the state of fibrillation still continues, and that, therefore, relapse is almost inevitable ultimately.

It is generally believed that almost all cases of fibrillation can be forced into normal rhythm, provided quinidine be given over a sufficient length of time and in sufficient concentration, but my own experience is that when large doses are required normal rhythm does not remain long.

The present routine in my service is, in the first place, to reduce the pulse frequency to between 80 and 100 a minute while at rest in bed. Quinidine sulphate is then given in 6-grain doses every two hours for five doses—that is, a maximum of 30 grains. Electro-cardiograms are taken before every dose, and examined, so that, should normal rhythm become re-established, no further quinidine is given that day. The next day the patient is given a mixture containing 1-grain doses of quinidine. This is taken three times a day, and is continued for six to twelve weeks. In my opinion quinidine administration is difficult, and probably should not be attempted, in the absence of electro-cardiographic control. Signs of toxic effect upon the heart are fairly frequent, even with the strictly limited dose detailed above, and although no untoward event has occurred, yet the rise in speed can be very alarming, even when adequate tracings are made every two hours.

In successful cases—those in which normal pacemaker rhythm becomes re-established—the patients themselves very generally recognize the difference, for the continuous palpitation of fibrillation completely disappears. Those that have been regularized more than once can frequently tell the precise moment at which the change from one rhythm to another has occurred.

In spite of the enormous theoretical benefit that should accrue when a fibrillating auricle again resumes a correctly timed and regular contraction, yet a considerable number of regularized auricular fibrillation patients consider themselves no better than they were when under adequate digitalis control. On the other hand, another group of patients will return immediately for further regularization whenever fibrillation recurs, because they recognize very clearly that their capacity for effort is very much higher under pacemaker rhythm than it can ever be during fibrillation.

However brilliant the results of quinidine administration may be in a small proportion of patients, it yet remains obvious that the routine treatment of auricular fibrillation must be carried out with digitalis.

This paper will have attained its object if it helps in any way towards an appreciation of the underlying processes of fibrillation, the objective of digitalis treatment, and, above all, an adequacy of dosage.

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Remarks ON THE CAUSATION OF ANGINA PECTORIS:

WITH A REPORT OF THE RESULTS OF SOME EXPERIMENTAL AORTIC LESIONS.

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THE failure of medicine to supply a consistently satisfactory method of treatment for angina pectoris renders necessary the careful investigation of any new procedure for which a claim of cure, or even amelioration of the symptoms, has been advanced. Such is presented by the introduction of surgery into this field, as instanced by the successful operations of Jonnesco, or of Coffey and Brown. On the correctness of the theoretical view of the causal lesion depends the justification for surgical intervention; if it be in the heart or aorta it is beyond the present scope of such procedure, but if the anginal syndrome is attributable to a nerve lesion or depends on the integrity of a nerve path, this line of treatment merits more serious consideration.

Any explanation must take into consideration two essential factors—the neurological element as shown by the operative results, and the cardio-aortic lesions as evidenced by their frequency. Theories that view angina as a neuralgia or paroxysmal neurosis are too nebulous to carry conviction; to disregard the almost constant vascular lesions is to ignore one of the principal features of this condition. On the other hand, to attribute the disease solely to derangement of heart action due to myocardial incoordination or insufficiency is to disregard the very definite neurological factor and the results of surgery. Hence the necessity for some link which will combine these two factors in an interpretation of the disease. With this objective in view, I carried out an experimental investigation the results of which form the basis of the theory of this paper. The details of this have been reported elsewhere;[1] it will suffice here to give a summary of the work.

Following up a line of thought suggested by the work of Todd and Stopford, who have shown that irritation of the peripheral nerves by injury or anatomical abnormalities such as cervical rib produces vascular degeneration in the distribution of the affected nerve, it was decided to apply similar conditions experimentally to the cardio-aortic nerves. For this purpose rabbits were selected and a number of experiments performed in which these nerves in the neck were subjected to chronic irritation, the animals being killed after intervals of several months. It was found that approximately 80 per cent. of the autopsies exhibited inflammatory plaques in the first part of the aorta, either near the valves or near the commencement of the innominate artery; further, the results showed that different stages of aortitis were represented, from early proliferation of the intima to the formation of atheromatous abscesses and the sloughing of the vessel wall in one case and to a diffuse aneurysmal dilatation in another. Generally speaking, the most advanced stages were observed in those animals that had lived the longest after operation. The most frequent lesion was a fairly well defined plaque due to proliferation of the intima and media; there was an increase of cellular elements and hypertrophy of elastic and muscle tissues, and frequently a slight fatty change in the intima. These experiments were controlled by a number of necropsies on rabbits that had been operated on under general anaesthesia with other objects, and had been kept under like conditions. In none of these cases were similar lesions found. In the heart, changes chiefly of a fatty nature were commonly present, but in a few instances there were other degenerative changes. The value of this latter evidence is unfortunately affected by the frequency of fatty degeneration in normal hutch-fed rabbits. In all the *post-mortem* examinations it was noted that the nerves operated on were firmly embedded in a small mass of scar tissue which it was the objective to produce, so as to have a slowly-acting irritant increasing in its severity and thus to simulate the human lesions.

Manouélian has experimentally produced atheromatous plaques in the pulmonary artery and in the abdominal aorta by removal of the nerve supply, whilst the experimental results mentioned above prove that disturbance of the normal conductivity in the cardio-aortic nerves likewise results in pathological lesions, at first slight, but later gross, of the aorta and probably in the heart, though the evidence for the latter is not quite conclusive. Here, then, we have a connecting link between the nervous system and the cardio-aortic lesions. The hypothesis may now be stated: that angina pectoris is a group of symptoms primarily invoked by a nervous lesion, located either in the upper dorsal or lower cervical cord, its associated ganglia or their connexions, and that such lesion secondarily invokes inflammatory and degenerative reactions in the aorta and possibly the heart. These become progressively worse, thereby inducing a vicious cycle of irritation, which on the principles of induction and facilitation of synaptic resistance produces hypersensitivity of the sensorimotor mechanism of the heart, especially the vagal element, commonly resulting in sudden death in severe cases.

From the surgical standpoint the compatibility of this hypothesis with the results obtained is sufficiently obv That Jonnesco's operation has gained the most su judged purely on its effect on the angina, is re understandable if the lesion is in the area supp that Coffey and Brown's operation alleviates but not cure may likewise be explained, in that the channels for the conduction of irritant impulses tha eliminated the more likelihood is there of the dimin of the severity of the symptoms; a cure in this way not, however, be expected.

Some of the corroborative clinical evidence for hypothesis may be briefly stated.

I.

In a number of cases the angina is accompanie very definite signs of disturbance of function in the so nerves, more especially in the left arm, affecting the m sensory, and trophic elements. In the first-named cat come paresis of arm or hand muscles, or transitory para as in the case reported by Bretschneider, or those tioned by Allbutt, of increased myotatic irritability exaggeration of reflexes such as the supination and t jerks. Under the sensory heading hyperaesthesia, anal and anaesthesia have all been reported. In one striking case recorded by Gibson all three sensory ch occurred in the left arm, and, what is more noteww in the order which has been described by Stopfo characteristic of the syndrome of nerve compre Under the last-named group muscle wasting, necro the superficial layers of the dermis in the hand as rep by Salvini, herpetiform irruptions, and even lichen p have been found in anginal cases. With regard to l an especially interesting case which I saw may be l mentioned, for it illustrates not only this conditio the occurrence of strongly neuritic prodromal sym in a classical case of angina.

A lady, aged 43, in an important executive position at with much anxiety, complained in 1915 of pain and weakn the left arm; in 1919 there was severe pain on the same side ... arm; about March, 1920, s tachycardia, and flatulence; sixth dorsal areas in the lef followed by an outbreak of herpes. At this time the patie subjected to increased mental strain and worry. In May same year, following a long and tiring motor drive, pain o in the left arm, and following dinner that evening she was with a sudden sense of constriction in the left side of the followed by an inspiratory gasp, and then a severe stab-lik in the back of the chest, which was in turn followed by a t and tightening sensation over the heart. The patient was d forward, unable to move or speak, and obsessed with the death.

II.

In many cases, as discussed by Head, there is a di tion of the symptoms, crises of peripheral neuritic or of intrathoracic pain and sensations of cardiac oppr alternating with classical attacks of angina. If a lesion be the cause it is conceivable that irritation particular group of fibres or cells might occur, occasi producing either peripheral or visceral symptoms, w if all neuritic symptoms be the secondary effects of a aortic disturbance it is difficult to see why at time a lesion does not manifest itself clinically whe supposed secondary effects, the pain crises in s nerves, are very much in evidence.

III.

A nerve lesion located in the region presumed i theory might be expected to exhibit clinical signs of tion characteristic of the sympathetic—as, for exam the vasomotor fibres, on the sweat excretory mech on the ocular path, or, again, on the cardiac accele mechanism. With respect to the latter it must be r bered that the rate of the heart beat must represe algebraic sum of two antagonistic influences—the pathetic and the vagus, with the latter normally pr nating. The close association in the medulla betwe accelerator and inhibitory centres might conceivably in irritative impulses from the cord or ganglionic stimulating either centre or both to equivalent d resulting in acceleration, inhibition, or no change rate of the heart beat. The severer the attack, th sumed great degree of irritation, the more probable

[1] *Quart. Journ. of Med.*, vol. 19, No. 74, 1925.

spread of the stimulus to both controlling centres, preventing change or even slightly augmenting the vagal inhibition. The same may be said of the vasomotor phenomena; the reciprocal innervation of vascular areas and their intimate adjustment by the principal and subsidiary centres in the medulla and lateral horn of the spinal cord would tend to prevent great extremes of vascular tone. In some cases the great variations in the volume flow of blood through the arms during a crisis, especially in the left, are well shown by plethysmographic tracings. With respect to the other nerve paths excessive sweat excretions and pupillary changes have been reported; these were specially noteworthy in Gibson's case, where the left pupil dilated and the eye became more prominent during an attack; and in the case Allbutt records, where "profuse sweating always preceded the attacks by half an hour." In several instances increased tonicity of the skeletal muscles is recorded; in Hunter's the attacks commenced with rigidity of the facial muscles. Alterations in muscle tone are especially interesting in view of the recent evidence relating this with the nerve terminals of Boeke and Agduhr, which are sympathetic in origin, possessing trophic cells in the sympathetic ganglion of the lateral chain.

IV.

Certain other concomitant symptoms are distinctly favourable to a neurological theory. The sense of cardiac oppression common to anginal attacks is reported by Lauder Brunton as being voluntarily produced in the case of Professor Cernak, who could compress his vagus against a cervical exostosis, when he experienced a sense of "*Beklemmung*" (oppression) in the chest. Several instances of pathological compression are recorded by Skoda, Allbutt, and others. Closely allied to this symptom is the sense of impending dissolution, the angor animi. Its affinity to angina has been noted by writers who support the aortic theory, and the rarity of this psychical phenomenon in other heart conditions, accompanied by lesions just as grave, is a singular fact. Mott records a case of cerebral tumour, accompanied by this feeling; does not this suggest that its anginal incidence is the result of irritation of higher cerebral centres?

Salivation is another symptom frequently encountered. The secretion of an abundant watery saliva is dependent on impulses passing through the chorda tympani, the geniculate ganglion, pars intermedia, to the nucleus of the fasciculus solitarius; there is a connexion thence with the upper part of the glosso-pharyngeal vago-accessory nucleus. The occurrence of salivation is readily intelligible if we suppose a nervous lesion in the lower cervical region sending irritant impulses to the medullary sympathetic and vagal centres. The occurrence of gastric disturbance is likewise to be expected in many cases; just as it has been shown that different sympathetic paths are stimulated so also are the vagal. Again, the relief of gastric distension by the passage of an oesophageal tube, as Verdon practised, would tend to prevent a vicious cycle of increased irritation from that region.

V.

The association of angina with mental irritation is a well known fact; the effects of nerve irritation on non-nervous structures have been described—what might be the effects of irritant impulses from the cerebrum on similar structures or on lower nerve-centres?

VI.

Lastly, two cases may be mentioned illustrative of the relation between the nerves and the heart here propounded. In the first, reported by Tenier, a man sustained injury to the cervical spine, spondylo-arthritis developed and coincidently the right heart became dilated, there was arrhythmia and a loud systolic murmur, all of which disappeared as the vertebral trouble subsided. In the second case, reported by Klippel, a man developed cyphoscoliosis, and gradually there came on complete hemiparesis of the left side, with sweating and dilatation of the capillaries, and loss of thermal sense on the right side of the body. During these changes there were four definite attacks of angina distributed over two years.

CONCLUSIONS.

Evidence has been given from the clinical side in which it has been shown that there are reasons for supposing the anginal syndrome to be principally the sum of irritation of several nervous paths, and that certain features indicate direct organic interference with those paths. From experimental pathology it has been found that a primary irritation of the cardio-aortic nerves is capable of exciting in the region they supply pathological lesions identical with those commonly found in angina. Finally, pioneer work in surgery has proved that complete extirpation of the left cardio-aortic sympathetic nerve and connexions may abolish the anginal syndrome.

It is therefore concluded that angina pectoris is probably due to a nervous lesion located in the region of the lower cervical or upper dorsal cord, the associated ganglia or their connexions, exciting secondary pathological changes in the cardio-aortic region; and lastly, that surgical intervention in suitable cases is justifiable from the theoretical standpoint.

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CHRONIC RHEUMATISM.*

BY

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By chronic rheumatism is meant the presence of aching pains and stiffness affected by changes of the weather. Excluding the subacute arthritis of young adults and children, with sudden onset, some pyrexia, and, as a rule, an obvious septic focus, and also the relatively rare cases of primary myositis and neuritis, we are left with three clinical types: (1) arthritic, osteo-arthritic, or rheumatoid, dominant; (2) muscular, with latent arthritis, commonly termed fibrositis; (3) neuritic, with latent arthritis, commonly termed neuritis.

Transitions are presented from case to case, and in any given case, so that they may be considered to be different manifestations of one disease. Exception may be taken to this classification—neuritis is regarded as a common disease. The *non-arthritic* neuritis is eased by rest and made worse by warmth and congestion; in secondary, or arthritic, neuritis the converse holds. Nine of every ten cases diagnosed as neuritis show latent arthritis. The same is true of the muscular type, and in both the most effective treatment is directed to the joints. In an arthritic case examination will frequently show that some of the joints are of the rheumatoid and others of the osteo-arthritic type.

It may occur *in young subjects*; patients aged 17 and 19 are being treated at present. It is more common in women, probably on account of their larger infectable surface and more rapid endocrine upheavals. A family history of gout or rheumatism is frequent. In the personal history contact with lead, hard work, exposure, poverty diets, humidity, and damp houses appear important, but are inconstant and therefore have a secondary value.

* A paper read before the West Dorset Division.

Basal causes are (*a*) some toxin or toxic substance acting adversely on the joint and its surroundings; (*b*) some factor permitting selective action on these structures.

The Toxic Factor.

This at present is thought to be sepsis. Such a cause is seen in gonorrhoea; a case recently seen, diagnosed as and completely simulating rheumatoid arthritis, very rapidly cleared up when the infection was eliminated. In Malta fever arthritis and spondylitis very similar to those of rheumatism occur[1] and disappear when the sepsis is conquered. Experimentally 58 per cent. of rabbits infected with streptococci from various sources showed a varying type of arthritis.[2]

The facts that little sepsis may be found at the examination and that removal of sepsis is often disappointing, have been taken as evidence against its importance. It may be that the sepsis has done its work. Cases seldom recover if sepsis is not removed; when a patient fails to make good progress it is well to look again for a missed focus. Evidence for the presence of sepsis when none is apparent is elicited by an Arneth count of the blood.

Septic foci are most commonly found in the mouth, especially dental. The area of the teeth sockets is estimated to be about 20 square inches. In many of the patients a large proportion of this is a suppurating surface. Judging from the great pressure required to squeeze pus from a socket; it is not wise to expect drainage to be perfect, and even if it were, we cannot say that swallowed pus is innocuous. Apical infection may be present without much periodontitis, and may be missed by *x* rays if there is no rarefying osteitis.[3] In chronic rheumatism a suspicious tooth should not be given the benefit of the doubt. The nose and accessory sinuses are not uncommonly infected. The genito-urinary system is frequently involved, and pyelocystitis, endocervicitis, etc., with leucorrhoea in women and prostatitis in men, are common. Cholecystitis is not uncommon. Gastro-enteric infection occurs in many cases. A large proportion show hypochlorhydria or achlorhydria and infection of the small bowel. The opposite condition, "hyperchlorhydria" from faulty pyloric action, with subsequent hurried gastric evacuation, is also common. From these and reflex hepatic causes dyspepsia is almost constant in elderly patients, and extracted molars must be replaced or the dyspepsia is aggravated. Evidence of the bowel infection is to be obtained from bacteriological examination of the stools and from the amount of indican and urobilin in the urine. Unfortunately multiple foci are the rule rather than the exception.

The Selective Mechanism.

Here we are dealing with theories as well as facts.

The work of Rosenow[3] showing that an organism from a certain focus will usually attack that same focus in the experimental animal is suggestive. Probably the affinity is chemical, like that of tetanus toxin for the nervous system, and the toxin depresses joint defence and regeneration. The functional resemblance of the periodontal and synovial membrane is significant. There may be local anaphylaxis; arthritis has been produced experimentally in this way.[4] The hereditary influence is so marked that the possibility of functionally hypoplastic joints is raised. Injury is occasionally a localizing factor.

A factor of apparent importance, not previously noted, as far as my knowledge goes, is the occurrence of some vasomotor disturbance preceding the onset of the arthritis. Though proof is lacking, it may well be that variations in the nutrition of the joint and lowering of defence and repair are thus produced. The frequency of the condition at the menopause and the occurrence of painful cramps in the neuritic type are significant. In fully 50 per cent. of the total cases vaso-neuroses, chiefly of the Raynaud type, are found. The patients have suffered from "dead fingers" in cold weather. Less commonly there has been local asphyxia. Three of my patients had been diagnosed as cases of true Raynaud's disease some years previously. In two cases the opposite condition, a degree of erythromelalgia followed by coldness, was found. As these symptoms usually disappear before the onset of the rheumatism their occurrence is not often volunteered.

As adjuvants to these two basal causes the more secondary causes than are yet recogni... by damp appears to be important. Thyr... which evidence is obtained from blood ... lymphocytosis—is common.

The importance of hepatic defect is diff... it is found in a large proportion of ca... functions of the liver are tested. Whether de... or secondary cannot be determined, but re... presence and modification of the diet to n... appear to help. The occurrence of rheu... hepatitis led me to suspect an hepatic factor ...

In this connexion the metabolism of s... widely used in rheumatism, is of interest. ... first recommended sulphur injections, and ... results.[5] A different explanation from th... has recently become possible. Cawadias not... excretion was abnormally high in these cas... confirmed both this and the fact that th... markedly reduced after sulphur injections. ... loss would appear to operate by leading ... hepatic glycogen,[7] which renders the live... detoxicate toxic substances carried to it in ... systemic blood. Secondly, the amount of h... has an important bearing on carbohydra... which is found to be abnormal in a large ... these cases; a low carbohydrate tolerance ... hyperglycaemia is found. In all the cases ... that the tolerance increased and the glycaem... after sulphur injections. A sulphur compou... is indispensable for metabolism; with the s... found in rheumatism it is possible that there ... of this substance—for all the treatments of ... generally to stimulate metabolism.

Examination of the Joints.

The *x*-ray picture shows advanced stages ... tion of movement and pain are importa... especially in the vertebral joints, which ... diseased. Tenderness of the periarticula... found in the superficial joints, and is espec... the seldom examined sacro-iliac joints. ... around a suspected joint often throw light ... pain and raise suspicion of active arthritis ... point for the shoulder-joint is one of the ... nerves emerging at the lower border of the ... 1½ inches from the outer end of the spine ... Other tender joint points will be read... practice. Careful palpation of a joint on pa... will reveal moderate and coarse friction ... during passive movement, after practice ... tion of muscle sounds, reveals finer friction ...

Treatment.

Gout, gonorrhoea, syphilis, and tuberc... excluded. The latter is usually easy, fo... examined, most cases of rheumatism are fo... articular, whereas tubercle usually affects o...

Sepsis must be removed. Where surgical ... possible, antiseptic lavage may help, as in n... For pyelo-cystitis hexamine with acid in ... cholecystitis hexamine with alkali in large ... tried. Alimentary sepsis is best combated ... carbohydrate diet, consisting mainly of fruit ... and cereals, with a strictly moderate am... white meat, increases the acidity of the bow... the growth of streptococci is reduced. This ... from the study of faecal films. Lactic or ... tures assist. This diet also aids by reduci... and possible toxic absorption, as the g... indigestible debris leads to more frequent e...

Fats should be cut down at first, especiall... defect is at all marked, for the metabolism ... appear to make too large a demand on h... The withdrawal of the fats must be com... increase of carbohydrates. The exception ... is the small group of cases following poverty ... a rich diet is more efficacious.

The use of wines and spirits is a diff... settle: the experience of the patient and ...

best guide. Some take cider without harm, others of the same type find that pain is increased. If it can be taken *without increase of pain, a little sound wine appears to* help digestion and nutrition.

Attention to the secretory activity of the stomach is usually necessary, but must vary with the anomaly found. The flatulent, vague dyspepsia of the hepatic improves with the liver-sparing diet. Where there is achlorhydria or marked hypochlorhydria a mixture of hydrochloric and phosphoric acids with food should be given; for complete achlorhydria in an average-sized adult, 20 minims, rapidly increased to 1 drachm, of each in a tumbler of water flavoured with sugar and orange juice, should be sipped with each full meal. In the rapid emptying type belladonna before, or a little olive oil with, meals is helpful.

Drug Treatment.

Laxatives are frequently needed. The diet, supplemented by agar-fig and prune jellies, helps. Abdominal massage along the colon, applied by means of a weighted croquet ball, is useful. Sulphur confection (though sulphur by the mouth has no action on carbohydrate metabolism), podophyllin, calomel, and blue pill all are useful in stimulating bile flow.

Sedatives are often needed, especially at the menopause, when bromides are indicated. Salicylates associated with podophyllin, and administered at the beginning of the *meal, often appear to ease the pains of rheumatism; unless* given at this time they may intensify the dyspepsia. Phosphorus, given as phosphoric acid when the gastric acidity permits, has a sedative action; it may also be given as phosphorus pills in 1/100 grain doses thrice daily, but not for too long, as it has a marked toxic action on the liver. The same is true of phenacetin.

Thyroid extract often helps, but should be reserved for the cases which show increasing adiposity, constipation, and a relative lymphocytosis. It acts as a stimulus to metabolism and indirectly increases repair and immunity processes. The thyroid-manganese compound would appear to act in this way, though the combination of the two probably reduces the activity of both—as thyroid is often given in far too large doses, the reduction may well account for the good results reported. Manganese acts by increasing immunity responses, especially antibody formation.[8] It may be given by injection of the colloid, or as permanganate in lavages and in vaginal douches in cases presenting leucorrhoea. The value of iodine is well recognized; it appears to give the best results in the neuritic type, especially in younger subjects. It may be given as the French tincture, without iodide, 5 to 15 drops in milk, after food. Caffeine tri-iodide in freshly made pills of 2½ grains may be used; the caffeine may act as a vasodilator. Iodine may also be given as lipiodol injected deeply once weekly in doses of 7 minims, increasing to 30; many patients improve rapidly, but the effects do not often last long. There is little reaction to lipiodol. If it is well warmed and poured into the barrel of the syringe it is easy to inject. Severe old-standing cases of the arthritic type do not respond to iodine.

Protein Therapy.

Vaccines should be reserved for the recent cases in younger subjects with marked septic foci. Vaccines may be combined with manganese, for the reason given above. In the old-standing cases non-specific protein therapy gives better results. In cases of this kind, where pain, rather than limitation of movement, is the complaint, good results frequently follow intramuscular injections of foreign protein—caseosan, novoprotein, or any of the many kinds on the market. The larger the dose and the greater the reaction, the better the result.

In the rheumatoid type intravenous protein treatment affords a large *proportion of rapid results, and should be* given at the outset. Any vaccine, but preferably an old one consisting of *B. coli* or the *typhosus* group, may be used. It is well to commence with a dose of 50 million, and increase or diminish as needed to obtain pyrexia of about 101°. As the course proceeds an increase of the dose is usually necessary. The reaction is unpleasant, but the patient may be consoled by being told that the result is proportional to the degree of reaction. Salicylates are *useful in the control of the reaction.*

Sulphur Treatment.

Sulphur injections are of special help in the old-standing cases of the osteo-arthritic type with pain and marked limitation of movement. It may give good results in other *types, however. The treatment should not be used in feeble* or very querulous patients. If pain is not marked it should only be given if there is an earnest desire for increase of motility.

The injection should be given deeply into the trunk muscles or thigh. The best form is the sulpholein of Egger of Buda, or a saturated solution of sulphur in poppy-seed oil, or any non-mineral thin oil, may be made and sterilized by heat. The initial dose should be about 6 minims, and the early reactions, usually severe, noted. Three days after the reaction has passed should be allowed before repeating injection, and, as reaction permits, the amount should be rapidly increased until the patient is receiving from 30 to 45 minims. I usually give ten injections and repeat after an interval of three months.

The reaction is alarming. The site often appears to be on the point of suppuration, but only once have I seen this follow, in a rather dirty out-patient. There is a good deal of pain locally, and increase of pain in the joints. There *is also fever and sometimes vomiting. The patient must* be warned and should be kept in bed until it has passed. Some patients react little. The days following, before the subsequent injection, are often passed with diminished pain, even in the early days of the course. Most of the patients state that they lose their night pains and find that motility is increased. A sceptical house-physician was convinced that the treatment was a good one, because the patients were so constant in attendance for a remedy which produced such a reaction. Sometimes the sum total of pain is increased until the course is finished, but this is the exception. One course is seldom sufficient.

When the starting and night pains are lessened the methods presently to be described for restoring motility should be begun; before this the tone of the muscles may be improved by massage. The method has yielded a fair number of moderate, and some striking, successes, but the choice of patients is not easy. Colloidal sulphur is too weak to give constant results. At present I am trying a form of sulphur paste much stronger than the oily solution; with it the reaction is less, proportionately to the amount of sulphur injected, but at present it is not certain that the results are better. I have to thank Mr. A. L. Taylor and the dispensing staff of the Bristol Royal Infirmary for much help in the preparation of these compounds.

Physico-Therapeutics.

Ultra-violet radiation, if judiciously applied, stimulates metabolism and immunity processes, and appears to have some sedative action. Its value seems to be greatest in the muscular and neuritic types, but is difficult to assess, for the psychic element is considerable at present.

Diathermy is especially useful for deep joints and active arthritis. The heat produced by the passage of the current causes increased vascularity, analgesia, and the hope of better regeneration; in addition, the heat is sufficient to destroy many micro-organisms. In muscular types of long standing it should be applied cautiously, as there appears to be a risk of increasing fibrosis. Some encouraging results are claimed from pelvic diathermy,[9] which is thought to stimulate prostatic and ovarian secretions. Whether it really has this action or whether the result is due to antiseptic action is uncertain, for, in the cases with marked leucorrhoea, very good results often follow hot permanganate douchings, if applied in the dorsal position and a large amount of fluid used.

Ionization acts in the same way as diathermy, but the action is less powerful; it is of most use for superficial joints. A fair number of my patients ionize themselves after a little training, and obtain a sufficient number of treatments without a very long bill. The ions used have little importance, but sodium thiosulphate or sulphide for

he negative pole, and quinine hydrochloride for the positive pole, give good results. Sulphides are very irritant, and many skins will not stand them. After diathermy or ionization passive and active movements should be practised.

Massage is mainly of value for restoring muscle tone before more active methods can be applied. Passive and active movements at first, later followed by gymnastics, should not be practised until the starting pains of active arthritis have disappeared. Where there is much limitation of movement the joint should be carefully broken down under anaesthesia; it should be remembered that the bones of old-standing cases are fragile. Useful local treatments are the application of irritant liniments, and turpentine with capsicum. Iodine applied as frequently as the skin will stand without vesication is of value chiefly in neuritic types of young adults. A well applied Scotch dressing is often very soothing for superficial joints; it is a remedy much less widely used than it deserves; unfortunately only about 60 per cent. of skins will stand it without vesication.

Treatment of arthritics is best started in the spring or summer; in winter changes of weather cause confusion. If possible, palliative treatment and residence in a more equable climate should be considered until the winter has passed.

The value of spa treatment is difficult to estimate; there appears to be little proof that the metabolism and infections of these patients are modified by any natural mineral water, apart from the flushing, which can be practised at home. The successes of spa treatment may well be due to the more energetic treatment given. As a mental stimulant I advise Vichy water to those patients who have a belief in the efficacy of mineral waters.

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CHRONIC FIBROUS EPIPLOITIS.*

BY

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I WISH to record briefly a pathological condition which I have never previously seen and about which I cannot find anything in surgical or pathological literature.

An ex-soldier, aged 54, was admitted to Mercer's Hospital on February 18th, 1927, suffering from intestinal obstruction, which was temporarily relieved by enemata. He gave the following history. In 1916, while serving in Gallipoli, he contracted an illness which was characterized by severe colicky pains in the abdomen, diarrhoea, and the passage of blood. He says that he was told that he was suffering from dysentery and that this diagnosis was written on his chart. It is not easy to reconcile this diagnosis with his further statement that he was "operated upon for the cure of haemorrhoids" about a month after the onset of his illness. From that time until February, 1926, his bowels remained free, with occasional attacks of diarrhoea, but he does not think that he passed any blood. From February, 1926, he became constipated and took salts constantly. If he allowed the constipation to persist for a few days he suffered from severe griping pains and could feel "hard lumps" in his abdomen. On six occasions during the past twelve months he developed symptoms of subacute obstruction and was treated, in various hospitals, by enemata as he always avoided operation. He thinks that he has lost weight during the past three months.

The patient is a thin, pale, but hardy looking man. When I saw him he was in pain and it was quite easy to see two prominent swellings in an otherwise flat abdomen. One swelling was in the region of the caecum and the other was almost symmetrically placed on the left side. These swellings were resonant on percussion and almost disappeared, with much gurgling, when massaged. Examination of the rectum gave no help, neither did an *x*-ray examination. The urine was normal and the blood was negative to the Wassermann test.

He was treated by dieting, purgatives, and enemata until March 11th, when I opened the abdomen by a right paramedian incision. When the peritoneal cavity was exposed no intestines were visible; nothing could be seen except a smooth pearl-white membrane with slight prominences where the intestinal swellings had been felt during clinical examination. The membrane was continuous above with the peritoneum covering the stomach, was adherent to the parietal peritoneum on either side outside the colon, and was attached below along the lines of Poupart's ligament and in front of the bladder. At no point was there any adhesion to the anterior abdominal wall, the peritoneum covering which appeared normal in colour and texture. There was no free fluid. The distribution of the membrane was as if a towel had been laid over the intestines and carefully glued at the bottom and sides to the parietal peritoneum.

An opening was made through the membrane, in the mid-line, when it was found to be adherent to the intestines, but separable from them by careful dissection and sponging. It soon became evident that there were three strong fibrous bands incorporated in the membrane: one was adherent deep down in the pelvis and constricted the upper part of the rectum, one compressed the lower part of the descending colon, and the third constricted the ascending colon, just beyond the caecum. When these bands were divided gas could felt gurgling through the intestines. The membrane was now removed in sections as far as the greater curvature of the stomach, over which viscus the peritoneum appeared whiter and felt thicker than normal. The intestines, when freed from the membrane, were found to be universally adherent to one another, but could be separated by sponging just as an adherent prepuce, in a child, can be separated from the glans. Here and there drops of blood oozed from the surface of the intestines and mesenteries, but on the whole the peritoneum appeared intact. No trace of anything like omentum was found.

I cannot give a description of the peritoneum covering the liver and spleen nor a detailed description of the stomach, as the operation lasted so long that I did not feel justified in enlarging the incision for the purpose of exploration. The appendix, which was very much kinked and bound down to the caecum, was removed and the abdomen was closed.

The patient made an uneventful recovery; he is now free from discomfort of any kind and does not need aperients.

Several portions of the membrane were sent to the pathological laboratory in Trinity College, and Dr. John Lait made the following report:

"On microscopical examination these fibrous-looking membranes are found to be composed on the surface of dense hyaline fibrous tissue, while in the deeper layers the tissue is softer and contains many vessels, similar to those found in a late granulation tissue. There is no covering layer of cells on the surface. It is possible that these membranes may be the result of a fibrinous exudate organized into dense fibrous tissue, or else they may represent a chronic inflammatory condition of the omentum, but there is no histological evidence to show that the tissue is omentum."

The portions of membrane were about the thickness of a sheet of Morocco leather.

I have not seen a description of anything similar to the above condition, so I have provisionally named it "chronic fibrous epiploitis." My reasons for thinking that the tissue was originally omentum are the position in which it was found and the fact that no other structure was discovered to represent the omentum.

The conditions most closely allied to this are the thickening of the capsule of the liver or spleen which is sometimes found at a *post-mortem* examination, and the thickening of serous membranes which occurs in those rare cases called polyserositis.

There is no evidence that the condition was tuberculous in origin, and the Wassermann test negatives syphilis. It is hardly conceivable that the condition arose from an acute or subacute inflammation, due to dysenteric or other forms of ulceration, as there were no adhesions to the anterior abdominal wall and there was no fluid present which might prevent such adhesions.

The only conclusion which can be come to is that the process was very gradual and may possibly have arisen in a similar manner to the gauze-like membrane, known as Jackson's membrane, which is so commonly found over the ascending colon.

* Communicated to the Section of Surgery of the Royal Academy of Medicine in Ireland on May 13th, 1927. A report of the meeting will be found at page 1059.

THE DIFFERENTIAL DIAGNOSIS OF JAUNDICE.*

BY

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I PREFACE my remarks with a reference to the theory of Aschoff and McNee concerning bile formation.

Bilirubin is formed from the haemoglobin of the blood stream by the reticulo-endothelial system; it is then passed on by the polygonal cells of the liver to the bile capillaries. That its passage through the polygonal cells alters its chemical characteristics forms the fundamental basis of the van den Bergh test, the interpretation of which may be expressed thus: Jaundice arising from obstruction of the bile duct gives a direct or immediate reaction. Jaundice produced by over-production of bilirubin, in excess of that which can be dealt with by the polygonal cells, gives a delayed or indirect reaction; while a biphasic reaction is produced when obstruction in the ducts is associated with dysfunction of the polygonal cells.

The following classification of jaundice has been suggested by McNee:

1. Obstructive hepatic, producing a direct diazo reaction.
2. Haemolytic, giving the indirect reaction. This is seen in pernicious anaemia, acholuric jaundice, and Banti's disease.
3. Toxic and infective, giving rise to the biphasic response.

Age of the Patient.—I need not dwell on the well known causes of jaundice in infancy, but I would draw attention to two clinical features in childhood: (1) Multilobular or periportal cirrhosis, often attributed to the administration of spirits by ignorant mothers, has its origin in the spleen, slowly spreading to the liver along the portal vein as a pylephlebitis. The picture is that of Banti's disease and has probably no connexion with alcohol. (2) Enlargement of the spleen with jaundice in children under 4 months is almost always, in the absence of acute infections, due to congenital syphilis. An obscure case during childhood always calls for the Wassermann test. In children and young adults the commonest form of jaundice is "catarrhal." Hanot's biliary cirrhosis, a rare disease associated with great enlargement of both liver and spleen, pyrexia, leucocytosis, and eventually marked jaundice, occurs in young adults and children. After 40 years of age cancer must always be suspected.

Sex.—Jaundice in women is frequently caused by gall stones; its development during pregnancy will arouse a suspicion of acute yellow atrophy. It has repeatedly been stated that visceroptosis, so common in women, produces jaundice by kinking of the common bile duct when the duodenum, liver, or kidney is displaced downwards, but it is equally probable that a cholangitis arises from the accompanying intestinal stasis. Alcoholic cirrhosis is common in men, as also is syphilis. Here let me refer to those cases of toxic jaundice following intensive anti-syphilitic treatment by arsenical compounds, and to recent advances in pathology dealing with the detection, by the van den Bergh reaction, of latent jaundice following injections of novarsenobillon, with a view to determining the advisability of further doses and the prevention of arsenical poisoning.

Occupation and Residence Abroad.—Workers coming into contact with tetrachlorethane, phosphorus, etc., are liable to poisoning, and it cannot be denied that hepatic cirrhosis is fairly common among those in the liquor trade. The possibility of the development of hydatid disease in the liver, acute malaria, tropical abscess from amoebic dysentery, and cirrhosis, both from malaria and *Bilharzia japonicum*, must be borne in mind when dealing with patients from abroad.

Family History.—This is of particular importance in excluding familial or hereditary icterus, one variety being found in the newly born, fatal in character, affecting successive infants whose parents are in good health except that the mother during pregnancy suffers not infrequently from jaundice. Another variety is termed "acholuric," inasmuch as bile cannot be detected in the urine; the jaundice is haemolytic. This is the only disease in which the red cells are constantly found to be abnormally fragile, commencing to haemolyse at 0.6 per cent. saline. An almost identical condition is observed in the sporadic variety developing later in life, frequently pyrexial, and apt to be confused with pernicious anaemia, owing to the similar blood picture, but the leucocytosis present is in direct contrast to pernicious anaemia.

The Course of the Disease.

A sudden onset is commonly due to gall stones and catarrhal jaundice, but it may be equally sudden in severe intoxications and infections.

When jaundice is progressive, cancer of the head of the pancreas, of the liver, gall bladder, or bile ducts, should be suspected, and in all doubtful cases I need hardly insist on the importance of carrying out a rectal examination to negative the presence of primary rectal carcinoma giving rise to no symptoms locally. Sometimes chronic pancreatitis with associated inflammation of the bile ducts, very rarely a pancreatic calculus impacted at the junction of the pancreatic and bile ducts, or occasionally a biliary cirrhosis may be the cause of chronic jaundice.

Recurrent attacks are commonly the result of gall stones, especially the "ball-valve" variety; rarely they may be due to chronic pancreatitis or visceroptosis.

The Symptoms.

Important features are:

1. *Pain*—its constancy suggesting growth, its recurrent nature pointing to cholelithiasis; it is absent in catarrhal jaundice and the various cirrhoses.

2. The conspicuous *absence* of the usual concomitant symptoms in acholuric jaundice—for example, normal stools, absence of bile in the urine apart from complications.

3. The occurrence of *rigors* may prove of help, suggesting one of three diseases: (*a*) an infective cholangitis; (*b*) an infective suppurative pylephlebitis, often associated with abscess formation in connexion with the appendix; (*c*) hepatic abscess. A rigor does not exclude an ordinary attack of gall stone, or acute infections such as pneumonia and Weil's disease.

4. *Haematemesis* points to cirrhosis of the liver, particularly alcoholic and splenomegalic (Banti's disease); and here a word concerning haemorrhage associated with jaundice might be useful. Owing to increased fragility of the capillaries, haemorrhages are likely to occur in any jaundiced patient, a point of interest to surgeons; bruising may also result and have an important bearing in medico-legal cases, being mistaken for evidence of violence.

5. A distinguishing feature between obstructive and non-obstructive forms is that in obstruction to the larger bile ducts the *stools* become clay or greenish-white in colour.

6. The patient may give a clue to the initial diagnosis by referring to the high colour of his *urine*; in all cases of jaundice the urine should be examined for bile pigment, as it is found here before it is observed in the conjunctiva, and hence some time before the skin is affected.

It is interesting to recall that during the war it was a practice among French and Italian soldiers to swallow small quantities of picric acid every week or fortnight in an endeavour to produce a yellow colour of the skin and sclerotics, in the hope that it might be mistaken for jaundice and thus procure a transfer to the sick list. The skin in such cases is of a more coppery hue, picric acid is present in the urine, and the van den Bergh test is negative.

It is on record that concussion has given rise to jaundice by setting up a sudden spasm of the bile ducts; and I have known shock to produce a jaundiced condition, attributed to the gastric and duodenal catarrh which frequently accompanies severe mental emotion.

* Read at a meeting of the Staffordshire Branch of the British Medical Association, November, 1926.

The Physical Signs.

The Condition of the Liver.—A neoplasm is usually associated with a much enlarged and irregular shaped liver, but jaundice may be late in its onset and even not apparent throughout the illness. Syphilis may produce an irregular enlargement which is not so great as that caused by the presence of a growth, and jaundice is not infrequently absent. It has been commonly stated that the liver is diminished in size in alcoholic cirrhosis, and though this is true in a certain proportion of late cases, the majority exhibit a distinct enlargement, and it is then either fairly soft, owing to chronic congestion together with an early cirrhosis without splenic enlargement, or it is hard and even hobnailed and associated with a firm big spleen. A sudden increase in the consumption of alcohol will cause also a sudden increase in size of an already shrunken fibrosed liver which will diminish again under treatment. It may be a most difficult matter to diagnose between an ordinary cirrhosis and a "cirrhosis carcinomatosis," the latter being a diffuse carcinoma spreading throughout a cirrhotic liver. An interesting fact is that 25 per cent. of cases of primary carcinoma of the liver occur in alcoholic cirrhosis, but that such livers are rarely the seat of secondary growths. *Diminution* in the size of the liver is a feature of acute and subacute yellow atrophy, but here the jaundice is marked, whereas it is a late clinical sign of portal cirrhosis.

Ascites is in favour of a diagnosis of new growth. When met with in alcoholic cirrhosis it is regarded as a sign of advanced disease or the result of concomitant peritonitis. Both ascites and jaundice are induced when the portal vein and the common bile duct become compressed at the hilus of the liver from local enlargement of the lymphatic glands. A similar occlusion, though rare, has been found in a significant number of *post-mortem* examinations; it was due to aneurysm of the hepatic artery, resulting from a septic embolus in cases of ulcerative endocarditis. A combination of ascites and slight jaundice is observed in cases of heart failure with hepatic congestion, the cyanosis and icterus producing together an almost typical dusky-green colour.

The Gall Bladder and Pancreas.—When the gall bladder is enlarged it is due to some obstruction of the cystic duct or common bile duct, or to a growth of the gall bladder itself. A cystic duct obstruction does not *per se* lead to jaundice. Courvoisier's famous law is of great value provided that the two fallacies associated therewith are recalled. First, that the gall bladder would not enlarge if previously contracted by the presence of calculi, in spite of a cancerous pancreas; and secondly, that the gall bladder may not suffer fibrosis although stones become impacted in the common duct. The commonest growth producing enlargement of the gall bladder is carcinoma of the head of the pancreas. Radiographic evidence is of value in the detection of gall stones containing calcium salts. In cholecystography we now possess a fresh method in diagnosis; it demonstrates anatomico-pathological changes in the gall bladder, including functional activity, while gall stones that cast no shadows on the radiogram may be shown up as negative shadows on the cholecystogram.

Pathological Examinations.

Of the pathological examinations necessary to confirm a tentative diagnosis the most important is that of the blood. In addition to the van den Bergh test, the Wassermann reaction, and the fragility test of the red cells, there is the blood picture of pernicious anaemia to be remembered, that of Banti's disease with its leucopenia and relative lymphocytosis, and the differential counts in the various infections. Similarly may we diagnose the blood diseases producing jaundice from pressure of enlarged glands.

A high proportion of eosinophile cells indicates a parasitic invasion, especially hydatid, where the diagnosis may be strengthened by carrying out the complement fixation and the precipitin reactions of the patient's blood serum. I have seen one such count in which the eosinophile cells reached the enormous proportion of 70 per cent. of the white cells.

An examination for micro-organisms, or a blood culture, will on occasions be found essential in infections such as malaria, Weil's disease, enteric fever, yellow fever, leptospirosis icterohaemorrhagica, and septicaemic conditions. Weil's disease is now supposed to be due to *Bacillus proteus fluorescens*, and haemorrhagic jaundice to a leptospira which has been found not only in rat's blood, but also in the mud-slime of mines.

Amoebae or their ova in the stools will give sufficient evidence for a diagnosis of amoebic dysentery with tropical abscess. The chief tests for pancreatitis combine an examination of the stools for an excess of unsplit fat, of the urine for diastase and glucose, and the mydriasis test by adrenaline.

I must refer also to the condition of the bile and other duodenal contents after extraction by means of Einhorn's tube. We can learn therefrom the presence or absence of pus cells, of micro-organisms (such as *B. typhosus* in carriers), and pancreatic ferments; and would it be saying too much to hope that small roundworms may be the cause of obstruction of the common bile duct? No case of apparent catarrhal jaundice with a tendency to chronicity should be diagnosed as such until, after search for the ova in the stools, or after employment of the therapeutic test, one can conscientiously exclude infestation by *Ascaris lumbricoides*. An examination of the ascitic fluid reveals its character, whether it be inflammatory, malignant, or transudatory.

Finally I will allude to the tests of hepatic efficiency—numerous and at present somewhat unconvincing, but nevertheless holding a lesser place as an adjuvant in diagnosis.

THE CARDIO-THORACIC INDEX:

*A CLINICAL METHOD OF EXPRESSING THE SIZE OF THE HEART.**

BY

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THE size of the heart is always of great importance, not only in the examination of individuals suffering from cardiac disease, but also in healthy people when giving an opinion for insurance companies or in compensation claims, and the position of the cardiac impulse, or, as it is rather loosely called, the "apex beat," is generally taken as an indication of the heart's size.

The cardiac impulse is a most valuable physical sign of the heart's action, and its position gives reliable evidence of any change in the situation of the left ventricle, whether this is due to displacement of the whole heart or to hypertrophy and enlargement of this chamber; but it cannot give direct evidence of any cardiac enlargement as a whole.

Accurate determination of the actual size of the heart in any individual is a somewhat lengthy and laborious process, and necessitates very careful percussion combined with x-ray photography; it can hardly be looked upon as a clinical method, but sufficiently accurate information can be obtained by the method to be described.

The accepted definition of the cardiac impulse is the maximum thrust of the left ventricle against the anterior chest wall; this is usually stated to be three and a half to four inches from the mid-sternal line, or, alternatively, half an inch to three-quarters inside the nipple line.

It is quite obvious that the first of these statements can only refer to a certain group of individuals, since the cardiac impulse in a baby of 12 months will bear quite a different relation to the mid-sternal line from that of a child of 12 years, which, again, will be different from that of a man of 50.

The second statement, which uses the nipple line as a standard, is even more fallacious, since the nipple varies so much in position at different ages under different conditions that it is really only of use in dealing with adult men.

* Read to the Sheffield Medico-Chirurgical Society, March, 1926.

Some simple way of recording the size of the heart would be advantageous, and I have attempted to find such a method. Some years ago it occurred to me that it might be possible to express the size of the heart as a fraction which would be a constant factor for all ages if the distance of the cardiac impulse from mid-sternum were put as the numerator of a fraction the denominator of which was the circumference of the chest at the level of the impulse. I made a number of measurements, but it was soon obvious that this factor was only a statement of the distance of the cardiac impulse from the middle line. It then appeared possible that an estimation of the deep cardiac dullness expressed as a linear distance from the extreme limit of the right border of the heart to the cardiac impulse, and used as the numerator of the fraction, with the circumference of the chest used as the denominator, might give a constant for all ages. But before any conclusions could be reached, it was essential to be sure that the right border of the heart could be determined with sufficient accuracy by clinical percussion to be used in such a measurement. The necessity for this step is evidenced by the frequently expressed opinion that percussion of the right cardiac border is largely a matter of imagination. If due care is observed it is possible to define the right border of the heart with a considerable degree of accuracy, as may be seen in the accompanying drawings (Fig. 1).

The method adopted was to percuss out the borders of the heart with closed eyes and to mark the surface of the chest

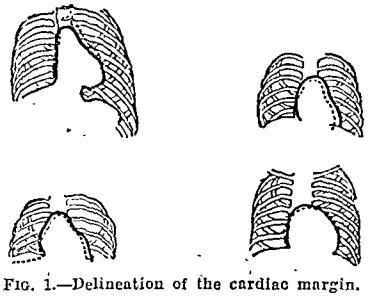


FIG. 1.—Delineation of the cardiac margin.

with a skin pencil; when the percussion was completed, a thin lead wire was run round the pencil marks and kept in position by strips of strapping. An *x*-ray photograph was then taken with the tube carefully focused and centred at a sufficient distance to give parallel rays; the shadow produced by the heart can then be compared with the much denser shadow of the lead wire. I think it will be seen from Fig. 1 that it is possible to delineate the heart's borders with a fair degree of accuracy. Having decided that clinical percussion if carefully and honestly carried out could be relied upon, a number of measurements have been recorded. It appears fairly clear that by expressing the linear cardiac dullness as the numerator and the circumference of the chest as the denominator a fraction is obtained which at any age or sex is almost a constant; it approximates to 1/6, and for the sake of reference I have called this the "cardio-thoracic index." A more accurate numerator would be the distance of the right border of the heart to the impulse, measured by callipers rather than a tape, but the latter is generally available, and the error is a very slight one.

The actual indices obtained by the above method are seen in the accompanying tables, the first of which represents measurements of what may be considered normal conditions. In both tables only the denominator of the fraction is given, for the sake of simplicity. Here it will be noted that there is only one group in which the fraction is in any way strikingly below 1/6, and this in women between 20 and 40 years of age. It is due to the development of the breasts in this period of life; but even including these low fractions the average for any age of either sex is 1/6.3.

Table II shows a few measurements of abnormal conditions, and I need not detail them, as they are depicted here with the accompanying pathological condition.

TABLE I.—*Normal Cardio-Thoracic Indices.*

MALES.

Age.	Indices.	Average.
1 ...	6.8	6.8
2 ...	6.2	6.2
3 ...	5.9	5.9
4 ...	5.8, 6.0	5.9
5 ...	6.7, 6.4, 5.7	6.2
6 ...	6.8, 5.5, 6.4, 6.1, 6.2, 6.0, 6.6, 6.6, 5.4, 5.4	6.1
5-10 ...	6.5, 6.1, 6.1, 6.5	6.3
10-15 ...	6.3, 6.0, 6.8, 6.8	6.4
15-20 ...	6.3, 6.0	6.1
20-30 ...	5.9, 6.3, 6.3	6.1
30-40 ...	6.6, 6.4, 6.7	6.5
40-50 ...	6.8, 6.7, 6.8, 6.3	6.6
	Average for all ages	6.25

FEMALES.

5 ...	5.7, 6.0, 5.7, 6.2, 6.2, 6.6	6.0
6 ...	6.2, 6.0, 6.7, 5.8, 6.0	6.1
20-30 ...	7.7, 7.1, 6.5	7.1
30-40 ...	7.1, 6.6	6.8
40-50 ...	6.8	6.8
	Average for all ages	6.5

The average index for all ages irrespective of sex was 6.3; the lowest variant was 5.4, the highest variant 7.7.

TABLE *II.—Abnormal Cardio-Thoracic Indices.*

Age.	Condition.	Index.
5-10 ...	Mitral incompetence; chronic rheumatism ...	5.0
,, ...	Mitral incompetence, sequel to pneumonia ...	7.0
,, ...	Mitral stenosis	3.8
10-15 ...	Mitral incompetence; chorea	5.0
,, ...	Tachycardia	4.1
,, ...	Aortic and mitral disease	4.8
15-20 ...	No cardiac signs; chronic rheumatism; ? infantilism	7.2
,, ...	Aortic stenosis	4.3
,, ...	Arrhythmia; chorea (second); adherent pericardium	4.6
40-50 ...	Mitral stenosis with severe arthritis	4.4
50-60 ...	Emphysema	5.9

Figs. 2 and 3 are drawings from photographs of actual cyrtometer tracings of the chests of a certain number of cases with the cardiac dullness, circumference, and the

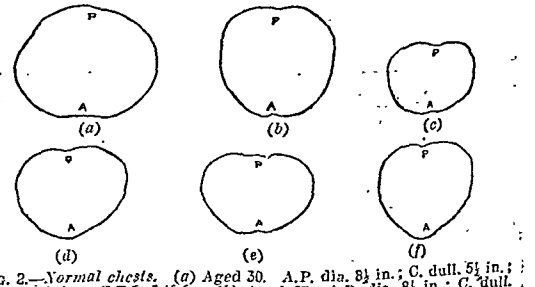


FIG. 2.—*Normal chests.* (*a*) Aged 30. A.P. dia. 8½ in.; C. dull. 5½ in.; circum., 31 in.; C.T.I. 1/6.6. (*b*) Aged 27. A.P. dia. 8½ in.; C. dull. 5 in.; circum. 30 in.; C.T.I. 1/6. (*c*) Aged 9. A.P. dia. 5½ in.; C. dull. 4 in.; circum. 24 in.; C.T.I 1/6. (*d*) A.P. dia. 7 in.; C. dull. 4½ in.; circum. 26½ in.; C.T.I. 1/6.3. (*e*) Aged 13. A.P. dia. 5¾ in.; C. dull. 4 in.; circum. 25½ in.; C.T.I. 1/6.5. (*f*) Aged 22. A.P. dia. 7¾ in.; C. dull. 5 in.; circum. 29 in.; C.T.I. 1/5.9.

A.P. dia.=antero-posterior diameter. C. dull.=cardiac dullness.
Circum.=circumference of chest. C.T.I.=cardio-thoracic index.

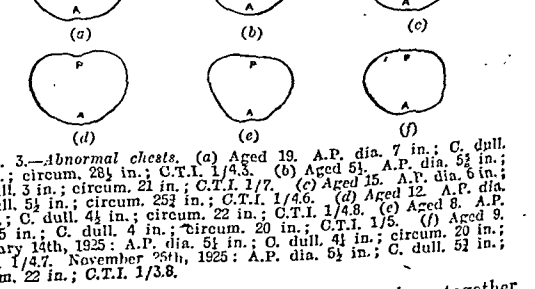


FIG. 3.—*Abnormal chests.* (*a*) Aged 19. A.P. dia. 7 in.; C. dull. 6½ in.; circum. 28½ in.; C.T.I. 1/4.3. (*b*) Aged 5½. A.P. dia. 5¾ in.; C. dull. 3 in.; circum. 21 in.; C.T.I. 1/7. (*c*) Aged 15. A.P. dia. 6 in.; C. dull. 5½ in.; circum. 25¾ in.; C.T.I. 1/4.6. (*d*) Aged 12. A.P. dia. 5¾ in.; C. dull. 4½ in.; circum. 22 in.; C.T.I. 1/4.8. (*e*) Aged 8. A.P. dia. 5 in.; C. dull. 4 in.; circum. 20 in.; C.T.I. 1/5. (*f*) Aged 9. January 14th, 1925: A.P. dia. 5¼ in.; C. dull. 4½ in.; circum. 20 in.; C.T.I. 1/4.7. November 25th, 1925: A.P. dia. 5½ in.; C. dull. 5¾ in.; circum. 22 in.; C.T.I. 1/3.8.

cardio-thoracic index shown beside each tracing, together with the age and sex.

Fig. 2 may be considered to represent normal chests, and it will be seen that with such different sizes and shapes

at various ages the actual fraction is remarkably constant. Fig. 3 is that of similar cyrtometer tracings of individuals with abnormal conditions; whilst Fig. 4 shows drawings of what may be called "freak" chests. I merely include these last by way of interest, and as examples of the one or two conditions in which it is clinically impossible to determine the factor I have called the cardio-thoracic index which is emphasized in Fig. 5, which is an illustration of a chest with extreme emphysema. In such cases, or with chests which are very abnormally shaped, the most careful percussion of which I am capable has failed to map out the deep cardiac dullness. But such cases are comparatively rare, and in them every other clinical method is equally fallacious, so they do not materially invalidate the suggestion I have made above—namely, that the size of the heart can be expressed as a constant for any age, the deep cardiac dullness being one-sixth of the circumference of the chest at the level of the cardiac impulse.

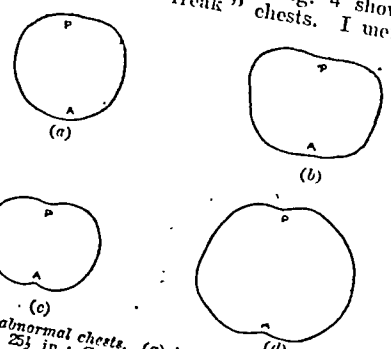


FIG. 4.—*Very abnormal chests.* (*a*) Aged 13. A.P. dia. 8 in.; C. dull. 41 in.; circum. 25½ in.; C.T.I. 1/6. (*b*) Aged 15. A.P. dia. 7 in.; C. dull. 5 in.; circum. 29 in.; C.T.I. 1/5.8. (*c*) Aged 11. A.P. dia. 6 in.; C. dull. 6 in.; circum. 24½ in.; C.T.I. 1/4.1. (*d*) Aged 46. A.P. dia. 9 in.; circum. 35 in.



FIG. 5.—The condition in extreme emphysema.

ARTIFICIAL PNEUMOTHORAX IN ADVANCED PULMONARY TUBERCULOSIS.

BY

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IN the BRITISH MEDICAL JOURNAL for February 19th, 1927 (p. 323), a case of pulmonary tuberculosis is described by Dr. Bernard Hudson in which, in spite of a history of old-standing disease with a recent severe "flare-up," an artificial pneumothorax was induced and resulted in considerable and continued improvement. The two following cases are of interest in this connexion.

CASE I.

An ex-officer, aged 26, was admitted to this sanatorium on August 30th, 1922, with a history of persistent cough and cold since the previous winter. Both upper lobes and the upper parts of both lower lobes were involved. The patient improved at first, increasing 28 lb. in weight. For the next year he held his own, but then lost ground slowly.

On August 27th, 1925, intermittent haemoptyses began, and on August 29th an artificial pneumothorax was induced. Intermittent bleeding continued for twelve hours, after which there was another haemorrhage of 10 ounces. A refill was given, and the bleeding gradually stopped.

The records of the first operations are as follows:

August, 29th, 1925, 1 a.m.	...	−4, −2	...	
,, ,, 2.15 p.m.	...		...	
September 1st, 1925	...	−3, +1	...	1,000 c.cm. ... −2, +3
,, 5th, ,,	...	−2, +4	...	1,000 c.cm. ... 0, +5
	...	−2, +5	...	500 c.cm. ... +1, +7
				400 c.cm. ... +2, +6

The patient gradually recovered from the effects of the haemorrhage and improved in general condition. Fairly high pressures were kept up throughout, and at the beginning of August, 1926, when I took charge of the sanatorium, the last records had been:

July 13th, 1926	...	−8, +2	...	800 c.cm. ... −3, +5
July 27th, 1926	...	−10, +2	...	800 c.cm. ... +2, +7

X-ray records had not been kept.

When I first saw him the patient had been in bed for four days because his temperature had risen to 102° for a couple of days after the last refill (June 27th), and he had had vague pains in the left side of the chest. On August 13th I attempted a refill, but found the pressure −1, +2. After introducing the needle in a different place the pressure was again +2, +3, so the attempt was abandoned. After this the temperature rose to 99.4°, and there were again vague pains in the left side of the chest. About ten days later fluid appeared at the left base, and increased slowly until November 22nd, when it had reached the level of the third intercostal space. This was confirmed by *x*-ray examination. Fluid replacement was considered, but in the absence of marked dyspnoea or other signs of cardiac embarrassment, and in view of the pleurisy in August, it was decided to wait. The fluid gradually decreased and finally disappeared, leaving signs of much-thickened pleura. The weight, which for a long time had remained about 10 st., is now over 10 st. 5 lb., temperature and pulse are normal, and the patient is walking from three to four miles a day. The sputum is slight, and tubercle bacilli have been found only once since December 30th, 1926. The adventitious signs in the chest have remained about the same, except in so far as they have been modified by the presence of fluid and air respectively.

It is clear that in this case the ultimate prognosis is poor and the immediate risks not inconsiderable. At the same time the pneumothorax, which but for the haemorrhage would never have been attempted, has undoubtedly improved both the chances and the comfort of life. The fluid, by keeping up partial collapse for some months after the refills were stopped, doubtless contributed towards the result.

CASE II.

A girl, aged 20, was admitted in March, 1925, with a history of slight haemoptysis three and a half years previously and a recurrence in 1923. On admission, the right upper lobe and the upper half of the lower lobe were involved, and there was some suspicion about the left mid-scapular region. After an *x*-ray examination, Dr. A. E. Barclay of Manchester reported: "... evidence of extensive disease on the right side, which is almost all definitely of old standing. The apex is largely consolidated and fibroid, the trachea being dragged across fully three-quarters of an inch to this side. ... From the interlobar septum downwards there are extensive changes of fibroid type. ... On the left side ... some increase in root shadows with nodules, which are sharply defined, and do not give the impression of active disease."

In October an unsuccessful attempt to induce an artificial pneumothorax was made. The patient's condition meanwhile remained very much the same.

When I first saw her, in August, 1926, the symptoms were: troublesome cough frequently leading to vomiting, copious sputum swarming with tubercle bacilli, dyspnoea on exertion, and lack of energy. There were signs of definite activity at the left apex, as well as on the right side. The *x*-ray appearances were much the same as in February, 1925.

The patient asked me if nothing further could be done. The case did not appear to be particularly suitable for the use of sanocrysin, and so, before considering such a line of treatment, or further surgical measures, I felt that another attempt to induce an artificial pneumothorax should be made. The initial operation was performed on September 2nd, 1926, and I was fortunate enough to get into the pleural cavity without difficulty. The earliest records are as follows:

September 2nd, 1926	...	−3, −2		
,, 3rd, ,,	...	−4, −2	...	250 c.cm. ... −2, −1
,, 4th, ,,	...	−3, −1	...	350 c.cm. ... −2, 0
,, 8th, ,,	...	−2, −1	...	400 c.cm. ... −3, 0
			...	400 c.cm. ... 0, +1

At first only partial collapse was obtained. Almost the whole of the apex was adherent, and there were a number of adhesions near the base. Soon, however, the latter adhesions began to give way gradually, and at the beginning of January collapse was almost complete; the inner parts of the apex and upper lobe, however, remained adherent.

At the beginning of October no râles could be heard on the left side. *X* rays showed the trachea in normal position. On November 17th no tubercle bacilli were found, and none have been found since; soon after that date the cough disappeared and the sputum ceased.

There is still some dyspnoea, and a very quiet régime is being followed, with one short walk daily. It has not been possible to increase the intervals between refills beyond a fortnight, or even less, as re-expansion usually takes place rather rapidly.

In this case, owing to the length of history and the probability of adhesions, the chances of inducing an artificial pneumothorax appeared small. The operation was undertaken rather as a forlorn hope before going on to more serious surgical measures. Yet not only did the operation succeed, but, although the ultimate outlook is doubtful, the chances of life are certainly improved, and in the meantime the absence of severe cough with copious, offensive sputum, and the knowledge that she is no longer a source of danger to others, are in themselves a great boon to the patient.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

THE LEUCOBLASTOSIS OF GLANDULAR FEVER.

A HEALTHY boy, aged 4 years, had been ill for one day. There was marked enlargement of cervical glands on both sides; the tonsils were red and swollen, and the temperature was 103° F. In three days he was much better, the tonsils were still large, and the swellings at the angles of the jaw were even greater. He made a good recovery.

On the fourth day, when glandular swelling was most marked, blood films showed normal red corpuscles and considerable leucocytosis, with differential count: polymorphs 50 per cent., eosinophils 2 per cent., mast cells 1 per cent., lymphocytes 29 per cent., mononuclears 13 per cent., plasma cells 1 per cent., myelocytes 1 per cent., leucoblasts 3 per cent. Leucoblasts in films from angina were new to me at the time (September, 1920), and, with the remarkable glandular enlargement, suggested incipient leukaemia. In referring to glandular fever Professor Gulland[1] said that he had never seen myeloblasts (leucoblasts) in the blood of these cases. As textbooks are reticent about these cells, it may be useful to describe them briefly.

The leucoblast resembles a large mononuclear cell. Its basophil cytoplasm is ample and may show azure granules. Its large oval or reniform nucleus stains well in a striped pattern. But cells differ in age, and, therefore, vary in form and staining. The form commonly seen is (1) a big cell with large kidney-shaped nucleus and ample light blue cytoplasm with or without scanty azure points. Development now proceeds in one of two directions: (2) the nucleus stains with denser stripes, and the cytoplasm shows numerous coarse, dark violet granules; or, (3) the nucleus becomes irregular, even polymorph, and the cytoplasm paler or lilac; these cells are soon indistinguishable from large mononuclears.

Some of the first are easily identified, and the second form is quite characteristic and not to be mistaken for any other cell of the blood. For this reason I included only the second form in my differential count and underestimated the leucoblasts present.

The description is in terms of Romanowsky staining, and for identifying leucoblasts I prefer the polychrome Manson blue method,[2] because it brings out the coarse, violet granules better and in a greater proportion of cells, just as in benign tertian infections it deeply stains Schüffner's dots. Jenner-Giemsa fails to do this.

West Ealing. ROBERT CRAIK, M.D.

PULMONARY EMBOLISM FOLLOWING FRACTURE OF LEG.

THE following case is of interest in connexion with the modern treatment of fractures by early massage, and raises the question whether it is likely to cause separation of blood clot and the resulting tragedy of pulmonary embolism. The case occurred at the height of the recent influenza epidemic, and splints were taken down only three or four times when the joint was very gently massaged by myself. Had my attentions been more frequent or vigorous I should probably have charged myself with being the unwitting instrument of causing this unfortunate man's death. It would be of interest to know how often pulmonary embolism follows fractures, whether treated by massage or otherwise.

A stone-breaker, aged 62, of spare build and in good health, fell when getting over a stile and sustained a simple Pott's fracture of the right ankle, the fibula being fractured about an inch and a half above the external malleolus and the medial malleolus torn off. Under chloroform the fracture was set and kept in position by lateral splints; the leg was hung in a Salter's cradle. Union was perfect, and movement quite good. Three weeks after the injury the patient complained of pain in the left side for which I was unable to account; I could detect no abnormal sounds, and put it down to a slight pleurisy due to his sleeping three feet away from an open window. I ordered mustard plasters, which were used for four or five days; the pain did not subside, though the patient was in excellent health and in the very best of spirits, expecting to be allowed up on crutches in a few days.

On the twenty-fourth day of the injury the patient was laughing and joking with his neighbours; on the twenty-fifth day his daughter was wakened at 6 a.m. by her father's peculiar breathing; she got up and went for a neighbour. The patient was dead before her return in a few minutes. A *post-mortem* examination was not performed.

As there was no heart lesion or other organic disease I think there is no doubt that this was a case of pulmonary embolism.

ERSKINE FARAKER, M.R.C.S., L.R.C.P.

Keinton Mandeville, Somerset.

[1] BRITISH MEDICAL JOURNAL, 1926, ii, 593.
[2] Ibid., 1924, ii, 783.

Reports of Societies.

CLEFT PALATE.

A DISCUSSION took place in the Section of Surgery of the Royal Society of Medicine on June 1st on the operative treatment of cleft palate. In the afternoon a number of cases in which operation had taken place some years previously with good anatomical and phonetic results were exhibited, and a discussion began at five o'clock which, with a brief interval for dinner, continued until after ten. Mr. V. WARREN LOW presided.

Sir JAMES BERRY exhibited several patients upon whom he had performed his lateral approximation operation, and the speech results were demonstrated to the meeting. The test sentence which they were asked to repeat was: "On a bridge, by a church, I met a flock of turkeys"; but one of the patients, a young man, said that he was not going to utter such nonsense, and he made a perfect little speech, in which he paid a tribute to his old nurse, who had taken pains after the operation in his childhood to educate him in voice formation. Sir James Berry said that the main, almost the only, object of operating upon a cleft palate was to enable the person to speak intelligibly. The view formerly held by some that the operation might be regarded as a life-saving one was now, he thought, exploded. A small proportion of clefts which were very narrow and limited to the soft palate could doubtless be closed within the first weeks or months of infancy by the operation of lateral approximation; but in the vast majority of cases it was impossible at this very early stage to perform the operation with any reasonable chance of success owing to the width of the cleft and the lowness of the palatine arch. The age of operation should be the earliest at which, in the experience of the operator, a lateral approximation operation would give a reasonable chance of closing the cleft. Generally this was from 18 months to 4 years. In the really difficult cases, such as a wide cleft involving the soft and most of the hard palate, it was often a good plan to close the cleft of the soft palate first and to leave the hard palate unclosed for a time, rather than risk failure of the whole line of union by attempting too much. It was the soft palate that was most important to close. If the hard palate was closed and the soft left unclosed after an operation little good usually was done; on the other hand, if the soft palate were successfully closed and the hard palate left unclosed the patient might be greatly benefited. His own views as to operation were based upon 276 cleft-palate patients, upon whom he had operated during the last thirty-three years. Before operation gross defects of teeth and tonsils should be remedied, though he thought routine excision of tonsils or adenoids unnecessary. In the case of wide and difficult clefts lateral incisions to relieve tension were frequently necessary on one or both sides, but they should, in his opinion, be as short as possible, seldom more than 1/2 inch in length, except in the case of secondary operations for large holes in the hard palate. Of late years he had been using lateral incisions less and less, replacing them as regards the soft palate by the use of deep tension stitches and rubber plates after the

method recommended by Brophy of Chicago. He was afraid to use the very long lateral incisions recommended by some, lest they damaged too much the palatine and pharyngeal muscles.

Mr. GREY TURNER said that the total number of cases of cleft palate with which he had dealt operatively was 155, and upon these he had done 195 operations. The average age, excluding the cases over 12, at time of operation was just over four years. The deaths numbered four: haemorrhage, scarlet fever (2), under anaesthetic. Excluding these and the very recent operations, the anatomical results in the remaining 134 showed a complete restoration of the palate in 66; a union of the palate, but one or more pin-head holes persisting or a slightly bifid uvula, in 21; an enclosed area just beyond the alveolus, the remainder of the palate being completely closed, in 11; a shortened palate with no uvula and the soft palate in the form of a V in 8; a great part of the hard palate not united, but very little separation, in 9, and increasing degrees of non-success in the remainder. The functional results in 80 cases traced, all of them more than one year after operation, the average being six years, were: normal speech, 10; good, 31; moderate, 25; poor, 17; unintelligible, 3. Out of the 66 cases of complete anatomical restoration, 44 had been traced to discover the ultimate speech result, which was normal in 7, good in 20, fair in 14, and bad in 3. Sometimes with a bad anatomical palate the patient spoke wonderfully well, and conversely. He had thought that bad speech results might be due to the fact that the patient had had no opportunity of learning to speak well until he had already learned to speak badly, and that if the Langenbeck operation could be done before he learned to speak at all, better results might be forthcoming. In this hope he had been disappointed. Many of the patients operated on at a very early age and with complete anatomical success had not been good speakers. Why did these results vary so much? He thought it had something to do with the general architecture of the naso-pharynx, and with the whole of the muscular and neuro-muscular apparatus, and not only the palate. As to the age at which operation should be done, so far as soft palates were concerned, during the first year of life the cases did exceedingly well. With regard to other patients he had rather extended the age of operation. What mattered more than the age was the general health of the patient. If the operation took place in two stages, the soft palate should be operated upon first, and one should be content not to make such a good job of the hard palate. The making of a lateral incision was no essential part of the operation. If it was found that the approximation of the edges of the cleft could not be done without tension, then was the time to make a lateral incision. For main suture material he preferred silkworm gut, but for other than the main suture he was using catgut more extensively than he used to do.

Mr. O. L. ADDISON said that the two openers of the discussion had mentioned only the operation of medium suture. Of the other operations he had had no experience except the flap operation, and after seeing the immediate and late results of that operation he had no hesitation in saying that he thought it a hopeless procedure. The immediate results as regards mortality were grave, as regards closure of the palate they were bad, and the remote effects were perfectly deplorable. He had recently seen three children, aged about 14 or 15, who had come to him for other conditions; a flap operation had been done upon them some time previously, and in each case it would have been infinitely better had they been left alone. Speech in his opinion was entirely a question of determination and training. Good anatomical results were sometimes followed by unintelligible speech. During recent years he had confined himself to the Langenbeck operation, the only modification being that he used a long lateral incision. It was not until he began to use that incision that he got any successful results at all. He practically always removed the tonsils before the palate operation, mainly because he regarded them as reservoirs of potential sepsis. He had come to the conclusion that one got better movement by employing a long lateral incision because one had to do less separation of the soft palate from the back of the hard.

Dr. VICTOR VEAU (Paris) said that he had first operated according to the Langenbeck method, but he found it not very satisfactory in anatomical results, and very unsatisfactory in speech results. Therefore he turned to the method of Arbuthnot Lane, which he had practised in about 320 cases, and anatomically he had had 91 per cent. of successes and 9 per cent. of what he called checks. The phonetic results were better also than with the Langenbeck operation. In his view the excellence of the phonetic result was not altogether dependent on the anatomical result, but had to do with the child's intelligence and above all with acuteness of hearing. He described by means of a series of illustrations his exact technique, especially his provision for a complete epithelial covering for all raw surfaces, and his practice of muscle suture as a means of preventing tension on the palate.

Mr. A. T. PITTS, speaking as a dental surgeon, said that many dentists had been hostile critics of the operative treatment of cleft palate, but while there might be on their part an unconscious bias in favour of prosthetic treatment, it must be acknowledged that surgery did not always succeed. Even if closure of the cleft were obtained the functional results might be poor. A most serious degree of deformity of the jaws might follow. When surgical efforts failed the original condition was much worsened, and the case drifted into the hands of the dentist as a last resort. Nevertheless he believed the best treatment of cleft palate to be surgical, though as at present practised it was not ideal in its result. Both the Langenbeck and the flap operation tended to produce some distortion of the dental arch, the flap operation bringing about a unilateral narrowing, and Langenbeck's a bilateral narrowing. The deformity produced by the Langenbeck operation was far less than that which followed the other. If it could be shown that the percentage of success in closing the cleft was greater with the flap, or that the functional results were better, then the greater degree of deformity of the dental arch might not outweigh these advantages: but if the operative success and the functional success of the two operations were the same the effect on the dental arch might well be the determining factor. His impression as a dentist was that so far as the closure of the cleft and the speech results were concerned, the flap operation had no such advantage over the Langenbeck as to outweigh the bad effect on the teeth and jaws. He doubted also whether repeated attempts at operation were wise. Perhaps the surgeon would do well to abrogate early in favour of dental treatment before the tissues were so damaged or distorted that prosthetic restoration became difficult or could only be partially successful. He urged the need for a greater liaison between surgeon and dentist.

Mr. CYRIL NITCH said that he had records of 86 cases operated upon, of which only 43 had been traced. The age at which the cleft should be closed depended upon the type of operation performed. If the flap operation of the Lane type, it must be performed about four months before the teeth were developed. He had not performed this operation since 1913, for although one could always guarantee the closing of the cleft by that method, the soft palate was always short and rigid, and speech, therefore, was bad. The age he generally selected was 18 months to 2 years. When the cleft was very wide the operation was deferred until the palatal processes and the soft palate had grown wide enough to afford tissue offering a reasonable chance of success. He always tried to close the whole cleft at one operation, provided the anterior palatine arch could be preserved. When the alveolus was cleft the mother was taught, after the hare-lip was sutured, to press on the alveolus twice daily with the thumb and so drive it backwards. He always made long lateral incisions, and placed them close to the alveolus, at the posterior border, curving them outwards and directing them downwards towards the last molar tooth of the lower jaw. One important point after operation was to teach the mother to massage the soft palate as soon as firm union had taken place, by putting the ball of the finger against the soft palate and rubbing transversely. With his modified Langenbeck method with long relieving incisions and lateral splints, the failures had been reduced to 17 per cent. instead of the 50 per cent. which had followed the unmodified Langenbeck procedure.

Mr. CORTLANDT MACMAHON, who has been in charge of the Speech Clinic at St. Bartholomew's for sixteen years, said that in the speech of these patients there were five blemishes—the pronunciation of *k*, *g*, *d*, and *t*, and, most seriously of all, *s*. The education for getting these letters was really very easy, and even in the case of *s* it could be done by driving the tongue down and getting a stretching between the soft palate and the back of the tongue. Some of the good speakers would be better still if they were trained to lower their voice by an octave. His earlier experience of speech training in these cases was with the flap operation. Lane's operation gave good speech if the patient was properly trained, but if the training was deficient the result was likely to be less good than after Langenbeck's operation with similar training.

Mr. H. D. GILLIES added a few points about secondary operations. The great majority of the cases would be vastly improved by severing the soft from the hard palate, making provision for an epithelial covering of all raw surfaces, and interposing an appliance between the soft and the hard palate, so placing the soft palate with its muscle that it could assist in closing off the nasal from the buccal cavity. Mr. Gillies also remarked upon the contrary opinions which had been expressed by various speakers as to the speech result. Mr. Addison had said that the power of speech was due to the intelligence of the patient, Dr. Veau that it was due to acute hearing, and Mr. MacMahon that it was due to cunning movements of the throat by means of which the oral-nasal failure was circumvented. This only showed the complexity of the problem.

Mr. C. H. FAGGE said that up to the end of 1924 he had operated on 114 cleft palates. He had aimed at as complete anatomical re-position of the tissues as possible—in other words, closure of the hard palate and closure of the soft. He agreed that the soft palate was the more important part, but he had not neglected to try to close the hard. On his 114 cases he had performed 218 operations, but that figure was fallacious, because some of the operations were on the lips, and some followed defects of a previous lip operation, necessitating an epithelial inlay. A good many also were operations for the closure of holes in the palate, done before he learned that the holes might well be left alone because they closed of themselves or got smaller. He described a combined operation which he used in the largest group of cases—those, namely, with a unilateral cleft, nearly always running right through into the nose. First of all he did a Lane's flap on the hard palate, then the hare-lip operation, and then followed with the classical procedure for closing the soft palate. He had never failed to close the hard palate with a Lane's flap, nor had he seen any case break down. The Lane's flap operation on the hard palate did not make the second operation on the soft palate more difficult. He liked, if possible, to undertake both operations, for the closing of the hard and of the soft palate, before the child's first dentition, for then he was more assured of a good anatomical result. He had operated on a fair number of adults, but the case in which he felt the greatest difficulty was with the child of 2 or 3. The operation in the case of a small baby was not difficult, and the testimony of the sisters was that the baby was not difficult to nurse. With his combined method of operation he had had 62 per cent. of successes, 22 per cent. of partial successes, and he did not think any operation could be written down as an absolute failure. Sometimes, however, a good anatomical result went with a bad functional result, and again, despite a bad anatomical result, the functional result might be quite good. In the Langenbeck operation he made use of a very long incision on either side to relieve tension.

Mr. KELSEY FRY, speaking as a dental surgeon, said that he had had to do with a large number of children who had undergone operation but without success from the point of view of function. The treatment that the dental surgeon could give in these cases of surgical failure was very difficult and complicated. Special appliances had to be made which always wanted repair and which were a nuisance to the child for the rest of his life. If the surgeon could provide for the cleft palate patient a functional soft palate it would be an easy matter for the dentist to provide a hard palate.

Mr. F. W. GOYDER (Bradford), speaking as a provincial surgeon whose colleagues did not touch these cases, and who therefore had little opportunity of comparing his results with those of others, said that he had dealt with about 150 cases, but he could not give exact statistics as to the results. He began with Lane's operation, but he got disgusted with the results, and during the period of the war and for some time afterwards he took very little interest in this subject. Now he had begun again, and increasing experience had made him more certain of closing the cleft, but at the same time more pessimistic as to the final results with regard to speech. As time had gone on he had operated later and later in life, and now he rarely performed an operation on a child younger than 3 years of age. He performed Langenbeck's operation except when the clefts were very wide. In his last 22 cases he had used a flap in 11, and the median operation in the other 11. Even when doing Langenbeck's operation, however, he used narrow flaps and united them so as to leave no raw surface. He was not in favour of two-stage operations.

Mr. L. E. BARRINGTON-WARD said that his remarks were based on 148 cases (132 hospital and 16 private) on which he had operated since 1914. Of these, 29 were not to be traced. The failures numbered 6. In one of these cases there was a complete horseshoe cleft, which was the hardest type of all to deal with. Three showed a deficiency of the hard or soft palate, and in two the alveolus was still cleft. With regard to age, he believed that if a hare-lip was associated with the deformity, operation should take place as early as possible; his usual rule was to operate at 1 month. Otherwise he preferred to operate at the age of 18 months or 2 years or later. The nature of the operation which he did might be described as Langenbeck's, but he thought that posterity might prefer to call it Berry's operation. It was lateral approximation to the median suture. He made lateral incisions, their extent entirely depending upon the case. For sutures he used the finest ophthalmic silkworm gut. He believed that relaxation sutures nearly always cut out or produced ulceration, and added to the infection. With regard to the speech tests in his cases, 58 had been tested recently, and in 20 the speech was good, in 18 it was fair, and in 20 it was bad. Four of the patients in this last category were mental deficients. If he were asked with regard to the prognosis from the point of view of speech in any case of cleft palate he would have regard not so much to the type of cleft as to the intelligence of the mother.

Mr. TWISTINGTON HIGGINS said that his own cases numbered only 47, and they had all been operated on since 1921. He had followed the method advised by Mr. Gillies, which was relatively easy; the only difficulty was the epithelial graft with which it was necessary to cover the raw area. In 15 cases also he had followed the method advised by Mr. Addison, including even the removal of the tonsils. What had impressed him about the tonsils was that almost universally they were infected, even though externally they might not appear to be so. He thought that the tonsil was fully proved to be a focus of infection in these cases. The 15 cases which he had done according to Mr. Addison's method gave better results than he had achieved by the unmodified Langenbeck operation, and in 14 of them there was perfect anatomical closure.

Mr. WARREN LOW, in closing the discussion, congratulated the Section on the success of the occasion. Seldom had so many successful cases of cleft palate been gathered together in one building. One thing that struck him was the extraordinarily hopeful outlook now for a child who was born with cleft palate, and he thought that the discussion had been a wonderful justification for what was known as the median suture method. He was sorry that not more had been heard about the Brophy operation. Dr. Brophy had sent from Chicago a small contribution to the discussion, chiefly relating, however, to the number of cases which certain of his colleagues had done and the negligible proportion of mortality and necrosis.

Sir JAMES BERRY and Mr. GREY TURNER also replied without, however, taking up any of the points which had been raised in the debate, contenting themselves with an expression of gratification that so noteworthy a discussion had been forthcoming.

CHRONIC FIBROUS EPIPLOITIS.

At a meeting of the Section of Surgery of the Royal Academy of Medicine in Ireland on May 13th, Mr. R. C. B. MAYNSELL, who was in the chair, described an unusual condition which he termed "chronic fibrous epiploitis." The case is reported in full at page 1051 of this issue

Mr. ARTHUR CHANCE said that he had never seen a similar case, but he presumed that the process was an inflammatory one, as it was apparently limited to the abdomen, below the transverse colon. He thought it was a pity that it had not been possible to see the peritoneum covering the liver and spleen.

Deep X-Ray Therapy.

Dr. M. HAYES read a paper on experiences of the treatment by deep x rays of 180 cases, which were chiefly malignant. He said that the qualitative and quantitative standards in the matter of dosage evolved by Saitz and Wintz had laid the foundations of rational radiotherapy. "Deep x-ray" and "Erlangen treatment" were not synonymous terms. Deep or highly penetrating x rays were now universally employed in the treatment of malignant disease, and the results obtained were much better than by the older methods. The Erlangen technique, whereby "the lethal dose" was administered at a single sitting of many hours' duration, did not, in the experience of many, give as good results as carefully estimated fractional doses of highly penetrating x rays administered over long periods. In the prophylactic post-operative treatment of mammary carcinoma repeated fractional doses gave better results than massive doses. Inoperable cases were ameliorated—pain was relieved, ulceration was retarded, and life was prolonged. Rectal carcinoma was likewise benefited, and sometimes inoperable cases became operable, or the symptoms might completely disappear. Recurrent oral carcinoma was not materially benefited, but some primary lesions, more especially of the lip and the tonsil, responded very favourably. Radium combined with x rays in the treatment of inoperable uterine carcinoma arrested discharge and haemorrhage and greatly relieved the symptoms. Some post-operative recurrences had responded favourably to treatment. The result obtained in carcinoma of the prostate was not very favourable, but the symptoms of prostatic hypertrophy usually disappeared within two months. In sarcoma of bone the response to treatment was often very satisfactory.

The CHAIRMAN said that for many years he had been treating cases of mammary carcinoma in which recurrence had taken place by x rays. He had never seen the least harm follow the treatment, and practically always benefit had resulted. After a complete operation for carcinoma he made it a rule always to get the patients treated subsequently by x rays, but it was too soon yet to say what the effect of this would be. He, however, thought that it was one or even more than one course of x-ray treatment. Usually patients had fifteen exposures, followed by a rest, and then a further fifteen exposures. He thought it was essential that a patient should be told if he had cancer, because otherwise he would not allow the surgeon to perform a sufficiently radical operation; a patient should be informed that the only hope of cure was a really radical operation, and also post-operative treatment by x rays. He had had only one case of a malignant thyroid x-rayed. It was, however, a very advanced case, and so was not a fair test. Radiation seemed to him to be a method of great benefit in the post-operative treatment of cancer.

Dr. R. STUMPF said that Dr. Hayes's technique was almost the same as the technique which was being used in Germany, and which he was now using in Dublin. He thought, however, that scattering of the dose for two to six days did not make much difference to the final result. In uterine cancer his experience had been mostly limited to inoperable cases. He had given prophylactic post-operative treatment to twenty cases, and of these, fifteen had remained free of the disease for varying periods. He thought that every inoperable case of mammary cancer should be given a trial of treatment by x rays, and every case operated on should be given post-operative treatment by x rays. In cancer of the lip operation should be undertaken wherever possible, and radiation should be given to inoperable cases. The thyroid was one of the most satisfactory organs to treat by means of x rays, and he thought that in thyroid cases, if initial treatment by x rays was given, the results obtained from operation would be more successful. In cancer of the rectum there was nothing to choose between operative and x-ray treatment, but a combination of the two gave fairly good results—at any rate, better than treatment by either means alone. By the use of x rays one could sometimes render inoperable cases operable. In his experience of cancer of the rectum, women did not respond to treatment so satisfactorily as men.

Mr. W. C. STEVENSON said that if very small doses of radium had been given at very long intervals the results obtained would not have resembled those which Dr. Hayes had obtained, but there would have been less disturbance of the patient, and it was likely that better work would be done without affecting the patient's constitution. He thought that very massive doses of radium had a bad effect on the other tissues besides the malignant tissues, and that the resistance of the tissues was very much lowered by an overdose. The one risk of giving a small dose and not repeating it was that of increasing the power of the cancer to resist radiation subsequently. He liked to see a malignant growth disappear altogether, as he always felt suspicious if there was a lump left behind after irradiation. He had found that cases of cancer of the breast did well by radiation. The results that he had obtained in cases of cancer of the mouth were, on the whole, unsatisfactory. He had treated some cases in which the malignant disease had involved the bones, but without much effect. He thought it was necessary to recognize that some patients could not be helped much by radiation, and also that in some cases the results could not be permanent, although pain might be temporarily relieved.

Dr. HAYES, in replying, thought there was very little doubt that small quantities of radium did stimulate, and that large doses destroyed and inhibited. This had been proved on vegetable matter, but how far it could be employed on human beings it was difficult to know. He also liked to see the lump disappear altogether, but in many cases he thought that complete disappearance of the growth could not be expected. One of the rare occasions on which he had seen the whole growth disappear was in a case of sarcoma of the tonsil. Other growths, he thought, could not disappear without leaving fibrosis, and the problem was, how long the cancer cells remained in the fibrosis. This, in his opinion, was a very strong argument for prophylactic treatment following surgical radiotherapy. In cases of prostatic hypertrophy he generally tried to give a dose of from 90 to 100 per cent. It was as yet too early to say whether the treatment of these patients by radium would render operation unnecessary in the future.

MENINGOCOCCAL MENINGITIS.

At a meeting of the Section of Pathology of the Royal Academy of Medicine in Ireland on April 29th, the President, Professor J. W. BIGGER in the chair, Dr. R. H. MICKS and Dr. J. LAIT showed jointly the brain and spinal cord from a case of meningococcus meningitis in a child. The main clinical features of the case were that, in spite of early and vigorous treatment, the patient grew steadily worse and died in the ninth week of the disease, and that subarachnoid blocking gradually developed. During the first week lumbar punctures withdrew from 40 to 50 c.cm. pus each time with consequent relief of headache. Then less and less fluid was obtained on each occasion and no relief to the headache was afforded by the withdrawal. Finally, about six weeks after the onset, it became impossible to obtain fluid. Although headache and vomiting were present no cranial nerve paralyses or optic neuritis developed during the nine weeks. From the start wasting and spasticity of the lower limbs were unusually well marked. Dr. Lait reported the following pathological findings. The pia-arachnoid was very congested and dry,

and there was some flattening of the convolutions over the surface of the cerebrum, but no exudate was found. The base of the brain, however, showed a thick, greenish-yellow exudate in the regions of the cisterna interpeduncularis and the cisterna magna. The rest of the base of the brain was free from exudate. All the ventricles of the brain were dilated and filled with a turbid fluid. The ventricular walls were hyperaemic, with adherent masses of a fibrino-purulent exudate. There was softening of the brain tissue around the ventricles. The hydrocephalus was due to the blockage by the exudate of the foramina in the pial roof of the fourth ventricle. There were extradural and subdural haemorrhages in the dorsal and lumbar regions of the cord. A purulent exudate in the pia-arachnoid extended practically along the whole dorsal and lumbar regions of the cord, especially on its posterior aspect. Dr. Lait said that infection in these cases was spread by the blood stream rather than directly through the nasopharynx. He mentioned the view of Carnegie Dickson that ventricular infection often preceded that of the meninges. The causative organism, in this case, had been frequently isolated from the cerebro-spinal fluid, but no ventricular puncture had been made.

The PRESIDENT did not consider this a typical case of cerebro-spinal meningitis either clinically or pathologically. He discussed the spread of the meningococci from the nasopharynx to the brain, and thought there was a bacteriaemia rather than a septicaemia. Dr. H. G. WESTROPP said he had thought at first that the child was only suffering from influenza. She had complained of a headache first and had later vomited. The next day the child was somewhat better, but after two days she became worse, a rash developed, and she complained of pain in her feet, which were very tender. Dr. V. M. SYNGE said he thought the failure of treatment in this case was explained by the pathological findings of internal hydrocephalus, as the serum was not able to get at the seat of the trouble. He referred to Sir James Purves-Stewart's suggestion that in these cases the ventricles should be tapped, and the serum then injected into the ventricles, and also the treatment by tapping the cisterna magna. Dr. W. M. CROFTON thought an autogenous antigen should have been used in this case as being more powerful than serum. Dr. C. MURPHY said that he always injected fresh serum as well as antimeningococcic serum.

Etiology of Cancer.

Dr. JOSEPH T. WIGHAM read a paper on the cause and cure of cancer, dealing with the history of investigations into its nature and causation. Cellular overgrowth might be due to a stimulation of growth or to the removal of an inhibition, and various points of evidence were submitted. Predisposing causes were next considered, including chronic irritation, misplacement of cells or tissues, heredity, and parasites. The most effective of the chemical substances which had been regarded as chronic irritants were those which had a solvent action on fats and lipoids, and much work had been performed on these tars and oils, and on the effect of injecting such substances as Sudan III. The work of Gye and Barnard had revived interest in the possibility of a true living virus being the cause of tumours, but their results had been contested. It seemed also that cancer could be induced in rats by feeding them with the larval forms of several round worms and flukes, and cancer of the liver in man, and possibly of the tongue and oesophagus, had also been attributed to an infection with worms. Passing to the epidemiological investigation of cancer, Dr. Wigham said that Sambon in Italy, other investigators in Holland, and the Health Committee of the League of Nations, as well as other workers elsewhere, had all contributed information showing the variable incidence of cancer; this might lead to further light being thrown on the environmental conditions in which cancer most frequently arose.

The PRESIDENT said that he did not think that a cure would ever be obtained for cancer until its etiology had been discovered. In almost all cases of cancer there were two possible causes. One was its production by an irritating substance or substances; yet many people developed cancer who were never exposed to irritating substances. The other cause was some factor which was apparently inherent in the subject himself. The President believed that there was a third factor, as yet unknown, and he thought that it was a failure to discover this factor which accounted for the inability of some workers to get good results in treatment while others seemed to be more successful.

Dr. W. M. CROFTON referred to the work performed by the Laytons in connexion with sarcoma in rats, which had never been reproduced or refuted, and mentioned that some workers claimed to get good results from putting patients on a diet free from fat-soluble vitamin.

Dr. A. R. PARSONS could not agree with Dr. Wigham that the modern treatment of cancer by radiation was not much better than the old method of treatment by caustics. He thought that in x-ray treatment something much more potent than the old cures was being employed, even though the disappearance of tumours after x-ray treatment was only temporary.

Dr. W. SIEVENSON said that the difference between radiation and the old method of treatment by caustics was that paste killed everything with which it came in contact, and radiation had some selective action. The effect of radium in some cases was extraordinary. He mentioned a case of cancer of the tongue in which, after three days' treatment, the lump had almost disappeared. Radiation differed in its effects in different parts of the body. In some cases healing was stimulated by radiation. He referred to a case of a septic tumour of the breast, in which radiation had been given; the breast had been removed, and the skin had healed by first intention. He thought in some cases surgeons would be able to do a great deal more than they did if the patients were treated by radiation first. Sepsis had much to do with the causation of malignant conditions, and anything which prevented it would help in curing cancer.

Pathology of Lymphosarcoma.

Dr. J. E. DEALE read notes on a case of lymphosarcoma; Dr. J. T. WIGHAM demonstrated specimens. At the *post-mortem* examination it had been found that in and about the head of the pancreas and extending up into the hilum of the liver were several rounded masses up to the size of a walnut, and fairly easily separated from the surrounding tissue. These resembled enlarged lymph glands, and were dead white in colour, with a few vessels or slight haemorrhage. The liver was large, weighing 8 lb., and had a rather coarsely lobulated appearance of the cut surface. Microscopically the liver tissue was divided into masses roughly equivalent to individual lobules, by a tissue composed of a few fibres, a considerable number of large cells with large darkly staining and occasionally multiple nuclei, and a great number of small round cells. The cells of the liver tissue showed regeneration, having large, and occasionally multiple, nuclei. This appearance, although not quite uniform, was that of the greater part of the organ. The spleen weighed 25 oz., and was much congested; the surface showed a number of knobby projections, some of which appeared to be infarcts, composed mostly of necrotic material, with much surrounding haemorrhage. One or two whitish masses were probably tumour growths. The more healthy splenic tissue showed large blood spaces, with much blood. The changes in the spleen were evidently mostly those of chronic congestion, due to the condition of the liver, and perhaps also to the pressure of tumour masses on the splenic vein. The condition was probably one of a diffuse lymphosarcomatous infiltration of the liver, with outlying development in lymph glands.

The PRESIDENT said that the liver was about two and a half times the normal size, apparently due to the diffuse nature of the tumour throughout it. Dr. J. LAIT mentioned a somewhat similar case in which there had been an enlargement of glands about the head of the pancreas. The liver, however, had been free from tumour deposits, whereas the spleen was greatly enlarged by a diffuse sarcomatous growth. It was also a case of lymphosarcoma, but he had considered it primary in the glands with secondary manifestation in the spleen. Dr. A. R. PARSONS said it was very unusual to find such a marked polymorphonuclear leucocytosis in a case of lymphosarcoma.

Reviews.

GASTROSCOPY.

Practical Gastroscopy[1] is the title of a monograph by Dr. JEAN RACHET of Paris, translated into English by Dr. IMIANITOFF of Brussels. After a short introduction the subject is surveyed from the historical aspect, and it is astonishing to find what an amount of work has already been done; the extent of the literature is shown by the annexed bibliography. Most of Rachet's observations were made in Dr. Bensaude's clinic at the Hospital St. Antoine, Paris. A special type of instrument is fully described, and the exact method of introducing it into the stomach; this evidently calls for a considerable amount of care and skill, and, even so, in many cases the examination cannot be completed; in a series of sixty consecutive cases failure occurred in fifteen, owing to malformation of the mouth and neck or to psychic reactions aroused in the patient. The author also points out that great care must be used in selecting suitable cases, and that it cannot be looked upon as a routine method of examination. The results of gastroscopy are next described, and a final chapter deals with the conclusions that can be drawn.

In discussing the general principles involved it is admitted that gastroscopy is an exceptional method of exploring the stomach, and comes after clinical investigations and x-ray examination, but it is claimed that it should come before an exploratory laparotomy. It can only safely be carried out by carefully trained specialists, and although any positive evidence discovered is of value, a negative result is of no practical value inasmuch as the examination does not permit a view of the whole stomach.

The book is very well presented and contains many excellent diagrams, drawings, and reproductions of radiographs. All those interested in the subject will find it of considerable value from many points of view, and it brings the subject well up to date.

FIRST AID IN MATHEMATICS.

NOBODY doubts the value of the mathematical tool in scientific research; sooner or later, most people who do any intellectual work at all are brought up against some equation or formula, and many of them wish to understand how these formulae are constructed. Hence there is a steady demand for introductions to mathematics. Many great mathematicians have tried to supply the demand. In England, De Morgan, Clifford, and Whitehead all tried their hands, and the name of less famous men who have written introductions to mathematics is legion. Messrs. Caradog Jones and Daniels are the latest interpreters between the professional and the amateur. There is a certain analogy between the study of a language and the study of mathematics, and perhaps some disappointment would be saved if this were realized. If one discovers the need of a knowledge of, let us say, Persian, to satisfy some intellectual curiosity (we purposely choose a language which few Londoners are in the way of learning colloquially) one will probably obtain a grammar, learn the alphabet and the elements of accidence and syntax, and then tackle an easy book with a translation. What nobody will expect is, by reading a grammar, to become a master of the whole Persian literature or to undergo so strange a metamorphosis as to be turned into a "Persian." But many people do seem to expect that the perusal of a manual ought to make them free of the whole literature of mathematics and, finding this is not so, are apt to conclude that mathematics are "beyond them." In order to encourage such readers, the tendency of modern introducers is to illustrate their arguments upon data likely to interest particular classes of investigators. Many such books have been written for chemists, and Dr. W. M. Feldman recently wrote one for medical men. Messrs. Caradog Jones and Daniels have had specially in mind persons interested in economics and statistics. Their little *Elements of Mathematics*[2] can be recommended as a quite readable introduction. To medical readers the last part of the book is not of special interest and, for most readers, the first three chapters are perhaps a trifle diffuse. The wording of page 112 is, we think, open to criticism; it is best to restrict the use of the term "convergent" to series consisting of an infinite number of terms. It is, however, very easy to criticize such a book and very hard to write one. We think this is essentially a good book, and can recommend it.

THE FIVE SENSES.

IN *Les Cinq Sens*[3] Dr. CABANÈS has gathered together an immense number of notes and anecdotes about the senses of hearing, taste, sight, and smell. The curious customs of sundry tribes of men, ancient and modern, which are described, are connected not only with the five senses, but also with all the organs accessory to each. For the sense of touch the reader is referred to an earlier volume,[4] in which, however, not much is said about the actual sense of touch, though many pages are devoted to the hands. The use of fingerprints in the identification of criminals is mentioned, its origin in the investigations of Francis Galton, and the methods by which the prints are obtained. To be left-handed is said to be a sign of inferiority, but Dr. Cabanès urges the cultivation of ambidexterity, notwithstanding a caustic remark of Malgaigne about an ambidextrous surgeon. On the subject of fingernails we are told that both Napoleon and his "torturer," Sir Hudson Lowe, were in the habit of biting their nails; and that in Spain a subject once set for a thesis in medicine was whether it was necessary for health to begin by cutting the nails of the right hand or of the left, and whether the thumb should be taken first or the little finger.

An account is given of the various disfigurements of the external ear by rings, plugs of wood, and what not; the removal of the ear in malefactors; the story of the narrow escape of Daniel Defoe from losing his ears in the pillory; and the discovery of artificial ears in Egyptian mummies. Under taste are included notes not only on strange perversions, such as those of the earth-eaters, of cannibals, and of polyphages, but also on beliefs in the properties, therapeutic or poisonous, of the saliva, the practice of amputation of the uvula in children by Persian barbers, and hypotheses about the use or otherwise of the tonsils in singers. In connexion with sight, methods of beautifying the eyebrows amongst the Romans by joining them together by pigments are mentioned; and there is a note to the effect that the Patagonian woman goes to the other extreme by practising epilation of the eyebrows. About the nose many anecdotes and superstitions are recorded. Thus it appears that M. Bernard attributes to the size of Zola's nose the invention of a language of smells in that author's novels. English readers may be somewhat surprised at some of the customs Dr. Cabanès states to exist in this country. Thus English coquetry is said to be gratified by a hairdresser who sews hair of an approved shade into the edge of the eyelids, and curls the new lashes with silver curling-tongs. In England, if you wish to scoff at anyone, you cry, "To nose, to nose" (*Au nez, au nez*). Perhaps there is some confusion here between the errand-boy's method of indicating contempt and the meaning of the vulgarism "to nose." And is there really a sect of English botanists called anthophages, whose habitual diet is cauliflowers and artichokes? However, with allowances for his difficulties with foreign customs, of which he has only hearsay evidence, Dr. Cabanès's books are an entertaining collection of wild and weird beliefs and habits.

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[1] *Practical Gastroscopy.* By Jean Rachet, M.D. Authorized translation by Fred. F. Imianitoff, D.Sc., B.A., M.R.C.S. London: Baillière, Tindall and Cox. 1927. (Demy 8vo, pp. xii + 146; 46 figures, 10 plates. 15s. 6d. net.)

[2] *Elements of Mathematics.* By D. Caradog Jones, M.A., and C. W. Daniels, M.A., M.Com. Liverpool: University Press of Liverpool, Ltd.; London: Hodder and Stoughton, Ltd. 1926. (Cr. 8vo, pp. viii + 240. 6s. 6d. net.)

[3] *Les Cinq Sens.* Par Dr. Cabanès. Paris: E. Le François. 1926. (Imp. 16mo, pp. 368. 10 fr.)

[4] *Les Curiosités de la Médecine.* Par Dr. Cabanès. Paris: E. Le François. 1925. (Imp. 16mo, pp. 330. 10 fr.)

URINARY SURGERY.

MR. W. K. IRWIN, F.R.C.S.E., has issued, with the title *Urinary Surgery*,[5] a new edition of his book *Surgical Urology*. The alteration has been made because it had been objected that the old title was ambiguous and did not define accurately the scope of the work. The book, though revised and enlarged, presents the same essential features. After dealing with anatomy and the examination of the patient, the seven chief symptoms of genito-urinary lesions form the subjects of separate chapters; special attention is paid to their causation and treatment. These chief symptoms have been grouped under the following headings: incontinence of urine, frequent micturition, difficult micturition, retention, pain, haematuria, and pyuria. In the author's opinion, and we are inclined to agree with him, this arrangement, although it necessarily leads to repetition and renders the book less convenient as a work of reference, corresponds more exactly with the clinical conditions encountered, and furnishes the practitioner with information of great practical value in his everyday work. Since it is intended for those called upon to weigh the pros and cons of operation rather than to carry out the operation itself, the details of operative procedure are omitted and only a brief sketch given of the surgical aspect of the subject. The book is clearly written and is practical in its outlook. The fact that it is occasionally dogmatic in its tone and that it avoids any discussion of theory or debatable matter is an advantage rather than a shortcoming.

THE EXCITABILITY OF NERVES.

PROFESSOR LAPICQUE'S monograph on excitability as a function of time[6] deals in the first instance with Du Bois-Reymond's law of excitation, which was based on the idea that the response observed in muscle on electrical stimulation is not dependent on the absolute value of the density of the current, but on the variation of its value from instant to instant. Although the law has been shown to be untrue and it is now known that the current excites, not by its variation, but by the first instants of its passage, Du Bois-Reymond's authority dominated for more than half a century. This lengthy usurpation is attributed by the author to a certain shyness exhibited by physiologists towards mathematics, and he emphasizes the importance of a familiarity with mathematical language if errors are not to remain undetected. Making an unstinted use of mathematical language, he passes in review the progress of thought from Du Bois-Reymond to Weiss, he discusses Pflüger's work on electrotonus, von Bezold on the latent period, Fick on the muscle of Anodon, Brucke on curarized muscle, Engelmann on the contractions of the ureter, Hoorweg on excitation by condensor-discharge, and Waller's characteristic of excitation. In the second part of the work the quantitative data afforded by experiment are discussed, while the third part is devoted to theoretical considerations and an attempt to establish a physical theory of *electrical stimulation*, taking as a starting-point the conception of Nernst and ending with his own researches and his conception of chronaxy or excitability expressed as a mathematical constant of time.

The main object of the book is indeed to explain chronaxy, and in the fourth part the author has given an account of the subject in language which can be comprehended by the non-mathematical. When a progressive current, uniformly increasing in intensity, is led into a muscle, the relation between the intensity and the duration of the stimulus, calculated at the threshold of contraction, can be expressed by a curve of definite form, the abscissa marking the duration and the ordinate the intensity. Beyond a certain duration the two magnitudes become independent, the intensity remaining constant whatever the duration of the stimulus, and the liminal intensity being represented by a straight line parallel to the abscissa or axis of time. Lapicque calls this intensity the rheobase. With currents of shorter duration the intensity and the time are definitely related; the shorter the duration the greater the intensity required to reach the liminal contraction and the steeper the curve. Now the relation referred to differs in different muscles, but it is found that the curves have the same form, and by adjusting the size of the diagrams the curves of two different muscles—for instance, the rapidly contracting voluntary muscle and the slowly contracting smooth muscle—can be made to coincide. In this case the abscissa or axis of time will indicate two series of durations, the unit of time employed for the rapidly contracting muscle being necessarily much smaller than that for the smooth muscle. If, now, a definite point in the curve is taken (Lapicque takes the point corresponding to twice the rheobase), the two readings on the abscissa corresponding to the ordinate of the point furnish a measure of the relative excitability of the muscles, or their chronaxy.

Lapicque mentions many directions in which the determination of the chronaxy may be employed in research. For instance, the auricular and ventricular myocardium exhibits a definite chronaxic relation to the auriculo-ventricular bundle, and poisons which affect the transmission of excitation between auricle and ventricle have a graduated activity corresponding to the chronaxy. It appears that variations in the dimension of the rheobase afford a means of studying the effects of poisons on the muscle. Further, the notion of chronaxy is applicable not only to the excitability of muscle, but also to that of every species of vital tissue.

NOTES ON BOOKS.

WISDOM, born of long experience and careful observation, is so rare in these days when the majority of our youth are being hurried along by short cuts to the acquisition of a specious knowledge, that its utterance is sure to be received with general acclamation. It is not surprising, therefore, that Dr. ROBERT HUTCHISON has been compelled to arrange for a second edition of his *Lectures on Dyspepsia*[7] only a couple of years after the original publication of the volume. There are few problems so puzzling to the general practitioner as the diagnosis of chronic abdominal disorders, and there are few books that will be so helpful to him as the present volume of lectures. We feel sure that all who read it will be grateful to the author.

Mr. J. W. N. SULLIVAN has two gods. Their names are Relativity Theory and Quantum Theory. In *Gallio, or the Tyranny of Science*,[8] one of the series of *jeux d'esprit* published under the general head "To-day and To-morrow," Mr. Sullivan sets forth his religion. We gather that his gods have the merit of being incomprehensible by the multitude, and that their origin displays the loftiness of human imagination. It appears also that Beethoven was an angel of light, while Freud is a minion of the Prince of Darkness. The idea that there is a conflict between science and art or mysticism rests upon an old-fashioned conception of the status of physics. Out-of-date science leads to conclusions which are depressing to the artist or the poet. The conception that the real universe is a four-dimensional world of point-events with a certain minimum amount of structure breaks up old habits of thought and rouses enthusiasm in the soul of the artist. As the conception of "purpose" in the universe seems to suppose a process in time, it may be a totally irrelevant idea when applied to reality. Could anything be more satisfying to a poet? Especially when he remembers how little we know of the possibilities of development of the human consciousness. After saying on one page that the proper attitude to-day to man's place in nature is one of bewilderment and humility, Mr. Sullivan tells us on the next that he has shown that the philosophy which regards man as a meaningless accident in an alien universe receives no support from modern physics. Unfortunately, however, neither philosophy nor modern physics seems to give Mr. Sullivan an answer to his problem. All we learn is that a conclusion "cannot be transcended by a logical process, but only in virtue of a mystic experience." The old materialistic outlook, says Mr. Sullivan, is still active in many branches of science; but in the stuff of our ordinary experience, such as psychology, we do wrong to accept the obviously absurd for fear it cannot be as silly as it looks.

[5] *Urinary Surgery*. By William Knox Irwin, M.D., F.R.C.S.E. Second edition, revised and enlarged. London: Baillière, Tindall and Cox. 1927. (Cr. 8vo, pp. viii + 271. 10s. 6d. net.)

[6] *L'Excitabilité en Fonction du Temps*. Par Louis Lapicque, D.M., D.Sc.Paris, LL.D., D.Sc.Oxford. Les Problèmes Biologiques. Paris: Les Presses Universitaires de France. 1926. (6 × 9½, pp. 371; 79 figures. 45 fr.)

[7] *Lectures on Dyspepsia*. By Robert Hutchison, M.D., F.R.C.P. Second edition. London: E. Arnold. 1927. (Cr. 8vo, pp. 200. 6s. net.)

[8] *Gallio, or the Tyranny of Science*. By J. W. N. Sullivan. To-day and To-morrow Series. London: Kegan Paul, Trench, Trubner and Co., Ltd.; New York: E. P. Dutton and Co. 1927. (Fcap. 8vo, pp. 96. 2s. 6d. net.)

A great deal of psycho-analysis, he thinks, is so silly that only people deficient in common sense and lacking in a sense of humour could have invented it. From this it will be seen that Mr. Sullivan, as a priest of the new religion, does not feel bound to adopt the attitude of bewilderment and humility.

A manual on the *Principles of Physical Chemistry for Medical Students*[9] has been prepared by PHYLLIS KERRIDGE, M.Sc., who is an assistant in the department of physiology and biochemistry at University College, London. Physical chemistry is a little incongruous to the harmonic group of studies connected with biology, but yet is an essential requisite to medical education. The aim of the author, in recognition of this, has been to gauge carefully what is most necessary as well as sufficient for the medical student's purpose, and to save him from wandering farther afield from his main occupation than necessary. In this aspect the volume has been ably prepared; there is no lack of explanation nor any superabundance of words, and the book appears to give the student a very high rate of return for his effort of study.

Under the title of *The Fifth Avenue Hospital Clinics*[10] are collected reprints of articles previously published by members of the staff of this hospital in New York. The volume also includes informal addresses read at meetings of the staff in 1925.

Lovers of Surtees and Beckford will find equal pleasure in reading *Letters on Hunting and the Management of Hounds*[11] by "Scrutator," a well known west country squire, by name K. W. Horlock, who for many years was master of foxhounds. The book is full of hints on the management of hounds, and contains all that information which only one who has practical experience of mastership can furnish. It is admirably written, and is sprinkled with amusing anecdotes. In short it is a book that should be in every hunting man's library.

[9] *Principles of Physical Chemistry for Medical Students.* By Phyllis M. Tookey Kerridge, M.Sc., A.I.C. With an introduction by Professor A. V. Hill, M.A., F.R.S. Oxford Medical Publications. London: Milford, Oxford University Press. 1927. (Cr. 8vo, pp. xiii + 134; 22 figures. 5s. net.)

[10] *The Fifth Avenue Hospital Clinics.* First Series. New York: P. B. Hoeber, Inc. 1927. (Med. 8vo, pp. xiii + 336; 67 figures. 6 dollars.)

[11] *Letters on Hunting and the Management of Hounds.* By "Scrutator." Second edition. London: P. Allan and Co. 1926. (Demy 8vo, pp. xii + 308; illustrated. 12s. 6d. net.)

PREPARATIONS AND APPLIANCES.

Anti-gas-gangrene Serum.

AN anti-gas-gangrene serum (W) (*B. welchii*) has been prepared by Messrs. Burroughs Wellcome in view of the importance attaching to the presence of the causative organism of gas gangrene in some cases of peritonitis and acute intestinal obstruction. During the war the prevention and treatment of gas gangrene was, of course, a matter of everyday importance, and promising results were then obtained with serums. Suitable doses of the present serum are 80 c.cm. intramuscularly or 40 c.cm. intravenously.

VICHY, AND ITS WATERS.

BY

SIR JAMES BARR, M.D.

VICHY is situated near the geographical centre of France. The medicinal properties of its waters have been known from time immemorial, but the first successful impetus to its popularity was given by Napoleon III, who, with the Empress Eugénie, made frequent visits for treatment from 1861 to 1866. Since then the town has steadily grown in size and importance, and it is now the most popular health resort in Europe. Over 130,000 invalids come here for treatment every year—of these a very considerable number have paid several previous visits.

We may now inquire what solid foundation there is for this popularity. It is true that we find here all the amenities of civilized society, but these attractions are no greater, nor perhaps as great, as those to be found at many other health resorts. After careful observation one is forced to the conclusion that the great bulk of the visitors come seeking health or a restoration to health, and if they were disappointed they would not repeat their visits so regularly.

The town is situated on the right bank of the river Allier—a large and rapid stream; the domestic water supply is ample, potable, and is said to be about the best in France. There are forty mineral springs, but only about twelve are in common use. These waters are free, and are freely used, though a free gift is not always appreciated. However, everyone seems to take the waters religiously according to the prescription of his medical adviser. Almost on arrival everyone is advised to consult a local medical man, and it is difficult to get a bath of any kind at the Grand Thermal Establishment except on a medical prescription. This is a very wise precaution, as nothing could more readily detract from the reputation of the place than the indiscriminate use of the baths and waters. Vichy is well supplied with a large number of able medical men, to whom the success of the place is in no small measure due.

The Grand Thermal Establishment covers an area of nearly eight acres, and here baths of every description can be had. The mechano-therapy department is the best equipped that I have ever seen. The director, Dr. Haller, tells me that during the height of the season the clientele number 500 daily. This gives some indication of the number of damaged joints to be found in Vichy.

Dr. Félix Ramond of Paris in a recent article gives a glowing account of the mineral waters of Vichy, how they are formed deep down in the crust of the earth by the union of hydrogen and oxygen given off from the incandescent mass of metallic oxides. As the vapour gives off its latent heat it becomes condensed into water, which travels in various cracks of the earth to the surface, absorbing various salts in its passage. The waters must certainly start from a hot area as, notwithstanding all the cooling process in the transit, the Chomel source records a temperature of 109° F. on reaching the surface. Personally I am more interested in the physical and chemical properties of the waters than in their origin *in inferno*. There are forty-three million bottles of Vichy water exported annually. The chief sources for export are the Célestins, the Grande Grille, and to a less extent l'Hôpital. I presume these waters are more stable than some of the others, and are thus not so apt to alter in transit. For use at the source the Chomel is most frequently prescribed. I shall therefore deal exclusively with it. It is the warmest, the temperature being about 104° to 109° F., and is quite palatable. The composition in grams per litre is: sodium bicarbonate, 5.6; potassium bicarbonate, 0.35; lithium bicarbonate, 0.012; calcium bicarbonate, 0.36; magnesium bicarbonate, 0.07; ferrous bicarbonate, 0.001; sodium chloride, 0.57; sodium sulphate, 0.28; silicon oxide, 0.06; free carbonic acid gas, 0.97. The salts seem to be in an active state of ionization—anions and kations. The electric resistance is eighteen times less, and the electric conductivity eighteen times greater than ordinary tap water. The water is isotonic with the blood serum, to which it supplies an abundance of buffer salts. On this account the normal hydrogen-ion balance of the blood is easily maintained without any incessant strain on the regulative mechanism of the body. As there is an abundant supply of free ions in the waters, large doses should not be required; in fact, this is corroborated by the experience of the physicians, who find that repeated small doses are more efficient than one large dose.

The bipolar theory of living processes which has been long held by many, and which has been recently adopted by the great American surgeon Dr. Crile, is in harmony with what I have written. If Dr. Crile be correct, as I believe he is, that the brain is the positive and the liver the negative pole of the principal electric circuit of the human body, then the liver regains the importance which was formerly attached to it in the human economy. The preservation of the functions of the liver is very essential for health, and this object is well attained by the treatment at Vichy. The principal diseases which are amenable to the Vichy treatment are functional and organic disorders of the whole of the digestive and urinary tracts, diabetes, metabolic troubles, diseases of the spleen, gout, rheumatism, and different forms of arthritis, uterine troubles, and numerous skin affections.

As I am anxious not to overstate facts I have submitted this paper to Dr. Monod, one of the leading Vichy physicians, and he has not found any fault in it.

A large number come here every year to recuperate after the dissipations of the London season, and as the new Pullman service has brought Vichy within fourteen hours of London, still greater numbers are expected this year.

British Medical Journal.

SATURDAY, JUNE 11TH, 1927.

PUBLIC CLINICS AND MEDICAL TRAINING.

AT its meeting in April the Council of the British Medical Association, approving a report with regard to orthopaedic clinics, pointed out that one of the dangers attending the establishment of such clinics is "the withdrawal of a large number of cases of a special type from those hospitals in which medical education is carried on in connexion with medical schools, so adding to the difficulties of securing an adequate knowledge of such conditions among medical practitioners in general." Last month the Council of the Society of Medical Officers of Health adopted a report on the instruction of medical students in ante-natal conditions and infant hygiene, embodying the results of an inquiry it had made as to how the requirements of the General Medical Council with regard to such instruction, and examinations in respect thereto, were being carried out by medical schools and qualifying bodies. These facts are evidence of increasing anxiety as to the situation which is rapidly developing, or at least may easily develop, in connexion with the multiplication of county or municipal medical services and the limitations which these tend to place on the full training and experience of the medical practitioner, both before and after graduation, which is necessary for the well-being of the public. This anxiety is by no means premature. There are now no fewer than seventeen departments, spheres, or directions of clinical activity for which provision is made in this sectional way under the auspices of local authorities. Some of these cover an extensive field of medicine; and in some there has arisen the ominous and increasingly insistent suggestion that the public needs can best be met by authorizing the placing of responsibility for giving advice and treatment upon persons other than qualified and registered medical practitioners. For instance, we have heard it claimed that midwives are quite capable of dealing with ante-natal conditions; that school nurses, under the purely nominal supervision of a medical officer, may safely be left to treat what are called the "minor ailments" of school children; and that dentists, rather than medical practitioners, should be entrusted with the administration of certain classes of anaesthetics. The pretensions of some opticians, now being pressed with a good deal of parliamentary sympathy, are especially dangerous. They are asking that the State should officially recognize them and register them as being the most skilled, if not the only legitimate, practitioners in an extensive field of ophthalmic treatment, and that their certificates within this field shall be, under statutory compulsion, recognized by "any local or central authority or Government department in any part of Great Britain."

Two interlocked vicious circles are, in fact, being established. There is danger that medical students may be imperfectly instructed in some part of their work owing to the withdrawal of special types of case to the clinics of local authorities, and there is danger that it may become difficult properly to staff those clinics owing to imperfect training of medical students. There is danger that unqualified persons may be officially recognized in certain fields of medical work owing to alleged insufficiency in the supply of competent medical practitioners, and there is danger that a progressively smaller number of qualified medical practitioners will cultivate those fields owing to their remunerative clientele being seriously diminished by the official recognition of the unqualified persons. If Parliament, the Government departments concerned, the local authorities, and the powers within the medical profession are wise, however, it is not yet too late to avoid these dangers.

There is no pretence, of course, that a medical student, on passing his qualifying examination, has become a wise practitioner, or is specially skilled in any particular branch of his profession; but his training and knowledge should even then be such that he can safely undertake many kinds of medical and surgical work, that after relatively short further experience he can properly assume considerable responsibility in one or other of the local government medical services, and that he will be in a position fully to profit by increasing experience, whether in such service or in private practice. It is the business of the General Medical Council, so far as possible, to see that a suitable kind of training and the requisite degree of knowledge are secured to the student, and it is the business of the medical schools and examining bodies to give the training and test the knowledge in accordance with the requirements of that Council. In the year 1922 the General Medical Council prescribed a readjustment of the medical curriculum, to come into force at the beginning of the following year. In this readjustment, among other things, increased emphasis was placed upon sufficient opportunity being afforded for the study, both theoretical and clinical, of those subjects which are now so essential in connexion with the treatment centres of a local authority, such as ophthalmology, venereal diseases, orthopaedics and mechano-therapeutics, infectious fevers, anaesthetics, ante-natal conditions, and infant welfare. In any judgement upon present conditions it must be remembered that no qualifying examination based upon this readjusted curriculum can take place until next year, and that it is not unreasonable to expect that, as the result of the maturing of this course of study, recruits to the profession will be found thereafter to be more abundantly proficient in these respects. Time has now been given for the universities, schools, and examining bodies to adjust themselves to these requirements, and we understand that an inquiry by the General Medical Council as to how far this has been done is now almost completed. It is expected that the results of this inquiry will be made public either in November next or early next year. In view of this it is not surprising that the inquiries previously referred to as having been made by the Society of Medical Officers of Health should have met with a very partial response. It is not unlikely that the bodies of whom inquiry was made regarded this rather as the business of the General Medical Council than of that society.

It is unfortunately true that a perfect prospectus and syllabus may mask very imperfect educational methods; but it is also found that a prospectus which is open to adverse criticism is in practice not incompatible with really full and excellent teaching. However this may be, the requirements have been laid down, and proceedings are being taken to see that they are actually fulfilled. Where a municipal centre or clinic is being conducted within a teaching hospital there should be no real difficulty in the student being instructed at such a centre, under conditions which

will allow of the prime purpose of the centre being respected. Where the municipal or county provision is made elsewhere, it behoves the university or teaching hospital and the local authority to agree upon suitable facilities being allowed whereby the best use will be made of such material as is available for teaching purposes. Sufficient attempt has not yet been made in all cases to do either of these things.

The method of staffing such clinics as are not within teaching hospitals, and the use that is made of them for gaining post-graduate experience, are important alike to the public and to the profession. If they are staffed by whole-time medical officers, the experience which they afford is so far withdrawn from the sphere of private medical practitioners, and this has an immediate and adverse reaction upon the competence of such practitioners to deal with similar conditions among the general public. It is the policy of the British Medical Association that this work should, wherever possible, be done by the private practitioners of the locality under suitable arrangements and with the general administrative supervision of the medical officer of health; the character of the work is such that as a rule it can be done at least as effectively by such practitioners as by a whole-time officer. Where for some reason such an arrangement cannot be made, the practice of the clinics should certainly not be closed to such practitioners as wish to observe it. No organization can assist the making of such arrangements as these more powerfully than the Society of Medical Officers of Health, and it is to be hoped that, in the general interest, that society and its individual members will use their influence, both to secure for teaching purposes the opportunities afforded by clinics, and to facilitate the private practitioner obtaining to the fullest extent the advantage of the occasions for gaining experience which they offer. In this way fields of practice which are at present threatened will be preserved to the profession, much to the advantage of the public health.

OPTICALLY ISOMERIC SUBSTANCES IN BIOLOGY.

ONE of the last, if not the last, of the contributions to current medical discussion made by the late Professor A. R. Cushny was contained in the Dohme memorial lectures delivered at the Johns Hopkins University School of Medicine in 1925. Early in the following year he died, to the great loss of scientific medicine. The Dohme lectureship was founded in memory of Mr. Charles E. Dohme, a member of a chemical firm in Baltimore, who, Professor Cushny said, in the preface to the volume in which his lectures have now been embodied,[1] was a man "of wide views and interests, who recognized the importance to industry of the advance of scientific investigation." The purpose of the lectureship is to promote the development of a more intimate relation between chemistry, pharmacy, and medicine, and it will be agreed that the choice of Professor Cushny as spokesman for pharmacology was singularly happy. Pharmacology, in so far as it is the handmaid of medicine, may properly be described as an applied science. Nevertheless, its roots are deep in the academic problems of pure chemistry and physiology, since its enterprises must ultimately be directed towards relating the physiological action of substances to their chemical constitution.

Professor Cushny took for his subject the specific action of optically active isomers. No conception of the structure of matter has so enlightened and confirmed confidence in the atomic theory as has that of the spatial orientation of valency forces and its corollary the optical activity of the asymmetric carbon atom. The success with which it has been applied to the most complex problems in chemical constitution has lifted the atomic theory from the position of a convenient language for the expression of reaction to a plausible projection of the actual structure of matter in space. The phenomenon, at the same time, occupies a unique place in the chemistry of living systems, since it marks the one complete failure in the attempt of the organic chemist to imitate the activities of living matter. Whilst the factories of the living cell continue to exhibit a high degree of selectivity in the elaboration of optically active forms the chemist has failed completely to effect an asymmetric synthesis of a stereo-isomer.

This failure is fundamental to physiology, as Pasteur recognized when he argued from the asymmetry of vital activities a fundamental asymmetry of life itself. Professor Cushny took up the story and reviewed the evidence, now more complete, for asymmetric selectivity in biochemical phenomena, in the metabolism of the whole organism, in the pharmacology of isolated organs, and in the field of enzyme activity. He pointed out that whereas the proofs of biological specificity are overwhelming, it is by no means certain that the ability of living systems to discriminate between optically active forms is absolute. On the contrary, the distinction probably represents only a relative difference in the velocities of controlling chemical processes, though these are, in general, so great as to lead to pronounced physiological contrasts.

The examples to which the fullest consideration was given are those that were disclosed by Cushny's own work on the pharmacological action of the hyoscyamines, hyoscines, and adrenalines. The results are of great interest alike to the biologist and to the chemist. In conclusion, Professor Cushny tentatively approached the fundamental problem of the physiological significance of these phenomena. Time will probably justify his inclination to find their explanation in some manifestation of asymmetric surface forces, although no clear case has yet been demonstrated of a specific asymmetric adsorption. The experiments of Porter on the selective staining of wool by optically active dyes have been questioned and require confirmation. The analysis which Professor Cushny made of the relation between the constitution of the drugs studied by him and the possible chemical characteristics of their receptors in the cell are of real interest when read in the light of recent views of the chemical structure of surfaces and the orienting effect of surface forces.

Professor Cushny's lectures breathed the wide vision and deep insight of a great investigator of vital phenomena.

THE new form of death certificate which was, by the courtesy of the Registrar-General, discussed by the Medico-Political Committee of the British Medical Association at its last meeting, is now ready, and will come into use on July 1st. This will entail certain modifications in the procedure of death certification, designed to ensure greater accuracy in the national record of causes of death. A full account of the details and object of the new form will be given in an early issue of the BRITISH MEDICAL JOURNAL.

[1] *Biological Relations of Optically Isomeric Substances.* By Arthur R. Cushny, M.D., F.R.S. London: Baillière, Tindall and Cox. 1926. (Demy 8vo, pp. ix + 80; 4 figures, 7 tables. 9s. net.)

EXPERIMENTS ON DOGS.

A MEMORANDUM by the Medical Research Council on the Dogs' Protection Bill has been issued as a White Paper.[1] In the first paragraph the Council recalls that it is a body charged with the responsibility of applying moneys provided by Parliament and from other sources to the promotion of medical research, and states that the proposals of the bill "would place an insuperable and permanent barrier across some of the chief paths of progress in this work." It then proceeds to set out special reasons which make it necessary that dogs should not be excluded from that service to mankind in which animals have so greatly aided the advancement of medical science. "It is," the memorandum states, "beyond dispute that the present-day science and art of the physician and surgeon have been founded in large part upon the experimental use of dogs in the past. It has been by the use of dogs that the chief foundations of our knowledge of the processes of digestion, the circulation of lymph, the work of the heart, and the circulation of the blood have been laid. Large and essential parts of our knowledge of the science of feeding are based upon the results of trials made in the feeding of dogs. The work of the surgeon, whether upon the brain and spinal cord, or upon the intestine, or upon the chest, has been made possible by experiments upon dogs. Methods of life-saving, as by the transfusion of blood, or in the resuscitation of the apparently drowned, have been worked out chiefly by trials with dogs. Important parts of our knowledge of anaesthetics and their safe administration, and of the actions of many kinds of drugs, have been gained by the experimental use of dogs. There is no medical practitioner who does not use in his daily work information which he owes to experiments on dogs. If he is to understand the meaning of such common symptoms as palpitation, breathlessness, giddiness, fainting, and many other forms of distress, if he feels a pulse or listens to the chest, if he transfuses his patient with blood, or employs rectal feeding, he is making wholesale use of knowledge derived from experiments upon unconscious dogs." In the next paragraph the reasons which have made it necessary, and will always make it necessary, to use dogs for some of this experimental work are set out. Mention is made first of considerations of size, and it is observed that in this respect the only animals giving a practical alternative are the sheep, the pig, the goat, or the ape. The dog, unlike these animals, can be kept completely healthy and comfortable in a laboratory, and is not afraid of close and friendly observation. His long domestication has assimilated his natural diet to that of man, and many of his bodily structures provide the nearest approximation among available animals to those of man. The study of diet, and the collection and chemical examination of the excreta, can be carried out readily in the dog, and the results are in the main directly applicable to man or the child. Dogs are, therefore, used for certain experiments, though only in a small minority of instances; but it is plain, the Medical Research Council holds, that the selection of the animal most fitted for the special purposes in view must be left to the discretion and skilled knowledge of the workers in medical science. The Council then goes on to give some instances of recent advances in knowledge due directly to experiments on dogs. In this connexion it refers to rickets, disorders of the teeth, the effects of alcohol, to the study of diseases of the heart and circulation, and to diabetes. The members of the Council, speaking with knowledge—in the case of many of them with intimate knowledge—of the actual conditions under which experiments upon dogs are performed in this country, assert confidently that in the vast majority of such experiments no pain at all is inflicted. The experiment or the observation is either made wholly under an anaesthetic and death produced without awakening, or the experiment is a feeding experiment. In a small minority of cases, where for special reasons and under a special certificate recovery after operation is allowed, there is rarely any condition of pain as distinguished from discomfort. A paragraph of the memorandum is devoted to the benefit to dogs derived from research; special reference is made to the study of distemper, to the prevention and treatment of spirochaetal jaundice, and piroplasmosis (malignant jaundice) in dogs, by which the lives of practically 100 per cent. of affected dogs are saved, while 80 per cent. die if left untreated. Moreover, the veterinary surgeon has gained from the experimental studies of physiologists the knowledge that dogs can be deeply anaesthetized with safety, so that operations on valued dogs can now be performed painlessly which were previously done on the conscious animal. The kind of propaganda by which most of the support gained for the Dogs' Protection Bill in and out of Parliament has been obtained is condemned; statements are made which are grossly misleading, and conceal the central fact that operational experiments are only performed under deep anaesthesia, and with the strictest precautions for the avoidance of suffering; the enormous diminution of bodily pain and mental suffering which the experimental use of dogs or other animals has already brought about is persistently belittled or denied. In this way absolutely groundless distress has been caused to very many unselfish right-minded men and women who have believed the tales or suggestions of cruelty made by the propagandists. Finally, the memorandum deals with the danger that stolen dogs may be sold for the purposes of experiment; this risk, it is pointed out, would become negligible if some of the many thousands of stray dogs that are unclaimed or abandoned were made available for painless experiment. The Council therefore urges that the Dogs Act should be amended by the repeal of the section which prevents the police from transferring stray and unsaleable dogs remaining unclaimed by any owner to a suitable authority established by the Home Office for the purposes of *experiment* under the existing law and Home Office regulations. It is reported that 50,000 dogs are destroyed annually in London under police regulations; these dogs either have no owner or their owners do not care enough about them to make inquiries when they are lost. The law should be so altered as to allow part at least of the now useless annual massacre of dogs to be turned to the permanent benefit of mankind and other animals. The memorandum is signed by the Earl of Balfour as chairman, by Lord Mildmay of Flete as treasurer, by Sir Walter Fletcher as secretary, and by all the other members of the Medical Research Council. It will be seen that the Medical Research Council is in complete agreement with the British Medical Association, and endorses the arguments it has put forward.

[1] The memorandum is addressed to the Lords of the Committee of the Privy Council for Medical Research (the Lord President of the Council, the Home Secretary, the Secretary for Dominion Affairs, the Secretary for the Colonies, the Minister of Health, and the Secretary for Scotland). It is a *command* paper (Cmd. 2859) presented to Parliament by the Lord President, and can be obtained from H.M. Stationery Office or through any bookseller. Price 2d. net.

INHERITANCE OF TUBERCULOSIS.

DR. PERCY STOCKS, medical officer of the Galton Laboratory at University College, has now published in the current (April) number of the *Annals of Eugenics* the fresh evidence obtained at the laboratory on the inheritance factor in tuberculosis. The work on which this paper was based was done partly by Professor Karl Pearson, but mainly by Dr. Stocks. Its object was to test views expressed by Sir Arthur Newsholme and others in support of Robert Koch's statement that "predisposition is merely proximity to the bacillus," and to strengthen the case for the hereditary

factor in tuberculosis. Carefully collected family histories of over 4,000 consecutive patients who attended the tuberculosis institutions in Belfast from 1914 to 1917 were examined, and the prevalence of active tuberculosis in Belfast and among brothers and sisters of patients attending tuberculosis dispensaries was ascertained in sex and age groups. From his figures Dr. Stocks considers that it is justifiable to draw the conclusions that at all ages after 10 years there is a fraternal correlation of the order 0.25 to 0.3; that these coefficients may be regarded as minimal values, and do not represent the full hereditary intensity; and that the coefficients show no consistent tendency to decrease after 10 years of age with advancing age of the pairs, as would be expected to happen if they arose from infection or environmental causes. During the first ten years of life Dr. Stocks thinks that an additional factor must be sought. He admits that this factor might be direct infection between young children, or a common source of infection in the home. The high correlations in early childhood lend support to the efforts that are being made in many European countries to protect infants in tuberculous families from sources of infection during their earliest years. But, as a convinced believer in the inheritance factor, Dr. Stocks advances another explanation, based on the fact that when a young child is reported tuberculous the tuberculosis officer is easily able to examine all its brothers and sisters; whereas with adults the officer has to trust to statements by the patient, who may have very imperfect information on the condition of his siblings in their childhood. While refraining from discussing Dr. Stocks's figures, we may perhaps remind our readers that French observers have been busy with investigations tending to show that a filter-passing virus of tubercle can be transmitted through the placenta.

THE OTHER USES OF X RAYS.

THE last social evening of the session was held at the Royal Society of Medicine on June 3rd, when Sir James and Lady Berry again received the Fellows and guests. The feature of the evening was a short lecture by Dr. G. W. C. Kaye, superintendent of the physics department of the National Physical Laboratory, on the non-medical uses of x rays. He prefaced his subject with a cartoon which he had unearthed from *Punch* of January, 1896, immediately after the publication of Roentgen's discovery. The cartoon showed John Bull confronting the then Kaiser, above a legend which ran: "Thanks to the discovery of Professor Roentgen, the German Emperor will now be able to obtain an exact photograph of a backbone of unsuspected size and strength"—a happy prophetic touch. Another cartoon, in 1923, showed a group of very transparent-looking American gentlemen, on whose persons, however, and among whose belongings certain dark shadows were revealed which had very much the shape of flasks and bottles. Dr. Kaye began the more serious part of his address by exhibiting a copy of the now historical radiograph of the hand taken by Mr. Campbell Swinton at the London Camera Club in 1896, with an exposure of twenty minutes. The skeleton was just discernible. This radiograph was, we believe, that reproduced in the issue of this JOURNAL for January 25th, 1896, shortly after Professor Roentgen had sent to Professor (now Sir) Arthur Schuster, who then occupied the chair of physics in Manchester, the first radiograms to reach England. It must be admitted that, as Dr. Kaye declared, the bones of the hand were barely discernible, but the print, it may be said without any desire to play upon words, foreshadowed the immense advances that have since taken place. How great they are is evidenced by the fact that sharp images of bones are now obtainable with an exposure of 1/100th of a second. One minor application of x rays, Dr. Kaye continued, is in the study of such fragile structures as flowers and shells; here, of course, very "soft" rays, excited by a low voltage, must be used. X rays can also be used to test the genuineness of jewels. Dr. Kaye said that a friend of his recently picked up in Oxford Street what he took to be a paltry trinket, but on subjecting it to x rays he found that the stones were genuine diamonds, for they appeared transparent, instead of opaque, as imitation gems would have done. To complete the story it should be added that he immediately took his find to the police station! The rays are now being applied in Scottish coal fields to determine in samples of coal the proportion of ash. Streaks of ash are shown clearly in a section of coal under the x-ray beam. Large quantities of ebonite are now used for wireless purposes, and it is important that the ebonite should be free from mineral matter; x rays show whether this is so or not. The rays are being applied to the testing of golf balls, to discover whether, as sometimes happens, the core is out of centre; the balls are rolled slowly before an x-ray apparatus, and any distortion of the core is immediately detected, thus preventing subsequent foozles or flukes. The x-ray picture of the electrically heated jacket of the air pilot shows the site of any broken connexion. Clinical thermometers are tested to determine the nature of the glass. They are placed on trays and passed through the x-ray beam, and the least expert watcher can pass the lead glass and reject the soda. The rays are also used in munition factories to detect, for instance, flaws in hand grenades and similar material. It can be shown by x rays whether the parts in a wireless valve are assembled with absolute correctness, and another use is the detection of knots and worm-holes in wood used in aeroplane construction. Art as well as industry is served by x rays. Dr. Kaye spoke of the assistance which x rays can give in testing the genuineness of old masters and of antiques generally. In the early ages of painting there were only eight or nine pigments, all of which are very opaque to x rays, whereas the modern pigments which the chemist has provided are very transparent. Not only can fraud sometimes be detected in this way, but in a genuine old work interesting revelations may be made, and various tentative sketches be brought to light which the artist evidently thought he had erased from the canvas. Dr. Kaye touched upon the science of x-ray spectrometry, and the addition which x-ray analysis had made to our knowledge of the atomic structure of the solid state of matter. The rays had demonstrated, for example, that almost every solid substance in nature showed crystalline form, including such unlikely materials as rubber, cellulose, the tooth, and the finger-nail.

THE BIRTH OF A PROFESSION.

IN an address delivered a short time ago to the Institute of Chemistry of Great Britain and Ireland, on the growth of the profession of chemistry during the past half-century, Mr. A. Chaston Chapman said that fifty years ago scientific or pure chemistry was not always on the best of terms with professional chemistry. Among those who followed chemistry as a profession or means of subsistence certain reprehensible practices were quite common, such as issuing laudatory reports for unrestricted publication, and touting. Moreover, much of the practice of the day was in the hands of men with insufficient training, so that work under such important statutes as the Sale of Food and Drugs Act of 1875 often found its way to persons with a meagre knowledge of chemistry. The foundation of the Institute of Chemistry in 1877 was the first step towards placing the profession of chemistry on a proper basis. It established professional cohesion; it offered the public a means of distinguishing properly trained men from imperfectly

trained men; and it introduced a code of professional ethics. The result has been, according to Mr. Chapman, that the general average of income for chemists is better than the average in other professions. Mr. Chapman dwelt on the importance of the chemist to the State in the work of various Government laboratories, and in the administration of such Acts as the Food and Drugs Acts. He showed how important chemistry is in most modern industries. He insisted on the need for the private or consulting chemist. In this connexion, as a convinced believer in individual effort, Mr. Chapman deplored the tendency to stamp out the independent worker. He expressed regret that whole-time municipal chemists were replacing "outside" men, and that large, and even small, industrial concerns now frequently employed their own resident chemist. In conclusion, Mr. Chapman pointed out that chemistry is one of the basic sciences, which has profoundly modified almost every department of human activity, and has made happier the daily life of every individual.

FREE POST-GRADUATE EDUCATION.

THE Medical Society of the State of New York is offering graduate education, without cost, to every physician in the State. Dr. Charles A. Gordon, chairman of the Education Committee of the medical society, has recently published an account of the origin and objects of this movement.[1] In the belief that responsibility for graduate education rests on organized medicine, which should assume leadership in the solution of public health problems, the Medical Society of the State of New York decided to carry education to those who were unable to leave their homes. During the past two years clinical lectures and demonstrations have been given in fifty-one of the sixty-two counties of the State by fifty or sixty teachers from the larger cities. In return for this service the teachers receive "the thanks of the committee, travelling expenses, and a small honorarium." The whole of the costs are met by the medical society and the State Department of Health, which has borne most of the cost of the lectures on obstetrics and pediatrics. The lectures are given on the same day for six or more successive weeks in the spring and autumn, and occupy one to two hours. No attempt is made to train specialists; the object is to raise the standard of practice in the community. The medical society believes that the majority of disease conditions yield to clinical diagnosis, which is still the most important factor in the practice of medicine. Consequently comprehensive laboratory courses are not included in the schedule. Alliance with medical schools and county medical societies is sought, and the plan is considered possible wherever there are hospitals and men willing and able to teach. The success of the scheme has been shown by the excellence of the attendance; in some instances men have driven sixty miles to the lectures. The altruism of the Medical Society of the State of New York, and of the teachers who accept emoluments consisting mainly of gratitude, is worthy of note. In propositions for post-graduate education it has usually been assumed that the general practitioner will be ready to sacrifice, not only time, but money, in the attempt to improve his knowledge of disease. From the practical point of making a livelihood it is possible that the average practitioner may be doubtful whether the sacrifice is worth making, especially in view of the educational facilities offered by medical journals and by meetings of medical societies. Although it is generally held that what is worth having is worth paying for, yet the gentle art of advertisement teaches us that free distribution of a commodity may do much to popularize its use. Under skilful and enthusiastic organizers much might be done to redeem post-graduate education from failure. The experiment of the Medical Society of the State of New York in bringing free continuous education to the door of the general practitioner will be watched with interest.

[1] *Journ. Amer. Med. Assoc.*, April 30th.

INTERTRACTION.

A POPULAR remedy for boils is to "draw" them by applying a soap-and-sugar plaster; a copious welling-up of lymph from the subjacent tissues follows the application. Pondering over this phenomenon, Sir Almroth Wright surmised that "drawing" was possibly a not inappropriate designation for the process involved, and that the constituents of the plaster might actually exert traction on the lymph; he discovered that a solution of salt was as good a "drawing agent" as soap-and-sugar plaster, and thereupon instituted experiments on the intermingling of fluids, culminating in the practical application of hypertonic salt solution in the treatment of wounds, with which every surgeon is now familiar. Apart from this utilitarian result, there remained the theoretical problem of isolating and examining the supposed force of traction—or rather intertraction, since it seemed that the action must necessarily be reciprocal between the two fluids concerned. To the solution of this problem Sir Almroth addressed himself, planning a series of experiments of great simplicity and beauty, the descriptions of which will be found in the *Proceedings of the Royal Society*, B, vol. 92 (1921), and A, vols. 112 (1926) and 114 (1927). The thesis submitted to the test of experiment was that in the intermingling of a solution of salt with an albuminous solution of lower specific gravity, or with water, there comes into play, in addition to the forces of gravitation and diffusion, a third force *sui generis*—namely, "intertraction." The following experiment was regarded by Sir Almroth Wright as proving the existence of this force, and also its independence of gravitation. Two vessels, one containing strong salt solution and the other water, were connected by a syphon tube threaded with wick, the end of the tube dipping into the salt solution being closed with a tight cotton-wool plug. It was found that the water slowly passed into the salt solution, showing that the salt, provided that it were even lightly confined, exerted traction, and exerted it against the opposition of gravity. When an albuminous fluid was used instead of water, a more rapid and voluminous indraught of fluid into the salt occurred. Having thus shown that intertraction could not be explained as being merely a form of gravitation, it remained to show that it also differed essentially from diffusion, the only other physical force which effects the mingling of fluids. It was shown, by an experiment to be described, that intertraction is manifested in a manner totally different from that exhibited by diffusion. In diffusion the commingling is intermolecular and diffuse; in intertraction it takes the form of innumerable filiform fluid streams, which pass in both directions across the frontier of the contiguous liquids, can be rendered visible by suitable means, and have been compared by Sir Almroth to pseudopodia. A plug of cotton-wool soaked in an albuminous fluid stained with eosin was placed midway in a test tube; the lower compartment was filled, through a lateral opening, with a heavier saline solution, and the upper compartment with water. A rapid advance of coloured pseudopodia into the saline solution occurred, while the superjacent water above the plug remained free. In a companion experiment the salt solution was coloured instead of the plug, and in this case pseudopodia were seen advancing upwards from the surface of the former. Sir Almroth considered that diffusion could furnish no explanation either of the pseudopodial character or of the rapidity of the movement of inter-

penetration in these experiments, and that, as has been said, it was necessary to postulate a third force—intertraction—to explain the facts. Objection has been taken to this interpretation on the ground that at the moment of intermingling there may occur an interchange of salt and water between the two fluids, and that this would cause local changes in density, and thus, under the influence of gravity, initiate vertical currents such as would produce an appearance of pseudopodia. An experiment was therefore devised in which the production of these currents would be excluded. Three or four discs of filter paper infiltrated with an albuminous fluid coloured with aniline were placed one upon another between two glass slides, which were firmly clamped together and then immersed in a vessel containing saline solution of higher specific gravity than the albuminous fluid. By this arrangement vertical currents were excluded, but none the less coloured streamers radiated out horizontally from the edge of the discs. The above experiments, with many others of an analogous kind, are put forward by Sir Almroth Wright as demonstrating the operations of intertraction, and they furnish, in his judgement, conclusive proof of the existence of such a *vis operans*.

EDINBURGH ANNUAL MEETING: HONORARY DEGREES.

On the occasion of the Annual Meeting in Edinburgh of the British Medical Association the University will confer the honorary degree of LL.D. upon the following distinguished members of the medical profession: Lord Dawson of Penn; Professor Archibald Donald (Manchester); Dr. Charles E. Douglas (Cupar); Sir *William Hale-White*; Mr. Robert G. Hogarth (Nottingham), President of the British Medical Association; Dr. William Hunter; Professor T. H. Milroy (Belfast); Sir Berkeley Moynihan (Leeds), President of the Royal College of Surgeons of England; Sir John Herbert Parsons; Sir Humphry Rolleston (Cambridge); Dr. George Frederick Still; Mr. Wilfred Trotter; Sir Almroth Wright; Professor Vittorio Ascoli (Rome); Professor Jules Bordet (Brussels); Professor Harvey Cushing (Harvard University); Professor Charles L. Dana (Cornell University); Professor Knud Faber (Copenhagen); Professor Jan van der Hoeve (Leyden); Professor Otto Meyerhof (Berlin); Professor Otto Naegeli (Zürich); Emeritus Professor William S. Thayer (Johns Hopkins University); and Professor Théodore Tuffier (Paris). The ceremony will be held on Wednesday, July 20th, in the McEwan Hall.

LUNACY LAW AND ADMINISTRATION.

The Council of the British Medical Association, at its meeting on Wednesday last, had before it a draft report from its Committee on Lunacy and Mental Disorder dealing with the recommendations of the Royal Commission on Lunacy. The Council did not see its way to adopt the report in the form in which it was presented, and therefore did not come to an immediate decision. It instructed the committee to reconsider certain details of the report, and requested the chairman of the committee to circulate on its behalf the revised report to Representatives as a confidential document, in order that it may form the subject of a discussion at the Representative Meeting in Edinburgh next month. Among the references to the committee was an instruction to consider the situation that had arisen as the result of the findings of the jury in the case Harnett *v.* Fisher. The long-drawn legislation in this case was finally brought to an end by the decision of the House of Lords, fully reported in our issue last week (p. 1036). That decision turned wholly on a point of law, as is fully explained in an article published this week (p. 1084). We also printed last week a report of the finding of the jury at the rehearing of the case de Freville *v.* Dill, in which the jury found for the plaintiff, assessing damages at £50. The summing up of Mr. Justice McCardie, who heard the case, will have been read with particular interest by members of the medical profession. He observed that it was a serious matter that the Lunacy Acts contained no definition whatever of insanity, of unsoundness of mind, or of lunacy; they provided no test, set no standard, and gave no guidance in these matters. He added that a doctor called in to deal with an alleged lunatic was dealing with the most difficult subject known to the medical profession. Mr. Justice McCardie, having in mind the decision which was being delivered on the same day by the House of Lords in Harnett *v.* Fisher, deferred judgement. We understand that it will be delivered during the next sittings, which begin on June 14th.

PROFESSOR PAVLOV.

There will be found in this issue (p. 1070) a further and penultimate instalment of the series of articles entitled "A medical review of Soviet Russia" which Dr. Horsley Gantt has been contributing to our columns; this instalment deals with some of the recent work of Professor Pavlov, and we regret to learn that that distinguished physiologist has since last February been confined to his home. For over a year he has suffered from fever and indigestion, and a diagnosis of cholelithiasis was made. Professor Pavlov was submitted to operation under chloroform on May 27th. A stone was found and removed, and drainage inserted. Everyone will join with us in wishing him a speedy recovery. In April last he told Dr. Gantt that the two chief objects he now had in mind were to write his autobiography, embodying his general views of life, and his impressions of recent events; "these," he wrote, "I have viewed not from beneath, but from above, as I was not crushed by them."

The Duke of Connaught will distribute the prizes at St. Thomas's Hospital on June 21st at 3 p.m. On his arrival at the hospital His Royal Highness will unveil a tablet on which are inscribed the names of those of St. Thomas's Hospital who fell in the great war.

The Annual Oration before the Medical Society of London will be given on Monday next, June 13th, by Professor Harvey Cushing, M.D., F.R.C.S., of Harvard University, whose subject is the surgical aspects of acromegaly. The guests will be received by the President, Sir Humphry Rolleston, Bt., at 8.30 p.m., at the society's house in Chandos Street. The oration will follow at 9, and afterwards there will be a conversazione.

In connexion with the celebration at Guy's Hospital on July 8th of the centenary of the discovery of Bright's disease by Dr. Richard Bright, the Royal College of Physicians of London, of which he was a Fellow, will give a conversazione in the evening.

On the occasion of the ceremony at the University of Sydney, when the honorary degree of LL.D. was conferred on the Duke of York, a portrait was unveiled in the Great Hall of the University of Sir Alexander MacCormick, for many years lecturer in surgery at the University of Sydney.

A MEDICAL REVIEW OF SOVIET RUSSIA.

VI.—WORK OF PAVLOV AND OTHER SCIENTISTS.*

BY

W. HORSLEY GANTT, B.Sc., M.D.VIRGINIA.

(Formerly Chief of the Medical Division of the American Relief Administration, Leningrad Unit.)

PART I.—PAVLOV.

LITTLE is known in other countries—especially in England and America—of medical work in Russia. This is not only on account of the language difficulty, but because of the lack of intercourse with other nations, and of the small number of foreigners who enter the country to do research work. Even before the war few doctors visited Russia. During three years of my stay there (1922-23, 1925-27) I have known of no other foreigner from an English-speaking country doing medical work, and I met only one such visitor prior to the summer of 1926—Mr. T. R. Parsons, then of Cambridge, now of Montreal. During the summer of 1926, however, there were several British and American doctors travelling through Russia (Dr. C. P. Miller of the Rockefeller Institute and others).†

Because of this lack of information I shall give a sketch of some of the important medical work with which I have become personally acquainted, without attempting, of course, a comprehensive review. My excuse for presenting this miscellaneous and sketchy account is the fact that practically none of the material, to my knowledge, has been published in English, and parts of it have not yet appeared even in Russian.

First of all is the work of Pavlov. His researches in digestion have already been published in English.‡ His energies during the last twenty-five years, however, have been directed chiefly to the physiology of the brain. Since two of his books are to appear soon giving his own account of the achievements in this new field, I shall do little more here than call attention to these volumes.§

CONDITIONED REFLEXES IN THE DOG.

More than a quarter of a century ago Professor Pavlov began his observations on conditioned reflexes. During his work on the digestive glands he and other physiologists had observed a secretion of saliva which physiology could not explain—a secretion when the dog looked at food or even when it heard the footstep of the person who fed it. Secretion of saliva when the dog ate, or when artificially stimulated by an electric current, was explained by physiology as chemical or physical reflexes, but the secretion at the sight or thought of food was considered *beyond* physiology: it was called psychical.

However, Pavlov was not satisfied with so vague an explanation. He felt that this important fact, and other psychical ones, should be reduced to physiological and measurable terms.

For two years Pavlov could not decide whether or not to abandon the former psychological and (to him) barren explanation of the psychical flow and to launch out into a new and unexplored field of objective investigation.

"After deliberation on this subject, after a considerable struggle with myself, I decided finally, in regard to the so-called psychical phenomena, to remain in the role of a pure physiologist—an objective observer and experimenter, having to do exclusively with the external phenomena and their relations."

Professor Pavlov gives the following paragraph of definition of conditioned reflexes (*Conditioned Reflexes*).

"From the point of view of an objective observer all nervous activity of the dog . . . appears to us as reflex—that is, a reaction of the animal to the external world through the nervous system. We classify reflexes into two orders. The simple former 'reflex,' which we call unconditioned—this is a reaction in which an external phenomenon is united with a certain response of the organism by a constant and unalterable connexion. For example, every time a mechanical body impinges on the eye, there follows without fail a defensive movement. . . . From these old reflexes we distinguish a new series . . . where the union of the external phenomenon with the corresponding activity of the organism is of a temporary nature, is formed in the presence of certain conditions, continues in the presence of those or other conditions, and under certain other circumstances, can be later destroyed. Thus we differentiate between constant and temporary reflexes."

Afferent stimuli reaching the brain may produce either a motor or secretory effect. Pavlov used the latter and selected the salivary gland for several reasons: because of the ease with which its secretion can be collected, and because of its comparatively few nerve connexions with other centres. Although various animals may be used for conditioned reflexes Pavlov has chosen the dog.

The presence of food in the mouth of a dog produces a flow of saliva. This secretion is dependent upon a nervous connexion with which the dog was born: it is an unconditioned reflex. The sight of food also produces a secretion of saliva, but because it has, during the life of the individual dog, often been associated with the eating of food. This flow is a conditioned one—Pavlov's conditioned reflex. The *sight* of food is a *conditioned stimulus*.

But other stimuli than the sight of food may be made the signal for the eating of food—a bell, a light, a touch on the skin, an odour, etc. When these are used for the first time they have no specific effect, and are called *indifferent* stimuli.* They must be connected with the unconditioned stimulus (food) by a number of repetitions in which they precede the giving of food. After this they acquire the property of causing a flow of saliva of themselves—before the food is given. They are now positive conditioned stimuli. They are conditioned because they may lose their acquired property if they are not accompanied by the *unconditioned stimulus*—food.

Besides the *positive* conditioned stimulus and the indifferent stimulus, there is the *negative* conditioned stimulus. For example, suppose a metronome of 100 beats has been made a positive conditioned stimulus, then just after metronome 100 is put into motion the dog is fed, and this connexion is repeated, say, fifty to a hundred times, until the dog begins to secrete saliva when the metronome begins—before he gets or sees the food; then let another metronome of 50 beats a minute be started—the dog begins to secrete saliva because of its resemblance to the first metronome 100. But if this metronome 50 is often repeated without food, it produces less and less saliva with each repetition and becomes a negative conditioned stimulus. *Inhibition* is set up in the dog's brain which prevents a flow of saliva. Thus this agent has an action opposite to that of the positive conditioned stimulus.

In order to form conditioned reflexes the operator and the dog sit in adjoining but separate rooms. The dog does not see the experimenter, who gives the various stimuli by means of pneumatic devices on the outside of the dog's room, having (electrical or pneumatic) connexions through the walls. The food is given and removed automatically, and the flow of saliva is measured by sealing a glass "balloon," hermetically, over an artificial opening of the salivary duct from the parotid gland. This "balloon" has two glass tubes leading off from its sides. The lower one is closed except when the accumulated saliva is suctioned off. The upper tube communicates with a manometer in front of the operator on the outside of the dog's room. As every flow of saliva into the "balloon" increases the pressure, the fluid in the manometer is forced along a scale whose divisions correspond to 0.01 c.cm.

Professor Hanicke in Pavlov's laboratory has perfected an apparatus for recording electrically the flow of saliva on a smoked drum. The fluid in the manometer is an electrolyte; it is forced out so that each drop as it falls makes

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* Section V of this series, entitled "The Medical Profession, Soviet Science, and Soviet Sanitation," was published in the JOURNALS of January 29th and February 5th, 1927, at pages 198 and 244 respectively.

† Among those I saw was a young American physiologist, who, having convinced himself of the importance of Pavlov's investigations, determined to see them at any cost; having waited all the summer for an entrance visa, he found it necessary to abandon his trip to the Stockholm conference, and had means to remain only ten days in Russia—his entire European sojourn—but with the satisfaction of having seen first hand the laboratory and methods for which he had sacrificed a summer and travelled 14,000 miles. The visitor returned to America penniless.

‡ I. P. Pavlov: *Work of the Digestive Glands*, Lippincott, 1910.

§ One of these, *Activity of the Cerebral Hemispheres*, Pavlov has written expressly for the English language, and, as he told me, to pay a debt of gratitude which he owes to England and to America for their help to his country during the famine. It is being translated by Dr. G. von Anrep, and will be published by the Oxford Press. The other, *Conditioned Reflexes*, is also in course of translation, and is to be edited by Dr. W. B. Cannon of Harvard.

* These stimuli, though indifferent for the food reaction, are not entirely without effect, for they call out, when first used and before they have a specific action, the focusing or investigating reflex.

an electrical contact between two electrodes. At the closing of this fluid switch the needle makes a mark on the drum. The needle moves on a horizontal thread parallel with the drum so that the record is continuous. Thus what the psychologist might term the thoughts of the dog on hearing a bell or seeing a light which has been associated with food or, in Pavlov's terminology, its reaction to a conditioned stimulus) is literally written down by a purely mechanical method, by a needle moved by electricity—a brain process of the animal transferred to paper, without the intervention of the experimenter—by an entirely objective method.

For many experiments with conditioned reflexes no special precaution is taken to isolate the dog from the operator and the outside world. For some experiments, however, in which very faint sounds, etc., are used, isolation of the dog is carried to a high degree. In Pavlov's new laboratory, which was begun before the war but is only just now completed, this isolation is accomplished in the following way. The whole building is surrounded by a trench filled with sawdust to dampen vibrations coming through the ground. In order to separate the experimental rooms as widely as possible, they are situated only on the four corners and on the first and third floors—none in the intervening story. Each experimental room has walls two feet thick, and double iron doors padded with rubber. This room, in which the operator sits, has ground-glass windows, so that his attention is not distracted by looking out of doors. The entrance into the dog's room or cabinet—another chamber within this experimental room—is through double or triple concrete doors, each one about four to six inches thick. They are padded with rubber and securely bolted during an experiment. The walls of the dog's cabinet consist of two or three concentric shells of concreto, each one four to six inches thick; they are separated by some porous material to prevent conduction of sound.

Every precaution is taken to eliminate adventitious sounds, which might spoil the whole investigation. For example, suppose the conditioned stimulus, the signal for feeding, is intended to be an optical one, a whirling figure. If the movement is accompanied by some noise, even too faint for the human ear to detect, the dog may react to the auditory component entirely, and the result obtained so that characteristic for ear stimuli and not for visual. This indicates the importance of mechanically perfect apparatus. The defect just referred to is now to be overcome by the projection of optical figures from the next room through a "port-hole" window on to a screen in front of the dog. All the apparatus used in Pavlov's work with conditioned reflexes has been devised with great ingenuity. Professor Hanicke, who has been with Pavlov for thirty-five years, and Dr. P. S. Kupalov, Pavlov's brilliant first assistant at the Institute of Experimental Medicine, have contributed much toward the perfection of the present apparatus and instrumentation.

The operator, sitting on the outside of the dog's cabinet, gives the desired stimulus (by pressing a rubber bulb, etc.), and he can see the animal through a periscope over a small glass window in the wall of the camera. Although the salivary reaction is mechanically recorded, it is sometimes necessary to observe the movement reaction, to see if the dog is sleeping, etc.

By his method of conditioned reflexes Pavlov thinks he has discovered the nature of sleep and of *neurasthenia*. Both of these he has produced artificially in his dogs, by giving them too difficult problems of differentiation. For example, suppose a tone of a certain pitch is made a positive conditioned stimulus, and another tone of a distinctly lower pitch is made a negative conditioned stimulus (that is, it is not accompanied by food), then let a third tone be taken so close in pitch to the first that the dog cannot distinguish between them; there results a lack of balance of the processes of stimulation and of inhibition, and the animal develops symptoms of neurasthenia, refusing to eat, whining, etc. Pavlov has cured such dogs by rest and bromides.

Not only has light been thrown on the processes of sleep and neurasthenia, but by means of this method work has been done on the localization of brain centres. For example, conditioned reflexes are formed from the eye, skin, etc., and after removing parts of the brain, the extent to which these conditioned reflexes are lost can be observed.

Pavlov believes that all acts are reflex. Thus he speaks of the *reflexes* of freedom of purpose in his book *Conditioned Reflexes*. In the first chapter of *Activity of the Cerebral Hemispheres*, he avers that there is no essential difference between reflexes and instincts. Such instincts as nesting he considers a chain of reflexes. He points out that we know of simple reflexes united in chains, where the end of one is the stimulus for the beginning of the next—for example, irritation of an afferent nerve gives an increase of blood pressure, the high blood pressure in the aorta irritates the ends of the nervus depressor cordis, which neutralizes the effect of the first reflex. He contends, further, that the other former distinctions between instincts and reflexes are only superficial.

Pavlov claims for his method that it is objective, in contradistinction to the methods of psychology, which try to discover the laws of the brain by subjective methods. He writes (*Conditioned Reflexes*):

"Physiology of the higher departments of the central nervous system cannot be otherwise than a study founded on a purely objective basis, and completely removed from the indefinite ideas of psychology. What interest, for example, for physiological analyses can come from the statement of authors that after extirpation of certain parts of the brain the animal becomes malicious, less intelligent, etc., when these characteristics appear very complicated, and themselves need an exact scientific analysis?"

A casual perusal of his books may give the impression that his materialistic methods and logic exclude idealism, art, religion, etc., but those who read more carefully will find that, in spite of his mechanistic theory of life, he does not belittle the existence of spiritual things. In *Conditioned Reflexes* (Chapter X) he says:

"I should like to anticipate what might be misunderstood in these statements concerning my views. I do not deny or gainsay anything which relates to the innermost and deepest strivings of the human spirit. I only defend and affirm the natural rights of scientific thought everywhere, and until the time when and where it is able to manifest its own strength."

Such exhortations as the following appear frequently (*Conditioned Reflexes*, Chapter XXVII):

"If every one of us will cherish this reflex [of purpose] within himself, as a precious part of his substance, if parents and instructors of all ranks would make their chief goal the strengthening and development of this reflex, if our society and state would provide ample opportunities for practice of this reflex, then we should become that which we ought to and can be, judging from many episodes of our historical life and a few strokes of our creative strength."

His high ideals and hope for the future of science are evident from the following paragraph, written at a time when famine and disease hung like a pall over his native land, and he himself was sorely distressed over happenings in his country.

"Gradually with the movement of our work forward, these [errors] appeared more rarely, and now I am deeply and irrevocably convinced that this path leads to the final triumph of the human mind over its uttermost and supreme problem—the knowledge of the mechanism and laws of human nature. Only hence may come a full, true, and permanent human happiness. Let the mind rise from victory to victory over surrounding nature, let it conquer for human life and activity, not only all the surface of the earth, but the waters beneath and the air above; of the earth to the other, let it annihilate space for the conveyance of its thoughts—yet the same human mind led by dark powers to wars and revolutions with their horrors, not calculating the material loss and inexpressible pain, reproduces bestial relations. Only science, the exact science about the human himself, and the most sincere approach to it from the side of Omnipotent Nature, will deliver him from his present gloom, and will purge him from his contemporary shame in the sphere of inter-human relations." (*Conditioned Reflexes*, Preface.)

I shall take the further liberty to mention Pavlov's private views on two important subjects—religion, and the freedom of the will—which I have from him in personal conversations. Pavlov has stated in his public lectures that religion is the highest of conditioned reflexes and the one that distinguishes man from the beasts. In addition, I have heard him say that he considers life without religion very hard, in fact almost impossible for the mass of humanity; that personally, though not religious by nature, he envies those who are; that he has the highest respect for religion; and that if the doctrines of religion are taken

in their broad sense and not too literally, there is no essential conflict between it and science.

Pavlov has told me that, in his opinion, there is not at the present time freedom of the will in the absolute sense, although those who are educated, have travelled, and so on, apparently have some freedom of choice; that there will be real freedom of the will only when we understand the physiology of the brain. He says:

"As long as man did not understand the laws of Nature she was a mystery to him and he was her slave, but he has gradually passed from the position of slave to lord, and in direct proportion to his knowledge of the laws of Nature. I consider it parallel with the brain. Until he understands its physiology he cannot be free." (Personal conversation, April, 1927.)

Pavlov was 55 when he began this work on the brain. Now, at the age of 77, he is still working daily at it. He directs the work of fifty collaborators in three different laboratories, and six days in the week he is present there himself from 10 a.m. to 6 p.m., coming and leaving with military punctuality, and when necessary walking through the snow and ice.

CONDITIONED REFLEXES IN OTHER ANIMALS.

Conditioned reflexes have been formed by Pavlov's pupils, not only in dogs, but in such diverse animals as fish, mice, puppies, monkeys, and children.* The following apparatus is used for work with fish. The fish is suspended by a light clamp over its back, in a tank of water enclosed in a cabinet. Inside this cabinet are red and green electric lights, a metronome, etc. The unconditioned reflex is the motor response to an electric current sent through the clamp. The conditioned stimulus may be a light, a metronome, etc. A red light may be used for a positive conditioned stimulus (given before the electric current), and a green light for a negative conditioned stimulus (followed by no current). After a large number of trials the fish jumps (conditioned reflex) when it sees the red light (conditioned stimulus), but not when it sees the green. The conditioned and unconditioned stimuli and reflexes are recorded on a drum on the outside of the cabinet where the operator sits. (Work of Frolov.)

Mice.

The apparatus for forming conditioned reflexes in mice is very ingenious; it was perfected by Professor Hanicke in 1925. When a given bell sounds, the mice run to a certain place to get food, and in going there they have to cross a platform attached to springs. When they step on this platform the act is registered on a revolving drum. A revision of the former work on inheritance of conditioned reflexes is being carried out with an entirely new apparatus. The mice now receive all their food (twenty times during each night) preceded by the bell. It is all done mechanically, so that the presence of the operator is not required. A clock arrangement makes twenty electrical contacts during the night (the natural time for the feeding of mice), rings the bell, and a few moments later opens a valve which allows grain to drop into a certain compartment of each cage. When the bell rings there is a general migration of the mice into the "dining room." The mice never get food without the bell. Males and females are kept in separate cages, so that the number of oncoming generations can be carefully regulated. When an experiment is made the mice are removed to a special cage where the results can be registered automatically.

Puppies.

The apparatus for forming conditioned reflexes in puppies is the same in principle as that for mice. A metronome (conditioned stimulus) is started, and the puppy runs from his box across a gangway to a table on which is a basin into which milk pours from a reservoir. The operator and the reservoir for the milk are concealed behind a screen. The running of the puppy to the basin is a conditioned reflex—motor instead of the secretory used in the grown dog. The motor reaction is used in the puppy instead of a secretory because of the difficulty of keeping the puppy quiet in harness. When the puppy steps on the gangway this response, together with the time of action, etc., of the conditioned stimulus, are recorded on a smoked drum.

These methods, while showing the wide adaptation which can be made of conditioned reflexes, lack the exactness of the salivary reflex used in dogs. It is by this latter method that Pavlov has worked out his physiology of the brain.*

Observations on Children.

The work of Krasnogorsky in the Children's Clinic of the Medical Institute (Filatov Hospital) deserves mention here. Krasnogorsky is one of Pavlov's older pupils, and Professor Pavlov confers with him frequently in his work. He published his first observations on conditioned reflexes in children in 1907.† He has twelve doctors working under him on the subject, and three well equipped rooms for conditioned reflexes in children, and has received money from the Soviet Government for three additional ones.‡

The method used for children is as follows: the child lies upon its back on a pallet on the table, with a rubber bulb fastened under its chin. His mouth is placed directly under the opening of a metal funnel, so that the operator by pressing a button may cause a piece of chocolate confection to drop through the funnel into the child's mouth. The operator sits in a closet in the room from which he may see the child, but the child cannot see him. A metronome, a light, or irritation of the skin by the pressure of the rubber bulb attached to the arm or leg may be used as a conditioned stimulus, controlled by the experimenter sitting in the closet. The child is given no directions whatever. After making the conditioned stimulus, the operator presses the button, which allows the confection to drop into the child's mouth. After a few trials the child comes to expect food when he sees the light or hears the metronome, and he opens his mouth (conditioned reflex). The opening of the mouth compresses the bulb under his chin, which is pneumatically recorded on a drum before the operator. The normal child lies perfectly still on the little pallet for an hour or more with no attention from the experimenter.

To this motor conditioned reflex of the child Krasnogorsky has now (in 1926) added the secretory, as in the dog. A suction cup (as also used by Lashley in America) is fitted over the natural opening of the parotid duct, and the secretion of saliva is measured and recorded automatically on the drum, together with the motor response. Krasnogorsky tells me that he has found that the secretory reaction is parallel to the motor, and that he believes he has attained the full elaboration of this method for children.

Negative and positive conditioned reflexes have been formed, and the work of Pavlov on the dog has been more or less duplicated by Krasnogorsky on the child. Children develop conditioned reflexes much more quickly than the dog—ten to twenty-five trials, compared to the dog's thirty to one hundred; children retain them much longer and more strongly than the dog without intervening practice; they can be destroyed more quickly in the child—for example, when a positive conditioned stimulus is repeated several times without being supported by food. (Dr. Krasnogorsky showed me such an experiment in which the positive conditioned reflex disappeared after twelve trials unsupported by food—that is to say, the child which had a conditioned reflex (opening its mouth) on hearing the metronome because it received food (unconditioned reflex), ceased to open its mouth when the metronome was sounded twelve times successively without food.) Differentiation for musical tones, and skin stimuli, and differentiation in general, are much more delicate in the dog. Trace reflexes are more easily developed in the child. Synthesis is much better in the child than in the dog.

* Other workers, as Bekterev, have applied conditioned or association reflexes to adults, using a motor response of the finger, word association, etc., but as this is outside the work of Pavlov's laboratory and seems to be nearer to psychology than to physiology, a description is omitted here.

* Fursikov, who worked with Pavlov for ten years at the Institute of Experimental Medicine, is now investigating (at the new Brain Institute in Moscow) conditioned reflexes in monkeys. An account of this and further details of conditioned reflexes, were given in *Archives of Psychology and Neurology*, April, 1927, by the writer of this article.

† Russky Vratch, No. 36907 (Russian).

‡ For bibliography see the excellent review by Kroll, *Jahresberichte des gesamte Neurologie*, 1922; N. I. Krasnogorsky, *Revue de Médecine*, 1923; N. Krasnogorsky, Der Schlaf und die Hemmung, *Monatsschr. f. Kinderheilk.*, Bd. 25, p. 372.

Krasnogorsky's observations were made on children aged from 1 to 5 years. He has found it impossible to develop conditioned reflexes in infants less than two weeks old. In children under 1 year the mechanical irritation of the skin is not specific. The skin analyser begins to function at about three months. At the age of 7 months the child differentiates between red and white light, at 8 months between odours of camphor and eau-de-Cologne. The movement analyser appears at 6 months of age.

Krasnogorsky has shown the clinical importance of conditioned reflexes in denoting the disturbance between the balance of inhibition and stimulation. His work gives a rational basis for classification and treatment of neuroses. He suggests its use also as the basis for child education. Krasnogorsky in 1925 found by his method of conditioned reflexes that an idiot child in his clinic had a brain on the level of a fish—that is, it was as slow as the fish in forming conditioned reflexes. In myxoedema, epilepsy, and neuroses, internal inhibition develops in the child. Children older than 1 year may form internal inhibition. It is quickly elaborated and slowly disappears with time, but disappears rapidly if the conditioned stimulus is unsupported by food. Imbeciles develop conditioned reflexes with difficulty, but some neurotic children develop them more quickly and lose them more quickly than a normal child. Leonov in Krasnogorsky's laboratory found in rachitic children that the movement, taste, and smell analyser is disturbed; orientation and adaptation are weak; motor reflexes are slowly formed, but when once present disappear slowly.*

Trophic Nerves.

There has been no additional work on trophic nerves from Pavlov's laboratory since the account that was given in the BRITISH MEDICAL JOURNAL for September 20th, 1924 (p. 535). However, I have had pointed out to me in his laboratory several cases of eczema-like eruptions and ulcers in dogs suffering from overwork and neurasthenia.

POOR LAW REFORM.

IT has been known for some time that the Minister of Health has been in communication with those members of Parliament who constitute the Unionist Agricultural Committee with regard to modification of his proposed scheme for the reform of the Poor Law so far as rural areas are affected thereby. Last week there appeared in the daily press an announcement of the "scheme which has been agreed upon by a subcommittee of that body and by representatives of the Ministry of Health." This announcement has all the appearance of an official or semi-official communiqué. Yet its wording is, in one respect at least, extraordinary. It is stated to have been arranged that the Minister of Health shall circulate the scheme to the associations representing local authorities "as a basis of discussion between him and the local authorities, subject to the financial details being eventually satisfactory to the committee." Since when has a sectional group of members of Parliament been granted a limiting or controlling voice with regard to negotiations between a Minister and those whom he thinks fit to consult, or as to the form in which the Cabinet or a Government department shall present its proposals to Parliament?

The "main heads of the scheme" are given in the announcement, and considering all that has happened with regard to the published provisional proposals of the Minister, which have now been under discussion for a long time, they are sufficiently startling. They go far beyond a mere modification of those proposals to meet the circumstances of rural areas; and, though the changes they are intended to effect are not always very easy to grasp clearly, they appear to constitute a complete new scheme, in substitution for the previous proposals, and to involve an almost entire abandonment of the principles on which those proposals were based and of almost all the advantages which they were calculated to produce. Under the new scheme boards of guardians are not to be abolished; their mode of election in urban areas is merely to be indirect instead of direct, while the position of a rural district councillor as *ex officio* a guardian is to be universally confirmed. There is to be an adjustment of Poor Law areas so that each county borough shall be such an area complete in itself (the town council becoming also the board of guardians), that no such area shall be partly in one administrative county and partly in another, and that agreed modifications may be made in the boundaries of such areas within a county. It may be assumed that some adjustment would actually be made in most counties. Apart from such adjustments, and the abandonment of the *ad hoc* election in urban areas, however, no change of any great practical importance appears any longer to be contemplated.

All Poor Law institutions (workhouses, hospitals, schools, cottage homes, etc.) would be transferred to the county council or county borough council. Thus a county borough council would be the Poor Law authority, owning all Poor Law institutions within its area. Outside county boroughs there will be, first, local boards of guardians administering the Poor Law generally from their own offices, but not owning any institutions, and secondly, the council of the administrative county, not administering the Poor Law at all as was originally intended, but merely owning all the Poor Law institutions and apportioning the cost of their maintenance among the boards of guardians who use them, and being compelled to provide accommodation in all kinds of institutions on the demand of any board of guardians. The separate boards of guardians who use the institutions are to pay according to user, so that in practice what obtains generally at the present time will not be altered. The institutions, though owned by the county, will be maintained by the boards of guardians, and even now most boards who have superfluous accommodation take in boarders. Some economy will probably be effected in some agricultural areas where at present many Poor Law institutions are filled to only a small proportion of their capacity and so are being maintained at an excessive cost. It is proposed that the councils of counties and of county boroughs shall have power (but not the obligation) "to make provision for co-option, where desirable, on boards of guardians or on committees as the case may be, of women members and of persons experienced in Poor Law work." The management (but, as explained above, not the financial support) of transferred institutions will be in the hands of a committee of the county council. In most areas this will be complicated, as there may have to be separate committees for each institution, for the local board of guardians in whose area an institution is situated, by whomsoever it may be used, is to be entitled to one-third of the representation on the committee of management of such institution. Thus, in this respect the workhouse or other Poor Law institution will differ from the county asylum. Provision is, of course, to be made for the transfer and superannuation of existing Poor Law officers in accordance with established precedents.

The chief merit of the previous provisional proposals was that they constituted a great step towards the unification of health administration in each area, and made some advance towards a corresponding unification of educational administration. It was on this ground that, with some reservation on a few important points of detail, the British Medical Association has given these proposals its strong support in general. It will be seen that, should the new scheme be adopted instead, this main reform would be almost wholly abandoned. It is true that in county boroughs the town council would be the board of guardians, but the scheme contains no provision for the distribution of transferred functions to their appropriate administrative departments—health services to the medical officers and public health committee, education services to the education officers and education committee, and so on. Outside county boroughs there would no longer be any pretence of such unification. There would be no provision for transferring to large non-county boroughs or urban districts

* For further description of conditioned reflexes in neurotic children, see Krasnogorsky: *Amer. Journ. Child. Dis.*, December, 1925.

those Poor Law services which are similar to, or even identical with, those which these authorities already provide and administer—maternity and child welfare work, education work, and the like. The number of separate authorities might be slightly diminished, but the overlapping and duplication of the work of the large number that would remain would probably be even more pronounced than before. On one point to which the Association attaches considerable importance—co-option—the new proposals would make the position even more unsatisfactory than it was under the old. There would be no power of co-option on to the health committees, but only on to the boards of guardians and on to the committees of management of institutions, and persons co-opted would not be such as are experienced in health services or administration, but, much more narrowly, those who had had such experience in Poor Law work merely. Moreover, in rural areas, that preponderance of power in the hands of the rural district councillors which in many areas has made Poor Law administration a dead letter or a scandal, would be confirmed and strengthened without any provision for appeal, substitution, or redress.

It is fair to state that some mitigation of the criticism on one of the above points may be found in the provision that the council of a county or county borough may make proposals for the partial use of a transferred institution "for other purposes in relation to its general health organization." Such a provision would in some cases enable some institutional accommodation to be used instead of remaining idle; but from the point of view of administration, in view of the other proposed arrangements for management and finance, this would complicate matters still further. It is to be presumed that the new scheme will be seriously discussed between Mr. Chamberlain and the representatives of local authorities. It might still be found possible in the case of county boroughs to preserve some of the best features of the old proposals in conjunction with the new; but it is difficult to see how, in other respects, the new scheme can be reconciled with the policy of the Association. Indeed, the danger is that, if carried into effect, it may be an actual obstruction to the success of that policy by producing an illusory appearance of something important having been done, whereas in essential matters things would in fact be very much as they were. If the long-promised bill for Poor Law reform is at last to be introduced early next year it seems desirable that the Council of the Association and the special committee dealing with this subject should seriously consider the new situation and make representations to the Minister of Health at an early date.

The main heads of the scheme, as they appeared in the *Times* of June 2nd, are as follows:

(1) On a day to be appointed by the Act the councils of county boroughs to become the guardians for those boroughs, and subject to what is hereafter provided, the councils of non-county boroughs and other county districts to become the guardians for such boroughs and county districts.

(2) As soon as possible after the passing of the Act, the councils of counties and county boroughs to make a survey of Poor Law institutional accommodation in consultation with existing Poor Law authorities and their officers. Where a county or county borough includes any Poor Law area which extends into another county or county borough, the survey, as far as it affects such area, to be made in consultation between the councils concerned.

(3) As soon as possible after the passing of the Act councils of counties in consultation with the councils of non-county boroughs and county districts should take into consideration the areas of existing Poor Law unions and should readjust them on the following principles:

(*a*) that the area of each county borough is to be a single union;

(*b*) that the area of each union is to be inside a single county;

(*c*) that the area of each union must coincide with the area of one or more non-county boroughs or county districts;

(*d*) that where it can be shown to be advantageous, having regard to such factors as the extent of pauperism, population and rateable value, convenient administrative centres and availability of offices, the number of unions in the county area may be reduced.

(4) The proposed new boundaries to be included in county council schemes to be submitted to the Minister, who would be empowered to approve, with or without modification, and himself to make a scheme in case of default. Provision to be made for proper publication of schemes and power to councils of non-county boroughs and county districts to make representations to the Minister in respect of any scheme.

(5) The board of guardians for each union thus constituted to be a body composed of the rural district councillors for each rural district comprised in the area, together with a proportion of the councillors of the non-county boroughs and urban districts comprised in it. Power in this case also for the non-county borough and county district councils to make representations to the Minister.

(6) On a day to be appointed by the Act all institutions (other than offices for general administration, offices of relieving officers and similar buildings) and liabilities in connexion therewith to be transferred to councils of counties and county boroughs respectively. If the area of the former Poor Law authority was wholly within a county borough or county the transfer to be to the council of the county borough or county concerned. Where the area of the former Poor Law authority was not wholly within one county or county borough the institutional property and liabilities to be transferred as may be agreed between the councils concerned, or in default of agreement the matter to be determined by order of the Minister. Any agreement or order to provide for transfer, with or without conditions, or for joint user, and so far as adjustment of institutional property and liabilities are concerned, to be subject to general rules.

As regards all other properties and liabilities:

(*a*) Where the area of the former Poor Law authority was comprised within a county borough or within the area of the Poor Law union constituted by the county council scheme properties and liabilities to be transferred to the council of the county borough or to the guardians of the new Poor Law union.

(*b*) Where the area of the former Poor Law authority was not comprised within the area of a county borough or of a new Poor Law union the transfer to be matter for agreement between the county boroughs or Poor Law unions concerned, subject to determination of the Minister in default of agreement and to provisions for adjustment where required.

Where a county or county borough or a new Poor Law area includes the whole or parts of two or more former Poor Law unions, equitable adjustments to be made in accordance with general rules contained in the Act, in respect of the institutional and other properties and liabilities of the several Poor Law authorities transferred to the council of the county or county borough or to the guardians of the Poor Law union constituted by the scheme, unless the authorities concerned (including the boards of guardians of the former unions) shall have agreed before the appointed day that an adjustment is unnecessary.

(7) As soon as possible after the passing of the Act, county boroughs to prepare and submit to the Minister for approval a scheme of administrative arrangements and use of institutions transferred to them as above, after consultation with county councils and councils of county boroughs as may be necessary having regard to present use made of Poor Law institutions.

(8) Counties and county boroughs to have power to make provision in their scheme for co-option where desirable on boards of guardians or on committees as the case may be of women members and of persons experienced in Poor Law work.

(9) County councils to prepare schemes for the use of institutions transferred to them after consultation with the new Poor Law guardians, and with the councils of such other counties and county boroughs as may be necessary.

(10) General power of authorities to form combinations amongst themselves.

(11) The expenses of the new guardians to be borne on the rates of the new unions.

(12) Subject to any arrangements of Parliament as to the allocation of the registration of births, deaths, and marriages, the new guardians to have the same powers and duties as the old, provided that they shall not be empowered to own or lease any institution or building (except their offices). The duty of providing accommodation for vagrants and for the purpose of work tests for the able-bodied to be placed on the county council or county borough.

(13) In cases where institutions are used by boards of guardians, the committee of management of each institution to be appointed as to not less than one-third by the new Poor Law Guardians in the area in which it is situated. The expense of running the transferred institutions and any new institutions required for Poor Law purposes shall, subject to provisions as to repayment, be a county or county borough charge, and the council of the county shall be under statutory obligation to make the required institutional provision for the needs of poor relief in their area and to take over cases on demand from the guardians. Except as regards institutions provided for vagrants and persons undergoing work-test, repayment shall be made to the county council by the guardians for each class of case on such terms, not exceeding the cost of maintenance, as may be agreed or determined by the Minister in default of agreement. (The cost involved in such repayment being a charge on the union area.) For the purpose of enabling them to carry out the obligations imposed upon them the county council shall have power to make arrangements with the councils of other counties, county boroughs, boroughs, or other county districts for the reception of cases of infectious diseases, maternity and child welfare and education coming under the Poor Law.

(14) Each county and county borough council to include in its scheme dealing with institutions proposals for the use of the transferred institutions for the above purposes and for other purposes in relation to its general health organization. Power for a county or county borough council to take cases from outside its area on agreed terms.

(15) Provision for transfer, superannuation, etc., of existing Poor Law officers in accordance with the established precedents.

THE PERMANENT USE OF THE TRACHEOTOMY TUBE.

SIR STCLAIR THOMSON'S ADDRESS.

SIR STCLAIR THOMSON delivered an address on the permanent use of the tracheotomy tube before the Interstate Post-Graduate Assembly of North America on June 3rd. He referred to the anxiety exhibited by many surgeons to dispense with the use of the cannula as soon as possible after tracheotomy had been performed and its more immediate objects attained; the main object of his address was to demonstrate that the practice was unreasonable and unwarrantable, and that the permanent use of the cannula was not only harmless but of great advantage to the patient in suitable cases.

The objections which had been raised to the permanent use of the cannula were various, the chief being that in the unnatural mode of respiration which it involved the inspired air was not warmed, moistened, and filtered as in the natural process, and consequently the lower air-passages were rendered liable to bronchial, pulmonary, and other troubles. Other objections were that speech was interfered with, and that the tube caused local discomfort and social disability. With regard to the normal mode of respiration, Sir StClair Thomson fully recognized its importance, and had himself shown, by researches on the defensive mechanisms of the nose, that under normal conditions inspired air in its passage through the nose becomes warmed, saturated with moisture, and sterilized before it reaches the lungs or even the larynx. Nasal respiration, however, was not always possible as a permanent mode of breathing. In children, in whom it was of particular importance, it was, fortunately, possible, by attention to adenoids, tonsillar affections, and other conditions, to retain or restore it before secondary effects on the developing body resulted from obstruction of the passages. In the adult, the absence of an adequate nasal airway was by no means as important as in children, although the onset of nasal stenosis and consequent mouth-breathing certainly reduced the protection afforded by the nasal cavities. Symptoms in the adult, attributed to nasal lesions, were, however, often due less to stenosis than to the accompanying sepsis. The permanent use of the tracheotomy tube in children, Sir StClair Thomson admitted, was liable to be followed by serious consequences. In them there was a greater tendency to respiratory catarrh, and the unused nasal and pharyngeal cavities failed to develop fully and the larynx to expand; education was handicapped by defective speech, and the inability to mix freely with playmates was a serious hindrance to general development. In the adult, on the other hand, many of these drawbacks were absent. Neither in the matter of growth nor education could any ill effects arise; defects in the voice would be referable, not to the cannula, but to laryngeal or other lesions; and local discomfort in the neck, due to pain, discharge, the necessity for changing dressings, and the frequent cleansing of the tube, was entirely absent in well planned tracheotomies. Social disability hardly existed, and the "canulard," as the wearer of a permanent cannula was called by the French, was in no way precluded from engaging in social functions, games, and physical exercises, with the exception of swimming. That a tracheotomy tube could be worn without inconvenience for prolonged periods was attested by cases such as that of a healthy old lady of 81, who had never suffered from bronchitis, although she had worn a cannula for seventy years, and a patient who died of senile decay at the age of 81, after wearing a tube for over fifty years.

It was probable that cases such as these would be more frequently met with if certain detailed precautions were observed in the performance of tracheotomies. In many cases the tube was introduced through the first ring of the trachea and the cricoid cartilage, through the cricoid and the crico-thyroid membrane, or even through the latter and part of the thyroid cartilage. As a consequence there was much catarrh and irritation of the larynx, the soft structures in the subglottic region became infected, perichondritis was a not unlikely complication and septic bronchitis a frequent sequel. Further, ill considered operative measures to dilate a stenosed larynx with a view to cure a "canulard" not infrequently resulted in death. In cases where, after a tracheotomy, it was proposed that the tube should be worn permanently, the operation ought to be performed as low as possible in the neck and always below the three first rings. In this situation, with the opening in the trachea immediately above the upper margin of the sternum, a cannula was easily concealed, did not interfere with the movements of the neck or larynx, caused no damage or irritation, and never set up perichondritis. In cases where a high tracheotomy had, as a matter of urgency, been performed and there was a probability that the tube would have to be worn indefinitely, there was no reason why a second tracheotomy should not be performed lower down in the neck and the higher opening be allowed to close.

In many instances the laryngeal condition calling for tracheotomy could be removed, or a resulting stenosis of the glottis cured; in such cases the tracheotomy tube could be abandoned with safety. This was possible in such conditions as impacted foreign bodies, acute laryngitis, oedema of the larynx, diphtheria, typhoid ulceration, syphilis, and tubercle. On the other hand, there were many cases in which a laryngeal stenosis was permanent, and it was to the principles of treatment to be recommended in such cases that Sir StClair Thomson particularly desired to call attention. In the first place an attempt to cure the stenosis itself was liable to fail and entail further damage or complete loss of voice; or, again, surgical intervention might merely scar the neck, stimulate to further stenosis, or encourage recurrence of arrested disease. Moreover, many of the methods employed for overcoming a laryngeal stenosis were tedious, painful, often unsatisfactory, and not free from danger. In the second place the permanent wearing of a cannula in a well executed opening just above the sternum was, in adults, by no means the disaster it was often represented to be; and it was not incompatible with a long, healthy, and useful life. In the third place the wearing of a tracheotomy tube would in many cases preserve a useful voice, while avoiding the alternative of a mutilating excision of the larynx.

Sir StClair Thomson exhibited some permanent "canulards," including cases of complete bilateral laryngeal paralysis, lupus, stenosis from surgical trauma, syphilis, tuberculosis, enchondroma, and carcinoma. The following are brief notes of some typical cases:

A woman, aged 20, with a goitre and marked stridor from complete bilateral abductor paralysis; has worn a tube for four years, without a day's illness or any respiratory trouble; voice good; tube easily concealed and causing no disability.

A man, aged 47; a year previously a carcinoma of the right cord was removed by thermo-cautery and a tube worn for six months; the larynx closed almost completely; laryngostomy and dilatation with rubber tubes during four months; glottis reduced to chink by cicatrization; low tracheotomy; patient greatly relieved, able to resume physical exercises, and voice improved; tube worn for seven years.

A woman, aged 34, with stridor and suffocative attacks from syphilitic stenosis; two years' treatment unavailing; low tracheotomy; in robust health twenty years later; able to take physical exercises; never subject to bronchitis.

A woman, aged 33, with urgent stenosis from lupus, which had been treated since the age of 5 years; low tracheotomy; tube now worn for eleven years; able to take physical exercises; voice strong and clear; experiences no social disability; tube readily concealed; never has bronchitis.

A woman, aged 42; dyspnoea on the slightest exertion, resulting from cicatricial contraction of the glottis following cure of a tuberculous deposit by means of the galvano-cautery; low tracheotomy; tube now worn for three years; in active work and able to walk several miles; voice good.

A woman, aged 32; tuberculous deposit cured by galvano-cautery, but followed by gradual stenosis necessitating tracheotomy after five years; low tracheotomy; in active work and can walk for miles; tube now worn for five years without inconvenience.

A man, aged 29; laryngeal stridor for eighteen months due to fungating tuberculous deposit obstructing glottis; low tracheotomy; ten months later he was free from stridor, the glottis was free and the fungating deposit had disappeared; could only speak in a whisper.

A woman, aged 41; carcinoma involving entire right vocal cords; removal by laryngo-fissure; recurrence; right half of thyroid and cricoid excised through lateral pharyngotomy, and skin-flaps folded in to make fresh lining to larynx; lumen of larynx insufficient; has worn low tracheotomy tube for seven years; voice strong;

is in active work and able to walk long distances; never has bronchitis.

A woman, aged 57; carcinoma of the right cord had been removed seven years previously; recurrence in left cord; removal by laryngo-fissure, and low tracheotomy tube worn since (four years); laryngeal airway adequate for respiration, but not for active life she leads; speaks in low whisper; has never had bronchitis.

The last two cases illustrated very forcibly the advantages of low tracheotomy and the permanent cannula; the alternative would have been total excision of the larynx.

THE NEW SCIENCE SCHOOL AT CLIFTON COLLEGE.

OPENING BY THE PRINCE OF WALES.

WHEN Clifton College was founded in 1862 it was intended that it should rank as one of the "public schools." None of the others included natural science in their curriculum; but Percival, the twenty-eight-year-old headmaster of the new school, determined with singular foresight and courage to give it an important place and to secure the best teachers. The first appointment, that of Mr. (afterwards Professor) Leipner, was made in September, 1862. Percival introduced in the next few years a series of distinguished scientific teachers: Debus, afterwards professor at the Royal Naval College, Greenwich, and no fewer than five men who became Fellows of the Royal Society—A. W. Reinold, John Perry, Sir William Tilden, A. M. Worthington, and W. A. Shenstone—together with M. J. Barrington Ward and G. H. Wollaston. It was in the school laboratory that Shenstone first melted silica, and some of the early tubes and thermometers which he made are still preserved.

In 1867 Dr. Percival was able to open the first school laboratories in the kingdom, so that at a time when most schools made no provision whatever for science, Clifton had ample and well equipped laboratories, directed by a staff of brilliant scientists. The school rapidly gained a reputation for sound scientific education, and exerted a profound influence on contemporary progress. Its example has played a weighty part in securing the inclusion of science in the curriculum of our public and secondary schools.

While Clifton's reputation in the teaching of natural science has been maintained, the accommodation has for many years been out of date and inadequate. The erection of new and extensive buildings was a necessity if the school intended to hold its traditional lead in science. The council at length resolved to build an entirely new science school, so conceived and equipped as to place Clifton once more ahead of friendly rivals.

The Speaker of the House of Commons, the Right Hon. J. H. Whitley, M.P., an old Cliftonian, undertook to raise the necessary sum of £50,000, and has already obtained more than four-fifths of that amount from old members of the school. The services of an acknowledged leader in this style of architecture, Mr. Alan E. Muntz, were fortunately available, and the council empowered him to meet all the wishes of the science staff as to general arrangement, accommodation, and equipment.

The outcome of this far-sighted policy has been that the new science school, opened on June 2nd by H.R.H. the Prince of Wales, represents a great advance upon any other school science buildings in the kingdom.

The present design was arrived at after the consideration and rejection of several others. The preservation of the close for games was regarded as essential, and this accounts for the somewhat recessed position of the buildings, which cover a considerable ground area and are in Gothic style. Few modern science buildings are Gothic in design, but in this instance it was felt that the architectural surroundings of the college left no possible alternative, and by the adoption of a late period in this style the difficulty of securing the ample natural light necessary has been met satisfactorily. Bath stone has been employed, with local stone for general walling, as used in other college buildings.

The design comprises two principal floors with a partial basement and partial second story. The extreme length of the building is some 160 feet, and the breadth about 64 feet. It consists of a central block, which contains the laboratories and their adjuncts, with two wings of two stories only, devoted to four lecture rooms. The ground floor is devoted to physics, and comprises two elementary laboratories on the frontage (40 feet by 32 feet) on either side of the central entrance, giving access to a corridor, at the ends of which are the two lecture rooms with preparation rooms attached, approached also by separate external doors to the corridor terminations. On the other side of the corridor are: on the right, an advanced laboratory (37 by 20 feet) with adjoining store; and, on the left of the central staircase and goods entrance, a repair workshop and a masters' room (17 feet and 19 feet by 20 feet respectively). A small research room and dark room are also provided on this floor.

The first floor, devoted to chemistry, is similarly arranged, but provides between the large elementary laboratories a balance room and dispensary, and over the workshop is a biological laboratory. By reducing the corridor height on this floor some cross lighting and ventilation has been made possible in these rooms. A second floor is provided over the frontage rooms in the pitched roof, and is devoted to the science library, 40 feet by 22 feet, which is fitted in oak, and a geography room of similar size. The remainder of the building at this level provides an asphalt flat available for experimental purposes, and at a height which regards the admission of sunlight to the open swimming bath behind them. A basement, below the rear central rooms only, contains an accelerated hot water heating plant, steam plant for laboratory purposes, unpacking room, switchboards and batteries, and a hand lift connecting this with other floors. Water is available at two pressures; electric power is supplied both from mains and for low voltage work from batteries, and an automatic exchange telephone system connecting all rooms has been installed.*

When the Prince of Wales arrived at Bristol he was met at the station by the Lord Mayor of Bristol, with whom he drove through the streets of the city, welcomed by the cheers of the crowds and by beflagged shops and houses. At the memorial gate of the college the Prince was received by the President of the college (Earl Haig), the chairman of the council (Sir Herbert Warren), and the headmaster (Mr. Norman Whatley). Within the gate, where the names of those who fell in the war are inscribed, the Prince laid laurel wreaths. The members of the college council and the two senior masters (Mr. E. J. Barff and Mr. C. H. St. L. Russell) were presented to His Royal Highness, who then lunched informally with the boys in School House. Afterwards he walked to the new science school, pausing at the South African war memorial to place a wreath.

Earl Haig and the Headmaster welcomed the Prince in short speeches, thanking him for the honour he was conferring on the school, and His Royal Highness replied in a happy and apt speech. It was, he said, a particularly appropriate task for him to perform, seeing that he at present occupied the presidential chair of the British Association. In this capacity he had made many new friends, and had found that the learned men of science, of whom he had perhaps been a little afraid, had introduced him to many fresh interests. He advised the boys to pay some attention to natural science, even though it might not be their professional study, for the older they grew the more science was going to matter, and even a slight knowledge of it would add to the interest of life.

The head of the school then presented to the Prince the key of the building, a copy of a French key of 1870, with which the Prince opened the doors of the new school, and, passing inside, inspected the interior. He then visited the armoury and the library, and informally opened the new squash rackets and fives courts in the New Field.

It was a day of hot sunshine with cool breezes.

* We are indebted to the school authorities for courteously supplying details of the new laboratories.

BIRTHDAY HONOURS.

THE honours list issued on the occasion of His Majesty's birthday included the names of the following members of the medical profession:

K.C.V.O.

EDWARD FARQUHAR BUZZARD, M.D., F.R.C.P., Physician Extraordinary to the King; Physician to St. Thomas's Hospital.

K.B.E. (Civil Division).

CHARLES PERCY BARLEE CLIBBE, M.R.C.S., L.R.C.P., F.A.C.S., Consulting Surgeon, Royal Prince Alfred Hospital, Sydney, in recognition of services to the Commonwealth of Australia.

Knighthood.

CHARLES JAMES MARTIN, C.M.G., D.Sc., LL.D., D.C.L., F.R.S., M.B., F.R.C.P., Director of the Lister Institute, London (formerly Chairman of the Science Committee of the British Medical Association).

LOUIS EDWARD BARNETT, C.M.G., M.B., C.M., F.R.C.S., Professor of Surgery, Otago University, Dominion of New Zealand; President of the Australasian Medical Congress held at Dunedin, 1927, under the auspices of the British Medical Association.

C.B. (Military Division).

Major-General JOHN MACFARLANE SLOAN, C.M.G., D.S.O., M.B., late R.A.M.C., Deputy Director of Medical Services, Southern Command, India.

C.B. (Civil Division).

Colonel CHARLES PYE OLIVER, C.M.G., T.D., M.D., late Territorial Army.

C.V.O.

HENRY LINNINGTON MARTYN, M.V.O., M.B., F.R.C.S., Surgeon Apothecary to H.M. Household at Windsor.

C.I.E.

Lieut.-Colonel JOHN CYRIL HOLDICH LEICESTER, I.M.S., lately Officiating Surgeon-General to the Government of Bengal.

Major ALFRED GEDDES TRESIDDER, I.M.S., Surgeon to His Excellency the Governor of Bombay.

C.B.E. (Military Division).

Surgeon Captain ALFRED JAMES HEWITT, R.N.

C.B.E. (Civil Division).

NEIL MORRISON MACFARLANE, M.D., C.M., Principal Medical Officer, Basutoland.

WILLIAM MARSHALL PHILIP, M.B., C.M., lately Medical Officer of Health, Colombo Municipal Council, Ceylon.

O.B.E. (Military Division).

Surgeon Commander GUY LESLIE BUCKERIDGE, R.N.

Major CHARLES MORGAN FINNY, M.B., F.R.C.S., R.A.M.C.

Major JOHN HEATLEY SPENCER, M.D., R.A.M.C.

Captain HAROLD WILLIAMSON, M.B., F.R.C.S., I.M.S.

O.B.E. (Civil Division).

Dr. EDMUND LLOYD, M.B.E., Church Missionary Society.

Captain MAHOMED FAZAL-UD-DIN, I.M.S., Agency Surgeon at Jandola, South Waziristan.

ATTILIO CRITIEN, M.B.E., M.D., Chief Government Medical Officer and Superintendent of Public Health, Malta.

Mrs. CHARLOTTE ELIZABETH FERGUSON DAVIE, M.D., in recognition of her services in the Straits Settlements.

JOHN RANDALL PHILLIPS, M.B., Senior Member of the Legislative Council of Barbados.

Major HASAN SUHRAWARDY, Indian Territorial Medical Corps, medical practitioner, Bengal.

M.B.E. (Military Division).

Subassistant Surgeon Subadar GURDITT SINGH, I.M.D.

Quartermaster and Lieutenant JOSEPH EDWARD PUGH, R.A.M.C.

Jemadar SAYED GUL AKBER SHAH, Subassistant Surgeon, 2nd Cavalry Regiment, Iraq Levies.

Assistant Surgeon (2nd Class) HENRY CARLYLE WILLIAM WINDSOR, I.M.D.

M.B.E. (Civil Division).

KOBAD DHUNJIBHAI MUGASETH, Medical Practitioner, Calicut, Madras.

Kaisar-i-Hind Medal (First Class) (for Public Services in India).

Miss ETHEL ADELAIDE DOUGLAS, M.B., B.S., Medical Officer in Charge of the Kinnaird Women's Hospital, Lucknow.

Dr. CARL FREDRIK KUGELBERG, Church of Sweden Mission, Tirupattur, Ramnad District, Madras.

The Rev. CALEB DAVIES, Medical Superintendent, Santhal Mission Hospital, Sarenga, Bankura, Bengal.

Union of South Africa.

[FROM OUR CORRESPONDENT IN PRETORIA.]

ENZOÖTIC RABIES.

ALTHOUGH several outbreaks of rabies, more or less serious, were described as having occurred in South Africa last century, the disease has been almost entirely unknown in the Union during the past thirty years. There has been nothing comparable to the post-war prevalence which occurred on the continent of Europe. Of late years, however, disquieting evidence has emerged of the existence of rabies among two species of wild animals of the Union—the yellow mongoose and the genet cat. Both are small carnivores, the former belonging to the Viverridae and the latter to the Felinae. Both are shy animals, normally never approaching homesteads. But according to reliable native evidence they periodically go mad, and will then approach human habitations and actually attack persons. These natives maintain that a person or animal so bitten will often within a period of a month or two die after having shown signs of madness.

Since 1916 six cases have been described by country practitioners with symptoms indistinguishable from those of rabies, where the biting animal was shown to have been a mongoose. These cases have invariably been fatal after an illness never lasting longer than six days; in all it was found on subsequent inquiry that the patient had been bitten a month or six weeks previously by a mongoose. Unfortunately in none was pathological confirmation possible, as *post-mortem* material, when forwarded, invariably arrived at the laboratory in a decomposed state, so that neither recognition of Negri bodies nor inoculation tests were possible.

In December, 1920, a European male child on a farm in the northern Free State died two days after symptoms of rabies had appeared; six weeks previously he had been bitten in the shoulder while interfering in a fight between his domestic cat and a mongoose. The cat survived until after the death of the child, when it was killed and the head sent to the South African Institute for Medical Research in [illegible] result of the examination was negative [illegible] a case was reported from a farm in the [illegible] of the Transvaal. Eight weeks previous to the onset of symptoms the patient, an agricultural student, aged 21 years, had given chase to a yellow mongoose which he had come across wandering aimlessly on the veld. Ordinarily this creature is very active, and quite impossible to catch by chasing; yet this specimen was caught after being followed by its captor through four well strung barbed wire fences. It was, therefore, certainly not in normal health. When caught it bit the man savagely in the finger, and held on so pertinaciously that a knife had to be used as a lever to open the jaws. The case was described by the attending practitioner in the *South African Medical Record*, and the careful account left little doubt that the case was one of rabies. The relatives would not consent to a *post-mortem* examination, and the practitioner was unaware that such an examination could be ordered by the magistrate under Section 34 of the South African Public Health Act. The Department of Public Health was notified too late for confirmation by *post-mortem* and laboratory examination to be possible.

Last June a case was reported from a farm in the Wolmaransstad district of the Transvaal. A European boy, aged 7, was bitten by a yellow mongoose in the right hand, between the thumb and the first finger. He had found the animal lying ill in a prospector's hole. On lifting it, it took such a firm hold of the boy's hand with its teeth that his companions had to hit the animal with stones to induce it to let go. The wound healed cleanly, but some six weeks later the boy became drowsy and the site of the bite painful. Typical symptoms developed; spasm of the throat muscles of increasing violence occurred on attempting to drink; by the morning of the third day the lad was quite unable to swallow anything; the mere mention of fluid would bring on a violent spasm. Death occurred on the

evening of the third day, and the body was buried without examination.

In these and similar cases amongst natives, the infecting animal appears almost certainly to have been the yellow mongoose, locally known to the Boer farmers as the "witpuntstert meerkat" (*Cynictis penicillata*). We were becoming used to these cases when, last September, another animal became incriminated. A female European child in the Vryburg district of northern Cape Province became ill and died four and a half weeks after being bitten by a spotted genet cat. The symptoms described by the attending physician were again those of rabies. Thirty-two days prior to the onset of symptoms the parents had been visiting with the child at a neighbouring farm. All three slept outside on the stoep, the child being in a cot alongside the mother. The father was lying in bed smoking when he became aware of a noise in the cot. The mother woke, and, feeling instinctively with her hand for the child, encountered something furry, which she took to be the domestic cat. Trying to push this away she was bitten in the finger. Her husband then jumped up, and found that a wild cat had its teeth embedded in the child's throat. Removing the animal with difficulty, he was bitten in both hands. The cat was killed and thrown into the bush. After the child's condition (three and a half weeks later) had been diagnosed the parents were given a full course of treatment with carbolized antirabic vaccine, and neither developed symptoms. A *post-mortem* examination of the child was not performed.

Immediately this case was reported to the Department of Public Health an inquiry was instituted, and although no material suitable for laboratory examination was obtained some remarkable information was gleaned. In this and the neighbouring district of Mafeking there was found to be a general belief amongst both natives and European farmers that a fatal madness follows bites by mad wild cats. Only when mad will the genet attack man or large domestic animals, and then a fatal result is to be expected. An ox belonging to a progressive English farmer went mad and died some weeks after being bitten by a wild cat. Several natives and dogs were said to have died after similar experiences. There is little doubt that in the Mafeking and Vryburg districts rabies is endemic among the genets. They are handsome animals, and it is unfortunate that their extermination will become almost a necessity.

In addition to the cases directly attributed to mongoose or genet bites, several cases have been described since 1924 where the biting animal has been the domestic dog. But all these have occurred in regions where the yellow mongoose is plentiful, and the probabilities are that these dogs became infective through attacking or being attacked by diseased mongoose. Three cases of this nature have been reported since the beginning of the present year.

Hookworm in the Witwatersrand Mines.

Many causes have been assigned for the existence of the class of "poor whites" in South Africa. The occurrence of a certain number of poor whites in an essentially black man's country appears to be inevitable where it is insisted that the lowest white standard of living shall be considerably above that of the black standard. This standard of living assumes on the part of all whites capacities for earning superior to those of natives; and some whites will always fall short of such earning capacities. But in the Union the number of poor whites is relatively excessive; climatic and other causes to explain this are continually being sought. Without doubt in the malarious regions of the Union malaria is accountable for much lowering of earning capacity. At various times it has been suggested, without any apparent evidence, that in the semi-tropical parts of the Union hookworm disease might be an important contributory cause of the chronic lack of vitality and general ill health which characterizes the agrarian white population of these parts. There is still no proof and indeed little evidence in favour of this.

Though it is unlikely in the extreme that hookworm is parasitic in the intestines of Europeans of the Union unconnected with the mines other than as an exceptional occurrence, it has recently been shown that the parasites are quite common in natives working on one of the Rand mines; and even some European miners have been found to be infected. Last year a zoologist (Dr. Sanground) interested himself in the intestinal parasites of native mine workers. He examined the faeces of forty-six native patients in the City Deep Hospital and found that twenty-two of them were infected with hookworm. Dr. Orenstein, superintendent of sanitation of the Rand Mines, Ltd., decided as the result of this discovery that a systematic investigation of the subject was necessary. This is now being conducted by Professor W. O. Fischer, who has already made extensive examinations of the faeces of natives admitted to the City Deep Central Native Hospital. Similar examinations are to made at other mines. A preliminary report has been published by Professor Fischer and Dr. Orenstein; from the observations made at City Deep it is evident that a considerable number of the natives recruited from the East Coast (Portuguese East Africa) are infected with the parasite, and that infection occurs also in British South African natives. That the prevalence of hookworm amongst mine natives came almost as a sudden discovery is not very surprising when one remembers the well established fact that African races, though heavily infected, often show no obvious clinical manifestations of the disease.

After this investigation amongst natives had commenced the Miners' Phthisis Medical Bureau discovered the parasite in a group of ten European miners who had presented themselves at the bureau for medical examination. This appears to be the only group of European miners on the Witwatersrand known to have clinical symptoms demonstrably due to hookworm infection. The discovery of this European group led to an investigation of possible soil infection on the mines. In the four mines that have already been investigated hookworm larvae have been found in all in the soil forming the floor of latrines or their immediate neighbourhood and near drinking water containers. On these mines the only practical prophylactic methods are those which aim at guarding the mine soil from pollution, and the mass treatment of infected natives. A large proportion of the native miners do not habitually wear boots. Then the boots worn by native and most European miners are permeable to the water and mud both because of disrepair and because the lace-up type is used which permits of the entry of water through the lace holes.

Native Medical Practice in the Union.

There are in practice in the Union of South Africa six African Bantu natives. All of them are fully qualified, and, being on the *Register*, have the full rights and privileges of medical practitioners. Some of them appear, on their own evidence, not only to have large practices among Europeans, but to have actually more European than native patients. In view of the pressing need for medical services in the native territories this tendency of native graduates to adhere to the towns and practise chiefly among Europeans has caused adverse comment. It would appear to be most uncertain that State money spent in assisting native students to qualify in medicine would tend to alleviate native suffering in the territories. Even if such graduates were under contract to serve in the kraals, experience in West Africa has shown that such contracts are almost impossible to enforce. But opposition to the practice of native practitioners among Europeans has arisen. Since 1921 Dr. M. I. Molema has been practising in Mafeking, and has operated on European and native patients at the Victoria Hospital. From the beginning the nursing staff (all of whom are European) have shown resentment at having to take orders from an African when dealing with a white patient. Some six months ago they made a strong protest against Dr. Molema's operating on white patients while they had to assist at the operations and subsequently nurse the cases. As a result of that protest he ceased sending in European patients, but recently he again began sending such cases into hospital. When the third case, a girl of 19 years, arrived, the matron and nurses resigned in a body. That was on March 25th. The Mafeking Hospital Board in telegraphing the decision of the staff to the Administrator of the Cape Province stated that they were in sympathy

with the nurses. Though the staff has resigned, it is still carrying on the essential nursing services. After its resignation the hospital board again telegraphed to the Administrator a request that a section should be added to the hospital ordinance giving hospital boards the right to draw up a list of medical practitioners who were permitted to treat private patients in the hospital; urgent cases from other districts, however, always to be admitted.

Dr. Molema is the son of a chief of the Baralong tribe and car[illegible] Mafeking. He graduated M.B., Ch.B. [illegible] in 1919; he served during the war at [illegible] pital, Dublin, and subsequently at the Dublin Skin and Cancer Hospital. At Dublin he acquired a diploma in midwifery; he spent in all seven years overseas, returning to his native town of Mafeking in 1921. What the outcome of this local trouble will be is not yet clear, but it is significant of the growing opposition of the European community to the treatment of white patients, more particularly females, by native practitioners. Great publicity is being given to the trouble at Mafeking in the daily papers.

Scotland.

Treatment of Cancer.

At the annual meeting of the Royal Hospital for Home Relief to Incurables, Sir David Wallace, K.B.E., consulting surgeon to the Royal Infirmary, said that the society, which already dealt with late cases of cancer, which were incurable, might do something to assist in letting people know of the great importance attaching to early recognition of the disease. The report stated that the society began its work of relieving necessitous or deserving persons suffering from incurable disease 122 years ago. Nearly 500 sick persons in all parts of Scotland were at the present time receiving aid from the society, and the amount paid to annuitants during the year had been £4,897. The rate paid to incurable cancer patients under the Dunlop Fund managed by the society was £16 a year, and the total amount paid to annuitants suffering from this disease was £1,584.

The Hospital and the Home.

At a meeting of the Edinburgh Women Citizens' Association on May 18th Miss Nora Milnes, director of the Edinburgh School of Social Study and Training, gave an address dealing with hospital social service. She pointed out that although the country was provided with hospitals of unrivalled efficiency, a serious defect existed in the large number of men and women who had to be kept waiting for admission because of insufficiency of the beds. This problem could be dealt with in one of two ways. The more obvious method was to provide more hospitals and more beds, which, however, would entail a large capital outlay. A better and cheaper method was to see that when patients left the hospital their own home conditions were changed, so that an early return of the ailment should be improbable. A great deal of time and money at the present time was wasted because the patients left the hospital to return to homes in which convalescence was impossible, or to take up work unsuitable for their particular constitution. This could to a large extent be avoided by co-operation between the social and the medical expert. Doctors and nurses had not time to undertake this work, and a third person was required who possessed a special knowledge of social conditions and an understanding of the home environment of the patients. The scheme for trained social workers originated in London, when the first lady almoner was appointed to the Royal Free Hospital in 1895. In 1905, largely through the effort of Dr. Cabot, work had been started in America, and in Great Britain the idea had spread rapidly. Scottish hospitals in this respect were behind the times. The Maternity Hospital and Sick Children's Hospital in Glasgow had had lady almoners for some time, and within the last two years the Royal Infirmary of Edinburgh had appointed a lady almoner with two junior assistants. These provisions were, however, inadequate. The social worker must work under the doctor, and should, therefore, be appointed by the hospital, her duty being social diagnosis. Only through the co-operation of the two attempts could a cure be made real, and such united effort would enable the funds of hospitals to be spent to the best purpose.

Central Scottish Infirmaries.

At a meeting of Falkirk Dean of Guild Court on May 26th the plans were passed for the new Falkirk Infirmary, which is to be built on ground acquired at Gartcows, at an estimated cost of £100,000. The trustees of the infirmary are at present proceeding with the erection of five ward units and an administrative block, together with connecting main corridors. The buildings are to be constructed mainly of brick and concrete with freestone facing. The directors of Stirling Royal Infirmary are making an appeal for funds in aid of the new infirmary. The total amount required is estimated at £100,000, of which £75,341 has been already collected, including a sum of £9,500 paid by the education authority for the old infirmary. A further sum of £10,500 is to be received in grants for the maternity home. The new buildings are well advanced and it is expected that they will be ready for occupation by the summer of 1928. The directors of the Northern Infirmary, Inverness, have resolved to commence the reconstruction of the institution, at a cost of £100,000, of which £60,000 has been raised, the bulk of the money having been contributed by residents in various burghs and parishes in the North of Scotland. It has been decided to proceed at once with the erection of a children's ward, two central wards, and operating theatres, with connecting corridors and kitchen accommodation. Mr. A. J. C. Hamilton, M.B., F.R.C.S., has been appointed surgeon to the infirmary, in place of the late Mr. James Luke. Mr. Hamilton, who on graduation at Edinburgh University was awarded the Cunningham memorial medal and prize in anatomy and the Annandale gold medal in clinical surgery, at present holds appointments as clinical surgical tutor in the Edinburgh Royal Infirmary and senior clinical surgical assistant in the Royal Hospital for Sick Children, Edinburgh.

Edinburgh Royal Infirmary Pageant.

The annual public effort by Edinburgh citizens to collect funds on behalf of the Royal Infirmary took place on May 28th. The event was favoured by fine weather, and from early morning collectors were busy in the streets and in a door-to-door canvass of the suburbs. A special feature was the effort made by students of the university, dressed in all kinds of bizarre costumes. They offered a ticket conferring the degree of "Bache[illegible]" [illegible] the price of 5s., and this diplom[illegible] against any further appeals by [illegible] In the afternoon a great pagea[illegible] horse-drawn vehicles, staging various tableaux, paraded through the streets and collected money from the assembled crowd. Altogether the amount received was £4,200, an increase of £1,200 on the figure for last year, when owing to the industrial crisis the amount was unusually low; several auxiliary celebrations have been held in country districts, and when these have all come to hand it is expected that the total amount to be received by the Royal Infirmary will not fall far short of £7,000.

New Glasgow Dental Hospital.

At the annual meeting of the Incorporated Glasgow Dental Hospital, held on May 16th, the adoption of the report was moved by the Lord Provost, who presided. It was intimated that the governors had secured a site for a new hospital at 201, Renfrew Street, and that plans had been prepared which would give to Glasgow and the West of Scotland the finest dental hospital in the kingdom. An appeal to the public would shortly be launched for funds to provide the necessary £90,000. During the past year there had been 53,966 attendances of persons who were unable to pay dental fees.

Ireland.

MEDICAL CERTIFICATES IN SCHOOL ATTENDANCE CASE.

AT Millstreet District Court, in a case under the School Attendance Act, a letter was read from Dr. Elizabeth Murphy, Ballymackeera, Macroom, stating that she had attended the children concerned. Their father had applied to her for a medical certificate, which she refused for the following reasons:

1. She is not obliged to issue such certificates under the Medical Charities Act.
2. The medical officers of Macroom Union resolved not to issue such certificates, as no provision has been made for medical certification under the School Attendance Act.
3. In other countries special officers, including medical officers, are paid and appointed to carry out the provisions of the Act at the expense of the State.

The position taken up by Dr. Murphy in this case is in accordance with the law. Poor Law medical officers as such are under no statutory obligation to supply gratuitously medical certificates for the purposes of the School Attendance Act. Although medical certificates are *admissible and desirable, the district justices are empowered*, on other evidence being produced, either to impose a fine or dismiss without their production.

CHILDREN'S SUNSHINE HOME.

In the course of the annual report of the committee of the Children's Sunshine Home, Stillorgan, it is stated that very great encouragement was given by the visit of inspection by Sir Robert Jones, arranged by Sir William Wheeler, last November. Sir Robert expressed himself very much pleased with the treatment of the children, the arrangements of the home, and the nature and methods of the curative work carried out in it. Like the committee, he hoped for its eventual extension, and in the meanwhile regarded it as the start of a new movement, and a centre for the education of the public mind in curative endeavour of this nature. He expressed himself convinced that modern treatment could only be carried out in hospitals outside the city. An additional room for the artificial sunlight lamp was provided by Mr. and Mrs. Charles Jacob. The lamp, with its engine and dynamo, has been installed and is now in constant use. But with this addition to the curative means at disposal, it has been necessary to add another trained nurse to the staff, as well as a whole-time man to attend to the engine, furnaces, etc. Subscriptions to meet the increased current expenses, and donations towards the cost of the new buildings are urgently needed.

England and Wales.

MEETING OF THE MEDICAL WOMEN'S FEDERATION IN MANCHESTER.

THE half-yearly meeting of the council of the Medical Women's Federation was held at Manchester on May 12th to 14th, the President, Dr. Christine Murrell, in the chair. The President, Dr. Murrell, and the Vice-Presidents, Dr. Clara Stewart and Dr. Ellen B. Orr, were re-elected for a second year of office. The question of the right of the local associations of medical women, constituting the Federation, to issue publications of any sort independently of the Federation, was raised, and after considerable discussion it was decided that no local association could publish anything in the name of the Federation until the consent of the council had been given. Reports were received from the various committees of the Federation and from representatives of the Federation on committees of the British Medical Association and other outside bodies. The Venereal Diseases Standing Committee had prepared a pamphlet dealing with the duty of the State in the control of venereal diseases. This was referred to the local associations for their consideration before publication. Appreciation was expressed of the report of the League of Nations on the traffic in women and children, and a resolution was passed stating that the council of the Medical Women's Federation hoped that the Committee of the League of Nations would continue its investigations from the health point of view, since they were convinced that such investigation would demonstrate the medical futility of the whole regulation system. This council also recorded its unshaken belief that the non-compulsory system in force in Great Britain and Holland had produced, and promised to produce, the best results. A protest was made against any attempt to graft on any form of compulsion or to reintroduce the hurtful association of the control of venereal disease with the police. The Standing Committee for the Defence of Married Medical Women reported that a meeting had been held to consider what steps might be taken *to support the proposed Married Women's (Employment)* Bill. The proposal to get up a petition to Parliament was considered, but in view of the shortness of time it was considered that individual letters to members of Parliament from constituents would be more useful. This was advised, and many such letters were written. The Menopause Subcommittee had drawn up two questions in order to conduct an investigation on a wide scale into the phenomena of the menopause. These were being widely circulated and valuable results were expected. The question of underpaid posts was dealt with in the report of the Standing Committee on Public Health. To aid in dissuading women from accepting "blacklisted" posts a pamphlet, which had been drawn up by the Standing Committee, was considered and passed by the council. This will be distributed to newly qualified medical women and D.P.H. students, and be sent also to deans and secretaries of medical schools and others. Cases of underpaid posts applied for or accepted by medical women during the last six months were reported. In all cases where the names could be obtained the candidates were approached; several of these had shown great public spirit and had retired in consequence. While regretting that some women had accepted these posts, the council was pleased to note that no member of the Federation was among them. A new Standing Committee on Psychological Medicine was formed, after consultation with the representative of a group of medical women specially engaged in this branch of medicine, and discussion on the present position of medical women in asylum posts. Reports were received of the work of the Benevolent Fund, of the Medical Women's Federation Loan Fund, and the John Rains Memorial Loan Fund administered by the Federation. It was shown that these funds had been very useful, and were much appreciated. It was reported that the sum subscribed to the Dame Louisa Aldrich-Blake Memorial Fund amounted to £267, and a cheque had accordingly been sent to Sir Alan Anderson, honorary treasurer of the fund.

VICTORIA HOSPITAL FOR CHILDREN, CHELSEA.

The Victoria Hospital for Children, Tite Street, Chelsea, was founded in 1866, and, in connexion with its diamond jubilee, a special appeal for further support was launched; a deficit of £8,561 was reduced to £2,936. In the sixtieth annual report mention is made of the establishment of a special ward which renders it possible to retain under skilled supervision for twenty-four hours children who have had operations for the removal of tonsils and adenoids. The continued growth of the work of the artificial light and massage departments has necessitated expansion, and a new building has recently been constructed. The provision of private wards for children of parents who can afford to pay a special charge for this accommodation has proved very popular. Negotiations have been in progress with the London County Council for the treatment of school children for tonsils and adenoids, and for tuberculosis, other than the pulmonary form; the question of providing for their artificial light and convalescent treatment is also under consideration. During the year under review 1,677 children were admitted to the hospital, an increase of 337 on 1925; there was a reduction of over £3 3s. in the average total cost of each in-patient. A slight drop occurred in the average number of patients resident at the convalescent home at Broadstairs. A local committee has been formed to assist the home, and in the first year of its existence over £300 was raised.

WOODFIELD NURSING HOME, OLDHAM.

A new nursing home for Oldham is being provided by the adaptation of Woodfield, a house situated in a well wooded estate, which at one time belonged to the late Lord Emmott. It has been presented by Dame Sarah Lees, who has taken an active interest in public life in Oldham since 1890, and was mayor of the borough in 1910-11. When the reconstruction of the building is complete there will be accommodation for seventeen patients. A large well lighted operating room is being equipped and one wing is allotted to the nursing staff. Electric light is supplied throughout the establishment and the sanitation has been entirely reconstructed. The home will be managed by a committee, which will include the governors of the Oldham Royal Infirmary and the Nursing Association, together with local medical practitioners. Although it is not intended to seek to make a profit, the terms have been fixed so as to ensure its being self-supporting.

Correspondence.

RHEUMATIC INFECTION IN CHILDREN.

SIR,—In his "Notes on juvenile rheumatism" (May 28th, p. 952) Dr. Reginald Miller gives further evidence of his "*driving power*," *which Sir Humphry Rolleston recognized* in the preface to the first report of the special subcommittee of the British Medical Association.

All of us who have studied the two reports of the British Medical Association and that of the Medical Research Council will find this comparison of these reports a further welcome stimulus.

In his present paper Dr. Miller deals with six chief points of contact between the first report of the British Medical Association and that of the Medical Research Council, and, in regard to two of these, notes that "agreement appears to be lacking." These issues are still *sub judice*. But on the remaining four points he notes "it may fairly be claimed that agreement is shown."

The reports dealt with emanate from important bodies; the contributors to them are widely recognized as medical authorities, and correspondence of results in the two separate and distinct reports must carry great weight. It is consequently important to be very accurate regarding facts.

1. *The Influence of Social Status.*

As a result of the agreement he finds between the two reports on this point Dr. Miller states: "It may therefore be held to be established that juvenile rheumatism is a disease of the poor, but not particularly of the poorest."

"Juvenile rheumatism" is a wide term. In the report of the Medical Research Council Dr. Still states that the term "rheumatism" accepted there is: "only cases which either at the time or in their past history showed such pronounced evidence of rheumatism as to leave no doubt of their character; the majority, therefore, were cases with heart disease or chorea; cases of joint disease were only accepted as 'rheumatic' when they were either associated with heart disease or chorea, or were of the acute character known as 'rheumatic fever.'" The figures he gives from King's College Hospital and from private practice also deal with gross rheumatic lesions.

The subcommittee of the British Medical Association dealt with "rheumatic heart disease in children." It states "that in London acute rheumatism is practically confined to the poorer classes. There is no dispute about this fact. Hutchison may be quoted as having recently confirmed this. . . ." Other references are also given, and figures regarding overcrowding and cleanliness.

It would appear, then, that by the term "juvenile rheumatism" we are to understand gross rheumatic signs, and in so far as it is advisable to "avoid the wholesale notification of thousands of cases" this appears a wise limitation. But to state as established that juvenile rheumatism in all its various clinical manifestations is a disease of the poor would, it appears to me, go beyond the ascertained facts both of the committees and of clinical work. Dr. Still and Dr. Hutchison see few severe or advanced cases of rheumatism in private work, because doubtless there are few of such cases to see. But both must see many private cases where a doubt or a fear as to rheumatic infection is present, where great therapeutic care appears indicated and is taken, where as a rule there is no untoward development, but where occasionally uncompromising rheumatic signs develop. I would put it to Dr. Miller that while it can hardly "be held to be established that juvenile rheumatism is a disease of the poor" it could be more accurately stated that juvenile rheumatism under satisfactory conditions can usually be controlled.

2 and 3. *The Influence of Heredity and of School Environment.*

Frankly, the figures in neither report appeal to me as proving anything regarding heredity—either for or against its importance. Any agreement on the matter is simply that there is no accurate knowledge. So far as the report from the British Medical Association is concerned, I can find nothing more precise and original in it than the sentences on page 7 quoted by Dr. Miller, and this reference is, after all, merely a pious opinion of Dr. Miller's. True, in the report of the Medical Research Council it is stated by Dr. Still that "no sufficient evidence of heredity was forthcoming," and this somewhat ambiguous conclusion was arrived at as a result of much painstaking work and many mathematical calculations. But when we examine the nature of the work on the results of which the calculations were based we read (p. 12):

> "At the Children's Hospital, Great Ormond Street, all but 30 of the siblings of the rheumatic patients were actually examined by the medical officer. At the Royal Hospital for Sick Children, Glasgow, 118 were not examined owing to absence from home, etc. At St. Thomas's Hospital, owing to the fact that the medical examinations were carried out in hospital, 537 of the brothers and sisters of the rheumatic children and 117 of the siblings of the control cases were not actually examined."

On page 14 we read:

> "At St. Thomas's Hospital, although the mothers were seen by Dr. Forest Smith and Dr. Hamilton, it was not found practicable to examine them all medically, but they were closely interrogated as to their rheumatic history. It was also not possible to examine the fathers; their histories were obtained from the mothers. In many cases information as to health in childhood (especially of the fathers) was scanty or unobtainable; in others, the grandmother or other relatives were consulted to verify dates, etc."

We can but admire and agree with the ambiguity of Dr. Still's final conclusion, but it is hard to discover how Dr. Miller can obtain satisfaction from the "agreement" of the two reports on this matter. Dr. Miller then passes from the hereditary aspect to consider home environment, and as we may pardonably conclude that the former influence is still indeterminate, pre-rheumatic constitutional and environmental conditions must be of vital importance.

Dr. Carey Coombs, speaking of the rheumatic diathesis, says (*Rheumatic Heart Disease*, p. 20):

> "My own experience has not taught me to recognize any well defined type. The thin, eager, excitable child described by some writers as being prone to rheumatism is already rheumatic. . . ."

On the other hand, the late Dr. John Thomson wrote (*Clinical Study and Treatment of Sick Children*, p. 769):

> "In our dealings with cases which present any of the phenomena of rheumatism, we have always to bear in mind that the illness depends largely on the presence of a peculiar constitution or diathesis, and that the treatment of this is even more important, and certainly much more difficult to have carried out, than the management of its temporary manifestations."

Dr. H. C. Cameron seeks a middle path, and while of opinion that (*Diseases of Children*, p. 94):

> ". . . a catarrhal tendency, inherited and inborn, is very frequently met with . . ." he (p. 95) "leaves open the question of how far the tendency is due to inherited weakness and how far it is the result of faults of diet and of hygiene," and says, "The truth appears to be that in the lymphatic and catarrhal child, with the characteristically low immunity *against all infections*, either tuberculosis or acute rheumatism may appear as a later development."

There is, I think, wide clinical evidence of a pre-rheumatic constitutional peculiarity or abnormality, and Rosenow's work on streptococci emphasizes the importance of the recognition of this. It is doubtful if it is specific, and it may be impossible to mark the line of actual rheumatic infection.

In a leading article of the BRITISH MEDICAL JOURNAL of May 14th on "The constitutional factor in disease" it is stated: "George Draper has been working on the same lines as Kraus for some six years at the Presbyterian Hospital, New York, and regards constitution as 'the aggregate of hereditary characters influenced more or less by environment, which determines the individual's reaction, successful or unsuccessful, to the stress of environment.'" The "home" as opposed to the "school" must be the all-important environment, particularly in the early years of life, because we know, through the apparent absence of the disease in babyhood, that constitutional development or physical growth and experience is necessary as a preliminary to rheumatic infection.

As, however, the children in the four Poor Law institutions of the Medical Research Council report were certainly "children of the poor," and yet escaped the disease, it appears incorrect to speak of a "rheumatic stratum of society," but, again, better to say that under satisfactory home conditions the development of juvenile rheumatism can usually be prevented.

4. *The Influence of Tonsillar Disease and Tonsillectomy.*

I am whole-heartedly with Dr. Miller in hoping that the two reports will conduce to more complete treatment of infected tonsils. I also, however, most sincerely hope that the criterion of health or otherwise of a tonsil accepted by the committee of the Medical Research Council may not be that to be depended upon. On page 31 of this report it is stated:

> "In two centres—namely, the Children's Hospital, Great Ormond Street, and the Royal Hospital for Sick Children, Glasgow, the variation in the size of the tonsils has been taken as the criterion of their unhealthiness or otherwise. They have been recorded, in most cases, as small, medium, large, and very large. The 'large' and 'very large' have been classified as unhealthy and the others as healthy in the absence of any remark to the contrary."

I would assure Dr. Miller that, while I may appear to be attempting to pick holes, this letter is determined rather by recognition of the valuable work he has done and is doing, and with the hope that it may be carried to full fruition.—I am, etc.,

Liverpool, May 28th. A. DINGWALL FORDYCE.

SIR,—The comparison of the reports on juvenile rheumatism by Dr. Reginald Miller (May 28th, p. 952) is of great interest, especially the part in which he emphasizes the novel evidence put forward in the report of the Medical Research Council with regard to the non-appearance of rheumatism in Poor Law institutions.

As a member for many years of the local board of guardians, I took an interest in the children in the cottage homes, and was the means of introducing a system whereby every case of sickness was properly investigated. During that time all sorts of diseases occurred among the inmates, but never a case of rheumatism, chorea, or their sequel, heart disease. In these homes there was nothing in the form of luxury, but the food was good, in fact of a standardized quality. The following is a list of articles of diet, with the minimum amount for one child a week.

Bread 7 lb.	Butter 8 oz.	Oatmeal 3 oz.
Bacon 2 oz.	Eggs 3	Sugar 8 oz.
Suet or lard 2½ oz.	Jam 1 oz.	Cocoa 2½ oz.
Peas 3 oz.	Cake 4 oz.	Flour 12 oz.
Tea ½ to ¾ oz.	Beef, pork, or mutton, uncooked and free from bone 18 oz.	Vegetables 2 lb.
Milk (new, unskimmed and undiluted) 5 pints	Potatoes 3 lb.	Currants 2 oz.
Cheese 4 oz.		Rice 2 oz.

From this list it will be seen that each child gets at least 5 pints of milk (good milk), together with 4 ounces of cheese, 8 ounces of butter, and 3 eggs, with the result that each boy and girl is well supplied with lime-containing substances, and nothing in the form of vinegar, pickles, or sauces to reduce the quantity of lime in the body appears on the list.

These facts tend to emphasize my contention that every case of rheumatic fever or chorea arises from what I call the "acid or acid-taking" class, by which I mean that class of child who does not take milk, either through poverty or dislike, and aggravates this lack of lime-containing food by a partiality for acid or sour things.

The report of the Medical Research Council, by its statement that "want of maternal care" has much to do with the causation, seems to corroborate the conclusions at which I have arrived. If all investigators will agree that this subclass supplies all our cases of heart disease, we shall have achieved something substantial.—I am, etc.,

Swansea, May 31st. G. ARBOUR STEPHENS.

PROPHYLACTIC VACCINATION OF THE NEWLY BORN AGAINST TUBERCULOSIS.

SIR,—With reference to the second sentence of Professor Calmette's letter (May 28th, p. 987) I would point out that my criticism of what, as Professor Calmette explains, was the whole of Dr. Biraud's report to him was directed to the omission of details which, in my opinion, ought to have been published. I did not criticize Dr. Biraud's method of analysis; I think it was adequate and that no other statistician would get more out of the material than Dr. Biraud has already obtained.

The issues raised by Professor Calmette's work are, however, so important that I must ask your permission to expand my other criticism to which Professor Calmette does not refer. On page 210 of Professor Calmette's paper[1] there is an (italicized) assertion that, in France at least, 25 per cent. of children of tuberculous mothers or of children reared in contaminated surroundings die of tuberculosis in the first year of life. Let us examine the evidence upon which Professor Calmette relies. On page 206 he states that of 1,364 children reared under the stated conditions, 327 (24 per cent.) died in the first year "d'affections présumées tuberculeuses"; but we are not told what were the grounds of the presumption, what was the rate of mortality from *all* causes in the first year of life, and how the cases were chosen. On page 208, Strauss is cited as authority for the statement that of 6,820 children dealt with between 1906 and 1911 in Paris 3,429, or 50.28 per cent., died. We are not told whether this is the mortality of the first year or of the first five years of life, or what proportion of the deaths were due to tuberculosis. As the annual deaths of children aged 0 to 1 ascribed to tuberculosis in Paris numbered 213 in 1913, 168 in 1921, and 154 in 1922, 3,429 in five years would be more than six times the whole recorded mortality, so it is hardly credible that Strauss is referring to deaths from tuberculosis at 0 to 1. This evidence is, therefore, irrelevant.

On page 210 Weinberg is said to have found that in Stuttgart (1873-89) 30.52 per cent. of the children of tuberculous mothers died in the first year of life, but it is not mentioned that Weinberg (*Die Kinder der Tuberkulösen*, p. 58) also found that the death rate of the children of non-tuberculous mothers was 23.82 per cent., so that the excess mortality of the infants of the tuberculous was 6.70 per cent. These figures, which relate to mortality from all causes, have no direct relevance to Professor Calmette's contention, but Weinberg's very careful study does actually contain some relevant material which Professor Calmette has not quoted. The sixteenth chapter of Weinberg's book deals with the specific mortality of the children for the period 1873-1902, and I note these points. Considering only the children born within five years of the death of a tuberculous parent, 1,477 deaths occurred in the first year of life, and 84 of these deaths were certified to be due to tuberculosis. Assuming this to be an under-statement owing to imperfect certification, and making a liberal allowance for the understatement by multiplying by three, we reach 252, which is 17 per cent. of the total deaths.

Passing now from deaths to rates of mortality, I find that the rate of mortality from tuberculosis would be about 7 or 8 per cent., not 25 per cent. Now this estimate is in reasonable agreement with that of Kjer-Petersen and Ostenfeld, based upon a much smaller but more closely verified set of data. The maximum rate in their series (obtained by crediting the "doubtfuls" to tuberculosis) is 6.1 per cent., and the Upsala data of Bergman, quoted by

[1] *Annales de l'Institut Pasteur*, March, 1927.

them, give (when similarly treated) percentage mortalities ranging from 5.2 to 9.6. Dörner, who investigated tuberculosis in families in a district of Baden (see *Beitrage z. Klinik d. Tuberkulose*, xx, 1911, p. 20), gives the mortality from tuberculosis over the first *two* years of life as 17.1 per cent. when both parents died tuberculous, 8.7 per cent. when the mother only died of tuberculosis, 5.8 per cent. when the father only died of tuberculosis, and 1.9 per cent. when neither parent died of tuberculosis. All the evidence I have seen supports the view that both general and specific mortalities are higher amongst the children of the tuberculous than amongst the general population of children; none of it suggests that the excess specific mortality is of the order claimed by Professor Calmette. The importance of the point is obvious: if we have to do with a difference only of the order of a few per cent., we shall certainly need much larger compared samples in order to reach any satisfactory conclusion than would be the case if Professor Calmette's contention could be established. I suggest that the evidence he has tendered on this point is wholly *insufficient* to carry conviction.—I am, etc.,

MAJOR GREENWOOD.

Longhton, May 29th.

SYMPATHETIC INNERVATION OF STRIPED MUSCLE.

SIR,—In your editorial article of April 30th (p. 803) you very rightly bring again to the notice of surgeons the work of Royle and the late John Irvine Hunter in the treatment of spastic paralysis.

I should like to draw attention to the histological basis of the theory of the double innervation of striped muscle, as put forward by Hunter. He postulates the existence of two types of muscle fibre, one of which is solely innervated by sympathetic fibres, and the other solely by somatic fibres. This was based on Kulchitsky's work published in 1924 (*Journ. Anat.*, vol. lviii, 153). Boeke, who, on the other hand, commenced publishing work on this subject in 1909 (*Anat. Anz.*, 35, 193), holds that single muscle fibres are innervated by both sympathetic and somatic nerve fibres.

You quote Boeke as supporting the histological basis of Hunter's theory. In his most recent paper Boeke (1927, *Zeit. f. Mikr. Anat. Forsch.*, 8, 561) confirms his position with a wealth of diagrams, and states that it is certain that all striped muscle fibres receive a somatic innervation. This is quite contrary to Kulchitsky's observations, and to the theory as expressed by Hunter—that there is a type of striped muscle fibre which is innervated solely by the sympathetic fibres. In this paper Boeke concludes that, in opposition to the statement by Hunter and Latham, a spinal innervation to the thin protoplasmic rich muscle fibres was undoubtedly proved by degeneration methods.

While, therefore, the theory of a double function in striped muscle associated with its double innervation, somatic and sympathetic, may be gaining weight, the histology of the question is by no means so simple as would be inferred from your editorial article.

A further statement of the position and some evidence against the general acceptance of a type of innervation such as Kulchitsky found in snakes can be seen in my paper in *Brain* (1925, xlviii, 380).—I am, etc.,

H. S. D. GARVEN, M.D.

Moukden, Manchuria, May 19th.

UROGENITAL TUBERCULOSIS.

SIR,—There is one dogmatic statement in Mr. Nitch's otherwise instructive and interesting lecture (BRITISH MEDICAL JOURNAL, May 14th, p. 863) to which exception may be taken. He states that "in all cases tuberculin is of great value, but only after operation." I suggest, on the contrary, that tuberculin is sometimes so valuable before operation that all indications for operative treatment disappear; but on the other hand I doubt whether it is "in all cases of great value." It would be easy to quote from the literature and my own practice a considerable number of cases in support of these opinions, but one of my own cases may suffice at the moment.

Two years ago I showed a patient at a clinical meeting of the Manchester Medical Society for the purpose of illustrating the apparent value of tuberculin after operation had failed, and incidentally to suggest that it may sometimes render an operation superfluous. The history of this case is briefly as follows:

A man, aged 39, developed tuberculous epididymitis early in 1919. His left testicle was removed at the Manchester Royal Infirmary in June of that year. In May, 1920, he was referred to me for tuberculin treatment by Dr. H. F. Lee (Manchester), as the disease had developed in the right epididymis. He was febrile; there was a discharging sinus in the operation scar on the left side and the right epididymis was enlarged and tender; it subsequently broke down and discharged considerably from several sinuses for over a year. He became afebrile after six weeks' rest in bed. Tuberculin (BE) was then begun in very small doses (1/50,000 mg.) and cautiously increased. The maximum dose eventually reached about a year later was 1/1,500 mg. He returned to business after he had been under this treatment seven to eight months, as he had then regained weight and his general condition was very much improved. The subsequent history was that of steady improvement. He is now, at the end of seven years, in good health; all the sinuses are soundly healed. He still comes up occasionally for a prophylactic inoculation.

While a result of this kind is seen occasionally in genito-urinary cases, my experience is that glandular lesions give the most uniformly successful results. May I suggest in conclusion that, if it be agreed that appropriate tuberculin *inoculations* increase the resistance of some patients to the disease, there are valid theoretical grounds for adopting this treatment prior to operation in all afebrile cases, mainly in order to reduce the risk of disseminating the disease, which, I am inclined to think, sometimes happens as an immediate consequence of an operation. It is also well to have clearly in view the fact that an unpromising case may make, now and again, a surprisingly good response to tuberculin treatment, and that a contemplated operation may in such circumstances be avoided.—I am, etc.,

Manchester. J. STAVELY DICK.

AURICULAR FIBRILLATION.

SIR,—In view of the correspondence which has been taking place in the JOURNAL on the subject of auricular fibrillation, I will relate my personal experience.

My first attack of irregular cardiac action was while I was playing golf at Atherston in the early nineties; it quite spoiled my play for the time: occasional attacks came on at irregular intervals (five or six weeks) and often while sitting quietly or after meals. I remember one attack while on the Riffel Alp, which I attributed to the altitude. In the following year I had a bad attack while on a long cycle ride in Shropshire, in a hilly and difficult country. From these attacks I quite recovered, and was able to go about my duties and make my usual exertions without trouble. By degrees, however, the attacks became more frequent and I sought advice from many well known and "special" medical men. "Quot homines, tot sententiae:" some said indigestion, others nervousness, others arterial tension, and I was ordered valerian tea instead of tea or coffee for breakfast, sodium bicarbonate before meals, and 1/20 grain of calomel three times a day.

In 1912 I retired and went to reside at Eastbourne. In 1914 a friend gave me Bergonié's treatment; the damp cold cloth at my back produced a chill and I developed cystitis, which laid me up for some weeks, with the added discomfort of bacillus coli. The attacks of fibrillation ceased and have never recurred, but a slight irregularity of the pulse exists, with a rate of about seventy.

Until eighteen months ago I cycled regularly, but owing to lameness in my left hip I have been obliged to abstain from that mode of progression. I consulted Sir James Mackenzie in 1912, and at first he did not recognize the disease, and not until he had had electro-cardiograms taken did he announce that my disorder was auricular fibrillation.—I am, etc.,

Eastbourne, May 23rd. MILNER MOORE, M.D.

DRUGS FOR SLEEPLESSNESS.

SIR,—May I add my experience of the use of medinal to that of Sir Maurice Craig?

During the past eight years I have given medinal to over two hundred patients in doses of from 5 to 8 grains nightly over periods ranging from a few weeks to several

months. The patients were all suffering from neuroses or mild psychoses. I have found it a most valuable drug; all patients have been under my close observation in a nursing home, and I have never seen any ill effects from its use, and although I keep in touch with patients after they leave my care, I have never heard of a case where its use was not readily discontinued. Under proper supervision medinal is a most valuable hypnotic, and it would be a great misfortune if its use should be discredited.—I am, etc.,

Chobham, Surrey, May 31st. CHARLES H. CALDICOTT.

POST-MORTEM EXAMINATIONS IN GENERAL PRACTICE.

SIR,—I would submit the following points for consideration:

1. In the majority of cases conditions found *post mortem* are not exactly those that were expected, even though the diagnosis is confirmed. Generally there is more, or there is less, than was thought to exist. Sometimes the doctor has a severe shock, sometimes he goes away from the *post-mortem* room completely mystified.
2. A laboratory in close proximity to the *post-mortem* room is essential. If this is not provided much valuable information may be lost, and in many instances the whole point of the case missed.
3. *Post-mortem* examinations are a supplement to clinical work. Granted he has average knowledge of pathology, the man who has attended in life will form a truer view of the whole case than an expert who sees the dead body for the first time.

For these reasons, if the extension of the public health service that has been mooted is ever brought about, I would recommend that laboratories as well as pathologists be provided and that the medical attendant be present and have joint responsibility for the report, lest half the value of these examinations be lost.—I am, etc.,

Southend-on-Sea, May 29th. R. A. S. SUNDERLAND.

Medico-Legal.

THE LUNACY LAW: LIMITATION OF ACTIONS.

HARNETT *v.* FISHER.

SINCE the decision of the House of Lords in the case of Harnett *v.* Bond and Adam received consideration in our columns, Mr. Harnett has obtained the verdict of a special jury that he was sane on the date when Dr. Holdrich Fisher gave a certificate on which a reception order was made out, and that Dr. Fisher did not act with reasonable care in certifying him. Owing, however, to the fact that Mr. Harnett did not issue his writ within the period allowed by the appropriate Statute of Limitations, judgement was entered for Dr. Fisher by the trial judge, and this judgement was upheld both in the Court of Appeal and in the House of Lords. The proceedings at each stage have been recorded in our columns, and the judgement of the House of Lords was reported at some length in our last issue (p. 1036). It was considered advisable to do so because no such report has been published elsewhere, but the decision of the House of Lords was on a point of law, and no principle of medical importance arose.

The only question on appeal was the purely legal one, whether Mr. Harnett's right of action was barred owing to the lapse of time before he issued his writ. Consequently the three reasoned judgements delivered by Lords Sumner, Atkinson, and Blanesburgh—the remaining two members simply concurring—contain references of a highly technical nature to various sections of Acts of Parliament, the effect of which cannot be fully appreciated by those who are not lawyers.

The majority of the House decided that the defendant doctor had properly pleaded the Statute of Limitations, 21 James I, c. 16, and that, as the writ was not issued within six years of the date on which Dr. Fisher made his examination and signed his certificate, the action was barred by that statute. The certificate was given on November 10th, 1912, and from that date until October 15th, 1921, Mr. Harnett was, in fact, an inmate of various asylums. It was accepted by the House of Lords that between those years Mr. Harnett was unable to bring his action, and a peculiar legal dilemma arose from which Lord Blanesburgh, in particular, attempted to find a way out. The ancient statute of James I said that in the case of a person *non compos mentis* time would not run until after such disability ceased, and so Mr. Harnett pleaded that from the date he was certified until October 15th, 1921, he ought in law to be treated as *non compos mentis*. Thus we have the spectacle of a plaintiff asking a jury for a verdict that he was in fact sane, and asking a judge for a ruling that he was in law insane during the same period of time for the purposes of the Statute of Limitations.

On a "liberal" construction, the plaintiff urged, the statute should be read so as to bring such a case as his within the disability section. The trial judge and all the judges on appeal, however, came to the conclusion that the statute could not be construed in that sense. Lord Sumner bluntly said that it could not be so interpreted without wresting it from its language in a way that could not be permitted.

It may seem strange that the Statute of Limitations was running against Mr. Harnett's right of action during a period when, in fact, he was in an asylum and was unable to issue his writ; but, on the other hand, the medical profession, upon whose members rests the responsibility of administering the Lunacy Acts, would be unfairly placed if the alternative construction were adopted, and an action for negligence were suspended over the head of the giver of a certificate during the whole of the period of the certified person's confinement, however long that period might be, and for six years afterwards. Both Lord Sumner and Lord Blanesburgh realized that this alternative construction was impossible, but whilst Lord Sumner held that the hardship occasioned by this dilemma must be borne by the party who, upon the ordinary construction of the words of the statute, should bear it, Lord Blanesburgh sought a solution in the Public Authorities Protection Act, 1893. His solution amounted to this. The Lunacy Act of 1890, like its predecessor of 1845, contained a provision that all actions must be commenced within twelve months of the release of the party bringing the action. Dr. Fisher had pleaded this section, only to discover before the trial that it had been repealed by the Public Authorities Protection Act, 1893. It was in these circumstances that Dr. Fisher amended and pleaded the statute of James.

Because Section 82 of the Lunacy Act, 1890—giving a person who considered he had been unjustly confined as a lunatic the right upon discharge to copies of the certificates on which a reception order was made—remains unrepealed, Lord Blanesburgh was led to the conclusion that the twelve months' limitation prevailing from 1845 until 1893 was not abolished, but lived in the shorter period of six months laid down in the repealing Act of 1893.

In other words, whilst Lord Sumner and the other members of the House held that the plaintiff's right of action was barred by the Statute of Limitations running against him continuously from November 10th, 1912, to November 10th, 1918, when he was still in the asylum, Lord Blanesburgh held that the plaintiff's right of action was barred by the Public Authorities Protection Act, 1893, running against him for six months from the date of his release. Lord Blanesburgh's conclusion did not help Mr. Harnett, the writ in the action having been issued more than six months after his escape, although, had the remaining members of the House agreed, it might have gone towards helping future plaintiffs in a similar position.

Lord Blanesburgh's argument presumes, however, that a medical practitioner, in giving a certificate for the purposes of a reception order, is doing an act to which the Public Authorities Protection Act, 1893,

applies; but here he is in disagreement with Lord Atkinson. As was said by Lord Buckmaster in another case, there are duties and authorities which are not public, to the exercise and discharge of which the Act of 1893 does not apply. In Lord Atkinson's view, the giver of a certificate for the reception of an alleged lunatic owes no duty to the general public or to any public institution or authority—he is simply engaged as a medical man to give an opinion as to a patient's state of health. Therefore, the limitation of six months provided by the Public Authorities Protection Act not applying, Lord Atkinson fell into line with Lord Sumner's view that the appropriate Statute of Limitations was that of James, despite the words of Lord Blanesburgh that the statute of James was singularly unsuited to this claim.

Therefore it will be seen that an anomalous situation in our lunacy laws was created by the repeal of the twelve months' limitation laid down in the Act of 1890. The circumstances of this case—in which one member of the House of Lords finds a substitute of six months in a later Act, and the remaining members, disagreeing, are driven back upon a statute of 1623 which prima facie may work injustice to a plaintiff—provide another consideration to which the Legislature should give attention when, in the fullness of time, it shall find opportunity to amend the law, in order that justice may be done alike to the general public and to their servants, the members of the medical profession.

Obituary.

HENRY COOK, M.D.,
Surgeon-General, I.M.S.(ret.).

SURGEON-GENERAL HENRY COOK, Bombay Medical Service (ret.), died on May 30th, at the age of 95. He was educated at the Grosvenor Place Medical School, at St. George's, and at St. Mary's Hospitals, and took the M.R.C.S. in 1854 and the M.D.St. Andrews and M.R.C.P. Lond. in 1858. He was elected F.R.C.P.Lond. in 1883. He entered the Indian Medical Service as assistant surgeon on January 24th, 1855, over seventy years ago, he attained the rank of deputy surgeon-general on June 23rd, 1884, and retired on November 21st, 1886, with an honorary step in rank. In his early years he served in Persia in 1857, and in the Abyssinian war of 1867-68, gaining the medal for each. His subsequent service was chiefly in civil employ in Bombay Presidency, where he held professorships in the Grant Medical College, Bombay, for many years, first that of hygiene, and afterwards the chair of medicine, in combination with the principalship of the college, until his promotion to the administrative grade.

During the last twenty-three years he had lived at Lee-on-Solent. He was a Fellow of the Royal Geographical, Meteorological, and Geological Societies, and a J.P. for Gloucestershire. During his career in Bombay he had been for some time chairman of the Bombay Municipal Corporation. He leaves a widow, two sons, and two daughters.

Since the death of Deputy Surgeon-General P. W. Sutherland, on June 6th, 1925, Surgeon-General Cook had been the senior officer on the retired list of the Indian Medical Service. The Indian Medical Service was closed to competition from 1860 to 1865, and there are now only two officers left alive, or at least shown as living, in the Army List, who entered that service previous to 1860: Surgeon-Majors A. Gamack (Madras, 1856) and G. Henderson (Bengal, 1859). As the Crown took over the Government of India from the East India Company in 1858, Dr. Gamack is the only Company's medical officer now living.

We regret to record the sudden death, on April 28th, of Dr. JAMES WEIR STEWART of Kelvinside, Glasgow. While proceeding to visit a patient he was suddenly taken ill and was assisted to the police station at Old Monkland. A doctor was summoned and a restorative given, but in half an hour he succumbed, death being due to angina pectoris. He was educated at George Watson's College, Edinburgh. He graduated M.B., C.M. in 1885, and afterwards studied diseases of the eye in London. He practised in the north-western district of Glasgow for nearly twenty years. In 1908 he accepted the post of medical officer to the Scottish Mineowners' Defence and Mutual Insurance Association. During the war he did valuable work for the British Red Cross Society. He was of a generous and kindly nature and of a buoyant disposition. He was not only much respected but greatly beloved by all with whom he came into contact, and will be greatly missed for his many unrecorded deeds of kindness. Dr. Stewart was unmarried, but leaves a sister who resided with him.

DR. ALLAN WHITFIELD, who died on May 23rd at Babbacombe, was born in Shropshire in 1864, and received his medical education at Owens College, Manchester. He obtained the diplomas L.R.C.P., L.R.C.S.Edin., L.R.F.P.S.Glasg., and L.M. in 1895, and two years later the M.R.C.S.Eng. and L.R.C.P.Lond. For many years he carried on practice in Manchester, and during the war was a member of the recruiting board in that city. In 1921 he began to practise in Burton-on-Trent, but in the following year ill health compelled him to retire and live in the South of England. In 1924 he resumed active practice at Kingsteignton in Devon, but in 1926 he was again obliged to retire, and died after a long and painful illness. He was a member of the British Medical Association and of the Manchester Medical Guild. He is survived by his wife and one daughter.

DR. EDWARD LOFTUS CAMBIE, who died on May 28th at his residence in Templemore, Tipperary, was born on December 25th, 1869, and received his medical education at the Royal College of Surgeons and the University of Dublin. He obtained the diplomas L.R.C.S.I., L.R.C.P.I., and L.M. in 1892. He carried on medical practice for twenty-one years at Portsmouth, and previous to this in London. Dr. Cambie was a man of considerable ability, and was held in the highest esteem by all who knew him. He was a member of the British Medical Association until his retirement from practice.

Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

THE House of Commons will reassemble on June 13th and resume the Committee stage of the Trade Disputes and Trade Unions Bill. The Vaccination Bill has been put down for second reading on June 15th. Time is not likely to be available for its discussion, but Dr. Fremantle, Dr. Watts, Sir Richard Luce, Sir George Berry, and Dr. Vernon Davies have put down a motion for its rejection.

Mr. Baldwin announced, on June 1st, that the House of Commons would probably adjourn about the end of July, but that it would have to sit again during the autumn to complete the business of the present session.

On June 2nd, on the motion that the House adjourn over Whitsuntide, Sir A. Steel-Maitland replied to a debate on the Geneva Convention on hours of labour. He said that the object and policy of the Government in regard to this Convention was as recently stated by the Earl of Balfour in the House of Lords, but that the Government had to get over the difficulties first. He pointed out that the French Government had interpreted the Convention in a way which would be impossible in this country. For instance, it had, by regulations under the French Eight Hours Law, enacted that railwaymen might be required to be in attendance for twelve hours, counting as eight hours' work. To clear up the difficulties would take some time. In Great Britain such cases as those of the crucible-iron workers and the tailors who were on piecework without set hours at all had to be met.

Later in the same debate Mr. Lansbury called attention to the imprisonment of Mr. Bose, town clerk of Calcutta, under the Bengal Criminal Ordinance. Earl Winterton (Parliamentary Under Secretary for India) said, in reply, that Mr. Bose was imprisoned for breaking the law against revolutionary crime. Some time ago his health was found to be unsatisfactory, and a conditional offer of release was made, which he refused. Shortly afterwards, further investigation was made into the condition of his health, and it was found that he had not

improved. It was not true to say that he was dying, but his health was not improving, and consequently the Government released him unconditionally.

Shop Acts, 1920 and 1921.

When the Committee which is considering the Shop Acts of 1920 and 1921 met on May 31st Dr. Marion Phillips and Mrs. Adamson gave evidence on behalf of the Standing Joint Committee of Industrial Women's Organizations. They said inquiries showed that there was no real demand for later hours in confectioners' shops. Girls employed were often extremely young, and suffered physically from the long hours. Instances were given of sickness and general debility among them.

The General Medical Council.—Answering Mr. Macquisten, on June 2nd, Mr. Chamberlain said he did not think that modern developments in therapeutics necessitated any revision of the powers and duties of the General Medical Council. He added that the Earl of Balfour shared this view. Mr. Macquisten, in his question, had asked for the appointment of a Royal Commission to inquire into the operation of the Medical Acts and the powers and privileges of the General Medical Council.

Number of Insured Persons.—Mr. Chamberlain announced that at the end of 1926 there were, exclusive of persons over 70 who had ceased to pay contributions, 9,857,000 males insured in England and Wales under the National Health Insurance Act and 4,658,000 females. Since the end of 1925 the increases were 251,000 and 68,000 respectively. In Scotland the comparable figures at the end of 1926 were 1,144,000 males and 571,000 females, being an increase in the year of 28,000. In Northern Ireland the figures for 1926 are not expected to show material change from those for 1925, which were 194,300 males and 139,700 females.

Notes in Brief.

The latest official information from the Bombay Presidency indicates that conditions continue to improve in the four districts affected by cholera. In the week ended April 30th, 1,092 attacks by, and 461 deaths from, cholera were reported in these districts.

In a reply to Mr. Groves, Mr. Chamberlain said he would not introduce legislation requiring parents who believed in vaccination to make a statutory declaration of belief in order to have the right to subject their children to it.

Mr. Chamberlain states that the substantive regulations dealing with the standardizing of vaccines and serums will be laid before Parliament, and will be available immediately after the Whitsun recess.

Mr. Baldwin has stated that no useful purpose would be served by setting up a Royal Commission on the financial difficulties of the voluntary hospital system.

The Minister of Health announces that it is proposed to instal artificial light treatment at the North Wales Sanatorium, Denbigh. Arrangements have been made for it at the Orthopaedic Hospital at Gobowen and at the Wrexham Dispensary.

A bill to provide for the humane slaughter of animals in Scotland was presented, on June 2nd, by Colonel Moore, supported by Dr. Drummond Shiels.

No women police doctors have been appointed in the Metropolitan Police area.

No standard tests are prescribed to ensure that imported condensed milk complies with the Public Health (Condensed Milk) Regulations, but tests are made at discretion by the Government chemist and by public analysts.

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

AT a congregation held on June 4th the following medical degrees were conferred:

M.D.—C. H. C. Dalton, E. H. H. Granger, L. E. H. Whitby.
M.B., B.CHIR.—R. K. Debenham, R. L. Lancaster, R. D. Milford, J. H. Randall, R. E. Smith.
M.B.—H. V. Dicks, H. V. Coverdale.

UNIVERSITY OF LONDON.

THE following candidates have been approved at the examination indicated:

THIRD M.B., B.S.—*‡G [illegible] (Westminster medal)
‡E. A. Freeman, [illegible]
Louis, *‡J. M. Tu[illegible]
Anson, Cécile H. L[illegible]
D. E. Barton, A. D. Benbow, Joan M. [illegible]ackledge, D. A. Blount, Eleanor D. Blunt, Hilda M. P. Bond, D. G. Bown, D. A. Brigg, Muriel Brighton, Margaret H. Brown, Helen M. Browne, Helen R. B. Buck, T. S. Cochrane, A. Cohen, Mary C. E. Constantine, E. S. Curtiss, F. J. Darbyshire, G. I. Davies, T. E. Davies, J. Dean, A. E. de Chazal, Jean M. Dollar, Margaret R. Dunlop, M. H. C. Dyson, J. Evans, F. M. M. Eyt n-Jones, Dora J. Fox, A. E. Fraser-Smith, J. Gabe, B. M. C. Gil-enan, A. S. Gough, W. P. Greenwood, C. H. Hamp-hire, Kathleen Hoyes, H. F. Hiscocks, Janet I. Hoare, Joan Houseman, E. G. [illegible] Ledger, W. Leslie, A. H. Lev[illegible] Joyce McConnell, A. C. MacL[illegible]uende, J. W. Nankivell, Helen E. M. Newman, Joan Nixon, Marjorie E. Parfitt, S. M. Power, Marion Ravell, J. H. O. Roberts, L. Roberts, W. C. Robinson, Enid H. Rockstro, S. T. Seccombe, M. Sendak, J. Silverstone, K. S. Smith, G. E. F. Sutton, F. W. Ta'Bois, Kathleen E. Tresillan, Maeve Whelen, Elizabeth M. Whishaw, J. S. Whitton, H. E. Williams, B. H. H. Wooderson, E. Wornum.

* Honours. † Distinguished in Medicine.
‡ Distinguished in Pathology. ‖ Distinguished in Surgery.
§ Distinguished in Midwifery.

Group I.—Marjorie F. Brierley, D. A. Dewhirst, Phyllis M. Edgar, L. Fatti, A. Golombek, C. B. Huss, Caroline M. Kingsmill, F. E. Kingston, [illegible] H. Livingstone, W. E. Lock, He[illegible], Ethel E. M. Ogilvie, Evelyn P[illegible]et E. Peaker, K. R. T. Peiris, E. [illegible] Skipper, J. R. C. Spicer, Victoria [illegible] Thornton, Winifred M. Turner, [illegible] Williams, H. D. Wyse.

Group II.—G[illegible] V. FitzC. Anderson, C. G. Bowen, F. W[illegible] J. A. Cholmeley, Doris B. Clay, R. R. [illegible] R. Forrest, K. T. Gajjar, Dorothy Gode[illegible]bbes, K. H. Lachlan, M. L. Maley, W. D[illegible] M. Phadke, B. F. Russell, C. F. J. Smith[illegible] M. Stuart-Harris, Olive F. Sydenham, I[illegible] h, J. G. Weston, C. L. Worthington, Elsie B. Wright.

UNIVERSITY OF BIRMINGHAM.

DR. I. DE BURGH DALY, Lecturer in Experimental Physiology Welsh National School of Medicine, University of Wales, Cardiff has been appointed to the Chair of Physiology, vice Professor E. Wace Carlier, retired.

At the annual degree congregation to be held on Saturday, July 2nd, the honorary degree of LL.D. will be conferred upon the following members of the medical profession: Sir David Ferrier, F.R.S., Sir Watson Cheyne, Bt., K.C.M.G., F.R.S., and Sir Walter Fletcher, F.R.S., secretary of the Medical Research Council.

ROYAL COLLEGE OF SURGEONS IN IRELAND.

AT the annual meeting of the Royal College of Surgeons in Ireland, held on June 2nd, a resolution was adopted unanimously thanking Mr. R. Charles B. Maunsell, the ex-President of the College, "for the admirable and successful services he rendered the College, and, indeed, the profession in Ireland in general, in connexion with the settlement of medical registration in the Free State, after consultation with the members of the Executive Council of the Dail."

The Services.

INDIAN MEDICAL SERVICE DINNER.

THE annual dinner of the Indian Medical Service will be held at the Trocadero Restaurant on Wednesday, June 15th, at 7.15 for 7.30 p.m., when Major-General R. W. S. Lyons will take the chair. Tickets and all particulars may be obtained from the joint honorary secretary, Colonel J. J. Pratt, I.M.S. (ret.), 18, Nevern Mansions, Warwick Road, London, S.W.5.

DEATHS IN THE SERVICES.

LIEUT.-COLONEL EDWARD TEMPLE HARRIS, D.S.O., I.M.S., died of peritonitis, on May 24th, at Mayoyo, Burma, aged 49. He was born on April 27th, 1878, the son of the late Dr. A. B. Harris of Falmouth [illegible]'s College, Cambridge, and at the Middlesex [illegible]d as B.A. and B.C. in 1903, and as M.B. in [illegible]After filling the post of house-physician [illegible] he entered the I.M.S. on August 31st, 1903 [illegible] of lieutenant-colonel on February 28th, 1923. [illegible] the recent great war, was thrice mentioned in dispatches, and received the D.S.O. in 1917.

Captain Gautam Kumar, I.M.S., died on April 4th, aged 32. He was born on June 15th, 1894, and educated at the Punjab University, Lahore, where he graduated M.B. and B.S. in 1918. Entering the I.M.S. as a temporary lieutenant on July 23rd, 1918, he received a permanent commission on November 1st, 1920, and became captain on July 23rd, 1921. He served in the latter part of the recent great war.

Medical News.

THE ninety-first annual report, for the year 1926, of the Royal Medical Benevolent Fund is a volume of 200 pages, a large proportion of them, in the nature of things, being given to lists of donors and subscribers. Matter of most general interest will be found in the brief report of the Committee of Management, presented to the annual meeting two months ago, and reported in our issue of April 16th, p. 740. It will be recalled that during the year there was an increase of £1,050 in new subscriptions, and altogether 622 persons were relieved by grants or annuities. The income from subscriptions and donations was £7,250, and from invested property £4,718. The total distribution was £10,770, and the working expenses were £1,367. Discussing the financial position generally the committee expressed the hope that as the result of the organization set up by the British Medical Association, the income of the Fund would increase, and thus enable assistance to be disbursed on a larger scale. Grateful acknowledgement is made to the continued assistance of the Association in collecting subscriptions from its members; these amounted to £1,141 in 1926. Thanks are also tendered to the editors of the *British Medical Journal* and the *Lancet* for their help by publishing monthly reports of the meetings and in other ways.

IN connexion with the approaching Annual Meeting of the British Medical Association in Edinburgh next month it may be well to remind members proposing to attend that the Hotels and Lodgings Committee has taken over all the available rooms in the city. Dr. Drever, the Scottish Medical Secretary, 6, Drumsheugh Gardens, Edinburgh, has undertaken the work of allocation, and members requiring rooms should communicate with him without delay. Very few single rooms are available in hotels, but there are some in boarding houses and hostels, and there are plenty of double rooms. Members proposing to attend the meeting who have made their own arrangements for accommodation are requested to notify Dr. Drever.

THE summer dinner of the Australian and New Zealand Medical Association in England will be held on June 17th at the Piccadilly Hotel. Mr. Joseph Cunning will be in the chair, and Sir John Bland-Sutton, Bt., will be the official guest. Medical visitors are invited to communicate with the honorary secretaries, E. T. C. Milligan and Bedford Russell, 86, Harley Street.

THE annual meeting of the Sheffield Association of the Medical Women's Federation will be held in the Medical Library, the University, Sheffield, on Saturday, June 25th, at 3.45 p.m., when an address will be delivered by Dr. Helen Boyle (Brighton) on manifestations of nervous instability. A cordial invitation is extended to all members of the profession to be present.

THE next meeting of the Biochemical Society will be held in the Biochemical Department, The Museum, Oxford, to-day (Saturday, June 11th) at 3 p.m.

SIR RICHARD T. GLAZEBROOK, K.C.B., F.R.S., formerly Director of the National Physical Laboratory, has been appointed a member of the Advisory Council for Scientific and Industrial Research.

THE General Medical Council has republished the report on the conditions under which medical and dental practitioners registered or legally qualified in their own country may practise abroad. The book first appeared in 1910 and subsequent editions were issued up to 1921. Lists are included of countries in which medical practice is permissible without legal qualifications, and of those where naturalization is an essential requirement. The information given is for the most part of a general nature, but in every case an address is supplied of an official from whom further information may be obtained. The volume, which is obtainable from Messrs. Constable and Co., Ltd. (10, Orange Street, London, W.C.2), at the price of 2s. 6d. (postage extra), will be found very valuable by those who are contemplating medical practice in foreign lands. The Dental Board of the United Kingdom has prepared a memorandum (price 1s., post free) on the procedure to be adopted by those who wish to enter the dental profession, with notes on the costs and prospects. Reference is made to the system of bursaries instituted by the Board, and it is suggested that a considerable increase in the number of dental students is desirable. Further information about these bursaries may be obtained from the Registrar of the Dental Board, 44, Hallam Street, Portland Place, W.1.

AN employment bureau for convalescent patients from tuberculosis has been opened by the Society of Superintendents of Tuberculosis Institutions, with a temporary office at 122, Harley Street, W.1. Lists of vacant posts will be supplied at intervals to members of this society and the Tuberculosis Society.

THE fifth congress of French-speaking pediatrists will be held at Lausanne next September, when the following questions will be discussed: Treatment of paralyses in childhood; vaccine treatment of bronchopneumonia.

THE Accademia dei Lincei of Rome, founded in 1603, has received an annual donation of 4,275 dollars from the Rockefeller Institute for the purchase of scientific periodicals.

A BUST of Emil von Behring was recently unveiled in the hall of honour of Mexico University, of which he had been made a doctor *honoris causa* in 1910.

DURING 1926, 1,614 cases of acute poliomyelitis with 171 deaths, and 6,787 cases of puerperal fever with 1,872 deaths, were notified in Germany.

WE have received a copy of the fourth volume of papers emanating from the Obstetrical and Gynaecological Clinic of Copenhagen University. It consists of a collection of seventeen articles in French, German, English, or Danish, which have been published elsewhere, with an appendix dealing with the statistics of the clinic for the year 1925.

A PAMPHLET describing the natural brine baths of Droitwich can be obtained from Mr. H. Berkeley Hollyer, Baths Offices, Droitwich. A detailed account is given of the various forms of treatment and of the surrounding country, with numerous illustrations.

Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to ***The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.***

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the BRITISH MEDICAL JOURNAL alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the BRITISH MEDICAL JOURNAL must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the JOURNAL, should be addressed to the Financial Secretary and Business Manager.

The ***TELEPHONE NUMBERS*** of the British Medical Association and the BRITISH MEDICAL JOURNAL are *MUSEUM 9861, 9862, 9863,* and *9864* (internal exchange, four lines).

The ***TELEGRAPHIC ADDRESSES*** are:

EDITOR of the BRITISH MEDICAL JOURNAL, *Aitiology Westcent, London.*

FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westcent, London.*

MEDICAL SECRETARY, *Medisecra Westcent, London.*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 4737 Dublin), and of the Scottish Office, 6, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 4361 Central).

QUERIES AND ANSWERS.

"T. D." asks for advice in the treatment of a man, aged 62, who, for the past three years, has suffered every three or four weeks from attacks of vomiting, accompanied by profuse perspiration, and lasting from one to six hours. The patient has been examined by a specialist and has been given laxatives, without improvement.

NEURITIS AND ULTRA-VIOLET RAYS.

DR. C. BURGOYNE PASLEY (Perak, F.M.S.) asks for suggestions for the treatment of a woman, aged 40, in whom neuritis developed after exposure to ultra-violet rays. She had resided in the tropics for many years, but underwent two operations while on leave recently in England (tonsillectomy for septic tonsils and [illegible]ulcer). Since her return to the [illegible]mia and general debility. She [illegible]ultra-violet rays, which were increased weekly up to an exposure of six minutes. She always complained of fatigue after the treatment, but her appetite improved somewhat. Early in March she contracted influenza and was ill for a week. Four days after recovery rather severe sciatic pains developed and persisted for two days, and she was then attacked by acute neuritis in both hands. The thenar eminences, thumbs, and index fingers were chiefly affected; the pulp of the terminal phalanges became very tense and painful, and there was moderate pain over the shoulder girdle and posterior aspect of the neck. At the present time (one month after the commencement) the pain is rather less in all regions. Little benefit resulted from drugs, with the exception of local applications of belladonna; a short exposure to ultra-violet light seemed to increase the pain. Dr. Pasley asks whether the neuritis could have been caused by the light treatment, and if it is contraindicated in such a case.

PRECORDIAL PAIN.

"A. O. W." writes in reply to the medical man, resident abroad, whose inquiry appeared on May 14th (p. 903), suggesting that he should wholly abandon the use of tobacco and not expect much benefit for four to six weeks, as it takes that time to eliminate the nicotine. Meanwhile, let him take small doses of calomel—say, 1/5 grain—every night till he gets fairly free motions, and three times a day 5 grains of aspirin of a high quality.

INCOME TAX.

Payment of Bank Interest.

"S. P." paid £82 interest on bank overdraft, and claimed repayment thereon on the ground that the interest was paid out of taxed income. The amount repaid has been reduced by setting off the amount of earned income relief due in respect of £82.

*** The ground for the set-off is presumably that the overdraft was obtained for professional purposes and that the amount of the interest could have been deducted as a professional expense. If that is so the earned relief would have been affected by reduction of the amount of earned income assessed and an appeal would not be advisable.

Obsolescence of Car.

"F. H." has forwarded a copy of the local inspector's figures, from which it appears that in computing the obsolescence allowance he has deducted from the cost of the car (£252) the total amount of wear and tear during the life of the car, instead of

£56, the amount actually allowed for tax purposes under the Finance Act, 1925.

*** Rule 7, applicable to Cases i and ii, Sch. D, of the Income Act, 1918, uses the words "after deducting from that cost the amount of any allowances which have at any time been made in estimating profits or gains as aforesaid on account of the wear and tear . . . ." The inspector's calculations seem clearly inconsistent with the plain meaning of the words "allowances which have . . . been made."

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"A." replaced his car in December, 1925, by one of the same make and value (£225), being allowed £125 for the old car; the net cost, therefore, was £100, which sum was allowed as an expense of the year 1925–26. For the financial year 1926–27 "A." claimed depreciation allowance for the new car on £225, but the local inspector will allow depreciation on a value of £180 only—that is, on the value (as he reckons it) at April, 1926.

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DR. GRAHAM LITTLE has also written in order to remove any misapprehension that may have been caused by the phrase that there are "about two hundred practising lawyers in the House of Commons." What he had intended to convey, he says, is that there are probably that number of persons in the House who are qualified to practise law, though a smaller, but still considerable, number actually do so. His object was to point out that from his own experience he could assert the possibility of combining parliamentary duties with a consulting and hospital practice. "It is," he continues, "obviously more difficult for a general practitioner than for a consultant to serve in Parliament, but I wish to make the definite point that the combination of medical and parliamentary work is possible, and that more opportunities should be given for men in practice to enter Parliament. It will hardly be disputed that a man in practice is more able to gauge the feeling of the profession than one who has no further contact with it."

DANGERS OF HIGH-POWER *X*-RAY APPARATUS.

IN view of the possibilities of accidents occurring to users of the modern types of high-power *x*-ray apparatus, Messrs. Watson and Sons are issuing with each set of apparatus supplied a placard of warning, which it is intended should be hung up in a conspicuous position in a department; it consists of some ten paragraphs, which point out the chief dangers and the methods of avoiding them. These are the dangers, not of *x*-rays themselves, but those arising from the actual electric supply and from the high tension currents, etc.; that there is actual danger to life from such causes is evidenced by the fact that a short time ago a doctor and nurse were both killed instantaneously when making an *x*-ray examination of a patient.

VITAL CAPACITY AND ARTIFICIAL EXERCISES.

DR. HORACE HILL, M.R.C.P., of the R.N. School of Physical Training, Portsmouth, writes to criticize exercises designed to enlarge the thorax artificially by direct force and leverage, and done with the idea that these increase vital capacity and produce physical fitness. A man with a very small vital capacity may, he states, be very fit, and a big chest measurement may be associated with a small vital capacity. Increased pulmonary capacity does not imply a good "wind," power of endurance resistance to disease, or ability to work. A good "wind" depends upon the co-ordination of the heart and lungs, and is best obtained by graduated running in the open air. Unless the circulation carries the oxygen to the tissues, the passage of large volumes of air in and out of the lungs is useless. Enlarging the thorax artificially, while ignoring the physiological processes within it, is comparable with increasing the size of the abdomen to make room for more food, irrespective of the process of digestion; the body cannot be forced in this way to absorb more air or more food. Investigations of the vital capacity are therefore, of little value unless the reaction of the heart to the different states of respiration is tested at the same time. Moreover, the vital capacity varies rapidly, owing to temporary causes, such as nervousness, a meal, or a cold. If the vital capacity is deficient and no lesion can be found, the best treatment is exercise out-of-doors and graduated runs, which cause natural and deep breathing, and train the heart concurrently.

THE TREATMENT OF SMALL-POX.

DR. J. BARCROFT ANDERSON (London) writes: I venture to think many members of the profession would like to be reminded of the information you published on October 11th, 1913 (p. 906) being a report by the Director of the Medical Department at Mauritius upon the results of treating with daily intravenous injections of electrargol about 150 of the worst cases of small-pox selected during an epidemic which attacked 1,500 persons. He wrote: "If cases are treated before the full development of the rash, no matter how close the papules may be, they go no further. Those that have already begun to suppurate dry up. Those that have not yet suppurated do not do so, and those that are not yet papular remain simple maculae and die away. The secondary fever does not appear, and the case takes a favourable turn after the first injection." The dose he recommended was 20 c.cm.

PARALYSIS OF THE CERVICAL SYMPATHETIC COMPLICATING MUMPS.

DR. M. C. TORRANCE (London, E.) writes: Cases of paralysis of the cervical sympathetic are in themselves rare, but its occurrence as a complication of mumps is, I believe, sufficiently rare to warrant recording. On April 4th I attended a girl, aged 5 years, with a six weeks' history of mumps, which began in the right parotid gland. One week after the commencement of the attack she complained of vertical and right parietal headache, and the mother noticed that the patient's right upper eyelid was drooping. On examination I noticed that she had ptosis, exophthalmos, and miosis of the right eye. The orifice of Stenson's duct on the right side was inflamed and remained so until May 14th, when she still had the triad of signs of paralysis of the cervical sympathetic. It would be interesting to hear of any similar case complicating mumps.

HERPES AND VARICELLA.

DR. WILLIAM GALLAUGHER (Brighton) writes: I do not find it so easy to trace the connexion between these two diseases, as Dr. Heard suggests. I have had eight cases of herpes this year and am attending five at present. In each case I have made careful inquiry regarding possible contact with varicella, but have in no case traced any connexion. I have not had a case of varicella for some months. I should say it is of the same order of infectiousness as primary pneumonia.

BEDCLOTHES.

THE "Bed-cloz-tuk" is a device for preventing bedclothes from slipping off the sleeper when in bed. The instrument is fixed by straps, or screwed, to the frame of the bed, so that when not in use it does not interfere with the clothes. By pulling up a small nickel-plat[illegible]o bed the clothes are gripped by rubber strap prevent any tightness and allow with movement and with respiration [illegible] and ingenious. It is sold in four models at 7s. to 8s. the pair, according to whether it is required for children's cots, adults' beds, ship bunks, or settees. The inventor and vendor is Mr. S. H. Bartter, 8, St. James's Road, Kingston-on-Thames.

CZECHOSLOVAKIA.

IN the article on Prague in our issue of May 28th there was a slip which we would like to correct. The present Czechoslovakian Minister of Public Health, who entertained the party of British medical men during their visit to Prague, is Dr. Josef Tisó, a clerical statesman from Slovakia. His predecessor in that office was Mr. Jan Sramek.

CORRECTION.

DRS. ETHEL CASSIE and URSULA COX wish to correct an error in their paper on the microscopical and chemical examination of stools in young children (JOURNAL, May 28th, p. 959). In the table on page 960 it should have been stated that the stools of breast-fed children are 100 per cent. acid—not, as printed, 100 per cent. alkaline.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 35, 36, 37, 38, 39, 42, and 43 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 40 and 41.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 239.

A British Medical Association Lecture

ON

THE TREATMENT OF BURNS IN CHILDREN.

GIVEN TO THE ABERDEEN DIVISION, APRIL 21ST, 1927,

BY

JOHN FRASER, *M.C.*, M.D., F.R.C.S.ED.,

REGIUS PROFESSOR OF CLINICAL SURGERY IN THE UNIVERSITY OF EDINBURGH.

"THE child is burned!" I never hear that announcement without a shudder, for it has opened the portals to a long avenue of pain and distress, an avenue that may lead to an age-long disfigurement and too often, by shorter ways, to the tragedy of death. Let us take counsel together about it. Wherein are its dangers? What are its risks? How can disaster be mitigated or avoided?

Some years ago I took the opportunity of investigating one particular aspect of the problem—it was that of mortality; the result of the investigation was disconcerting. In a total of 200 cases of burns affecting children up to the twelfth year the death rate averaged 30 per cent. I know it is a startling figure. It is true that the cases from which the records were culled were hospital cases, and so generally of a serious type; it is, moreover, correct to say that the sufferers were children, and therefore more likely to show a heavy mortality. About these facts there is no dispute, and yet I am distressed when I recall that some few years ago one child in three suffering from a burn of moderate severity perished. I have with intent used the term "some few years ago," because recent improvements in the methods of treatment have done much to lighten the shadow. It is of these improvements and advances that I would speak.

THE MEDICO-LEGAL ASPECT.

The subject has a medico-legal aspect, and, as it is one sometimes forgotten, I refer briefly to it.

The statute book contains a law that it is an offence to leave a child of tender years alone in a room with an open fire. The provision is a wise one, and no doubt it has done much to diminish the incidence of burns: but something more is required, for ways and means of escaping the penalties are not difficult to imagine. Certain hospitals recognize the deficiencies of the existing statute, and have instituted regulations which make all cases of burns admitted to their charge notifiable incidents. The notification is to the police, and they, having made the inquiries they consider necessary, take whatever further steps they deem advisable. Experience shows that this later measure is one of real efficacy, and it is to be hoped that its application may be made universal.

CAUSES.

There are, of course, a multitude of ways in which burns may be caused, but, where children are concerned, it is the pulling over of the pot of hot tea or boiling water, and the accidental ignition of the clothing, which are the principal causes of the disaster. In both instances there is the one common and significant feature that the burn is likely to be of considerable surface extent, without, it may be, any real depth of destruction—a feature with considerable bearing upon the ultimate issue.

There are many other points of significance in this matter of the origin of burns to which I need not allude—the daily press disseminates the knowledge admirably: the danger of flannelette as a garment; the education of the child to avoid fire in any shape or form; the demonstration that, when all is said and done, "it was curiosity that once upon a time killed the cat." These are all very minor matters, it may be, and yet how often a young life has been the price paid for their neglect!

PATHOLOGY.

Textbooks, with the dogmatism that is expected from them, have classified burns into various stages or degrees according to the extent of tissue destruction. Such an arrangement no doubt serves its purpose, but it need not concern us to-day. It is rather of the general facts of pathology that I would speak.

When a burn is sustained, a certain amount of cell disintegration inevitably ensues, and, according to the degree of heat applied, the process varies from complete charring and carbonization to coagulation effects upon the protoplasm of the cell, or it may be to simple reactive phenomena in the cells and blood vessels. This is the significant point—carbonization is not a feature of real importance where the subsequent pathology is concerned. It is certainly an irreparable loss of what may be highly important tissues, but so far as any harmful effects upon the biochemistry of the organism are concerned, the process of destruction has been so complete that the part affected is now an inorganic and inert product, and harmless as far as any dangerous influence is concerned.

It is vastly different, however, with those tissues in which the process of destruction has been less complete. Coagulation of the protoplasm is evidently a process fraught with considerable danger. For a certain period after the injury biochemical activity is in abeyance, but thereafter products of intense toxicity are liberated, which, being absorbed into active circulation, and evidently being peculiarly inimical to the specialized parenchyma cells of the liver, kidney, lymphoid tissue, and the central nervous system, originate a group of serious and distinctive symptoms. These facts have been shown by the experimental work of Willis, Vogt, and other observers, but we are apt to forget them and the influence which they exert in the ultimate clinical picture. I shall have occasion later to allude more fully to the general picture and its relations to clinical features, prognosis, and treatment.

The pathology of a burn is thus something far beyond the local lesion. Widespread chemical changes, many of them imperfectly understood, ensue, and what was at first a local tissue destruction ultimately becomes the picture of a body chemistry distorted and a metabolism deranged.

The ultimate end of the story is characteristic: the body alkalis become depleted; the buffer salts, the last line of defence in so many "tight corners," have yielded up their resources; the sufferer passes in a condition in which the hydrogen-ion content of the body fluids is increased, and the condition we speak of clinically as "acidosis" ensues.

THE CLINICAL PICTURE.

The majority of burns in children are extensive in area and superficial in degree, as one would expect from the rapidly extending flow of steam or boiling water, or the spreading conflagration of the burning garments. A certain measure of shock is always present, and its degree is variable; in some instances it is so severe that a fatal issue is a matter of hours, in other cases it is so slight as to pass unnoticed. Its measure depends upon such various features as the age of the child, the position and extent of the burn, and the psychology of the individual. The dry heat of the flame is associated with a greater measure of shock than the moist heat of the steam or water.

The immediate local effect of a burn is temporarily anaesthetic, but after a few minutes there is intense suffering. The pain is probably relieved by hypnotics, and it would seem that with the passing of the initial shock the most dangerous phase is over, and that the issue, though no doubt a long and a painful process, is not likely to be in doubt as regards life.

For one or two days the optimism appears to be justified, and it may be the case progresses to a favourable issue, but in many instances the progress is otherwise. About the third day the temperature, hitherto keeping within normal limits, or being slightly elevated after the "shock" fall, rises to a level of 101° or 102°. There is an ominous restlessness, the pulse rate quickens, and—most suggestive of all—the breathing alters, at first as shown by an increase in rate, and later as a hyperpnoea from an abnormal stimulus of the respiratory centre. The restlessness passes into delirium, and this in a fatal case is followed by coma. The rapid pulse is a prelude to a developing cardiac weakness, and more general evidences are seen in the slight general cyanosis and the cold extremities.

I imagine there are few of you with experience of burns

£56, the amount actually allowed for tax purposes under the Finance Act, 1925.

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THE MEDICAL MAN IN PARLIAMENT.

DR. NATHAN RAW writes: In his address to the Chelsea Clinical Society, reported in the BRITISH MEDICAL JOURNAL of June 4th (p. 1024), Dr. Graham Little, M.P., describes the work of the medical group at present in Parliament. It might appear from the report that the present committee was the first of its kind in the House of Commons. I am sure Dr. Little would not wish to convey that impression. In the Parliament of 1918, of which I was a member, we had a committee composed of the medical and University members of Parliament and Lord Dawson from the House of Lords; we met every month during sessions, and many important legislative questions concerning public health were discussed in detail. The committee was composed of Sir Watson Cheyne (chairman), Sir William Whitla, Lord Dawson, Sir Philip Magnus (then member for London University), the late Sir Henry Craik, Colonel Fremantle, Major Molson, Major Farquharson, Dr. McDonald, Captain Walter Elliot, Dr. Murray, and myself. It received numerous deputations on questions concerning the medical profession. It was in close touch with the British Medical Association, and was able to tender advice and guidance which was much appreciated by the Government of the day.

DR. GRAHAM LITTLE has also written in order to remove any misapprehension that may have been caused by the phrase that there are "about two hundred practising lawyers in the House of Commons." What he had intended to convey, he says, is that there are probably that number of persons in the House who are qualified to practise law, though a smaller, but still considerable, number actually do so. His object was to point out that from his own experience he could assert the possibility of combining parliamentary duties with a consulting and hospital practice. "It is," he continues, "obviously more difficult for a general practitioner than for a consultant to serve in Parliament, but I wish to make the definite point that the combination of medical and parliamentary work is possible, and that more opportunities should be given for men in practice to enter Parliament. It will hardly be disputed that a man in practice is more able to gauge the feeling of the profession than one who has no further contact with it."

DANGERS OF HIGH-POWER X-RAY APPARATUS.

IN view of the possibilities of accidents occurring to users of the modern types of high-power *x*-ray apparatus, Messrs. Watson and Sons are issuing with each set of apparatus supplied a placard of warning, which it is intended should be hung up in a conspicuous position in a department; it consists of some ten paragraphs, which point out the chief dangers and the methods of avoiding them. These are the dangers, not of *x*-rays themselves, but those arising from the actual electric supply and from the high tension currents, etc.; that there is actual danger to life from such causes is evidenced by the fact that a short time ago a doctor and nurse were both killed instantaneously when making an *x*-ray examination of a patient.

VITAL CAPACITY AND ARTIFICIAL EXERCISES.

DR. HORACE HILL, M.R.C.P., of the R.N. School of Physical Training, Portsmouth, writes to criticize exercises designed to enlarge the thorax artificially by direct force and leverage, and done with the idea that these increase vital capacity and produce physical fitness. A man with a very small vital capacity may, he states, be very fit, and a big chest measurement may be associated with a small vital capacity. Increased pulmonary capacity does not imply a good "wind," power of endurance, resistance to disease, or ability to work. A good "wind" depends upon the co-ordination of the heart and lungs, and is best obtained by graduated running in the open air. Unless the circulation carries the oxygen to the tissues, the passage of large volumes of air in and out of the lungs is useless. Enlarging the thorax artificially, while ignoring the physiological processes within it, is comparable with increasing the size of the abdomen to make room for more food, irrespective of the process of digestion; the body cannot be forced in this way to absorb more air or more food. Investigations of the vital capacity are, therefore, of little value unless the reaction of the heart to the different states of respiration is tested at the same time. Moreover, the vital capacity varies rapidly, owing to temporary causes, such as nervousness, a meal, or a cold. If the vital capacity is deficient and no lesion can be found, the best treatment is exercise out-of-doors and graduated runs, which cause natural and deep breathing, and train the heart concurrently.

THE TREATMENT OF SMALL-POX.

DR. J. BARCROFT ANDERSON (London) writes: I venture to think many members of the profession would like to be reminded of the information you published on October 11th, 1913 (p. 906), being a report by the Director of the Medical Department at Mauritius upon the results of treating with daily intravenous injections of electrargol about 150 of the worst cases of small-pox selected during an epidemic which attacked 1,500 persons. He wrote: "If cases are treated before the full development of the rash, no matter how close the papules may be, they go no further. Those that have already begun to suppurate dry up. Those that have not yet suppurated do not do so, and those that are not yet papular remain simple maculae and die away. The secondary fever does not appear, and the case takes a favourable turn after the first injection." The dose he recommended was 20 c.cm.

PARALYSIS OF THE CERVICAL SYMPATHETIC COMPLICATING MUMPS.

DR. M. C. TORRANCE (London, E.) writes: Cases of paralysis of the cervical sympathetic are in themselves rare, but its occurrence as a complication of mumps is, I believe, sufficiently rare to warrant recording. On April 4th I attended a girl, aged 5 years, with a six weeks' history of mumps, which began in the right parotid gland. One week after the commencement of the attack she complained of vertical and right parietal headache, and the mother noticed that the patient's right upper eyelid was drooping. On examination I noticed that she had ptosis, exophthalmos, and miosis of the right eye. The orifice of Stenson's duct on the right side was inflamed and remained so until May 14th, when she still had the triad of signs of paralysis of the cervical sympathetic. It would be interesting to hear of any similar case complicating mumps.

HERPES AND VARICELLA.

DR. WILLIAM GALLAUGHER (Brighton) writes: I do not find it so easy to trace the connexion between these two diseases, as Dr. Heard suggests. I have had eight cases of herpes this year and am attending five at present. In each case I have made careful inquiry regarding possible contact with varicella, but have in no case traced any connexion. I have not had a case of varicella for some months. I should say it is of the same order of infectiousness as primary pneumonia.

BEDCLOTHES.

THE "Bed-cloz-tuk" is a device for preventing bedclothes from slipping off the sleeper when in bed. The instrument is fixed by straps, or screwed, to the frame of the bed, so that when not in use it does no[t] [i]nterfere with the clothes. By pulling up a small nickel-plated [k]nob the clothes are gripped by rubber pad[s] on the strap prevent any tightness and allow th[e] [c]hest with movement and with respiration. The device is simple and ingenious. It is sold in four models at 7s. to 8s. the pair, according to whether it is required for children's cots, adults' beds, ship bunks, or settees. The inventor and vendor is Mr. S. H. Bartter, 8, St. James's Road, Kingston-on-Thames.

CZECHOSLOVAKIA.

IN the article on Prague in our issue of May 28th there was a slip which we would like to correct. The present Czechoslovakian Minister of Public Health, who entertained the party of British medical men during their visit to Prague, is Dr. Josef Tisó, a clerical statesman from Slovakia. His predecessor in that office was Mr. Jan Sramek.

CORRECTION.

DRS. ETHEL CASSIE and URSULA COX wish to correct an error in their paper on the microscopical and chemical examination of stools in young children (JOURNAL, May 28th, p. 959). In the table on page 960 it should have been stated that the stools of breast-fed children are 100 per cent. acid—not, as printed, 100 per cent. alkaline.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 35, 36, 37, 38, 39, 42, and 43 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 40 and 41.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 239.

A British Medical Association Lecture

ON

THE TREATMENT OF BURNS IN CHILDREN.

GIVEN TO THE ABERDEEN DIVISION, APRIL 21ST, 1927,

BY

JOHN FRASER, *M.C.*, M.D., F.R.C.S.ED.,

REGIUS PROFESSOR OF CLINICAL SURGERY IN THE UNIVERSITY OF EDINBURGH.

"THE child is burned!" I never hear that announcement without a shudder, for it has opened the portals to a long avenue of pain and distress, an avenue that may lead to an age-long disfigurement and too often, by shorter ways, to the tragedy of death. Let us take counsel together about it. Wherein are its dangers? What are its risks? How can disaster be mitigated or avoided?

Some years ago I took the opportunity of investigating one particular aspect of the problem—it was that of mortality; the result of the investigation was disconcerting. In a total of 200 cases of burns affecting children up to the twelfth year the death rate averaged 30 per cent. I know it is a startling figure. It is true that the cases from which the records were culled were hospital cases, and so generally of a serious type; it is, moreover, correct to say that the sufferers were children, and therefore more likely to show a heavy mortality. About these facts there is no dispute, and yet I am distressed when I recall that some few years ago one child in three suffering from a burn of moderate severity perished. I have with intent used the term "some few years ago," because recent improvements in the methods of treatment have done much to lighten the shadow. It is of these improvements and advances that I would speak.

THE MEDICO-LEGAL ASPECT.

The subject has a medico-legal aspect, and, as it is one sometimes forgotten, I refer briefly to it.

The statute book contains a law that it is an offence to leave a child of tender years alone in a room with an open fire. The provision is a wise one, and no doubt it has done much to diminish the incidence of burns; but something more is required, for ways and means of escaping the penalties are not difficult to imagine. Certain hospitals recognize the deficiencies of the existing statute, and have instituted regulations which make all cases of burns admitted to their charge notifiable incidents. The notification is to the police, and they, having made the inquiries they consider necessary, take whatever further steps they deem advisable. Experience shows that this later measure is one of real efficacy, and it is to be hoped that its application may be made universal.

CAUSES.

There are, of course, a multitude of ways in which burns may be caused, but, where children are concerned, it is the pulling over of the pot of hot tea or boiling water, and the accidental ignition of the clothing, which are the principal causes of the disaster. In both instances there is the one common and significant feature that the burn is likely to be of considerable surface extent, without, it may be, any real depth of destruction—a feature with considerable bearing upon the ultimate issue.

There are many other points of significance in this matter of the origin of burns to which I need not allude—the daily press disseminates the knowledge admirably: the danger of flannelette as a garment; the education of the child to avoid fire in any shape or form; the demonstration that, when all is said and done, "it was curiosity that once upon a time killed the cat." These are all very minor matters, it may be, and yet how often a young life has been the price paid for their neglect!

PATHOLOGY.

Textbooks, with the dogmatism that is expected from them, have classified burns into various stages or degrees according to the extent of tissue destruction. Such an arrangement no doubt serves its purpose, but it need not concern us to-day. It is rather of the general facts of pathology that I would speak.

When a burn is sustained, a certain amount of cell disintegration inevitably ensues, and, according to the degree of heat applied, the process varies from complete charring and carbonization to coagulation effects upon the protoplasm of the cell, or it may be to simple reactive phenomena in the cells and blood vessels. This is the significant point—carbonization is not a feature of real importance where the subsequent pathology is concerned. It is certainly an irreparable loss of what may be highly important tissues, but so far as any harmful effects upon the biochemistry of the organism are concerned, the process of destruction has been so complete that the part affected is now an inorganic and inert product, and harmless as far as any dangerous influence is concerned.

It is vastly different, however, with those tissues in which the process of destruction has been less complete. Coagulation of the protoplasm is evidently a process fraught with considerable danger. For a certain period after the injury biochemical activity is in abeyance, but thereafter products of intense toxicity are liberated, which, being absorbed into active circulation, and evidently being peculiarly inimical to the specialized parenchyma cells of the liver, kidney, lymphoid tissue, and the central nervous system, originate a group of serious and distinctive symptoms. These facts have been shown by the experimental work of Willis, Vogt, and other observers, but we are apt to forget them and the influence which they exert in the ultimate clinical picture. I shall have occasion later to allude more fully to the general picture and its relations to clinical features, prognosis, and treatment.

The pathology of a burn is thus something far beyond the local lesion. Widespread chemical changes, many of them imperfectly understood, ensue, and what was at first a local tissue destruction ultimately becomes the picture of a body chemistry distorted and a metabolism deranged.

The ultimate end of the story is characteristic: the body alkalis become depleted; the buffer salts, the last line of defence in so many "tight corners," have yielded up their resources; the sufferer passes in a condition in which the hydrogen-ion content of the body fluids is increased, and the condition we speak of clinically as "acidosis" ensues.

THE CLINICAL PICTURE.

The majority of burns in children are extensive in area and superficial in degree, as one would expect from the rapidly extending flow of steam or boiling water, or the spreading conflagration of the burning garments. A certain measure of shock is always present, and its degree is variable; in some instances it is so severe that a fatal issue is a matter of hours, in other cases it is so slight as to pass unnoticed. Its measure depends upon such various features as the age of the child, the position and extent of the burn, and the psychology of the individual. The dry heat of the flame is associated with a greater measure of shock than the moist heat of the steam or water.

The immediate local effect of a burn is temporarily anaesthetic, but after a few minutes there is intense suffering. The pain is probably relieved by hypnotics, and it would seem that with the passing of the initial shock the most dangerous phase is over, and that the issue, though no doubt a long and a painful process, is not likely to be in doubt as regards life.

For one or two days the optimism appears to be justified, and it may be the case progresses to a favourable issue, but in many instances the progress is otherwise. About the third day the temperature, hitherto keeping within normal limits, or being slightly elevated after the "shock" fall, rises to a level of 101° or 102°. There is an ominous restlessness, the pulse rate quickens, and—most suggestive of all—the breathing alters, at first as shown by an increase in rate, and later as a hyperpnoea from an abnormal stimulus of the respiratory centre. The restlessness passes into delirium, and this in a fatal case is followed by coma. The rapid pulse is a prelude to a developing cardiac weakness, and more general evidences are seen in the slight general cyanosis and the cold extremities.

I imagine there are few of you with experience of burns

who have not seen this tragic sequence of events, and the development is all the more distressing because it is unlooked for, so that a favourable prognosis may have been given after the danger of the initial shock had passed away.

THE CORRELATION OF THE PATHOLOGY AND THE CLINICAL FEATURES.

The point in the clinical history peculiarly critical is about the third day, when the temperature rises and signs of intoxication become apparent. An indication has already been given of the explanation of the event, but it is not out of place at this stage to elaborate the reasoning more fully.

It is the existence within the body of tissues in a state of chemical dissolution that is evidently the exciting feature of the disturbance—not an organismal decomposition, but a chemical change, and one, moreover, which results in the production of potent toxic elements. We have yet to learn the true nature of the product or products. It has been suggested that they are closely allied with, if not exactly similar to, histamine or pyridine. Certainly there are many points of similarity between the picture of "histamine shock" and that of the toxic stage of burns. The dangerous character of the toxaemia depends upon its liability to pick out and deteriorate specialized tissues—the liver cells, the delicate cells of the kidney tubules, and the chromaffin tissue of the suprarenals. The striated heart muscle is poisoned and degenerated, and the lymphoid tissue shows points of focal necrosis. It is not difficult to explain the symptoms and signs which distinguish the early stages of the toxic phase—the rise of temperature, the restlessness, the rapid pulse—each has its pathological counterpart, but, underlying all this, there is some more subtle influence which specifically and definitely deranges metabolic processes. I agree that no individual substance has been isolated, but we have a great body of evidence, both biochemical and experimental, which puts its existence beyond doubt, and we have the demonstration of its effects as a vivid clinical experience.

With a deranged metabolism and the imperfect catalysis which necessarily follows, further toxic elements arise. It is at this stage that the body alkalis are called upon—a last line of defence, as we have called it—and for a time it may be that this influence is sufficient to stave off disaster, but a time comes when the reserve is depleted, and when this occurs the body organization breaks down and death ensues.

Such is an outline of the picture in a severe or a neglected case. Fortunately there are ways and means by which the tragedy can be averted, and these we shall now discuss.

TREATMENT.

The inclination to focus attention upon the local lesion is one with which we can sympathize, but our judgement in this respect must not be unbalanced, lest it be the so common error of failing to see the wood for the trees. In every burn there is a general problem overshadowing in its importance the local lesion, because, if death ensues, the reason in the majority of cases is related to the general change; and the further point is true, that the local condition is the focus from which the general disturbance originates. It is apparent, therefore, that any discussion of treatment must be embodied under two heads—(A) the general problem, and (B) the local error.

The General Problem.

Shock is the state which first demands attention. It is ordinary surgical shock, in which the local injury and the psychological element both play their interacting parts. The condition is treated on the usual conventional lines: the body heat is carefully maintained and stimulants are administered; if there is much pain, as there almost certainly will be, a sedative is given, and morphine is the safest and the best. If, in spite of these simple and ready-to-hand measures, blood pressure readings indicate that the shock condition is deepening, *fluid (glucose saline) is given* subcutaneously or by proctoclysis. The degree of shock, however, is rarely sufficiently intense to necessitate anything more than the simplest remedies.

As the shock danger is overcome a general improvement becomes manifest, and now is the opportunity to make what provision is possible against the danger that lies ahead. I have described how, in the toxaemia which to some extent must inevitably occur, special calls are ultimately made upon the body alkali reserve. It is no exaggeration to say that on the response given to this demand the issue of life or death may ultimately depend; it surely behoves us, therefore, to make all possible provision for the reckoning which is bound to come. In other words, from the moment the shock-danger has abated means should be taken to alkalinize the body as completely as possible, to build up reserves of alkali sufficient, and more than sufficient, to meet the demands which will be made.

In alkaline sodium phosphate we have the best therapeutic medium for the purpose in view, and it is introduced into the body by the available routes. It is given orally (20 to 30 grains of the dibasic salt every four hours), and, being less objectionable than sodium bicarbonate, it is taken more readily by children; in a 5 per cent. solution it is given by proctoclysis. The choice falls upon alkaline sodium phosphate because it remains in the body longer than bicarbonate. For some reason the kidneys, the real avenue of its excretion, do not pass it out with the same facility as they do sodium bicarbonate. The reason may be that the alkaline sodium phosphate forms a stronger colloidal combination with the body elements, and particularly with the blood plasma.

In addition to the alkalinization, a sugar reserve is supplied, this being in view of the calls upon the liver glycogen which accompany any deterioration of that organ. The sugar is supplied in the form of glucose, as a 5 per cent. solution, and the various methods of its administration are well known to all of you. Coincident with these various preparations and precautions fluid should, of course, be supplied in abundance, preferably by the bowel and the mouth.

Is there any further precautionary measure which can be taken? One has been suggested, but I cannot speak with conviction as to its value. An attractive possibility lies in the discovery of a means by which the toxic element in circulation could be fixed or otherwise corrected, and it has been suggested that we have such a fixative or corrective in hexamine (urotropine). This drug, when administered in solution by the bowel, is said to have a beneficial action in cases of burns, and it is further stated that the benefit springs from the corrective action of the formalin basis upon the toxic element. I understand that the idea has arisen from the fact that hexamine is occasionally used in this way in the treatment of septic toxaemias.

In these various measures, some of proved value, others empirical, we have the different preventive procedures known to us at present, and it is the duty of everyone to put them into practice when the necessity arises.

In a certain proportion of cases, in spite of all efforts, toxaemia of a severe type will develop. Are there any special means of treatment lying to our hands in this event? The late Dr. Bruce Robertson of Toronto shed some light upon this question, and, though the method may seem too specialized for use in general practice, it demands mention. When it is evident that a severe toxaemia is developing it would seem that a blood transfusion might be of benefit, partly by improving the general condition and partly by counteracting the poison in circulation. The suggestion has often been put into practice, but the results of simple transfusion have been disappointing. It was at this stage that Robertson suggested that exsanguination might be combined with transfusion, and at the present time it is in this measure that we have the only treatment likely to prove efficacious in a toxaemia of real intensity. I do not propose to enter into any detail regarding it, but the principle of its method is that the sufferer is bled in a proportion of 20 c.cm. of blood for each pound of body weight. When sufficient exsanguination has been secured, a transfusion of fresh blood from a suitable donor is given to an amount sufficient to counterbalance the loss already sustained by the exsanguination.

The Local Error.

The local error, as the lesion "visible and seen," would seem to make the most urgent demands upon one's attention, but I hope I have succeeded in showing that it is only one point in a general problem.

We have certain ideals to set before ourselves in the local treatment of a burn, and of course I speak of the recent burn, not of the neglected septic sore—this stands in a class by itself. The ideals are to maintain asepticity of the part, to keep the affected tissues dry, and to "fix" the injured tissues in order, if possible, to prevent the dissemination of toxic products into the general circulation. The most successful local applications will be those which fulfil the above desiderata.

Before discussing the individual methods, however, there is the question of the immediate attention to the burnt area. To avoid suffering and to facilitate examination, a light general anaesthesia may be given. The clothes, if adherent, are removed by soaking the part in a warm sterile solution of 10 per cent. sodium bicarbonate. The way in which blisters are to be dealt with depends upon the choice of the method of local treatment. If a "fixative" or "coagulant" technique is to be followed they should be punctured and the pellicle removed, as a coagulum will not form upon detached epithelium; on the other hand, if such a "protective" technique as the paraffin method is chosen, the blisters are punctured and emptied and the pellicle allowed to remain *in situ*.

The Types of Local Treatment.

It is possible and convenient to group the various types of local treatment under three headings according to the ways in which they exert their individual benefits. Thus there are—

A. Fixation methods, such as the alcohol method, the tannic acid method, and others, all of which are beneficial in so far as they fix the "cooked" tissues and so arrest the production and absorption of the toxin.

B. Biochemical methods—for example, the alkaline treatment—which act by counteracting the toxic substance as it is produced.

C. Protective methods—for example, the paraffin or ambrine methods—which exert their benefits by a mechanical protective influence upon the affected tissues.

Perhaps I ought to say that there is yet a fourth method, that of excision of the burnt area. It has been seriously practised in certain Continental clinics, and it is obvious how completely it ensures the abolition of a toxaemia, but the field for its use is at best a limited one, and, in view of the success which has attended less drastic methods, it need not be considered as a practical possibility.

Permit me briefly to discuss certain individual points of the various methods which are of practical value.

Fixation Methods.

1. *Treatment by Absolute Alcohol.*—This method is undoubtedly one of value. It is obvious how completely it fulfils the ideals of an antiseptic, a desiccant, a fixative. Has it, then, any disadvantages? It has; its rapid evaporation makes a continuous application difficult, and, if a large area is to be treated, the expense is considerable. It finds its greatest value in localized burns of the face, because the scarring is less than by any other type of treatment. When the alcohol method is employed it is essential that the entire affected area be kept constantly moistened with the fluid. A gauze pad several layers thick is laid over the affected surface, and is kept saturated by repeated spraying or by laying a number of capillary drains upon its surface and connecting these with a small central reservoir. The method, of course, necessitates complete confinement to bed and a great deal of attention, but the results in a suitable case are remarkable.

2. *The Picric Acid Method.*—Until recently this was the most popular method of treatment. The composition of the fluid is as follows:

Picric acid	2 drachms.
Absolute alcohol	1½ oz.
Water	To 2 pints.

To obtain the best results the application should be made as a spray or as a paint, frequently repeated, and the part should be exposed to the air in order to hasten evaporation. A thin gauze covering is all that is necessary. Picric acid is a weak antiseptic, but it has certain powers of cell fixation which may inhibit the production of toxaemia. The method is associated with a risk which must never be lost sight of; in extensive burns the absorption may be so great that poisoning effects are produced.

3. *The Aluminium Aniline Method.*—This application has not met with wide recognition in this country; its use is more favoured abroad. A 2 per cent. aluminium acetate in spirit solution is mixed with a 5 per cent. alcoholic solution of methylene blue in a proportion of ten parts of the aluminium solution to one part of the methylene blue. The solution is sprayed upon the affected surface, exposure to the air is encouraged, and only a light gauze dressing is kept in place.

4. *Treatment by Adrenaline.*—Douglas has described promising results from the use of an adrenaline application. A solution of 1 in 10,000 is employed, frequent spray applications are made, and, as in the other methods, exposure to the air is encouraged. Adrenaline has considerable bactericidal and antiseptic value, but in this instance its benefit depends upon its vaso-constrictor influence and the diminished absorption of toxin from the burnt area. Rawdin and Ferguson[1] employ a solution consisting of 1/2 per cent. novocain to each ounce of which is added 10 minims of 1 in 1,000 adrenaline.

5. *The Tannic Acid Treatment.*—Pfeiffer first showed that the toxic extracts from burned tissues are precipitable *in vitro* by mercury bichloride in an acid solution or by phosphotungstic acid. Mercury bichloride was actually used as a therapeutic measure in the treatment of burns by Fauntleroy and Ravogli, but the risks of absorption from a large burned area are too great, and the method has never met with acceptance. Davidson, while investigating phosphotungstic acid, had his attention drawn to the fact that tannic acid has similar properties with fewer disadvantages, and he introduced and elaborated its use in burns. Its value lies in the fact that it precipitates the poisonous substance in burnt tissue and tans the affected area into a resistant and partly insensitive area unlikely to be the site of any septic invasion. The application is made in various ways. After many experiments we have found the most satisfactory to be the spraying of the surface with a freshly prepared 2.5 per cent. watery solution of tannic acid every hour until the tanning is complete, as shown by the deep brown colour of the coagulum. The part is thereafter left exposed to the air, but protected from any gross injury by a sterile gauze covering. If cold is complained of, the part may be placed in an electric light cradle. When the burn is on the face, and particularly in the proximity of the eyes, 5 per cent. tannic acid ointment, made with equal parts of lanoline and vaseline as a basis, may be substituted for the aqueous solution, but the efficiency of the ointment is much less than that of the solution. In a period of time varying from fourteen to twenty days the tanned area separates, to leave a clean granulating surface. The use of tannic acid is a real advance in the treatment of burns, and more than any other method it has reduced the mortality figure.

The Biochemical Method.

Alkaline Treatment.—Many burns do extraordinarily well if treated in a bath of warm sterile water containing 10 per cent. sodium bicarbonate, and, when a small child is severely and extensively burnt, this is a most valuable and efficient method. The child is slung in some kind of hammock arrangement, and provision is made to keep the water at a uniform temperature. If such subtotal immersion is for any reason impossible, or if the burn is small, the application of a light compress soaked in a 10 per cent. watery solution of sodium bicarbonate is soothing and efficacious. The value of the method is based on biochemical data.

Wiener[2] found that the intracellular proteoses demand a faintly acid medium for their full activity, and this activity is checked by exposure to an alkaline medium for any length of time. We have already alluded to certain aspects of the question in speaking of the alkalinization

which is intended to prepare for the oncoming toxaemia, and alkalinization, both general and local, will probably figure in future schemes of burn treatment.

Protective Methods.

The Paraffin Method.—The various methods of treatment hitherto mentioned have acted either as a chemical antidote or as a fixative of cells and their toxins; the value of the paraffin method lies in the protection and mechanical fixation of the part. The original "ambrine," or No. 7 paraffin, is the best application. Its constitution is as follows:

Resorcin	1 part
Eucalyptus oil	2 parts
Olive oil	5 ,,
Soft paraffin	25 ,,
Hard paraffin	67 ,,

The combination melts at 48° C.

There are various ways of making the application. The part may be first brushed over with absolute alcohol, and the surface thoroughly dried by a current of hot air. The burnt area is then covered with the fluid wax, which has previously been brought to the proper temperature in a water-bath. The wax is applied as a spray, or painted on with a sterile brush. Over this a thin layer of sterile cotton-wool is applied, and, when the application has hardened, a further layer of wax is added, followed by an additional layer of wool, and so on until sufficient thickness has been obtained.

Souttar employs a simple and efficacious technique somewhat different from that described above. The part having been prepared with alcohol, strips of ribbon gauze one inch wide are provided. These are passed rapidly through the molten paraffin, held for an instant until the edges begin to whiten, which is the sign that the correct temperature has been reached, and then firmly applied over the affected area, the strips being laid in series edge to edge.

Whichever method is employed, the after-treatment is important. After twenty-four hours, when the application is examined, it is found that the protective covering has been raised in various places by local accumulations of serum; these are punctured with a hot metal point and evacuated. A further layer of paraffin is then added, and the process is repeated when necessary.

If the burn has been in a reasonably aseptic condition a paraffin dressing may remain *in situ* for ten to fourteen days or even longer. Theoretically the original dressing may remain in place until the sloughs separate; actually, reapplications are almost invariably necessary before this aim is achieved.

The After-Treatment.

While the development of granulation tissue is proceeding and healing is advancing, care must be taken to guard against the development of contraction. Its appearance is insidious, and we have yet to perfect a method for its prevention. Much, however, can be done by massage and movement and the wearing of suitable appliances.

As soon as the granulating stage is sufficiently far advanced the raw area is grafted by Thiersch grafts or pedicle grafts, but these are details not within the scope of this lecture.

The surgeon's responsibility does not cease, however, with the application of the graft. The tendency to scarring continues, and a close watch is therefore kept upon the part, and any sign of contraction is combated by such means as massage, exercises, ionization, and cautious *x*-ray therapy.

I confess it was with a measure of trepidation that I chose the subject of this lecture. I dare say there are some of you who may have thought the subject a somewhat sterile one; I trust I have succeeded in dispelling any such opinion. A severe burn in a young child is one of life's catastrophes, and you and I can do much to avert disaster if we are alive to the possibilities.

REFERENCES.
[1] *Annals of Surgery*, February, 1923. [2] *Centralbl. f. Physiol.*, 1905, xix, 349.

MINERS' NYSTAGMUS.

BY
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IN the BRITISH MEDICAL JOURNAL of April 30th (p. 80 there appeared a report of a contribution by Dr. Halda to a discussion on miners' nystagmus, which discussion h now been going on in the *Transactions* of the Institution Mining Engineers for over a year, and to which, throu the courtesy of that institution, I contributed the opeiii paper; on several other occasions I had the privilege making other remarks, the last being a reply which made to Dr. Haldane's lecture in Glasgow on April 23r 1927. I will now state concisely my reasons for rejecti Dr. Haldane's defective light theory, or at any rate f holding it as not proven.

Several points demand discussion, such as the fa that the introduction of electric light has, in many pit aggravated the disease. Then, again, his theory do not seem to explain why the disease is more frequent seen at certain periods of the year than at others. Neith Dr. Haldane nor the Nystagmus Committee takes a notice of the paroxysmal nature of the disease. A patie who has had the disease, but who has to all appearanc recovered, may keep well for days or even weeks, but m then suddenly have a very severe attack. If a man h apparently recovered and is living above ground, and not exposed again to the defective lighting, he should c Dr. Haldane's supposition keep well. As a matter of fa he is far from being immune and will certainly have subs quent attacks, some of them as severe as the first. Th liability to relapse may last for years; I am now seein cases that have been victims of the disease for five or si years. They have not been exposed to defective lightin during the whole of that time, and some of them ar suffering quite acutely from the disease.

Lastly, why is nystagmus not present in all pits lit b oil safety-lamps? I am informed by a gentleman of th highest authority, Mr. G. L. Kerr, that he knows of si pits in the area in which he works in which the oil safety lamp is used, but there is no nystagmus. Is that to b explained on the supposition that the oil safety-lamps i these pits are at all times in excellent condition and tha in the others they are habitually unsatisfactory? Dr Haldane's theory does not seem to offer any explanation.

Nor has any feasible explanation been given as to wh there should be, as one of the symptoms, rotational move ments of the eyes. Neither Dr. Haldane nor any of hi colleagues on the Nystagmus Committee has said anythin about the nerve centres which must be irritated or dis turbed before the rotation takes place. In neither of th reports is there any mention of disturbance of nerve centres nor is there any discussion as to the centres likely t be involved. The two reports are extremely disappointing I except from that criticism, however, the work done b Dr. Haldane on the chemical side. That must be taken a authoritative. The oblique muscles must be involved in an rotational action, such as that which takes place in miners nystagmus; their action is simply secondary to the superio and inferior recti muscles. In ordinary life they hav almost no independent action of their own, yet, whe there is nystagmus, the movements are chiefly rotational To me it is absolutely unthinkable that the muscles are in violent action without any disturbance of the centre supplying the nerves to these muscles, and yet the Com mittee does not make any suggestions as to the nuclei and centres involved in miners' nystagmus. Because such matters are left out I think that when there is anothe investigation a member of the committee should be a neurologist of the highest standing.

Another feature that must be taken into account is tha the disease seems to appear in epidemic form. Some year it is very frequent, in others it is not nearly so common That is a matter which, in my opinion, should be con sidered by persons who are in the habit of dealing wit vital statistics. The twelve months preceding the coa dispute were extremely bad; so far as the area in whic

I work was concerned cases were very numerous. But for the first six months after the dispute was over there were scarcely any new cases, and my work as referee during that period was almost entirely the re-examination of miners who had been certified long before the dispute took place, some of them years before it. Now the absence of fresh cases is open to at least two explanations. In the first place we may, when the cases were very numerous, have been passing through an epidemic, or, on the other hand, the long absence from work may have been physically beneficial to the men and brought on a kind of immunity.

In the two reports issued by the Nystagmus Committee no mention is made of the chief symptom of the disease—namely, great disturbance of the innervation of the heart. I cannot help thinking that had the investigation been made by medical officers of health such a condition would have almost at once attracted their attention. Pulse rates up to 120 are by no means uncommon. The only reference I can find to the cardiac condition is contained in a report by the late Dr. Rivers, subsidiary to the first report. At page 13 of the first report the following words are to be found: "The modern teaching is that the disease is either a general fatigue of the whole oculo-motor system or a general neurosis with special local manifestations in the oculo-motor apparatus." Certainly cardiac instability is much more frequently present than rotation of the eyeballs. Why has no mention of that been made in the above definition? On page 20 of the second report we find a grouping of cases relative to compensation. The principal symptom, according to this classification, is oscillation, and we have at line 17 from the top the following words: "Oscillation is regarded as the primary sign; lid spasm, head tremor, objective giddiness, and photophobia as secondary signs." Here again there is no mention of the quick and generally weak and irregular pulse. So, too, at the foot of page 17, we have a paragraph entitled "Severity of attack on certification." This concerns the examination of 128 miners—a number inadequate to justify any conclusion. But the classification is again based on oscillation and no reference is made to any irregularity of the pulse. The failure to take notice of a condition which is one of the most prominent symptoms of the disease does not inspire me with any confidence in the thoroughness of the examinations made. Dr. Haldane's work as a chemist is, of course, of the most authoritative kind, and I take it as such, but he is not a clinician, and I do not think the clinical side of the case has been at all well done.

The late Dr. John Brownlee, certainly a man very authoritative on vital statistics, and who himself was a widely experienced and well trained clinician, said to me when we happened to meet in London on March 1st, that he had been looking into my views on miners' nystagmus and had come to the conclusion that I was probably right in saying that it was not a disease due to the illuminants used.

For the above reasons I think that a reinvestigation is necessary. The disease may be due to a toxin or to a micro-organism, but the very fact that the number of new cases recorded in one year differs very much from the number of cases recorded in another year, the differences being wide, seems to indicate that the disease is not due to illumination, for then the number of new cases occurring each year would be nearly constant.

Similarly, it is to be remarked that very little attention is given in either of the reports to the practically invariable presence of hemeralopia and nyctalopia in association with miners' nystagmus. The committee seems to have fixed its attention on one thing only—the presence or absence of eye movements—and has not even noticed what is to me the most important symptom of all, cardiac irregularity.

One or two cases have been seen in men working at the screens, not underground at all. That seems a very significant fact. I do not think the committee is in any way responsible for missing out such cases. I have not seen any myself, and I have seen many hundreds of patients with miners' nystagmus; but the few that have occurred tend to confirm my conviction that the disease is not due to defective illumination. I am an agnostic as regards the origin of miners' nystagmus, except that I feel confident that it has not been proved to be due to defective illumination. On the contrary, the evidence which I personally have got points very strongly in the opposite direction. Unfortunately, no *post-mortem* examinations have been obtained; they might have yielded good results. Pathologists and medical officers of health and epidemiologists have done a great deal to unravel many diseases, and, in consideration of the serious economic position to which the disease has given rise in the coal-mining industry of Great Britain, I think further investigations are urgently required, neurologists, public health authorities, and pathologists being called in to assist.

I shall conclude by giving a few illustrative cases.

W. B., aged 37, miner, seen on March 31st, 1927, had no trouble with his eyes till three or four days before he left off work (on March 2nd). He had been working entirely with the electric light for the preceding five years and had no symptoms whatever of the disease before he used electric light.

W. D., drawer, seen on March 31st, 1927, had worked with the oil safety-lamp till 1916, and then with the electric from 1919 till 1920. In 1925 he first suffered from symptoms of nystagmus and that very severely. For some years before the attack he had used nothing but electric light.

A. McK., aged 37, brusher, seen on April 27th, 1927. When he first suffered from the disease he was in a pit lit with electricity, and had been in it for several years; the disease began on March 19th, 1926. He was compensated till September 16th, 1926, but was unable to get work till March 29th, 1927, and then he obtained employment in a pit which was particularly well lit with electricity. In this case there does not seem to be any history of his ever having worked in a pit lit by oil safety-lamps.

J. B., aged 21, brusher, seen on May 2nd, 1927, had been in coal pits for seven years. He began in one pit which was chiefly lit by electricity, but in which oil safety-lamps were sometimes used. He was for four and a half years in that pit and then moved to another lit entirely by electricity. He was in this second pit for fully three years, and first noticed symptoms six weeks ago. He saw objects rotating in front of him.

R. C., a miner, aged 47, seen on May 2nd, 1927. The symptoms in this case began not more than a year ago. He is quite clear on that point. He has been using nothing but electric light in the pit for three years. He expressed the opinion that electric light is extremely bad for eyesight.

J. C., a stone miner, aged 42, seen on May 5th, 1927, had been in various pits. I will distinguish each pit by a numeral. He began mining at the age of 14 in pit number 1, a naked-light pit. He was there a year and then removed to pit number 2, which, at that time, was worked with oil safety-lamps. He was there for about twelve or thirteen years, and during that time had no trouble with his sight. Then he removed to pit number 3, where he was only twelve months, still using the oil safety-lamp and still without any trouble. Then he went to pit number 4, where he used sometimes an electric head lamp, and on other occasions an oil safety-lamp. The oil safety-lamp was carried only as a protection; he used the electric light for working. He was in this pit for about thirteen years and, for the first time, while working with the cap electric lamp, felt some symptoms of the disease. Then, about two years ago, he went to pit number 5, entirely lit with electricity. He states quite distinctly that for coal mining the oil safety-lamp is much superior to the electric because it gives less strain to the eyes.

T. G., a miner, aged 55, seen on May 5th, 1927, began in a naked-light pit at the early age of 12. He was only two years there when he went to another pit, where he remained for nineteen or twenty years. This second pit was entirely lit by oil safety-lamps, and he had no nystagmus nor had any trouble of the eyes; two and a half years ago he went to a pit lit throughout by electric light. After being some time in this pit he felt his eyes and head beginning to trouble him. There was intense pain, chiefly at the back of the head, but frontal pain also. The important points in this case are that the patient was for twenty years in an oil safety-lamp pit without having the disease, but had it after he had been three years in an electrically lit pit.

T. K., aged 44, brusher, seen on May 5th, 1927, felt no inconvenience with his eyesight down to the beginning of the strike of 1921. Shortly after resuming work he for the first time noticed defects. The first symptom was that everything appeared in motion at the bottom of the pit. The lamp at that time was the oil safety-lamp. He took a lump sum of money in 1922. He does not seem to have begun work till a considerable time afterwards, and first began with work above ground. Ultimately he went to an electrically lit pit, and was only able to stand the bright light for five weeks, when he again became severely ill with the disease and had once more to apply to the certifying surgeon.

These are only a very few cases taken within the last six weeks. I have records of many hundreds of cases, but the above will, in the meantime, I think, answer my purpose, which is to show that electric light is by no means a preventive of miners' nystagmus. Not infrequently it is found that men who have worked for many years with a moderate amount of nystagmus in pits lit by oil safety-lamps have been attacked very severely by the disease on

the introduction of electric light. There is no gainsaying these facts. No doubt we may be told that it is because the best type of electric lamp has not yet been procured, and the coal owners may be called upon to face further great expense on that head. I think that, before any such demand is made of them, there should be a much more thorough investigation into the cause of the disease, which investigation would include a well organized collective investigation throughout the entire coal-fields of the United Kingdom. Such a research ought unquestionably to be in the hands of persons competent to deal with vital statistics and with public health.

MINERS' NYSTAGMUS.

NOTES FROM THE SOUTH WALES COAL-FIELD.

BY

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CARDIFF.

MINERS' nystagmus continues to be a cause of much concern, both to workmen as a disabling event in the life of underground workers, and to their employers as an *economic factor. It is one that exhibits itself in different* ratios among men employed in different places, and it has some connexion with coal and the variations in gaseous contamination of mine air. This fact is brought into prominence by the high incidence of the disease in parts of the coal-fields where a kind of coal that has much volatile matter in its composition is worked. The fact that more cases take origin in certain coal seams than in others should induce authorities to inquire into the composition of those kinds of coal in which highest and lowest incidence of nystagmus is observed. The number of men affected with the disease in each pit or district chosen should be ascertained, and compared with the total number of men employed in these areas. The introduction of electric lamps has not brought about the much desired result; it has not diminished the number of cases, and such lamps may have actually induced the condition in cases that were quiescent, or aggravated it in others that were evident both to the man and the medical examiner. The time has more than arrived when other possible causes should be inquired into. These are pit environments and the condition of the air at the coal face, the gob, the workings, the main roads, and the return airways. In all of these situations cases of nystagmus arise. In some pits, possibly in most, the collier is the workman who suffers most, but there are seams in which cases of nystagmus arise in parts distant from the face, and show an equal percentage with face workers. In a series of years ending in 1926, out of thirty-two protracted cases contracted in South Wales, 75 per cent. occurred in miners, and 25 per cent. in four other grades. Doctors practising in different parts of the coal-fields differ in their conclusions as to whether the disease is or is not present, and are often at variance with medical referees in this respect. Clinically miners' nystagmus is a very complex condition to diagnose, and to determine whether it has ceased so that the man is fit for work. It is no easy matter either for him or for his doctor to decide this point.

The evidence, so far as it goes, indicates that some pathological entity exists around which many signs and symptoms revolve; in the schedule of disease (III) of the Workmen's Compensation Act, 1925 (No. 17), it is defined as "The disease known as Miners' Nystagmus, whether occurring in miners or others and whether the symptom of oscillation of the eyeballs be present or not." This definition makes for trouble in diagnosing the disease on its kaleidoscopic manifestations; hence the differences in medical opinion expressed at examinations. The disease may manifest the presence of oscillation of the eye, and this movement definitely determines its existence, but subjective symptoms, such as headache, giddiness, and loss of orientation, may be all that is complained of—that is to say, subjective symptoms without objective signs may be the chief determining characteristic; and this is how the fallacy in diagnosis arises.

In the South Wales and Monmouthshire coal-field in 1925, among 157,473 men of all grades above and below ground, there were 621 cases of nystagmus, or nearly 0.4 per cent. In 1926, for 153,738 men so employed (for five months only, owing to the cessation of work in the coal-fields), the number of cases of nystagmus was 263. The estimated number for twelve months would have been 631, so that in 1926 more cases might have been expected to arise than in 1925, though the number employed was fewer by 3,735.

A study of the results of the examination of cases by colliery doctors in this coal-field reveals many facts of interest, such as high blood pressure, chronic nephritis with albuminuria, rapid heart, constant headache in some area of the head, the occurrence of the disease after head injuries not found before such injuries, and many years' standing of some cases, with no evidence of amelioration of signs or symptoms though the men had not resumed pit work. Resumption of work and renewed failure on many occasions is frequently reported. Men at the pit bottom with good light may suffer; one-eyed men get nystagmus. Chief among the signs accompanying oscillation may be photophobia, blepharospasm, conjunctivitis; head tremors alone may replace eye tremors and completely disable the man so suffering. Central vision varies in different cases, and many other defects may accompany the involuntary oscillation of eyeballs which is the chief determining characteristic.

No Act of Parliament can define the degree, range, or definition of the disease—for example, head tremors, which may be the only evidence of the disease, are not included in the schedule of signs. No special inquiry, as far as I know, has been made as to the association of labyrinthine nystagmus with miners' nystagmus, yet it may complicate the pure forms of oscillation. The man as a whole should be examined, as the eye is simply the outpost of the commonwealth of his being. Hereditary predisposition does not, I think, count in the genesis of the disease, but a poor nervous endowment does. The history of men who resume work underground and fail repeatedly should be investigated, since some proclivity to the disease may be disclosed in the man, such as the red corpuscle ratio, or it may turn out that the causative agent is something in the environment. It would be in the men's interest to have all boys examined at 14 years of age, before beginning pit work, so that the weedy ones might be induced to give up the idea of engaging in an occupation so hazardous as mining. Physical robustness should be the standard of acceptance. Some doctors consider that this condition is a form of neurosis from the beginning, and that the special nervous symptoms are secondary. In all neuroses there must be some physiological nutritional derangement of function of brain cells, and such defects may arise where the air is less life-supporting than the healthy stimulus of light and fresh air in the open spaces above ground.

The average duration of cases of nystagmus is uncertain, and cannot be defined in terms of months or years. Some colliery doctors declare that when nystagmus (oscillation of eyes) has once definitely arisen it will reappear on resumption of work underground. There is a good deal to be said for this opinion—that is to say, "once nystagmus always nystagmus." Again, in some instances men have resumed light work on the surface and failed, although they had not restarted work underground. This fact indicated to my mind that the disturbance to the central nervous system is well defined and likely to be permanent.

Some men do resume work underground and do not again suffer from nystagmus. Such men have on my advice been placed on the fresh-air side of the pit, where there is comparative freedom from deleterious environment, but the same safety-lamps are used. Considering the absence of correlative evidence of doctors' reports on nystagmus it is urged that some definite and exhaustive syllabus of its range, including both signs and symptoms, should be published by the Government advisers relative to mines and the diseases arising therein.

Incidentally it may be mentioned that beat-knee has become almost as prominent in some pits as nystagmus, and is steadily growing in ratio to men employed underground. The opinion of medical men of equal experience and ability

varies within considerable limits as to the diagnosis of nystagmus; County Court judges are also much perturbed in such cases. All these facts indicate that some authoritative definition of the disease and its many phases is urgently required.

Whatever opinion is held as to the causation of nystagmus the pathological entity round which this complex revolves is involuntary oscillation of eyeballs, and that, in my opinion, cannot be explained away on a psychological basis. To the elucidation of the cause of this defect in the minor the expert coal chemist should add his quota to that of the doctor.

ACUTE PANCREATITIS: A METHOD OF TREATMENT.

BY

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THE careful study of acute pancreatitis by Mr. Hamilton Bailey in the JOURNAL of February 26th (p. 367) recalls my own experience. The chief difficulty in diagnosis arises from not having the condition in mind. I remember well my first experience of this. When engaged with out-patients, I was asked by the house-surgeon to see a case of acute intestinal obstruction just admitted for immediate operation. After examination I came to the conclusion that the case was not intestinal obstruction, but what exactly it was I could not say with certainty. I concluded, however, that the symptoms and signs indicated peritonitis limited to the lesser sac, and that the most likely cause of this was probably a small perforation of the posterior surface of the stomach, although there was no history of previous stomach trouble. When the abdomen was opened the patches of fat necrosis at once proclaimed the pancreatic lesion, which, till then, I had not taken into account.

Surgical writers, of course, advise drainage of the pancreas, and the various anatomical routes of approach to the organ are described. But they are reticent as to what should be done with the pancreas. Many writers appear to imply that it is enough if a drain is introduced down to the pancreas, and the inflammatory exudate present in the lesser peritoneal sac thereby permitted to escape, with precautions against infection of the general peritoneal cavity. But surely that is not enough. The condition of a patient with really acute pancreatitis is desperate; the gland is acutely congested, swollen, and tense, and appears on the high road to total gangrene. The patient is profoundly toxaemic, slowly dying from the absorption of poisons from his pancreas. The obvious indications for treatment are to stop absorption, to relieve tension, and to allow free exit of inflammatory products so that any part of the gland not already dead may have the best chance of recovery. General treatment of a supporting nature will, of course, not be neglected. It appears to me that the only way to fulfil those indications is freely to open up and drain the gland itself. That this can be done with safety and immediate benefit to the patient the following case—the first on which I used the method—will show:

I was called to see a man, aged 30, about 7 o'clock one morning in the early part of 1915. He was healthy, not fat, but given to bouts of drinking, and he had been indulging a few days before I saw him. It was a typical case of acute pancreatitis, and I sent him at once into the Oldham Royal Infirmary, and four hours later, about five hours from the commencement of his illness, opened the abdomen by a median incision. The pancreas was reached through the gastro-colic omentum. It was greatly swollen and deep purple, almost black in colour. My problem was to lay open the glandular tissue freely so as to drain the whole organ efficiently, and to do this without causing undue haemorrhage or infecting the general peritoneal cavity. I snipped through the peritoneum on the anterior surface of the pancreas, and pushed a finger well down to the middle of the pancreas, and then worked the finger from one end of the swollen gland. I then allowing it to some extent to follow the path of least resistance, so that eventually there was a kind of trench along the anterior surface of the gland, extending from head to tail, and rather nearer the upper than the lower border so as to avoid injury to the duct of Wirzung. From this longitudinal trench short lateral branches or diverticula were made at intervals by pushing the finger into the gland tissue, especially at places where it felt softened. The bleeding was free but not excessive, and was easily checked by a temporary gauze pack in the trench. A wide-bore rubber tube was passed down to the pancreas, the gastro-colic omentum snugly adjusted round it with the aid of a stitch, the upper part of the tube wrapped in gauze to shut off the general peritoneal cavity, and the abdominal wall closed above and below the tube. The wound was dressed daily and the pancreas gently mopped through the tube. The patient made good progress without interruption. Five days after operation two sloughs of pancreatic tissue were discharged, each about the size of a walnut. The tube was kept in for about a week and thereafter the wound healed soundly and quickly. No sugar appeared in the urine during his stay in hospital. Some months later he joined the army, served in France, and continued in good health.

I have used this method, or assisted colleagues in using it, in three cases of acute pancreatitis, all of whom recovered. The number is small but quite sufficient to demonstrate that the inflamed pancreas can be freely opened up and drained, not only with safety, but with immediate and lasting benefit to the patient.

AN OPERATION FOR HALLUX RIGIDUS.

BY

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DISSATISFACTION with the functional end-results of the ordinary operations for hallux rigidus has induced me to try what has proved to be a simple, but effective, substitute. When one of the ordinary operations, such as removal of a wedge of bone limiting dorsiflexion or the trimming away of a portion of the head of the metatarsal, is practised, an elastic resistance to dorsiflexion still remains. This is due to the shortened and contracted structures on the plantar aspect of the metatarso-phalangeal joint, particularly the plantar fibres of the lateral ligaments. The spasm of the intrinsic muscles of the great toe, whose tendons are inserted into the base of the proximal phalanx, is also a factor. These features, together with the organization of blood clot and the development of painful adhesions, are responsible for poor functional end-results.

The difficulty being largely and very often wholly extra-articular, it seemed illogical to attack the bony and cartilaginous elements of the joint. An operation was planned, therefore, to divide the shortened structures on the plantar aspect of the joint.

In the first case chosen there was no osteo-arthritis of the metatarso-phalangeal joint, but the rigidity could not be corrected by forced manipulation under the anaesthetic. It seemed eminently suitable, therefore, for what might be termed this intermediate type of operation. A longitudinal incision, one inch long, with its centre over the level of the articulation, was made in the mid-line over the plantar aspect of the metatarso-phalangeal joint of the great toe. The sheath of the flexor longus hallucis was incised in the line of the skin incision and the tendon hooked aside. A strong, narrow-bladed knife was then passed into the joint to divide the capsule on its plantar aspect, along with the tendons of the small muscles attached to the base of the proximal phalanx. The plantar fibres of the lateral ligaments were also divided. Dorsiflexion, full and free, was obtained. The toe was bandaged in moderate dorsiflexion. Active and passive movements were begun on the third day. Full function was present by the time the stitches were removed and full weight-bearing begun on that day.

The operation has been done in a series of twelve cases with equally gratifying results. The patients have all expressed themselves as satisfied and there have been no relapses. Osteo-arthritis was present in three, and a wedge of bone, base upwards, was removed from the dorsal aspect of the joint. An elastic resistance to full dorsiflexion still remained, but disappeared at once on the performance of the small additional procedure here described.

Most cases of hallux rigidus occur in slender feet with a relatively long great toe, and attention must, therefore,

be paid to the fitting of a suitable shoe that is not too short. Measures must also be taken for the treatment of a tendency to faulty statics and flat-foot, which it is usual to find associated with hallux rigidus, and which are concerned in its causation.

TWO CASES OF SPONTANEOUS RUPTURE OF THE HEART.

BY

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IN a recent article on rupture of the heart, J. Strickland Goodall and H. B. Weir,[1] after analysing a series of cases, express the opinion that a physical pathological state, and not some emotional strain, is the prime causal factor. The two cases here described corroborate that conclusion, and in addition appear to be of interest, in one case because of the unusual site of rupture, and in the other on account of the unusual nature of the pathological cause of the rupture.

CASE I.

A woman, aged 53, was admitted in April, 1918, in a restless, excitable condition. In April, 1920, she had crossed paralysis of the right arm and left leg, with slight facial paresis, but consciousness was not lost. She was up and about in December, 1920, and continued to lead a quiet, aimless life, doing no work of any description. There was evidence of myocardial insufficiency shown by slight oedema of the lower extremities. On April 11th, 1922, the patient was taken ill at 8.40 a.m. (one hour after rising), and expired almost immediately. There was a suspicion that the patient had recently visited the lavatory, but we were unable to get any definite evidence on this point. It is to be noted that in Goodall and Weir's series of eighteen cases three occurred in connexion with visits to the lavatory, the strain of defaecation apparently being the effort which precipitated the final catastrophe.

The autopsy revealed signs of passive congestion in all the viscera. The oedema of the legs was still noticeable. The cranial cavity contained an excess of cerebro-spinal fluid, ventricles were dilated and the convolutions wasted. The pia mater was thickened, and there was an area [illegible] motor area of the left cerebral hemisphere. [illegible]stended by blood and blood clot. The rig[illegible]d showed a large tear posteriorly, about 4 [illegible] of the rent were ragged, irregular, and [illegible] muscle was soft and flabby, and there was considerable sclerosis of the coronary arteries. The heart weighed 266 grams.

CASE II.

A man, aged 62, a shoemaker by trade, was admitted in June, 1906, in a state of noisy excitement with acute hallucinations of sight and hearing. For many years prior to his death he had been in a state of progressive dementia, confused, idle, solitary, and unresponsive. He was known to be the subject of cardio-vascular degeneration. His death occurred suddenly one morning, whilst still in bed.

The autopsy revealed a large flabby heart, weighing 420 grams, the pericardium again being distended with blood and blood clot. The left ventricle was found to be ruptured posteriorly, the external opening of the rupture being about 2 cm. ong. It resembled a clean-cut surgical incision, and ran in a direction parallel with the muscular fibres. Further inspection of the site of the lesions showed that the ventricular wall was diffusely affected by a gummatous condition. The tear on the inner surface of the ventricle showed ragged edges, and the haemorrhage had extended laterally for some distance in the wall of the ventricle. On one side it had pursued a U-shaped course, and had almost penetrated again into the ventricular cavity. The coronary arteries were sclerosed, and in the aorta were patches of atheroma sharply limited to the points of origin of the intercostal arteries. A feature of interest was that the thymus had not undergone its usual atrophic changes, but extended downwards as far as the base of the heart.

It is possible that rupture of the heart is a more common mode of death in cases of cardio-vascular degeneration than is commonly believed. Neither of the deaths here recorded could be said to be unexpected, and it is certain that in the absence of permission for a *post-mortem* examination no difficulty in assigning a cause of death would have been experienced, and the ruptures would have been undiscovered. The strain in Case i was at the most a physiological one, and in Case ii the entire absence of any strain is noteworthy. Auricular rupture is uncommon, for while it is conceivable that degenerative processes may occur in the wall of any of the chambers of the heart, it is obvious that the walls of the ventricles will be more likely to rupture on account of the extra strain to which they are subject. Quain,[2] in a summary of cases collected from various sources, gives the frequency of sites of rupture as: left ventricle 76 times, right ventricle 13 times, right auricle 7 times, left auricle twice; the interventricular septum was ruptured in four cases. Elleaume,[3] quoted by Quain, found the right auricle ruptured in 3 out of 55 cases. The age of both our cases was over 50, as it was in over 80 per cent. of the recorded cases. Syphilis of the heart is well known as a cause of sudden death, and cases of rupture reported by Dandridge and Nalty are mentioned by Osler.[4] Stott and Blair,[5] in a recent article, note the apparent predominance of the female sex in cases of ruptured heart. From an examination of the records of a large number of cases it would seem that the reverse is true, although not to the extent of the predominance of male cases recorded by Strickland Goodall and Weir (16 male to 2 female).

We are indebted to the medical superintendent of the hospital, Dr. R. P. Sephton, for permission to record the foregoing cases.

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SPONTANEOUS RUPTURE OF THE RIGHT VENTRICLE OF THE HEART.

BY

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THE following case shows several unusual features, which are worthy of record.

An unmarried woman, aged 57, was admitted to the Essex County Hospital, Colchester, complaining of a swelling of the abdomen, first noticed one month before admission. It was causing slight abdominal discomfort, and there was some oedema of the legs, most marked at the end of the day. There had been no nausea or vomiting, and no jaundice. She had dyspnoea on exertion, but no cough, no difficulty of micturition, and no cramping pains in the legs. She had been losing weight for the previous two months. Menstruation had ceased at the age of 48, but there had been a slight "show" four months previously.

There was impairment of the percussion note at the bases of both lungs, presumably due to the liver being pushed up by the abdominal contents; otherwise, the lungs appeared healthy. The apex beat was in the fourth space, 2¾ inches from the mid-sternal line. The impulse was poor, and the area of cardiac dullness was not increased. The first sound at the apex was very faint and prolonged; the other sounds were faint, but no murmurs were heard. There was some oedema of the legs and lower part of the back.

The abdomen was distended, and the umbilicus protuberant. There was marked shifting dullness in the flanks; a fluid thrill was perceived on palpation. In the right hypochondrium there was a mass the size of a foetal head, hard, fixed, and apparently smooth. In the left hypochondrium there was a smaller mass, the size of a Tangerine orange, which could be pushed easily towards the mid-line. The liver was apparently pushed up by the abdominal contents. The spleen and kidneys were not palpable. The uterus was small, senile, and freely movable, and the cervix was healthy. The mass on the right side was free from the uterus; that on the left, from its mobility, was thought to be a subperitoneal fibroid. The urine was normal chemically and microscopically, and the Wassermann reaction was negative. A diagnosis of right-sided ovarian cyst, with free ascitic fluid, was made, and a pedunculated fibroid was suspected. About two hours before the contemplated operation, after the usual routine preparation of the abdomen, the patient complained of sudden nausea and slight precordial pain. She tried to sit up in bed, but collapsed. Her face was pale and clammy, but there was no cyanosis; she became unconscious in about five minutes, and died about ten minutes after the onset of the symptoms.

At the necropsy death was found to have been due to a rupture of the right ventricle. The lungs were compressed, and congested at the bases; there was no evidence of pulmonary embolism. The pericardium was full of blood. The heart was small, and was coated with bright yellow fat, which also covered the aorta. At the apex of the right ventricle there was a definite perforation, the size of a small knife-stab. The musculature of the heart generally, was extremely thin, that of the apex of the right ventricle practically consisting of the endothelial lining of the heart, with an outer covering of about three-quarters of an inch of fat. The walls of the auricles were exceptionally thin. The aortic valves showed slight atheromatous changes, but the other valves were normal.

The peritoneum contained a large quantity of dirty green fluid with flakes of free lymph; there were no miliary deposits. The

intestines were collapsed. The liver showed a state of mild cirrhosis; on microscopical examination there was found an increase of fibrous tissue around the bile ducts, with partially obliterating endarteritis of the vessels. The spleen, uterus, and appendages were normal, but the kidneys were slightly granular. There was a typical broad-ligament cyst on the right side, of irregular shape; it passed across the bladder, with a small protuberance causing the apparently separate mass on the left side. On section it proved to be an innocent multilocular growth, with papillary proliferations.

This case has several features of interest. The muscular effort which ruptured the heart must have been very slight, as the patient was lying in bed. She was by no means a nervous woman, and was perfectly willing to be operated on for her condition. The right ventricle is said to be affected in only one quarter of these rare cases of rupture of the heart, the left ventricle being the usual chamber involved. The slight degree of precordial pain, and the comparatively long duration of life after rupture, due, no doubt, to its small size, add interest to a very unusual case.

My thanks are due to Dr. S. W. Curl for permission to publish this case, and for his help in compiling these notes.

TREATMENT OF RINGWORM BY THALLIUM ACETATE.

BY

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SINCE reading the report in the BRITISH MEDICAL JOURNAL of February 19th (p. 329), I have taken the opportunity of investigating the treatment of ringworm of the scalp in children at the Withington Hospitals, by the internal administration of thallium acetate. The cases were taken at random among children up to 5 years of age, no consideration being given to the extent or duration of the disease.

In all cases the urine was ascertained to be free from *albumin*, *albuminuria* being a contraindication to the use of the drug, and in all cases a positive spore test had been returned before treatment.

The dose of thallium acetate given was 1/8 grain per 2½ lb. of body weight, irrespective of age. The drug is easily soluble, and was made up in sweetened water and administered in a single dose. No constitutional symptoms were observed after the administration of the drug, nor yet in the case of one child who received a second administration six weeks later. No local treatment was applied to the scalp, but the head was covered to prevent loose hairs being a source of infection to other children. The shedding of hair commenced between the fourteenth and sixteenth days. The hair could then easily be pulled out without causing any discomfort, and it also came off in the caps. The shedding was in every successful case complete in from three to six days. The very short stumps were found to be loose, and were readily extracted by application of adhesive plaster for a few minutes. The action of the drug was entirely selective to the hair of the scalp.

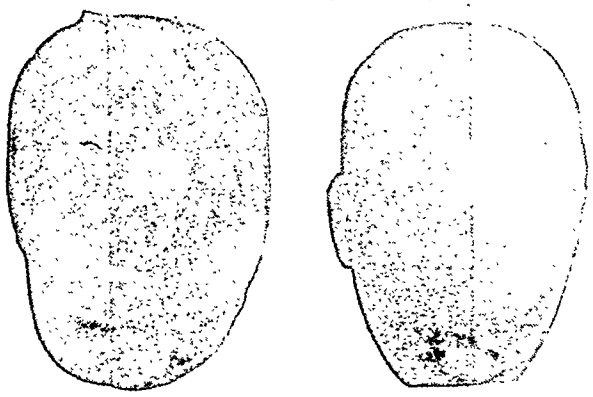
In all cases a roughness of the extensor aspects of the forearms and of the outer side of the legs was observed about the tenth day after the administration. After the shedding of the hair dermatitis of the scalp occurred in several cases, but yielded to treatment by zinc ointment in the course of a few days. The new hair commenced to grow almost immediately.

Case 1.—A boy, aged 4 years, presented several patches of ringworm of the scalp; he had been treated for over six months by various local applications. The child's weight was 2 st. 2 lb. 12 oz., so 1.7 grains of thallium acetate was given on March 22nd. Epilation commenced on April 6th (sixteen days after) and was complete in six days. He has now quite a fair crop of hair, and spore tests from different parts of the scalp are negative.

Case 2.—A child, aged 1 year 8 months, weighing 1 st. 8 lb. 2 oz., was given 1.23 grains of thallium acetate; the shedding of hair began on the fifteenth day and was complete in five days.

Case 3.—A child, aged 2 years and 8 months, weighing 1 st. 13 lb. 6 oz., was given 1.52 grains of thallium acetate; the shedding of hair began on the fifteenth day and was complete in five days.

In Cases 4, 5, 6, and 7 shedding of the hair commenced on the fourteenth day and was complete in three days. Photographs of one of these cases are reproduced; the age of the patient was 3 years and 6 months, and he weighed 2 st. 3 lb. 4 oz. A dose of 1.74 grains of thallium acetate was given on April 23rd, and the



shedding of the hair commenced on May 6th. In Case 8 the child, aged 2 years and 4 months, and weighing 1 st. 12 lb., was given 1.5 grains of thallium acetate. The shedding of hair commenced on the sixteenth day and was complete in six days.

Out of the first ten cases two were unsatisfactory; one was a failure for which I cannot account, as shedding of the hair occurred only very slightly, and the other was unfortunately given an underdose, and shedding of the hair was only partial.

The results of these few cases suggest that there is wide scope for the use of thallium acetate, especially in children under the age of 3, where *x*-ray epilation is inadvisable.

I have to thank Dr. Gibson, the visiting dermatologist, for his interest and help in these cases, and also Dr. Gamble, the medical officer, for permission to report them.

[The reader is referred to a paper on this subject by Professor W. E. Dixon, communicated to the Section of Dermatology of the Royal Society of Medicine on March 17th, and published in the current (June) number of the *Proceedings* of the Society (p. 1197). An annotation of this paper appeared in the JOURNAL of March 26th at page 581.]

CARDIAC FAILURE ASSOCIATED WITH NEW GROWTH IN THE CHEST.

BY

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THE following case has interesting features and seems worth recording, as the presence of mitral stenosis, together with a new growth in the chest causing acute symptoms simultaneously, must be exceedingly rare.

The patient, a man aged 41, gave a history of becoming easily fatigued for twelve months, and swelling of the legs and arms for four months. He stated that the oedema in the right arm had always been greater in amount than that in the left.

On admission he was very dyspnoeic and cyanosed. He was coughing up a fair quantity of sputum, which was slightly tinged with blood. There was a considerable amount of oedema—of both legs, the scrotum, and both arms (of which the right was much more swollen than the left). The other signs of cardiac failure present included enlargement of the liver and spleen, a small amount of fluid in the abdomen, and congestion at the bases of both lungs. The urine had a specific gravity of 1020, and contained both albumin and blood.

The physical signs in the chest may be summarized as follows: The heart was enlarged, the right border being half an inch to the right of the sternal margin and the left two inches outside the nipple line. At the mitral valve there was a localized presystolic and a soft systolic murmur. The aortic and pulmonary sounds were normal. It was also noticed that the right apex was less resonant to percussion than the left, and that at this side the breath sounds were distinctly weaker. Enlarged superficial veins were present on the right side of the chest.

The conclusions were that the patient was suffering from cardiac failure due to mitral stenosis, and that there was something in the neighbourhood of the right apex which was partially obstructing the innominate vein. An *x*-ray photograph of the chest was not taken until a later date owing to the gravity of the symptoms.

The cardiac condition was treated by the usual measures; these included rest in bed, venesection, Southey's tubes and incisions into the right arm, and the administration of Nativelle's digitaline and diuretin. After twelve days' treatment there was a marked improvement in all his symptoms, but the oedema of the right arm persisted.

At this stage an *x*-ray photograph of his chest was taken, and Dr. F. C. Jagger made the following report: "There is a rather dense shadow under the right sterno-clavicular joint, which has the appearance of a new growth."

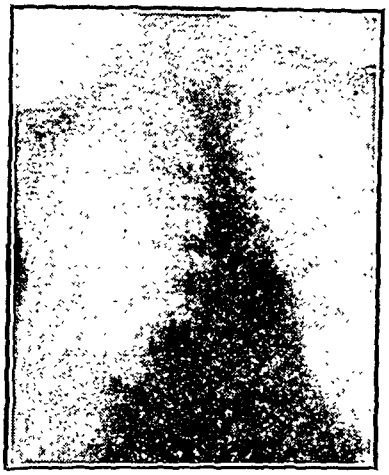


FIG. 1.—Showing the tumour at the right apex.

The patient is now feeling perfectly fit. His mitral condition appears to be well compensated, and there are no physical signs of a tumour in the chest. Further, the

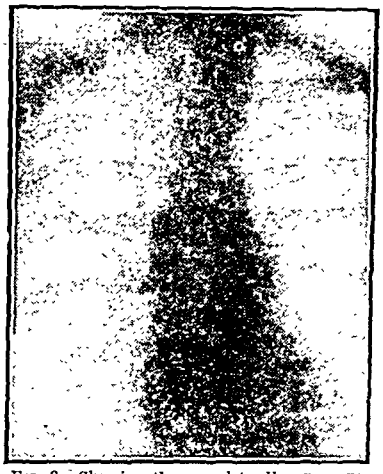


FIG. 2.—Showing the complete disappearance of the tumour after treatment.

Wassermann reaction was negative. It seemed probable, therefore, that the tumour was of the nature of a lympho-sarcoma.

A course of *x*-ray treatment was instituted. Twelve B-pastille doses were given in all, six to the front of the chest and six to the back, in the neighbourhood of the tumour. Under this treatment the tumour soon began to show signs of shrinkage, and the oedema of the right arm gradually disappeared.

x-ray photograph shows that the tumour has completely disappeared, although a secondary deposit of lympho-sarcoma may occur later on.

I am indebted to Dr. G. A. Tullis for permission to publish this case, and my thanks are due also to Dr. Jagger for kindly reproducing the *x*-ray photographs.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

ACUTE LOBAR PNEUMONIA: DEATH IN NINE AND A HALF HOURS.

THE following case is worthy of record, in that the whole course of the illness, from the initial rigor until death, lasted only nine and a half hours.

Mrs. *T.*, aged *90*, was taken ill and had a severe rigor about 2 p.m. one day during snowy weather. She had been up and about as usual during the morning. She was put to bed and given hot drinks, and some few hours later her relatives found difficulty in wakening her. When I saw her at 5.15 p.m. she was very drowsy and only muttered when spoken to. The pupils were equal and reacted to light. There was no sign of paralysis in any limbs. When she coughed she brought up the typical blood-stained, "rusty" sputum of pneumonia. The base of the left lung was dull on percussion and the breathing was definitely tubular in character. Few adventitious sounds were present. The temperature was 105° F. and the pulse was 120.

I saw her again at 9.30 p.m. when she was quite unconscious, and I verified the diagnosis of lobar pneumonia by further examination. There were no signs of any cerebral lesion. The temperature had fallen to 103° F., but the pulse rate had increased to above 130 with some irregularity. The patient died at 11.30 p.m.

She had been a very healthy old woman considering her great age, but during the last few years had had several fairly severe attacks of acute bronchitis from which she recovered well. During the last twelve months she required no medical attention.

It is of interest to note that the onset was not of the insidious type usually associated with the aged; the rapid course of the illness indicated that the resistance to the infection was practically *nil*.

Manchester. RICHARD I. POSTON, M.D.

INTESTINAL OBSTRUCTION DUE TO TORSION OF THE MESENTERY.

THE following details of a case of intestinal obstruction caused by mesenteric twisting seem to be worthy of record, since such torsion must be a very rare cause of obstruction.

A male Hindu, aged 28, was admitted to the Monghyr Sadr Hospital for acute intestinal obstruction, which had lasted five days; his condition was almost hopeless. The tongue was dry and brown, the breath very foul, the eyes were sunken, the abdomen was distended and tympanitic, and the pulse was feeble. (Lejars aptly described this condition as stercoraemia.) He had faecal vomiting, and gave a history of absolute constipation for five days, not even flatus having passed. Enemas had been given without result. It was decided to operate at once; a rectal injection of ten ounces of glucose solution was given and was retained.

After a preliminary morphine and atropine injection and lavage of the stomach the abdomen was opened under general anaesthesia. The first glimpse of the coils of the small intestine which came into view was very striking; they were deep purple in colour and were beginning to lose their glistening appearance. Some coils escaped from the wound, a few more were pulled out and covered with hot towels. The peritoneal fluid was foul-smelling. The pelvic colon and caecum were not distended, and, from the pre-gangrenous state of the whole of the small intestine, I suspected some mesenteric abnormality. After enlarging the wound and pulling out some more coils of small intestine the mesentery came into view and was clearly seen to be twisted on itself from right to left. More of the small intestine was eviscerated, and I was able to untwist the mesentery just over one turn. There was still another complete twist, but further progress was checked by a loop of the ileum being firmly held down to the posterior abdominal wall above the level of the caecum. Owing to its depth and the bad light, I could not see what was binding down the ileum, but it felt like a twisted cord, as thick as a thumb. While investigating this area gently the gangrenous gut at the seat of constriction perforated, and foul faecal fluid began to pour out of the gut into the right flank. A piece of gauze was pressed down upon it, and a pair of intestinal clamps was immediately applied; the faecal matter was then removed. Excision of any or of the whole length of the gut was out of the question owing to the bad light, the state of the gut, and the condition of the patient. A stab wound was made through the right flank, another pair of clamps was passed through this and placed alongside the first one, which was then removed. This clamp served also to keep open a passage for drainage. Through a small opening in a loop of jejunum a medium diameter rubber drainage tube was passed and fixed by two purse-string sutures. The loop was fixed to the upper part of the wound, the rest of which was closed quickly. Gentle lavage of the jejunum was tried after the patient had been returned to bed, but with only temporary success, the patient dying later. This procedure could hardly have been expected to succeed, but if the patient's condition had improved after drainage another attempt might have been undertaken next day to resect the ileum.

I have found no mention of this condition in any of the standard books on surgery by British authors; thrombosis and embolism of the mesenteric vessels and tumours at the root of the mesentery are described, but not torsion. So far I have only been able to find a description of a similar case by Pierre Delbet, who describes the condition as "Occlusion intestinale par torsion de la totalité de l'intestin grêle et de son mésentère" in the *Bulletin et Mémoires de la Société de Chirurgie*, 1920.

Delbet was more fortunate with his case, for he was able to free the lower loop of the ileum from the posterior abdominal wall by eviscerating and untwisting the whole of the small intestine. My further progress in that direction was checked by this anchorage, so that neither complete evisceration nor complete untwisting could be performed. As no *post-mortem* examination was allowed the cause of this anchorage still remains a mystery. Delbet's description of a peritoneal fold and another loop holding the ileum down is rather unintelligible, and I should be glad to be enlightened by anyone who has had experience of such a case. The direction of this twist, both in Delbet's case and in mine, seems to have been from right to left, so that the gut had to be untwisted from left to right.

Chapra, India. A. N. PALIT, F.R.C.S., Major I.M.S.

DISSECTION OF TONSILS.

THE great majority of tonsils can be completely removed by the inverted guillotine method. There is, however, a comparatively small proportion which cannot be satisfactorily removed by this method and must be dissected out by knife, scissors, etc. This can often be done under local anaesthesia, but there are cases which, for one reason or another, require a general anaesthetic. In these cases considerable difficulty often arises from interference with respiration, haemorrhage, etc., and it is for such cases that the method here described offers a comparatively simple and safe means of treatment.

The patient is anaesthetized in the usual way and an intratracheal flexible metal catheter is introduced through the larynx and chloroform anaesthesia maintained automatically by the patient himself. (A No. 16 catheter is used for adults and a No. 12 for children.) A Doyen's gag is introduced and the lower pharynx packed with gauze. A broad tongue depressor is passed back to the pharyngeal wall and depresses and keeps in position both the tongue and the gauze packing. This gives an excellent view and approach to the tonsil fossae.

It is now a simple matter to dissect the tonsils out of their beds and efficiently control and arrest haemorrhage. The use of a suction apparatus, for the removal of blood from the throat, facilitates the operation. There is no anxiety about respiration. The free airway through the intratracheal tube lessens congestion, and bleeding points can be secured and tied off at leisure.

I believe this to be a "new" technique, for, although I have used intratracheal chloroform for many years for nasal and throat operations, I have only recently tried it in cases of tonsillectomy, and I do not remember having seen it described elsewhere.

W. S. KERR, F.R.C.S.ED.,
Honorary Aural Surgeon, the Royal Infirmary, Sheffield.

BLOOD TRANSFUSION IN HAEMORRHAGIC DISEASE OF THE NEWBORN.

THE following case affords another illustration of the value of immediate injection of whole blood in arresting melaena neonatorum.

A female infant born on April 5th, 1927, at 4 p.m., after an easy and normal delivery without intervention, was cyanosed, but after clearing the throat of mucus it cried lustily and breathing and colour were soon quite normal. It weighed 6 lb. 2 oz.

At 8 o'clock the following morning (6th) it vomited some clotted blood and passed a small black stool; otherwise it appeared quite normal. I saw the child at 10 a.m., and except for the above symptoms there were no other signs of internal bleeding. I ordered 1 minim of adrenaline in a teaspoonful of water to be given hourly for three doses.

At 1.30 p.m. the nurse telephoned me to say that the child was looking very ill and had passed a copious haemorrhagic stool and also vomited a large quantity of blood. I saw the child at 1.45 p.m., when it seemed entirely collapsed and *in extremis*; while I was looking at it it passed a further haemorrhagic stool, almost bright red in colour, and the condition seemed hopeless. I immediately withdrew 25 c.cm. of blood from the mother's vein at the bend of the elbow and injected this into the gluteal muscle of the child, which was put back in its cot and surrounded by hot-water bottles. The effect was immediate and striking. No further vomiting occurred, and except for the passage of a little clotted blood in a stool, passed six hours after the transfusion, no further bleeding took place. The child was twenty-two hours old when the injection was given. Further progress was uneventful; it gained 1 ounce the first week and 8 ounces the second week, and became quite normal.

London, W.2. M. GOLDING, L.R.C.S.I., D.P.H.

Reports of Societies.

ROYAL SOCIETY OF MEDICINE.

SUMMER MEETING OF SECTIONS OF LARYNGOLOGY AND OTOLOGY.

THE summer meeting of the Sections of Laryngology and Otology of the Royal Society of Medicine was held on June 9th to 11th. The laryngological sessions were presided over by Dr. ANDREW WYLIE, and the otological by Dr. DAN MCKENZIE.

Relation of Nasal Polypi to Inflammation of the Accessory Sinuses.

Mr. T. B. LAYTON brought forward this subject for discussion, premising that he had been keenly disappointed with the traditional treatment of simply pulling out the polypi. He had never found this primitive method curative, unless in the case of a single polypus rising beneath the middle turbinal. There was a difference of opinion as to whether polypi ever existed unless there was some underlying disease in the sinuses. When polypi were present without underlying disease of accessory sinuses they were in the large airways, and appeared to him to be a hypertrophy to compensate for the extra calibre of such airways; this type of polypus was best left alone. In most cases the disease underlying the polypi was an inflammation of accessory sinuses. Pus was found among polypi in three circumstances: (1) muco-pus mixed with polypi, the muco-pus being secreted in the nose, thorough cleansing of which would prevent return; (2) pus in small quantity in a sinus, the site of a chronic catarrhal suppuration, the pus in most cases leaking down into the sinus from the nose, so that it was not a true suppurative sinusitis; (3) cases in which a chronic suppuration might be added to a catarrhal inflammation. Nasal polypi might be associated with catarrhal inflammation in the ethmoid and the maxillary sinus. It was not his opinion that acute catarrhal sinusitis ever became acute suppurative sinusitis; the latter was not accompanied by swelling of the mucous membrane, but was associated with extensive hyperaemia. When a sinus was the seat of acute suppuration it was not his practice to open it. Assuming these statements to be correct, what were the best lines of treatment? All the mucous membrane involved in the catarrh must be cleared away. Commonly the ethmoid was involved, and his practice now was to attempt by external incision to remove the whole ethmoid. This avoided the dangerous olfactory nerve area and the cribriform plate.

In the course of discussion Dr. W. S. SYME agreed that the present treatment of nasal polypi was unsatisfactory; he thought that in every case of multiple polypi in the nose there was antral as well as ethmoid disease. His routine, therefore, had been to open the ethmoid. He did not agree with Mr. Layton's sharp line of demarcation between catarrhal and suppurative disease, though in one case the catarrhal element, and another the suppurative might be predominant. Mr. SCOTT RIDOUT also dissented from the view that the catarrhal and the suppurative conditions were separate entities. He believed that the external operation was not done often enough for the disease under discussion. Mr. J. S. FRASER did not feel justified in opening the antral mucosa in this disease, as in several cases he had found it healthy. He did not differentiate rigidly between chronic catarrh and chronic suppuration. A good indication as to whether, in a given case, the antrum should be operated upon was obtained by proof-puncturing the antrum and washing it out. If after clearing the nose the fluid returned freely and readily one might conclude that the antrum was not full of polypi. If force were needed to send fluid through the syringe it was a good indication for doing the radical operation. Mr. F. B. GILHESPY favoured a somewhat long incision through which the external operation, if necessary, should be done. Dr. SUGARA (Buenos Aires) classified polypi into those originating in the sinuses—chiefly maxillary—those which were simple, and those associated with osteitis of the ethmoid. Recurring polypi demanded radical operation.

Chronic Middle-ear Deafness.

In the Otological Section the chief subject for discussion was progressive middle-ear deafness. Dr. G. SCOTT WILLIAMSON brought forward an analysis of data acquired from a study of 51 out-patients at the Central London Throat, Nose, and Ear Hospital suffering from chronic deafness of the type commonly known as "chronic middle-ear catarrh"; only idiopathic deafness was included. The patients were subjected to a thorough examination of the cardiac, respiratory, digestive, urinary, neuro-muscular, genital, and haemopoietic systems. Out of the 51 cases 7 were found to present signs of established disease—namely, mitral disease of the heart (3 cases), Graves's disease (3 cases), tuberculosis (1 case). The tests on the remaining 44 showed with one exception (the cardio-respiratory balance) the patients to be within the normal of average people at their age limits. All the patients showed a decided tendency to tachycardia, and had easily disturbed cardio-respiratory balance. His conclusion from these cases was that the history of the deafness began at puberty or earlier, and he suggested that the marked dullness and apathy of many of these persons were due to their deafness, or at least their low auditory acuity while at school. Another positive fact noted was that in each of the cases the patient had a peculiar aspect depending upon the size and shape of the nose (pinchbeck). The 51 cases included only 5 males, but Dr. Williamson did not regard this as representing any real sex incidence of the complaint. The male, being under greater compulsion to adapt himself, probably ignored his deafness, and, having a larger choice of occupation, selected employment not dependent on auditory acuity. He believed this deafness to be, not a mere accident during the course of life, but a condition with a specific etiology somewhere in childhood. It was not associated with any disease, nor due to local sepsis, but it might be associated with some constitutions or diatheses. Mr. E. HORACE RICHARDS followed with an analysis of the hearing of this same series of patients. His general conclusion was that the characteristics of the whole group were those of deafness of the mixed type, in most cases to a high degree, with a peripheral contraction of the tone limits.

Dr. DAN MCKENZIE gave a clinical review of 748 cases, unselected except that the deafness had got beyond the stage of mildness. He classified them as follows:

Chronic dry catarrh of middle ear	288
Cicatricial changes secondary to healed suppuration	80
Active suppuration	136
Otosclerosis	206

In 38 cases there seemed to be a combination of suppuration, healed or active, with catarrh or otosclerosis. In most cases tinnitus was the earliest symptom. Generally speaking, it preceded deafness by months, sometimes by years; in other cases the two conditions appeared simultaneously. After describing the results of the tuning-fork tests, he said that his figures supported the orthodox teaching that in progressive middle-ear deafness the hearing for deep tones through the air was reduced relatively to the hearing for middle and moderately high tones. With regard to the physical examination, he believed that the condition of the membrana tympani—its colour, texture, and situation, together with the mobility or immobility of the malleus handle, as tested by Siegle's speculum—was no indication of the presence or absence of deafness. His cases manifested five points in common, though varying somewhat in their incidence: (1) tinnitus, frequently composite; (2) progressive deafness; (3) increased bone conduction; (4) variable upper tone limit; (5) a negative Rinne. The fact that this symptom group was common to all the varieties surely indicated that, whatever might be the primary pathological change that initiated the process, there must be some physical factor, also common to all the groups and varieties, that induced the syndrome. It would also seem that once this physical factor or secondary change, whatever it might be, was set going, it would continue to progress by its own inherent tendency, and independently of its initial cause, until its progress came to a standstill. He thought the inner wall of the tympanum might be the seat of the physical factor of which they were in search. It remained to account for two phenomena which recalled the nerve mechanism of the cochlea—namely the tinnitis and the not infrequent diminution of bone conduction. He thought that even such apparently cochlear phenomena as these might be referred to the middle ear and if, as seemed plausible, the fixation of the fenestral structures—whether by bone, as in otosclerosis, or by scar tissue, as in suppuration and the dry catarrhs—might be credited with the power of causing tinnitus by altering intra-labyrinthine fluid pressure in some way, it was possible to refer all the phenomena to the middle ear, and particularly to the inner wall. This argument, he added, did not exclude the real occurrence of genuine cochlear changes, and cochlear deafness, as a result of the permanent withdrawal of normal cochlear stimuli attendant upon serious middle ear deafness—changes which, it was known, did undoubtedly occur.

Mr. G. J. JENKINS declared himself unable to recognize pathologically or clinically, the condition known as "progressive middle-ear deafness," sometimes described as "chronic middle-ear deafness," or even termed "dry middle-ear catarrh." The terminology, in his opinion, was wrong and misleading. They were all familiar with the textbook description of the disease under this name, with the detailed accounts of the active local treatment and general management of the patient. The pathology was in most books purely speculative. The symptoms and signs were usually roughly and indefinitely indicated, and so far as they went, were the same as an imperfectly described otosclerosis syndrome. He believed that if a complete modern examination had been made in these cases on which this terminology was founded, the diagnosis would have been one of otosclerosis. In his opinion, pure middle-ear changes, including fixation of the stapes, would give only pure obstruction signs, and if any symptoms such as internal-ear deafness or those specially associated with otosclerosis were present the labyrinth should then be regarded as affected. He had not known progressive middle-ear deafness, in the sense implied in the title of this discussion, that could be attributed to middle-ear changes only.

In the course of some further discussion, Mr. NORMAN BARNETT thought there could be no question that there was a distinct entity in chronic middle-ear deafness. The cases could be divided into those secondary to a long antecedent suppuration of the middle ear, those with a distinct focus of infection, such as septic tonsils or a septic condition of the nasopharynx, and those in which there was some obstructive lesion, such as a pronounced deflection of the nasal septum. Mr. J. S. FRASER thought the best classification of these cases of chronic deafness was into normal and abnormal tympanic membranes. If one had a case of chronic deafness which gave the usual tuning-fork results with perfectly normal drumheads one might be sure of otosclerosis, no matter whether the flamingo tinge was present or not. In most cases in which there were abnormal drumheads there was no progressive middle-ear deafness. If tinnitus was a marked feature, if there was a hereditary history, if the catheter resulted in no improvement in hearing, and if deafness was increasing, he thought the case might be regarded as otosclerosis, in spite of the abnormality of the tympanic membrane. Sir J. DUNDAS-GRANT had a bias in favour of the idea that many of the cases of chronic or progressive middle-ear trouble were secondary to the narrowing or catarrhal thickening of the walls of the Eustachian tube.

Mr. SOMERVILLE HASTINGS was surprised at the proportion of otosclerosis in Dr. McKenzie's cases. In his experience what he would call otosclerosis was exceedingly rare. Cases ordinarily called otosclerosis really began as sepsis in some region of the nose and throat at some stage in life; he believed that a great many cases of chronic progressive deafness began in very early life. It was difficult to distinguish between the cases in which the process went on whatever was done, and those in which the process could be stayed. The thing to do was to make a careful examination for sepsis and treat it when found. It would not be found in all cases, but in a sufficient proportion to make

that line of treatment worth while. Mr. HERBERT TILLEY said that Dr. McKenzie had spoken of tinnitus as being a cochlear symptom. How did he explain those very desperate cases in which patients had tended to suicide in order to get rid of their "noises," and in whom the auditory nerve had been completely divided within the skull, and yet the tinnitus continued? He also felt that if terminology was important, so was pronunciation. It should be "ti-nī'-tus," not "tin'itus." Dr. McKENZIE recalled an occasion at a Section meeting of the British Medical Association when Sir StClair Thomson, who was in the chair, introduced the opener of the discussion by saying that he would tell them whether it was "ti-nī'-tus" or "tin'itus," whereupon the opener began, "Gentlemen, the subject of my remarks is 'ti-nē'-tus'"!

A medical man who had been a patient, introduced by Mr. Norman Barnett, also spoke. He said that he had noticed deafness as a student when using the stethoscope, and it became worse. Four years ago an operation on turbinates was done, with improvement for a time. In September, 1925, the left ear became completely deaf, and he was advised to give up practice, as nothing could be done for his hearing. An examination in December, 1925, showed a marked deflection of the nasal septum with an adhesive remnant of the right middle turbinate. There were buried septic tonsils and retracted and inflamed tympanic membranes. Submucous resection of cartilage and bone of nasal septum, which was found to be fractured, was done, diseased and adherent turbinates removed, and ultra-violet rays, general and localized for throat, were administered. Sub[illegible] with ionization over mastoid and .. the Eustachian catheter and the tympanum with hot iodine, camphor, and carbolic vapour was carried out. On testing in February and March, 1926, there was improvement for all tests, and hearing for conversation and whispered voice was practically normal. Since then there had been further improvement, and he was now able to carry out all professional examinations with ease. He added that in the country village where he practised there were thirty people who were deaf, and of these he had treated eighteen, on the line of treatment he had himself undergone, with success in every case.

Other Papers and Exhibits.

Among other papers read in the course of the sessions was one by Mr. DOUGLAS GUTHRIE and Mr. NORMAN DOTT on the occurrence of brain tissue within the nose, the so-called nasal glioma, with a description of two cases, one an encephalocele which in adult life became incorporated with nasal polypus, and the other case illustrated the penetration of the nasal cavity by a cerebral frontal glioma of the spongioblastic type. Mr. BRAYSHAW GILHESPY read a paper on chronic hyperplasia of the jaw and indicated certain similarities between this disease and otosclerosis. Mr. MICHEL YLASTO introduced the subject of meningitis of the frontal sinus region, which he thought might not be so infrequent as supposed. No necropsy was complete, in a case succumbing to meningitis, which did not include the opening of the sphenoidal sinus cavities in cases in which an otitic cause of the meningitis had been diagnosed. A number of cases were shown by Dr. W. S. SYME, Dr. J. A. GIBB, Dr. T. B. JOBSON, and others, and there was also an exhibition of instruments, among them a *lamp*, shown by Dr. DAN MCKENZIE, for examining a patient in bed, and, by Dr. W. H. KELSON, a clockwork burr useful in operations on the *labyrinth* and mastoid, a magnifying lens to be worn on the thumb of the operator, and an instrument for measuring the amount of protrusion of a bougie from the extremity of the Eustachian catheter.

Dr. GRAHAM HODGSON gave a demonstration of radiograms of the normal and abnormal labyrinth. He had visited recently the clinic in Utrecht where similar work is carried out. He said that owing to the number, complexity, and density of the various structures overlying the petrous bone it was difficult to get a clear view of the labyrinth, and only after elaborating a special *x*-ray apparatus and taking 1,200 views of the normal labyrinth was he able to work out the series of angles by which to obtain the desired view.

LATENT SEPSIS IN PREGNANCY TOXAEMIA.

AT a meeting of the North of England Obstetrical and Gynaecological Society at Sheffield on May 27th, Dr. CARLTON OLDFIELD in the chair, Miss F. IVENS (Liverpool) read a paper on latent sepsis as a factor in the etiology of the toxaemias of pregnancy.

Miss Ivens said that in a paper read before the London Association of Medical Women in February, 1925 (JOURNAL, 1925, vol. i, p. 589), she had drawn attention to the association of latent infection with the oedema and albuminuria of pregnancy, and had expressed the view that oedema and albuminuria during pregnancy were an indication for the bacteriological examination of the urine, even in the absence of urinary symptoms, since the causal organisms might not infrequently be demonstrated thus. The toxaemias of pregnancy—namely, oedema, albuminuria, hyperemesis, accidental haemorrhage, jaundice, and eclampsia were closely allied, and there was probably a common factor in all—namely, a bacterial origin. She had instituted a bacterial investigation in these cases as she was disappointed with the result of biochemical research. She divided the cases into four classes.

(1) *Albuminuria and Oedema.* Thirteen patients had been treated during the last two years at the Liverpool Maternity Home. In these cases the presence of coliform organisms with pus and sometimes blood was demonstrated in the urine. They were treated by rest in bed, rectal saline injections, calomel, saline purgatives, and potassium citrate in large doses. In only one case of a patient allowed to go home before delivery was the child stillborn. Of 21 cases examined bacteriologically at Crofton Hospital, 7 contained *B. coli*, 2 a non-haemolytic streptococcus, 11 a *Staphylococcus albus*, and one was sterile. Of the 7 cases with *B. coli* in urine, pus was present in 5, the conditions being respectively hyperemesis, hyperemesis with abortion and phlebitis, pyelitis, pyelitis and cystitis, and cystitis. No pus was found in one case of hyperemesis and another case of hyperemesis in which labour was followed by morbidity. Two patients had streptococci in the urine; one was a case of abortion, and the other patient, then seven months pregnant, had had ante-partum haemorrhage in previous labours, followed by pelvic abscess. (2) *Hyperemesis gravidarum.* The first case was that of a primipara who vomited constantly throughout her pregnancy. The urine contained albumin, red cells, pus cells, and coliform bacilli, and in addition there was an abscess of Skene's glands. The temperature was 101°, and the pulse 130. Rectal salines and potassium citrate in large doses were given, and 10 c.cm. of an anticoli serum. A premature infant was born which lived for sixteen hours. The vomiting continued after delivery, with raised temperature and pulse. After vaccine treatment for three months the patient was discharged with the urine practically normal and the general condition excellent. The second case was that of a 2-para who had had vomiting throughout her first pregnancy and had been prematurely delivered of a child which died on the fourth day. In the second pregnancy she was well for the first three months, but then vomited incessantly. On admission the temperature was 99.8° and the pulse 110. The patient became comatose and the vomit was haemorrhagic. The urine contained albumin, coliform organisms, and acetone and diacetic acid. A Caesarean section was performed at twenty-six weeks owing to her serious condition, and she quickly recovered. (3) *Jaundice.* The first patient was a 3-gravida admitted with vomiting, jaundice, retention of urine at eight months' gestation. The urine contained pus, bile, and *B. coli*. After treatment with purgatives, potassium citrate, and salines, improvement was marked. Labour started with excessive bleeding, but the child was born alive, though jaundiced. Rigors followed delivery, with an attack of pyelonephritis on the right side; on discharge the urine was normal. It was probable that in this case, in addition to infection of the urinary tract, infection had spread to the biliary passages. The second patient was a 6-gravida who had always vomited severely during pregnancy. Five days before her confinement she vomited blood-stained material. On admission she was jaundiced, the temperature being 97° and the pulse 120. The urine contained albumin, pus, coliform bacilli, acetone and bile; blood culture was sterile. A macerated foetus was delivered after internal version for transverse lie and prolapsed cord; 10 c.cm. of antistreptococcal serum was given, and rectal saline injections. She was quite well on discharge from hospital a fortnight later. (4) *Accidental Haemorrhage.* The first patient was a 3-gravida on whom a Caesarean section had been performed in 1924 for contracted pelvis. In 1926 she was delivered by Caesarean section for severe ante-partum haemorrhage; there was blood-stained fluid in the peritoneal cavity, and haemorrhages into the wall of the uterus. The child was dead. The urine contained a trace of albumin, coliform organisms, and streptococci; coliform organisms were recovered from the *placenta*. In 1927 a third Caesarean section was performed; the urine was normal, and the patient appeared perfectly healthy. The second patient was a 5-gravida whose first three pregnancies and deliveries were normal. In her fourth labour there was *concealed* accidental haemorrhage. She was delivered, by Caesarean section, of a dead child. There was haemorrhage into the wall of the uterus, and the urine contained pus and coliform bacilli. In her last pregnancy in 1925 labour was premature. She had oedema and

vomiting for five weeks previously, and the urine contained albumin, coliform organisms, and streptococci. The placenta showed areas of white infarction and round-celled infiltration. The third patient was a 6-gravida delivered by Caesarean section, for placenta praevia, of a child weighing 4 lb. 5 oz. Haemolytic streptococci and staphylococci were found in the wound, and the urine contained a trace of albumin with staphylococci. The child died on the fifth day after haemorrhage from the mouth and nose. The fourth patient, an 8-gravida, was admitted almost moribund with ante-partum haemorrhage; she died soon after delivery of a macerated foetus. Cultures from the placenta contained coliform bacilli and streptococci, but no urine was obtainable for examination. The fifth patient was a 7-gravida with concealed accidental haemorrhage, and Caesarean section was performed. Blood-stained fluid was in the peritoneal cavity, and the uterus showed intramural haemorrhages. The child was dead, and the patient died immediately after operation. The urine contained albumin, staphylococci, and streptococci. The placenta gave growths of *Staphylococcus albus* and a non-haemolytic streptococcus. A varicose ulcer on the patient's leg contained *Staphylococcus albus*. The maternal liver showed hyaline thrombi. The kidneys contained hyaline thrombi with areas of coagulation necrosis; the uterine muscle stained badly and showed haemorrhages.

In conclusion, Miss Ivens said that she had hoped to stimulate interest in the bacteriological investigation of similar cases, for she was convinced that latent and autogenous infection played a great part in the pathology, especially of cases with lowered resistance during pregnancy, and of those delivered with trauma. She considered it necessary to obtain a full life-history of these patients, and evidence of foci of infection should be looked for in the throat, gums, and elsewhere. Professor Beattie, Dr. Ashcroft, and others had assisted in the bacteriological investigation.

Dr. CARLTON OLDFIELD (Leeds) agreed that urinary infections were very commonly associated with albuminuria. There was danger sometimes of assuming when organisms were present that they were the cause, when in reality they were the result, of some pathological condition. He still was of the opinion that hyperemesis gravidarum was not due to a toxaemia.

Mr. A. GOUGH (Leeds) said that it was not sufficiently realized by practitioners how often the genito-urinary tract was infected. Of 100 gynaecological cases examined bacteriologically by him, in 70 cultures of bacteria were obtained, of which 10 were growths of *B. coli*. He explained the preponderance of *B. coli* infection on the ground that this was a mobile organism capable of swimming up stream, and of rapid proliferation.

Mr. J. E. STACEY (Sheffield) said that at the Jessop Hospital, Sheffield, they had been struck with the number of cases of morbidity during the puerperium in those patients with albuminuria during pregnancy and labour.

Dr. S. B. HERD (Liverpool) asked if there was any definite association in Miss Ivens's cases between sepsis during pregnancy and morbidity during labour and the puerperium.

Miss IVENS replied that she had instituted a bacteriological investigation in her cases of toxaemias of pregnancy because the biochemical investigations had not yielded any clues as to their causation, and she had been impressed by the findings. She had noticed that cases of latent sepsis did not do so well in the puerperium as normal cases.

Calculi in a Case of Procidentia.

Mr. J. E. STACEY (Sheffield) showed calculi removed from a case of complete procidentia. The patient was a 4-gravida, aged 41, who had had falling of the womb for four years. The uterus had been outside the vulva for a year, although a ring pessary was worn. The only urinary trouble was occasional scalding micturition and frequency. The urine was alkaline, and contained pus and coliform bacilli. On examination the largest stone could be felt in the cystocele and the rest in the main body of the bladder. The ten stones shown had been removed by an anterior vaginal wall incision and cystotomy. After treating the cystitis and ensuring closure of the vesical wound, the uterus was removed three weeks later by the vaginal route with anterior and posterior colporrhaphy. The stones weighed 9¾ oz.; they were laminated and consisted chemically of sodium carbonate, ammonium urate, and a triple ammonium magnesium phosphate. They were examined by *x* rays to eliminate the presence of a foreign body as a nucleus.

Dr. CARLTON OLDFIELD (Leeds) said that in his experience stones in the bladder were exceedingly rare, and asked if the urine was ammoniacal.

Mr. A. GOUGH (Leeds) referred to a case of vesical calculus which he had reported to the society some years previously. This was a single stone weighing 12½ oz., which he had removed by suprapubic cystotomy, the wound of which was very slow in closing.

Miss IVENS (Liverpool) recalled a severe case of procidentia with vesical calculi, which had caused a vesico-vaginal fistula, through which they had been discharged from the bladder.

Dr. J. W. BRIDE (Manchester) had removed a small stone from the bladder by lithotrity, and had assisted Professor Fletcher Shaw to remove one by vaginal cystotomy.

Dr. J. PHILLIPS (Bradford) had seen two cases with small calculi enclosed in a diverticulum from the urethra from which they had been excised.

Mr. STACEY replied that the urine was ammoniacal when he first saw the patient. He considered the vaginal route much the best, as healing of suprapubic incisions was very slow.

Pregnancy Complicated by Fibromyoma.

Dr. S. B. HERD (Liverpool) read notes of a case of pregnancy complicated by a necrobiotic fibromyoma and later by accidental haemorrhage. The patient, a primigravida, was first examined at a period of twelve weeks' gestation, and a soft non-tender swelling was detected high up on the right side of the uterus; this was diagnosed as a subserous fibroid. At seventeen weeks' gestation the patient had acute dysuria and feeling of great pressure in the vagina and region of the symphysis pubis. On examination the uterus was felt to be displaced by a hard tender mass fixed in the right side of the pelvis; diagnosis of degeneration of the fibroid was made. As it was impossible to move the tumour under anaesthesia the abdomen was opened and a degenerated fibroid was removed from the uterine wall just above the right utero-sacral ligament, with some difficulty and not without a great deal of manipulation of the body of the uterus. No other fibroids were present. The patient was kept under the influence of morphine for a few days to diminish the chances of abortion, which treatment succeeded. On the fifth day there was thrombosis in the right leg which was believed to be due to lack of exercises ordered. The patient remained quite well until thirty-two weeks' gestation. A violent headache then developed; on the next day foetal movements ceased to be felt and she had slight oedema. Two days later there was marked oedema, and 16 grams of albumin per litre in the urine; the foetal heart sounds were heard on that day. Two days afterwards there was sudden onset of pain and vaginal haemorrhage, and morphine was administered. Three days later a slightly macerated foetus was delivered. The puerperium was normal. The special points in this case were the persistence of the pregnancy after marked manipulation of the uterus; the supervention of toxaemia followed by accidental haemorrhage; and the fact that the foetal heart was heard for three days after the perception of movements had been lost.

Dr. CARLTON OLDFIELD (Leeds) did not think that the lack of exercises should be blamed for the thrombosis. He suggested that the necrobiosis in the fibroid had set up toxaemia in the first place, causing a retro-placental clot which gave rise to placental changes and later to albuminuria and accidental haemorrhage.

Dr. E. O. CROFT (Leeds) said that it was surprising how much manipulation a pregnant uterus would stand without aborting, and recalled a similar case of myomectomy.

Mr. STACEY asked what would have happened if operation had not been performed. He had seen a pregnant patient with a large fibroid in the fundus and symptoms at seven months' gestation. It was treated expectantly and settled down. The patient had a placenta praevia, and the child was stillborn. On the ninth day of the puerperium symptoms again arose, and myomectomy was successfully performed.

Miss IVENS (Liverpool) recalled a case in which three weeks before term induction was attempted by bougie for a contracted pelvis. Introduction of a bougie caused severe bleeding and it was withdrawn. At term Caesarean section was performed and a large retro-placental clot was found. There had been no albuminuria in the meantime.

Mr. W. GOUGH (Leeds) related a case in which a fibroid the size of a hazel nut gave rise to such severe pain during pregnancy that operative treatment had to be undertaken. Myomectomy cured the condition.

Dr. HEAD replied that there was an interval of fourteen weeks between the operation of myomectomy and the onset of the albuminuria in his case, and he submitted that this was too long for the latter to be due either to the necrobiosis or to retro-placental clot caused by the uterine manipulation. He said that in this case the position of the degenerated fibroid would have obstructed labour even at the early period of eighteen weeks' gestation, and so an operation was essential.

Pelvic Myxoma.

Mr. A. GOUGH (Leeds) described a case of pelvic myxoma in a multipara aged 35. She had noticed a swelling in the left gluteal region at least twelve years previously, and others had later formed in the abdomen, perineum, and vulva. Four operations had been performed between 1915 and 1924, during one of which the large gut had been damaged, necessitating a colostomy which only closed several months later. Menstruation was normal, and the functions of the bladder and rectum were unimpaired. There was a mass filling the left lower quadrant of the abdomen, the overlying skin of which showed the scars of previous operations. The tumour could be traced over the pubis to the left labium majus, where it formed a huge pedunculated mass hanging down nearly as far as the knees. The circumference of the upper part was 15½ inches, of the lower end 22 inches, and the total length from the pubis was 11 inches. The skin over it was thinned and purplish in colour. The tumour could be traced backwards into the left buttock, where there was a mass the size of an adult head. The tumour was painless and felt spongy and elastic with some coarse lobulation. Vaginal examination was unsatisfactory, but the left side of the pelvis was found to be full of growth continuous with the superficial masses and displacing the vagina and rectum to the right. Complete removal was impossible. At the first operation the pendulous portion was removed at its origin at the level of the pubis, and weighed 5 lb. 1½ oz. Four months later the gluteal mass was removed. Cystic spaces were noted in both masses. Microscopical examination showed the typical structure of a myxoma. The cystic spaces were bounded by layers of condensed stroma, no epithelial lining being demonstrable.

Dr. CARLTON OLDFIELD said that it was very difficult to deal with these cases. He had operated on one patient several times. He suggested deep *x*-ray therapy.

Mr. GOUGH, replying, said that he had discussed *x*-ray therapy with a radiologist, who expressed the opinion that it was useless in these cases.

Solid Ovarian Tumour with Twisted Pedicle.

Mr. GOUGH also described a case of a large solid ovarian tumour with a twisted pedicle. The patient, aged 52, was seen two years after the menopause; she had known of the presence of an abdominal tumour for seven years. This had recently increased rapidly in size, and she had then had pain, vomiting, diarrhoea, and frequency of micturition; her health had rapidly deteriorated. She was very pale and thin, and the abdomen showed the presence of a tumour larger than a full-term pregnancy; it was tender on palpation and dull on percussion. On vaginal examination the cervix appeared to be continuous with the tumour. The pulse was 120 and weak; the temperature was normal. The urine contained pus, albumin, and coliform bacilli. The haemoglobin percentage was 40; the red corpuscles numbered 1,965,000 per c.cm., and the white corpuscles 27,000. The diagnosis was uterine myoma, probably degenerating, and possibly suppurating. Four days before the operation the patient was given a transfusion of 20 ounces of blood, which greatly improved her condition. At the operation the tumour was found to arise from the left ovary; it had twisted its pedicle to the size of a finger, and was lightly adherent to abdominal contents. It was easily separated and removed. During convalescence there was an exacerbation of the infection of the urinary tract. The tumour weighed 13¼ lb.; its surface was smooth and showed red and yellow mottling. On section it resembled the spleen. The specific structure only showed near the surface, and was seen to consist of long fusiform cells with rod-shaped nuclei. Leucocytes were also present. The cause of the profound anaemia was probably loss of blood in the tumour, possibly also the absorption of haemolytic toxins.

Dr. OLDFIELD believed that in cases of fibroids of the uterus there was some other cause for the anaemia than simple loss of blood. He had operated on many anaemic cases of fibroid, but had never thought it necessary to transfuse them before operation.

Dr. CROFT thought that long continued bleedings produced a more permanent and dangerous anaemia than single large haemorrhages.

Mr. GOUGH replied that he considered that in some of these very pale women transfusion with blood was a very useful method of pre-operative treatment.

TREATMENT OF MENTAL EXHAUSTION AND DRUG ADDICTION.

AT a meeting of the Brighton and Sussex Medico-Chirurgical Society on June 2nd, with the President, Dr. E. RIVAZ HUNT, in the chair, Dr. E. R. FOTHERGILL opened a discussion on the treatment of mental exhaustion and drug addiction.

Dr. Fothergill commenced with the warning that the mental and spiritual attributes of patients must not be ignored, since health was the harmonious co-operation of these with the physical attributes. The proposal that ministers of religion should attempt to cure physical and mental troubles solely by dealing with the spiritual aspect was to be deprecated. The two professions should co-operate, but the medical practitioner must be in control. Dr. Fothergill then explained that in discussing mental exhaustion he would not touch on this in relation to disease or injury, nor on its effects in childhood and youth. Mental exhaustion in the adult, apart from disease or injury, manifested itself in excessive emotional reaction, anxieties and loss of confidence, with irritability, failure of concentration, disproportionate fatigue, indigestion, emaciation, dread of insanity, delusions and phobias, sleeplessness, and innumerable other nervous symptoms. The advice of friends to the sufferer from mental exhaustion was generally worse than useless, and until the patient settled down to deal with his trouble, and stopped thrusting it back into the subconscious, all efforts at treatment would fail. The right atmosphere, and the services of an attendant, should be obtained. The patient should go to bed, and after the usual constipation had been dealt with he should be given full diet. He should then be encouraged to allow his brain to rest until the physical state had been re-established, by which time many of the symptoms would have disappeared. It would then be time to discover from the patient the cause of his illness, and to treat it. The patient would be better able to respond to encouragement, and to give the doctor his confidence. As much sleep as possible should be ensured, and Dr. Fothergill in this connexion alluded to the use of barbituric hypnotics. At first no books or papers should be allowed, but after a while the patient would probably ask to see a picture paper; this date should be noted. The relatives should not have any communication with the patient, with the exception of an occasional postcard, but they might give assistance in disclosing the cause of the illness. Records of weight should be taken at intervals of fourteen days. The patient must first be induced to believe that there was no physical or mental disease, and that his trouble could be dealt with; he must cease deploring the past, and dreading repetition of it, and be encouraged to turn his thoughts to the future constructively. The whole outlook had to be readjusted, and this was best brought about by the

patient himself under the tactful and sympathetic guidance of a doctor who could place the facts in their right position and their right proportion. It must be explained that his case was analogous to that of friends on the telephone, unable to converse because they had not been connected; it was not a case of the batteries requiring recharging. The patient must be got to realize that it was in himself that he would find the clue to the breakdown and to the re-establishment of normal functioning. Relatives might regard the question of certification with horror, or find it attractive for ulterior reasons. Great care must be exercised. There were many people of undoubtedly unsound mind who could be brought back within a very short while if suitably treated. Should certification be delayed on this account, it was advisable for the delay to be approved by a second medical practitioner, and for the facts to be placed before the Board of Control. With regard to our knowledge of mental exhaustion in industry, this was the pooled result of experiences in the case of individuals. The medical profession should protest against destructive influence on the body and soul due to the extensive mechanization of industry. To combat this influence more effectually the medical practitioner should communicate the experience gained in dealing with cases of mental exhaustion in private practice to those engaged upon the work in larger fields. Passing to the question of drug addiction, Dr. Fothergill said that, excluding alcoholism, this condition was, in his experience, found only among intellectuals. Without corroborative evidence no statement by an addict was reliable. A voluntary addict, without the excuse of disease or injury, must be regarded as having been potentially mentally unbalanced. If this was accepted, then treatment followed similar lines to that of mental exhaustion, since it would be useless to treat the drug addiction without dealing with the underlying cause. Drug addiction as the result of disease or injury became increasingly difficult to treat when the physical reasons for giving the drug were gone. In the absence of disease or injury the treatment was by gradual reduction; in the case of alcohol, at the commencement; with morphine and its derivatives, at the end. The medical practitioner must be certain that no drugs could reach the patient without his knowledge or that of the attendant. The amount of liquid in the barrel of the syringe, or the size of the suppository, must never be varied. As the treatment progressed, and the strength of the dose was decreased, it must be remembered that the patient would become more difficult to handle.

HEART-BLOCK.

AT a meeting of the Section of Medicine of the Royal Academy of Medicine in Ireland on May 20th, the President, Dr. G. E. NESBITT, showed a case of complete heart-block.

The President said that the patient was a man, aged 62, who had been admitted to hospital a week previously, complaining of swelling of the abdomen and shortness of breath. His symptoms had begun about nine months previously, before which time he had been perfectly healthy, and for most of the nine months he had been taking digitalis in large doses. His heart was extremely slow (36-40), but quite regular. The abdomen contained fluid, 64 ounces having been removed the previous day, when the liver was found to be enlarged. The electro-cardiograph showed slow ventricular complexes of normal shape, though much exaggerated in Lead 3; peristaltic waves were entirely absent, and there was also evidence of right ventricular preponderance. An *x*-ray examination disclosed an enormous heart shadow. The Wassermann reaction was negative. After the subcutaneous injection of 1/50 grain of atropine the pulse rate rose to 52 in about half an hour, but soon resumed its former level. The President added that the case appeared to be one of complete heart-block with auricular fibrillation. In view of the history of prolonged administration of digitalis the question of the possible causal connexion of this drug would arise. Except experimentally, digitalis did not appear to cause complete heart-block of this type, and no other evidence of toxic effects had been present. There was also a suspicion that the liver might be the seat of malignant disease. Electrocardiograms from another recent case of typical complete heart-block were also shown.

Dr. H. T. BEWLEY said he had encountered a few cases of complete heart-block, but none of them were associated with digitalis. He asked if Dr. Nesbitt's patient had suffered from fainting attacks, as he had had a patient with such a condition in whom the pulse was 28, and there were periods, of from four seconds, in which it was impossible to detect the heart beat. This patient gradually recovered, and lived for several years a quiet life, but it had taken some time for the heart to become accustomed to the very slow rhythm, and during this period the patient had had very severe attacks of fainting, and had several times nearly died.

The PRESIDENT, replying, said that he had proved that the condition in this patient was not due to digitalis, but he thought that time would decide how much, if any, of the condition might be attributed to digitalis. The patient's pulse had never been below 36, and he had never suffered from fainting attacks.

Mikulicz's Disease.

Dr. J. SPEARS showed a case of Mikulicz's disease in a woman, aged 50. She had been having *x*-ray treatment. Nothing abnormal was found in the blood, but septic teeth had been removed. She was deaf, but it was not known whether the deafness was due to Mikulicz's disease or not; the drums were normal, and the deafness was of the middle-ear type. She had never complained of pain, but after the *x*-ray treatment she had had a slight rise of temperature on three occasions.

Dr. A. R. PARSONS believed that the present case was the fifth of *Mikulicz's disease reported in* Dublin during the last twenty-five to thirty years. The condition was probably not a definite entity, but occurred in various classes of conditions; most cases proved to be leukaemia or Hodgkin's disease. He regarded *Mikulicz's disease as* merely a syndrome, which might change into one of these other diseases, in which enlargement of the glands and of the spleen was always found.

Mycosis Fungoides.

Dr. J. M. O'DONOVAN read notes on a case of mycosis fungoides, and showed photographs. The patient, a young woman, presented six red tumours; four on the scalp, one over the sternal end of the right clavicle, and one over the sternum. Examination of the blood and urine was of no diagnostic assistance, and the Wassermann test was negative. Exhibition of potassium iodide produced no improvement in symptoms or in the tumours, of which those in the scalp had ulcerated. The condition cleared up completely under *x*-ray treatment, and the patient had been well for five months. A remarkable feature of the case was the relatively acute onset, and the entire absence of prodromal pruritus.

The PRESIDENT said that the condition was one which he thought was not well known except theoretically. Dr. O'Donovan's result obtained so far was remarkable, since it was generally thought that these cases were progressive, and that the issue was uniformly fatal.

Dr. E. T. FREEMAN said he had seen two cases of mycosis fungoides in France in 1922, and he agreed with the diagnosis made by Dr. O'Donovan. One of his own cases resembled that of Dr. O'Donovan; there had been no pre-mycotic stage at all, and the tumours had appeared initially. It was a feature of the disease that the tumours might completely disappear after treatment by *x* rays and reappear many years later.

Dr. W. G. Harvey said he had never seen previously a case which had started with tumours only; he had encountered a few cases which had started with a pre-mycotic stage, but in all his patients the tumours had disappeared after *x*-ray treatment, but after a time had returned. He thought that a time came when these tumours ceased to respond to *x* rays. The absence of recurrence in the present patient was somewhat against the diagnosis of mycosis fungoides.

Cure in Diabetes Mellitus.

Dr. J. M. O'DONOVAN read notes on a case of diabetes mellitus in a man aged 60, presenting glycosuria, acetone bodies in the urine, and hyperglycæmia. On an Allen diet he required at first sixty, then forty units of insulin to produce tolerance. In two months after discharge from hospital he was able to increase the diet, and after progressive diminution of the insulin, to stop it and revert to a diet normal in all respects save the inclusion of sugar.

The PRESIDENT, referring to the possibility of a cure in diabetes, stated that great improvement occurred in a very large number of cases of diabetes. He could remember many patients who after treatment by insulin had returned to work, and remained well, while taking insulin after discharge from hospital; he thought that in many of these the function of the pancreas must have improved. He generally gave insulin to his patients in two doses daily, one after breakfast and one after dinner; he did not give early in the morning.

Dr. J. SPEARS referred to the case of a man about 50 years of age with diabetes. He had at first sugar, diacetic acid, and acetone in his urine, but subsequently the urine became normal and had remained so for six months. He, however, came back to hospital with gangrene in his toe, and amputation was required.

Dr. W. H. ASHMORE said he had recently seen a man who had been in Egypt in the hot weather, had returned to London, and had been found to be suffering from diabetes. He was dieted, and had no sugar in his urine, but acetone. Dr. Ashmore decreased the carbohydrates, following which the acetone disappeared, and the patient returned to full diet without recurrence of acetone or sugar. This suggested that the condition known as acute diabetes did occur. He had also had a patient with bad pyorrhœa, who had acetone and sugar; after dieting and removal of his teeth he had remained free from both sugar and acetone. He thought that in diabetic cases an ordinary diet with low carbohydrates and a high quantity of fats was not good. In these cases if the acetone and diacetic acid were removed the sugar often disappeared.

Dr. V. M. SYNGE referred to the case of a man, aged 22, with severe diabetes, who stated that five years previously had had exactly the same symptoms—wasting, polyuria, and thirst. At that time he had been in hospital and had been dieted, and had become sugar-free. When he went back to the country, however, he had ceased to diet, and had remained well for five years. Then, a couple of months prior to admission to hospital for the second time, the symptoms had recurred. This was a case in which the diabetes had at first been of a temporary nature.

Dr. A. R. PARSONS thought that cases of diabetes were not cured by insulin, but that it was of tremendous value in dealing with some emergencies; it undoubtedly greatly mitigated the dangers of acidosis.

Dr. O'DONOVAN, replying, said that while his patient had been in hospital he had tried several times to reduce the dose of insulin; each time he had done so the sugar returned, and so he thought it was obvious that units was the dose necessary to keep him aglycosuric. hen the 40 units was given in one dose the patient ained without sugar for twenty-four hours, but if the e amount of insulin was given in two doses the patient not remain without sugar for as long as twenty-four rs.

Death due to Mediterranean Fever.

J. SPEARS read notes on a fatal case of Malta fever. patient had had several febrile attacks at intervals he had come to Ireland; it was thought that they of malarial origin. He was obviously anæmic, per- greatly, and except for a very definitely enlarged presented no clinical findings. His temperature 0°; the pulse was 104, the respirations 20, and the was coated. The abdomen was quite soft, and his mplaint was of intense headache, thirst, and night tions; his appearance was strongly suggestive of fever. Several blood films were examined, but no of any malarial or other protozoal infection was He was very constipated through his illness. A and a Widal test were negative to typhoid and paratyphoid strains. The only complication was a slight orchitis, which sometimes occurred in cases of undulant fever. The agglutination against *M. melitensis* gave a positive result of 1/125. The remaining course of the illness included progressive weakness, prostration, sweats, and slight rheumatic pains. Various remedies were tried without any success.

Professor J. W. BIGGER stated that the diagnosis could not be proved in this case, as it had not been possible to isolate the organism. If the patient had at any time suffered from Malta fever his blood would still agglutinate, and, therefore, there was no certainty that the case was one of Malta fever. Referring to the duration of the disease, he said that this infection was notoriously protracted, with periods of remission. There was a theoretical possibility of infection with *B. abortus*, the presence of which in human beings had recently been reported.

Belladonna Poisoning.

Dr. J. SPEARS read a note on a case of suspected belladonna poisoning. A man, aged 32, gave a history of having had dysentery in India in 1917, and was treated with emetine injections as a suspected case of *Entamœba histolytica* infection; from this he recovered. Later on he suffered from constipation, which had become worse. According to his own account he sometimes took an ounce or more of the extract of cascara sagrada every day, and had tried various other aperients with no good result. He also had had attacks of sore throat and felt very weak. He had lost 7 lb. in weight during the last three months. He had no cough, no night sweats, and no urinary trouble. His speech was drawling and deliberate, and though his thoughts were quite clear, yet his cerebration appeared to be very slow. He complained of great weakness and had to move about very slowly; he felt very drowsy in the day-time. He was considerably emaciated, and dragged his legs when walking; his pulse rate was 48, his blood pressure 100 to 110 systolic and 60 diastolic. The heart sounds were feeble, but there was no bruit. His teeth were sound, his tongue coated but dry, the skin very dry, the lungs clear, breath sounds showed no abnormality, the eye reflexes were normal, the knee-jerks were very sluggish, there was no Babinski reaction, no ankle clonus, and his superficial reflexes were present and normal. Sensation tests were normal, but the response to questions was slow. The urine was normal. The movements of his diaphragm were somewhat limited, and the Wassermann test was negative. His temperature continued subnormal. Aperients and various enemata were tried with no good result. The prescription given to him for his constipation in 1917, after he had recovered from dysentery, contained belladonna, and it appeared that he had been taking from 1 to 2 drachms of the tincture of belladonna every day for the preceding six years. The stools showed no fat abnormality, although the patient said that fat had a sickly effect on him, and there was no definite evidence of a pancreatic lesion. He gradually became weaker and death ensued. The interest in this case lay in the probable diagnosis of chronic belladonna poisoning. The pupils did not become markedly dilated until the close, the pulse rate never rose over 54, and his temperature only reached 99 just before death.

Dr. W. H. ASHMORE commented on the absence of tachycardia, mania, increase of respirations, and dilatation of the pupils. It was quite possible that this patient had a very high toleration for belladonna.

Dr. SPEARS, replying, said that while no other cause for the condition could be found, there was definite evidence that the patient had been taking large and gradually increasing doses of belladonna for a number of years. This made him suspect chronic belladonna poisoning. The features were not definite, and there was no case on record for comparison. He thought he was justified in thinking that the cause of death was perhaps due to stopping the belladonna, but that the initial cause of the patient's trouble was the taking of large doses of belladonna. The patient could read only with difficulty, but Dr. Spears could not make out whether this was due to his slow speech or to bad vision.

Reviews.

A VADE-MECUM OF PARASITOLOGY.

THE small work written by Professor LOISELET is rightly designated a *Vade-mecum*,[1] and adequately fulfils the object for which it has been issued—namely, to provide a volume easily carried for the purpose of facilitating diagnosis. It presents a sketch of the various species of interest and importance to the student of parasitology, and only a master of his subject could thus condense the enormous amount of information found here.

The whole is divided into five parts, dealing in order with the spirochaetes, protozoa, helminths, arthropoda, and the mycoses. The consideration of each member referred to in the ensuing pages of its proper section is preceded by a synoptic table naming in different columns the diseases produced, the vector concerned, the mode of transmission, and, where such exists and is known, the reservoir host. Other tables give in few words the chief points relative to the life-histories of the most important members of the various groups and the characters to be relied upon for identification. To the last section is appended a "mycological glossary" in which are stated the salient characters, the aspects of cultures, and the pathogenic actions of the chief mycotic infections.

Misprints are few and the arrangement of type is such that reference is made particularly easy. We note that a considerable proportion of the specific names are spelt with capital initial letters, to which systematists will properly object. The book does not aim at replacing the detailed textbooks, but as a work to refer to by those who have already been through courses in the subjects dealt with it will serve a useful end, in that it is at once simple and practical.

THE "FAT-LIKE" SUBSTANCES.

THE nine years which have elapsed since the appearance of the first edition of *Lecithin and Allied Substances*,[2] by Professor HUGH MACLEAN, have witnessed no revolution in the chemistry or the physiology of these substances. Such advance as has been achieved has been towards simplification and co-ordination. A revision of this monograph is, none the less, welcome. The duty which is undertaken by authors of monographs in such a series as that to which this volume belongs is not light, since this service to their colleagues requires that they should constantly return to the labour of bringing their text up to date. In the second edition Mrs. IDA SMEDLEY MACLEAN shares authorship with her husband.

The original form of the narrative is little altered. The opening sections on the history and chemistry of the accepted members of the group of lipins now includes the recent work of Levene on lecithin and kephalin. There follows an adequate detailed account of the preparation of these substances—if any detail is adequate to overcome the vagaries in the chemical behaviour of the lipins. The "fat-like" substances of tissues form distressing material for the chemist. Theirs is a fickle waywardness and inconsistency of behaviour which is too human to fail to be exasperating. It has been responsible for the identification as distinct bodies of what now appear to be mixtures of closely related substances. The history of the lipins has been in great part taken up with the separation of the sheep from the goats. A chapter is devoted to the more notable of these discredited individual bodies, and may raise the objection that it unnecessarily crowds the detail of the picture. It will, however, be agreed that the record of error is not without value to the worker in this field.

The brief discussion of the chemistry of the plant lipins serves merely to indicate our almost complete ignorance. Little more satisfactory is the state of knowledge of the physiological function of the lipins in the animal or plant economy. They are present in every living cell, and their place in its integrity and function seems to be fundamental. Beyond this there is little that is not conjecture. The truth is, that their unusual solubilities endow them with a peculiar relation to the structure of the cell which we are far from being in a position to comprehend. The authors are content to review briefly the alleged role of the lipins in the transport and metabolism of the fats, in the physico-chemical structure of the cell, in the cell membrane, and in the clotting of blood.

The question of nomenclature has disturbed the authors as it disturbs all biochemists. They are, probably, wise in adopting tentatively the system employed by Professor Leathes in his companion monograph *The Fats*. Some day national and international bodies may be expected to take the trouble to get together and agree upon an acceptable descriptive nomenclature.

As is the case with all the volumes in this series, the bibliography is extensive and valuable.

A TEXTBOOK OF BIOCHEMISTRY.

WE are threatened with a surfeit of textbooks of biochemistry. The example before us,[3] from the pen of Professor J. B. SUMNER, reminds us that the larger crop springs from the fertile soil of the progressive impatience of American schools of medicine. The reason is not far to seek. Departments of biochemistry have been creeping from under the wing of physiology to lead an independent existence. Manuals for their guidance have been limited, and each has sought to work out its own salvation in a systematized curriculum. The temptation to offer the fruits of such labour to a larger audience is strong, and will not be overcome until a process of natural selection singles out the fittest teacher. The present volume is not inspired, but does seem to offer a more judicious course than have several recent books with a similar aim.

The usual treatment is followed of dealing in succeeding chapters with the chemistry and physiology of the fats, carbohydrates, proteins, urine, and blood. Brief chapters are also devoted to acidosis, vitamins, calorimetry, and detoxication, and longer ones to enzymes and to the physico-chemistry of protoplasm. A certain arbitrariness in the broad statement of some biochemical principles will be occasionally encountered and will distress the teacher, though this may do little harm to the student. Such a statement is that which lays down that "the essential difference between the plant and the animal is that the reactions of the former are to a large degree anabolic, while the reactions of the latter are for the most part catabolic." This is an expression of the prejudiced interest of the biochemist rather than of any intrinsic difference in animal and vegetable physiology.

The book is addressed to "the elementary student"—presumably inclusive of the student of medicine. To such it may be recommended.

FAMILIAL PLEONOSTEOSIS.

THE book on diseases of the bones and joints[4] by ANDRÉ LÉRI is not, as the title might suggest, a systematic treatise, but a collection of papers which have appeared from time to time in the journals. The first article refers to a disease which the author claims that he was the first to recognize and describe—namely, familial pleonosteosis; other articles embody original observations touching details in the pathogeny and clinical characters of such diseases as cleido-cranial dysostosis, Paget's disease, anencephaly, and many others. A comparatively small part of the

[1] *Vade-mecum de Parasitologie.* Par Dr. J. Loiselet (M.I.C.). Paris: E. Le François. 1927. (Imp. 16mo, pp. 155. 12 fr.)

[2] *Lecithin and Allied Substances: The Lipins.* By Hugh Maclean, M.D., D.Sc., and Ida Smedley Maclean, D.Sc., F.I.C. Second edition. Monographs on Biochemistry. London and New York: Longmans, Green and Co., Ltd. 1927. (Roy. 8vo, pp. vii + 220. 10s. 6d. net.)

[3] *Textbook of Biological Chemistry.* By James B. Sumner, Ph.D. New York: The Macmillan Company; London: Macmillan and Co., Ltd. 1927. (Demy 8vo, pp. xxiii + 233; 6 figures. 15s. net.)

[4] *Études sur les affections des os et des articulations.* Par André Léri. Paris: Masson et Cie. 1927. (6 + 82, pp. iii + 460; 128 figures. 53 fr. sans majoration.)

volume is devoted to diseases of the joints, since most of the author's publications on this subject relate to the vertebral column and formed the subject-matter of a previous volume.

The article of chief interest in the book is, perhaps, that on familial pleonosteosis, which appeared in the *Presse Médicale* for January 7th, 1922. The disease affects the whole skeleton, but more especially the long bones; it is congenital, hereditary, and familial. Its main characteristics are deformation of the hands, with immobilization of most of their segments, certain fixed attitudes, such as pronation and flexion of the forearms, internal rotation and abduction of the arms, and external rotation of the thighs, with a reduction in the range of almost all movements. The hands are short, thick, and square; the proximal interphalangeal joints are flexed at a right angle and firmly ankylosed, with the heads of the proximal phalanges projecting beyond the bases of the second. The metacarpal bones and phalanges are short and, as revealed by radioscopy, markedly thickened, and a similar thickening is present in the other long bones of the limbs, and appears to be the main anatomical characteristic of the disease. The thickening is especially marked at the articular ends of the bones, and is apparently the cause of the limitation of movement.

MURDER AND FORGERY.

DURING the years since the armistice there has been, if we may judge by the publishers' lists, a growth of popular interest in notorious murders. The volumes of the "Notable British Trials Series," several of which have been noticed in our columns, possess for the most part a medico-legal interest, since they contain reports of the proceedings which are not easily accessible elsewhere. A book recently published, *Murder for Profit*,[5] by Mr. W. BOLITHO, is in a very different category. It contains picturesque narratives of five notorious murders, two British and three Continental, and some inkling of the writer's point of view may be got from the titles he has bestowed upon the five essays. They are: "The science of William Burke"; "The imperialism of J.-B. Troppmann"; "The philanthropy of Desiré Landru"; "The self-help of G. J. Smith"; and "The poetry of Fritz Haarmann." Except perhaps in the case of Smith, these titles seem to us remarkably inappropriate. As far as we can guess from his outpourings, Mr. Bolitho must be a rebel who resents laws, and would ridicule the attempts of society to enforce its whose final detection and execution signalized their failure. He seems to have a particular spite against Napoleon III and M. Clemenceau, and he implicates them more particularly in the blame which he bestows so generally.

The stories of Burke and of Smith are probably well known to most readers, while Landru's case occupied so much of the foreign news in the journals of a few years ago that there is little need to retell the story. That of the Alsatian Troppmann does little credit to the police of the Second Empire, while Haarmann's career of murder, involving at least twenty-four victims—he himself said "thirty or forty"—reveals the shocking state to which social life in Hanover was reduced by four years of war, when the ever-present and all-powerful hand of the State relaxed its grasp.

A century ago a work in several volumes appeared, entitled *Celebrated Trials to the Year 1825*, in which were detailed the chief facts in a number of cases which mostly ended at the gallows. There was in it no pretension to instruction, and there can be little question but that the compilers were animated chiefly by a desire to curdle the blood and make creep the flesh of their readers. To sup full of horrors is still a fearful joy. The volumes of the "Notable British Trials Series" vary a good deal in interest. Kate Webster's murder of her employer at Richmond, Surrey, in 1879 was a sordid crime committed for gain by a brutish habitual criminal. The fact that the body was dismembered and its fragments disposed of in various places does not lend interest, for *post-mortem* dismemberment seems to have become common.

Another volume of the series deals, not with murder, but with forgery.[6] Henry Fauntleroy, the forger, was a partner in a Berners Street bank, and by an ingenious system of false book-keeping converted to his own extravagance £400,000 of the depositors' Government securities. Outwardly he was most irreproachable, living in a non-conformist atmosphere. His father had been managing partner and the brains of the bank, and the son, who lived in constant suspense that he would be caught in his complicated system of fraud, sought an anodyne in expensive distractions. After ten years of this life the blow fell; he was arrested and, after a trial which lasted two days, was condemned, and on November 30th, 1824, was executed outside Newgate Prison. Among the other forgers whose misdeeds are related in this volume are John Ayliffe, John Rice, the brothers Perreau, one of whom was a fashionable apothecary, the Rev. Dr. William Dodd, on whose behalf Dr. Samuel Johnson worked so strenuously, Henry Weston, Henry Cook, and John Hadfield. Rowland Stephenson, M.P., escaped to America with £70,000, spending the last night before his flight in St. Bartholomew's Hospital, of which he was the treasurer. The last forger to suffer the death penalty was Thomas Maynard in 1829; in 1837, after some years of discussion, capital punishment for forgery was abolished.

Why poisoners should choose arsenic, which preserves the body of the victim and can be detected many years afterwards by straightforward methods of chemical analysis, is one of the puzzles of criminology. The only explanation seems to be that the symptoms of arsenical poisoning are well known to simulate those of gastro-intestinal disease due to natural causes, and that arsenic is, or was, easily procurable for such purposes as killing weeds. The Armstrong case, of which a full report, with commentary, is given by Mr. FILSON YOUNG in the *Trial of Herbert Rowse Armstrong*,[7] must be fresh in the memory of most readers of the daily newspapers. It aroused great excitement at the time among the general public, and it had features of considerable interest for the medical and legal professions. The medical interest of the trial turned largely on the *post-mortem* findings, and on the symptoms of arsenical poisoning shown by Armstrong's wife on two occasions—in August, 1920, before her removal to an asylum, and in the following February, soon after her return home. It was common ground between the prosecution and the defence that she died on February 22nd, 1921, of poisoning by arsenic. The amount actually found in her body (3¼ grains) was the largest ever found by the late Mr. John Webster, the Home Office analyst, during many years' experience of such examinations. The legal interest turned largely on the admissibility, as evidence on the capital charge against Armstrong, of evidence pointing to the attempted murder by him (again with arsenic), eight months after his wife's death, of a fellow solicitor named Martin, between whom and himself some business difficulty had arisen. Armstrong's motives for murdering his wife seem to have been the desire to benefit under a new will, drawn up by him for her and irregularly attested in July, 1920, and the desire to marry again. But why he tried to murder Mr. Martin is almost inexplicable, unless one supposes he had acquired a sort of tolerance towards arsenic in other people's systems. However that may be, it was his attempt to do it again that aroused suspicion in the local doctor's mind, and from that time onwards "the slow but certain wheels of the criminal law began to revolve," until after a nine days' trial before Lord Darling at Hereford, and a four days' hearing in the Court of Criminal Appeal, Armstrong paid the penalty. The verbatim report of the proceedings is well arranged and accurately reproduced, and the introduction most readable.

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[5] *Murder for Profit.* By William Bolitho. London: Jonathan Cape. (Extra post 8vo, pp. 320. 10s. 6d. net.)

[6] *Trial of Henry Fauntleroy and other Famous Trials for Forgery.* Edited by Horace Bleackley, M.A.Oxon. Notable British Trials. Edinburgh and London: William Hodge and Co. (Demy 8vo, pp. v + 269; 11 plates. 10s. 6d. net.)

[7] *Trial of Herbert Rowse Armstrong.* Edited by Filson Young. Notable British Trials Series. Edinburgh and London: William Hodge and Co., Ltd. (Demy 8vo, pp. x + 396; 5 plates. 10s. 6d. net.)

HUMAN INHERITANCE.

THE book on human inheritance[8] by BAUR, FISCHER, and LENZ, now in its third edition, remains a comprehensive and authoritative account of the facts of organic inheritance in man and of the implication of these facts. There are many slight modifications and a few additions in this new edition, as is to be expected in view of the rapid advances that are being made in genetical science and in our knowledge of the biology of man. The increase in the number of references bears witness to this. The part written by Baur shows less change than the others for the reason that even at the time of the last edition all the relevant general principles of genetics had been enunciated. The section for which Fischer is responsible contains many new data, particularly concerning the mode of inheritance of the physiological characters. Lenz, in his section, gives many more pedigrees, and the genetic basis of such traits as the criminal disposition is now discussed. A section on the biometrical methods of analysis has been added. The amazing activity of the American school of psychologists is reflected in this book, for there is a noteworthy addition to the discussion of racial mental differences. Moreover, far more attention is given to the results of the examination of twins, and emphasis is laid upon the urgent need for an active study of inheritance in such material.

The reader will find the book distinctly discursive, and may have to dig deep before he finds the treasure he seeks. However, the treasure is there for the seeking. It is a book of reference rather than a manual, but it would be well if every medical man at some stage of his career should make himself fully acquainted with the facts proving that organic inheritance plays an exceedingly important part in the maintenance of health or the production of disease. The examination of a patient commonly should include a study of his pedigree. In the reports on hospital patients required to be made by clinical clerks or their equivalents for the physicians during the later part of last century, much more attention was given to the history, family and personal, than seems to be the case at the present day.

NOTES ON BOOKS.

THE little book on serum sickness[9] by Drs. R. J. WEISSENBACH and GILBERT-DREYFUS contains a brief historical introduction, and is divided into five principal parts devoted to clinical questions, etiology, pathogenesis, prophylactic and curative treatment, and prognosis. In their clinical study the writers distinguish the following varieties of reaction: (1) early general reaction, (2) late general reaction, (3) local reaction in the skin, meninges, and joints, (4) focal reaction, as exemplified in the late subaxillary adenitis in diphtheria and the meningeal reaction in cerebro-spinal meningitis. Special attention is given to the atypical forms of serum sickness which have lately been described, such as amyotrophic paralysis, generalized adenopathy, orchi-epididymitis, pleuro-pulmonary manifestations, symptoms of suprarenal insufficiency, and affection of the alimentary canal and its adnexa. In their discussion of the pathogenesis of serum sickness the writers are inclined to attribute the early phenomena to colloidoclasia, while the late symptoms they regard as of toxic origin. With rare exceptions the prognosis of serum sickness is favourable. According to the latest American statistics only one death occurs in 75,000 injections. Hardly any notice is taken of the work of other than French writers. It is therefore not surprising to find that no allusion is made to the prognostic value of a well marked serum reaction occurring in diphtheria, to which several writers in this country have drawn attention.

A small French book on laboratory methods for the detection of tuberculosis[10] is a handy volume, obviously written by an experienced laboratory worker, which describes the many chemical and microscopical tests which may be used in the diagnosis of tuberculosis. The first part of the book describes direct methods, such as examination of stained films, inoculation of susceptible animals and cultural technique. The second part reviews indirect methods, such as serological tests, cytology, and chemical investigations. It is essentially a practical book, and will serve a very useful purpose.

Dr. PIERRE HULLIGER of Neuchâtel in Switzerland has written a little book[11] the main object of which appears to be to laud the treatment by chemico-therapy which he practises at the Mont-Riant clinic. Incidentally he examines treatments in high-altitude sanatoriums, at the seaside, by tuberculin, serotherapy, and pneumothorax, and finds them all wanting. Our object, he says, must be to cure consumptives "on the plain and in our towns." This, he thinks, can be done by the subcutaneous injection of a mixture of salts of copper, mercury, manganese, silver, tin, and arsenic. The injections produce a feeling of lassitude and sometimes a slight rise of temperature, but no local reaction; they cause, however, an intense congestion of all the tuberculous foci in the organism. Sometimes, though rarely, "reactivation" of latent foci is caused; and this, says Dr. Hulliger, has given him a "bad press." He finds the phenomenon useful, since it shows up the disease even when hidden in obscure corners of the body. Probably the only usefulness of Dr. Hulliger's book is in reminding us that none of the treatments for tuberculosis are very satisfactory as cures; but the directions he gives to patients in the matter of general treatment are sound and simply stated.

The seventh edition of *Hewat's Examination of the Urine*[12] has been revised by Dr. G. L. MALCOLM-SMITH. In addition to examination of the urine, sections are allotted to the investigation of the blood, sputum, gastric contents, and the faeces, and in this new edition sections have been added on fractional gastric analysis, renal efficiency tests, and examination of the cerebro-spinal fluid. This handy book, while insufficient as a guide to the more elaborate chemical investigations, contains the simple tests which are in common use, and will probably be even more popular than its predecessors.

[8] *Menschliche Erblichkeitslehre und Rassenhygiene.* Von Dr. Erwin Baur, Dr. Eugen Fischer, Dr. Fritz Lenz. *Menschliche Erblichkeitslehre.* Dritte, vermehrte und verbesserte Auflage. Munchen: J. F. Lehmann. 1927. (6¼ × 9, pp. xii + 601; 172 figures, 9 plates. M.16.)

[9] *Les Accidents Sériques: Prophylaxie—Traitement.* Par R. J. Weissenbach et Gilbert-Dreyfus. *Collection des Actualités de Médecine Pratique.* Paris: G. Doin. 1927. (5¼ × 7, pp. 160. 15 fr. 50.)

[10] *Technique de Laboratoire pour le diagnostic de la tuberculose.* Par Ed. Moreau. Préface de A. Besredka. Paris: A. Maloine. 1926. (Imp.

[11] *Ce que tout Tuberculeux devrait savoir.* Par Dr. Pierre Hulliger. Paris: N. Maloine. 1926. (Pott 4to, pp. 132; illustrated. 10 fr.)

[12] *Hewat's Examination of the Urine and other Clinical Side-Room Methods.* Revised and enlarged by G. L. Malcolm-Smith, M.B., Ch.B., F.R.C.P.Edin. Seventh edition. Edinburgh: E. and S. Livingstone. 1926. (Roy. 8vo, pp. v + 228; illustrated. 3s. 6d. net.)

PREPARATIONS AND APPLIANCES.

Collo-Calamine.

COLLO-CALAMINE is an impalpably fine powder having the composition of calamine. Calamine, as is well known, is native carbonate of zinc prepared for medical use by elutriation. It is not mentioned in the current *British Pharmacopoeia*, but was official in that *Pharmacopoeia* of 1885, and is still extensively used as a cutaneous remedy. Its power of beneficial action depends upon the extent of surface possessed by a given quantity, or the degree of fineness into which the particles are subdivided. Collo-Calamine, which is placed on the market by the *British Drug Houses*, is of a fineness much beyond the ordinary. As suggested by the name, it is almost colloidal. It ought accordingly to give satisfaction to prescribers who prefer, as many do, the natural substance to the artificial zinc carbonate of the *Pharmacopoeia*.

A Water Heater.

A very simple water-heating appliance has been brought out by Triggs, Demaine and Co. (181, Queen Victoria Street, London, E.C.), under the name of the "Fox" water heater. We have had the opportunity of seeing it in action, and for cleanliness, simplicity, and efficient working it suggests an admirable fitting for the surgery. It is a storage apparatus, cold water automatically replacing hot water drawn off, and has two gas burners which, also automatically, are cut down to small jets when a maximum temperature is reached. Hot, tepid, or cold water as required can be drawn from the same tap by moving an indicator. When the hot water is drawn off the small jets expand to a full flame until the reservoir reaches its maximum capacity again. It appears to be free from fumes or smell, and certainly obviates the need for the use of matches or the manipulations of interlocking taps. The smallest type has a capacity of 1¼ gallons, but the apparatus is made also with a capacity of 25 gallons for baths and hospital use. It is undoubtedly a very convenient type of water heater.

A Combined Ultra-violet Radiation Apparatus.

The difficulty of a choice of sources of ultra-violet radiation has been met by the Medical Supply Association, Ltd. (167-185, Gray's Inn Road, London, W.C.), in the shape of what they call their "Trinity" apparatus, which combines on one stand the three types of lamps now employed—namely, the quartz mercury vapour lamp, the tungsten arc lamp, and the carbon arc lamp. The three are provided at only slightly more than the cost of the single model, and the saving of floor space is obvious. The apparatus also permits of two lamps being run simultaneously, and of local or general irradiation from each lamp. It is designed for use on the direct current, but an electrolytic arc lamp rectifier is provided for an

STEPHEN HALES, D.D., F.R.S.,

PHYSIOLOGIST AND BOTANIST.

CELEBRATION AT CORPUS CHRISTI COLLEGE, CAMBRIDGE.

THE Master and Fellows of Corpus Christi College, Cambridge, celebrated the anniversary of the birth of Stephen Hales, on Thursday, June 16th, by entertaining a large party within the College. During the afternoon the Parker collection and the plate belonging to the College were displayed. The Parker collection the College owes to Matthew Parker, who was Archbishop of Canterbury from 1559 to 1576; he had previously been Master of Corpus Christi College, and gave to it many manuscripts, books, and plate. To the University library he gave also manuscripts and books. At seven o'clock Dr. A. E. CLARK-KENNEDY, Fellow of the College, and assistant director of the medical unit at the London Hospital, gave a dissertation in the chapel. The guests were then entertained to dinner in the Hall of the College, and afterwards the Master and Mrs. Pearce held a reception in the Lodge.



STEPHEN HALES, D.D., F.R.S.
(From a mezzotint in the collection of Dr. Arnold Chaplin.)

At the time Stephen Hales lived (1677-1761) modern science was in its cradle at Cambridge, and if we would review all that has been accomplished in the cause of science in the University down to the present time, it is to that period we must turn for a knowledge of the beginnings of the wonderful movement which bore such fruit in later years. It is not too much to say that the birth of science at Cambridge was due to the mighty influence of that glory of the University, Isaac Newton, who planted there the experimental method in science. Since his day Cambridge has been under that *domination*, and Hales was one of the men who carried on the splendid tradition. But in this Hales was not alone at Corpus. Dr. Clark-Kennedy mentioned the close association existing between Hales and Dr. William Stukeley, who was a fellow student at Corpus Christi College, and from the diary and letters of Stukeley, published by the Surtees Society, we may learn how ardently the two friends pursued their inquiries into science by the experimental method. As Dr. Clark-Kennedy reminded his hearers, they rambled together over Gog-Magog hills and Cherry-Hinton Moor collecting simples, hunting for fossils, and catching butterflies, "having contrived an instrument for taking them." Together they studied anatomy, dissecting dogs and other animals; and attended the public lectures of Vigani, first professor of chemistry, and witnessed the "chymical" experiments he performed in the rooms over the Gateway of Trinity, which had been the laboratory of Sir Isaac Newton. Hales applied himself also to astronomy, and, having acquired a "perfect knowledge of the Newtonian system," contrived a mechanical model to demonstrate the movements of the planets. Hales was appointed to the parish of Teddington, Middlesex, at the end of 1708, and although he afterwards received other preferments, he continued for the most part to reside there until his death on January 4th, 1761, in his 84th year. It was there, as Dr. Clark-Kennedy said, that he made experiments of fundamental importance, on the circulation of the blood, the flow of sap, the chemistry of respiration, and the growth of bone; and "by his work on ventilation established one of the first principles of preventive medicine." By repeating many of Robert Boyle's experiments he had learnt the value of the experimental method, and quoted with approval the dictum that "it is not within the compass of human understanding to assign a purely speculative reason for any one phenomenon in nature."

Stukeley in after-life became famous as a physician and an antiquary, and it was owing to his activity that the *Antiquarian Society was re-established*. But before them two members of Corpus Christi College—William Briggs (1642-1704) and Edward Tyson (1650-1708)—had contributed to the advancement of science. William Briggs, physician to St. Thomas's Hospital, was one of the first in this country to write on the anatomy and the functions of the eye. He it was who taught Newton all he knew about the eye, and first enunciated the theory of vibrations as an explanation of the phenomena of nervous action, while Edward Tyson was one of the first in this country to study comparative anatomy, and the beautiful drawings he made to explain the anatomy of various animals form one of the most treasured possessions of the College of *Physicians*. In later times two other members of Corpus Christi College attained distinction in medicine and science. Dr. David Pitcairn (1749-1809), physician to St. Bartholomew's Hospital, was the first to point out the close association between rheumatic fever and heart disease; and, coming down to our own days, Dr. Bond, the Regius Professor of Physic at Cambridge from 1857 to 1882, filled that chair with dignity and distinction. It will be seen, therefore, that Corpus Christi College, although only thirty-seven members of the college graduated in medicine from the year 1500 to 1850, produced five men who all left their mark upon the profession they adopted—surely a record of which the college may be proud. During the same period of three centuries and a half there were some fifteen hundred medical graduates from the whole University.

As evidence of the activity of the scientific spirit in Cambridge when Hales was in residence at Corpus, attention may be drawn to the foundation of chairs in various sciences at about that time. Thus the chair of chemistry was founded in 1703, the Plumian chair of astronomy in 1707, that in anatomy in 1707, in botany in 1724, and in geology in 1731. The foundation of these chairs was the beginning in the University of that study of natural sciences which has produced such notable results in modern times.

THE DISSERTATION.

In the course of his dissertation, to some of the earlier passages of which we have already referred, Dr. Clark-Kennedy said that to Hales—*primarily* a biologist but trained as a physicist—the circulation of the blood, discovered rather less than a century before him, must have presented a fascinating study, and his first scientific endeavour was to make a complete quantitative investigation of the dynamics of the circulation.

The Circulation of the Blood.

"Since we are assured," Hales wrote, "that the animal fluids move by *hydraulic* and *hydrostatical* laws, the likeliest way therefore to succeed in our inquiries into the nature

of their motions is by adapting our experiments to those laws." He therefore devised his "haemastatical" method, which consisted of the application of the principle of the manometer to animal physiology, and performed a vast number of experiments of great technical difficulty, not in a well equipped laboratory, but in the parsonage at Teddington. By tying tubes into the arteries and veins of living animals he was the first man to record blood pressure. In so doing, not only did he advance our knowledge of cardio-vascular physiology by a definite and important step, but at the same time laid the foundation of a valuable clinical method in the study and diagnosis of disease. For this performance Hales is justly famous. But in addition he investigated almost all the mechanical aspects of the circulation, and made a more complete study of cardio-dynamics than even Lower had done before him. His description of this branch of physiology is so complete, so quantitative, so essentially modern in all its tendencies, that it reads like a chapter in a present-day textbook. By recording the pulse rate during life, and then injecting the heart with wax, he computed the circulation rate in horses, cattle, deer, and dogs. He showed that in large animals the blood flow is relatively less than in small, but, in the absence of a true conception of respiration and metabolism, he failed to realize the significance of this result. He estimated the actual velocity of the blood stream in the different arteries and veins. He measured the velocity of the blood in the tissue capillaries by observation with a microscope, and compared it with indirect calculations of the velocity of the blood in those of the lungs. Studying blood flow in the tissues, he estimated the capillary blood pressure and demonstrated vaso-constriction by cold, vaso-dilation by heat. Lastly, by pointing out that the heart responds to increased venous return by increased systolic output, he laid the foundation of the conception now known as "Starling's law."

Movement of Sap.

Hales was essentially a comparative physiologist. He alternated between experiments on plants and experiments on animals. While endeavouring to stop the bleeding of an old stem of a vine, which was cut too near the bleeding season, it occurred to him to make the following experiment.

> Having tied a piece of bladder over the transverse cut of the stem I found the force of the sap did greatly distend the bladder, whence I concluded, that if a long glass tube were fixed there in the same manner, as I had before done to the arteries of several living animals, I should thereby obtain the real ascending force of the sap in that stem, which succeeded according to my expectation; and hence it is that I have been insensibly led on to make farther and farther researches by variety of experiments.

Applying this method, he found the sap pressure in the vine in the bleeding season to be "five times greater than the force of the blood in the great crural artery of a horse; seven times greater than the force of the blood in the like artery of a dog; and eight times greater than the blood's force in the same artery of a fallow doe."

Growth in Plants and Animals.

Hales also devised the method of studying the growth of plants by marking the stems and leaves at equal intervals, and was led on to apply a similar method to the growth of bones. He wrote:

> "The tender ductile bones of young animals are gradually increased in every part that is not hardened and ossified; but since it was inconsistent with the motions of the joints to have the ends of the bones soft and ductile, as in vegetables, therefore nature makes a wonderful provision for this at the glutinous serrated joining of the heads to the shanks of the bones, which joining, while it continues ductile, the animal grows; but when it ossifies, then the animal can no longer grow: as I was assured by the following experiment, viz.: I took a half grown *chick*, whose leg-bone was then two inches long; with a sharp-pointed iron, at half an inch distance, I pierced two small holes through the middle of the scaly covering of the leg and shin-bone; two months after I killed the *chick*, and upon laying the bone bare, I found on it obscure remains of the two marks I had made at the same distance of half an inch: so that that part of the bone had not at all distended lengthwise, since the time that I had marked it; notwithstanding the bone was in that time grown an inch more in length, which growth was mostly at the upper end of the bone, where a wonderful provision is made for its growth at the joining of its head to the shank, called by anatomists *symphysis*."

This experiment, usually attributed to John Hunter, born in 1728, was actually performed by Hales some years before that date.

Hales's interest was deflected to the chemistry of respiration by an accidental observation that bubbles of air ascended with the sap.

Chemistry at that time, Dr. Clark-Kennedy said, was an empirical and largely speculative study. The conception of chemical elements had not yet been formed, and chemical substances were still described and classified according to their properties. In 1660 Robert Boyle had demonstrated that a candle became extinguished, and that an animal died, when placed in an evacuated vessel. Nine years later Lower discovered that blood takes up air. At about the same time Mayow (who was a Fellow of All Souls' College, Oxford, and practised medicine in Bath) came to the conclusion that it was not the whole air, but a part of it only, which was essential for respiration and combustion alike; this fraction he called the *spiritus nitro-aereus*. Thus Mayow virtually discovered oxygen, and laid the foundation of a true conception of animal heat, when he supposed that this arose from the combination of his nitro-aereal spirits with the sulphureous particles of the blood. Mayow clearly realized that a part of the air went into combination with the blood, but he failed to realize that anything came out. Mayow's work, however, received but scant attention, and thirty years later knowledge was put back over a century when Stahl introduced his phlogiston theory. According to this conception, which dominated biology and chemistry for over a hundred years, when a substance burned, phlogiston departed from it. The body suffered a loss, it became dephlogisticated. Stahl, rejecting the idea that animal heat was due to chemical action, returned to the old view that it arose from friction of blood in the vessels, while his pupil Haller, writing only a few years before Hales died, denied that air entered into combination with the blood, so completely had the work of Mayow and Lower been neglected. Not till 1754 did Black deal his death blow to the phlogiston theory when he prepared carbon dioxide, and not till twenty years after Hales's death did Lavoisier enunciate the true principles of respiration, combustion, and animal heat.

Applying his "statical method," Hales demonstrated that plants absorb considerable quantities of "air." By distilling vegetable substances he showed that plants contained "air." He came to the conclusion that "air" enters into the constitution of plants, and that an important function of the leaves was absorption of this form of nourishment. "It is by this amphibious property of air," he wrote, "that the main and principal operations of nature are carried on"; and then came this significant sentence—"May not light also, by freely entering the expanded surfaces of leaves and flowers, contribute much to the ennobling the principles of vegetables?" Again, as Michael Foster pointed out, Hales was the first man to give a clear enunciation of the existence of gases in both a combined and free state.

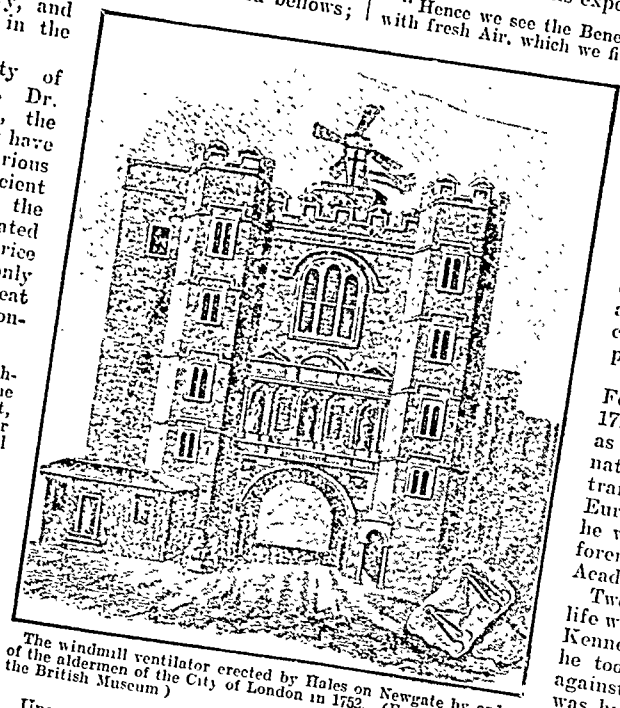
True to his comparative physiology, from absorption of air by plants he turned his attention to respiration in man. He repeated Mayow's experiment on the respiration of animals. Mayow had shown that animals absorb a part of the air they breathe, but Hales carried things a step further when he came to the conclusion that respiration in some way modifies the properties of the air left over so as to make it unfit both for life and for combustion. Thus he was led to experiment on himself, and to perform the first rebreathing experiment. A little later he devised an apparatus with inspiratory and expiratory valves so arranged that the expired air had to pass through diaphragms of cloth before being inspired again, and observed that when these diaphragms were moistened with a solution of "sal tartar," and then replaced, rebreathing could be continued for five to eight minutes. Moreover, the diaphragms increased in weight to a greater extent than he could account for by absorption of water only. If Mayow can be said to have discovered oxygen, surely Hales

described carbon dioxide! Throughout Hales's writings here is no mention of the phlogiston theory. By this silent refusal to follow Stahl he kept alive the spark of truth that Mayow had lit, to be rekindled more than a century later by Black, Priestley, and Lavoisier. But if only he had followed Mayow a little more literally, and conceived, as Mayow had, of different kinds of gases, instead of one "air" with variable properties, he might well have arrived at a true conception of respiration. Be this as it may, Hales's researches on respiration had a great practical outcome in his work on ventilation.

Ventilation.

Incidentally, Dr. Clark-Kennedy mentioned that Hales invented methods of purifying water and of salting animals whole, and advocated the addition of acid to keep fresh water sweet, and the use of burning brimstone for the prevention of "weevil and meggots" in ship's biscuit, and for preventing the rise and spread of "infectious distempers." The first-fruit of his study of ventilation was a method to be applied to ships by means of hand bellows; it was used in some of the ships of the Royal Navy, and also in vessels engaged in the slave trade.

In entering the City of London from the west, Dr. Clark-Kennedy continued, the traveller of those days must have been confronted by a curious spectacle. Newgate, the ancient gate of London built by the executors of the celebrated Richard Whittington, thrice Lord Mayor of London, and only partially destroyed in the Great Fire, had been rebuilt with considerable magnificence.



The windmill ventilator erected by Hales on Newgate by order of the aldermen of the City of London in 1752. (From a print in the British Museum.)

"It consisted of a carriage archway in the centre; on the side, the footpath was continued through it, which supplied a shelter for two or three old women, who fried small sausages for sale; and in the centre of it was an entry to the chief prison of the city: the mendicant prisoners for debt stood within the iron grated door, vociferating their constant supplication for benefactions to a leathern bag which they drew in as often as it was touched; the upper chambers of the buildings constituted the prisons for felons, for whom a door was opened on the South side adjoining the old wall, and it was from this door that the malefactors were received into the cart for their last journey to Tyburn. Upon the summit was a machine for air, invented by Dr. Hales."

In 1750 a tragedy had occurred during the trial of malefactors at the Sessions House in the Old Bailey. The Lord Mayor, two judges, and a total of sixty persons had died of the gaol distemper, communicated to them by the felons from Newgate. The aldermen of the City of London, naturally seriously alarmed, consulted Hales, and decided to install ventilators in Newgate to be worked by a windmill erected on the leads. When the system was complete, Hales made a tour of inspection of Newgate, and rejoiced to see the ventilators "drawing like large heavy lungs at the rate of seven thousand tuns of foul air per hour out of the different wards of the prison." Hales's ventilators were also installed at the prison in the Savoy (London), in the gaols at Northampton, Shrewsbury, Winchester, Maidstone, Bedford, and Aylesbury; in the London small-pox hospitals, at St. George's Hospital, and in hospitals at Durham, Winchester, and Bristol, and even at Naples. They were introduced also into the naval and military hospitals and prisons at Gosport, Portsmouth, and Plymouth.

Wherever Hales's ventilators were installed the air in the wards is said to have been rendered much purer, and the mortality among the inmates from the gaol distemper considerably reduced. But typhus is due to the bites of infected lice, and not to foul air, as Hales supposed. No amount of ventilation, however perfect, could have abolished the gaol distemper. Hales's bellows ventilator has gone. Hospitals and prisons are so built in these days that mechanical ventilation is seldom necessary. But his principle of the forcible propulsion of air still persists, and adequate ventilation remains one of the first principles of preventive medicine. Hales must therefore stand, not only a great biologist, but one of the pioneers in public health.

In 1756 Hales performed his last experiment. He placed an equal number of gudgeon in two pails of pond water; the water in one was ventilated with air, the water in the other allowed to remain stagnant. The fish in the former remained well, but those in the latter, the unventilated water, soon "turned sick, came up for air and showed uneasiness, turned belly upwards, and then died." He commented on this experiment as follows:

"Hence we see the Benefit of frequently replenishing the Water with fresh Air, which we find is necessary not only to preserve the Life of Land Animals, but also of Fish; as also the Use of their Gills, to spread in thin Sheets fresh Supplies of Water, that they may the better come at the Air in the Water; for which Purpose both Sides of their Gills are furrowed with many fine Furrows, thereby to enlarge their Surfaces."

So at the age of 79 he returned from his applied science to his comparative physiology again, and after the lapse of forty years completed his long series of experiments on respiration.

Hales had been elected a Fellow of the Royal Society in 1718, and later his reputation as a scientist became international. His books had been translated into all the chief European languages. In 1753 he was elected one of the eight foreign members of the Royal Academy of Sciences in Paris.

Two other incidents in Hales's life were described by Dr. Clark-Kennedy; the one was the share he took in warning the public against gin drinking. The other was his unfortunate consent to be one of the sponsors of Joanna Stephens, to whom Parliament was induced to give £5,000 for divulging her method of dissolving the stone.

Though Hales was so interested in experimental research he did not neglect his duties as parish priest of Teddington, but served the parish with the same energy and zeal. He made the women of his parish do public penance for irregular behaviour; he induced the lord of the manor to enlarge the churchyard; he added an aisle to the church, and erected a new tower with a big bell, meeting part of the expenses out of his own pocket. He also arranged for a new parish water supply.

Of his character one of his contemporaries said: "He possessed a native innocence and simplicity of manners which the characters of other men and the customs of the world could never alter."

Stephen Hales died at Teddington on January 4th, 1761, in the eighty-fourth year of his age. His monument stands in Westminster Abbey, but his body lies buried, according to his own wish, under the tower which he had himself built for the church he had loved so well. The inscription on the stones of the floor of the tower records the simple facts of his life and death, but there is no epitaph written on his grave. To-day, however, 250 years after his birth, let us adapt the words John Wesley wrote of him. "How well did Science and Religion agree in this man of sound understanding."

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THE ECLIPSE.

A TOTAL eclipse of the sun is, by the common consent of all history, an amazing phenomenon. It has not only amazed and filled its beholders with an undefinable fear; it has sometimes caused them to mend their ways, and even brought a war to an end. Among the fierce denunciations by Amos of national evils and his forebodings of the calamities that would follow, the climax of horrors is reached in the lines: "And it shall come to pass in that day, saith the Lord God, that I will cause the sun to go down at noon, and I will darken the earth in the clear day." It is supposed that this is a reference to the eclipse of 763 B.C., which was total at Nineveh, and of which there is a record in a cuneiform inscription. The old sense of fear died hard. In 1715 Halley thought well to warn his fellow citizens when a total eclipse was due to be seen in this country, thus: "The like eclipse having not for many ages been seen in the southern parts of Great Britain, I thought it not improper to give the publick an account thereof, that the sudden darkness wherein the stars will be visible about the sun may give no surprise to the people, who would, if unadvertized, be apt to look upon it as ominous and to interpret it as pertaining evil to our sovereign lord King George and his government, which God preserve." But to know what is the meaning of this awful dousing of the sunlight is not to diminish the magnificence of the spectacle, any more than the knowledge of the causation and the frequent experience of thunder lessen its impressiveness.

The sun each year appears to complete a "great circle" of the heavens. The moon makes its circuit every month. If the circles were coincident there would be a monthly eclipse every new moon, but they do not coincide, being inclined to one another at an angle of some five degrees. These circles must cut one another at two opposite points, the "nodes." When the new moon is at or near one of these nodes it intervenes between sun and earth, and an eclipse is seen somewhere. The sun is vastly larger than the moon, but the moon is much nearer the earth, and the relation of the two conditions is such that the smaller moon can completely blot out the greater sun, and cause the total eclipse. When the sun is thus obscured its radiance is revealed to the eye in an appearance that has no equal in luminous phenomena. There is the gradually increasing darkness, the shining of the stars, then around the black disc of the moon blaze out vast ruddy flames of the sun's conflagration, and the pearly hues of the "corona" are flung far into the sky. One moment, and it is gone. The light returns.

It is 200 years since this was seen in any part of these islands. If only the sky be clear of clouds, on the morning of June 29th it will be seen again. The conical shadow of the moon will sweep across North Wales and the northern counties of England from Criccieth to Hartlepool, travelling the couple of hundred miles in a couple of minutes; and observers of total eclipses in other parts of the world say that it can be seen, even though the sun be obscured, by anyone who will resolutely turn his back to the sun. At any one place on the line of totality the darkness will last for a score of seconds. Since the apparent movement of the sun is from the north-eastern sky, the shadow will come out of the south-west, and is due to approach from the Atlantic at 5.23 a.m. Greenwich mean time, or an hour later by our summer-time clocks. It takes the line of Criccieth and Abergele in Wales; Southport in Lancashire; Settle, Richmond, and Hartlepool in Yorkshire, where it is due to pass away at 5.25. Fifteen miles on either side of this line the eclipse will be nearly total. A glance at the map will show what extreme variations of terrain it will traverse—crowded industrial centres and moorlands almost uninhabited.

The old-time fear of the eclipse has gone, and for that very reason there is the more cause for fear of carelessness in viewing it. The warnings against the risk of "eclipse blindness" are no mere old wives' tales. The risk is real. It is not exceptional; it is the same as the risk to the sight of looking at the sun on any day that it shines, but this is so difficult that few, save children, attempt it. There is a like risk in the electric arc, and, to a lesser extent, in looking at a powerful gas-filled glow lamp. But it is a risk that can be easily escaped. There are two ways whereby we may protect the eyes. Both are familiar. In any fog we can look at the red disc of the sun with impunity. Properly fogged glass will be a protection. We can look at the sun at midday through a narrow crack between our fingers with comfort, so a pin-hole screen will furnish good protection. Of the two the fogged glass is the better. There is less risk of careless use than with the pinhole, for that may vary in size, and its size will vary according to its nearness to the eye—the closer it is held the larger the hole becomes, and the less protection it will give. Not every fogged glass will give protection. The fogging should be enough to allow one to look with open eyes at an electric arc a foot away from the eyes, or with equal ease at the filament of a gas-filled electric lamp of high power. One should be able to view the filament as a fine reddish pattern without glow, and without feeling the least suggestion of after-effect in one's eyes when ceasing to look at it. A perfect glass is made by using together two pieces of coloured glass, one red and the other green; each should be of such depth of tint as will only allow light of its own colour to pass—red through the red glass and green through the green. It follows that if one tries to look through the two glasses together nothing will be seen, the window will be black; but there will be sufficient incompleteness in the saturation of colours in the glasses to allow intense illumination to pass, and through these two glasses the sun at the zenith is a clear pinkish disc, and the most brilliant electric arc a pink spot. The red and green glass of the once familiar hall window of an early Victorian house would make an admirable protection.

There are a number of specially prepared screens on the market. Two have been submitted to us. One is a film marketed under the name of "Eclipsia" by Messrs. Hamblin; it has been worked out by Dr. Judd Lewis, and limits the spectrum by cutting out the violet end completely as well as by reducing illumination. It is a simple and effective contrivance, and costs only a small sum. Another is a screen furnished with a couple of optically ground dark glasses, issued by Messrs. C. Baker of High Holborn; it also is inexpensive and effective. The film has a notch for the nose, but the glass screen needs to have its mount cut. Many will use opera-glasses or telescopes. With

these it is imperative that the screen should be easily removable and as easily reaffixed. It should not be a fixture, for clear glass is needed to view the actual eclipse, but the reapplication of the screen is imperative immediately the sun begins to show again.

There are two reasons for this care. The temporary reason is that if the sun be looked at unveiled before the eclipse the eye will be so exhausted that the wonder of the eclipse will not be seen, and the labour of the journey will be unrewarded by a sight of the spectacle. There is, however, a much more serious reason. Exposure to brilliant excessive light causes actual injury to the retinal elements of the eyes, and this may be permanent, causing a central scotoma or blind spot. Fundus changes due to such exposure are well known; there are minute spots of degeneration. There is therefore every reason for members of our profession to inculcate care in viewing the eclipse, the more especially since we understand that arrangements have been made to take large numbers of school children to places on the line of totality so that they may see the phenomenon. Children are more susceptible than adults to the risks of damage to the eyes by excessive light, for the lenses of their eyes are clear and translucent, whereas adult lenses are more or less dense and yellow. The school authorities responsible for these expeditions should be forearmed for the occasion; accidents would be nothing less than "culpable negligence." Totality lasts but twenty seconds, and is followed by the blinding flash of the uncovered sun.

GENIUS AND THE AMERICAN PEOPLE.

In recent years Americans have eagerly pursued their pasts, seeking ancestry that should endow them with genetic reasons for their successes. Latterly, however, they have turned their eyes towards the future, seeking their genetic destiny.[1] There is almost humour in the thought that it should be an American who perforce must teach that great democracy that men are not born free and equal, but bound and unequal, that ability cannot be the birthright of every individual, but that for genetic reasons it is a familial affair. The wealth of a nation, spiritual and cultural, is ultimately determined by the number of its superior families, rich in possessions that social legislation may depreciate but can never destroy.

For the student of human biology the United States is a vast and fascinating experiment. It is not yet a race not yet a nation. A great proportion of the individuals who have played their parts in the making of the nation that is to be have not been, it is safe to assume, the ablest specimens of the peoples to which they belonged. Success of a kind was easier of attainment there than in the older countries, for there was plentiful scope and abundant recompense for arduous labour. There has been, up to now, a huge hinterland into which the relatively incompetent could always retreat, so that in the past selection has not operated at all scathingly. Into this hinterland, too, would go some of the most competent, fired by the joys of grappling with the bigness of Nature, to spend their efforts in creating and not in conserving. Acquisition of material possessions has been so simple that a man held property lightly, gambled with fate, won and lost, and won again. All this is changing rapidly, and America is tending to become conservative. Acquisitions, material and spiritual, are now being valued and conserved.

The individual in his self-expression is largely a reflection of his environment. Ability, when possessed, is polymorphic. There is every reason to think that there has gone to the United States germ plasm potentially far more valuable to that country than were the individuals who bore it to their generations. There is every reason to hold that in America to-day there are the genetic components of all the qualities that make for human greatness as well as for human wretchedness. Changing social conditions, the shuffle and deal of marriage, will, it may be assumed, ultimately lead to the replacement of anthropologically the most mixed people the world has ever known by a nation with a past and with a point of view.

It is not to be expected that as yet there can have been an American genius, though, of course, there is no reason why a genius should not have immigrated in the form of either a gamete or a zygote into the United States. There have been and are great men there, but they are all products of the Old World. Political severance does not involve a discontinuity in the stream of germ plasm. When the United States has become a nation, then a typical American genius will doubtless appear. The possibilities of this are immense, for the United States has drawn largely upon stocks that have produced genius. Any sufficiently populous country, in the absence of mutation among its population, and in the absence of immigration, can be expected to reproduce the great men of its past. The elements of greatness, when once present in a people, are not easily lost. In the case of a country like America the chance of a really great man appearing depends upon the variety and number of genetic components brought into that country by immigration.

In America search is being made for the constituents of greatness. As a corollary to this, inquiries are being instituted to determine how far genius is due to organic inheritance, to social inheritance, and to education. When this is known it will be possible to guide incipient genius to full expression. The early mental traits of a number of men of acknowledged pre-eminence have been examined, every remaining scrap of their correspondence has been studied, and to each of these men an "intelligence quotient" has been ascribed. The method of assessing potential brilliance is necessarily faulty. The data upon which the estimates are made are incomplete, and in many instances cannot be regarded as truly representative, and no control series relating to the early mental traits of mediocre men is available for comparison.

However, these estimates, faulty as they are, are taken as standards of the measure of developing genius, and against them are placed the records of 600 gifted children, selected by the teacher and sifted through a Stanford-Binet psychological test out of a quarter of a million Californian school children. These children and the parents were examined in almost every conceivable way, questionaries were rained upon them, anthropometrical and medical overhauling was thorough, probings as to interests, character, personality, and so forth were deep and searching, and there can be no doubt that the very best use was made of the tools which at the present are available for the analysis of the individual. The difficulty that lies in the way of a ready acceptance of the value of these tests is very real. There is as yet no unanimity among psychologists themselves as to which system of psychological analysis is the best. Moreover, we cannot be sure in the present state of knowledge that

[1] *Genetic Studies of Genius.* Edited by Lewis M. Terman. Assisted by several contributors. In two volumes. Stanford University, California: Stanford University Press; London: G. G. Harrap and Co., Ltd. 1926. (9½ × 6½, Vol. I., pp. xiii + 648, 35 figures; Vol. II, pp. xxiii + 842, 10 figures, 49 tables. 21s. net each volume.)

potential genius would not slip through this sieve of the intelligence quotient test. Again in this particular investigation no control series was studied.

But this much can be said and should be said: This study is the most comprehensive and the most reasonable that has yet been made. It represents years of tremendously hard and careful work that will not be wasted. Imperfect as it is, it will serve its purpose if only by emphasizing the need for refinements in the existing methods for the analysis of personality. Its greatest value, however, lies in the fact that it demonstrates beyond all doubt that nations are taking stock of their most valuable possession—the germ plasm of their people; that they recognize that for the fashioning of the leaders by whom further civilization shall be guided the greatest care must be shown, not only in the choice of the methods of education, but also of the material to be trained.

THE HARVEY TERCENTENARY.

NEXT year, under the auspices of the Royal College of Physicians, will be celebrated in London the tercentenary of the publication of Harvey's epoch-making book, the *De Motu Cordis*, in which, by convincing experiment and accurate reasoning, he demolished for ever the thousand-year-old theory of Galen concerning the circulation of the blood, and in its place erected on a sure foundation his theory, which has been accepted by the world ever since. As we have already intimated, the plans of the Royal College of Physicians for the celebration of the tercentenary of this event are comprehensive, and no pains have been spared to make the function fully worthy of the great occasion. Delegates from all countries will gather in London to offer their tribute to the memory of the first and greatest of physiologists. Sometimes this country has been held to be unmindful of the anniversaries and centenaries of the conspicuous work of her great sons, but in this case it is hoped that the programme in the contemplation of the Royal College of Physicians will remove that reproach, and will show that we hold in deepest honour and reverence the memory of William Harvey, one of whom this country may well be proud. But while we are celebrating in London in befitting form the great work of Harvey, we should turn our thoughts to the quiet little country church at Hempstead in Essex, where the mortal remains of Harvey repose in a sarcophagus which in 1883 was provided by the Royal College of Physicians—an act of piety it owed to the memory of its most distinguished Fellow. The sarcophagus is now safe from the ravages of time, but the church in which it is placed is in a parlous state. The church tower has fallen down, and of the five bells one, the tenor, was shattered by the fall. The other four escaped injury, and are hung in a shed in the churchyard. A comparatively small sum of money would rebuild the tower, and render Hempstead Church a fitting abode for the great Dust it shelters. Already some money has been obtained. Surely, while we hold Harvey in reverence, funds will be forthcoming for the accomplishment of this duty of all those who venerate his name. The honorary treasurer of the fund is Mr. A. W. Ruggles-Brise, Spain's Hall, Braintree; cheques should be crossed Barclays Bank, Saffron Walden.

THE VALUE OF SCIENTIFIC THEORY.

SIR J. J. THOMSON, O.M., in the tenth Silvanus Thompson Memorial Lecture which he delivered before the Röntgen Society last Tuesday evening, made it evident how tentative and hypothetical is the whole subject of the structure of the atom. He likened the problem confronting the physicist to that of an engineer who is called upon to design a machine, but from whom dimensional and other requirements are withheld. Equally able engineers in such a case would make quite different guesses. But it did not follow that the tentative working hypothesis was without value. Scientific theory, he said, was not a creed, but a policy—it was something which should direct and suggest experiment. The simple working theory which presently turned out to be untenable might nevertheless have made for progress in a way not possible to the more elaborate theory which, while it was less open to objection, did not stimulate inquiry. Until we had much more experimental knowledge, said Sir Joseph Thomson, tentative theories must content us. What was wanted was an increased number of experiments on the properties of the atom, and it was important that those experiments should be of as many different types as possible. The great majority of the experiments hitherto made had been on the spectroscopic properties of the atom; this was natural, for such experiments could be made with great accuracy, and the technique was well known. But, after all, the atom had other properties besides spectroscopic ones; from some points of view those other properties were of even greater importance, and he was not sure that the spectroscopic was the best method for distinguishing between different kinds of atoms. The same tunes could be played on many different instruments, and the tune was not always indicative of the instrument on which it was played. He looked forward to experiments on the magnetic properties of the atom, the deflection of the proton when moving through solids, the deflection of electrons of different speeds when moving through atoms of the inert gases, and to experiments on the chemical properties of gases when electrified. Much had yet to be learned about the electron and the proton, and he could not think that the physicist would always be content to think of just two little spherical masses, one positive and the other negative, as a sufficient explanation of the greatest of all physical mysteries. In concluding his lecture he put forward the view that the electrons and protons were not termini, but avenues leading to new regions as yet unexplored. The conception of the atom which he had in mind, as tentative as any other, was of a series of "thin" electrons arranged concentrically, separated by finite distances, the electrons being in equilibrium, not describing orbits, but statical, and occupying fixed positions. In fact, as he imagined it, the atom was more like a crystal, with a regular and orderly distribution of electrons around a centre, than like the planetary system, with which it was so often compared. One of the great advantages of the theory which supposed a statical or crystalline distribution of electrons within the atom was that it could be so much more easily visualized than could a system in which multitudes of electrons were supposed to be describing orbits in a kind of solar system—a thing which always made his own head whirl even as the electrons were whirling, and recalled the line, "For nothing's really anywhere, but always somewhere else."

THE CHAIRMAN OF COUNCIL.

SIR ROBERT BOLAM was elected by the Council of the British Medical Association as its Chairman, in succession to Dr. J. A. Macdonald, during the Annual Meeting at Cambridge in 1920. In 1923 at Portsmouth he was re-elected for a further term of three years. Last year at Nottingham he consented to serve again, but only for twelve months. On June 8th, during the last Council meeting held under his chairmanship in the house with which his name will always be associated, his colleagues joined in paying him a personal tribute. This took the form of a complimentary luncheon in the large committee

room and the presentation of a small gift. Sir Jenner Verrall, as the senior member of Council, took the chair. A formal account of so informal an occasion would be out of place, but it should not pass unrecorded. There were only two toasts—the Patron of the Association, His Majesty the King; and the Chairman of Council, Sir Robert Bolam, M.D., LL.D., F.R.C.P. Sir Jenner Verrall was in his happiest vein, and to those who know him that is saying enough. It was a short speech in which manner and matter were matched to perfection. He touched lightly on the peculiar virtues of the outgoing Chairman of Council, his genius for construction, and his great services to the Association. The confidence felt by the Council at Cambridge seven years ago had, he said, been more than justified. Sir Jenner Verrall ended by handing to the guest in the name of the hosts a gold-mounted Swan fountain pen, remarking that our ancestors, if they had tried to express their feelings in the same way, would no doubt have chosen a quill from a bird about to sing its last song. The toast, it need scarcely be said, was drunk with musical honours. Sir Robert Bolam, speaking as briefly in reply, thanked his colleagues for this compliment, and told them why he felt it right and wise to give up an office which had meant so much to him. His hobby, he said, had long been team-work, and his work on the Council had been happy because it was done by a band of brothers. He named two colleagues out of many who had helped him, because in a special way they had made easier the difficult early months of office—Sir Jenner Verrall and Dr. Macdonald. As for the officials to whom he owed so much, he believed that the secret of success in the work of the Association lay in a careful balance between the permanent staff and the voluntary officers. Having thus thanked and gently admonished his fellow councillors, the Chairman whom they had honoured in this friendly fashion called them back to their duties in the Council Chamber.

THE NATIONAL MUSEUM OF AUSTRALIAN ZOOLOGY.

In 1924 the Federal Parliament of Australia, knowing the fact that the unique native fauna of the Commonwealth was fast disappearing, and recognizing its importance to medical science, founded the National Museum of Australian Zoology. It was a wise and statesmanlike act, the full effect of which is only now beginning to be seen. Dr. Colin Mackenzie was appointed Director, with the title of professor of comparative anatomy. It was a museum with a difference. In the previous year Professor Mackenzie had presented to the Commonwealth his specimens of living native animals, together with the buildings and fencing on the Research Reservation at Healesville. He had given also his collection of macroscopic and microscopic specimens, numbering many thousands; and these now form the basis of the museum collection. Each specimen has a direct application to some medical or surgical problem. Nothing quite like the collection of normal histological preparations from reptiles, monotremes, and marsupials, with which human or other mammalian tissue can be compared, exists anywhere in the world, and we are glad to know that illustrated atlases describing the collection are being prepared for publication—a huge enterprise which has been begun not a day too soon. Early in 1923, when commenting on the announcement that the Commonwealth Government had passed an Act to establish a Museum of Australian Zoology, we observed that there was clearly an obligation on Australia to preserve a full series of specimens, since the whole indigenous fauna of Australia seemed only too likely to follow Tasmanian man to extinction. The Commonwealth Legislature has now gone rather further than we hoped, for it has not only allotted a site for the National Museum of Australian Zoology at Canberra, the new capital of Australia, but the Federal Capital Commission has provided a site for a zoological park or reservation, in which will be kept living specimens of Australian and Tasmanian native animals in their natural state. The area of the site for the museum, laboratories, and lecture theatre is about five and a half acres, in a magnificent situation on Acton Hill, facing Parliament House. The research reservation or zoological park, containing about eighty acres, is on a peninsula bounded on two sides by the river Molonglo. The report of the Parliamentary Standing Committee on Public Works, dealing with the construction of buildings, has now been published, authorizing for this purpose a sum approximating £100,000. The report has received the unanimous approval of the Federal Parliament, and the buildings, representing what is really the first stage in the establishment of the National University of Australia, will be begun immediately. When the buildings are completed every facility will be offered to workers—not only Australian, but also from other countries—wishing to study comparative anatomy and its application to modern medical and surgical practice. The museum is now at Melbourne, but is to be moved to Canberra next year. To its original contents many important additions have recently been made, including the collection of specimens valued at £25,000 belonging to Dr. George Horne of Melbourne, dealing with the Stone Age men of Australia, and also a collection of aboriginal skulls made by Dr. Arthur Nankivell of Kerang. The museum also possesses the Froggatt entomological collection, and that of Mr. Murray Black dealing with the aborigines of South-East Victoria. The completely fossilized prehistoric Cohuna skull, together with many other specimens of anthropological value, belong to the museum. The Federal Government of Australia is to be congratulated on its decision to establish a centre for the advancement of comparative anatomy, which admittedly is the foundation of all the medical sciences. We may venture to express the hope that the lead now given by Professor Colin Mackenzie will encourage wealthy Australians to display a similar national spirit, and by liberal endowments help on the necessary research work in the interests of humanity.

THE SURGICAL ASPECTS OF ACROMEGALY.

THE Annual Oration of the Medical Society of London was delivered on June 13th before a crowded audience by Professor Harvey Cushing, Hon. F.R.C.S., whose subject was "The surgical aspects of acromegaly." Sir Humphry Rolleston, who presided, introduced Professor Cushing as the leading neurological surgeon of America, one who might well be described as a physician able to use his hands, and whose hands could not only wield the knife, but that more powerful implement the pen; Professor Cushing was the author of a charming biography of a former Orator, Sir William Osler. The text of the Oration, with numerous illustrations, will be published in an early issue. Sir Charles Ballance, before proposing a vote of thanks to the Orator, said with what pleasure the Fellows of the society saw among them that evening Sir David Ferrier, the doyen of neurologists in this country. In Professor Harvey Cushing they had a man who had done more than anyone living for neurological surgery. He remembered Cushing when, a shy, retiring young man, he visited London about 1892, his purpose being to observe the work done at University College, and at the National Hospital in Queen Square. Ten or twelve years later, at the Johns Hopkins Hospital, he found the same shy and retiring man at the head of a most magnificent neurological department, a department which Cushing himself had created. Searching recently in the library of the Royal Society of Medicine, he discovered about 180 published books, papers, and addresses under the name of Professor Cushing. No words

of his could ever sufficiently praise one whom he felt to be a Paladin of surgery. Sir StClair Thomson seconded the vote of thanks, remarking that his own specialty, oto-laryngology, had contributed something to the elucidation of the problem under discussion, and a distinguished laryngologist from abroad who was present, Professor Sugara of Buenos Aires, had performed no fewer than forty operations on the pituitary gland. Sir Humphry Rolleston put the vote of thanks, which was carried by acclamation. Professor Cushing said that he did not deserve the encomiums; he feared that some of the achievements with which he had been credited, including some of those 180 publications, had been wrongly ascribed to him, for there were other Cushings in the States, with whom he was occasionally confused.

THE WATCH ON THE RIVER.

OF sundry advantages which have accrued to this country through the growth of a sanitary conscience there is probably none which has been more conducive to the general health and well-being than the copious provision of wholesome water now available in every great city, and, with few exceptions, in every considerable centre of population throughout the breadth of the land. Whether drawn from recesses of the earth, or distant hills or adjacent rivers, these supplies are conveyed abundantly by various channels into the houses of consumers, who by force of habit have come to regard them very much as a matter of course, or as natural benefits free to all, like sunshine and fresh air. While this disposition to take it for granted may perhaps have some excuse in the case of deep protected wells or waters flowing from untrodden uplands far from the haunts of men, it is quite otherwise with undertakings which abstract their raw water from the polluted rivers that traverse a peopled country. Consumers of supplies like these, which are made and kept wholesome chiefly by means of the untiring vigilance of the officials in charge, may, when forgetful of these their blessings, quickly recapture a proper sense of what they owe to the supervisors of their drinking water by a perusal of such reports as that of Sir Alexander Houston, Director of Water Examination to the Metropolitan Water Board, summarized on page 1122 of this issue. The report conveys to the mind an impression of unrelaxing care enlightened by a comparative study of similar work in other situations. In this report, and throughout the series of his reports from 1906 onwards, including those on research, the director appears to have constantly had before him the quality of the raw waters entering the London works, as contrasted with the same waters after storage but prior to filtration. Up to 1922-23 it had been his practice to make bacteriological examinations of selected samples of the pre-filtration waters; in that year he extended his scrutiny to all pre-filtration waters, holding the view that, if he could establish that the pre-filtration waters, as a class, were safe, the whole fabric of Thames purification would rest on so broad a basis that occasional caprice on the part of individual filters would cease to be of primary importance. The comparison for 1926 as regards *B. coli* between the raw Thames and the stored waters, including the chlorinated waters, shows that, whereas 35 per cent. of samples of the raw Thames water contained *B. coli* in 0.1 c.cm. or less, the usual effect of storage was to improve the water at least a hundredfold. The principle is one which applies not to water purification only, but to most mundane enterprises. The lighter the task of the last line of defence the greater the degree of security. The immunity of London from disease accredited to its water is a vindication of this policy, and a happy result of the watch on the river maintained by Sir Alexander Houston. The public may be reminded that this happy condition of British water supplies has been brought about in consequence of the efforts made during the last quarter of the nineteenth century by the medical profession, who in various ways—by clinical observation, by epidemiological studies, and by bacteriological investigation—succeeded in proving that many diseases, and chief among them epidemics of typhoid fever, were due to contaminated water.

PROPOSED EXTENSIONS OF INSURANCE BENEFIT.

IT is understood that either in the autumn session this year, or early next year, the Government will introduce into Parliament a bill proposing some amendments of the National Health Insurance system, including some extension of the scope of medical benefit. The bill is certain to be of a much more modest character than was until lately hoped for. The present attitude of the approved societies makes it impossible to carry out even the most beneficial and least alarming recommendations of the Royal Commission with regard to such extensions. The societies are, it seems, looking forward with some apprehension to the results of their third valuation, and so are refusing to consider any such pooling of surpluses as would be required by the proposals of the Royal Commission. They are naturally cautious in their outlook, and have a laudable desire to command immense reserves. It is, of course, possible, especially in view of the gratifying results of the last two valuations, so largely beyond expectations in each case, that their apprehensions may prove unfounded; but unfavourable industrial conditions are no doubt having an adverse effect, and it may well be that the results of the third valuation a few years hence will be less abundantly satisfactory than those of the other two. It is interesting, therefore, to gather from reports of recent meetings of approved societies—as, for instance, the Whitsuntide conference of the Manchester Unity of Oddfellows at Great Yarmouth—some idea of the nature of the proposals which they intend to allow the Ministry of Health and the Government to make. The establishment of a full consultant and specialist service, or even of a laboratory service, is not to be permitted; but it is suggested that "some of the more essential treatment benefits"—presumably those known as dental benefit and ophthalmic benefit—may pass from the category of "additional benefits" and become part of the statutory "medical benefit," or be placed upon a footing analogous thereto. This would mean that they would be available for all insured persons instead of for some, and that they would be provided and administered by Insurance Committees instead of being under the auspices of the approved societies themselves, or of such organizations as the National Insurance Benefit Society, which are almost indistinguishable therefrom. These would be important alterations in a right direction, but will require the close attention of the profession, and especially of the Insurance Acts Committee and Ophthalmic Committee of the British Medical Association. Further, it is suggested that another anomaly of the approved society system may be modified. Each branch of a friendly society is at present an independent entity for valuation purposes, so that we may find that within a single society in the same town there may be one branch or lodge which provides for its members one kind of additional benefit, a second lodge which provides another kind, and a third lodge which finds itself unable to provide any additional benefit at all. The Manchester Unity, at any rate, has now got so far as to sanction the seeking of power to permit of "the creation within the society of a central fund by the allocation thereto of one-third of the disposable surpluses of all lodges, this fund to be distributed so as to enable lodges to provide such a minimum of certain treatment benefits as may be decided upon." Thus is it possible to contemplate a small but

welcome advance from a state of things which many observers have long regarded as an absurdity. It will be interesting to note the movements of the Ministry of Health within the relatively small field to which the cautious finance and commanding position of the approved societies is confining them.

MENTAL DEFICIENCY ADMINISTRATION.

WE publish this week a letter from Dr. Tredgold, in which he discusses the leading article on mental deficiency administration published in our issue of June 4th (p. 1020). There are two chief points raised by Dr. Tredgold requiring, as he thinks, modification of the policy of the British Medical Association, the main principle of which—unification of the administration of health services both centrally and locally—he accepts. These two points are: (1) that instead of there being one chief *administrative* officer there should be two, one the medical officer of health, as now, and one, of independent and equal authority, a medical officer of mental health; (2) that the subordinate medical officer dealing mainly with mental deficiency work should be in personal contact with, and directly responsible to, the statutory committee concerned. Both these suggestions may well be made the subject of debate, but in view of Dr. Tredgold's own statement that "disease of mind should be regarded as part of disease in general," and having regard to the intimate connexion of mental deficiency in children with the other aspects of school medical work, and of mental deficiency in adults with the same condition in children, the former suggestion does not seem to have much validity; and its adoption would be a radical departure from the policy of the Association. In so far as the medical officer of health is not himself expert in the subject of mental deficiency he would, as Dr. Tredgold says, delegate such work to "an assistant possessing the necessary qualifications," exactly as he frequently does in the other special spheres of clinical work. The second suggestion, that such subordinate officer should be in direct relationship with the appropriate committee, is not necessarily in conflict with the Association's policy, though it is contrary to the usual custom of local authorities, who require the attendance at their meetings of their principal officer only. It is quite possible that in some cases where the main part of the work is undertaken by an assistant medical officer, it may be desirable that he should attend with his chief at the meetings of the committee.

THERAPEUTIC SUBSTANCES ACT.

IN an article on the Therapeutic Substances Act, 1925, published in the BRITISH MEDICAL JOURNAL of April 16th last (p. 737), we gave an account of the draft Regulations issued by the Joint Committee regarding the manufacture and importation of therapeutic substances scheduled in the Act. The Regulations, as finally revised, will come into operation on August 6th next, except those relating to labelling, which will come into operation on February 6th, 1928. Persons desiring to manufacture or import any scheduled substance after August 6th in Great Britain or Northern Ireland will require a licence. Applications should be made immediately, addressed in the case of England and Wales to the Ministry of Health, Whitehall, S.W.; in the case of Scotland to the Scottish Board of Health, Edinburgh; and in the case of Northern Ireland to the Ministry of Home Affairs, Belfast. The Regulations now issued differ in some respects from the draft published on April 5th, certain modifications having been made to meet representations received. Copies of the Regulations are obtainable from H.M. Stationery Office at Adastral House, Kingsway, London; 120, George Street, Edinburgh; York Street, Manchester; 1, St. Andrew's Crescent, Cardiff; 15, Donegall Square West, Belfast; or through any bookseller. The Minister of Health has intimated to the Association of British Chemical Manufacturers that in the initial period immediately after August 6th some latitude will be observed in the application of the Regulations, so as to allow for the clearance of existing stocks and for those concerned to become familiar with the new requirements.

INTERNATIONAL CONGRESS OF OTO-RHINO-LARYNGOLOGY.

IN the days before the war there used to be held at intervals an International Congress of Laryngology. The last pre-war meeting was held in Berlin. Since the war this congress has not been revived, although there was a very successful Congress of Otology in Paris, under the presidency of Professor Sebileau, in 1922. We are now glad to hear that the supporters of both these congresses have combined in launching an International Congress of Oto-Rhino-Laryngology. It will be the first of its kind, and will be held in July, 1928. It should be successful, for many reasons: it will be held on the neutral soil of Denmark; Professor Schmiegelow, the doyen of the specialty in Scandinavia, is the president, and he will be supported by a strong committee, who are all well known workers and very welcome visitors to this country. Finally, Copenhagen at the end of July will be looking its best, and should form a most delightful meeting ground.

OLD MEDICAL BOOKS.

AN unusual type of legacy to a voluntary hospital, and one which may possibly set an example for other testators, is that of the late Mr. W. Ward-Cook in bequeathing to St. George's Hospital a small library of choice books, to be sold for the benefit of the charity. The sale takes place on June 22nd at Messrs. Sotheby's; there is no item of great rarity, but it is to be hoped that a fair average price will be obtained for the score or so of lots into which the collection is catalogued. At another sale room—Messrs. Hodgson's in Chancery Lane—a pamphlet entitled "The Last Will of Thomas Guy, Bookseller" (1725), is to be sold on June 17th. This, presumably, is the will by which Guy's Hospital was founded, unless it is a contemporary skit or lampoon based on the curious and well known incident of Guy's revocation of his previous will, by which he had left his valuable estate to his cook. The same sale includes several other medical books and pamphlets. There are a number dealing with the early days both of inoculation and of vaccination for small-pox; these include an "Account of the Effects of Swinging as a Remedy in Consumption" (1787), "Richard Guy on curing Cancer without Cutting" (1764), Rowley's book on "Diseases of the Breasts of Women" (1772), Willis's "Preservative from the Infection of the Plague" (1721), Pitcarne's "*Treatise on the Stone*" (1739), *Fothergill* on "Sore Throat" (1748), Pugh's "Midwifery" (1754), and many others.

SIR BERKELEY MOYNIHAN, Bt., President of the Royal College of Surgeons of England, has accepted an invitation to take charge of the work of the Surgical Professorial Unit at St. Bartholomew's Hospital and Medical College from June 15th to June 30th. It will be remembered that on previous occasions Professor Harvey Cushing of Harvard University, U.S.A., and Professor Hugh Cabot of Ann Arbor University, U.S.A., accepted similar invitations at St. Bartholomew's Hospital.

BIRTHS AND DEATHS REGISTRATION ACT, 1926:

WITH SPECIAL REFERENCE TO DEATH CERTIFICATES.

THE Births and Deaths Registration Act, 1926, will come into force on July 1st next. It will be remembered that this Act, for which Dr. F. E. Fremantle, M.P., was largely responsible, deals with the registration of stillbirths, the certification of deaths, and the disposal of bodies. The discussions in Parliament, from the introduction of the bill until it became an Act in December last, have been reported in the JOURNAL in considerable detail, and comments have from time to time been made; but it is essential that the alterations in the law which, in their final form, will now become operative should be fully understood by every registered medical practitioner, not only that he may himself conform to them, but that he may be able to advise his patients how they should act in certain circumstances in which they will naturally look to him for help.

Disposal of Bodies.

With regard to the disposal of the body of a deceased person the Act now prohibits such disposal except on a registrar's certificate or coroner's order; but in order to meet the case where a burial (but not a cremation) is actually in progress and the certificate or order is for some reason (for example, forgetfulness or carelessness) not produced, there is a proviso that the person effecting the burial may nevertheless proceed if satisfied by a written declaration in prescribed form by the person procuring the burial that such certificate or order has in fact been issued. It is further provided that no body may be removed out of England without notice being given to the coroner within whose jurisdiction the body is lying, and the Ministry of Health is empowered to prescribe the period and form of such notice and the procedure upon removal. The Ministry of Health may also make regulations "imposing any conditions and restrictions with respect to means of disposal otherwise than by burial or cremation, as to the period of time a body may be retained after death in an inhabited house or other premises, or with respect to embalming or preservation." It will be advisable for practitioners to familiarize themselves with such regulations when they are issued.

Stillbirths.

With regard to stillbirths, these will now have to be registered in much the same way as though the child had been born alive. The person whose duty it is to give information to the registrar is the person who would have had to give information if the birth had been a live one, and such person is required either to "deliver to the registrar a written certificate that the child was not born alive signed by a registered medical practitioner or certified midwife who was in attendance at the birth or who has examined the body of such child" or to "make a declaration to the effect that no registered medical practitioner or certified midwife was present at the birth or has examined the body, or that his or her certificate cannot be obtained, and that the child was not born alive." The burial of a stillborn child by "a person who has control over or who ordinarily buries bodies in any burial ground" is prohibited "in such burial ground" without a registrar's certificate, or, if there has been an inquest, a coroner's order. A stillborn child is defined as one "which has issued forth from its mother after the twenty-eighth week of pregnancy, and which did not at any time after being completely expelled from its mother breathe or show any other signs of life." It seems clear, therefore, that, though the law with regard to stillbirths has been improved and strengthened, there are still undesirable loopholes of which advantage might possibly be taken. A child whose head or whose head and trunk had been born and who was breathing normally might be caused to cease to breathe before the legs had issued from the vagina, and this would, in law, be a stillbirth. If there has been no doctor or midwife in attendance and the birth registered there need be nothing more than a declaration by informant that the child was stillborn. This would enable the body to be buried "in a burial ground"; and there are no provisions with respect to the private disposal of such a body elsewhere. Attention was drawn to the question of the legal definition of live birth by a valuable paper by Dr. Godfrey Carter, read at the Section of Public Health at the Annual Meeting of the British Medical Association at Nottingham last year, and reported in the JOURNAL of August 28th, 1926 (p. 385). The Section passed a resolution on the matter which is still under consideration by the Medico-Political Committee of the Association; that committee may find that the position has been made even more difficult by the definition of stillbirth in the Act of 1926. It should be noted that no official form for a medical certificate of stillbirth is being issued, but every such certificate should include the statement that the practitioner was in attendance at the birth or had examined the body, and should give the names and surnames of the parents (or mother) and the date of the birth.

Death Certificates.

With regard to death certification, the Act makes several important changes in the law, and these, together with the action now taken by the Registrar-General in accordance therewith, will entail certain alterations in methods or practice in this connexion to which medical practitioners have been long accustomed. It is essential that these changes should be appreciated, and that, as from July 1st next, the new requirements should be strictly observed. Since the year 1874, in case of the death of any person who has been attended during his last illness by a registered medical practitioner, such practitioner has been required to give a certificate stating to the best of his knowledge and belief the cause of death. Such certificate must, from the time the new Act comes into force, be given in the prescribed form and in no other. The prescribed form is that contained in the books of forms supplied to practitioners by the Registrar-General through registrars of births and deaths; and no medical certificate of cause of death may be given on this form unless the certifying practitioner has been in attendance upon the deceased during his or her last illness. Changes are made (1) as to the manner in which the certificate, when completed, is to be dealt with; and (2) as to the manner in which the particulars of the cause of death are to be stated.

Hitherto the certifying medical practitioner has been accustomed to hand the certificate to a person liable to act as informant of the death for registration purposes. Henceforth it will be his duty to give to such person only a written notice that he has signed the certificate, and to send the certificate itself direct to the registrar. To facilitate the performance of these duties, (1) the form contains a tear-off portion, bearing the same serial number as that borne by the certificate itself, which must be used by the practitioner in giving the required notice to the relative or other proper person; (2) the registrar will supply the practitioner with official franked envelopes in which the certificates are to be posted to the registrar. These envelopes are not to be used for any other purpose, and no alteration may, in any circumstances, be made in the printing on them. Thus the new form of certificate is in triplicate: (1) a counterfoil for the use of the practitioner, who should in all cases fill it up; (2) the actual certificate of cause of death; (3) the notice to the informant that the certificate has been signed.

The New Certificate: Causes of Death.

The most important alterations in the form of actual certificate are as to the manner in which the particulars of the cause of death are now to be stated. In a very large number of cases only one cause of death needs to be given, but where there are two or more causes these have been placed, in the form of certificate hitherto in general use, under the headings "primary" and "secondary." This has been found to give rise to confusion and to vitiate the mortality statistics, which must necessarily be based upon certificates of death. In the new certificate form this distinction and nomenclature is abandoned, but it is still divided into two sections. In the former section the practitioner is required to enter the immediate cause of death and any morbid conditions which led up to it, these

being stated in order backwards from immediate to remoter causes. In the latter section should be entered "conditions which are not in the chain of pathological events which have led to the immediate cause of death, but which have none the less contributed seriously to the fatal issue." This is a much more clear and logical arrangement than the old; and an appeal is made to the medical profession for co-operation in securing statements in this way which will be reliable, which will be as accurate as possible, and which will thus materially assist the compilation of true mortality statistics, the importance of which for many public purposes is fully recognized. By being careful and accurate in stating the required particulars medical practitioners will, in fact, be contributing to valuable research work in which both they and the public are vitally interested. Members of the profession in general practice have often, through their representatives, expressed their wish to undertake appropriate research work, and it is to be hoped and expected that full advantage will be taken of this new opportunity. The seven examples of the method of using the form given in each book of forms should facilitate a clear understanding of what is required, and the list of indefinite or undesirable terms which are to be avoided will contribute to uniformity of nomenclature and accuracy of statement. Particular attention is directed to the requests that in cases of cancer the seat of primary occurrence should be stated whenever this is known, that whenever pregnancy or parturition has been a contributory cause of death this should be mentioned, that when death is attributable in any degree to anaesthetics the nature of the anaesthetic should be recorded, and that in deaths from violence, whether accidental, suicidal, or homicidal, it is desirable to state not merely the nature of the injury but also the form of violence and the means of violence (for example, "run over by a motor-car").

As part of the certificate the practitioner is required to state whether he last saw the patient alive, whether or no he viewed the body after death, and whether or no a necropsy was held. On the back of the form are two statements, one or other of which should initialled under appropriate circumstances. One of these statements is to the effect that the certifying practitioner may be in a position later to give more precise additional information as to the cause of death, as a result, for instance, of some laboratory or *post-mortem* examination. In the event of this statement being initialled, the Registrar-General will in due course apply to the practitioner for any further information which he may then be able and willing to give. The other statement is that the certifying practitioner has reported the case to the coroner. It will be observed that the reporting of a case to the coroner does not justify the omission to give a certificate of the cause of death. As the law now stands, and as it will continue to stand, the duty placed upon a registered medical practitioner who was in attendance upon a deceased person in his or her last illness to give a medical certificate of the cause of death to the best of his knowledge and belief, is unaffected by the fact that he or some one else has reported the case to the coroner or that an inquest is to be held. The practice of refraining from giving a death certificate in these circumstances has, however, been not uncommon, and has been based upon the fear that, if a medical certificate were given, the death might forthwith be registered, and the body disposed of before an inquest could take place. The statement on the back of the new form of certificate should obviate any such risk. Where this statement is initialled by the practitioner it will be the duty of the registrar to suspend the registration of the death until he learns from the coroner whether an inquest is or is not to be held.

Viewing the Body.

In the course of the passage of the bill through the House of Commons a strong attempt was made to enforce upon a certifying practitioner the duty of viewing the body after death in every case, or at the very least to secure such inspection in a far larger proportion of deaths than at present. As this was a private member's bill, however, it could not contain any proposal for imposing or increasing any charge upon public funds; and it was further pointed out that the difficulty in this matter was not one merely of expense, but of its impracticability, especially in rural areas, owing to the call upon the doctors' time, and that in a considerable number of cases this *post-mortem* inspection was not really necessary. Sir Kingsley Wood, Parliamentary Secretary to the Ministry of Health, in a speech which was reported in the JOURNAL of December 4th, 1926 (p. 1084), said that it was proposed to extend the system of reference by registrars to coroners, which at present operates in cases where there is no medical certificate or where the death is due to an accident, an industrial disease, or other cause appropriate for consideration, to certain other cases arising out of facts disclosed by the medical certificate of the cause of death. "The certificate would show whether the doctor had seen the deceased after death, and how long before death he last saw him alive; and it would thus be possible that any case not seen after death or a reasonably short period before death would come under review by the coroner before registration or burial. It was to be anticipated that this arrangement, besides bringing a large class of the more doubtful cases under special review, would greatly increase the proportion of cases seen by a doctor after death, and the improvement in that respect would be progressive." It is understood that registrars have been instructed that when they receive a death certificate in respect of a person who has not been seen by a doctor subsequent to death nor within fourteen days before death they are to refer the facts to a coroner. The Council of the British Medical Association, who were consulted by the Registrar-General in this matter, have raised no objection to the period of fourteen days referred to, but they drew attention to the certification rule under national health insurance which allows an insurance practitioner in certain circumstances to issue monthly certificates of incapacity to insured persons who are suffering from chronic illnesses. In this connexion it is desirable, since the extent to which the bodies of deceased persons are seen after death by a medical practitioner is a matter of some public interest, and since arrangements have been made for the publication of annual statistics with reference thereto, that the medical officer of an institution, in giving a death certificate in respect of an inmate whose body has not been seen after death by him, but has been seen by some other medical officer, should mention this fact. A slight alteration of the words on the prescribed form of certificate will enable this to be done, and such alteration is sanctioned by the Registrar-General.

ROYAL MEDICAL BENEVOLENT FUND.

At the last meeting of the Committee thirty-six cases were considered and £690 voted to thirty-four applicants. The following is a summary of some of the cases relieved.

L.R.C.P., aged 82, a widower with one daughter. He had to give up practice on account of age and deafness; his savings, with those of his daughter, were invested in purchasing the house they now live in. Three rooms are let for 25s. a week. He has the old age pension and his daughter receives £20 as an organist. Interest on mortgage £24 per annum; ground rent £7; rates £20. Voted £40 in twelve monthly instalments.

Daughter, aged 79, of M.R.C.S. who died in 1885. She suffers from rheumatism and double cataract. She has two pensions, one of which is the old age pension; these amount to £66 per annum. £5 is received from investments, and £65 from letting. Applicant's sister, who was an annuitant of the Fund, died last month. Voted £20 in twelve monthly instalments.

Widow, aged 65, of F.R.C.S. who died in 1912. At present is ill and asks for expenses to go to a convalescent home. Total income £60 per annum. Voted £5.

Widow, aged 70, of L.R.C.P. who died last month; he was an annuitant of the Fund. Applicant only has the old age pension. Voted £26 in twelve monthly instalments.

Son, aged 16, of M.B.Glas. who died in 1924. Mother is in a mental hospital. The boy is in charge of an uncle, who is not able to keep him entirely. He earns 10s. a week as an engineer's apprentice. Fund repeated the grant of £26 towards his maintenance.

Son, aged 3, of L.R.C.P. who died in 1926. This boy, with his two elder brothers and one sister, are entirely dependent on an uncle, who is unable to meet all the expenses of maintenance and education. Voted £25 towards maintenance.

Subscriptions may be sent to the Honorary Treasurer, Sir Charters Symonds, at 11, Chandos Street, Cavendish Square, London, W.1.

The Royal Medical Benevolent Fund Guild still receives many applications for clothing, especially for coats and skirts for ladies and girls holding secretarial posts, and suits for working boys. The Guild appeals for second-hand clothes and household articles. The gifts should be sent to the Secretary of the Guild, 58, Great Marlborough Street, W.1.

THE FAMILY DOCTOR AS SPECIALIST.

ABSTRACT OF THE ALEXANDER BLACK MEMORIAL LECTURE.*

BY

C. E. DOUGLAS, M.D., F.R.C.S.ED.,

AFTER a short tribute to the memory of Miss Ann Black, the foundress of the lectureship, and of her brother, the subject of the address, the lecturer went on to say that he desired to indicate some lines of activity in his own sphere, and not to trench upon the specialized work outside it, in which the family doctor might yet be of great service to the community. It was for the family doctor first to keep alive the great truth of the inherent unity of medicine in all its forms. Secondly, in his work there were positions occupied by him which by their very nature could not be occupied by anyone else, and in which much useful work might be done. Thirdly, the lecturer wished to consider the ethics of the family physician: what in him was the result of the impact on his mind of the vast body of "disharmony" with which from first to last he had to contend.

The Family Doctor in History.

To those with the historic sense the history of medicine conjured up a long vista into the past. Through Babylon and Egypt we came to Greece, the motherland of Medicine; she was truly our spiritual home; it was from her that we drew our earliest nourishment, in common with Art, with Music, with Literature, and Philosophy. We thought of Hippocrates, the Father of Medicine, and still looked to him as our teacher in the higher ethics of the profession. The high ideals of those times were still around us; the Sarastro chain of the high mission to humanity, the Democedes chain of loyalty to co-workers, and the Hippocratic chain of devotion to our suffering clients and to "the Art." The beautiful shadow of Apollo hovered over us still, Harvey himself was full of his debt to Aristotle and the ancients, and it should be noted that all these makers of medicine, from Democedes to Harvey, were men in the general practice of medicine, and the line went on through Jenner, another epoch maker, down to our own Mackenzie. The family doctor was the lineal descendant of these makers of medicine; he stood in the forefront of the battle against disease, and it was his *métier* to represent the inherent unity of his art in the world of medicine, and to act as its general interpreter to his patient.

The Family Doctor as Specialist.

A century ago medicine in this country was in a rather inchoate condition. There was no true corpus of medicine, but the family doctor had become of some importance socially. Instances of the light in which he was regarded were quoted from George Eliot and Oliver Wendell Holmes, and the life and work of Dr. Francis Adam of Banchory—who combined general practice and a profound knowledge of the Greek classics and of nature—was described. About that time there arose Charles Hastings, an Englishman, who went out from Edinburgh University carrying with him its fine atmosphere of culture, of plain living and high thinking, and *camaraderie* between lawyers, doctors, ministers, and all cultivated beings. He conceived the idea of a society of medical men that should make for the "honour and respectability of the profession," and the result of his labours we know to-day as the British Medical Association—the outward and visible sign that doctors were a band of men united in aim and living to some extent in unity with each other. A second factor was the passage of the Medical Act in 1858, in which by the creation of the General Medical Council a certain high standard has been set and maintained. The medical man of half a century ago was probably at as high a point in the society of his day as he had ever been. From this time onward, however, there arose three factors which had tended towards a decline in the usefulness, and therefore of the status, of the family doctor. The first was the rise of the antiseptic system of surgery; this affected him in two ways: by widening the possibilities of surgery so that he could not hope to keep pace with it; and by attracting into surgical practice many of the keener men, who might otherwise now be in general practice. The second factor was the tendency towards collectivism in dealing with matters of public importance, such as the prevention of disease. The other and most deteriorating factor was the National Health Insurance Act. This was said by the lecturer in quite a definite and restricted sense. From the point of view of the community the system was as nearly an unmixed blessing as might be; its influence upon that part of the profession which carried out its provisions was not so good, and was one that might tend towards deterioration. Public moneys were involved; and on the plea that these must be safeguarded the medical profession was saddled with the responsibility of carrying this out by a system of regulation entirely foreign to it, and tending to check any advance in efficiency in its own proper sphere. A cumbersome form of certificate, with regulations to enforce it, was the bugbear on the one hand, and on the other, a "checking bureau," which was on the alert to insist upon economy in prescribing; these two, with the resulting complaints, exactions, fines, and humiliating appearances before Panel Committees, could not fail to have a demoralizing effect upon the panel doctor, who was the family doctor of the working classes, and to degrade him in the eyes of the general public. Materially he is better off, but from any but the financial aspect he is in a miserable plight, tied up by red tape in all directions, and wasting in certification, prescription checking, and recording every trifling scratch and passing ailment, time which should be devoted to the practice of medicine. These three factors had brought it about that the men now in general practice had not the standing of their predecessors of fifty years ago, and the process of deterioration was likely to become more marked as the years went on.

There was, however, a way back to a considerable and respectable place in the medical world: the family doctor was better placed for the observation of certain things than any specialist. To this three objections might be brought: first, the duty of a family doctor was to make use of the results of research, not to carry it out in its scientific aspect; secondly, a family doctor who became particularly interested in any branch of medicine was apt to make it his whole work, and to become a specialist; and lastly, and most important, the limited experience of any one man. In spite of these objections there were directions, untouched by others, in which he might do good work.

First, the study of the beginnings of disease. This was the burden of Sir James Mackenzie's mission; for thirty years he worked to show that in the study of the beginnings of disease there was a virgin field, and that the family doctor was the only one who could work it. In the scientific world Mackenzie was probably remembered as the inventor of the polygraph; but it could not be too strongly insisted upon that his claim to lasting fame rested upon the discovery of an idea, and not of an instrument. This idea was now being carried out at the James Mackenzie Institute at St. Andrews, where the different signs and symptoms of disease were being considered, and the observations tabulated, so that in time a body of evidence might be collated which would throw light upon the beginning of disease; and this work was being done by men in general practice.

Secondly, the practice of what might be called "urgent surgery." The man in country practice, far from the great centres, could save much suffering to the patient, and loss of time in removing an acutely ill case to a distant hospital, if he were able and willing to do such operations as those for strangulated hernia, suture of a ruptured gastric ulcer, appendicectomy, and tracheotomy. The country doctor, then, should specialize in this urgent

* Delivered before the Royal College of Surgeons of Edinburgh, June 15th, 1927.

surgery, not in the sense of special research, but in that of keeping himself fit to deal with urgent cases as they arose.

Thirdly, collective investigation, by men in general practice, of diseases which did not present themselves to the specialist.

Fourthly, a special line—prevention. The family doctor should have opportunity of observing the family in health, on the analogy, now so usual, of taking children to the dentist at regular intervals.

Fifthly, he might exercise the "scientific imagination." This was a contradiction in terms, synonymous with the deductive method. It had already been suggested that the inductive method, involving as it did prolonged research, was practically out of reach for the man in general practice, who seldom saw enough of any one kind of case to form a sound induction. But there was the other method, that of deduction, of synthesis; and it was this habit of speculative thought that had been used by most of the men who in general practice had contributed to the advance of medicine—Harvey, Jenner, Lister, James Mackenzie, men all of the deductive cast of mind. Some examples from recent medicine were the use of salicin in rheumatism, by the late Dr. T. J. Maclaren of Dundee; of thyroid in skin diseases, by Sir Byrom Bramwell; and the speaker's theory of the increased susceptibility of the pregnant woman to disease. Akin to this deductive faculty was that valuable asset to any man in general practice—a sound clinical instinct.

Work such as this was well worth the attention of the members of our body who wished to maintain the standards of their forebears. The times had changed, and we had changed with the times. It was almost a truism to say that new laws tended to produce results never dreamed of by their makers. This applied to the National Health Insurance Acts. No one thought of them as tending to change fundamentally the main activities of the medical profession. And yet they were, in the ways already indicated. The doctor's time was so much taken up with records of trivial events, with writing certificates, writing and re-writing prescription forms (largely, if not entirely, for the convenience of the approved society officials, and for prevention of fraud by chemists), that a very substantial part of his time, which should be given to nothing but the practice of medicine, was wasted, and he was becoming merely an official concerned in administration of funds—work which could be done by lay people, and done quite as well. It was work foreign to him; he was not, as a rule, a good business man, and he often did it carelessly, with the result of "breach of regulations," censure, perhaps fine, and in any case a lowering of his prestige as a member of a profession whose proper work was on a higher plane, and which he probably did as well as anyone. Might it be found possible some day to hark back to the fundamental truth that the doctor's work was the treatment of disease and nothing else?

The Ethics of Medicine.

The family doctor had yet another use to the community; he stood in a very special position in regard to his patients, a position quite separate from the professional one. His work brought him into very close relationship in many a home. In many aspects of life all sorts of things were brought to the doctor for advice, giving him probably as full an idea of the lives of the people, their wants and difficulties, as most. Again, doctors lived in a strange environment of disease and pain and weakness, among "disharmonies" of every physical and psychic kind. Their work was largely with the unfits and misfits of life, seeking to refit them more or less for the work they had to perform. The great mass of healthy folk, who never needed their aid, lay outside their purview.

Thus doctors lived in an artificial world of disharmonies. What was the effect upon their mind? On many it had none. Most men did not dwell on the sad, tragic, or revolting aspects of medical life; but many thought it over and tried to evolve some explanation of this perennial struggle of mankind against its environment of disease and suffering. As usual it was well to go back to Greece to find the first questionings and the noble responses. Just as there were two classes of thinkers always with us—Platonists and Aristotelians, Idealists and Realists—so in this quest we found those who hold that happiness was the prime object of man—the Epicureans; and what might be called the nobler sort, who held that to look for happiness merely was to pursue a chimera which would never be found, or, if found, would only disappear—the Stoics. One or other of these must be chosen, and in these days the Epicurean would gain a clear majority vote. The atmosphere to-day was one of conscious seeking of pleasure, anywhere and everywhere. Was it worth while suggesting that this was a passing phase, recurrent at certain periods of our history? For the spirit of man was built for nobler things. There was that in the Stoic philosophy which found its counterpart among the finer races of mankind at all times and places, the instinct, namely, that the pursuit of self alone brought no real and lasting satisfaction; that something else was wanted—the other than self. There was in man the sure knowledge that suffering was not all to the bad, that to endure was to become strong, that the plaint of Faust, "entbehren sollst Du, sollst entbehren," had some justification if the race was to maintain its high traditions. The great ones of the earth were not reared in the lovely isles of the sea, or the tropical belt, but in the rugged hill countries where Nature was harsh, and brought up her sons inured to cold and hunger and fatigue. Look again at the sick beds one knows, of patients often racked with pain. How patient, how thoughtful of others, how resigned to suffering were these; if the spirit of man were not in them being "made perfect through suffering," then there was no meaning in it. There was in man something more than the quest of happiness. That quest found its fruition easily, and its end was not peace, but mere satiety. The other, the not-self, was it not that for which the medical art existed? Were not its votaries of all grades and branches guided by the same instinct of devotion, of unselfishness, of service? But this was not, and never had been, confined to doctors and their craft. That same instinct of self-control, of inhibition of the lower impulses, showed itself alike in the stoical North American Indian, the Samurai of Japan—Bushido—in the English public school man, in the Presbyterian Scottish forebears, and in the Greek philosophers.

Conclusion and Summary.

The lecturer, summing up his argument, said that the family doctor might be looked upon as the inheritor and curator of the truth that medicine had a corpus of its own, which must not be allowed to become a mere congeries of specialties; that in this territory he had a sphere of activity all his own, in which he might find freedom from the paralysing influence of officialdom. In this scheme of things there was but little room for self, but plenty of scope for service. Width of culture, keenness in work, depth of sympathy with the needs of poor humanity, such were his aims. They were those of Alexander Black, in memory of whom these words were spoken—in memory of a scholar of refinement, who for his living pursued the art and craft of medicine.

Thus one arrived at a vision of the family doctor. He was the heir of all ages, of Hippocrates and before him; with them he inhabited the main road on which the advance of medicine was journeying. It was his to travel on lines where he was nearer to the heart of humanity than any but his ancient ally the minister of religion; like him he sees things and feels experiences known only to them and to the people in whose homes he knows of deeds of quiet heroism, of suffering borne in silence, of self-sacrifice, of many things not published to the world. He saluted with reverence the spirit of humanity, for he knew, because he had seen, that that spirit was stronger than the pains and troubles of this mortal life; that there was nothing, not pain, nor hunger, nor weariness, nor the haunting dread of death and the invisible, that the spirit of man would not surmount and find itself the conqueror, not once and now, but always, and to the end.

LONDON AND COUNTIES MEDICAL PROTECTION SOCIETY.

ANNUAL GENERAL MEETING.

THE annual general meeting of the London and Counties Medical Protection Society was held at Victory House, Leicester Square, London, on June 8th, with Sir JOHN ROSE BRADFORD, president of the society, in the chair.

In submitting the annual report Sir John Rose Bradford said that the work of the society had increased, not only in respect to the actual number of cases coming forward for advice and assistance, but in respect also to the gravity of many of them, especially during the last year. Some of the cases involved very serious possible consequences to the members concerned, and he did not think he was exaggerating when he said that these cases, however anxious they might have been, had been dealt with by the society very successfully and in a manner entirely satisfactory to the members. In some now celebrated cases he believed that the society would be looked upon in time to come as having played a very noteworthy part, not only in the interests of the individual practitioner who happened to be implicated, but in those of the profession as a whole. He doubted whether the profession at present realized the debt which it owed to the society in that respect, for what the society had done could only have been done by a body which had on the one hand available the skill of competent legal advisers, and on the other the necessary financial stability, thanks to the care of treasurers past and present in husbanding the financial resources. The membership of the society had considerably increased, and now stood at about 10,000. This was a considerable figure, but even when the membership of the sister society was added it was evident that a very large proportion of members of the profession had neglected to avail themselves of the protection afforded at so small a cost. He also emphasized the necessity that a member, involved in anything which was likely to lead to litigation, should lay the case before the society at the earliest possible moment, instead of taking action on his own account.

The report was unanimously adopted, and with many expressions of appreciation for their past services the retiring officers and members of council were all re-elected, the officers being Sir John Rose Bradford (President), seventeen Vice-Presidents, Dr. C. M. Fegen (Treasurer), Dr. Hugh Woods (General Secretary), Mr. A. G. R. Foulerton (Financial Secretary), and the solicitors and auditors.

An extraordinary general meeting followed for the purpose of making some alterations in the articles, the principal of which was the insertion of a new article: "Additional benefits or special indemnity may be offered to members on such terms and in return for such extra payment or subscription as the council may from time to time prescribe." Sir JOHN ROSE BRADFORD explained that this alteration was necessary owing to certain additional benefits which the society, together with the Medical Defence Union, were proposing to give to their members. It had reference more especially to the principal's responsibility for the acts of an assistant who was not a member of a defence society. By paying an increased subscription of 10s. for each such assistant the principal was enabled to secure this protection. It was not quite clear under the existing articles of association whether the council had power to do this, and, therefore, it was proposed that this change should be made to put the permissibility of these additional benefits beyond question. The alteration was agreed to.

The annual report of the council stated that 1,057 new members had been elected during the year, including 355 who, joining the society within one year of registering, were exempt from the entrance fee. The number of applications for advice and assistance from members was 961, as compared with 801 for 1925 and 785 for 1924. In a large majority of the cases satisfactory results were obtained without litigation, and the results of most of the cases in which litigation occurred were also satisfactory. The council had continued to make provision, by special insurance, for an unlimited amount, to defray damages awarded against members, together with the costs allowed to the other side, in actions which the society undertook for members which were not successful. No claim had yet been made upon the society's insurers, but it was considered necessary to be safeguarded against all possible contingencies. The financial statement showed a reserve fund standing at £9,549, an insurance fund standing at £29,720, and a general fund at £1,333.

A very interesting solicitors' report and an abstract of cases dealt with by the society during the year were appended. The solicitors (Messrs. Le Brasseur and Oakley) stated that the past year was marked by the first defence in respect of a capital criminal charge which the society, since its commencement, had been called on to undertake. The gravity of this case, when first before the society, was immediately appreciated, and prompt steps were taken for the protection of one of the two doctors concerned. The other at that stage, not realizing the gravity of his position, had not then applied to the society. On the face of the depositions the case appeared to present difficulties, but after very careful investigation and consideration the society was satisfied as to the innocence of both its members. The solicitors were given an open hand to seek such expert advice as they required; through this, and the individual consideration by members of the council, the acquittal of both members was secured.

England and Wales.

LONDON WATER IN 1926.

SIR ALEXANDER HOUSTON has issued his twenty-first annual report on London water; it deals with the twelve months ended December 31st, 1926. He begins with an account of Kent and its wells, which rivals in charm the description of the New River contained in his twentieth report. Kent's contribution to the water supply of London amounts to one-tenth of the whole. It is drawn from twenty-four deep wells, which yield a daily average of 27 million gallons, enough for a town of the size of Manchester. The water is clear, of exceptional purity, and cool in the hottest weather. During 1926 the average bacterial counts from the wells were 9 per c.cm. on gelatin and 0.05 on agar, with *B. coli* absent from 100 c.cm. in 94 per cent. of samples. The chemical analyses were not less commendable. The average figure for ammoniacal nitrogen was 0.0002 parts per 100,000, for albuminoid nitrogen 0.0023, and for oxidized nitrogen 0.6. Hardness, on the other hand, as might be expected, was high, but was mainly temporary. The water of the Deptford Garden Well had come under notice last year as harbouring a pathogenic leptospira. No obvious explanation for this unprecedented occurrence presented itself. The well, as a precaution, was chlorinated for a time, but, as the untreated water remained free of virulent leptospirae, chlorination has been discontinued. This section of the report is illustrated by a photograph of the well. The report includes, in addition, many other photographs of well-houses, river reaches, and features of interest, which amply justify, if justification were necessary, Sir Alexander's cordial feeling for "Kent, the garden of England." The chlorination of Thames water was begun in 1916, and about two million people have, with some intermissions, been supplied with 76 million gallons of chlorinated water daily; no complaint of a taste has been made. During 1926 the bacterial record for Staines and Hampton together showed *B. coli* absent from 100 c.cm. of chlorinated water in 53 per cent. of samples. Chlorination, which was begun as a war-time emergency measure to save the coal which would otherwise have been consumed in the continuous pumping of Thames water through the Staines reservoirs, remained in operation afterwards on its merits. Some 25,000 million gallons were chlorinated in 1926, at an average dose of 0.35 parts of chlorine per million and a cost for chemicals of one shilling per million gallons. The net saving on coal was £14,872. The bacteriological state of prefiltration waters was carefully noted, as in previous years, and the improvement in quality of raw waters after storage was consistently observed.

The Barn Elms experiments continue. Work has been carried on with a view to determining, in the case of stored water, the results of rapid filtration without coagulants at a rate of over 134 gallons per square foot per hour, followed by slow sand filtration through filter-bed No. 18 at three times the normal speed. The results were judged by the quality of the final filtrate, the output between

cleanings of filter-bed No. 18, and any progressive reduction in this figure. The first of these criteria has reference to health; the second and third are economic. It was found that in the final filtrate *B. coli* was absent from 100 c.cm. of water in 81 per cent. of the samples tested; the standard was as high as by ordinary slow sand filtration at one-third the speed. The average output of filter-bed No. 18 per acre cleaned was 207 million gallons, more than twice the amount by ordinary slow sand filtration. The quantity fluctuated to some extent during the period of observation, but there was no progressive tendency to choking. These are distinctive findings. The Walton works, opened by Mr. Neville Chamberlain in July, 1926, are apparently being run on lines suggested by the Barn Elms experiments.

An investigation was made of 1,000 lactose-negative colonies showing colourless on rebipelagar in course of routine examinations of water, with a view to determining their possible kinship with pathogenic strains. Of the 1,000 colonies picked off, 135 turned out to be lactose fermenters and none of the remaining 865 gave the reactions of the typhoid, Salmonella, or dysentery groups.

Among topics of general interest commented upon in the report, which is the first of the series to be based on the calendar year, are the iodization of water supplies in order to control goitre, the Poplar outbreak of water-borne gastro-enteritis (JOURNAL, May 14th, p. 889), and super-chlorination followed by dechlorination as applied at Toronto to Lake Ontario water.

RADIOLOGICAL DEPARTMENT AT NEWTON ABBOT HOSPITAL.

The Prince of Wales visited Newton Abbot on June 7th to open two new wings which have been added to the hospital, at a cost of £16,000, for the more effective treatment of cancer. Dr. Edgar Haydon, senior medical officer, presented an address, in which he mentioned that this hospital was the second in England to be endowed with a stock of radium for the treatment of malignant disease. In consequence of this the number of patients received had been increasing each year, and the present enlargement had become urgently necessary. Mr. Sampson Handley attended a banquet at Newton Abbot in the evening in commemoration of the occasion, and commented on the great need for the provision of such treatment for cancer. Dr. Haydon stated that towards the cost of the extension £14,000 had already been raised, and it was hoped that the remainder of the sum might be obtained during the next six months.

DEWSBURY SANATORIUM.

The new Dewsbury Sanatorium, at Whitley Grange, which was opened on May 24th, is built in the pavilion style and provides accommodation for thirty beds, wings for the two sexes being separated by a central administration block. Five double-bed and five single-bed wards are provided for each sex. An open verandah, facing south-east, runs the whole length of the wards, and is covered by a glass roof. Asphalt paths have been constructed round the outside of the wards, and a roadway gives access to the land behind the sanatorium; the nurses' home has been extended. The cost of the new buildings was £7,610. The old wooden wards, previously used for treatment, will now serve as recreation rooms.

Scotland.

CARE OF THE BLIND IN SCOTLAND.

THE annual conference of the Scottish National Federation of Institutions for the Blind opened at Inverness on June 9th. Delegates were present from all parts of Scotland, representing institutions where the education and training of the blind are conducted. Dr. George Mackay, Edinburgh, in a paper on the welfare of the blind from an ophthalmic surgeon's point of view, spoke of the importance of securing the normal development of an organ which must be ready to function from the moment of birth. The early acquisition of clear fixation and of directional experience was required as a stimulus for visual development, and to prevent uncontrollable nystagmus throughout life. Congenital malformations were, he said, responsible for a certain proportion of blind children, but as similar defects occurred in the lower animals, these could not be assigned to blameworthy parental actions. The danger to the eyes at birth from injury or purulent infection was mentioned; though ophthalmia neonatorum was decreasing, constant vigilance must still be maintained. Many eyes were hopelessly scarred in childhood by recurrent attacks of phlyctenular keratitis in weakly children, who suffered also from decayed teeth, septic tonsils, adenoids, and a general want of resistance to the tubercle bacillus. Proper feeding, sufficient air, and sunlight were necessary to prevent the occurrence of such conditions. The proportion of admissions to blind asylums resulting from inherited syphilis was relatively large; the facilities which were now offered for treatment by public authorities could not fail, however, to lessen the incidence of this disease, and were undoubtedly diminishing the severity of its manifestations. Among the other causes which contributed to the ranks of the blind were glaucoma, optic atrophy, detachment of the retina, atrophy of the choroid with or without high myopia, degenerative changes affecting the retinal pigment cells, and haemorrhages into the eye or brain associated with high blood pressure. Blindness from accidents varied in frequency in different parts of the country according to the main industries followed. Leprosy and small-pox as causes of blindness had practically disappeared in this country, and trachoma or granular conjunctivitis was rare save among alien immigrants, notably Irishmen, Poles, Germans, and Russian Jews. Dr. A. Freeland Fergus, Glasgow, in commenting upon Dr. Mackay's paper, said that an arrangement ought to be made whereby every blind person in the country could have the benefit of the advice of a reliable ophthalmic surgeon. A discussion on the mentally defective and inefficient blind was opened by Mr. George Danby of the Royal Glasgow Asylum for the Blind, who said that the problem urgently called for attention; while it was agreed that marriage of the physically and mentally fit blind person was to be encouraged, the union of a person mentally defective as well as blind was to be deplored. He gave a general idea of the work and training that could be accomplished in a home provided for blind mental defectives. The report of the directors of the Royal Blind Asylum and School, Edinburgh, for the year to March 31st, stated that though the workshops of the institution had passed through a year of great trade depression the directors were able to give a satisfactory report on new agencies established by them in the south of Scotland, which had brought a considerable increase of new business to the institution, through the establishment of motor transport. The number of blind persons undergoing technical training had increased to seventy-nine. At the sixty-seventh annual meeting of the Mission to the Outdoor Blind for Glasgow, the Lord Provost, who presided, said that it took a very high place among the practical and benevolent work of the city. At the annual meeting of the Dundee Mission it was reported that the number of blind on the register was 365—116 males and 249 females—an increase of 11 on the previous year. Mr. S. G. Fraser, convener of the public health committee, moving the adoption of the report, said that for the last three years in Dundee there had been only one case of a child in whom ophthalmia neonatorum had caused loss of eyesight.

VITAL STATISTICS OF THE FIRST QUARTER.

The report of the Registrar-General for Scotland on the births, deaths, and marriages registered during the quarter ended March 31st, 1927, shows that the more outstanding features of the vital statistics during the period were a birth rate of 20.5 per 1,000, a marriage rate of 6.1, and a death rate of 16.1. The birth rate is 2.4 less than the average, the marriage rate 0.3 less than the average, but the death rate, though higher than in the previous quarter or in the first quarter of last year, is 0.8 below the mean of the first quarters of the preceding five years. The infantile mortality rate of the quarter was 110 per 1,000 births, which is 5 less than the mean for the first quarters of the previous five years. The deaths from malignant disease were 1,671, equal to a death rate of 138 per 100,000, being 17 more than in the previous quarter and 45 more than in the first quarter of last year. The death rates

from all forms of tuberculosis and from tuberculosis of the respiratory system were 109 and 77 per 100,000 respectively, both lower than in the first quarter of last year. Deaths from influenza numbered 1,274, and equalled a death rate of 106 per 100,000. This number is 1,062 more than in the previous quarter, and 945 more than in the first quarter of last year. It goes far to explain the slight increase in the general death rate for the quarter. For the principal towns the highest influenza death rates were in Kilmarnock, Dunfermline, and Perth, and the lowest in Clydebank, Ayr, and Glasgow. The rates in Edinburgh, Dundee, and Aberdeen occupied a middle position. No deaths from small-pox are recorded, but 3 died of enteric fever, 152 of diphtheria, 25 of encephalitis lethargica, and 30 of cerebro-spinal meningitis. Deaths from diseases and accidents of pregnancy and childbirth numbered 151, which is 33 less than in the first quarter of last year.

AMERICAN DOCTORS' VISIT TO EDINBURGH.

The Inter-State Post-Graduate Assembly of North America paid a visit to the Edinburgh Medical School on June 6th and 7th. The party numbered 120. At the Royal Infirmary a demonstration of radiological appliances and work was given in the x-ray department, clinics were held in various wards, and operations performed in the surgical theatres. A small party of the visitors also attended clinics in the Royal Hospital for Sick Children. In the afternoon a lecture was delivered by Professor Sir E. Sharpey-Schafer on the relationship of physiology to medicine and surgery. This was followed by a lecture on the history of medicine and surgery in Edinburgh, by Dr. J. D. Comrie. Later the visitors were present at the Cameron Prize Lecture, by Dr. H. H. Dale, entitled "The nature of the action of insulin," and a party was conducted round the Museum of the Royal College of Surgeons by Mr. D. M. Greig, the conservator. On the afternoon of June 7th the party left for Newcastle to embark for Bergen for a tour of the medical schools on the Continent.

India.

INDIAN SCIENCE CONGRESS, 1928.

THE fifteenth annual Indian Science Congress will be held in Calcutta from January 2nd to 7th, 1928. In view of the meeting in this city in the previous month of the seventh Congress of the Far Eastern Association of Tropical Medicine, to which we referred on May 21st (p. 944), some doubt has arisen as to the advisability of proceeding with the arrangements for the medical section of the Indian Science Congress, since a certain degree of overlapping would appear to be inevitable. In the circumstances an attempt is being made to find out from medical practitioners in India whether meetings of the medical section of the Indian Science Congress should be abandoned on this occasion, or whether enough support will be forthcoming to ensure successful meetings being held. It is fully recognized that the first duty of the medical profession in India is to the Congress of the Far Eastern Association, and that an obligation is laid on India to uphold her status in the sphere of tropical medicine which is not bounded by limitations of nationality. It is possible, however, that sufficient promises of support and offers of medical and scientific papers will be received to justify arrangements being made to hold meetings of the medical section of the Indian Science Congress.

FILARIASIS IN INDIA.

At the Indian Science Congress held at Lahore last January, Lieut.-Colonel Sir Frank Connor, I.M.S., professor of surgery at Calcutta Medical College, pleaded for a thorough investigation of the filariasis problem, with special reference to the condition in India. At present no organized attempt is apparently being made to deal with a disease which is causing great suffering to many of the inhabitants of India, China, parts of Southern Europe, the Pacific Islands, Australia, and the West Indies. Sir Frank Connor, whose address to the congress is published the May issue of the *Indian Medical Gazette*, draws attention to the serious gaps in our knowledge of this infection. Little information exists about the stages which follow the entry into the human host of the microfilariae from the mosquito, and about the way in which the adult worms destroy and obstruct the lymphatic vessels. Other investigations which are urgently necessary include the study of the nature of filarial fever, the details of the varying types of lymphatic obstruction, and the etiology of tropical hydroceles. Sir Frank Connor considers that a mosquito survey is essential, with special reference to the varying incidence of filariasis. He advocates the appointment of a special commission to correlate existing sporadic researches and to solve the problems of prevention and treatment.

MEDICAL AID FOR WOMEN IN INDIA.

Three annual reports for 1926 of organizations of which Lady Irwin is president have been issued in one volume. These organizations are the National Association for Supplying Medical aid by Women to the Women of India, which incorporates the Countess of Dufferin's Fund and the Women's Medical Service; the Victoria Memorial Scholarships Fund; and the Lady Chelmsford All-India League for Maternity and Child Welfare. The National Association, founded in 1885, devotes its funds chiefly to the medical training of Indian women; it also gives grants to hospitals for women in various parts of India. In its forty-second annual report it is stated that there are 256 women medical students at present, of whom 105 are attached to the Lady Hardinge Medical College at Delhi. At the hospital in connexion with this college Lady Reading opened, in March, 1926, a new unit of sixty beds, including accommodation for sick students and nurses, an x-ray department, and five single rooms for paying patients. The number of in-patients in 1926 was 3,867, as compared with 3,012 in the previous year, and the out-patient department dealt with 11,670 cases. The electro-therapeutic department was extended during the year under review by the addition of apparatus for high frequency and diathermy work. The Dufferin Fund has assisted in the erection of a new home for nurses at the Victoria Zenana Hospital at Delhi; this will enable further accommodation to be provided for paying patients. The Dufferin hospitals in Shikarpur, Hyderabad (Sind), Karachi, Calcutta, and elsewhere have increased their activities. The building of the new hospital at Nagpur is proceeding satisfactorily, and the opening of the new maternity blocks in connexion with the hospital at Cawnpore has resulted in a notable increase in the number of in-patients and maternity cases. A new operating theatre was opened at the Lady Elgin Zenana Hospital at Gaya, in July, 1926. The Lady Chelmsford League has given considerable assistance to the health schools at Delhi, Lahore, Madras, and Calcutta. The Delhi health school, now known as the Lady Reading Health School, has obtained new quarters, comprising several rooms for ante-natal work, consultations, the treatment of minor ailments, an observation ward, a classroom, and two bath-rooms. The building is situated in a congested area, and the health visitors under training at the school have ample facility for the study of home conditions. Two new subjects have been added to the curriculum—namely, vaccination and child psychology. The demand on the Lady Chelmsford League for trained health workers is far in excess of the present supply, and with a view to obtaining more students it is proposed to increase the number of scholarships for the preliminary midwifery course. The Lahore health school, previously controlled by the Lady Chelmsford League, is now being taken over by the Punjab Government. Additional schools for the training of health visitors are in existence at Poona and Nagpur; in both cases special emphasis is laid on practical work. The Lady Chelmsford League assists a large number of maternity and child welfare centres, including those at Simla, Dera Ismail Khan, Rajputana, Bangalore, and Madras. The travelling exhibition of the League visited numerous large towns during last year, and various pamphlets on health subjects were printed and distributed. A new cinematograph film illustrating child welfare work in Delhi has proved very popular.

Correspondence.

DRUGS FOR SLEEPLESSNESS.

SIR,—While feeling that Sir Maurice Craig's statement that sleeplessness is one of the commonest causes of mental illness is very debatable, and believing that insomnia is nearly always a symptom and seldom if ever a primary cause of serious mental disorder, I am chiefly concerned to deal with the views of Sir William Willcox, who implies that the barbitone hypnotics are to be classed as dangerous drugs. It is true that if sleeplessness be regarded as a symptom rather than a cause of mental illness the barbitone group can no longer be looked upon as sovereign prophylactics; but there remain definite indications for their use, which it would be a pity to hamper unnecessarily. Yet if the arguments of Sir William Willcox are accepted, their effect will be to limit the usefulness of these hypnotics seriously indeed. He bases his statements on clinical and on experimental grounds. Evidently as a toxicologist he becomes a victim of errors of sampling, and sees principally those patients who have abused the hypnotics prescribed for them. On the basis of considerable experience of medinal (now the most widely used of the barbitone hypnotics) in my own hands and in those of colleagues, I have no hesitation in saying that where a proper discretion is exercised in the choice of patient, serious toxic symptoms with the usual medicinal doses (5 to 10 grains), even when long continued, are rare; that they are attributable to other factors such as idiosyncrasy; and that they are rapidly recovered from. Medinal is not in the majority of cases a cumulative poison in ordinary doses to the human adult.

The experimental evidence quoted by Sir William Willcox is founded largely upon an article by the late Sir F. W. Mott and Drs. Woodhouse and Pickworth in the *British Journal of Experimental Pathology*. The experimental results, while admirable in themselves, will not for a moment stand the application which Sir William Willcox seeks to give them. The objections are as follow. (Cats and monkeys were used for the experiments.)

(1) Cats at least were unsuitable subjects. The most careful observation failed to detect any trace of sleep in them after doses, however large.

(2) The doses used were disproportionate to those given in man. The weight of the cats ranged from 600 to 2,000 grams. Five- or ten-grain doses were given daily. Taking the average human adult as weighing 70 kg., the equivalent dose in man would be from 600 to 1,200 grains—*enough to kill ten or twenty men*. And the equivalent of these doses was given in a single day. Some of the animals received in the course of treatment as much as 600 grains, which is the proportionate equivalent of 70,000 grains in man. No one denies that medinal in excessive doses is dangerous or even lethal.

(3) The animals were seldom allowed to recover from these enormous doses, but were usually killed at once; although it was noted that in animals allowed to recover even "after an advanced stage of drug treatment" the activity and intelligence returned to normal in ten to fourteen days. If the animals were then killed, little or no histological change could be detected in the central nervous system (and this in a cat treated for forty-eight days with doses of 2½ to 5 grains a day—the human equivalent of 87 to 175 grains a day, making in 7 weeks a total of 4,200 to 8,400 grains).

It is clear that such experiments have little clinical application, except to show that the members of the barbitone group are remarkably harmless to the central nervous system. The clinician must decide what latitude to allow a patient in the matter of hypnotics. In any case the drug should be regarded only as a symptomatic remedy, to be used while an attempt is made to discover the underlying causes. If there is any doubt in a given patient, the suggestion of a German physician, that a small dose of pulv. ipecac. be combined with each prescribed dose of medinal, would ensure that with a lethal dose of medinal would go also an emetic dose of ipecacuanha.—I am, etc.,

London, W.1, June 9th. R. D. GILLESPIE.

SIR,—The causes of sleeplessness are so varied, the physique and the mentality of the sufferers so different, that there is probably justification for the divergent opinions expressed by those who advocate and those who oppose the prolonged use of drugs. The type of case met with by Sir Maurice Craig is not that seen frequently by the average medical man.

I have met with only one patient who seemed none the worse for having taken some form of sleeping draught three or four nights a week for twenty years. She was a robustly built lady over 60, who never had to use her brain for any purpose. The cause of her sleeplessness, when I saw her, was intestinal flatulence; with treatment for this condition she reduced the drug-taking to twice a week. She could not break the habit; nor did she wish to do so. Perhaps she was right in her opinion that drugs were harmless when she had no worries and did not need to use her brain.

It would be disastrous were drugs regarded as safe for the average case of insomnia in brain workers. We require first-hand evidence from the normal person engaged in business or the practice of a profession. Attacks of sleeplessness may arise from such causes as overwork, worry, financial or emotional overstrain, or from an easily overlooked source of chronic toxaemia. The incessant noise of street traffic aggravates the condition, and the insomnia becomes habitual. What is the effect of drugs in those cases? If taken for a few nights the sleepless habit may be broken, the sufferer is refreshed and all is well. But is this the usual course of events? As a general rule the victim finds that the continuance of the drug is necessary; he is afraid to go to bed, dreading the hours of waiting for the sleep which will not come. The sleep obtained at length by drugs does not restore his fatigue; his mind is confused when prompt and accurate thought is demanded; his intellectual output is diminished and deteriorated; his relations with the external world and its values become altered; he becomes stupefied and profoundly depressed, hypersensitive, and hyperemotional. At this stage a long holiday is the sole remedy which will save the sufferer from a complete breakdown.

There is, however, a method by which sleeplessness may be effectually aided, and the habit broken if the patient is seen before drugs have been taken for long. I speak from limited experience of such patients, but also from personal experience of many occasions when work had to be done which demanded accuracy of thought during the day's routine. Weary of the stupefying effect of drugs, I remembered how Leduc had recommended for neurasthenia the passage of a galvanic current through the brain. The result of following his directions was so happy that ever since I have resorted to his method, both for myself and my patients, with a confidence never betrayed. The current must be given by those accustomed to deal with electricity, as it is important to avoid shock. The electrodes must be properly padded; the negative pole placed over the forehead; the current turned on and off very slowly. Leduc used to give 20 m.a.; I find 5 to 10 m.a. for fifteen to twenty minutes is sufficient; many people cannot stand more. The immediate effect is a lightening of the feeling of tension and stupefaction, a speeding up of thought processes. When night comes the brain is no longer too tired to sleep; sleep comes naturally and is refreshing. Often one treatment is all that is needed to break a bout of insomnia which threatens to become serious.—I am, etc.,

London, W.1, June 7th. AGNES SAVILL.

SIR,—There is no question that in certain forms of mental disease it is necessary to use drugs to procure sleep and relief from mental pain, and that in acute illness the occasional use of veronal and medinal is justified. But I must support Sir William Willcox when he condemns the use of barbituric compounds, unless the patient is under continual medical supervision.

Addiction to veronal undoubtedly exists. I know of two cases. One, a man of 40, perfectly normal until he was given medinal for eight weeks on end, during and after an attack of influenza. Since then he has tried to give it up, but is unable to do so. Without it, to use his own words, he is "incapable of mental concentration and so irritable that work becomes impossible." The other case is a woman of 35, apparently suffering from some form of auto-intoxication, of which insomnia is one of the manifestations. This is a case where physiotherapy should have been tried before hypnotics were resorted to—the kind of

case in which colon douching, diathermy, ultra-violet light, combined with tepid (Priesnitz) abdominal compresses and judicious massage, often give very good results. Unfortunately medinal only was prescribed, and the patient has taken it for five years, first in 5, then in 7, now in 10-grain doses. There is distinct evidence of mental deterioration, which her husband and family ascribe to the drug. He has begged her to give it up; but to stop it, he says, makes her unutterably miserable, and so depressed that he has given up all opposition. "Besides, what can I do when she is assured that it is harmless?"—I am, etc.,

JUSTINA WILSON, M.R.C.P.Edin.

London, W.1, June 6th.

SIR,—Many patients who have been referred to me by their doctors for nasal obstruction have suffered for long periods from sleeplessness, and I have elicited the fact that often for years they have been taking such a drug as medinal in order to obtain anything like a good night. I have never heard of any ill effects, but only of how beneficial and indispensable this drug has been.

It is not sufficiently recognized how commonly nasal obstruction is present in varying degree, and always aggravated on lying down, in those complaining of want of sleep; this is easily explained, since any interference with clear nasal breathing leads to brain congestion, which is inimical to repose. The sure cure of many a be-drugged sufferer is by way of a nasal operation, such as septal resection, or submucous turbinectomy skilfully performed.

I have notes of numerous patients who have taken dial and medinal in small and moderate doses over long periods, originally prescribed by physicians or doctors for erratic sleep, but in none has there ever been established any marked addiction or habit.—I am, etc.

London, W.1, June 7th WM. STUART-LOW, F.R.C.S.

SIR,—Sir William Willcox's warning about the dangers of the barbital group of sedatives is timely, for I find in the minds of many practitioners, besides myself, an uneasy feeling that the claims made as to their harmlessness are extravagant. The two following distressing cases have occurred recently within my own experience.

A man, aged about 50, had been taking one or other of these drugs at irregular intervals for a year or two, and probably more of late. He began with what appeared to be influenza, followed in a fortnight by pneumonia beginning in the right middle lobe. This cleared up, but for the greater part of a month he was practically unconscious, and had incontinence of both urine and faeces. His condition was at that time diagnosed by "competent authority" as encephalitis lethargica. He eventually recovered, and for the last month has shown no mental or moral deterioration, but only physical weakness, which is rapidly improving.

The second case was a man, aged about 70 years, who had had another preparation of the same group with fair frequency for four months. He has now been frightened into refusing it, because twice he has awakened in the night after it to find himself with the urinal in bed and the bedding all soaked.

Whether this is due to a half-unconsciousness (it had always acted well previously) or to poisoning of the centres I cannot say, but it has been distressing and alarming enough to cause distrust of these much vaunted preparations.—I am, etc.,

Leigh, Lancs, June 6th. JOSEPH JONES, M.D.

SIR,—The following case of addiction to drugs of the barbituric acid group is of interest.

An unmarried woman, aged 40 (British), who suffered from chronic infection of both antra, following operations on the nasal septum for the relief of asthma. She was otherwise physically strong, and was mentally normal. She was holding a position of responsibility and trust up to a few weeks of her death. The toxaemia from focal infection caused restlessness and insomnia, and for four years veronal (diethyl barbituric acid) was prescribed, in various countries, for the relief of insomnia. Twelve months before her death the following symptoms, in this order, appeared: (1) increasing restlessness and insomnia; (2) mental worry; (3) thick, indistinct, slurred speech; (4) urticarial eruption, with itching of the skin, especially of the legs; (5) headaches, and many other subjective symptoms—for example, that her "head was made of cotton-wool," and was "buzzing round inside"; (6) vertigo, with the feeling that stationary objects were moving round her; (7) nausea; (8) irritability and depression; (9) diplopia and indistinct vision, following larger doses; (10) ataxic gait, with dragging of the feet and difficulty in walking upstairs; at times reeling and staggering gait, so that the patient walked with the aid of two sticks; (11) conjunctivitis and inflammation of the eyelids, which have been frequently recorded in veronalism. The patient experienced a sense of well-being and temporary relief from restlessness after taking the drug, and found she could not give it up.

In April, 1925, she entered a nursing home in London and was prescribed 10 grains of medinal (sodium veronal) and 10 grains of aspirin at night, for the relief of headache, pain in the left eye, and insomnia. After the dose had been given the patient took a dose of somnifène (isopropyl propenylbarbiturate of diethylamine), which had been prescribed abroad, in place of veronal, several weeks previously (20 to 30 minims somnifène=5 grains of veronal).

Next morning she was found to be comatose, with the breathing stertorous and of Cheyne-Stokes type. Raised temperature, feeble pulse, and cyanosis occurred, the symptoms leading to the suspicion of a cerebral lesion. Before the onset of the acute symptoms the condition had been treated as post-influenzal functional neurosis.

Pus from both antra discharged down the nostrils shortly before death, which occurred about twenty-six hours after medinal had been given. The time at which the patient took somnifène is not known.

Post-mortem examination showed no organic lesion, but signs of pneumonia. The amount of veronal found on analysis in the various organs was: liver 2.5 grains, urine 7.8 grains, stomach and contents 0.8 grain, kidneys 1 grain—total 12.1 grains.

The estimated total dose taken was 50 to 100 grains of veronal. The verdict at the inquest was "Death from an overdose of veronal." This was clearly a case of chronic veronal poisoning following addiction, and terminating in a fatal overdose.—I am, etc.,

London, W.1, June 4th. H. YOUNG.

SIR,—Sir William Willcox takes exception to my criticizing his paper before it is published in full, but he does not say that the report which was published in the BRITISH MEDICAL JOURNAL of May 14th (p. 877) was in any way incorrect. He was reported as having made very definite statements regarding the barbitone group, and it was these statements which seemed to me to call for comment, as I felt that the great therapeutic value of these drugs was being jeopardized by the emphasis that Sir William Willcox laid upon what he regarded as the danger attached to their use.

The argument from the use of these drugs for self-destruction does not seem a very strong one, as, even if the numbers were far greater than those given by Sir William Willcox, there is nothing to show that these persons would not have destroyed themselves by some other means, as indeed they almost certainly would; while to say that, if a patient who has been taking medinal regularly on medical advice takes his life, this is the result of the medinal and not an act resulting from the condition for which the drug was given seems to me quite indefensible. Sir William Willcox states that, a patient having taken 10 grains of veronal every night on medical prescription, "*this caused*" (the italics are mine) "mental depression, leading her to take 10 ounces of pure lysol with fatal result." I presume that the patient in question was taking the veronal for sleeplessness, which is a common cause of depression, therefore why conclude that the veronal was the active factor in bringing about the depression? Again, he records another case of a patient who had been taking a daily dose of 5 grains of medinal over a long period. "*This culminated*" (again the italics are mine) "in her taking forty powders at once with fatal result." The reasoning here does not seem quite without bias. Why "culminated" when the lady *seems to have* been satisfied to take the 5 grains regularly for a long period? This case bears a strong resemblance to that reported by Dr. L. S. Woolf in his letter of the same issue, but Dr. Woolf seems less convinced of the part that the drug had played, and this would seem the more scientific attitude.

Sir William Willcox says that, as addiction is only discovered when the drug is withheld, I do not know whether my patients become addicts or not, but if he would refer to my letter he would see that I stated that I always found it quite easy to discontinue the drugs even after long periods. Except in very rare cases, and these in the types to which I referred, I have found no addiction, and this is borne out by the experience of many medical men whom I have questioned on this subject. If addiction is so likely to occur, it would be interesting to hear where these

addicts are, and what they are doing. Neither I nor, from inquiry, most of my colleagues and many general practitioners see them. Addicts to any drug are usually seen by a number of medical men, as the condition is a chronic one, and from experience I have found that the same patient is frequently on the list of many physicians.

Sir William Willcox emphasizes the deterioration he has observed in those taking the drugs in question. On the other hand, Dr. E. Goodall, writing on the luminal treatment of epilepsy in the Cardiff Mental Hospital, says: "Very gratifying results have been obtained by the administration of sodium luminal to epileptics. It arrests the attacks, especially the grand mal, and has no deleterious effect on the physical and mental conditions of the patient, as have the bromides and allied drugs."

I have read the paper in the *British Journal of Experimental Pathology* quoted by Sir William Willcox. The research work for this paper was carried out on cats and monkeys, and the drugs employed were sulphonal, trional, and the barbitone group. As to the toxicity of the two former, I am fully in agreement; I have seen all the physical signs reported, and it is for this reason that I seldom use these drugs, but this question is not at the moment under discussion. With regard to the barbitone group, it is stated in this paper that they do not induce sleep in cats, so that at the very outset it is clear that these drugs act on cats in quite a different way from the effect they have on human beings. But more remarkable still, in view of the facts, is it that this piece of research should be adduced as having any bearing on the effects of these drugs when given to human beings in therapeutic doses. In these experiments cats weighing 600 to 1,000 grams were given 5- to 10-grain doses of veronal, in a few instances beginning with 2½ grains. Taking an average man at 70 kilos—that is, 70,000 grams—to make the dosage comparable he would be taking 400 or 500 grains. The monkeys weighed 5 lb., and were given 5 to 10 grains of veronal, the comparable dose for a man being 140 grains. The writers of the paper state, "The barbitone group of drugs showed similar but less pronounced exhaustion effects (than sulphonal and trional) and it was found that veronal and dial could be given to cats for many days without appreciably impairing the general well-being of the animals." If the barbituric acid group are as dangerous as Sir William Willcox believes, the marvel is that they survived at all.

I still await any proof that these drugs, given in therapeutic doses even over a long period, are harmful or cause any ill effects other than the simple rash at times produced in those who have an idiosyncrasy to them.—I am, etc.,

London, N.W.1, June 8th. MAURICE CRAIG.

P.S.—Through the courtesy of the Editor I have been permitted to see some of the other letters appearing in this issue. I should like to emphasize again that the opinion that I expressed in my letter in the issue of May 28th is based on long experience in treating normal persons of all ages in various activities of life. The physiologists tell us that sleep defective in quality or quantity leads to deterioration in the tissue cells of all organs, including the nervous system, and this is in accordance with clinical experience. Therefore it is incumbent upon the medical profession to treat defective sleep far more seriously than has been the custom in the past. My experience is that if a patient has been prescribed and is taking a sedative in the barbituric acid group and any untoward symptoms arise in the course of the illness, these are at once ascribed to the drug, whereas in truth the symptoms belong to the disorder for which the drug is being given and occur in persons who are not taking, and have never taken, any of these drugs. (Of course, I do not here include persons who have taken an improper dose for ulterior purposes.) All I am asking for is clearer thinking and closer observation. I was brought up to view sedatives in the same light as many of your correspondents, but in the struggle over many years to prevent and repair disease certain points begin to stand out clearly. I do not ask anyone to accept my experience or my conclusions; but, knowing how crippling and at times how devastating sleeplessness may be, one is compelled to examine every avenue to try to prevent its results. For doing this I have found over many years that the barbitone group afford the best results with the minimum of ill effects.—MAURICE CRAIG.

RHEUMATIC INFECTION IN CHILDREN.

SIR,—Dr. A. Dingwall Fordyce writes (June 11th, p. 1081) with so much friendly appreciation that the thought that he is "attempting to pick holes" is far from my mind, more especially as I do not think that there is any great disagreement between us if due allowance for the difference of approach to the problems of rheumatism is made.

Dr. Fordyce is at his ease studying the lights and shades of the rheumatic picture. Those with whom I was working were in a less enviable position. We were attempting to hew out certain facts which would serve as landmarks for those whom we hoped would come along to help in the prevention and control of the disease amongst the children of this country. Thus, his statement that "juvenile rheumatism under satisfactory conditions can usually be controlled" becomes our statement that juvenile rheumatism "is a disease of the poor." Allowing for the difference of outlook there is no great antagonism between the two views. Again, when both committees fail to find that heredity is an etiological factor of moment, we tended to stress the fact that we found no great hereditary predisposition such as would be a bar to successful prevention of the disease. Dr. Fordyce puts it that the evidence proves nothing for or against its importance. Even so, this is a point.

The only view expressed by Dr. Fordyce with which I do not really agree is his suggestion that potential cases of rheumatism are common in the well-to-do classes. Although I do not think that the difference in frequency amongst the rich and the poor is as great in the potential as in the declared cases of rheumatism, yet even with these in mind I should still regard juvenile rheumatism as a disease of the poor.

Dr. Fordyce's letter is at once so kind and yet so stimulating and thoughtful that in taking this line in reply I feel conscious of appearing brusque and unsympathetic. I trust he will be assured that with him I know that it is down the little by-paths that the interests lie, yet some at least must keep to the wearisome high road. I am, etc.,

London, W.1, June 11th. REGINALD MILLER.

THE CONSTITUTIONAL FACTOR IN DISEASE.

SIR,—I can assure Dr. Hurst (June 4th, p. 1032) that I quite understood his position and had given consideration to the four additional reasons stated in his letter. My purpose in entering a caveat against the too ready acceptance of his views was based on (1) the paucity of the available data; (2) the qualifications in the terms "almost always," "probably always," and "often," in the reasons set forth by Dr. Hurst in his letter, and (3) a consideration of the results of the researches of Dr. William Hunter on medical sepsis, which largely form the basis of our present knowledge of the anaemias with and without lesions in the nervous system. These have not yet received the recognition and study which their great importance demands.

Dr. Hurst has not replied to my request for precise information as to the tests he employed, and the results obtained from them, which satisfied him that he could exclude an alimentary toxaemia as an etiological factor in migraine. He has contented himself with the general statement that he has never found any abnormality by means of test meals, microscopical, chemical, and bacteriological examination of the stools, radiological examinations of the alimentary tract, etc. It is obvious that much depends on what is looked for, and on the views entertained as to what constitutes normal urine and stools, and in regard to this I rather think our views may be fundamentally different. He invites me to give him details of the investigations which have taught me that migraine is due to an alimentary toxaemia. This is not, strictly, my position. Alimentary toxaemia is in my view, one form, and a most

important one, of general medical sepsis, which often exists for a long time before revealing its presence. I find striking confirmation of this view in Dr. Hurst's lecture, in which he points out that "the bodies of about 10 per cent. of all people dying in adult life contain gall stones," and later that "cholecystitis is the only indisputable predisposing cause of gall stones." Other sources of medical sepsis demand equal consideration.

I can best give him the information desired by reference to a case of migraine of some years' duration admitted to my ward three days ago. As a matter of routine all the recognized sources of peripheral and central irritation will be explored, but in regard to the subject under discussion, I find the urine very turbid from the presence of bacteria and cells, a growth of *B. coli* forms a carefully collected catheter specimen, and by the use of a Plombiere douche after a preliminary enema to clear out the bowel, conclusive evidence, in the general appearance and pronounced fetor of the returned fluid, of an abnormally septic state of the bowel contents. My experience of these cases leads me to attach the greatest importance to the correction of these disorders, and this can be done without ignoring the influence of heredity and other possible etiological factors.

In recent years there has been a marked tendency in medical writings to belittle the existence of an alimentary toxaemia. In regard to this, it is reasonable to suggest that the remarkable developments of abdominal surgery in the past thirty years—more especially in relation to diseases of appendix, stomach, duodenum, and gall bladder—have some bearing on the point. The common surgical abdominal disorders are, in the main, end-results of an acute, subacute, or chronic septic process, and the necessity for the surgeon arises from the failure of the physician. There is good reason for thinking that the progress of medicine in the future will largely depend on our recognition of the profound importance of medical as opposed to surgical sepsis. The problems must be faced with an open mind, and it is probable that in the process a good deal of present medical teaching will require revision. I may be allowed to close by quoting a relevant extract from a lecture by Dr. Abernethy, delivered to the Royal College of Physicians in 1815, a lecture designed to explain some of John Hunter's opinions, which were, in Dr. Abernethy's opinion, receiving too tardy recognition from the profession at that time:

"May I venture to suggest another reason why some do not understand Mr. Hunter? If we wish to learn what another thinks, we must dispose our minds to receive instruction in the very manner it may be conveyed to us. We must relinquish, for a time, all attention to our own opinions, in order to learn those which are to be communicated. The same processes of mind must be gone through or the same results cannot be obtained; we must follow in exactly the same steps or we shall never arrive precisely at the same point. It is a very ancient observation that self-conceit opposes a constant and sometimes an insurmountable barrier to instruction."

—I am, etc.,

CHALMERS WATSON, M.D.

Edinburgh, June 5th.

PULMONARY EMBOLISM FOLLOWING FRACTURE OF LEG.

SIR,—Dr. Erskine Faraker's interesting account of fatal pulmonary embolism following a simple Pott's fracture (June 11th, p. 1056) raises again the question of where the thrombosis primarily takes place. His suggestion, that early massaging may be a factor in the causation of pulmonary embolism, implies the formation of the thrombus at the site of the lesion, but in our experience this is not necessarily so; clotting in many instances in all probability occurs in the great veins of the lower abdomen, particularly the inferior vena cava.

This is borne out by the fact that we have known pulmonary embolism occur: (*a*) following an uneventful cataract operation—fatal pulmonary embolism occurred eight days afterwards—this case is recorded by T. G. W. Parry in the BRITISH MEDICAL JOURNAL, October 10th, 1925; (*b*) following rest in bed for traumatic synovitis of the knee-joint; and also by the fact that (*c*) at the present time we have under observation a case of thrombosis of the inferior vena cava following appendicectomy nearly a year ago; fortunately the main clot has apparently organized and become adherent in the inferior cava, but this patient after operation had some pulmonary symptoms which conceivably were due to minute infarctions.

Our experience so far is in accord with that of Mr. Lockhart Mummery, who has written so ably on this question.

That pulmonary embolism may result from thrombosis at the site of injury is borne out by an instance which occurred following bruising of the femoral vein by manipulation of a dislocated hip. This case was recorded by A. W. Sheen in the BRITISH MEDICAL JOURNAL for November 22nd, 1924. Cases which occur following phlebitis, and the post-puerperal ones, are further instances of clotting at the site of the primary lesion.

It appears, therefore, that the thrombosis may occur (*a*) at the site of the lesion, (*b*) in the great veins of the abdomen. In our opinion, in the majority of cases, especially the post-operative and those following simple fractures or trivial injuries, the clot formation occurs in the great veins of the abdomen and away from the site of the lesion.

This question of where the clot forms is of importance, not only in so far as it concerns the pathogenesis of this distressing condition, but also because it concerns the question of treatment. If the primary lesion is the site of the thrombosis, early massage is contraindicated; on the other hand if stasis in the inferior cava is, as we believe, the site of the clot formation in the majority of cases, especially those following operation and simple fractures, early movements are desirable.—We are, etc.,

A. W. SHEEN, M.S., F.R.C.S.,
Director,
LAMBERT ROGERS, F.R.C.S.,
Assistant,
The Surgical Unit, Welsh National School of Medicine, the Royal Infirmary, Cardiff.

June 13th.

UROGENITAL TUBERCULOSIS.

SIR,—I am much interested in Mr. Nitch's favourable view of the value of tuberculin in renal tuberculosis (May 14th, p. 863) and also in Dr. Stavely Dick's comment and argument thereupon (June 11th, p. 1083).

Although in 1921 it was stated in an official report that I considered renal tuberculosis to be unsuitable for tuberculin treatment, my real views based upon experience, were stated in 1912, in my Weber-Parkes prize essay, pp. 109-110, as follows:

"In suspicious cases of chronic pyelitis or of renal trouble I have several times used the tuberculin test in diagnosis, and am astonished that so many writers, in discussing the diagnosis of renal tuberculosis, overlook the tuberculin test. Not only is tuberculin of very great value in the early diagnosis of renal tuberculosis, which so often runs a latent course even for years, but renal tuberculosis in my experience seems to be particularly amenable to tuberculin treatment. Unfortunately, troubles of the bladder and kidney, especially associated with pyuria, are supposed to belong to the domain of surgery, and I have found that surgeons especially look askance at tuberculin, so that I have seldom had opportunities of showing the value or otherwise of the tuberculin test in the early stages of renal tuberculosis. This field is only waiting to be explored by the searchlight of tuberculin, and I believe a rich harvest of results will be reaped thereby."

Moreover, in this essay I give four cases of advanced genito-urinary tuberculosis treated with tuberculin, one of them (p. 315, No. 3) with phenomenal success—the other three with considerable success. Since 1912 I have treated many cases, and that related in the Appendix I of my brochure *The Tuberculin Dispensary for the Poor* is an independent and eloquent tribute to the value of tuberculin. If tuberculin can do so much in the hopeless stages, what may it do in an early stage? In no case has any patient suffering from genito-urinary tuberculosis been worse after treatment.

My experience with tuberculin in the diagnosis and treatment of urogenital tuberculosis justifies me in saying that those who have not tried tuberculin in this form of disease cannot form any opinion of its great value. If its value in diagnosis and treatment were fairly appraised and medical measures, including tuberculin

above everything else, were at least tried before surgical methods were adopted, the sufferers from this form of tuberculosis would often be saved from a severe and dangerous surgical operation.—I am, etc.,

London, N.W.1, June 11th. W. CAMAC WILKINSON, M.D.

MENTAL DEFICIENCY ADMINISTRATION.

SIR,—I shall be greatly obliged if you will allow me to comment upon the editorial article in the JOURNAL of June 4th (p. 1020) regarding mental deficiency administration.

I do not propose to refer in detail to the memorandum of the Society of Medical Officers of Health to which you allude. I would merely say that a perusal of this document seems to indicate the existence of so much misunderstanding regarding the report of the Board of Control, its attitude towards the Board is so markedly hostile and its language is so intemperate—indeed, I might not unfairly say so offensive—that one cannot but wonder how such a memorandum came to be passed by the society. This tone is all the more unfortunate since the charge may well be made that those responsible for it do not occupy an entirely disinterested position concerning the chief matter at issue.

With the view that disease of mind should be regarded as part of disease in general I entirely agree. The progress of psychological medicine in the past has suffered greatly from the failure to appreciate this relationship, and one of the most satisfactory features of recent years has been the gradual breaking down of the artificial barrier which has long existed between disease of mind and disease of body. Further, I entirely agree that the administration of the various Acts dealing with mental disease should form part of the public health service, and that there should be the closest co-ordination of all the branches of this service. But you, and the memorandum, go on to say that this co-ordination should be secured by placing the administrative control of all these services in the hands of *one individual*—namely, the medical officer of health—and it is here that I venture to demur. I note your statement that this is the declared policy of the British Medical Association; it would be very interesting to know on what occasions and under what circumstances this decision was arrived at, and particularly to what extent the matter was considered by the general body of the profession, apart from those holding official positions.

My objection to this policy of the creation of the post of Pooh-Bah is based upon the deliberate opinion that, owing to the developments in medicine which have taken place in recent years, it is no longer possible for any single individual to possess that knowledge of all its branches which is necessary for efficient administration. There are certain branches, such, for example, as those dealing with venereal disease, tuberculosis, infectious diseases, inspection and treatment of school children, an adequate knowledge of which is possessed by every well educated medical practitioner. The administration of these services may well remain in the hands of the chief medical officer, the actual work being done by special assistants. But there are other branches of work in which this is not so, and this is peculiarly the case with mental disease. I have no hesitation in saying that the successful ascertainment, diagnosis, treatment, and administrative disposal of persons suffering from disorder, disease, or defect of mind can only be made by a practitioner who has spent years in the study of these conditions; and that there are very few, if any, medical officers of health who possess either the special knowledge, the experience, or even the time to do this work. Here also the work could doubtless be delegated to an assistant possessing the necessary qualifications; but to secure efficiency of administration it would be essential that such subordinate officer should be given a considerable degree of freedom, that his initiative should be encouraged, and, most important, that he should be in personal contact with, and responsible to, the statutory committee charged with this duty. I hold no brief for the Board of Control, but so far as I understand their attitude this is all they ask for. They appear to be of the opinion that part, at all events, of the failure of local authorities to administer the Mental Deficiency Act is due to this work having been relegated to medical officers of health who have little interest in, less special knowledge of, and still less available time to do the work. The failure is unquestionable. The desire of the Board that the work should be in the hands of a specially qualified officer in direct touch with the statutory committee does not seem unreasonable.

For my part I am disposed to think that the time has come when we should go even further. Psychological medicine is not only a highly specialized subject, but it is one which in the near future must inevitably cause more and more duties to be placed upon the shoulders of local administrative authorities. It is a recognized fact that if work is to be well done it must be in the hands of those interested in, and having special knowledge of it, and I very much doubt whether real efficiency will be attained until the administration of this branch of medicine is made a separate department under its own chief. There are plenty of young well qualified members of the profession taking up this special work, but they naturally hesitate to enter the service of local authorities because, as long as they so specialize, they can never attain to more than a subordinate position. This is good neither for progress nor for efficient administration, nor is it in the interests of the profession generally.

It may be suggested that the creation of such a separate department would be to undo the work of co-ordinating the various public health services, and contrary to the aim of the Ministry of Health Act of 1919. I do not think so. The aim of that Act was to secure co-ordination by placing administrative control in the hands of one council and not in the hands of one particular official—that is, the medical officer of health—of that council, and I see no reason why co-ordination should in any way suffer by the heads of the respective departments being colleagues meeting one another on equal terms. Such an arrangement would certainly be more likely to attract practitioners specializing in psychological medicine, and would thereby make for greater efficiency and the advantage of the community.—I am, etc.,

London, W.1, June 6th. A. F. TREDGOLD.

*** Some comment on Dr. Tredgold's letter appears this week at page 1117.

THE MEDICAL MAN IN PARLIAMENT.

SIR,—I was interested to read Dr. Graham Little's assertion in your issue of June 11th (p. 1088) that "the combination of medical and parliamentary work is possible," and "that a man in practice is more able to gauge the feeling of the profession than one who has no further contact with it." The truth or otherwise of these assertions depends upon the conception of the duties of a member of Parliament, either by the member himself or his constituents.

Dr. Little himself is in a privileged position. He is an "Independent" representing London University, and was returned to Parliament to represent the graduates of that University. He lives and practises in London, and as long as his conception of his duties is to look after the interests of that University he can, and does, admirably fulfil those duties. All that is necessary for him is to be in the House when anything affecting the interests of his University is under discussion.

The same ideal can be attained by any man representing a sectional interest, be it doctor, lawyer, business, or railway, etc., and who is content to limit his activities for the use of his section. The same position may be possible for a provincial specialist, but it would not be so easy, as it would necessitate occasional absences from his practice, and I imagine in most cases his practice would suffer.

If, on the other hand, the conception of a member of Parliament's duties is that he is a legislator, legislating for the benefit—or otherwise—of the nation and empire, then I assert most strongly that the duty of a member of Parliament is a "full-time job," and that no man can give his best attention both to Parliament and his profession—one *must* suffer. The fact that probably the majority of the House consists of men in the active practice of their business or profession does not vitiate my contention. They can only come to the House when their

outside activities are over, and vote with very little knowledge of the subject under debate. It may be argued that all votes are given according to party, which is generally true, but it occasionally happens that one has the opportunity in debate of putting a point of view which receives consideration. My main objection to Dr. Little's assertion is the fact that the real work in Parliament is done in standing committee, where each line of a bill is thoroughly discussed and the "back bencher" has his opportunity of directly influencing legislation, and where a man's knowledge and experience are of great value. These committees meet, as a rule, two mornings weekly, from 11 a.m. to 1 p.m., and Dr. Little cannot attend many of these committees without sacrificing part of his professional work. The result is that sometimes there is a difficulty in maintaining a quorum, on account of the outside activities of many of the members, and members who are "free" are compelled to put in full time to make up for the absence of the others.

The statement that men in practice are better able to gauge the feeling of the profession may be true for men in general practice, but I doubt it, particularly in the case of specialists. The activities of the medical press, and letters from medical men in practice, keep the medical member of Parliament who has retired from practice in sufficiently close touch with medical opinion to discount Dr. Little's statement to a large extent.

As most members are returned by the votes of the general public and represent all interests, it follows that the more time the member devotes to his parliamentary duties the better he represents his constituents; and the ideal to be aimed for in my opinion is to regard one's parliamentary duties as a "full-time job."

I do not think it desirable that Parliament should consist of men returned to look after "sectional" interests, although there must be exceptions, as in Dr. Little's case. An increase in the number of medical members would be, I think, an advantage, both to Parliament and the country, as they have been in such intimate touch with people during their professional life that they are eminently suited to understand and voice the opinion and wishes of a very important section of the community—knowledge gained quite apart from the stress and excitement of political controversy, and therefore of more real value. —I am, etc.,

House of Commons, June 13th. A. VERNON DAVIES.

Obituary.

T. H. FIASCHI, M.D.,
Sydney, N.S.W.

THE death occurred on April 17th of Dr. T. H. Fiaschi of Sydney. He was the son of Professor L. Fiaschi of Florence, and was born there in 1853, was educated at the Universities of Pisa and Florence, and, having graduated M.D. and Ch.D., went to New South Wales at the age of 22. He practised first at Cooktown, and was on the Palmer goldfield in its stirring days. Thence he went to Windsor, where he spent some years engaged in the practice of his profession and in agriculture. In 1883 he moved to Sydney.

In 1891 he joined the New South Wales Army Medical Corps as captain, attached to the New South Wales Lancers; in 1896 he was with the Italian Army in Abyssinia, and received the Cavalier's Cross of St. Maurice and Lazarus for his services; and in 1898-1900 he commanded the New South Wales No. 1 Field Hospital with General Hutton's Brigade in South Africa. For services at Paardeberg he was mentioned in dispatches and received the D.S.O., and when he returned to Sydney he was promoted lieutenant-colonel in the A.M.C. He became colonel in 1911, and principal medical officer of the Second Military District of the Commonwealth.

When the great war commenced Dr. Fiaschi went to England as commanding officer of No. 3 Australian General Hospital, which was established eventually at Lemnos. There he worked hard until his health gave way, and he was invalided to England. After a holiday he reported fit for duty, but was not content to accept a position in a military hospital in England, and asked to be allowed to return to Australia. He went first to Italy to visit his native city, and arrived there just after the great Austrian advance in the Trentino. He heard that the Italians urgently needed surgeons, so he resigned from the A.I.F., and joined the Italian army as captain in charge of the surgical department of the hospital at Schio, near the Trentino frontier, and about twelve kilometres from the trenches. There he remained for twelve months.

In 1902 he became honorary surgeon to the Governor-General, and later consulting honorary surgeon to the Sydney Hospital, and examiner in clinical surgery to the University.

Next to his professional work came his passionate love for the soil—for agriculture. He liked nothing better than to be associated with the men of the primary industries, and they esteemed him profoundly too, for, as a viticulturist—he was proprietor of the well known Tizzana vineyards—he helped enormously to develop the wine industry in Australia.

He was one of the foundation members of the New South Wales Branch of the British Medical Association (1901), and was a foundation member of the College of Surgeons of Australasia.

DONALD MACDONALD, M.B., C.M.,
Badenoch, Inverness-shire.

ON May 27th Dr. Donald MacDonald of Craigville, Laggan, died suddenly at Elgin, where he was on holiday. He was the son of the late Mr. Hugh MacDonald of Fort William, who was well known throughout the Western Highlands in the old coaching days as a mail-coach contractor. Dr. MacDonald graduated M.B., C.M. at Edinburgh University in 1893, and after spending some time in general practice in England settled at Laggan and was appointed medical officer of health to Laggan parish council. His genial and kindly disposition made him deservedly popular with his patients and throughout the district of Upper Badenoch. Dr. MacDonald took a close interest in local affairs and acted both as a county councillor and as a member of the education authority. In his sympathies he was essentially a Highlander, being a warm supporter of the old Highland game of shinty, and he travelled long distances to be present at important matches of the game. He had an intimate knowledge of the Gaelic tongue, and conversed in it whenever possible; this rendered firmer the bonds of union between him and his Highland patients. He had for many years been a member of the British Medical Association and frequently attended the meetings of the Inverness Division, travelling about 60 miles to do so. His practice in the wild district of Badenoch was carried on with great difficulty in the winter time, and on one occasion for devotion to duty in perilous circumstances he was awarded the Carnegie Medal. Some two years ago Dr. MacDonald's friends and patients celebrated his semi-jubilee as medical officer of health by publicly presenting him with an illuminated address accompanied by a handsome cheque. His death will be keenly felt throughout the district of Badenoch, where his medical skill and kindly personality had made him greatly beloved.

Dr. WILLIAM ANDERSON FULLER died suddenly on May 27th, in a nursing home at Leeds, at the age of 54. He received his medical education at Guy's Hospital, and obtained the diplomas M.R.C.S., L.R.C.P. in 1898. After holding the post of house-surgeon at the County Hospital, Huntingdon, and the East Sussex Hospital, Hastings, he joined the late Dr. Segrave of Milnthorpe, Westmorland, and after his death carried on the practice for over twenty-one years. He was a vice-president, and later president, of the North Lancashire and South Westmorland Branch of the British Medical Association, and a former chairman of the Kendal Division. He was a magistrate and took an active interest in public life locally. He leaves a widow and three children. A colleague writes: Dr. Fuller represented the best type of country doctor, conscientious,

kindly, and capable, beloved by all his patients. By his death Westmorland loses one of its most valued and respected men.

Dr. JAMES MITCHELL WILSON, who died at his residence in Beverley, Yorkshire, on May 29th, was born in 1844 at Perth, and received his medical education at Glasgow University, where he was one of Lister's dressers; he graduated M.B., C.M. in 1867, and proceeded M.D. in 1883. After holding the post of house-surgeon in the Huntingdon County Hospital, and practising for a time at Chatteris in Cambridgeshire, he decided to devote himself to public health work, and took the D.P.H.Cambridge in 1877. He held appointments successively at Rochdale and Doncaster, and came to the East Riding as county medical officer in 1901. He retired in 1918 and was appointed consulting medical officer of health. He was the author of various books and articles on public health, and contributed a paper on river pollution at the annual meeting of the British Association for the Advancement of Science at Leeds in 1890. Dr. Wilson was a member of the Council of the East York and North Lincoln Branch of the British Medical Association from 1905 to 1909, and a former president of the Branch.

Dr. DONALD SMALLPEICE died in a nursing home on June 2nd at the age of 74. He was a student of Guy's Hospital, and took the diploma of M.R.C.S. in 1883 and that of L.R.C.P. in 1886. He was formerly in practice for some years at Queen Anne's Gate, but owing to a breakdown in health some twenty years ago he left London, and practised for a short time in Rome; he then settled in Felsted, Essex, where he remained until the autumn of last year. During the brief period of his retirement he lived near his earliest home at Guildford. In his youth Dr. Smallpeice had travelled much; he had also read widely, and possessed many interests; so that he was a most entertaining companion with a charming personality. He retained an active interest in medicine to the end of his work as a practitioner, and was greatly beloved by his patients. He leaves a widow, one son, and two daughters.

The following well known foreign medical men have recently died: Professor BARTH, formerly director of the surgical department of the municipal hospital at Danzig; Dr. WILHELM FILEHNE, formerly professor of pharmacology at Breslau, aged 83; Dr. FRANZISKA TIBURTIUS of Berlin, the first German woman doctor, and founder of a clinic for women doctors and a policlinic for indigent women; Dr. A. CAHEN of Hamburg, formerly professor at Strasbourg; and Dr. C. IPSEN, professor of medical jurisprudence at Innsbruck.

Universities and Colleges.

UNIVERSITY OF OXFORD.

IN congregation on June 7th the Vice-Chancellor (Dr. F. W. Pember, Warden of All Souls) moved the promulgation of a decree expressing the thanks of the University to Sir William Dunn's Trustees for a gift of £2 000 to endow a departmental library in the newly-opened Sir William Dunn School of Pathology. The decree was passed by acclamation. An account of the buildings and of the opening ceremony appeared in the BRITISH MEDICAL JOURNAL of March 19th, p. 525.

At a congregation held on June 11th the following medical degrees were conferred:

B.M.—C. P. Blacker, J. C. K. Chilcott.

UNIVERSITY OF CAMBRIDGE.

SIR HUMPHRY ROLLESTON, Bt., Regius Professor of Physic, has been appointed to represent the University at the third Imperial Social Hygiene Congress at Westminster from October 3rd to 7th.

Professor A. V. Hill, Sc.D., F.R.S., Foulerton Research Fellow of the Royal Society, has been elected to an honorary Fellowship at King's College, of which he was a Fellow from 1916 to 1925.

At a congregation held on June 10th the following medical degrees were conferred:

M.B., B.CHIR.—C. H. Hilliard.
B.CHIR.—J. W. E. Cory.

UNIVERSITY OF BRISTOL.

THE following candidates have been approved at the examinations indicated:

FINAL M.B., CH.B. PART I (*including Forensic Medicine and Toxicology*): Phœbe C. Vine; G. D. J. Ball, O. J. P. Bollon, T. L. Cleave, R. D. Jenkins, Helen B. Murgoci, Ethel M. Redman.

PART II (*Completing Examination*): J. C. Batt, H. E. C. Bentley, E. C. Bernard, E. May, E. S. Rogers, J. R. E. Sansom, M. Srisvasti. *Group I* (*Completing Examination*): G. L. Feveley. *Group II* (*Completing Examination*): Helen M. Aldwinckle.

UNIVERSITY OF SHEFFIELD.

THE following appointments were made on June 10th: *Lecturer in Diseases of the Nose and Throat*, W. S. Kerr, M.B., F.R.C.S.; *Research Assistants on Cancer*, A. F. Watson, M.Sc., Ph.D., and Mrs. S. T. Harrison, M.A., Ph.D.

UNIVERSITY OF GLASGOW.

MACEWEN MEMORIAL LECTURE.

IT will be remembered that after the death of Sir William Macewen, Professor of Surgery in the University of Glasgow from 1892 to 1924, a committee was formed to promote a fund for the purpose of commemorating his life and work. The first purpose of the fund was to procure a bust for presentation to the University and a replica to Lady Macewen. The second purpose was the establishment of a Macewen Memorial Lecture, and the third the foundation of a Macewen Medal in the Class of Surgery.

The busts have been presented to the University and to Lady Macewen and the medal has been founded and the first award made. The first Memorial Lecture is to be delivered by Professor Harvey Cushing, C.B., M.D., LL.D., Harvard University, U.S.A., in the Zoological Lecture Theatre of the University on Tuesday next, June 21st, at 3 p.m. The lecture is open to past and present students of medicine and to others interested. Subscribers to the Foundation Fund are specially invited.

UNIVERSITY OF DUBLIN.

TRINITY COLLEGE.

Bicentenary Memorial Fund, School of Physic.

THE fund subscribed by the medical graduates of Dublin University to commemorate the bicentenary of the foundation of the School of Physic has now been handed to the Board of Trinity College, for the purpose of establishing a Bicentenary Memorial Prize to be awarded each year to the winner of the Medical or Surgical Travelling Prize. In accepting the fund the Board expresses thanks to the subscribers for "a very generous benefaction to the College." The amount of the fund is about £730.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN ordinary Council meeting was held on June 9th, when the President, Sir Berkeley Moynihan, Bt., was in the chair.

Fellowship.

It was reported that 108 candidates had presented themselves for the Fellowship examination, of whom 25 were successful, including H. I. Deitch, who had not yet attained the requisite age. The diploma of Fellowship was conferred upon the following candidates:

H. B. Bul'en, E. Wolff, W. A. Richards, E. L. Robert, C. M. Gwillim, R. V. Hudson, J. D. R. Murray, J. Roberts, A. L. Walker, W. A. Mill, W. H. Gervis, G. H. Pitt, F. W. Roques, M. A. Paul, W. H. A. Dodd, E. W. Riches, H. G. Armstrong, Alfreda H. Baker, W. K. Connell, R. L. Dodds, I. J. Fraser, W. J. Henry, D. McKelvey, S. V. Unsworth.

Membership.

The diploma of M.R.C.S. was conferred upon the following candidates who have passed the requisite examinations and complied with the by-laws:

V. F. Anderson, F. A. J. Bouloux, Ethel E. M. Ogilvie, Dulcie J. Peake, Winifred M. Turner, Joan B. Walker.

Appointment of Representatives.

Sir John Bland-Sutton was appointed to represent the College at the commemoration in October next of the centenary of the granting of the Charter of King's College, Toronto, now the University of Toronto.

Sir Berkeley Moynihan was re-elected to represent the College on the Court of Governors of the University of Sheffield for three years.

Votes of Thanks.

The thanks of the Council were expressed to Sir John Bland-Sutton, on his retirement from the Council, for his services during his term of office on the Council, extending over seventeen years, including three years as President.

A vote of thanks was given to Miss Hunter of Blackheath for presenting to the College a combined bookcase and writing table, formerly the property of John Hunter.

Examiners.

The following examiners were appointed for the ensuing year:

Dental Surgery (Surgical Section): L. B. Rawling, H. S. Clogg, T. P. Legg, G. S. Simpson, R. J. Howard, G. E. O. Williams, C. H. S. Frankau, and J. Murray. *Anatomy for the Fellowship*: W. Wright, F. G. Parsons, W. E. Le Gros Clark, and C. P. Wakeley (re-elected). *Physiology for the Fellowship*: J. B. Leathes and H. E. Roaf (re-elected), C. A. Lovatt Evans and R. J. S. Macdowall.

Under the Conjoint Examining Board for the ensuing year:

Elementary Biology: T. W. Shore and J. P. Hill. *Anatomy:* H. A. Harris, O. S. Hühnan, and J. B. Hume (re-elected). *Physiology:* G. A. Buckmaster (re-elected) and D. H. de Souza. *Midwifery:* D. W. Roy, H. B. Whitehouse, and C. White (re-elected). T. B. Davies. *Diploma in Public Health:* Part I, R. T. Hewlett (re-elected); Part II, C. W. Hutt. *Diploma in Tropical Medicine and Hygiene:* Pathology and Tropical Hygiene, W. P. MacArthur (re-elected); Tropical Medicine and Surgery, P. H. Manson-Bahr (re-elected). *Diploma in Ophthalmic Medicine and Surgery:* Part I, C. B. Goulden and H. W. Lyle (re-elected); Part II, R. A. Greeves. *Diploma in Psychological Medicine:* F. L. Golla (re-elected). *Laryngology and Otology:* Part I, A. H. Cheatle (re-elected) and W. M. Mollison; Part II, S. R. Scott (re-elected).

ROYAL COLLEGE OF PHYSICIANS OF IRELAND.

AT the monthly business meeting of the Fellows, held on June 10th, the President duly admitted as members of the College the following successful candidates: Samuel Barron, L.R.C.P. and S.I., Timothy Maurice Healy, M.B., N.U.I. Mr. Healy is a son of H.E. the Governor-General of the Irish Free State, and served for some years as Assistant Master of the Combe Lying-in Hospital, Dublin.

ROYAL COLLEGE OF SURGEONS IN IRELAND.

THE following officers have been re-elected for the ensuing year: *President:* Andrew Fullerton, F.R.C.S.I.; *Vice-President,* Thomas E. Gordon, F.R.C.S.I.; *Secretary,* Sir F. Conway Dwyer, F.R.C.S.I.

ROCKEFELLER MEDICAL FELLOWSHIPS.

THE Medical Research Council announces that on behalf of the Rockefeller Foundation it has made the following awards of Medical Fellowships provided by the Foundation and tenable in the United States of America during the academic year 1927-28. These Fellowships are awarded to graduates who have had some training in research work either in the primary sciences of medicine or in clinical medicine or surgery, and who are likely to profit by a period of work at a university or other chosen centre in America before taking up positions for higher teaching or research in the British Isles:

ROBERT WILLIAM FITZGERALD COLLIS, M.B.Cantab., M.R.C.P.; Resident Medical Officer, King's College Hospital, London.
DAVID KRESTIN, M.D.Lond., M.R.C.P.; Medical Registrar, London Hospital.
GEOFFREY LEWIS PESKETT, M.A.Oxon.; Demonstrator in Biochemistry, University of Oxford.
Miss ISABELLA MCDOUGALL ROBERTSON, M.D.Lond.; Research Worker in the Pathology Laboratory, Maudsley Hospital, London.
THOMAS TENNENT, M.B.Glas.; Assistant Medical Officer, Maudsley Hospital, London.
EDGAR WILLIAM TODD, M.D Cantab.; Research Worker in the Inoculation Department, St. Mary's Hospital, London.

Dr. Tennent has been appointed on modified conditions while holding a scholarship from another source.

Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

THE House of Commons, which reassembled on June 13th, has completed the Committee stage of the Trade Disputes and Trade Unions Bill. Other business for the week included the second reading of the Local Authorities (Audit) Bill, which proposes that members of local authorities against whom surcharges of more than £500 are made shall be disqualified for five years.

The Government Whips have decided to oppose the passage of the Dogs' (Protection) Bill in the House of Commons. Several medical members have given notices of opposition to it.

Removal of Prisoners for Treatment.

Mental Deficiency.—In the ten years from 1916-17 to 1925-26, prisoners in England and Wales were removed to mental institutions as follows. Under Section 9 of the Mental Deficiency Act, 1913: In 1916-17, 29; 1917-18, 38; 1918-19, 63; 1919-20, 102; 1920-21, 91; 1921-22, 57; 1922-23, 66; 1923-24, 57; 1924-25, 24; and 1925-26, 43. Under Section 2 of the Criminal Lunatics Act, 1884, the transferences were as follows: 1916-17, 125; 1917-18, 101; 1918-19, 97; 1919-20, 89; 1920-21, 112; 1921-22, 102; 1922-23, 134; 1923-24, 104; 1924-25, 114; and 1925-26, 106. Persons dealt with under Section 8 of the Mental Deficiency Act, 1913, criminal lunatics ordered by a court to be detained during His Majesty's pleasure, and persons received into mental institutions on discharge from prison on expiry of sentence are not included in these statistics.

Surgical or Medical Treatment.—The number of prisoners removed, under Section 17 (6) of the Criminal Justice Administration Act, 1914, for surgical or medical treatment which could not be given in prison in each of the ten years from 1916-17 to 1925-26, were 20, 26, 22, 72, 54, 86, 66, 57, 82, and 95.

Grants to Voluntary Hospitals.—On June 13th Sir Kingsley Wood, replying to Mr. Lunn, said that, excluding contributions towards specific grant-aided services, the total Exchequer grants in aid of the general expenses of voluntary hospitals since 1918 had amounted to £500,000, voted by Parliament on the recommendation of Lord Cave's Committee. The Voluntary Hospitals Commission was still in existence, but it had no funds at its disposal.

Medical News.

DR. FRANK WACHER, who for fifty years has been medical officer of health for Canterbury, was on May 31st made an honorary freeman of that city. He was chairman of the Canterbury Division of the British Medical Association in 1912, and has served as vice-president of the South-Eastern Branch.

THE annual dinner of the Harveian Society of London was held at the Connaught Rooms on Thursday, June 9th, when the president, Dr. E. Le Févre Payne, was in the chair. The Lord Mayor of London was among the guests, and on leaving to keep another engagement made a graceful speech deputing Sir Berkeley Moynihan to reply for him on behalf of the visitors. The toast "The Harveian Society" was proposed by Sir John Rose Bradford. The president, in replying, pointed out that this year the connexion of the Society with Harvey was closer than usual, inasmuch as he believed that he was the first president who had been educated at Harvey's old school, King's School, Canterbury. The health of the many distinguished guests, proposed by Dr. Graham Little, M.P., was acknowledged by Mr. A. Latter, head master of King's School, Canterbury, Sir Berkeley Moynihan, and Mr. F. Freke Palmer. About 110 members and guests were present at the dinner.

A COURSE in advanced bacteriology will commence at the London School of Hygiene and Tropical Medicine on October 4th. It will be under the direction of Professor Topley and is intended for a limited number of post-graduate students who desire to fit themselves for bacteriological appointments at home or abroad. The fee for the course, which will be continued throughout the academic year, is 42 guineas. Further particulars can be obtained on application to the Secretary of the School, Malet Street, London, W.C.1.

THE Fellowship of Medicine and Post-Graduate Medical Association announces that Dr. A. J. Whiting will give a medical clinical demonstration at the Prince of Wales's Hospital on June 20th at 2.30 p.m.; Mr. C. A. Joll, a demonstration on surgical treatment of goitre, at the Royal Free Hospital on June 22nd at 4; Mr. Griffith, a clinical ophthalmic demonstration at the Royal Eye Hospital on June 24th at 3. All these demonstrations are free to members of the medical profession. On June 27th a special fortnight's course in chest diseases will begin at the City of London Hospital for Diseases of the Heart and Lungs (fee £2 2s.). In July five special courses will be given in various subjects. The first will be an all-day two-weeks' course in cardiology, from July 4th to 16th, at the National Hospital for Diseases of the Heart; numbers strictly limited to twenty. On July 11th the Prince of Wales's Hospital Group will start a fortnight's course in general medicine, surgery, and the specialties. On the same date there will begin a week's course at the St. Mark's Hospital for Diseases of the Rectum. The other two courses taking place in July are part-time courses only; one in neurology at the West End Hospital for Nervous Diseases, starting on the 4th and lasting for a month; the other in infectious fevers at the Park Hospital, on Wednesdays and Saturdays, from July 13th to 30th. Copies of all syllabuses are obtainable from the Fellowship of Medicine at 1, Wimpole Street. A general course of work is also provided at the associated hospitals; for this a comprehensive ticket and a separate programme are issued.

THE centenary of the birth of Lord Lister and his connexion with King's College will be celebrated by the King's College Medical Society on Thursday next, June 23rd. A wreath will be placed on the memorial tablet outside the chapel by the president of the Medical Society at 4.50 p.m., and at 5 p.m. Sir Arthur Keith will take the chair for a lecture by Sir StClair Thomson, Emeritus Professor of Laryngology in the college, who will speak of Lister's personality and his achievements. Medical students and others interested in medicine are invited to be present.

A NATIONAL Conference on Maternity and Infant Welfare, under the auspices of the Central Council for Infant and Child Welfare, will be held in the Great Hall of the British Medical Association House, Tavistock Square, W.C.1, under the presidency of the Minister of Health, from July 5th to 8th inclusive. At the opening session Mr. Neville Chamberlain will deliver an address, which will be followed by a discussion on wet nursing. Other subjects selected for debate include the problem of the expectant unmarried mother; the practical teaching of mothercraft; the provision of efficient sick nursing in the homes of children under school age; day nursery problems; the incidence of venereal diseases in ante-natal and post-natal clinics; the results of artificial light treatment for children under school age; and respiratory disease in relation to infantile mortality. A lecture on the pasteurization of milk in relation to surgical tuberculosis, by

Dr. A. Stanley Griffiths, will be delivered on July 5th at 7.30 p.m. A dinner for members of the medical profession attending the conference has been arranged at the Florence Restaurant on July 5th, after which an informal discussion on immunization against diphtheria will be opened by Dr. W. Ashley Lethem and Dr. J. Graham Forbes. Friday, July 8th, will be devoted to visits to centres and institutions in and around London.

THE annual general meeting of the Research Defence Society will be held at the house of the Medical Society of London, 11, Chandos Street, W.1, on Tuesday, June 21st; Lord Lamington will take the chair at 3 p.m. The first Stephen Paget Memorial Lecture will be delivered by Professor Julian S. Huxley, M.A., who has chosen as his subject "Research and the community."

THE annual summer dinner of the Glasgow University Club, London, will be held at the Trocadero Restaurant, Piccadilly, W.1, on Friday, July 1st, at 7.15 for 7.30 p.m. precisely. Dr. C. O. Hawthorne will preside. Any Glasgow University men who, though not members of the club, desire to be present are requested to communicate with the honorary secretaries, 62, Harley House, N.W.1.

A MEETING of the Society for the Study of Inebriety will be held in the rooms of the Medical Society of London, 11, Chandos Street, Cavendish Square, on July 12th, at 4 p.m., when Sir Arthur Newsholme will deliver a presidential address on the aims and work of the society, and Dr. Godfrey Carter, lecturer on forensic medicine in Sheffield University, will open a discussion on the detection of drunkenness, with especial reference to the concentration of alcohol in the blood and urine.

THE annual meeting of the Incorporated Lancashire and Cheshire Society for the Permanent Care of the Feeble-Minded will be held in the Recreation Room of the Sandlebridge Institution, Alderley Edge, on Tuesday, June 21st, at 3.30 p.m. Sir Frederick J. Willis, chairman of the Board of Control, will preside and open the Noah's Ark Home. The school and the homes will be open for inspection from 3 p.m. and tea will be served at Warford Hall at 4.30 p.m.

COMMEMORATION day at Livingstone College was celebrated on June 10th, when the President of the Royal College of Physicians, Sir John Rose Bradford, was in the chair. He commended the work of the college, and expressed the opinion that in this case "a little knowledge" was not "a dangerous thing," but capable of being of great service to humanity, especially to missionaries scattered all over the world, where it was impossible for the inhabitants to receive adequate medical treatment. He had been much impressed by reports he had read from students in all parts of the world, who were doing valuable work for the prevention as well as the treatment of disease. The Rev. C. Redman, a missionary of the Society for the Propagation of the Gospel, and an old student of the college, said that he had found what he had learnt there of great use when working in a district in Madagascar, where often the services of a doctor could not be obtained. Later on, when put in charge of a theological college, he had made the teaching of the prevention and treatment of disease part of the curriculum, so that students went out into the villages possessing knowledge very useful in dealing with the great ignorance of the people. Other speeches were made, including one by the Dowager Lady Buxton, who, during a recent visit to Abyssinia, had admired the work of an old student of the college.

THE Association of Physicians held its annual meeting in Belfast on June 3rd and 4th. Professor J. A. Lindsay was president, and Professor W. W. D. Thomson acted as local honorary secretary; with the aid of the physicians attached to the hospitals the local members formed themselves into a committee to provide clinical demonstrations suitable for the occasion, and to give a hearty welcome to the visitors. According to the usual routine sittings were held morning and afternoon for discussion, the morning in the University, and the afternoon in the King Edward Memorial Hall of the Royal Victoria Hospital, where on both days, in the interval, a large amount of clinical material had been collected in the out-patient department, and demonstrations were given of neurological and pathological interest. In addition a collection of items of local interest, old local books, and portraits had been formed. An excellent pamphlet of all these demonstrations, due to the labours of one or two members of the local committee, much facilitated their study.

THE second international post-graduate course in diseases of the heart and gynaecology, which was held at Franzensbad from May 22nd to 26th, was attended by six hundred medical practitioners from Czecho-Slovakia, Germany, Austria, Hungary, Poland, Rumania, Jugo-Slavia, Russia, Denmark, and Holland. The communications included addresses on cholelithiasis and pregnancy by Professor Frigyesi of Budapest, and on the various forms of circulatory obstruction by Professor Wenkebach, Vienna.

LORD EUSTACE PERCY, M.P., President of the Board of Education, will distribute the prizes at the London Hospital Medical College and Dental School on Wednesday, June 29th, at 3 p.m., in the College Library. Academic dress will be worn.

THE new ward and enlarged accommodation for out-patients at the Southend Victoria Hospital was opened on May 25th. The number of beds at this hospital, which is now eighty-six, has been doubled during the past five years, and £20,000 has been spent on extension and equipment.

A STAINED glass window has been erected in St. Michael's Parish Church, Highgate, in memory of the late Dr. Frederick William Crowdy, who for thirty-two years was a warden of the church. The dedication service was conducted by the Bishop of Willesden.

THE late Mr. F. A. Southam, emeritus professor of surgery in the University of Manchester, who died on March 9th, has left estate of the gross value of £44,900.

THE seventh congress entitled Les Journées Médicales de Bruxelles will be held from June 25th to 29th at Brussels. Excursions to Tournai and other interesting places will be arranged in connexion with it, and there will be an international exhibition of art and science applied to medicine and surgery. Further information may be obtained from the secretary, Dr. R. Beckers, 62, rue Froissart, Brussels.

THE thirty-first congress of French neurologists will be held at Blois from July 25th to 30th. Detailed information may be obtained from the secretary, Dr. M. Olivier, Blois.

ACCORDING to the *Journal of the American Medical Association* the total deaths from diphtheria in the seventy-eight cities of the United States with more than 100,000 inhabitants were approximately 3,000 in a population of 31,000,000, or more than three times the typhoid mortality in the same cities. The total average typhoid death rate for fifty-nine large cities in the United States last year was 2.77 per 100,000, the lowest ever reported in that country.

DR. PAUL CARNOT, director of *Paris Médical*, has been nominated professor of clinical medicine in the Paris faculty of medicine in succession to the late Professor Gilbert.

PROFESSOR FÜLLEBORN of the Hamburg Institute for Tropical Diseases has been invited by the Argentine Government to visit South America to study hookworm disease.

Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to ***The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.***

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the BRITISH MEDICAL JOURNAL alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their *names, not necessarily for publication.*

Authors desiring REPRINTS of their articles published in the BRITISH MEDICAL JOURNAL must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the JOURNAL, should be addressed to the Financial Secretary and Business Manager.

The ***TELEPHONE NUMBERS*** of the British Medical Association and the BRITISH MEDICAL JOURNAL are *MUSEUM 9861, 9862, 9863,* and *9864* (internal exchange, four lines).

The ***TELEGRAPHIC ADDRESSES*** are:

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FINANCIAL SECRETARY AND BUSINESS MANAGER (Advertisements, etc.), *Articulate Westcent, London.*

MEDICAL SECRETARY, *Medisecra Westcent, London.*

The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 4737 Dublin), and of the Scottish Office, 6, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 4361 Central).

QUERIES AND ANSWERS.

MULTIPLE BIRTHS.

DR. L. WALLACE (127, Gloucester Terrace, Hyde Park, W.2) asks for references to statistics, or opinions, concerning the occurrence of multiple births in the different "social strata" of the community.

POISONING BY EUCALYPTUS OIL.

DR. VERNON NEWTON (Pontycymmer, Glam.) writes: Dr. P. Gibbin, in describing a case of eucalyptus poisoning in the JOURNAL of June 4th (p. 1005), states that he has failed "to find

any record in any textbook" of toxic symptoms produced by the drug. May I, therefore, draw attention to Professor Glaister's *Medical Jurisprudence and Toxicology* (fourth edition, p. 821)? There two cases (one fatal) of poisoning by eucalyptus oil are described in full. The early signs and symptoms in these cases appear to have been similar to those in Dr. Gibbin's—except that in each case the pulse is fast. Glaister also mentions two cases of this poisoning seen by Kirkness.

INCOME TAX.

Expense Attached to Appointment.

A FULL-TIME lecturer in anatomy states that one of the terms of his appointment was that he was "expected to engage in higher study and research." He has claimed to deduct the expense of visiting meetings of the Anatomical Society to exhibit his results; those expenses have been disregarded, as also the expense entailed in applying for better appointments.

*** We agree that the terms used imply as a binding legal condition that the research work shall be done, and that the expense of attending the meetings is allowable if that is similarly enjoined, either expressly or by implication. The cost of applying for another appointment is not legally deductible.

Foreign Residence.

'W. F." is about to leave for Egypt with his wife on a five years' agreement; he proposes to retain his own house in Scotland, leaving his furniture therein, and to return to Scotland annually for a six weeks' vacation. He has been advised that he will be liable only in respect of remittances to him in this country.

*** We think "W. F." runs a risk of being held to be liable on his whole income. This is due to the fact that he will be retaining a residence in the United Kingdom to which he can, and possibly will, return at yearly intervals. In such circumstances he might be held to be "resident" and "ordinarily resident" in Scotland, and, if so, would be liable on the whole of his earnings, War Loan interest, etc. We are strongly of opinion that, from the point of view of taxation, he would be well advised to let his house for three or five years, and get rid of such furniture as he might not wish to store for so long. In such circumstances he might not be held to be resident here, even when he returns on vacation, and so escape income tax altogether. A ruling might be obtainable from the Secretary, Inland Revenue, Somerset House, W.C.2, if a full statement of the facts is sent with a request for an opinion.

Motor Car Depreciation.

"W. A. W." replaced his car in 1924 and was allowed the net cost. What will be the position with regard to income tax if he replaces his present car this year?

*** The 1924 replacement would reduce the 1924 earnings, and, owing to the operation of the three years' average, would affect (in the normal course) the assessments for 1925–26, 1926–27, and 1927–28. In fact, it has no doubt affected the two former years, but owing to the statutory change in the basis of assessment the 1927–28 assessment will be made at the amount of the 1926 earnings, and consequently will be unaffected by the 1924 replacement. If a further replacement occurs now it will have its full effect on the 1928–29 assessment, because it will be fixed by the amount of the net earnings of 1927.

"W. M." purchased his present car in 1922 for £550 and has received an offer of £80 for it; the present cost of a similar car is £470.

*** If he puts the transactions through this year he can treat as an expense £470–£80=£390, the amount of the out-of-pocket cost of renewal. This will reduce the amount of his net professional earnings for 1927, and that amount will form the basis of his liability to tax for 1928–29.

"E. M. A." refers to an answer in an earlier issue, and states that he has always claimed to deduct the running cost of his car, but has never claimed for depreciation.

*** In such circumstances the amount of the net expenditure incurred on renewing the car—exclusive of any cost of improvement—can be claimed as a professional expense of the year when the present car is replaced.

LETTERS, NOTES, ETC.

NEURITIS AND ULTRA-VIOLET RAYS.

DR. PERCY HALL (London, W.1) writes in reply to Dr. C. Burgoyne Pasley, whose inquiry appeared on June 11th (p. 1087): Experience has shown me that the great majority of cases of neuritis can be distinctly benefited, and often cured, by a course of ultra-violet rays. Certain types of case, however, where there is distinct evidence of toxaemia or chronic septic infections, leave the patient in a condition which "sensitizes" him in a peculiar manner to the action of the rays. Such would appear to have been the case in the patient in question. Symptoms occasionally arise resembling the mild forms of anaphylaxis. Having had several instances of this, I have found that continuing the use of ultra-violet rays in small doses has led to desensitization and cure. Dr. Pasley does not state the type of lamp he used, its age and output, the exposure times, distance and intervals between doses, or total number of doses. What would be regarded as moderate doses in average individuals would—in such a case as he describes—be excessive.

MIGRAINE AND HYPNOTICS.

DR. F. G. BUSHNELL (Plymouth) writes: I have had under close observation within the last six months a case of headache of migraine type in a man, aged 59, leading a professional life; the attacks during the last six months were of a disabling nature, though he had suffered from them off and on for twenty or thirty years. There was a history of insomnia in childhood and some proneness to mental worry, and lately of anxiety and excitement, consequent on public duties. There was a family history of sick headaches and of a seemingly mild attack of poliomyelitis in childhood, confined to the muscles of the right leg and foot. A sister died suddenly at 57 years of age from arterio-sclerosis. Affections of the eyes, ears and antrum, and nasal sinuses, of disordered metabolism, of intestinal toxaemia, of arterio-sclerosis or high blood pressure, of renal disease, and of cerebral tumour were eliminated from the diagnosis. Clinical features were the occurrence of ache in the forehead and back of the eyes, commencing on waking in the morning after disordered sleep, gradually getting worse during the day, and accompanied by a flushing of the face and free passage of pale watery urine. They ended suddenly during sleep, sometimes of a few minutes during the day or during the night. Eventually they were of daily occurrence and he was ordered rest abroad. This and bromide mixtures failed materially to relieve the attacks, and a [illegible] by Dr. C. Bolton. Since [illegible] able to carry on his work [illegible], then, that the ultimate cause of migraine lies in its association with the disordered function of sleep; its treatment by hypnotics and removal of the exciting causes are necessary as accessories to recovery. . . . The physiology and pathology of sleep are unknown (see *Recent* [illegible] According to Pavlov, sleep and inhibi- [illegible] process, and he associates inhibition [illegible] auses of migraine are unsolved, but research workers might help us to determine the relationship of migraine to disorder of sleep and to cortical inhibition.

HERPES AND VARICELLA.

DR. R. LYNN HEARD (Bexley, Kent) writes: I am not surprised that Dr. Gallaugher (BRITISH MEDICAL JOURNAL, June 11th, p. 1088) should not be able to trace a connexion between a specific case of herpes and an antecedent case of varicella. These cases do occur, but much more rarely than varicella contracted from herpes. This has been vouched for now by a number of different observers, and its possibility should be beyond dispute; but most instances of herpes, I am inclined to think, are derived by infection, not from varicella (which may happen), but much more usually from another herpetic patient. The fact that while herpes is infectious, so many people have had varicella in early life, becoming thereby immune, explains why a number of cases of herpes crop up more or less simultaneously and yet that we do not find two in the one house at the same time.

MOTOR REPAIRS.

MESSRS. MANN, EGERTON AND CO., consulting engineers to the Medical Insurance Agency, have recently removed their service works from Kilburn to Church Street, Edgware Road, N.W.8. The new premises are much larger than the old, and more accessible, being only five minutes from the Marble Arch. They provide accommodation for 200 cars, and are being fitted with all the necessary machinery for mechanical and coachwork repairs, equipment for cellulose painting, and arrangements for washing and garaging cars, inflating tyres, and testing and repairing batteries, and electrical mechanism. It is intended that the stores department shall include spare parts for all the best known makes of car. The company maintains a fleet of loan cars, which are let out to medical men at 10s. a day, with an extra charge for mileage exceeding thirty miles a day, during the time their own cars are under repair at the company's works. The extent and equipment of Messrs. Mann, Egerton's new premises are a guarantee of ever-increasing efficiency in their service to medical motorists.

ERRATUM.

WE regret that, owing to a printer's error, the word "exophthalmos" was substituted for "enophthalmos" in the interesting note by Dr. M. C. Torrance on paralysis of the cervical sympathetic complicating mumps, published in last week's issue of the JOURNAL at page 1088.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 47, 48, 49, 52, and 53 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 50 and 51.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 247.

Some Experiences IN BRONCHOSCOPY AND OESOPHAGOSCOPY.

BY

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(*With Special Plate.*)

THERE can be few accidents productive of more acute mental anxiety and physical distress than those caused when the entry of a foreign body into the lower air passages brings about an immediate difficulty in breathing. On rare occasions, but with less suddenness, a pathological lesion will effect the same results, and I will later describe a case in point. Similarly, lesser degrees of alarm and discomfort may follow the impaction of a foreign body in the oesophagus if it should happen to prevent or render difficult the natural and unhindered passage of food into the stomach.

It was as a method for the safe and successful treatment of such accidents that direct endoscopy first established itself and still remains without a rival, but its range of usefulness has been extended to the diagnosis and treatment of such pathological conditions in the lower air passages and the oesophagus as can be directly inspected by the surgeon. For such advances we are mainly indebted to the brilliant work of Chevalier Jackson (Philadelphia), and those interested in the subject will do well to read the report of his address given at the meeting of the British Medical Association at Bath in 1925.[1]

It will be my purpose in this communication to mention some of the more serious symptoms consequent upon the entry of a foreign body into the lower air passages or the oesophagus, and to emphasize how they may be avoided or minimized by the general practitioner who is usually the first to whom the patient applies. It may be more convenient to give the histories of six illustrative cases first of all and then to see what lessons may be learnt from them.

CASE I.—*A portion of rabbit bone lodged in a lower lobe of the right bronchus for sixteen months; Removal by peroral bronchoscopy: Recovery.*

I am indebted to Dr. Eric Gardner (Weybridge) for the following history of his patient's symptoms. "A married woman, aged 56, consulted me in the evening of October 11th, 1925. She thought she had asthma, although she had never had it before. For certain reasons the consultation was a hurried one, but I had time to notice that any slight exertion caused a definite inspiratory stridor, and that the movement of the right side of the chest was defective. I made no diagnosis, and arranged for a further and more detailed examination, because I suspected the possibility of a foreign body. At her second visit the following history was obtained. About three weeks previously she choked during dinner time, and a medical man living next door was sent for. He passed his finger down her throat and the spasm stopped. The next day any quick movement caused cough, and this became worse and was particularly noticeable when motoring against the wind. Meantime, difficulty in breathing increased and was accompanied by stridor. My examination revealed deficient air entry into the base of the right lung, and a small area below the angle of the right scapula where occasionally a few râles could be heard.

"A radiograph of the chest was taken by Mr. Charles Roberts (Woking), and showed a very indefinite linear shadow low down in the base of the right lung. On October 25th bronchoscopy was performed with a negative result.

"A few days later the patient was operated on for anal fistula and haemorrhoids and did not get out till the second week in December. In the meanwhile her cough had gone.

"She caught a severe cold, and, on December 31st, had one of the most terrible coughs I have ever heard. It failed to respond to any treatment, was incessant day and night, and was accompanied by expectoration. The evening temperature for four days was 104°. Physical signs were very indefinite; there were a few scattered râles in both bases, but more marked in the right.

"Improvement was slow except that the cough remained, and the patient went to the South of France in February, 1926. There the symptoms were very troublesome, but improved slightly during March and April, although talking, moving quickly, and cold air always brought it on, and it persisted during the summer. In September the patient went to Scotland, caught cold, the cough became very severe, and she expectorated a quantity of pus, which gave a certain amount of relief to the symptoms. She now noticed that the cough was always aggravated if she lay on her right side.

"On November 13th a second radiograph was taken and gave a clearer definition of the linear shadow seen in the first screening. An attack of influenza precluded another bronchoscopic examination while it aggravated the cough, which was very incessant day and night. The physical signs in the right base became very definite, and over a small area the breath sounds were loud and harsh. These conditions improved very slowly, and on January 18th she saw you."

Bronchoscopy.

On January 24th the patient was anaesthetized by Mr. Raymond Apperley, and on passing a small bronchoscope into the right lower lobe bronchus it was seen to be very congested when compared with the upper and middle lobe bronchi (Fig. 4). Some minutes were spent in removing the secretion and checking its formation by the application of a mixture of adrenaline and cocaine. Then a small bead of pus appeared in the mouth of a small bronchus, and on inserting the closed ends of Jackson's "mosquito," side-grasping, bronchoscopy forceps a grating sensation was felt. The foreign body was then grasped and removed, and proved to be a thin T-shaped piece of flattened bone 2 cm. in its long and 1 cm. in its shorter limb, and one end of the latter terminated in a sharp point.

A week after the operation the patient said, "I can talk and run upstairs. I can go out into cold air, and I can lie on my right side, and nothing makes me cough at all."

(It has been found impossible to reproduce for illustration the ill defined shadow of the foreign body as seen in the negative and *radiograph.*)

CASE II.—*A paper-fastener lodged for twenty-one months in the left lower lobe bronchus of a boy aged 7 years: Removal by peroral bronchoscopy: Recovery.* (Fig. 1.)

This case was reported in the BRITISH MEDICAL JOURNAL of November 18th, 1922 (p. 973), and readers interested in the subject are referred for details to that source. It will suffice to say that the chief symptoms were a chronic cough, the child "was always bronchial and short of breath, and the noise he made at night was like air passing through a small hole." In addition, there were frequent attacks of pyrexia after exertion, and examination of the chest by Dr. Batty Shaw showed definite physical signs of deficient air entry into the left lower lobe. Dr. Salmond's radiograph clearly showed the paper-fastener in the left bronchus, with the extended wings directed upwards.

On June 29th, 1922, I removed it by peroral bronchoscopy. The patient left the nursing home two days later and has remained well since. The operation was very difficult owing to the bleeding caused by oedematous granulations which surrounded and obscured the foreign body.

CASE III.—*Spicule of chicken bone removed from the oesophagus of a man four days after it had been swallowed: Cellulitis in the neck: Oesophagoscopy: Recovery.*

A man, aged 50, felt a sharp pain in his throat when eating some chicken. Shortly after dinner he experienced discomfort in the left side of his neck about the level of the collar bone, and at each succeeding meal difficulty and pain in swallowing increased. On the third day he could not swallow liquids. When I saw the patient he looked ill and distressed; temperature 100.6°. There was a diffuse and tender swelling over and in the neighbourhood of the lower half of the left sterno-mastoid.

He went at once into a nursing home, and four hours later and by direct oesophagoscopy I detected the bone about three to four inches below the entrance of the gullet. One end of the bone transfixed the mucous membrane, and on dislodging it about 3 drachms of intensely fetid pus escaped. A rubber feeding tube was passed through the gullet and a feed of egg, milk, and brandy was administered. The patient left the home in three days, and quickly recovered his normal health.

CASE IV.—*A splinter of rabbit bone impacted in the oesophagus for five days: Cervical cellulitis: Oesophagoscopy: Recovery.*

A man, aged 35, consulted me in 1924 because of increasing difficulty and severe pain on swallowing. The symptoms were ascribed to scratching the throat when he "was eating some of the stump of a broccoli."

I had known the patient as a typical English athlete, a playing member of one of the leading county cricket clubs and of a prominent Association football club. I mention these facts because of the dramatic change in his usual appearance since the above accident occurred. He was very weak, the complexion pale and sallow, and the eyes sunken; temperature 101.2°, pulse 110. The left side of the neck was diffusely swollen and very tender on pressure. I sent him to Dr. Salmond, who reported to me within an hour that the *x*-ray screen revealed a foreign body in the gullet about the level of the manubrium sterni.

The patient immediately went in a nursing home, and a few hours later I removed a spicule of bone 3 cm. long and 1 cm. broad. The sharp end was deeply embedded in the left wall of the oesophagus, and on gently dislodging it with Paterson's forceps

about an ounce of intensely foul pus escaped. When the flow had ceased liquid nourishment was administered through a stomach tube passed through the oesophagoscope. The following day sips of sterilized water were allowed and nutrient enemata administered. The patient recovered slowly but completely from his septic intoxication and left the home a week later.

CASE V.—*A denture which lodged in the oesophagus but passed into the stomach and remained there for nine weeks—the result of a delayed oesophagoscopy.*

History.—Shortly after midnight on January 13th, 1927, I received a telephone message from the hospital to say that a woman, aged 51, had swallowed her denture and that it could be seen on the screen in the cervical region of the oesophagus. From a considerable experience of this type of accident, and having been assured that the denture had no hooks, I felt confident it would involve no risk if it were allowed to remain *in situ* for a few hours longer. At 9 o'clock the same morning I passed an oesophagoscope, but found nothing in the whole length of the gullet. Later the same day the patient was again *x*-rayed, and the foreign body could be seen in the stomach, and here it remained until it was passed with the stools on March 22nd. In the meantime it had caused no trouble to the patient but an uneasiness in my mind which increased as week by week passed by, and this was not relieved by a surgical colleague who suggested that artificial teeth in the stomach might possibly be regarded as an "accessory organ of digestion." I presume he had in mind the gizzard of a bird.

The method which finally proved successful in getting rid of the denture was, in my experience, novel. The patient was given pieces of gauze to swallow, each being 6 in. by 3 in. and two layers thick, with each meal, and after five to six days the foreign body was evacuated and found to be entangled in some of the gauze.

CASE VI.—*Removal of a papillary granuloma from the proximal end of the right bronchus by peroral bronchoscopy: Recovery.* (Figs. 2 and 3.)

In March, 1918, Captain R. was "gassed" and kept in bed for a fortnight, and then invalided home for twelve weeks. During this time he noticed difficulty in breathing when he hurried, and in the following October there was occasional blood-spitting in the morning. He was demobilized in January, 1919, as C1, with 20 per cent. disability, though still dyspnoeic on exertion. In May, 1913, there was stridor on walking and much yellow expectoration. On June 16th he had marked stridor with impeded inspiration and expiration and distressing cough when lying down; there was recession of the supraclavicular fossae on inspiration, with feeble breath sounds around the root of the right lung. Bacteriological examination of sputum showed no tubercle bacilli, but numerous *M. catarrhalis*, streptococci, and coliform bacilli. The radiographer reported "some evidence of infiltration of the mediastinal contents at the level of the manubrium sterni."

On this same date (June 16) I saw him with Dr. MacWhirter of Clapham Common, and the mere exertion of walking into my house caused the patient extreme dyspnoea with both inspiratory and expiratory stridor. The laryngoscope revealed a reddish tumour at the lower end of the trachea, which moved downwards and upwards with inspiration and expiration, suggesting that the growth was pedunculated. Therefore we were confronted with what may be termed an "autogenous foreign body." We sent him straight into a nursing home, and the next day I removed the tumour by direct peroral bronchoscopy. In spite of the preliminary and free application to the growth of cocaine and adrenaline solutions, the first grasp of it in Paterson's forceps caused very free and a somewhat alarming degree of bleeding. This caused many delays, but ultimately all traces of the tumour were removed, and the patient made a rapid recovery and left the nursing home four days later. On September 28th, more than three months later, he expressed himself as being "as fit as I have ever been in my life."

The late Professor Shattock examined a portion of the tumour and described it as a "papillary granuloma." He agreed with the suggestion that it probably arose from proliferating granulations growing from a small ulceration caused by the inhalation of mustard gas.

I cannot recall any operation which gave me more anxiety during its performance or gratification on its successful issue. The physical distress of the patient was obvious and only equalled by a bravery and self-control which had not been undermined by months of suffering. The bleeding of the tumour from the moment it was seized was so free that it not only blotted out the restricted field in which one had to work but threatened an additional and possibly immediate danger if the left bronchus had become blocked by a clot. The pedicle of the tumour was attached to the posterior wall of the right bronchus close to its tracheal margin.

To these sources of mental anxiety were added the extremely tiring effect on the left arm of maintaining the bronchoscope in position in a man with a short, thick neck and a perfect set of teeth. (Endoscopists know full well how much easier it is to manipulate the direct tube in an edentulous patient.) Finally, the operation was performed during a heat wave, so that those who were actively engaged during the operation were eventually reduced to a condition of complete exhaustion.

(For fuller details of this unique case see the *Journal of Laryngology and Otology*, January, 1920.)

REFLECTIONS AND DEDUCTIONS.

The outstanding lesson which the history of these cases teaches is the *danger of delay*, with its obvious corollary that intervention should be immediate when the presence of a foreign body in the lower air passages or in the oesophagus has been diagnosed or even suspected from the history, the nature of the symptoms, or the results of radiographic examination.

What are the chief dangers and difficulties which may be engendered by delay?

1. *Shifting of the Position of the Foreign Body.*

If it has been proved by any or all of the methods of examination to have recently lodged in a bronchus, a violent fit of coughing may expel the foreign body upwards into the glottis or its immediate vicinity and cause a glottic spasm which may prove fatal in a few minutes.

Should the foreign body be like a nail or large-headed pin, which most frequently descend head first, severe coughing will with deep inspiration and forcible expiratory efforts often tend to make the object pass deeper and deeper by a kind of ratchet movement. It is needless to point out that a foreign body primarily lodged in a main bronchus would be infinitely easier to remove than when delay has allowed it to pass downwards into a smaller secondary bronchus (see Case 1).

Again, an object at first detected in the lower airways may be coughed up and then swallowed, so that an unnecessary and fruitless search with the bronchoscope may result from a policy of waiting. Furthermore, it may be expelled from one bronchus and find its way into the other.

In the case of the oesophagus the passage of the foreign body into the gastro-intestinal tract frequently causes no trouble, especially if there are no sharp projections to impede its progress (Case v). Indeed, it is surprising what large objects have been swallowed and recovered later from the stools. It was probably with such experiences in his mind that an American general practitioner said, after looking over a large array of endoscopic instruments, "Waal, the best foreign body catcher I know of is the old-fashioned English bed-pan."

If it were established that a needle had passed into the stomach the question would arise, "Which is the greater risk, a laparotomy or the danger of perforation during the passage downwards of the foreign body?" Fatalities have followed perforation of the bowel by a needle, and knowing this the surgeon may be tempted to explore, but even with the help of an expert radiographer it may be very difficult to locate the exact portion of the small bowel in which the foreign body lies. Possibly it might be well to have the patient radiographed at least every day and for the surgeon to wait at any rate so long as the object continues to move downwards.

2. *The Swelling and Maceration of a Soft Foreign Body.*

Amongst the most difficult and dangerous objects which may enter the lower airways are those which quickly swell and become soft, such as a pea, bean, or nut kernel. Such an accident demands immediate intervention. Delay means maceration, and even with the highest skill particles may escape the most cunningly devised instrument and set up a diffuse and fatal form of bronchitis or broncho-pneumonia. From this point of view the peanut has a particularly evil reputation amongst our American colleagues.

3. *Septic Foreign Bodies.*

One of the most dangerous of these when it gains access to the lower air passages is a septic tooth or "filling" which has slipped from the forceps during extraction. In no circumstances should hesitation in searching for it be countenanced, because serious pulmonary symptoms of a septic nature are liable to set in very quickly, and the

rapid development of local inflammatory reaction around such a foreign body may render its detection and removal very difficult.

Cases III and IV prove how rapidly a sharp foreign body lodged in the oesophagus may endanger the life of the patient. In each case another day's delay might have meant the commencement of a quickly fatal mediastinitis. Valuable time should not be lost in trying the effect of quantities of new bread or other stodgy forms of food. The word "criminal" is scarcely too strong a term to use for the employment of bougies to push blindly the foreign body downwards or of probangs to draw it upwards. I am quite aware that many cases could be quoted in which these methods have been successful, but they involve a grave danger which it is not fair to risk if the safer and more certain procedure of direct endoscopy be available. Is this too great an assumption? I do not think so, because in these days of telephonic facilities and rapid transport, with skilled endoscopists in almost every city and large town, help would be available without dangerous delay. It may be asked, What should be done in a case of laryngeal spasm or severe stridor when delay seems out of the question and no skilled endoscopist could be obtained for hours or even a day? The obvious answer is, "Do a low tracheotomy." By this the risk of suffocation would be removed, and if the tracheal wound be held well open during any coughing fit the foreign body may be expelled through it or driven against it so that it can be removed. Should these desirable ends not occur, the later bronchoscopy will be very much easier because the tube can be passed through the tracheotomy wound instead of through the mouth, and a novice could scarcely fail in such circumstances to see and remove the *corpus delicti*.

As a pregnant instance of the danger of blind bougieing in the oesophagus the following case may be quoted. The patient was a middle-aged man, who was brought into University College Hospital in a moribund condition and with the history that he had swallowed his denture (Fig. 5, No. 15) during sleep two nights before admission. The morning after the accident two prolonged but ineffectual attempts had been made with bougies to force it into the stomach. On admission to hospital we were able to remove the denture by oesophagoscopy within five minutes. Pulmonary symptoms of a septic character developed, and the patient died on the third day. *Post-mortem* examination revealed two large sloughing perforations in the cervical portion of the gullet, and it was obvious that through one of these the bougie had passed four inches downwards into the left mediastinum. There was a large effusion of purulent fluid in the corresponding pleural cavity. Comment is needless. (For fuller details see *Lancet*, February 23rd, 1918.)

4. *The Significance of Certain Symptoms.*

The sudden onset of a cough in an otherwise normal patient should always arouse suspicion, and particularly in the case of children who, from fear of punishment or from ignorance, may afford no history of the accident. This difficulty will obviously arise if, unbeknown to the nurse, a foreign body be inhaled or swallowed before the child has begun to talk. I once removed the teat of a "comforter" from the oesophagus of an infant 4 days old; it had completely prevented nursing at the breast and, but for the fortunate confession of the nurse, more serious results might have followed.

Reference has been made already to the need for care in diagnosis when with cough and other symptoms suggestive of tuberculosis no tubercle bacilli have been found after repeated examinations of the sputum. Suspicion should be all the stronger if the physical signs in the chest be limited to one of the lower lobes of the lungs. In all such doubtful cases the services of a skilled radiographer should be insisted upon, and if his report be negative a careful examination should be made with the bronchoscope.

5. *The Silent Period.*

It not uncommonly happens that the first symptoms of irritation, such as cough, wheezing, and shortness of breath, pass off when the mucous membranes have become tolerant of the presence of a foreign body, and a latent or silent period follows. Too frequently this lulls both patient and surgeon into a sense of false security, with consequent dangerous optimism and delay. Such latent periods may last for hours, days, weeks, or years, but the day of reckoning is almost inevitable, and the technical difficulties of direct endoscopy, when this is ultimately carried out, may be increased to such a degree as to involve risks which would not arise in an early intervention.

6. *Increased Difficulties of Treatment.*

Cases I and II show that when a foreign body lodges in one of the bronchi prolonged delay in its removal will afford time for the formation around it of vascular and oedematous granulations which not only obscure the object but hinder its removal because of the profuse bleeding and secretion which must be controlled before the foreign body can be seized and withdrawn. If impaction has lasted long enough for cicatrization of the granulations to occur, the surgeon may be faced with the great difficulty of dilating a stricture before the release of the foreign body is possible.

Radiography.

There can be few exceptions to the rule that in every case where a foreign body is known or suspected to have been inhaled or swallowed the services of an *expert* radiographer should be enlisted. I emphasize the qualification because a poor skiagram is misleading and often worse than useless. In Case II the boy's chest was *x*-rayed shortly after the accident, but the heart and the neighbouring bronchial regions only revealed a homogeneous deep black shadow. It was assumed that no foreign body was present, and this resulted in twenty-one months' delay during which the patient suffered from serious pulmonary symptoms. Dr. Salmond's radiograph showed the paper-fastener very clearly through the heart substance, and a few days later it was removed. (See BRITISH MEDICAL JOURNAL, November 18th, 1922.)

Should there be an interval between the primary radiographic detection of the foreign body and the operation for its removal a second exposure should be carried out immediately before bronchoscopy or oesophagoscopy, because the foreign body may have moved from its original position. Had this been done in Case V oesophagoscopy would have been unnecessary.

It may be asked, Of what value would radiography be in the case of bodies not opaque to the *x* ray, such as *fish-bones, bone buttons, glass beads, vegetable substances*, macerated meat, etc.? The answer is, In such cases, though the object itself may not be rendered visible by radiography, its *position* can often be indicated.

(*a*) *Lung.*

If a foreign body so completely blocks a main bronchus that no air can enter or leave it, the lung tissue will soon give the physical signs and symptoms of atelectasis, and the radiogram will reveal a characteristic shadow. A more restricted effect will naturally result if a secondary bronchus be obstructed.

Should the object be of such a shape that air can be inspired through but not expired from a primary or secondary bronchus an obstructive emphysema beyond the location of the foreign body will result, and will be manifested if good radiograms be taken; these must be made with the shortest exposure, at the moment of full inspiration and deep expiration.

In the case of smaller non-opaque bodies which permit of unimpeded ingress and egress of air, the insufflation of bismuth subcarbonate or the injection of lipiodol may render its location determinable.

For fuller information on these problems and their treatment readers should refer to the masterly exposition of the subject by Chevalier Jackson in the BRITISH MEDICAL JOURNAL of October 17th, 1925.

(*b*) *Oesophagus.*

When such objects as spicules of bone or other non-opaque bodies are lodged in the gullet, a swallowed capsule of bismuth may be seen by the *x* rays to be held up at a definite spot. Small pledgets of wool soaked in bismuth

solution and swallowed may be caught up in the same way (H. K. Wilson). Bone buttons can frequently be detected after the swallowing of a bismuth solution.

Whether the foreign body be located in the larynx, the trachea, the bronchi, or the œsophagus, an antero-posterior and a lateral or lateral oblique *x*-ray examination should always be made. A comparison of the results thus obtained may be of the utmost value to the endoscopist.

Radiography is indeed the handmaiden of endoscopy, and her aid has often been and will continue to be of indispensable assistance in this branch of surgery.

In conclusion I make no apology for omitting any description or illustrations of the many types of endoscopes and instruments used with them; they can be seen in the surgical instrument catalogues, their number is legion, and they increase more rapidly than the foreign bodies which they are devised to deal with. Still less would it be worth while to dwell on the details of manipulative technique, because these can only be acquired by patient and painstaking practice.

My object will be attained if those who have glanced through the histories of the cases which I have reported will learn from them some of the lessons which it has seemed worth while to emphasize.

REFERENCE.
1 BRITISH MEDICAL JOURNAL, October 17th, 1925, p. 686.

NORMAL CHOLECYSTOGRAPHY.*

BY
FRANCIS DAVIES, M.D.LOND.
(From the Anatomy Department, University College, London.)

(*With Special Plate.*)

ON examining a number of cholecystograms it at *once* becomes evident that the shadow of the gall bladder varies in different individuals, both in size, shape, position, and density. Dr. Evarts Graham,[1] the pioneer of cholecystography, predicted in an earlier paper that the shadows of gall bladders would probably be found to vary in position with the different types of bodily habitus. This preliminary report is concerned with the cholecystographic investigation of 100 medical students at University College, London, after administration by the mouth of sodium tetra-iodo-phenol-phthalein, in the endeavour to determine primarily whether the characters of the shadows of gall bladders in normal individuals vary with the different types of bodily habitus. Comment is also made on the oral administration of the dye, and on the details of the radiological technique employed.

1. *Relation of Gall-Bladder Shadows to Bodily Habitus.*

The students, whose ages varied from 18 to 30 years, comprised 80 males and 20 females, and they were classified after the manner of Mills into the following types of bodily habitus. Mills[2] gives the chief characteristics of each of these types as follows (Fig. 1):

1. *Hypersthenic.*—Massive physique, great body weight, heavy bony framework, short wide deep thorax, relatively long abdomen of greatest capacity in upper zones, subcostal angle very obtuse, lungs wide at bases and contract sharply to apices which project but little above clavicles, long axis of heart nearly transverse, alimentary tract high in position, gastric motility fastest and tonus most marked of any type (stomach emptying time about 4 hours 22 minutes), colon high and short, caecum well out of iliac basin (even standing), transverse colon truly transverse, marked colonic tonus, and motility rapid. This group comprises about 5 per cent. of individuals.

2. *Sthenic.*—Resemble hypersthenic but characters less marked; considerable body weight, rather heavy bony framework, thorax somewhat short and deep, lungs widest at bases, heart moderately transverse, subcostal angle about 80 degrees, digestive tract high with good tonus, and motility fairly rapid (stomach emptying time about 4 hours 46 minutes). This group comprises about 48 per cent. of individuals.

3. *Hyposthenic.*—Frailty of build approaches that of asthenic type, visceral characteristics approach those of asthenics, but lack the extremely low position and peculiar form of such; tonus rather poor and alimentary motility somewhat slow (stomach emptying time about 5 hours 26 minutes); lungs intermediate in proportions, heart pendent. This group comprises about 35 per cent. of individuals.

4. *Asthenic.*—Frail slender physique, light body weight, delicate bony structure, long narrow thorax, short abdomen of least capacity in upper zones, marked disproportion between great pelvic capacity and capacity of upper abdomen (pelvis may be as wide and capacious as that of a hypersthenic of twice the body weight); subcostal angle narrow, lungs widest in upper zones and apices extend well above clavicles, heart pendent ("drop-heart"); gastro-intestinal tract low, stomach often largely pelvic when standing, colon long, caecum capacious and low in pelvis, poor tonus and motility slowest (stomach emptying time about 5 hours 43 minutes, and often not empty after 6 hours). This group comprises about 12 per cent. of individuals.

In the investigation here described radiograms of the gall bladder were taken, after administration by the mouth of sodium tetra-iodo-phenol-phthalein, with the radiological technique described below. The data obtained from the cholecystograms are given in the table. From these data the following deductions may be made.

1. The length of the gall-bladder shadow is not definitely related to the type of bodily habitus.

2. The breadth of the gall-bladder shadow is greater in the "better" types of bodily habitus (that is, in the hypersthenic and sthenic types).

3. The neck of the gall-bladder shadow lies at a higher level and at a greater distance from the mid-line of the vertebral column in the "better" types of bodily habitus.

4. The fundus of the gall-bladder shadow lies at a higher level and at a greater distance from the mid-line in the "better" types of bodily habitus.

5. The rate of emptying of the gall bladder (as indicated by the extent of reduction in the size of the shadow at 16½ hours—that is, two hours after taking a fatty meal) is quicker in the "better" types of bodily habitus.

6. The respiratory excursion of the gall-bladder shadow is greater in the "better" types of bodily habitus.

It must be noted that, though this table indicates that the length of the gall-bladder shadow is not definitely related to the type of bodily habitus, the *actual* length of the viscus may vary with the type of bodily habitus, because in the radiograms we have a more foreshortened view of the gall bladder in the "better" types of bodily habitus.

* This work was made possible by a grant from the Medical Research Council.

Table of Results in Various Types and at the Intervals Specified after Administration by the Mouth.

Type of Bodily Habitus.	No. of Cases.	Length of Gall-Bladder Shadow (Inspiration).	Maximum Breadth of Gall-Bladder Shadow (Inspiration).	Position of Neck of Gall Bladder at 1⅔ Hours (Inspiration).	Position of Fundus of Gall Bladder at 1 ½ Hours (Inspiration).	Respiratory Excursion.
Hypersthenic	6	1½ hrs.: 4.9–9.8 cm. 16½ hrs.: 2.6–5.3 cm.	1⅔ hrs.: 2.8–3.7 cm. 16½ hrs.: 1.2–1.9 cm.	Upper part D12—lower border L1 3.1–5.8 cm.	Lower part L1—lower border L3 4.2–8.5 cm.	2.5–4.9 cm.
Sthenic ...	44	1½ hrs.: 4.9–8.5 cm. 16½ hrs.: 2.8–6.1 cm.	1½ hrs.: 2.6–3.7 cm. 16½ hrs.: 1.2–2.8 cm.	Lower border D12—middle L2 2.2–5.6 cm.	Upper part L2—upper border L4 3.8–6.9 cm.	2.5–4.2 cm.
Hyposthenic ..	17	1½ hrs.: 5.1–8.0 cm. 16½ hrs.: 3.5–5.9 cm.	1½ hrs.: 2.5–3.5 cm. 16½ hrs.: 1.4–2.7 cm.	Middle L1—lower part L2 2.7–4.8 cm.	Lower part L2—middle L4 3.5–5.0 cm.	1.9–2.7 cm.
Asthenic ...	5	1½ hrs.: 6.0–9.8 cm. 16½ hrs.: 4.9–7.8 cm.	1½ hrs.: 2.0–2.6 cm. 16½ hrs.: 1.1–1.9 cm.	Upper border L2—lower border L2 2.7–4.0 cm.	Middle L1—lower border L4 3.4–4.5 cm.	1.5 cm.
	72					



FIG. 1.—Dr. Salmond's skiagram of patient's chest, showing the paper-fastener in the distal portion of the left bronchus.

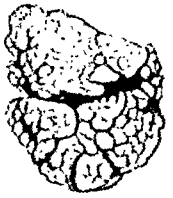


FIG. 2.—Papillary *granuloma removed* from the posterior wall of the proximal end of the right bronchus.



FIG. 3.—Microscopic section of a portion of the tumour prepared by the late Professor Shattock.

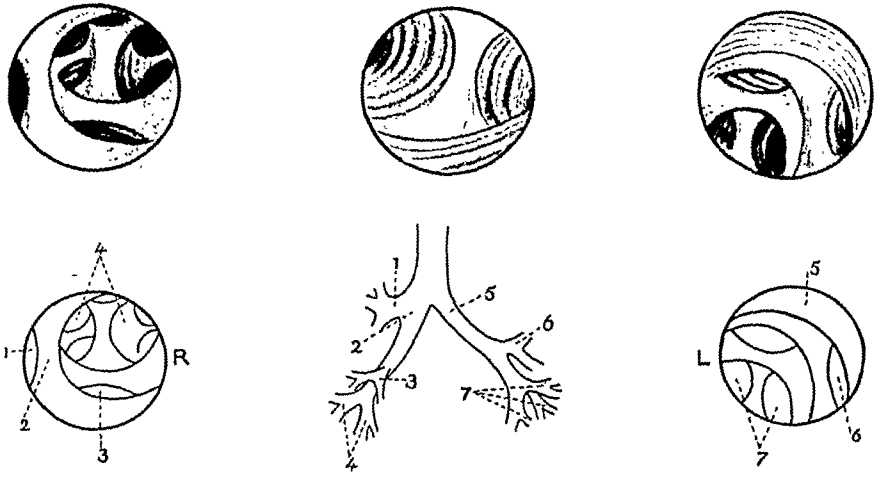


FIG. 4.—Bronchoscopic views of the lower end of trachea and of the deeper aspects of the right and left main bronchi, with key. (1) Mouth of right upper lobe bronchus. (2) Bifurcation between (1), (3), and (4). (3) Mouth of middle lobe bronchus. (4) Openings of lower lobe bronchi. (5) Left main bronchus. (6) Mouth of left upper lobe bronchus. (7) *Openings of left lower lobe bronchi.*

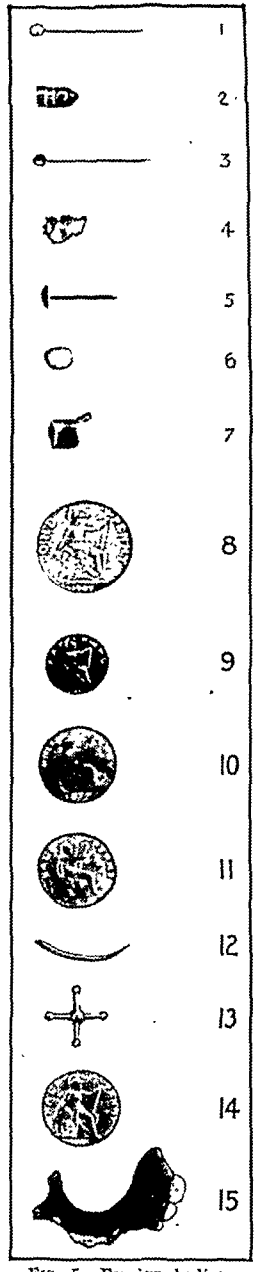
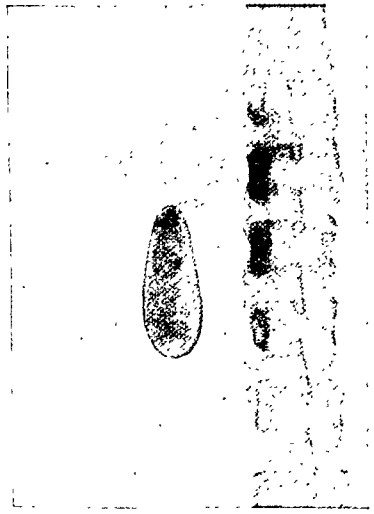


FIG. 5.—Foreign bodies removed from bronchi (1 to 7) and oesophagus (8 to 15).

FIG. 1.



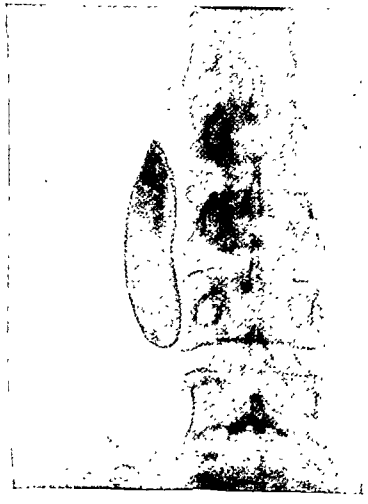
Hypersthenic.



Sthenic.



Hyposthenic.



Asthenic.



Microscopic appearance of a section of the wall of the left auricle of a woman, aged 21, who died from acute Graves's disease.



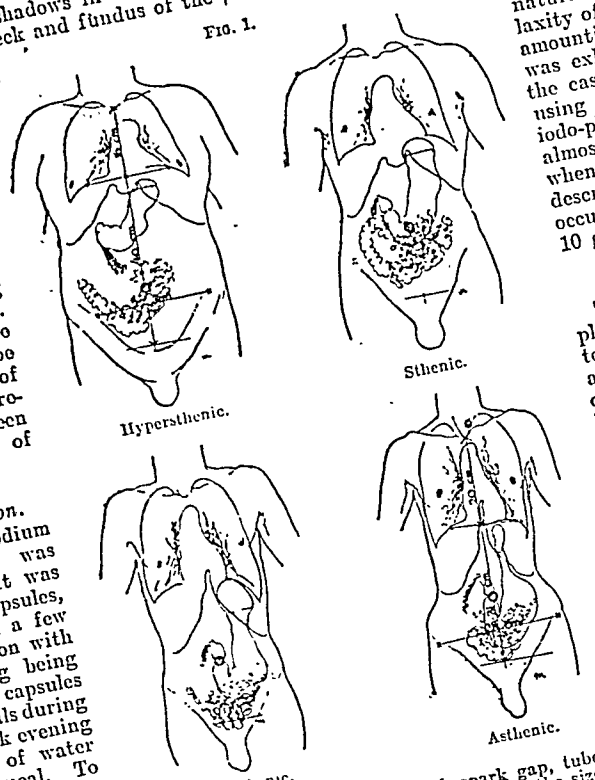


NORMAL CHOLECYSTOGRAPHY.

Fig. 2 shows the areas including the varying positions of the neck and fundus of gall-bladder shadows in each type of bodily habitus—for example, the neck and fundus of the gall-bladder shadow of a hyposthenic individual will normally be found to lie within the area 1. Fig. 3 shows an average gall-bladder shadow for each type of bodily habitus, the measurements being obtained from the averages of those in the table.

Mills showed that gastric motility and tonus varied with bodily habitus, the motility being fastest in the "better" types. The rate of emptying of the gall bladder is shown above to be quicker in the "better" types of bodily habitus. A definite correlation is thus indicated between gastric motility and rate of emptying of the gall bladder.

FIG. 1.



2. *Method of Administration.*

A dose of 5 grams of sodium tetra-iodo-phenol-phthalein was given to each student. It was made up in five gelatin capsules, each of which was coated a few hours before administration with stearic acid, the coating being thin and uniform. The capsules were swallowed at intervals during the course of the 7 o'clock evening meal, a fair quantity of water being drunk with the meal. To minimize evil effects, the student was advised to remain comparatively quiet during the evening. The following morning, without breakfast, the student presented himself for x-ray investigation at 9.30 o'clock (that is, 14½ hours after taking the dye). Then he took a fatty meal consisting of eggs, bacon, milk, cream, butter, etc., and at 11.30 presented himself for the second x-ray investigation (that is, 16½ hours after taking the dye, or 2 hours after the fatty meal). He then resumed his normal life. A dose of 5 grams is quite sufficient, as it was noted in a number of cases which showed a good gall-bladder shadow that some of the dye was still residing unabsorbed in the large intestine. Moreover, the more serious of the toxic symptoms that have been reported have generally been observed after larger doses. In this series of cases, with the above dosage and method of administration, toxic symptoms resulted in very few instances, and in these they were very mild, not sufficient to interfere with the work of the student or to cause any student to refuse to take the dye a second time if required. The symptoms comprised slight nausea shortly after swallowing the capsules (in 8 per cent.), slight vomiting soon after taking the dye (in one case), slight epigastric discomfort during the night (in 7 per cent.), slight headache in the morning relieved by breakfast (in 10 per cent.), or a nasty taste in the mouth in the morning variously described as "iodoform" and as "metallic" (in 10 per cent.). The dye is a natural purgative, and slight laxity of the bowels (not actually amounting to clinical diarrhœa) was exhibited in 20 per cent. of the cases. Recently I have been using a form of sodium tetra-iodo-phenol-phthalein which is almost free from toxic effect when administered as above described. Slight headache may occur, but is quickly dispelled by 10 grains of aspirin.

3. *Radiological Technique.*

The following points are emphasized in the standardized technique which we have gradually come to employ. For this credit is due to Mr. Frederick Melville, radiographer at University College, London.

1. The tube should be centred over a point about a hand's breadth to the right of the spine of the second lumbar vertebra.
2. The radiogram is taken postero-anteriorly (P.A.)—that is, abdomen towards film.
3. The radiogram is taken at the end of inspiration.
4. The use of the immobilizing band is no definite advantage.
5. The Potter-Bucky diaphragm is always used.
6. Four types of tubes were used with no material difference in the results.
7. Tube condition: 30 milliamperes, 5-inch spark gap, tube distance 36 inches, exposure 4 to 6 seconds (depending on the size of the individual).

It will be noted that the tube distance is great (36 inches), the result of which is to reduce distortion. It was observed that the best cholecystograms were obtained in those films which did not show first-class bone definition—that is, those in which a smaller tube penetration was used as a result of the small spark gap (5 inches).

Comment.

In this investigation a positive "good" shadow of the gall bladder was obtained in 72 per cent. of the cases. This figure includes only those shadows from which definite measurements could be taken. Ill defined or doubtful shadows are not included. The number of positive results in the earlier cases was affected by the fact that the technique was somewhat experimental. It was necessary to determine by experience the best method of administering the dye and the most suitable radiological technique. The later cases showed a larger number of positive results. When the improved (and now constant) technique was employed it was found that of fifteen students who failed to give a positive result on the first investigation, nine gave

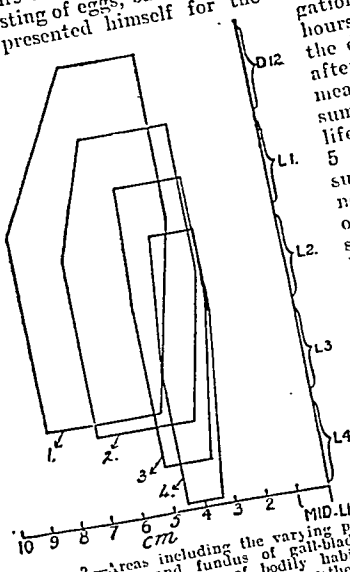


FIG. 2.—Areas including the varying positions of neck and fundus of gall-bladder shadows for each type of bodily habitus. 1, Hypersthenic; 2, sthenic; 3, hyposthenic; 4, asthenic.

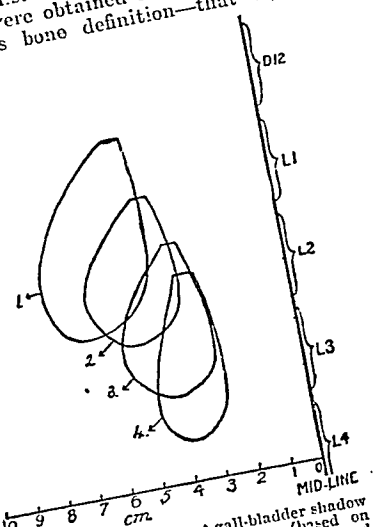


FIG. 3.—Average type of gall-bladder shadow for each type of bodily habitus (based on average position of neck and fundus and average breadth). 1, Hypersthenic; 2, sthenic; 3, hyposthenic; 4, asthenic.

a good gall-bladder shadow when the investigation was repeated six to twelve weeks later, using precisely the same technique. This is a matter of some importance, since many investigators have declared that the absence of a positive result with a reliable technique is the most certain evidence of disease of the biliary tract. The above evidence shows that a certain number of normal individuals may fail to give a positive cholecystogram on the first investigation, but give a good gall-bladder shadow on repeating the investigation some time later. Also in this series it was noted that two students who had previously given positive cholecystograms failed to give a shadow when the investigation was repeated a few weeks later, using the same technique. Evidently, therefore, the factors concerned in the production of a gall-bladder shadow must be liable to physiological variation. The following physiological factors are essential for the production of a positive cholecystogram after the oral administration of sodium tetra-iodo-phenol-phthalein:

1. A definite rate of absorption of the dye from the intestine.
2. A definite rate of specific excretion of the dye by the liver.
3. Entrance of the dye into the gall bladder in sufficient amount.
4. A definite degree of concentration of the dye-containing bile by the gall bladder.

It is possible that any of these factors may be subject to physiological variation which may affect the production of a positive cholecystogram. Have we any means of determining the adequacy of each of these factors and thus of observing any possible variations that may occur in the normal individual? It might be possible to obtain an index of the rate of absorption of the dye from the intestine by observing the rate of elimination in the urine (a small fraction of the dye being eliminated by this channel). The dye has a slight laxative action on the bowel and the greater part of the dye is eliminated in the faeces. No definite correlation between the degree of laxative action of the dye and the density of the shadow of the gall bladder was noted in this series. The rate of excretion of the dye by the liver can be checked by Rowntree's method of estimating the "global capacity" of the liver to eliminate similar dyes—for example, phenoltetrachlorphthalein. This is done by injecting intravenously a known quantity of a solution of this dye and estimating its rate of disappearance from the blood stream, or its rate of appearance in the contents of the duodenum aspirated through an Einhorn's duodenal tube. The filling of the gall bladder with dye-laden bile from the liver is brought about by a mechanism at the termination of the common bile duct which resists the passage of bile direct to the duodenum. It is possible that this resistance mechanism may be liable to physiological variation. As Mann[3] states, it is not known what percentage of bile normally enters the duodenum without previously entering the gall bladder. The dye in the bile leaving the liver is not sufficiently concentrated to produce a shadow. The concentration takes place in the gall bladder by the absorption of water by the wall of the viscus. For a sufficient degree of concentration to take place the wall of the gall bladder must be healthy, but the process may be liable to physiological variation. The degree of absorption of water by the gall bladder may be affected by the water content of the tissues at the time. There may be other factors, besides those mentioned, which are necessary for the production of a gall-bladder shadow, and physiological variations in these may likewise modify the results of an *x*-ray investigation of the biliary tract.

The complexity of the physiological processes underlying the production of a gall-bladder shadow is such that even on prima facie grounds the statement that absence of a shadow (*per se*) always indicates a pathological state seems unwarranted. Moreover, the above observation that a normal individual may fail to give a shadow on the first investigation but give a positive result on repeating the investigation is in direct conflict with such a statement. It thus appears that a negative cholecystogram *per se* (that is, in the absence of clinical evidence of disease of the biliary tract) is of less diagnostic value and significance than positive cholecystographic evidence of disease. Likewise, if a shadow be produced, the above factors will undoubtedly have an influence upon the density of the shadow, so that too much weight must not be attached to diminished density of the shadow as an indication of a pathological state.

Summary and Conclusions.

1. The position of the gall-bladder shadow in cholecystograms varies with the type of bodily habitus. (See Fig. 2.)
2. The rate of emptying of the gall bladder varies with the type of bodily habitus. A correlation is established between bodily habitus, gastric motility, and the rate of emptying of the gall bladder.
3. The oral method of administration of sodium tetra-iodo-phenol-phthalein, using the technique described, is reliable, safe, and comparatively free from toxic effects.
4. The radiological technique described is reliable.
5. A certain number of normal individuals may fail to give a shadow on the first investigation, but on repeating the investigation with precisely the same technique many of these may give a positive result.
6. A negative cholecystogram, in the absence of clinical evidence, is less reliable than positive cholecystographic evidence of disease.

I desire to express my thanks to my chief, Professor G. Elliot Smith, at whose suggestion this work has been carried out, and to Mr. H. A. Harris for valuable advice and help in the investigation. I also wish to express my appreciation of the medical students of University College who offered themselves as subjects for this investigation.

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TWO CASES OF THROMBO-ANGIITIS OBLITERANS IN WOMEN.

BY

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(With Special Plate.)

THE symptoms of thrombo-angiitis obliterans are already becoming widely known, thanks to the reporting of cases by several observers, and it is not likely that much more is to be gained by the bare recording of further instances. The rarity of the lesion in women is, however, one of the extraordinary features of the disease. Buerger,[1] to whom much of our knowledge of the subject is due, states: "So rare is the disease in females that doubt has been cast on the possibility of its occurrence outside of the male sex." He further states that he has observed only three cases.

In the course of further investigation of thrombo-angiitis obliterans we have encountered two instances of the disease in women. These we think worthy of being recorded, not only by reason of their rarity in that sex, but because each presents certain very unusual features.

Dr. Williams of Salford drew our attention to the case of a woman patient who had continued for no less than twelve months with the left hand, wrist, and part of forearm in a condition of total mummification. By the kindness of Dr. Williams we were able to make an examination of the case and to obtain a photograph. Short details of the case are as follows:

A married woman, aged 52, British born, stated that her trouble began, some fifteen months ago, with severe aching pain in the index and middle fingers of the left hand; she noticed that they were "slightly blue." Within three weeks the whole hand was aching very severely; it was "cold and dark red." She continued in this way for three months, and at the end of this time the hand, wrist, and lower part of the left forearm were in a condition of black-dry gangrene. The pains then ceased, and when we saw her the condition of the limb had shown no change

whatever for twelve months. The state of the hand is well shown in the photograph (see Special Plate).

Her previous medical history was good and without incident; she had had eight healthy children, all now grown up. For the greater part of her life she had worked in a dye works, with her hands continually in cold running water.

The condition of the heart is normal, and the state of the pulse in the main arteries is as follows: In the affected arm the pulse fails entirely just below the clavicle, and no pulse is to be felt in any vessel of the limb. The pulse in the head, neck, and right arm is normal. In both lower extremities a slight pulse can be felt in the popliteal artery, but at no other point below this. In all that part of the left arm which is alive sensation is normal, as tested by touch, heat and cold, pain, and joint sense. No active treatment was urged as the gangrenous hand was giving no trouble and the patient's general condition was poor; she died shortly afterwards from "malignant ovarian cyst." Unfortunately it was not possible to obtain specimens of the blood vessels for examination.

We owe the opportunity of studying the second case to Dr. Wilson of Cheadle, who informed us that he had under his care a woman in whom he was unable to feel a pulse in either arm. A short summary of the case is as follows:

A married woman, aged 48, British born, first noticed weakness of the left hand six years ago; this weakness progressed, and there was tingling and aching of the forefinger. Within a year the right arm followed the same course as its fellow, but the trouble on this side has never been so severe.

Examination of the arms shows that both are weak and much wasted. There is no alteration of sensation and no sign of any nervous lesion. No discoloration or other gross evidence of circulatory trouble is apparent. The extraordinary fact is that at no point in either limb can any subclavian, axillary, brachial, radial, or other pulse be found. The pulse in the head and neck is normal. The patient stated that her legs were very easily tired, and "often went to sleep." In the right lower extremity a very diminished and feeble pulse can be felt in all the large vessels, whilst on the left side no pulse is felt in or below the popliteal artery. The superficial and common femoral pulses on this side are very faint.

It may reasonably be objected that in the absence of histological proof these two cases may not be true instances of thrombo-angiitis obliterans. We think, however, that they must be regarded as such, and from what is now a fairly extensive experience of the disease the clinical features of these cases leave no doubt in our own minds.

Their interest lies, not only in the rarity of the disease in women, but in the fact that the two patients illustrate very opposite types. Cases of thrombo-angiitis obliterans have been noted to vary in intensity and rapidity of development within very wide limits, and we have in these two patients almost the extremes of acute and chronic types. In the first case the period between the onset of symptoms and the occurrence of total gangrene was but three months. In this patient the thrombosis had spread throughout the arm with such rapidity as to preclude entirely any successful attempt at collateral circulation. In the second case the course is extremely chronic. The patient dates her symptoms from six years ago, and it is evident that the change for the worse has been very slow. Whilst there is no pulse to be felt in either arm, it is plain that plenty of time has been given for the setting up of a good collateral circulation. There is, in fact, evidence that the history of this case is in reality very much longer than six years. The patient states that at her last confinement both doctor and nurse were surprised to find that no pulse could be found in either arm; this confinement was no less than sixteen years ago.

We are as yet no nearer to the cause of this strange disease. It is by no means peculiar to the Jewish race; all our cases have been of pure British blood. Meleney and Miller[2] describe twenty-four cases from Peking, and Whyte[3] in two papers has reported many cases in Chinese patients. He says that the disease occurs in nearly all the provinces of China. All observers are agreed that it appears to have no relation to syphilis.

Where so much difficulty exists it is worth while to take note of any suggestions made by the patients themselves, and in this respect four of our patients have attributed their condition to prolonged exposure to cold and wet. An electrical linesman stated that he had worked out of doors in wet clothes for years, and another patient, who was a slater, stated that his affected leg was the one which was always uppermost in his habitual position when slating a roof, and had been often soaking wet for hours together. Another of our patients was a lifelong enthusiast as a fly fisherman, and stoutly attributed his condition to wading, whilst in one of the cases we report above the woman had worked most of her life with her hands in cold running water. We have also seen several cases of thrombo-angiitis obliterans in the lower extremities of pensioners who were exposed to long and frequent spells of cold and wet in trench warfare.

Whilst it is not likely that this exposure is a direct cause, yet it seems possible that it may act as a predisposing factor in susceptible patients. These instances are, however, too few to be worthy of any stress, and we wish to do no more than merely to place them on record as facts which in the history of our cases have emerged with some frequency.

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THE ELECTRICAL AND HISTOLOGICAL MANIFESTATIONS OF THYROTOXIC MYOCARDITIS.*

BY

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(*With Special Plate.*)

THE myocardium resembles other muscles of the body in its properties of irritability, conductivity, contractility, and tone. These are definitely specialized in different regions and fulfil specific purposes in the mechanism of the circulation. For example, irritability is specialized in the region of the sino-auricular node and dominates the beat, the most irritable part of the myocardium always determining the contraction. Tonicity is specialized in the region of the rings, its function being to maintain the competence of the valves. Contractility is specialized in the walls of the ventricles and provides the energy for the circulation, while conductivity—the most differentiated of all the functions of the myocardium—is localized in the special conducting system.

Should the myocardium become poisoned (toxic myocarditis), or degenerated (degenerative myocarditis), the signs and symptoms produced are determined chiefly by this specialization of function. If, for example, the auricle is the part chiefly picked out, auricular phenomena, extrasystoles, auricular paroxysmal tachycardia, flutter, or fibrillation (paroxysmal or established) may result, with the consequent irregularity and rapidity of the pulse. If the bundle of His, or some other part of the conducting system, is affected, one of the specific defects of conductivity—for example, heart-block, main branch or arborization block—may result, with its consequent slow pulse and syncopal attacks; whereas, if the ventricular wall itself is chiefly picked out, ventricular extra-systoles, paroxysmal ventricular tachycardia, or even ventricular fibrillation may ensue.

A general poison, either endogenous or introduced from without, nearly always acts first on some special part of the myocardium, which is determined, not necessarily by any special affinity of the poison, but by a pre-existing damage, strain, or fatigue of the particular part. For example, it is well known that in rheumatic affections of the myocardium digitalis in toxic doses will sometimes couple the beat and sometimes produce heart-block. A coupled beat is, in most cases, due to a dominant beat rising in the sino-auricular node and an ectopic beat rising from

* Abstract of a demonstration at the Annual Meeting, Nottingham, 1926.

the right ventricle; the reason the right ventricle first succumbs to the action of the digitalis is, I think, due to the fact that it is the right heart which is usually strained, fatigued, or damaged in those cases (such as mitral stenosis) to which digitalis is most often administered. On the other hand, the cases which develop heart-block on digitalis poisoning are those in which the bundle of His is relatively most damaged.

Although the above statements are generally true, most slowly acting poisons which affect the myocardium decrease its tone and usually raise its irritability as well. In thyrotoxicosis the first symptom is usually tachycardia, at first intermittent, then continuous, followed in the later stages by cardiac irregularity, myocardial exhaustion, and even sudden death.

Electro-cardiographic Manifestations.

Of the different waves in the normal electro-cardiogram we may say briefly that P equals the auricular complex; Q, R, S, T the ventricular complexes.

In the minor degrees of thyroid poisoning the electrocardiogram shows a tachycardia of physiological type, P, Q, R, S, and T being present, but there are certain definite peculiarities in the form of the curve. Whereas in an effort tachycardia the T wave is always larger than the P, in thyroid tachycardia the T and P are approximately equal, while in mitral stenosis a tachycardia of similar grade is characterized by the P_2 wave being bigger than the T_2. If the tachycardia is of a higher grade the T and P waves are superimposed; it is thus possible to distinguish easily at a glance these three types of physiological tachycardia. The prolonged tachycardia becomes associated with a definite left-sided preponderance, while the continued action of the toxin produces distinct evidence of myocardial damage, the conducting system being specially picked out, so that there is impaired conduction in the bundle of His, the P-R interval being increased in some cases to as much as 0.3 of a second; in other cases the right main branch is picked out, so that there is a definite right bundle block with consequent impaired efficiency in the pulmonary circuit. This is particularly liable to occur in the pneumo-mechanical heart of the toxic adenoma; at a still later date the arborization branches of the bundle of His may be involved.

In the later stages of mild cases of thyrotoxicosis, or in the early stages of very acute ones, the heart may become irregular owing to auricular fibrillation and then the normal co-ordinate contraction of the auricular muscle fibres does not occur; the different bands of auricular muscle contract irregularly and more or less independently. The degree to which this dissociation and inco-ordination has occurred determines whether the resulting fibrillation is of the so-called coarse or fine variety. In my own series of cases 15 per cent. showed auricular fibrillation, 10 per cent. exhibiting the condition before, and 5 per cent. developing it after operation. Generally speaking, the condition develops after the disease has been in progress for some years, and must be regarded as indicating that the myocardium is profoundly poisoned or that degeneration has definitely commenced. Occasionally Graves's disease starts with auricular fibrillation, and in these cases the condition usually persists. Not infrequently (about 5 per cent.) auricular fibrillation develops during or soon after operation on the thyroid, and may occur after any operation, from simple ligation to extirpations of varying extent. Usually the condition is only temporary. Its onset is often synchronous with a rise in blood pressure.

On the other hand, cases of Graves's disease which show auricular fibrillation, which may in some cases have persisted for years, are frequently cured of the fibrillation after removal of the greater part of the thyroid, especially if they are treated by quinidine, which appears to influence materially many of these cases after partial thyroidectomy. The cure of fibrillation by removal of the thyroid is now a recognized treatment. Appended is a summary of the electro-cardiographic findings in 787 thyrotoxic hearts.

Analysis of Electro-cardiographic Findings in 787 Cases of Thyroid Hearts.

	Series.				Total.
	I.	II.	III.	IV.	
Number of Cases	264	225	150	148	787
Preponderance:					
Left	57	41	68	18	184
Right	29	36	24	19	108
P-R+	152	47	9	34	242
Auricular fibrillation	39	25	6	21	91
Branch block, right	—	1	3	1	5
Extra-systole:					
Auricle	—	2	2	1	5
Ventricle	—	7	4	8	19
T waves modified:					
T1	—	14	9	—	23
T2	—	11	35	—	46
T3	—	11	102	—	113
R-S complex abnormal	20	1	12	—	33

The electro-cardiographic findings in these 787 cases may be summarized as follows:

242 cases showed impaired conduction in bundle of His.
184 cases showed a left-sided preponderance.
113 cases modification of the T wave in the third lead.
108 cases showed a right-sided preponderance.
91 cases auricular fibrillation.
46 cases modification in T wave in lead ii.
33 cases showed modification in R-S complex.
23 cases modification in T in lead i.
19 cases ventricular extra-systoles.
5 cases right branch block.
5 cases auricular extra-systoles.

Histological Appearance of Myocardium in Fatal Graves's Disease.

The illustration shows a section of the heart muscle of a woman, aged 21, who died from acute Graves's disease, from which she had been suffering for a year.

She had been in good health until the onset of the disease, and then presented the cardinal signs of goitre, exophthalmos, tachycardia, and tremors. The pulse was fast and regular, and there was no heart-block nor auricular fibrillation. Rest in bed and six months' medical treatment proved ineffective, but at the end of this time she was temporarily improved by polar ligation of the right superior thyroid artery, under local anaesthesia. Six weeks later the left superior artery was tied, but, following this, the thyroidism became more acute. She died forty-eight hours afterwards from failure of the right side of the heart, which at the necropsy was found to be very dilated. The pericardium, endocardium, and valves appeared healthy, and, on cutting the muscle, no gross change was noticed.

The sections, however, show the presence of an active and advanced myocarditis (see special plate), evidenced by the number of polymorphonuclear leucocytes surrounding the vessels and spreading between the muscle fibres, and also by the presence of a patchy necrosis of bundles of muscle fibres. The necrosed bundles have taken the stain badly, are swollen and lack definition, while the nuclei are swollen also.

The part of the heart least affected is the base in the region of the bundle of His; the most marked degenerative change is in the ventricles, particularly the right, where necrosis is most apparent.

Although somewhat similar changes have been described by Continental and American workers, as yet in this country little attention has been drawn to the subject of myocarditis in Graves's disease. The writers have since collected records of eight other cases in which the histological findings were similar to those here described.

CLOSURE OF ABDOMINAL INCISIONS.

BY

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THE high incidence of faulty wound union in abdominal incisions leaves ample scope for improvement in the technique of closing the abdomen.

A recent American writer[1] found that faulty union *occurred in 12 per cent. of clean abdominal wounds closed* with absorbable sutures. In contaminated wounds, closed in the same manner, the percentage rose to 80 per cent. These figures, he found, could be considerably reduced by using for the fascial layer a continuous suture of twisted silk. The suture was passed through the skin beyond the extremities of the wound, and could thus be removed at a later date. Continuous silk, even though removable, is prima facie not the suture of choice in contaminated wounds.

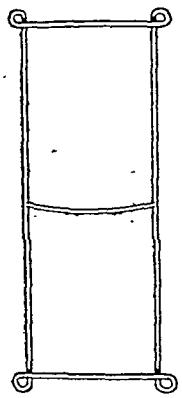


FIG. 1.—Wire frame showing curved cross-bar used when necessary to strengthen sides.

Many surgeons have advocated and used the "figure of 8" silkworm-gut suture for the same purpose. The small deeper loop of the "8" takes in its bight the essential layer—that is, the fascia of the linea alba or other fascial layer concerned—while the larger superficial loop is joined over the skin and encloses all the tissues superficial to the fascia.

This suture has many disadvantages; three may be mentioned: (1) The smaller deeper loop can only be made effective by tying the suture so tightly as to strangle the bulky tissues in the bight of the superficial loop. For this reason the suture could not be employed for, let us say, a vertical incision in the posterior sheath of the rectus. (2) The hold of the deeper loop on the fascia, wherever situated, rapidly becomes slack owing to the yielding of the tissues enclosed in the large superficial loop. (3) In case of suppuration of the abdominal wall—if the superficial loop is released for drainage purposes the fascial support is sacrificed as well.

These disadvantages can be obviated by tying the ends of the "figure of 8" suture over an oblong wire frame resting on the abdominal wall (Fig. 1). The tension of the

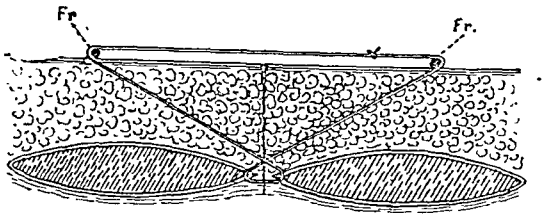


FIG. 2.—Fr.=Cross section of frame.

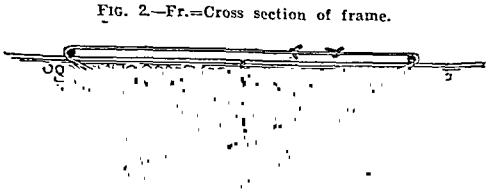


FIG. 3.—The frame is shown in cross section. For convenience the suture in the anterior and that in the posterior sheath are shown in the same horizontal plane.

suture so tied is approximately constant during the two or three weeks it remains *in situ* (Fig. 2). It can be employed for the posterior sheath of the rectus without damage to the muscle fibres (Fig. 3). In case of suppuration free drainage can usually be achieved by removal of superficial sutures without disturbing the fascial supports which are attached to the frame. The frame, far from being a discomfort, acts as a splint supporting the abdominal wall in coughing, vomiting, or distension.

For the larger wounds I have found a frame 7 in. by 3 in. made of No. 10 iron wire suitable in size and strength. For smaller wounds 6 in. by 2½ in. in slightly finer wire suffices. (The frames are obtainable from White and Wright, Liverpool.)

For transverse wounds the frame can be moulded by the hand to suit the curve of the abdominal wall. If likely to cause discomfort by pressure on the pubis or rib margin a corner, or the whole end, can be bent away from the bone. The loops at the corners of the frame prevent the terminal sutures slipping off. It may be an advantage in some cases to tie each suture end to its corresponding side of the frame without crossing over the surface.

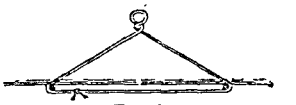


FIG. 4.

I have sometimes used a modified "figure of 8" suture (Fig. 4) which gives a more secure apposition of the fascia. If this modification is used the silkworm-gut should be severed one or two days before it is actually removed.

I do not know whether the method here described is new; it is certainly helpful, whether ancillary to buried catgut in clean cases or without catgut when the wound has been exposed to contamination.

REFERENCE

[1] Goff: *Surgery, Gynecology and Obstetrics*, December, 1925.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

NEPHRITIS FOLLOWING INFLUENZA.

NOTES ON 100 CONSECUTIVE CASES OF INFLUENZA.

IN December, 1926,[1] I reported four cases of acute haemorrhagic nephritis following attacks of influenza, and when the epidemic was at its height, in January, 1927, I examined the urine in 100 consecutive cases as they occurred in practice. They included 10 children up to 14 years of age (Class I in the table); 76 insured patients, mostly tobacco workers (Class II); and 14 patients over 60 years of age (Class III), some working, some at home.

Influenza does not differ from any other acute infection—for example, pneumonia—in its effect on the glomeruli of the kidney; and when the fever is at its height the urine, as a rule, shows a slight haze of albumin, which, however, disappears with the fall of temperature. Four cases in the series, however, were very different.

CASE I.

A man, aged 22, had a severe influenzal cold with sore throat on January 16th (temperature 103.4° F.). On January 17th epistaxis occurred, and on January 18th severe haematuria. He was obviously very ill, restless, temperature 104° F., pallid, and swollen round the ankles and eyes. Albumin was present in the urine in excess, and the deposit showed red blood corpuscles, leucocytes, cell and blood casts, but no pus. He recovered rapidly from the kidney condition, but on January 27th he began to cough up thick jelly-like haemorrhagic sputum and complained of pain in the right chest. This sputum continued until January 30th. Since then he has made uninterrupted recovery and resumed work on March 28th. His previous health had been excellent, there had been no suggestion of a cardiac lesion, and I have no doubt the trouble in the chest was embolic.

CASE II.

A girl, aged 12, developed a severe influenzal attack with tonsillitis on January 6th; this was followed by tenderness over the liver region. Severe vomiting with marked jaundice occurred on January 7th, the urine showing much bile and some albumin. *The attack subsided on January 10th, and I was astonished*, on examining the urine that day, to find a condition resembling that of Case i—that is, as regards the deposit. This child had a history of rheumatism, and there was well marked mitral disease. She made an excellent recovery.

CASE III.

The mother, aged 48, of Case ii contracted influenza a week after (January 13th). She did not complain of tonsillitis, but almost at once developed haematuria. The deposit was similar to, but not so abundant as in Case ii, but the albuminuria was more persistent and only cleared up finally on March 22nd.

[1] BRITISH MEDICAL JOURNAL, December 11th, 1926, p. 1118.

CASE IV.

A man, aged 26, a tobacco worker, whose previous health had been good, on January 15th developed influenza with severe tonsillitis. His urine showed much albumin, and, microscopically, a few red blood corpuscles. This case has been most persistent. He still complains of weakness, breathlessness on exertion, and is unfit for work. The albuminuria has not cleared up.

One Hundred Cases of Influenza, showing Proportion affected with Nephritis.

	Cases.	Nephritis present.
Class I	10	1
Class II	76	3
Class III	14	0

The bacteriological examination of the urine of the four cases of nephritis mentioned showed streptococci and *Bacillus coli* to be present.

As to the pathology of the nephritis following influenza, I do not think that any doubt can exist that in Case i renal embolism occurred, followed later by pulmonary infarction in the right lung. The other cases described can be explained in a similar way, as Dr. Ambrose W. Owen[2] mentions. Wyllie and Moncrieff[3] think that this haemorrhagic nephritis follows acute tonsillitis in children, but adults are as often affected, in my experience, and sore throat is not necessarily present (Case iii). They, however, agree that the condition is probably caused by renal embolism.

Conclusions.

Influenza causes, like most acute infections, a febrile albuminuria, due to glomerular changes in the kidney. There are cases, however, in which the nephritis is well marked (4 per cent. in my series), either (*a*) haemorrhagic, as in Cases i, ii, and iii, or (*b*) exudative, as in Case iv. Embolism in the renal vessels is the probable cause of this nephritis.

The prognosis is excellent as a rule. I have seen seven cases—*four in children, three in adults*—of haemorrhagic nephritis following influenza since December, 1926, and all have now recovered fully; but persistent albuminuria may occur (as in Case iv) and cause prolonged incapacity.

Southville, Bristol. ARCHIBALD S. COOK, M.B.

GRAMOPHONE NEEDLES IN RESISTANT SINUSES.

THE following case seems noteworthy as showing how far a patient may go in her efforts to prevent recovery and to prolong treatment in hospital.

A woman, aged 32, with a history of tuberculous disease of the left knee and ankle since 1924, had been in a sanatorium for sixteen months with swelling and pain around the joints, and later, discharging sinuses. The knee improved, but early in 1926 she was admitted to hospital on account of the ankle; *x*-ray examination did not show evidence of bone disease and good progress was made under treatment. In a few months she was transferred to a sanatorium where discharging sores again formed over the knee, causing her to be readmitted to hospital. The lesions were small ulcers rather than sinuses, and the bone was not involved; some suspicions were aroused at first and the leg was encased in plaster for a while, to prevent possible interference. The plaster had to be removed within a fortnight owing to the patient persistently complaining of severe pain; but there was not much alteration in the condition of the knee. As time went on the lesions increased in number and were absolutely resistant to treatment. It was thought that they might be lupoid in character. Another focus appeared in the right breast, where a lump formed and broke down; this healed slowly, but the condition of the knee got gradually worse, small abscesses forming periodically. During the whole time the temperature in the evening was slightly raised, with exacerbations, and the pulse rate was slowly increasing.

Subsequent *x*-ray examination showed seven short pieces of needle, resembling short gramophone needles, implanted in the superficial tissues round the patella, all but one perpendicular to the surface. Four of them were close together distal to the patella on the inner aspect, and three level with the patella on the outer aspect. A fragment of needle was also observed in the right breast. The patient denied all knowledge of the needles.

I am indebted to Mr. Wilfred Gostling and Dr. Newbery Fergusson of the honorary staff for permission to publish the case.

The County Hospital, York. ROBERT E. HADDEN, M.B.

[2] Ibid., April 2nd, 1927, p. 645.
[3] *Lancet*, 1925, vol. i, p. 128.

British Medical Association.

CLINICAL AND SCIENTIFIC PROCEEDINGS.

HAMPSTEAD DIVISION.

A MEETING of the Hampstead Division was held at the Central Library, Finchley Road, on May 12th. In the absence of the chairman of the Division, Dr. J. S. Mackintosh, the chair was taken by the vice-chairman Dr. ARTHUR REES.

Immunity to Diphtheria and Scarlet Fever.

Dr. R. A. O'BRIEN opened a discussion on immunity to diphtheria and scarlet fever by means of toxin-antitoxin treatment. In the course of his address, Dr. O'Brien gave a short description of the Schick test and experiences therewith. His conviction of the scientific truth and practical utility of the test and active immunization when properly used and controlled grew more firm each year. He and his colleagues had had under observation since they began this work several institutions in which the use of these measures had enabled the authorities either to abolish diphtheria altogether or, if prophylactic measures had not been previously used, to deal with epidemics with a degree of ease and confidence that was deeply appreciated by those responsible for administrative measures. In institutions where cases were continually occurring, it was important to swab the Schick-negative reactors, for among them would be found the dangerous "profuse" carrier of virulent diphtheria bacilli, if a "carrier" were really the cause of the epidemics. Attempts were constantly being made to simplify the procedures; prophylactic injections were now given to all children available before school age without a preliminary Schick test. The aim of their work was to increase the efficiency of immunization, and to reduce the number of injections. Toxoid, which was of higher efficiency in all laboratory tests, had not been sufficiently tried clinically in England. Mr. A. T. Glenny had now in the press a paper describing the use of the floccules produced by the mixing of *toxoid* and antitoxin following the Ramon toxin-antitoxin technique. It was hoped that this preparation would not produce reactions in adults, and that it might possibly reduce the number of injections necessary to promote immunity. Mr. Glenny had also succeeded in recovering a much purified toxoid, probably entirely free of antitoxin, and this substance had proved to be a potent prophylactic in animal tests.

Dr. O'Brien then gave a short description of the Dick test, and pointed out that in the typical case of scarlet fever the Dick test was almost always positive in the first twenty-four hours of the disease; the Schultz-Charlton blanching of the rash was also positive, and numerous streptococci were present in the culture made from throat smear. The patients during convalescence became negative to the Dick test. Already some hospitals had, by testing nurses and immunizing the Dick-positive reactors, apparently reduced scarlet fever to the vanishing point in hospital personnel. These data were of great importance to the clinician and the administrator. Scarlet fever antitoxin was effective in "toxic" but probably useless in late septic cases. Patients treated with antitoxin *did not* develop their own immunity, and so were more apt to remain Dick-positive and presumably non-immune to the disease than those not treated with antitoxin.

Diphtheria Prevalence and Prevention.

Dr. GRAHAM FORBES, who followed, read a paper on diphtheria prevalence and its prevention in Hampstead. After describing the high incidence of diphtheria of recent years in London, particularly among those under the age of 15, who contributed 76,200 (82.5 per cent. of *the total* cases), and 5,340 deaths (97 per cent. of the total diphtheria mortality), during the seven years 1920-26, he compared its prevalence in Hampstead with that in other metropolitan boroughs. Although the average annual diphtheria attack rate for the past ten years in Hampstead stood at

1.8 per 1,000, or twenty-third in order of attack rate among the twenty-nine metropolitan boroughs, as against 2.65, the mean for all London, the incidence had been by no means uniform. In 1921, a year of greater severity than any since the disease was made notifiable, no fewer than 408 cases were notified in the borough, representing an attack rate of 5.1 per 1,000, and in that year Hampstead stood fourth in order of attack rate among the twenty-nine boroughs. That high prevalence was mainly located in the Kilburn, West End, and Belsize wards, in streets whose population density and overcrowding rate were higher than in any other part of the borough—notably, Netherwood Street and Palmerston Road (enclosing Netherwood Street School), in Kilburn ward; Ravenshaw and Broomsleigh Streets, close to Broomsleigh Street School, in West End ward; and, in Belsize ward, Fleet Road and School provided the majority of the cases. It was noteworthy that the street distribution of diphtheria radiated from the vicinity of the schools, as from separate centres, infection becoming less heavy the further removed from a school. As regards incidence among the child population, whether taken for the 0-15 year period, or actual school population rate, Hampstead presented a much higher figure than the average for all London for the two groups in that particular year (1921). Whereas the ten years' mean rate for Hampstead among those under the age of 15 was 7.4 per 1,000, as compared with 8.2, the all-London mean, in 1921 the figure reached 20.8 (0-15 years) and 28.8 (school age rate) per 1,000, whilst the mean for all London was only 11.3 and 9.3 per 1,000 of the two populations.

Special reference was made to the relationship between population density, overcrowding, and diphtheria incidence, illustrated by maps, charts, and tables thrown on the screen, comparing these factors in the individual wards, in Hampstead as a whole, and in the other metropolitan boroughs. The London boroughs could be divided into five groups, A, B, C, D, and E, showing an ascending scale of density, overcrowding, and diphtheria incidence. The very unequal distribution of diphtheria in the several wards rendered it possible to place each ward in one or other group. The less affected wards—Town, Central, Adelaide, and Priory—with an average population density of 46.6 persons per acre and a ten-year diphtheria attack rate of 1.06 per 1,000, fell into Group B; Belsize and West End wards, with average density of 80 per acre and attack rate per 1,000 of 2.5, into Group C; and Kilburn ward stood alone out of the seven wards in Group E with an average population density of 162.5 persons per acre and an attack rate of 2.75 per 1,000. In that ward was an area of 10 acres formed by four densely populated streets, enclosing Netherwood Street School, and showing a population density as high as 238 persons per acre. Dr. F. E. Screse, the medical officer of health, had stated, in his annual report for 1921, that the severe diphtheria outbreak in that year, when 128 cases were notified in the Kilburn ward alone, was of unusual virulence, and attended by an unusually high case mortality. At one time 50 per cent. of the cases died—evidence presumably of association between population density, overcrowding, and diphtheria incidence influencing the spread of massive doses of infection, whereas in West End ward, although the actual number of cases notified (137) was higher, they were of less severe type, and the mortality was much lower. In the thirteen elementary schools in Hampstead the number of cases of diphtheria in the last ten years, among a yearly average of 6,460 children on the school rolls, totalled 556, of which 186 had occurred in 1921. The schools most affected were "Broomsleigh Street" in West End, with 144 cases in the ten years (average attack rate 16.5 per 1,000), 59 cases in 1921 (attack rate 58); "Netherwood Street" in Kilburn ward, 119 cases in ten years (attack rate 9.7 per 1,000), in 1921 64 cases (attack rate 74 per 1,000); in Belsize ward, Fleet Road School, 108 cases in ten years (average annual attack rate 10 per 1,000), in 1921 16 cases (that is, attack rate of 15 per 1,000).

Dr. Forbes drew attention to the risk of a recurrence of the high wave of infection of 1921, and pointed out that the past two years had shown a rising incidence in the borough. It was significant that the average number of cases per ward for 1926 was 23, the same as in 1920, immediately preceding the outbreak of 1921. The necessity for guarding against that risk was obvious. The time was opportune for the introduction of preventive measures afforded by the use of the Schick test and diphtheria immunization, which had been fully explained by Dr. O'Brien. In ten years diphtheria had, Dr. Forbes estimated, cost Hampstead about £50,000—that is, about £5,000 per annum. The cost of testing and immunizing all the school children in the borough would amount to about £1,000. For the expense incurred by a single case of diphtheria (about £30), 200 children could be tested and immunized. The position of diphtheria immunization in the United States (especially New York City) and in Great Britain was compared and reviewed, and details were given of the success of preventive measures which had already been carried out among the staffs of fever hospitals, in residential institutions, and among school populations in New York, Edinburgh, Aberdeen, and Birmingham.

Dr. Forbes concluded by suggesting the formation of a borough committee, including appointed representatives of the local medical practitioners, public health and education authorities, child-welfare workers, and health visitors, under the chairmanship of the medical officer of health, to decide on the best means of setting on foot the adoption of diphtheria immunization, and he appealed to the meeting to initiate such a movement.

In the subsequent discussion, Dr. S. Monckton Copeman, F.R.S., referred to the successful use which had been made of diphtheria immunization in dealing with the outbreak at the Soldiers' Daughters' Home in Hampstead in 1922. Dr. F. E. Screse, medical officer of health to the borough of Hampstead, stated as his firm conviction that diphtheria immunization as a preventive measure was bound to come, and that the medical profession as a whole should be prepared to advise it to their patients and to help in its adoption.

OXFORD DIVISION.

The fourth meeting of the year of the Oxford Division was held in the Radcliffe Infirmary on May 25th. Dr. William Collier, sen., was in the chair, and forty members were present.

Treatment of Laryngeal Conditions.

Mr. V. E. Negus gave an address on some common affections of the larynx and their treatment, illustrating his remarks with diagrams. He said that metallic foreign bodies in the larynx should always be removed by direct vision. Vegetable foreign bodies set up acute tracheitis and bronchitis, and tracheotomy had first to be performed before their removal. Inflammation of the larynx of an acute type was part of a general acute catarrh of the upper air passages, with a symmetrical distribution, eliminating any difficulty in diagnosis. Doubt might arise in cases of chronic laryngitis associated with infection of the upper air passages, in mouth breathers, and in patients with septic tonsils, teeth, or sinuses. In these cases it was necessary to exclude tuberculosis and syphilis; a cure resulted from removal of the cause. In regard to specific infections, the treatment of the laryngitis resolved itself mainly into treatment of the general disease. Syphilis of the larynx, in the experience of the lecturer, was a rare disease. Tuberculosis of the larynx, while it might take the form of a secondary lupoid invasion from a focus elsewhere, or be part of an acute miliary process, was generally secondary to pulmonary disease. The onset was painless, and it was only when the condition was advanced that pain became a prominent symptom. The presence of pain had a great bearing on the prognosis. In the early stage the prognosis was good as long as the general condition was satisfactory. Complete silence was essential to successful treatment, and in men it was also necessary to advise against strong muscular effect, such as the forcible use of the arms, when it was known that the cords came together sharply. In the more advanced stage, when the

disease had spread outwards, the prognosis was much worse. For the pain on swallowing orthoform was the best remedy. Among new growths Mr. Negus mentioned papillomata, which, beginning in children aged about 10, tended to disappear. Following a low tracheotomy the warty growths should be picked off from time to time. Malignant growths were usually squamous-celled epitheliomata occurring nearly always in men over 60, involving as a rule the anterior extremity of one vocal cord, and causing a certain amount of hoarseness, without pain or loss of weight. If diagnosed early the condition could nearly always be treated successfully by operation. The different operations for various stages in new growth formation were shortly reviewed. Mr. Negus also briefly discussed various functional affections of the larynx and their causation.

Clinical Cases.

Dr. W. WOOD showed three cases of disorder of the central nervous system.

1. A man, aged 40, suffering from tabes dorsalis. The affection had spread to the anterior horn cells, with resulting wasting of the small muscles of the hands, as in progressive muscular atrophy.

2. A man, aged 32, with the Parkinsonian syndrome following encephalitis lethargica. In this case there had been an interval of over two years of apparent good health.

3. A man, aged 40, with well marked signs of disseminated sclerosis. This patient had been in the hospital twenty years previously with paraplegia and incontinence of urine, from which he recovered, and it was not till sixteen years later that difficulty in walking recurred.

Mr. HUGH WHITELOCKE showed a case of osteo-arthritis of the right hip in a man aged 56. He had a history of hemiplegia and an enlarged right testis of four years' duration. The reflexes were all brisk and the Wassermann reaction was negative. He had been sent to hospital with a diagnosis of femoral aneurysm. Two recent cases with similar hard swellings in Scarpa's triangle, and a similar provisional diagnosis, had proved to be (1) Charcot's disease of the hip; (2) diaphyseal aclasia affecting the femur.

Mr. W. W. WAGSTAFFE showed two cases.

The first was a case of diverticulitis in a man, aged 38, who was admitted with five days' history of abdominal pain and vomiting. The temperature was 100°, and the abdomen was resistant all over; there was no dullness and the bowels were regular. The condition appeared to be very obscure, and the patient was watched for more than three weeks, during which time he did not alter appreciably, except that tenderness became more marked and it was thought that a mass could be felt under the right rectus. Laparotomy showed that the mass was an inflammatory condition on the mesial border of the ascending colon. There were also diffuse adhesions in the neighbourhood of the liver and round the gall bladder. The appendix was normal. In view of the absence of any obstructive symptoms and of the man's weakened condition it was not considered advisable to try any short-circuiting operation or to attempt the excision of the tumour. Accordingly a rubber glove drain was put down to the mass and the abdomen was closed. The condition gradually subsided and one month later the man was practically convalescent.

The second patient was a man, aged 53, who was shown at a meeting of the Association on May 27th, 1925, as a case of typhlitis (JOURNAL, June 20th, 1925, p. 1127). At that time a laparotomy was performed for a twenty-four hours' history of acute pain in the right iliac fossa and vomiting. The appendix was found to be not affected, but the caecum was acutely inflamed. Subsequent to the operation, which merely consisted in making a rubber glove drain down to the inflamed caecum and removing a practically norma appendix, there was a considerable amount of distension and constipation, but this rapidly settled down and the patient went home after about a fortnight. He remained well and at work, with the exception of intercurrent illnesses not connected with this illness, until two days before admission on May 17th, 1927. He was then found to be suffering from acute abdominal symptoms suggesting obstruction, with marked visible peristalsis. Under treatment the symptoms subsided and the patient was due to leave the hospital. The condition, no doubt, was a flare-up of the old typhlitis accompanied by tenderness and pain over the mass in the caecum, in exactly the same way as previously. The patient was reported to have cavities in both lungs, a tuberculous ulcer of the tongue, and a positive Sigma reaction. In view of these conditions it was not proposed to perform any further operation for the relief of the typhlitis unless it became absolutely necessary.

Reports of Societies.

CAUSES OF THE ONSET OF LABOUR.

AT a meeting of the Royal Society of Medicine, Section of Obstetrics and Gynaecology, held on June 17th, with Dr. A. DONALD of Manchester in the chair, Dr. R. A. GIBBONS read a paper on "The causes of the onset of labour."

Dr. Gibbons stated that this subject had interested those who had devoted themselves to the study of obstetrics from the very earliest times. Hippocrates, more than two thousand years ago, considered that when the foetus was mature, hunger drove it to press its feet against the fundus uteri, thus gradually distending the os. This theory has held even down to Freidrich (1831), although Galen did know of the contractions of the uterus and their effect on the os uteri. The theories as to the cause of the onset of labour were so numerous that only the following would be considered.

Brown-Séquard (1858), supported later by Leopold, first advocated the theory that the loading of the blood with carbon dioxide gas would lead to uterine contractions. Although this has been supported to a greater or less extent by other workers, it was not until 1925 that Blumereich apparently definitely disproved this supposition. Naegeli believed that at the end of pregnancy there was degeneration of the amniotic membrane, which, becoming detached, acted as a foreign body in the uterine cavity. Others, such as Leopold, found that detachment of the amniotic membrane began as early as the fifth month of pregnancy. Similarly the placenta, when the seat of multiple infarcts, might act in a like manner in the production of uterine contractions. By some workers the biochemical relations of the mother and child have been considered as factors in the cause of the onset of labour, but the evidence was too conflicting to be of any value. The influence of the nervous system on the contraction of the uterine musculature was next to be considered. Although it had been believed at one time and another that nerve centres for the uterus might exist either in the medulla or the lumbar portion of the spinal cord, the experiments of Kruieger and Offergeld demonstrated that when the uterus was cut off from all connexion with the central nervous system labour set in at the usual time and progressed normally. Furthermore, Routh, among others, had shown that after destructive injuries to the lower part of the spinal cord labour might progress normally, although unaided by voluntary efforts. There was, however, ample evidence to show that the uterine muscle was abundantly supplied with nerves, being in intimate connexion with the sympathetic nervous system. An immense amount of work had been done as regards the composition of the maternal blood in pregnancy, and it was considered that there were no known changes in this blood which might account for the onset of labour.

Changes in the endocrine glands had been studied in animals during pregnancy, and it might be assumed that similar changes took place in the glands of the pregnant woman. The ovary had two endocrine secretions, one produced by the ovarian tissue and one which was the product of the corpus luteum. It was probable that in pregnancy the corpus luteum so dominated the ovarian metabolism as to inhibit the normal ovarian secretion. But towards the close of pregnancy, with the involution of the corpus luteum, there was again action by the true ovarian secretion. Recent work by Dixon and Marshall suggested that the ovarian secretion activated the pituitary gland, which in its turn produced uterine contractions, therefore having an important bearing on the onset of labour. The pituitary gland was believed by some to be an important factor in the termination of pregnancy, but up to the present time definite proof of this fact was lacking. Cybulsky had demonstrated that the suprarenal gland, through the action of its secretion on the sympathetic nervous system, maintained in a state of tonus the muscular tissues of the body. It would not, therefore, be unreasonable to associate hyperactivity of this gland with the onset of labour. Various workers had allocated internal secretions to the

uterus and placenta, but their work was not generally accepted. It was well known that labour frequently followed a very slight emotional disturbance. This was of interest when it was remembered that the emotional state could produce activity in the suprarenal glands, the possible relation of adrenaline to the termination of pregnancy having been already mentioned above. It was very difficult to produce conclusive evidence that the foetus might be the source of the material circulating in the maternal blood concerned with the onset of labour. The fact that inefficient attempts at labour took place at the fortieth week in an extrauterine pregnancy, when the foetus reached full term, must be regarded as an argument in favour of this. Moreover, experiments by Stirling and Lane-Claypon had demonstrated hypertrophy in the mammary glands of non-pregnant rabbits following the injection of foetal extracts. Finally it was quite evident, whatever might be the cause of the onset of labour, this cause must be due to some material circulating in the maternal blood, which either accumulated throughout the pregnancy or was suddenly poured into the blood stream. In concluding, Dr. Gibbons wished to remark that he had brought his paper before the society to demonstrate how profound was our ignorance of the causation of a process taking place somewhere or other every minute.

Reviews.

DIAGNOSIS IN HEART DISEASE.

SINCE the issue of the first edition of Dr. PRICE'S *Diseases of the Heart*[1] eight years ago, a considerable number of new observations relating to cardio-vascular disease have been published; of these the author has incorporated a judicious selection in his second volume. Amongst others, the new matter includes articles on anaesthesia and cardio-vascular affections, *x*-ray examination of the heart and aorta, quinidine therapy in auricular fibrillation, and on the surgical treatment of mitral stenosis and angina pectoris. The book is intended for the general practitioner, and the clinical point of view is kept steadily in mind throughout. Thus, though the electro-cardiograph is the most precise means available for the analysis of cardiac irregularities, Dr. Price describes these chiefly in terms of palpation, auscultation, and of venous and arterial tracings, electro-cardiography being dealt with apart in a well illustrated chapter. While it is true that the type of irregularity can in most instances be determined without reference to the electro-cardiogram, yet, for a proper understanding of the subject, it is questionable if the separation is entirely to the reader's advantage. Again, greater emphasis might have been laid on the use of the hands, eyes, and ears in the differential diagnosis of the irregularities; for example, little is said of the exercise test in this connexion. In dealing with the myocardium and the effects of valvular disease on the heart, the author's views are perhaps more orthodox than modern; thus the sequential dilatation and hypertrophy of the various chambers is described in the usual manner, and fatty infiltration and degeneration still hold their place. As a whole, however, the book is good, and Dr. Price has accomplished his avowed object of presenting concisely information of service in the diagnosis, prognosis, and treatment of diseases of the heart by modern methods.

THE BLOOD PLATELETS.

THE book on the physiology and pathology of the blood platelets,[2] by Dr. J. ROSKAM, is a modest but comprehensive review of a field which has long called for the attention of the critic. Its literature is scattered widely through physiology, biology, pathology, and immunology, and it can have been no easy task to assemble and discipline this material. The author wields a somewhat destructive pen, but contrives to save from the wreck enough to form a solid foundation upon which to build a reasoned experimental attack upon the problem.

The scope of the discussion is best indicated by a summary of the conclusions to which Dr. Roskam comes. Having decided that the proof of the "vitality" of the platelets is good, he finds that there is, at present, no strong evidence that they play any fundamental or essential part in the symptoms of anaphylactic shock or haemorrhagic purpura, in blood-clotting or the contraction of the clot, or in immunity phenomena. On the other hand, important morphological changes accompany clotting, and the platelets do undoubtedly accelerate clotting and the contraction of the clot, and do disappear from the blood stream during shock. This is held to be due to agglutination and entrainment in certain capillary areas. They will agglutinate bacteria as a result of surface phenomena analogous to the early stages of phagocytosis. Finally, extracts of platelets exhibit confusing effects upon blood pressure, which suggest that simultaneous vaso-dilatation of the arteries and constriction of the capillaries are involved.

All those who have become interested in these much disputed elements of the blood will welcome this review of the work and conclusions of the French school.

RADIOLOGY.

IN *X-Rays Past and Present*[3] Mr. V. E. PULLIN and Mr. W. J. WILTSHIRE of the research department, Woolwich, give a clear and well written account of the history, theory, nature, and practical uses of *x* rays. It is well balanced, and forms a useful introduction to the study of radiology. In the historical account of the application of *x* rays to medicine it makes clear the rapidity with which results of practical value were obtained. No attempt is made to deal exhaustively with diagnosis, and, very properly, little is said about treatment. In fact, the scientific aspects of radiology are the object of the work, and the medical details mentioned rather illustrate this than appear for their own sake. The importance of adequate protection is rightly insisted upon, as the commercial applications of *x* rays are extremely wide, and their use in industry will demand installations of special design, which will be handled by those who are neither experts nor medical men. The many and varied uses of *x* rays in industry—"from golf balls to aeroplanes, from chocolates to big guns, from the fitting of shoes to the detection of 'faked' oil paintings"—are well illustrated by skiagrams of flaws in casting, the presence of bullets in cartridges supposed to be blank, and the internal structure of German shells and ammunition. The concluding chapter brings out with light touches the responsibility of the solid British business man, whose inherent conservatism renders it a difficult task to get *x* rays used to the full advantage of industry.

Roentgen Interpretation: A Manual for Students and Practitioners,[4] by GEORGE W. HOLMES, assistant professor of roentgenology in the Harvard Medical School, and HOWARD E. RUGGLES, professor of roentgenology in the Medical School of the University of California, which is now in its third edition, is a guide to *x*-ray diagnosis and, being liberally illustrated by skiagrams, admirably fulfils its object. The authors wisely insist on a knowledge of pathology and on the importance of taking every available opportunity of correlating the skiagraphic appearances with the anatomical conditions, and, in the first chapter, deal with appearances which may erroneously be regarded to indicate disease. The consideration of bony and skeletal conditions, including the skull, occupies about half the work; of the gastro-intestinal tract and the chest each about one-sixth; and of the genito-urinary organs about a twelfth. Some of the skiagrams, such as that of a haemophilic elbow-joint with organizing blood-clot in the capsule, and of a patent ductus arteriosus, as indicated by the prominence of the curve of the pulmonary artery, are specially interesting. There are also skiagrams [illegible]

[1] *Diseases of the Heart.* By Frederick W. Price, M.D., F.R.S.Ed. Second edition. Oxford Medical Publications. London: Milford, Oxford University Press. 1927. (Demy 8vo, pp. xvi + 534; 249 figures. 21s. net.)

[2] *Le Problème des Plaquettes du Globulin et Pathologique du Globulin* (Plaquette de toskam. Les Problèmes Biologiques, VI. Paris: de France. 1927. (6 × 9½; pp. 151; 21 figures. 25 fr.)

[3] *X-Rays Past and Present.* By [illegible] London: Ernest Benn, Ltd. 1927. (Demy 8vo, pp. 229; 43 figures. 12s. 6d. net.)

[4] *Roentgen Interpretation: A Manual for Students and Practitioners.* By George W. Holmes, M.D., and Howard E. Ruggles, M.D. Third edition, revised. London: Henry Kimpton. 1926. (Med. 8vo, pp. vii + 326; 226 figures. 21s. net.)

the use of lipiodol in bronchiectasis, but there are not any in connexion with the diagnosis of tumours of the spinal cord. Pyelography, and Evarts Graham's method of visualizing the gall bladder with tetraiodophenolphthalein, are clearly but briefly described, and it is pointed out that these procedures are not entirely devoid of danger to the patient. The last chapter deals with fluoroscopic technique, and its final paragraph points out that the possession of a fluoroscope does not make a roentgenologist, and that the subject cannot be mastered in a few weeks.

PUBLIC HEALTH IN CANADA.

THE progress of public health in Canada, and especially in the province of Ontario, is reflected in the second edition of Professor FITZGERALD'S *Introduction to Preventive Medicine*,[5] which at an interval of some five years follows the first, published in 1922 and reviewed in the JOURNAL of August 4th, 1923. The section on scarlet fever now contains an account of the test introduced by G. F. and G. H. Dick, and of the immunization and antitoxic therapy identified with their names. The section on tuberculosis has been amplified by a fuller discussion of incidence and modes of transmission. In his advice to the physician on the management of diphtheria the author recommends examination of the throat, repeated at least every twelve hours, pending the verdict of the bacteriologist. He adds, however, that "if there is reason to think that the case may be one of diphtheria, antitoxin should be given at once." Reference is made to the dramatic reduction in the prevalence of typhoid fever which, both in the United States and in Canada, has attended the purification of water supplies. The statement survives from the first edition that Defoe described the Black Death of 1348-49. It emerges that opposition to vaccination against smallpox is not unknown in Ontario. The author says that during the Toronto outbreak of 2,867 cases "a few misinformed and misguided individuals increased the difficulties of the situation by carrying on the usual vituperative and untruthful campaign against vaccination." One method of vaccination only is recommended, that of the linear incision, but the drill and the acupuncture methods are mentioned. The official English plan of scarification, with its prescribed areas of vesiculation, is passed over in silence.

The total bacterial count for certified milk is, in Ontario, required to be lower than in this country, but no standard for *B. coli* is laid down. A simplified arrangement of house pipes for drainage is current in North America. The schemes depicted in the book do not exhibit separate soil pipes and waste pipes. All sanitary fixtures, after trapping close up, join one common vertical stack, which passes direct to the drain. With regard to rural education in hygiene Lumsden is quoted as saying that "there was no optimism about teaching old farmers new hygienic tricks, but it was thought that the school children with instruction in hygiene might, upon becoming grown up, apply their hygienic knowledge."

The evolution of public health in England, the United States, and Canada is reviewed, the difficulties of smaller local authorities are recognized, and the relative values of the various activities of a public health department are appraised on a numerical basis. Professor Fitzgerald's book may be cordially recommended to the English reader. While necessarily dealing to some extent with the problems of a rapidly developing country, it treats the subject on broad lines, and never loses touch with the general principles by which sound public health policy must everywhere be guided.

APHORISMS.

THE Dean of St. Paul's, as our readers know, is a friend of medicine and science. *Wit and Wisdom of Dean Inge*[6] is a volume of selections made and arranged by Sir JAMES MARCHANT and prefaced by the Dean, who, in modestly criticizing his own writings, adds one more to the aphorisms to follow: "Originality, I fear, is too often only undetected and frequently unconscious plagiarism."

It is evidence of the broadmindedness of this fine classic and authority on Plotinus and on neo-Platonism that he considers science as an instrument of liberal education to have a far higher value than is usually conceded by humanists, and "the air which blows about scientific studies is like the air of a mountain top—thin, but pure and bracing." Wisdom he defines as "a just estimate of the relative value of things," the wisdom of the wise as "an uncommon degree of common sense," and the Utopian as "a poet who has gone astray." The letter of a schoolboy warned by a father, who fancied himself busy, not to be diffuse, is worth quoting for its terseness: "S.O.S., L.S.D., R.S.V.P."

As is well known to his readers, Dean INGE believes that any improvement in human nature is to be looked for in the infant science of eugenics.

NOTES ON BOOKS.

DR. J. FORD ANDERSON has published a little pamphlet of *Reminiscences of Lister*.[7] Dr. Ford Anderson first saw Lister in 1861, at an operation by Syme of Edinburgh on an aneurysm of the gluteal artery, but only got to know him well when he came to London in 1877. Dr. Anderson attributes to his Quaker upbringing Lister's seriousness in study and his spirit of love and desire to render good service to mankind. He found him a highly sensitive man, who exaggerated the opposition he met with from London surgeons. He had almost an obsession that his contemporaries were banded against him, though, in Dr. Anderson's opinion, almost every surgeon had accepted the principles by the time Lister came to London. Lister was a firm believer in the truth of his principles, and consequently fearless in operation. He was no self-seeker; and, in proof of his kindness, Dr. Anderson relates that, having a son at Winchester with an attack of diphtheria, and knowing that in those early days he could only get antitoxin at the Jenner Institute, which was closed, he hurried to Lister, the president of the institute, and told him of his difficulties. Lister came out on an inclement night in an open carriage, and obtained the antitoxin. It was only later that Dr. Anderson discovered that Lister had been confined to the house for three weeks with a bad catarrh.

Dr. L. BARD, in his book on the clinical forms of pulmonary tuberculosis,[8] recapitulates and discusses the system of classification that he first put forward in 1898. His main contention is that no classification of pulmonary tuberculosis is of any value unless it is dynamic. It is not enough to describe the localization of the lesion; it is essential to indicate its mode of development. Every type of tuberculosis, according to the author, evolves in its own way; hence if the type be correctly diagnosed the prognosis can be settled. In the classification he suggests pulmonary tuberculosis is divided into five groups—parenchymatous, interstitial, bronchial, post-pleuritic, and indeterminate—each of which is again subdivided. The parenchymatous group, for example, is divided into abortive and progressive forms; the progressive forms are again divided into caseous, fibro-caseous, and fibrous forms; and each of these is again subdivided into from three to eight classes. The classification rests partly on a clinical, partly on an anatomical, and partly on a pathological basis. It is not surprising that the author, when considering the objections that have been raised to it on account of its complexity, admits that it presents difficulties not easy to master. The great merit of Turban's classification is that it can be used with tolerable accuracy; it is generally possible by clinical and radiographical methods to determine the extent of the lesion. But by no means, other than making a microscopical examination of the lungs, is it possible to say whether a patient should have been placed in the (*d*) caseo-fibrous or the (*e*) fibro-caseous division of the (2) fibro-caseous types of the (B) progressive forms of the (I) parenchymatous class of pulmonary tuberculosis.

There is really very little to say about Dr. PIERRE PRUVOST'S book on tuberculosis of the lungs and of the serous membranes.[9] It is unconventional, direct, discriminative, and quite sound. The author chats in turn about diagnosis, treatment, and

[5] *An Introduction to the Practice of Preventive Medicine.* By J. G. Fitzgerald, M.D., LL.D., assisted by Peter Gillespie, M.Sc., C.E., M.E.I.C., and H. M. Lancaster, B.A.Sc. Second edition. London: H. Kimpton. 1927. (Med. 8vo, pp. xx + 792; 120 figures. 35s. net.)

[6] *Wit and Wisdom of Dean Inge.* Selected and arranged by Sir James Marchant, K.B.E., LL.D. With a preface by William Ralph Inge, C.V.O., D.D., F.B.A., Dean of St. Paul's. London: Longmans, Green and Co., Ltd. 1927. (Cr. 8vo, pp. xii + 133. 3s. 6d. net.)

[7] *Reminiscences of Lister.* By J. Ford Anderson, M.D., M.R.C.P.Lond. *Journal*, May, 1927.

[8] *Maladies de la Tuberculose pulmonaire.* Par L. Bard. (Cr. 8vo, pp. 96. 10 fr.)

[9] *Tuberculose Pulmonaire: Tuberculose des Séreuses.* Par Dr. Pierre Pruvost. Paris: G. Doin. 1927. (Med. 16mo, pp. 445; 32 figures, 16 plates. 30 fr. sans majoration.)

prognosis, expressing his opinions with perfect confidence. He deals at length with artificial pneumothorax, and adds a few pages on the use of oleothorax. The section on tuberculosis of the serous membranes is limited chiefly to the pleura and peritoneum. We can truthfully recommend it to all who have charge of tuberculous patients.

Volume 51 of the *Transactions of the American Gynecological Society*[10] is edited by Dr. A. H. Curtis, and contains the address of the president, Dr. F. S. Newell, and numerous well illustrated papers dealing with gynaecological subjects. A general index of volumes 1 to 50, covering the years 1876 to 1925, has also been issued; it includes lists both of subjects and authors.

The empirical medicine of the palmist, if you are credulous, must be most satisfying: it is so simple. Mr. NOEL JAQUIN declares in his book *The Hand and Disease*[11] that when you have learnt the position of the mounts of Saturn and Apollo, observed the girdle of Venus, and wandered along the via lasciva, a little study of lines of fate, life, and mentality will enable you, not merely to state the disease from which the patient suffers, but to predict what awaits him in the future. Mr. Jaquin anxiously assures us that the names of ancient gods applied to knobs and lines must be regarded as mere labels, with no astrological significance. There seems, however, to be a significant appropriateness; since the girdle of Venus is usually present in those with marked sexual impulses, while the via lasciva is darkly indicated as suggestive of "some form of artificial stimulation of the nervous system being indulged in which can only lead to nervous exhaustion." According to this ingenuous author, the most interesting and important type of hand is the "cancerous"; unfortunately, it may easily be confused with the neurasthenic type! The lines are deep and thick, the finger-nails show a predisposition to rheumatism, and the lines on the outer edge of the hand indicate sluggishness of the bowel. Discretion in diagnosis is, however, so necessary that "unless you are *sure* remain silent." Emotional depression is sometimes caused by the "impingement" of a main nerve. A nerve that becomes impinged would seem to be like a water-pipe that is pinched—it cannot carry the normal supply of current. This, it is said, is usually due to displacement of a vertebra, and can be cured by eminent "spinologists." It appears, therefore, that palmistry and osteopathy dovetail into one another, and make a common appeal to the half-baked and the neurotic.

[10] *Transactions of the American Gynecological Society*, Vol. 51 for the year 1926. *General Index*, 1876-1925. St. Louis: The Mosby Company; Philadelphia: W. J. Dornan. 1926. (Roy. 8vo, pp. liii + 314; illustrated. Index, pp. 161.)

[11] *The Hand and Disease*. By Noel Jaquin. London: Cecil Palmer. 1926. (Cr. 8vo, pp. xi + 179; 30 figures. 5s. net.)

THE UNITED STATES ARMY MEDICAL REPORT.*

THE report of the Surgeon-General of the United States Army for 1926 refers to the fiscal year ending in June, 1926, but the main part of the report, dealing with the health statistics, is concerned with the twelve months of the year 1925. The mean strength of the United States Army for that year was 11,429 officers, and 111,467 white and 2,219 coloured troops; in addition to these there were 839 nurses, including reserve nurses on active duty and student nurses. The strength of the troops in stations of the United States was 98,343, in the Philippines 11,539, in Hawaii 14,164, in Panama 8,428, in China 934, and in Porto Rico 1,180, with a proportionate distribution of nurses. But in addition to these a large number of civilians, approximately 75,319, dependants of officers and men on the active and retired lists or employed in connexion with army services, came under the professional care and treatment of the army medical service.

The establishment of medical officers was 922, of dental officers 154, and of veterinary and medical administrative officers 125 and 71 respectively, all of whom are under the administration of the Army Medical Department. During the year under review, however, the medical corps had 61 officers below establishment, and only 73 per cent. were available for general duties, the remainder being employed in administrative work or as instructors and students in the various schools. In these circumstances the Surgeon-General emphasizes, as in the previous year when there was a similar deficiency in medical officers, the inadequacy of the medical personnel. The number of dental officers, although only four below establishment, was also considered inadequate for the extensive duties of dental prophylaxis and treatment which they are now called upon to perform. For the past twenty-five years the proportion of dentists has been 1 to every 1,000 troops. The Surgeon-General considers that the proportion should be doubled.

Medical Personnel.

The enlisted ranks of the medical services numbered 6,472 of an authorized establishment of 6,522. Other interesting statistics of medical personnel refer to the numbers enrolled in the reserve of officers of the medical, dental, veterinary, sanitary, and medical administrative corps. Reserve medical officers alone number 10,327; and the medical units, organized for mobilization in a national emergency, include 90 evacuation hospitals, 72 surgical hospitals, 24 hospital centres, 146 general hospitals, and 72 hospital trains. Many of these units will be obtained by taking over *en bloc* well established civil hospitals with their complete staffs. In addition to these there has been a great increase in the commissioned and enlisted medical personnel of the National Guard, the number of officers being 1,246 and of other ranks 9,853, as compared with 128 and 841 respectively in the previous year. They provide 16 service companies, 35 ambulance companies, 12 collecting companies, and 29 hospital companies. Another feature in this extensive reserve organization of medical services is what is called "procurement planning," or plans for industrial foresight in supplying materials for the medical department in an emergency. Valuable assistance in this respect has been rendered by several trade organizations and leading members of the industries concerned.

Incidence of Diseases.

The health of the army is stated never to have been better than in 1925, although the admissions for injuries had increased. Bronchitis and the respiratory group of diseases, as in the previous year, head the list of admissions with a rate of 177.77 per 1,000, the next highest rate being 52.55, for venereal diseases. Bronchitis alone accounted for 6,729 admissions, or more than double the number in the British Army. The admission rate for venereal diseases is the lowest on record, and a significant decline from rates, amounting to 100 and 200 per 1,000, in the years previous to the great war. Prophylactic measures are compulsory, and an officer or soldier who fails to use them is subject to trial by court martial. Prophylactic outfits are issued, and prophylactic treatment centres, with orderlies in attendance, are established in garrison stations. Further, there is a physical inspection monthly, and pay is stopped during days of inefficiency on account of venereal disease. As these diseases show by far the highest rates of constantly sick, the loss of pay must be considerable.

In view of the Federal Prohibition Law the extent to which alcoholism and drug addiction prevail is of interest. With the exception of the years 1918-19, when the admissions were insignificant, an admission rate for alcoholism in the neighbourhood of 8 per 1,000 shows little variation since 1916. Drug addiction, however, shows signs of declining. It is interesting to compare the admissions for alcoholism with those in the British Army. In 1925 the number for the United States Army was 1,084, practically the same as in 1924. In the British Army, of considerably greater strength, in the year 1925 it was *nil*. Malarial fevers have been the chief causes of admission in the British Army. In the United States Army they have been reduced to the low rate of 8.67 per 1,000 in 1925. Between 1902 and 1917 the admission rate for these diseases among white troops in the United States alone averaged 24.45 per 1,000, and in the years between the civil war and the Spanish-American war 271.50 per 1,000.

Mortality Figures.

The annual death rate from all causes, 3.77 per 1,000, was also the lowest recorded in the history of the United States Army. The death rate from diseases was only 1.94, the first time this rate has fallen below 2 per 1,000. The rate from injuries, on the other hand, has increased, and exceeded the deaths from disease. It was 1.99 per 1,000, as compared with 1.89 in 1924 and 1.90 in 1923. This rate has never previously been exceeded, except during years of battle casualties. Suicide heads the list of deaths from all causes, not only in 1925, but for several years past. Drowning comes next, then aeroplane accidents, followed by tuberculosis and automobile accidents. The prominent position of suicides in these statistics is noteworthy, as is also the fact that nervous disorders, although not occupying a high place in the admission rates, are the chief causes of invaliding.

These are only a few of many points of interest and valuable study in this voluminous and exhaustive report. It is amply provided with statistical charts, and concludes with tables of detailed statistics of admissions, deaths, invaliding, and inefficiency from individual diseases and injuries in the United States, in the several oversea commands, and among civilians and members of the nurse corps.

* *Annual Report of the Surgeon-General, United States Army, 1926.* Washington: Government Printing Office. 1926. (8vo, pp. xiii + 482; 171 tables in text, 9 appendix tables, and 52 figures.)

British Medical Journal.

SATURDAY, JUNE 25TH, 1927.

RADIUM IN UTERINE CANCER.

It is now five years since treatment by radium was introduced at University College Hospital, and in preparing his report for the year 1926 the registrar, Dr. A. E. B. Paul, has taken the opportunity of prefacing the account of the year's work with an analysis of the results of the previous five years' treatment. The report has special reference to carcinoma of the cervix uteri and menorrhagia.

Sixty-two cases of inoperable carcinoma of the cervix were treated, and 58 have been followed; of these only 6 are known to be alive, and 3 of them have recurrences. Those alive and well had treatment twenty-five, twenty-four, and twenty months before the date of the report; the duration since the first treatment of the three cases with recurrence is forty, seventeen, and sixteen months respectively. Fifty-two patients are dead, their average duration of life after treatment being fifteen months. In many of these cases the radium treatment rendered the patient more comfortable, especially as regards the lessening of the haemorrhage and the alleviation of pain. A cure in any sense was not to be expected with any degree of confidence, but the patients' lives were certainly made easier. In the last report it was stated that a new method had been employed in treating cases with infiltration of the broad ligaments—namely, implantation of radium needles after laparotomy. Three cases in which this procedure was adopted are recorded; two of the patients are alive and have no recurrence after twenty-one and sixteen months respectively; the third case is alive after fourteen months, but has extensive recurrence. Of the operable cases of carcinoma of the cervix, 7 out of 13 patients treated with radium are alive and have no recurrence after forty-three, forty, twenty-nine, twenty-four, twenty-two, twenty, and twelve months respectively; one patient is alive after forty-seven months, but has a recurrence. It would therefore appear that in operable cases, when for any reason operation is contraindicated, a fair number of cures for at least two years may be expected. Twenty-two cases of carcinoma of the cervix were treated with radium and also operated upon, a complete Wertheim's operation being performed in most; of these, 5 are alive and without recurrence after sixty-two, fifty-four, thirty, twenty-four, and twenty-one months respectively; 3 are alive after fifty-four, thirty-three, and eighteen months, but have recurrences. One of the above, it will be observed, is still free after five years. Of 18 cases of carcinoma of the body of the uterus treated with radium only or by radium and operation, 12 are dead, 3 are alive without recurrence, 1 is alive but has recurrence, 1 cannot be traced, and the other case was a four years' cure when last heard of.

With regard to non-malignant cases, the results of treatment by radium in menopausal haemorrhage are extremely good, only a few cases requiring a second dose. The usual dose given is 3,000 to 3,600 milligram hours of the salt, and the technique of plugging the cervical canal as well as the vagina is now the standard practice. The results of radium when used in cases of essential menorrhagia are stated to be also very encouraging, the dose used being about 1,000 milligram hours of the salt. Cases of fibromyoma of the uterus varied much as regards results, but out of 20 cases first treated over a year ago, 12 have shown good results as regards the cessation of haemorrhage, and 3 required further doses before this was attained.

With regard to the main part of the report, which deals with the work for the year 1926, the cases are conveniently classified, and each one is carefully and completely described. The report, sixty pages in length, shows evidences of great care in its preparation, and the registrar is to be congratulated on the completion of an excellent piece of work.

SEWAGE DISPOSAL.

No more profound change has occurred in the sanitary circumstances of this country than that from a conservancy to a water-borne system of excrement disposal. Its share in improving the health of the community may be difficult to disentangle from the many other factors which have also contributed, but no one can question the magnitude or the importance of this change upon the health, more especially of urbanized communities. Like all other improvements, however, it has brought its own tale of troubles, and the problems peculiar to the disposal of sewage have exercised the resources of the chemist, the engineer, the biologist, and the sanitarian for well over half a century. Progress in the solution of these problems has been slow, costly, and difficult; it has advanced in the teeth of ignorant prejudice and popular indifference, and the civic neglect in which they were reflected. But there has been progress in knowledge and in its application. Research has disclosed the manner of operation of the natural processes by which the desired ends were attained, and the enterprise of exemplary public authorities has furnished in a variety of forms the "plant" in which on a practical scale the natural purification of sewage has been developed.

The activated sludge process may be said to be the latest development of the prolonged attempts at sewage treatment which were the inevitable outcome of the widespread adoption of the water-borne, sewage-producing system. How far it has been successful and to what extent, by whom and with what results it has been adopted, may be read in Mr. Arthur Martin's recent book on this subject.[1] The process itself is essentially what may be described as a natural process. It is in the direct line of descent from the earliest, pre-human stages by which nature disposed of dead organic matter. When this has passed into solution or otherwise become physically incorporated with water, the changes such a liquid undergoes in its progress towards a pristine purity are identical throughout a wide variety of methods of disposal. The soil was always known as the great purifier. What the soil failed to accomplish the rivers completed, given time and opportunity. But with the advent of the industrial age these were lacking. Intensification of purifying processes became necessary as the soil sickened and the rivers became offensively polluted. The development of the biological sewage "filter" was merely an application, on an intensive scale, of the processes natural to soil purification of sewage. The humus, the essential agent in the oxidative changes known to be necessary in the process of purification, was cultivated on the coarser particles of the

[1] *The Activated Sludge Process.* By Arthur J. Martin, M.Inst.C.E., etc. London: Macdonald and Evans. 1927. (Roy. 8vo, pp. xiv + 415; 76 figures. 30s. net.)

biological "filter" under conditions in which the supply of atmospheric oxygen was greatly amplified. This has been the great advance in sewage purification in a multitude of applications during the last thirty years. But a growing recognition that the humus was the essential agent failed to suggest its utilization in the manner in which it operated in the rivers. Laborious attempts at oxidizing sewage directly by blowing air in a continuous stream of bubbles through the liquid led to the rediscovery, but not the recognition, of humus. Dr. Fowler, the originator of the method of treatment by "activated sludge," thus describes his earlier experiments: "In a series of preliminary experiments, samples of Manchester raw sewage, contained in bottles of 80 oz. capacity, were aerated until complete nitrification ensued, the aeration being effected by drawing air through the sewage by means of an ordinary filter pump. In the case of the first experiment, about five weeks' continuous aeration was required in order to obtain complete nitrification, as had been previously observed. At the end of this period the clear oxidized liquid was removed by decantation, and a further sample of raw sewage aerated in contact with the original deposited matter, until the sewage was again completely nitrified. This method of treatment was repeated a number of times with the retention in each case of the deposited solids. It was found that as the amount of the deposited matter increased, the time required for each succeeding oxidation gradually diminished until eventually it was possible completely to oxidize a fresh sample of crude sewage within twenty-four hours. For reference purposes, and failing a better term, the deposited solids resulting from the complete oxidation of sewage have been designated 'activated sludge.'"

Gradually the idea has dawned that this "activated sludge" is not sludge as ordinarily understood, but is a biological complex, a rich flora and fauna of micro-organisms mixed with organic matter in an advanced phase of dissolution. It rapidly sediments from the sewage with which it is mixed as a brown, earthy-smelling mixture containing about 99 per cent. of water. Mixed with sewage or sewage liquors, and in the presence of an ample oxygen supply, it rapidly separates the colloids and is associated in the oxidation of the organic matter present in the liquid. It is, in fact, humus in a free state. No longer anchored to the particles of soil or filtering medium, this free humus operates in the same manner as it does in rivers polluted to a degree insufficient to destroy its activity. Where pollution is so great as practically to de-aerate the water the aerobic life of the humus is destroyed, and the humus ceases to function as the beneficent agent it may be. Rediscovered in the process of blowing air through sewage, it is found to function satisfactorily, whatever the method of aeration of its habitat may be. Ardern and Lockett continued the work of Fowler in the extended air-blowing plants at Manchester. Haworth at Sheffield omitted the air-blowing, and propelled the mixture of sewage and free humus along shallow channels by means of paddles; relying thus on the continuous change of liquid at the air-sewage interface, he achieved like results. The conditions of natural purification to be observed in rivers were substituted for the similar conditions found to be associated with sewage purification on land or biological filters, and, while the results were equally satisfactory, their attainment was more economical in time, in area required, and in cost.

The treatment of sewage by free humus is now the subject of a variety of methods of application. Mr. Martin's book is an excellent guide to these various applications of the process. The data such as the chemist, the engineer, or sewage-works manager desires are well selected, clearly set out, and cover very completely the field of operations in which "activated sludge" has been chosen as the purifying agent.

THE F.R.C.S. ENGLAND AND CANADIAN CANDIDATES.

THE Council of the Royal College of Surgeons of England has had under consideration a proposal made a couple of years ago by the Canadian Medical Association expressing a desire that facilities should be arranged for Canadians, by post-graduate study and examination, to obtain the Fellowship of the Royal College of Surgeons. In the annual report of the Council of the Royal College of Surgeons for 1925 it was stated that the matter had been referred to a subcommittee to report on the desirability of substituting an examination in applied anatomy and physiology and in pathology for the present primary examination in anatomy and physiology. The subcommittee reported against this course, and the Council has recently resolved that no alteration should be made in the subjects of the primary examination for the Fellowship. The Council then decided that it was desirable to send examiners to the Dominions to conduct a primary examination for the Fellowship of the same standard as the examination in this country, and the secretary of the College, Mr. S. Forrest Cowell, and the Director of Examinations of the Conjoint Board, Mr. F. G. Hallett, were instructed, in consultation with the President, to enter into negotiations with the proper authorities in Canada regarding the conditions under which the arrangements for the examination could be made. It is hoped to send to Canada within a few days some suggestions, and it is thought that it may be possible to arrange for an examination to be held in Canada some time in the summer of 1928. The final examination for the Fellowship will continue to be held in this country. The subcommittee, before presenting its report to the Council, had a conference with the examiners in anatomy and physiology. The first question discussed was as to the most suitable time in the career of a candidate at which he should be required to pass the examination, and it was agreed that for various reasons it was essential that the examination should be open to third-year students as well as to men already qualified, and that therefore the examination should be framed in such a manner as to enable both classes of candidates to be treated on equal terms. The objection that it was difficult for a qualified man to go back to pass the same standard in anatomy and physiology as a third-year student was met by the expression of the opinion by the examiners that a general all-round knowledge of anatomy and physiology, such as the primary Fellowship requires, was essential if the candidate was to obtain the broad outlook necessary to enable him to reach a standard of attainment such as the Fellowship of the College should demand. On the subject of the high percentage of rejections, which was also discussed, several of the examiners who, as teachers, had a knowledge of the candidates, said that a good student who had passed well at the intermediate M.B. examination, and had worked for another six months, almost invariably succeeded in passing the primary Fellowship examination. The high percentage of rejections was largely due to the moderate and weak students, who, having successfully negotiated the M.B. examination with a bare pass, entered for the primary Fellowship examination on the offchance of passing. That high percentage was not evidence of an unsatisfactory form of examination, or of its uncertainty as a test of knowledge, but was due to three principal causes: first,

a failure to realize the high standard of all-round knowledge required; secondly, a system of cramming, instead of regular work in the dissecting room and physiological laboratory; and thirdly, a tendency to neglect the ordinary basic facts in favour of the latest theories and experiments. In recent years the questions both in anatomy and physiology showed a more decided bent towards medicine and surgery, but the examiners did not agree that the questions should be made still more medical and surgical, because that would involve a loss of a general all-round knowledge of human anatomy and physiology.

THE NEW DEATH CERTIFICATE.

In last week's JOURNAL (p. 1118) we gave a full account of the provisions of the Births and Deaths Registration Act, 1926, as far as they affect the duties and responsibilities of medical practitioners in relation to stillbirths, death certification, the viewing of the body of a deceased person, and the disposal of such bodies. The Act comes into force on July 1st, and we make no apology for once more directing the attention of practitioners (especially of general practitioners and of the medical officers of hospitals and institutions, on whom the duty of certifying the cause of death usually falls) to the requirements of the Act and of the Registrar-General in accordance therewith. Books of the new forms of certificate can now be obtained from the registrars of births and deaths, together with supplies of the official franked envelopes in which the certificates may be posted to the registrar. Attached to each actual certificate form is (1) a counterfoil, which should in all cases be filled up; and (2) a tear-off portion, constituting the notice that the certificate has been signed, which the practitioner is now legally required to give to the person liable to act as informant of the death for registration purposes. There is an important change as to the manner in which the particulars of the cause of death are henceforth to be stated. The nature and purpose of this change are described in the notes contained in each book of certificate forms, and in the article in last week's JOURNAL, to which we would again refer readers. It is essential that certifying practitioners should be as careful and accurate as possible in giving the information required, and an appeal is made for their co-operation in what is really an important piece of research work for the public advantage. Arrangements have been made for the publication of annual statistics regarding the extent to which the bodies of deceased persons are viewed by practitioners. It is desirable to encourage this practice in the case of a large proportion of deaths, and practitioners may be reminded that the registrar is directed to bring to the notice of the coroner cases in which the death certificate discloses the facts that the body has not been so viewed, and that the deceased person has not been seen by the certifying practitioner within a period of a fortnight before death.

THE ROMANCE OF ECONOMIC BOTANY.

THE romantic aspect of experiment and discovery in science was illustrated in a paper on the quest for economic plants read before the Royal Institution by Dr. A. W. Hill, director of the Royal Botanic Gardens, Kew, on April 16th. From prehistoric times economic plants were transported about the world, accidentally or otherwise; so that the staple crop of Gambia, the West African ground-nut, was probably introduced from South America by early travellers, and the West Indian sugar cane probably came from the East Indies. The attempt made in 1787, under the auspices of Sir Joseph Banks, first director of Kew, to introduce the bread-fruit from the Pacific Islands to the West Indies, was one of the earliest historical attempts at plant introduction, and was ultimately successful in 1793. The invention of Wardian cases, a kind of miniature greenhouse, by an examiner to the Society of Apothecaries in the nineteenth century, made possible the introduction of tea from China to India in 1848, of cinchona from the Andes through Kew to India, and of Para rubber from Brazil through Kew to the East. A relic of the German occupation of the Cameroons is still to be seen in a small experimental plot of tea at Busa, 3,000 feet above sea level. Dr. Hill described problems which arose in the cultivation of economic plants. Thus, the edible banana rarely sets seed; it is also highly susceptible to Panama disease. The problem is to cross a seed-bearing variety which is immune to the disease with an edible form such as the Gros Michel, and produce a seedless and resistant banana. But this banana must also have a thick skin in order to travel well; it must be of suitable size to invite purchasers; and it must be properly curved inwards on the bunch so as to be easily packed. The flavour, it appears, is a secondary consideration, as banana consumers are not usually connoisseurs. Dr. Hill described many of the pests against which the plant introducer has to fight, with the help of Kew and of the Imperial College of Agriculture in Trinidad; and showed that the romance of economic botany provides serious occupation for the plant physiologist, the pathologist, the agricultural chemist, and the geneticist.

THE REFORMED GOLD MINES.

ON July 1st next the Metal Grinding Industries (Silicosis) Scheme comes into force in Great Britain. It applies only to total disability due to silicosis or to silicosis accompanied by tuberculosis, or to the death of a workman from the same cause as certified by a medical referee. No doubt plenty of difficulties will crop up in the administration of this scheme, but we only allude to it now in contrast to the immensely greater scheme—mainly preventive—which has been so successfully carried through by the Medical Bureau of the Miners' Phthisis Board of South Africa under Dr. Watkins-Pitchford, its late chairman. A fascinating story of what has been done, how it has been done, and what still remains to be done is told by Dr. A. Mavrogordato, Research Fellow in Industrial Hygiene to the South African Institute for Medical Research.[1] In the gold mines the full-time services of nine medical examiners, a medical radiographer, a pathologist, and five photographers have set the engineers to work, with the result that the original type of the disease has changed from "a pure fibroid non-tuberculous type, the commonest and most characteristic form," as expressed in 1903 by the Transvaal Medical Society, to that which silicosis has apparently always assumed in this country. Thus Haldane, in his report on the health of Cornish miners in 1904, attributed great importance to tuberculous (or possibly other bacterial) infection. The change in type is from bulky lungs of the consistency of rubber, and characterized by right-sided heart failure, oedema, and dropsy, to lungs of ordinary size, without massive fibrous tissue, without failure of the heart, but still destroyed by superimposed infection. This change reflects the preventive measures adopted. At the commencement of the industry the prevalence of the disease was 30 per cent., owing to a dust content of the mine air which, at the beginning of the period, was 150 milligrams per cubic metre; by 1911 it was 20. By still further reduction in the dust content to 5 milligrams the prevalence was reduced to 3.3 per cent.; since 1920 the dust has gone down to about 2 milligrams per cubic metre. Even this great diminution is not

[1] *Contributions to the Study of Miners' Phthisis.* By A. Mavrogordato, M.A.Oxon., M.R.C.S., L.R.C.P. Publications of the South African Institute for Medical Research, Johannesburg. No. xix, vol. iii. (Cr. 4to, pp. 84; illustrated. 5s.)

considered wholly satisfactory, because a dust that can hardly disable *per se* may yet pave the way for a disabling infection. And even watering, which has done so much in allaying the dust, is not absolved from all responsibility, as such particles and bacilli as are still present in the air form the nuclei of droplets of spray constituting a more dangerous dust from the point of view of infection. In the early days men engaged in drilling who contracted the disease dropped out in two or three years, whereas now the average time in which simple silicosis is contracted has been lengthened to about ten years and a quarter. Moreover, it is only 3 per cent. of the total working miners, and only about 7 per cent. of those who have worked for ten years or longer, who annually become silicotic in any form. The conclusion reached in this section is that the engineer has about reached the limit of his capacity to improve conditions, and Mavrogordato raises the question whether medical intervention cannot carry the matter further by detecting and removing open tuberculous cases, among native labourers especially, and by raising resistance to tuberculosis by a suitable vaccine. The nodular structure of the silicotic lung is pictured by Mavrogordato as due to the incursion of hordes of the "large mononuclear phagocyte" (synonymous with the "macrophage" of Metchnikoff and the "dust-cell"), which are retained as specific cell traps; they aggregate together, with their content of dust and bacilli, into tubercles and pseudo-tubercles, eventually either themselves becoming fibrous tissue or stimulating its formation. The lung acts as a "specific filter," and becomes thus sown with the specific "cell traps." A difference between South African experience and that at home is that fibrosis of the lungs, at any rate in the pottery industry, has been diagnosed by medical examination at a period of employment earlier than that at which silicosis has been found by radiological examination in the same occupational groups. Among the microphotographs with which Mavrogordato illustrates his thesis are some showing the fibrosis taking place in the glomeruli and round the collecting tubules of the kidney. These have importance because the view that silica in a colloidal form has a specific poisonous action is now gaining ground.

ANTIVIVISECTION MEETINGS.

On the same day last week—Thursday, June 16th—three meetings were held by antivivisectionists. One was the annual meeting of the National Canine Defence League, presided over by Sir Robert Gower, M.P., who moved the second reading in the House of Commons of the Dogs' Protection Bill; he said that he had received a letter from Lord Dawson of Penn inquiring whether it would be congenial to the meeting if he were to attend and speak. The chairman said that he had assured Lord Dawson that he would receive a fair hearing. Lord Dawson began by saying that it might seem strange to the audience, but he was a great lover of dogs, and was the happy possessor of two dogs; one of them practically never left him, either at work or play. One of these dogs had lately become a victim of a serious disease, the "yellow disease," the mortality of which had been 70 per cent. Nowadays, owing to the discovery of a new remedy, the recoveries amounted to 70 per cent. The support for the experiments on dogs came, he said, from the medical profession, and not from one section of it. This statement produced an uproar, but when the chairman succeeded in procuring silence Lord Dawson observed that the scientific position was a matter for experts, and it was only on ethical grounds that opposition to vivisection could be raised by the general public. Dogs and other animals had one advantage over human beings, in that they had no power of anticipation, no consciousness of duty to others left behind, and no family or social ties. It was not so much the physical suffering that troubled human beings in illness, but the thought that near and dear ones might suffer. The performance of an experiment on an animal was similar to an operation on a human being; he had never seen any material difference. When Lord Dawson had concluded, the chairman declared that nothing Lord Dawson had said altered his conviction that vivisection was wrong. Nevertheless, the medical profession will admire Lord Dawson for spontaneously taking upon himself the disagreeable task of facing a hostile audience which did not wish to be convinced. Another antivivisection meeting was the annual meeting of the Council of the British Union for the Abolition of Vivisection; this was presided over by its president, Dr. Walter R. Hadwen, who said that the whole opposition met by antivivisectionists was based on the argument of the usefulness of vivisection. Their opponents, he said, declared that it was useful, and the general public would ask what were a few guinea-pigs or dogs or cats to the salvation of the human race. It was claimed that only medical men could know anything about the question; they knew less than anyone about it, and were too busy getting in the "bawbees" to bother about any question of that sort. Antivivisectionists declined to ask for anything short of the total abolition of that "iniquitous crime." Other speakers protested against experiments with poison gas on animals, and a resolution calling for the closure of the Porton establishment was carried. A resolution was also passed calling on the Government to refuse to comply with the petition of medical and scientific bodies that stray dogs should be handed over for experiment. The third meeting was the annual public meeting of the British Union for the Abolition of Vivisection; this lasted two hours, but uproar appears to have continued all the time, and the meeting broke up without transacting any business. It was said that the interrupters were medical and other students; if so we can only regret their action, for though the provocation has been great, no good could be expected to come of disorder, which should be left to the rowdy element of the antivivisection organizations. Yet another meeting had been held a day or two before; this was called by the Animal Defence and Antivivisection Society to protest against the memorandum recently issued by the Medical Research Council asking for an amendment of the present law to enable the police to hand over stray dogs for experiment. The Duchess of Hamilton was in the chair, and the chief speaker was Miss Lind-af-Hageby, who has been engaged in the agitation for a good many years. Dr. John Shaw also spoke, alleging that vivisection had undermined the morality of the medical profession. Other speakers indulged in similar foolish remarks. It can only be regretted that all these societies are kept alive by the donations and bequests of misguided persons who believe in the assertions made by the agents of the societies, and give or leave money for the perpetuance of the agitation. So far as we can gather, the antivivisectionists, taking them by and large, have now rather given up the public defence of their old contention that vivisection is useless, and are basing their opposition mainly on the ground that the practice in unethical and immoral.

THE PREVENTION OF RABIES.

RABIES is so essentially an international disease that it was almost inevitable that it should attract the attention of the Health Organization of the League of Nations. A conference was summoned in Paris during the last week in May, and a large number of scientists of all nationalities met at the Pasteur Institute. Three main aspects of the disease were considered—the nature of the virus, the results of treatment, and the prevention of disease in

animals. The modern concepts of French and other workers of the nature of the causal organism of rabies have previously been stated in these columns, and the commission confirmed the belief that the virus was filterable, but decided to leave as *sub judice* the organism described by Levaditi and Manoulian; nor did it decide whether the familiar Negri bodies were stages of the organism or cell degenerations. Opinion as to the efficiency of the Pasteur treatment by the original dried cord method and by the glycerinated cord method was unanimous. Similarly, it was considered that a virus killed or attenuated with carbolic acid or ether produced a satisfactory immunity, but it is recommended that such vaccines should receive more extensive trial on a larger scale, and that inquiries should be made into the plurality of strains, and into the rabicidal action of the serum of man and animals during and after immunization. While refusing to propose important changes in sanitary legislation, the commission, when considering the vaccination of animals, expressed the view that it was desirable to give dogs prophylactic vaccination against rabies, using a single inoculation of killed or attenuated virus (as we have previously described), and repeating this inoculation at yearly intervals. This would, of course, necessitate some form of administrative supervision and inspection of vaccinated dogs. Dogs, even if vaccinated, known to have been bitten by a rabid dog should be destroyed; but it was thought that if they were only suspected of having been bitten they might be vaccinated, provided they were isolated for six months. Prophylactic curative vaccination of cats is not recommended in any circumstances. Other animals should be vaccinated only in areas where the disease is particularly prevalent; and vaccination after the animal has been bitten is recommended. The conference expressed the view that the only measures which will completely eradicate rabies are the restriction of the liberty of the dog, unless muzzled, to the premises of its owner, and the destruction of the ownerless stray. It is recommended that these measures should be embodied in the legislation of the various countries. It was exactly by these measures, of course, that rabies was eradicated from Great Britain, and should it be accidentally reintroduced—a remote contingency so long as all animals entering are subjected to a six months' quarantine—their re-enforcement will be necessary. Other countries are less fortunately situated, but it is obvious that any action to eradicate the disease in Continental countries must be concerted, and for this purpose no better agent than the League of Nations could be selected to unify the actions taken by different countries. This new spirit augurs well for the future, and it may be that we are within sight of the complete disappearance of a most infectious and deadly disease.

GOVERNMENT LYMPH.

THE disappointment felt by many medical practitioners at the refusal of the Local Government Board, and afterwards the Ministry of Health, to allow them to obtain small-pox vaccine from the Government Lymph Establishment for use in private practice has not infrequently been expressed in our columns for a good many years past. The matter has now attracted some public attention, and in an article on the recent small-pox outbreak in Hendon and Hampstead the *Times* expressed the opinion that this refusal was inconsistent with the zeal now being shown to persuade people to protect themselves; the article suggested that the Ministry of Health should take steps to defeat propaganda against "impure lymph" by placing at the disposal of any registered medical practitioner lymph prepared under official authority. The article drew a letter from Dr. S. Monckton Copeman, who originated the methods used at the Government Lymph Establishment for preparing glycerinated lymph, officially adopted some thirty years ago by the Local Government Board for public vaccination work. He expressed the view that the existing state of affairs was unsatisfactory. The official reasons for restricting the supply of lymph to public vaccinators were that any other course would be unfair to private traders (some of whom, we may remind the Ministry, deal in foreign produce); that the cost of extension would be prohibitive; that official returns of the results of vaccination could not be demanded from private practitioners; and that it was impossible to provide sufficient staff for inspection of the work of vaccination. The last objection, Dr. Copeman pointed out, has disappeared, as official medical inspection has practically ceased. All the other objections would be met if a reasonable charge were made for supplies of lymph to medical men other than public vaccinators. The income from the increased output would probably more than cover the cost of any additional overhead charges, official returns would not be necessary, and no valid objection could be urged on behalf of institutions or individuals interested in the manufacture and sale of vaccine lymph. On the other hand, many private practitioners are no doubt quite well satisfied with things as they are; our only concern is to point out that the objections made to the general supply of Government lymph are not insurmountable.

THE WRITER AND THE EDITOR.

THE relations between the editor and the contributor were the subject of an interesting debate, opened by Sir Richard Gregory, editor of *Nature*, at a recent meeting of the Circle of Scientific, Technical, and Trade Journalists. Discussing the question whether an editor is justified in suggesting the character of a review or in altering it when sent in, Sir Richard Gregory condemned with proper emphasis the "trimming" of a review to suit any commercial or other consideration. For, as he well said, an editor's prime responsibility is to his readers, who trust him to provide interesting and accurate matter. Reviewers, he finds, and so do we, differ greatly in their understanding of what should be meant by a review. One kind of review he particularly dislikes is that which gives little more than a list of the chapters and a brief indication of what each chapter contains; such a conspectus he thinks more suited for the advertisement columns. To him a good review is one which makes the reader feel that the subject thus opened up is interesting and worth further exploration, whether by buying the book in question or in some other way. A thornier matter touched upon by Sir Richard Gregory was the extent to which an editor could legitimately alter the style of a contribution. It must be assumed, he said, that punctuation might be rectified, but some contributors very much objected even to slight changes in phraseology or style. Further, the editor had the right to decide the title of the article, and he should take a stand against any author who indulged in grammatical barbarisms and objectionable phrases. Among the common phrases Sir Richard found objectionable were "for instance" in place of "for example"; "it goes without saying" for "it need scarcely be said"; and "phenomenal" for "remarkable." Lack of uniformity in the use of capital letters was another matter to which he took exception, contending that it was an editorial fault to permit different systems to be followed according to the fancy of different contributors in the pages of the same journal. He spoke feelingly when he said how rarely a quotation was perfectly correct, though it was, of course, not always possible for an editor to verify every quotation and reference. He also touched on the question of how far an editor was justified in inserting cross-headings. Should this be left to the

contributor? Bearing in mind how few authors had more than the vaguest knowledge of type-setting and blocks, and how commonly in authors' proofs unnecessary corrections were made which involved the overrunning of a number of lines—a costly proceeding—he asked how far an editor was justified in disregarding such corrections. Sir Richard Gregory maintained that the sound working rule was that an editor can do what he likes with an unsigned article without the contributor having any right to object, though out of courtesy he might refer some points to the author; but he doubted whether in ordinary circumstances an editor had a similar right to make definite changes in a signed article. Upon this point there can, we think, be little room for doubt. Without consulting the author an editor has no such right in any ordinary circumstances, but occasionally it may be impolitic to enforce the rule too rigidly. One case that occurs to us is that of an obvious oversight in an article received from a distant part of the world, where the plan ordinarily followed by a printer—namely, to query the passage in the proof—would cause great delay owing to the length of the post. But if, as occasionally happens, an author within easy reach does not answer queries, what then? Another case is where at the last moment some passage is found upon which an action for libel might be based; if the author cannot be reached the question arises whether he would wish his communication withdrawn, or the peccant passage omitted or modified. If the first alternative is feasible the difficulty disappears, but in any event an editor must not print anything he suspects to be libellous. Finally, Sir Richard Gregory threw out the suggestion that it might be well to institute a school for technical authors, so that they should learn what was easily possible and what was quite impossible or unreasonable in the matter of correction after an article had been set up. This last suggestion was taken up during the discussion rather more seriously than might have been expected, and it was ultimately decided to refer the matter to a subcommittee of the Circle with a view to the preparation of short instructions, covering both the writing of scientific and technical articles and the correction of proofs.

FOREIGN BODIES IN BRONCHI AND OESOPHAGUS.

THE article by Mr. Tilley on bronchoscopy and oesophagoscopy with which this issue opens will help to increase the general interest in these methods, especially in respect of their value for the removal of foreign bodies. The whole subject, it may be remembered, was very fully discussed by Professor Chevalier Jackson of Philadelphia in a paper read to the Section of Laryngology at the Annual Meeting of the British Medical Association at Bath, published in our issue of October 17th, 1925 (p. 686). Before this (July 26th, 1924, p. 145) Mr. Waggett had reported a case in which a tooth-plate one and a half inches long and over three-quarters of an inch wide was successfully removed, and the patient made a rapid recovery. In Mr. Tilley's paper we have a number of accurate clinical histories compiled by a trustworthy observer; they will stand as a permanent record, and the paper is a contribution of which the value will remain unaltered by the passage of time. Several lessons are to be learnt from the cases related; these concern those first called to see such cases rather than those skilled in the use of endoscopic apparatus, and they are lessons which at the present day have been learnt only too frequently by the occurrence of a disaster. It is always unsafe to disregard a patient's complaint that he has either swallowed or inhaled a foreign body, for the immediate symptoms are often slight and transient, and the silent period soon follows. Removal of the foreign body at this stage is likely to be comparatively easy and safe, whereas delay in summoning efficient aid may allow severe complications to arise, which come on insidiously, and may compel the operator to face unnecessary dangers and even insuperable difficulties. Leaving aside technical questions, which can only be mastered by those having the opportunities for practice in this very special work, Mr. Tilley has chosen his case-histories to illustrate these and other points of a general but all-important character. From their very nature such cases arise in the most unexpected and disconcerting circumstances, yet, efficiently treated, they form a singularly satisfactory class, and it is well once again to call general attention to the value of the oesophagoscope, the bronchoscope, and the x rays in this striking manner, and to emphasize the conditions which allow them to be employed to the fullest advantage.

PULMONARY SCHISTOSIS.

THE effect of the dust created in their work on the health of slate quarrymen, splitters, and dressers has for many years been a moot point. Medical men practising in Wales, and quarry managers, are stated to have denied that slate dust injuriously affects the lungs. In France treatises have been written on *La Schistose* producing symptoms—emphysema, asthma, congestive attacks followed by pleurisy or pneumonia—suggestive of excessive inhalation of a not very injurious form of dust. Now Dr. T. W. Wade[1] of the Welsh Board of Health adduces evidence, mainly statistical, to incriminate the industry as the principal reason why, in the Gwyrfai rural district (which includes Snowdonia), the mortality rate from tuberculosis is higher than the general rate in the country, and higher in men than in women. The phthisis developing late in life in slate workers, he insists, supports the view now generally held that siliceous dust must be looked to as the cause of the phthisis. He finds, further, that the effect on the lungs of the quarrymen is not statistically so marked as on the hand trimmers, who work in sheds in which a thin haze of dust floats. On the other hand, the charts show that, in addition to this old-age mortality peak, a high mortality peak exists for both males and females in the young adult period of life. Dr. Wade is unable to explain this, although in two quinquennial periods—one before and the other after the war—the male and female rates from tuberculosis of the respiratory system were approximately double those of the rate for England and Wales. It seems a pity that other departments, such as the Home Office, with which the enforcement of preventive measures lie, were not associated with the inquiry from the first, as the present report contains no dust determinations, no results of the physical examination of the workers, or of x-ray photographs or *post-mortem* examinations. Dr. H. H. Thomas, petrographer of the Geological Survey, found that the most numerous particles were micaceous, and that in the sample submitted to him quartz came next. The majority of particles were very minute—about 1 micron—few reaching 5 microns. Chemical analysis showed that free silica was rarely present in a proportion of more than 60 per cent.

A NEUROLOGICAL JOINT MEETING.

A COMBINED meeting of the Section of Neurology of the Royal Society of Medicine and of the American Neurological Association will be held at the house of the society at the end of July. There will be a reception on the evening of Monday, July 25th, at 9 p.m., and on the following morning short papers will be read. On Wednesday, July 27th, at 9.30 a.m. a discussion on the cerebellum will be opened by Dr. F. Tilney, Dr. H. A. Riley, Dr. L. J. Pollock, Dr. L. E. Davis, Dr. A. J. Mussen, Dr. T. H. Weisenburg, and Dr. Harvey Cushing. On Thursday morning a discussion on sensory disorders in organic disease

[1] A report of an investigation into the alleged high mortality rate from tuberculosis of the respiratory system among slate quarrymen and slate workers in the Gwyrfai rural district. By T. W. Wade. Ministry of Health (Welsh Board of Health). 1927. Price 1s. net.

of the nervous system will be introduced by Professor J. S. B. Stopford, F.R.S., Dr. Wilfred Harris, Dr. Gordon Holmes, and Dr. S. A. Kinnier Wilson. In the afternoon short papers and demonstrations on pathological subjects will be given, and at 5 p.m. the Hughlings Jackson Lecture will be delivered by Dr. Charles L. Dana; in the evening there will be a banquet. Those who wish to read papers or show cases should communicate with Dr. W. J. Adie, joint honorary secretary of the Section of Neurology, at 1, Wimpole Street, London, W.1.

THE OXFORD OPHTHALMOLOGICAL CONGRESS.

THE Oxford Ophthalmological Congress will be held this year on July 7th and two following days. It will be opened by an address given by the Master, Mr. Philip H. Adams, B.M., F.R.C.S., on Thursday, July 7th, at 10 a.m.; the rest of that morning will be devoted to a discussion on the results of the operative treatment of glaucoma, to be opened by Dr. William H. Wilmer, ophthalmologist in chief to the Johns Hopkins Hospital, Baltimore. In the afternoon Professor F. Lagrange of Bordeaux will give an address on the best procedure to adopt for fistulization of the glaucomatous eye. A number of demonstrations will be given in the scientific and commercial museums in the afternoon, and the annual dinner will be held that evening in the Hall of Keble College, where the congress has its headquarters. On the morning of Friday, July 8th, Professor K. K. Lundsgaard of Copenhagen will give the Doyne Memorial Lecture, on the pneumococcus in connexion with ophthalmology. In the afternoon there will be a clinical meeting at the Oxford Eye Hospital. On the morning of the last day of the Congress (Saturday, July 9th) a series of addresses will be given in the Department of Human Anatomy. The full programme can be obtained from the Honorary Secretary, Mr. A. Bernard Cridland, F.R.C.S., Salisbury House, Wolverhampton.

SWISS CONFERENCE ON GOITRE.

WE have already announced that the Swiss Goitre Commission has arranged for a conference on goitre, to be held in Berne at the end of August; we have now received some further details. The conference will be opened in the aula of the University on the morning of August 24th by the president, who will give an address on the general distribution of goitre; this will be followed by a discussion on the pathological anatomy of endemic goitre, to be opened by Professor L. Aschoff of Freiburg, Professor C. Wegelin of Berne, and Dr. David Marine of New York. In the afternoon the pathologic physiology of the thyroid will be considered by Dr. Plummer of Rochester, U.S.A., Professor von Eiselsberg of Vienna, and Professor de Quervain of Berne. The whole of August 25th will be given to the question of the etiology and epidemiology of endemic goitre; the opening addresses will be contributed by Professor Bérard of Lyons, Lieut.-Colonel R. McCarrison, I.M.S., of the Pasteur Institute, Coonoor, India, Professor Galli-Valerio of Lausanne, and Dr. E. Bircher of Aarau. On August 26th, the last day of the conference, the prophylaxis of endemic goitre will be the subject of discussion, and in the afternoon a cinema film illustrating cretinism will be shown. Those members interested in the surgery of goitre may stay on till Saturday, August 27th, when Professor de Quervain will hold a demonstration in the surgical clinic. As will be seen, the conference will deal with no matter other than goitre. Further information can be obtained from the president, Dr. H. Carrière, Service fédéral de l'Hygiène Publique, Berne.

IT may be remembered that last autumn the Committee of Representatives of the Royal Society, the Royal Colleges of Surgeons of England and Ireland, and the Universities of Edinburgh and Glasgow, awarded the Lister Medal—founded to recognize distinguished contributions to surgical science—to Professor von Eiselsberg of Vienna, who will give an address at the Royal College of Surgeons of England at 5 p.m. on Thursday, July 7th. There will be a reception from 4 to 5 o'clock, and the specimens added to the museum during the year will be on view.

A FORTNIGHT ago we stated that Professor Pavlov underwent an operation on May 27th for gall stone; as he is nearly 78, and has been in indifferent health for several months, some apprehension was felt as to whether, in his debilitated state, he would be able to withstand the operation. We are glad to announce that, though after the operation he suffered from bronchitis for a time, this passed off, and a fortnight later he was judged to be on the high road to recovery. Dr. Horsley Gantt, writing to us on June 9th, said that he had seen Professor Pavlov on the previous day, when it was expected that he would be able to get about again within a week.

IT may be well to remind members who propose to attend the Annual Meeting of the British Medical Association in Edinburgh next month that the Hotels and Lodgings Committee has engaged all the available rooms in the city. Dr. Drever, the Scottish Medical Secretary, 6, Drumsheugh Gardens, Edinburgh, has undertaken the work of allocation, and members requiring rooms should communicate with him without delay. Very few single rooms are available in hotels, but there are some in boarding houses and hostels, and there are plenty of double rooms. Members proposing to attend the meeting who have made their own arrangements for accommodation are requested to notify Dr. Drever.

Nova et Vetera.

PARISH REGISTERS.

IT is generally supposed that the institution in the year 1538 by Thomas Cromwell of parochial registers, like Edward VI's foundation of grammar schools, was an attempt to fill a gap left by the abolition of the monasteries. Both suppositions have little foundation. The monasteries only concerned themselves with the registration of deaths of important persons, or at least of such as were wealthy enough to have left money to secure prayers for the repose of their souls; and the educational activities of the monks in the sixteenth century have been very greatly exaggerated. Had the enactment of Henry VIII's minister, and that made later under Elizabeth, been properly observed we should now have had in our possession a complete record of deaths, marriages, and births (or baptisms) for nearly four centuries. Unfortunately the duties thus thrust upon the clergy were unremunerated, and parishioners successfully resisted the imposition of registration fees. The bishops and consistories on whom, in 1597, Elizabeth placed the onus of keeping transcripts of the parish registers also in too many cases neglected their duties, and so it came about that by the year 1801, when the first census was taken, only 812 registers dating from 1538 were in existence in the 11,000 parishes of England. However zealous bishops, priests, and deacons may have been in the performance of their spiritual duties, they failed lamentably in the carrying out of their civil obligations. Even those poor 812 out of 11,000 registers are no longer all in existence, for a return made in 1834 showed that even that small number had decreased owing to the negligence of the clergy in the interval. Such as they were, the parish registers of England and Wales and the bills of mortality of the

City of London (BRITISH MEDICAL JOURNAL, October 8th, 1926, p. 645) formed the only basis on which estimates of the public health could be made for nearly three centuries, until the passing of the Acts for the civil registration of births, deaths, and marriages in 1836.

Luckily for the antiquarian and the social student there are extant a good many registers or their transcripts which, if not dating from 1538, nevertheless go back to the sixteenth century. Those for the parishes of Appledore and Eboney in East Kent begin in the year 1563-64 and are nearly perfect down to 1812. Fortunately for us these have fallen under the notice of that excellent antiquarian and student of medical history, Dr. William Cock of Appledore, who has just published a pamphlet containing his notes and reflections.[1] Dr. Cock's family have lived in Appledore for generations, and he has that sympathy for the land and its people which confers upon him the gift of making such dry bones live, so that his quotations and comments on the local records are full of interest, but of necessity many of them are connected with local topography and history only.

We are apt to regard the peaceful old villages of the English agricultural districts as having stood where they are since the Norman Conquest at least, the only changes being in the nature of rebuildings. These notes, however, and other local investigations of the same kind bring home to us the many sweeping changes that have occurred in the situation of roads and houses, as well as in population, in many an ancient village or "town" in the agricultural counties.

Appledore village is on the edge of Romney Marsh and much of the parish consists of marsh land where, until the introduction of quinine, ague was rife. Dr. Cock attributes the waves of poverty, which have left their marks in the register, to this scourge. There are just as many gnats as ever, and the marsh is no drier than it was; it seems therefore probable that to quinine is partly due the disappearance of malaria, although there must have been other factors at work here, as elsewhere, which are even yet not accurately known.

Appledore was, and is, too small to support a medical man, but it has at sundry times been the centre where one has lived and practised in the country around. Thus it is recorded in 1700: "Sep. 20. John Allen, a young man, our Surgeon and Physitian buried." Seventy years later one of his successors named William Durand, uncontrolled by any medical council or ethical committee, advertised himself in a Canterbury paper in the following terms:

> "Wm. Durand, Surgeon and Apothecary, begs leave to inform the Public that he has taken a Shop at Appledore, in Kent, where he proposes to practise Surgery and Physick; the experience which he has obtained in his Profession during a regular Apprenticeship in London, which he regularly served under a Gentleman of great practice, will, he presumes to flatter himself, recommend him to the Favor of the Inhabitants of this part of the Country; and those who think fit to call in his Assistance, may depend on his utmost Care and Assiduity in the Discharge of his Profession."

Such an advertisement was probably becoming unusual in 1770, and it is likely that the practitioners already established in the neighbourhood viewed it with disfavour. Durand seems to have established himself, however, and lived in Appledore twenty-two years, for his death is recorded in the register in October, 1792. Daniel Price, who published a quarto book on sheep farming in 1809, described himself as "Surgeon of Appledore." He seems to have been a practitioner of the Sangrado school, who lived (and died) up to his principles. He used to bleed himself much and often; he finally died from syncope caused by haemorrhage, and was found dead with his lancet in his hand. One wonders how many patients he had sent before him down the same road, by the same means.

We recommend all our readers who are interested in the short and simple annals of the poor—for it is of them that the notes mostly treat—to send for copies of this pamphlet and thus at once enable the Appledore village hall to be built, and get their money's worth in the antiquarian lore of Dr. Cock.

[1] *Notes from the Transcripts and Registers of Appledore, Kent.* By F. William Cock, M.D., F.S.A. 1927. Price 1s. Sold for the benefit of the Village Hall Fund.

RESEARCH AND THE COMMUNITY.

STEPHEN PAGET MEMORIAL LECTURE TO THE RESEARCH DEFENCE SOCIETY.

AT the annual meeting of the Research Defence Society on June 21st the first Stephen Paget Memorial Lecture was delivered by Professor JULIAN S. HUXLEY, M.A., who took for his subject "Research and the community." Lord LAMINGTON, the President of the Society, and afterwards Viscount KNUTSFORD occupied the chair.

Professor Huxley passed rapidly over research in physics and chemistry, and devoted himself to the biological aspects, taking as his first example the value of research in agriculture. He said that as agriculture extended it brought with it two fundamental difficulties. With an increase of the density of a crop in a given area it became much easier for enemies of the crop to multiply and spread. The second difficulty was due to the increase of travel and transport facilities, which brought animals and plants into new areas where they were freed from the normal checks to their multiplication, and accordingly did damage. Dr. Tillyard, the eminent entomologist of New Zealand, who visited this country last year, told him that the introduction of the common blackberry into New Zealand had led to the growth of nothing less than jungles of impassable thicket. Such introductions were often made with the best intentions, but because the subject had not been sufficiently studied the consequences were sometimes unexpected and serious. The best way of coping with plants and animals in new situations might be to introduce the natural parasites. Without research on an intensive and extensive scale in these fields a great deal of agriculture—especially tropical—would become impossible. Institutes of applied biology were needed to study the whole relation between animals and their environment. Proposals were afoot to exterminate squirrels in the New Forest and pelicans on the American coast because of the damage they did, but any interference of this kind should only be taken as the result of careful research, lest it made matters worse. The phenomena attending plagues of rodents were beginning to be understood; apparently some factor connected with the weather allowed the animals to work up to a maximum of density, and then epidemics occurred which nearly wiped them out, but then the cycle began again. Another value of research in agriculture was from the point of view of breeding. Mendelism was the general law, and theoretically at least, with knowledge and patience, it was possible to build up animals and plants more or less to order, since their hereditary constitution was composed of a great number of independent units which could be shuffled and re-combined by selective mating.

Pure medicine ought to have regard to the broader aspects of biology, especially in connexion with the question of heredity. It had been found by the selective breeding of mice that strains might be obtained much more resistant or much less resistant than usual to cancer, and the same might hold good in the human species, not only with regard to cancer, but to other diseases. A knowledge of heredity was of first-class importance to medicine. Heredity and education were complementary in building up the community. Practically every great nation was changing its hereditary make-up, the composition of its racial stock. Wholly new characters or different combinations of old characters were appearing. Research, even to the extent of national stocktaking on a large scale, was needed in racial and social hygiene. Remarkable effects, which might or might not be biologically or socially desirable, were being produced through the crossing of races. Certain races under the British and other flags were actually dying out, and it seemed to be agreed by investigators that this was happening to some of the Melanesian races through psychological causes, because they had not the will to live or reproduce. An imperial bureau of anthropology was just as clearly needed as the imperial bureaux of entomology and agriculture recently established.

Coming finally to medical aspects of research, Professor Huxley mentioned that the expectation of life was now nearly double what it was in the early times of the Roman

Empire. All the discoveries, most of them recent, which had led to this prolongation of life as well as to diminution of suffering had been made possible through the methods of science—that is, observation and experiment, the two alternating, one incomplete without the other, but experiment always the final arbiter. Experiments could be made in various ways, in test-tubes in the laboratory, on animals, or on human beings, and it did not matter from the point of view of advancing knowledge in what way they were made. In the discovery of chloroform the experiments were first made on man, and various details afterwards worked out on animals. In regard to antisepsis and asepsis, he read Lister's published letter written in 1875, in reply to one from Queen Victoria's secretary, setting forth his experience of the value of animal experiment. *Pasteur's work, which had been of enormous benefit both* to human beings and to animals, was only made possible by research upon the latter. He mentioned also the proved value of vaccination against small-pox, the working out of the Schick test in diphtheria, and the discovery of insulin. Just at the time that insulin was made public a young colleague of his own, with the promise of a brilliant career, had to relinquish all hope of it on account of diabetes; within six months he was preparing to take up his work again. In the work on yellow fever the final experiments were done on human volunteers. It was observation and experiment which was showing how to get rid of sleeping sickness, malaria, and hookworm disease. The spread of malaria was one of the contributory causes of the downfall of Greece and Rome, and disease was the most serious single factor with which our empire in India was menaced. Knowledge and research were the conditions under which the complex civilization of our wide and heterogeneous empire was maintained. Without knowledge there could be no control. It was right to demand that all the avenues to knowledge should be open, for it was never known along which avenue new knowledge would come. Among other instances he mentioned the Schafer method of artificial respiration, which was the result of experiment by that eminent physiologist on half a dozen dogs. Much had been done for animals themselves as the result of animal experiment; it was enough to mention rabies, anthrax, and glanders, diseases which had also a human background. The opponents of the Research Defence Society had every right to insist on adequate supervision of experiment, but he believed that Government inspection was efficient, and that in fact no abuses had been proved. It was impossible to think that the problem of cancer would be elucidated or the work on the virus of sleepy sickness completed without further experiment. The Research Defence Society seemed to stand in the public eye for a body which existed to resist definite attacks made upon research on animals; that was important, but it had a wider function: it had to fight against apathy, ignorance, and bureaucracy and red tape, and no less against the exploitation of the results of research—gained with great labour and difficulty by scientific men,—for base ends.

At the close of the lecture Miss LIND-AF-HAGEBY, of the British Union for the Abolition of Vivisection, asked permission to put certain questions to Professor Huxley. The questions she wanted to ask were: Did the Research Defence Society recognize any ethical restraint on research? Did it deny that great pain and suffering were caused to animals in British laboratories? And if it denied that such pain and suffering were caused, would it exert itself to secure the opening of the laboratories to inspection by accredited representatives of humane societies?

Lord KNUTSFORD from the chair said that these were scarcely questions arising out of the lecture. For his own part he thought there ought to be as little pain as possible inflicted in vivisection, that every possible step ought to be taken to avoid pain, and that the laboratories should be properly inspected. But he also pointed out that any pain inflicted by experiment was small compared with the pain involved in the preparation of animals for food. He then proposed a vote of thanks to Professor Huxley, and asked Miss Lind-af-Hageby if she would be good enough to second it, which, amid laughter, she did.

Sir DAVID FERRIER presented the treasurer's report on the work of the society, which, he said, thanks mainly to a generous legacy left by the late Dr. John Hall, was now relatively well off. The report of the committee expressed thanks to the British Medical Association for so successfully organizing the conference on animal experimentation on April 4th last. During the year the membership of the society had been increased by about eighty members. The new vice-presidents welcomed were Lord Meston, Sir Theodore A. Cook, Dr. Alfred Cox (Medical Secretary of the British Medical Association), Lieut.-Colonel F. E. Fremantle, M.P., Sir Dawson Williams (editor of the *British Medical Journal*), and Sir Squire Sprigge (editor of the *Lancet*). The new members of the committee were Professor C. Lovatt Evans and Dr. F. W. Goodbody.

Canada.

[FROM OUR SPECIAL CORRESPONDENT.]

PROVISION FOR MENTALLY DEFICIENT.

THE care of the mentally deficient in Canada generally has been receiving a considerable amount of attention. A Royal Commission was appointed to investigate conditions in Nova Scotia, with the assistance of the Canadian National Committee for Mental Hygiene. Recommendations have been made *inter alia* for the appointment of a provincial psychiatrist, the establishment of psychiatric clinics, and the erection of a provincial training school for mentally deficient children, and legislation has been introduced for the carrying out of these recommendations. In this connexion the report of the provincial health officer for Nova Scotia is of interest, since it shows that the state of some of the local asylums is far from satisfactory. An attempt, however, is now being made in the penal institutions to study age in relation to recidivism. It is pointed out that "the moral regeneration of an individual without an accurate record concerning his antecedents cannot be rationally attempted," and attention is called to the present system, which has little tendency to prevent recidivism. More rational methods in dealing with offenders against the law are advised. In New Brunswick a mental hygiene council has been organized, and steps have been taken to present to the Provincial Government various aspects of the problem, including the need for special efforts to provide proper institutional care for the feeble-minded.

The Verdun Protestant Hospital in Montreal shows an ever-increasing list of incurable cases, and there is urgent need for more equipment and buildings. There will be some relief when the new wing at Bordeaux becomes available for the dangerously insane, who will be concentrated there from the various institutions of the province; but with the rapid growth of Montreal (estimated at 50,000 per annum) the Verdun institution is in urgent need of enlargement.

In Manitoba the provincial psychiatrist is undertaking a survey of school children in the province three years or more below standard in school grades, or who present other signs of mental deficiency. In the city of Winnipeg the work is being carried out in conjunction with the school medical officers and the outdoor clinic of the Psychopathic Hospital. This report is expected to provide guidance both for the Government and school authorities.

CHARGES OF MALPRAXIS.

Two cases of medico-legal interest have recently been reported in Manitoba. The first was an instance of death of a child 4 years old whilst under chloroform for a minor operation. The operator, who gave the anaesthetic himself, was charged with manslaughter. Expert evidence was adduced to show that it is sometimes impossible to tell whether a child is unfit for anaesthesia or not, and that chloroform was still a recognized anaesthetic in spite of the more general use of ether. Some criticism, however, was made of the fact that absorbent cotton-wool was used on which to drop the anaesthetic, instead of gauze, although the physician had been accustomed to the use of wool for over thirty years. He was acquitted.

In the second case a physician was prosecuted by the

parents of a child who had died of asphyxia neonatorum soon after birth. The doctor had arrived at the house about thirty minutes after being sent for, but had been refused admittance because the child was born before he came. In giving their verdict the jury fixed no blame on the parents, but rebuked the physician for not having forced his way into the house against the will of the parents and grandmother!

Campaign for Montreal Hospitals.

A five-day campaign was conducted in the city of Montreal for funds in aid of the two leading English general hospitals—the Montreal General and the Royal Victoria—as also of the Royal Victoria Maternity Pavilion. The financial conditions of these institutions had reached a stage at which a serious effort was necessary to pay off deficits and to assure them of future support. The objective aimed at was four million dollars, but at the end of the campaign it was announced that this amount had been exceeded by 735,000 dollars, and, as several more subscriptions came in later, the total will probably be close on five million. This gratifying result was due largely to the extraordinary enthusiasm and vigour of a group of leading business men; while the response came from the public generally, it was the large corporations whose contributions made the fund so rapidly and completely successful.

England and Wales.

St. Thomas's Hospital Medical School: Distribution of Prizes.

The Duke of Connaught, President of St. Thomas's Hospital, visited the medical school on Tuesday, June 21st, for the purpose of distributing the prizes. His Royal Highness was met by Sir Arthur Stanley (treasurer) and Sir Cuthbert Wallace (dean), and proceeded to the Central Hall, where he inspected a guard of honour furnished by the Medical Unit of the University of London O.T.C., after which he unveiled the memorial erected to those of the hospital who fell in the great war. This memorial, placed at the end of the Central Hall, is a large carved oak panel bearing the names of one nurse, seventy-four students, and nine employees, the actual war memorial of the hospital being St. Thomas's House, the students' residential club recently opened in Lambeth Palace Road, of which an account appeared in our issue of April 30th (p. 808). The Dean prefaced his report on the year's work by referring to the sad loss the school had suffered in the death of Mr. J. T. Adams and Mr. Billingshurst. As regards the medical school, the number of students was greater than it had been since 1921, while the school had received its share of academic honours and maintained a high average of excellence. In sport things had not gone quite as well as last year, but it was not possible to win everything every year! He hoped on the next occasion to be able to report the opening of the new students' laboratories. The Duke of Connaught, having presented the various scholarship prizes and medals, was invited by Sir George Makins to present to Mr. Chisholm Williams, F.R.C.S. (a former student of the school), the bronze medallion of the Carnegie Hero Fund, together with a cheque representing the first instalment of a pension awarded him by the trustees of the fund in recognition of his services to radiology. Mr. Williams and the late Dr. Barry Blacker had been pioneers in the investigation of the clinical uses of x rays, both for diagnostic or therapeutic purposes, and both operators had suffered, Blacker being probably the first man to die as a result of the action of the rays. While Mr. Williams had suffered less severely, he had, nevertheless, been so disabled that he was unable to practise. X rays had claimed many victims, but the misfortunes of the pioneers had led to more adequate measures being devised for their protection. Mr. Williams was heartily cheered as he received the award from the Duke of Connaught, who said it gave him particular pleasure to make that presentation. They all admired what Mr. Williams had done, and regretted that he should have suffered. It had also been a pleasure to him to distribute the prizes and, by attending the hospital, give some indication of the great interest he took in everything connected with it. It was gratifying to note that the numbers in the school were so large and that St. Thomas's House was being found useful. His Royal Highness, in congratulating those who had won at sports, said physical exercise was most valuable because it went a long way towards not only making a man healthy, but enabling him to "play the game." He had had the honour of being the president of the hospital for a number of years, and as time went on his interest and pride in the great work and glorious traditions of St. Thomas's increased. Mr. Boyson (senior almoner) proposed a vote of thanks to the Duke, and in seconding this Dr. A. E. Russell (senior physician) expressed the hope that the happy association between the hospital and members of the Royal Family would continue in the centuries to come as it had existed in those that had passed. His Royal Highness, accompanied by the treasurer, members of the Grand Committee, and the staff, then attended the Nightingale Garden Party.

Treatment of Rheumatic Children in Birmingham.

We learn from Dr. H. H. Sampson, chairman of the Medical Board, that the Children's Hospital, Birmingham, has undertaken the medical supervision of the rheumatic children in Birmingham in co-operation with the school medical service. An office has been established at the hospital, and the almoner is responsible for the after-care work and for arranging the periodical examination of these children. A printed paper of instructions on the care of their children is given to the parents. There is no special rheumatism or cardiac clinic, but the cases are distributed between all the physicians of the hospital. Beds are provided in the hospital for children in the acute phase of the disease; when that has passed they are transferred to Moseley Hall Convalescent Hospital (a continuation hospital of the Children's Hospital), there to await admission to Baskerville, a resident hospital school under the control of the Birmingham Education Committee. By this arrangement a certain number of children are provided with prolonged institutional care covering a period of twelve months.

National Association for the Prevention of Tuberculosis.

The thirteenth annual conference of the National Association for the Prevention of Tuberculosis will be held in London from June 30th to July 2nd; it will take place in the Great Hall of the British Medical Association's house, and will be opened at 10.30 a.m. on Thursday, June 30th, by Mr. Neville Chamberlain, Minister of Health. An address will then be given by Sir John Robertson, C.M.G., medical officer of health for Birmingham and professor of public health in the University of that city; his subject will be the relative value of present lines of attack of tuberculosis. In the afternoon a discussion on housing, with special reference to home conditions, will be opened by Dr. H. R. Kenwood, C.M.G., Emeritus Chadwick Professor of Hygiene in the University of London, who will be followed by Sir Oscar Warburg (London County Council), Captain R. L. Reiss (Garden Cities and Town Planning Association), and Sir William Younger, Bt. (member of the Royal Commission on Housing for Scotland). In the evening the annual meeting and reception will be held, when the Marchioness of Titchfield will speak on the future campaign of the association. On the second day (Friday, July 1st) a discussion on housing in relation to industrial conditions will be opened by Professor Edgar L. Collis, M.D. (University of Wales), and Sir Thomas Oliver, M.D. (professor of medicine, University of Durham). The afternoon of that day and the whole of the last day will be devoted to visits to the Preston Hall Industrial Settlement, Maidstone, and the Burrow Hill Colony, Frimley, and also to inspections of housing schemes in Hammersmith, and of the Welwyn and Letchworth Garden Cities.

Welsh National Medical School.

When last we dealt with the controversy which has been going on about the status of the Welsh National Medical School it was stated that negotiations were to be continued

between the University and the College, and that a further report was to be made to the July meeting of the University Court. Last week a conference was held at Cardiff between representatives of the College and of the University, when a friendly discussion took place, but no final decision was reached. A special subcommittee, representative of both sides, was, however, appointed to continue negotiations and present a report to another meeting, which is to be held as early as possible.

BRISTOL ISOLATION HOSPITAL.

The new buildings added to the Bristol Isolation Hospital at Ham Green were opened on June 16th by the Lord Mayor. There had, he said, been great progress during the last forty years in the provision made for persons suffering from infectious diseases. Before 1892 patients who could not be treated in their own homes were removed to two wooden huts, providing twelve beds. In that year a hospital was built at Novers Hill; though some thought its erection was unnecessary its value was speedily demonstrated. Then the Ham Green estate was purchased, and by the use made of it both for zymotic diseases and for tuberculosis the position in the city had been revolutionized. The chairman of the health committee said that the treatment of infectious diseases had been so much improved that the average stay in hospital was now shorter. It was tantamount to an increase in the number of beds, but it had been necessary to make provision for tuberculosis, and the 136 beds for the treatment of that disease were practically always full. Since 1919 the size of the estate at Ham Green had been increased from 92 acres to 330, so that it was now possible to supply all the water needed by the institution, to complete the milk supply, to provide nearly all the meat required, as well as the fresh vegetables. The extensions give the isolation hospital an additional 56 beds, bringing the total available to 190 for a population of 383,000. The principal new building is a pavilion containing four large and airy wards, the south wing being devoted to single-bed wards. A nurses' duty room and other essential accommodation is provided, and covered verandahs have been built on the south side for use in suitable weather. A new administration block has also been erected on a piece of ground facing the main road, with suitable accommodation for the staff. The cost of the scheme amounts to £36,029.

PAY BEDS IN LONDON VOLUNTARY HOSPITALS.

The special committee appointed by the Prince of Wales, President of King Edward's Hospital Fund for London, to inquire into the question of pay beds at voluntary hospitals, has begun to receive evidence. The members of the committee are Viscount Hambleden (chairman), Sir John Rose Bradford, Sir Bernard Mallet, Mr. V. Warren Low, and Professor Winifred Cullis. All communications should be addressed to the Secretary, King Edward's Hospital Fund for London, G.P.O. Box 465A, 7, Walbrook, E.C.4.

TRAFFIC FATALITIES IN LONDON.

In a recent report the Commissioner of Police for the Metropolis has noted that traffic fatalities in London during 1926 were slightly over 1,000. At an inquest on June 9th, Dr. F. J. Waldo said that it was thought that the number of motor vehicles on the road would be doubled during the next four years. Dr. Waldo appeared to think—probably correctly—that this would increase the number of deaths from accident, though not of necessity proportionately to the increase in motor vehicles. He pointed out that under the Coroners (Amendment) Act, 1926, the cost of inquests would be doubled. It would be illegal to sit without a jury in all road and air accidents. Moreover, Dr. Waldo made it a rule to order *post-mortem* examination in all road accidents, in view of possible claims for compensation. The average cost of an inquest in London at present was £5. At present the number of ambulance stations in London is thirteen. He thought others should be established.

CENTRAL MIDWIVES BOARD.

The Central Midwives Board for England and Wales held a penal session, followed by an ordinary monthly meeting, on June 2nd, when Sir Francis Champneys presided. The standing committee dealt with a further letter from the county medical officer of health for Durham (see BRITISH MEDICAL JOURNAL, May 21st, p. 934) respecting the resolutions of the Board at its last meeting in connexion with the question of the suspension and disinfection of midwives attending infectious cases. The medical officer of health asked for further information, and the Board agreed to reply:

1. That under rule F.1 a midwife must be suspended from practice when necessary for preventing the spread of infection and that, in the Board's opinion, the local supervising authority, being the body which is conversant with the facts of each particular case, is the proper body to decide when suspension is necessary.
2. That under Rule E.6 a midwife liable to be a source of infection cannot attend another maternity patient unless she has been disinfected to the satisfaction of the local supervising authority (unless the local supervising authority relieves her from that obligation), and that, in the opinion of the Board, the local supervising authority is the proper body to prescribe the manner in which it shall be satisfied that adequate disinfection has taken place.
3. That the spread of infection should not be risked merely because midwives may suffer through suspension from practice. The local supervising authority should compensate any midwives who suffer through such suspension.

In reply to Dr. Statham of the Royal Infirmary, Bristol, on the subject of vaginal examinations, it was agreed to inform Dr. Statham:

That the Board considers that the question of vaginal examinations has two aspects, (*a*) that of practice, (*b*) that of training. It agrees that as regards (*a*) unnecessary vaginal examinations are to be avoided and that this should be embodied in teaching, but as regards (*b*) it is not safe that those who undertake the conduct of confinements should be unfamiliar with the method, or deprived of the knowledge which in many cases can only be gained by internal examinations. The progress of a labour can only be observed by the changing conditions ascertained by more than one examination. The Board notes that in the extern department vaginal examinations are regularly practised.

The honorary secretary of the Wiltshire Branch of the British Medical Association had forwarded the following resolution;

That this meeting approves of ante-natal examination, and is anxious that any movement to encourage it should be supported in every way, but is of opinion that more harm than good will be done if an attempt is made to carry out the work in the manner suggested by the form issued by the Central Midwives Board for use by midwives.

A copy of a form approved by the Medical Advisory Committee of the Branch, which it considers sufficient for the purpose, was enclosed. It was agreed to reply:

That in the opinion of the Board the training prescribed by the Board's rules will give midwives the knowledge necessary to keep the notes of their ante-natal visits which are indicated in the form approved by the Board. The Board appreciates the fact that there are in practice some midwives who may not at present be able to keep all the notes prescribed, but it is hoped that any such midwives will receive instruction in the matters in regard to which at present they lack sufficient knowledge.

The best thanks of the Board were accorded to Dr. S. G. Lukes on his retirement, for his services as examiner.

Scotland.

THE LISTER CENTENARY CELEBRATIONS IN GLASGOW.

WE have received a reprint from the *Glasgow Medical Journal* of the report of the proceedings in honour and memory of Lord Lister, which were recorded at the time in our issue of April 9th with considerable fullness. Perhaps the most interesting feature of that celebration which strikes us as we look over the pages of this reprint is the number of surviving pupils of Lister who took part in the commemoration. In particular the Clan Cameron mustered in great strength, Sir Hector Clare Cameron, Professor Emeritus Murdoch Cameron, and Dr. Irving H. Cameron of Toronto all made welcome contributions to the oratory of the meeting. The last named referred to Lister's two voyages across the Atlantic. On the first occasion (in 1876) he went to the international congress in Philadelphia; he was then in his fiftieth year and was still fighting for the general acceptance of the antiseptic system. His second visit was in 1897, when he went to Toronto to resign the office of President of the British Association, and to attend the annual meeting of the British Medical Association in Montreal, where he was

received with every honour as the man who had revolutionized surgery. The present occupant of Lister's professorial chair, Professor Archibald Young, proposed at the evening reception of the University a vote of thanks to the speakers, on which occasion, after touching on the religious ceremony of thanks in the cathedral church, which is so near a neighbour of the Infirmary, he laid stress on the great interest which the presence and speeches of those who had actually known and worked under Lister had for the succeeding generations of surgeons. This reprint with its illustrations, some of which were reproduced in our report, forms a pleasant souvenir of the great occasion which it commemorates.

A Border Practitioner's Reminiscences.

Local patriotism is a healthy sign in the national life, and we congratulate Selkirk on its *Book of Remembrance*,[1] in which is included so much evidence of pride in the town and in its history. In this pamphlet that veteran Dr. J. S. Muir gives, under the title "Sixty years agone," a highly interesting account of his experiences as a practitioner in the country around Selkirk. Many will sympathize with him in regretting that the horse has been superseded by the motor car, for there is a feeling of affection and sympathy between horse and rider which is necessarily absent in the relation of car and driver. Moreover, a horse may bring you safe home through a snowstorm or when you have lost your way, when the best of motor cars would be useless. We congratulate Dr. Muir on his abiding enthusiasm for the profession he adorns, and wish him many more years in the charming border town of which he writes.

Welfare of the Blind in Scotland.

The Scottish Board of Health has issued a circular of "advice to blind persons," describing the ways in which persons afflicted or threatened with blindness can now be assisted. The Board has also issued a pamphlet on the welfare of the blind for the information of "all ophthalmic surgeons, medical practitioners, hospitals, eye institutions, and nursing associations," as well as other persons or bodies likely to come into touch with blind persons. Children below 5 years of age may, if their homes are unsuitable, be cared for in a nursery school, maintenance being provided by the local authority under the Blind Persons Act, (1920). For blind persons between the ages of 5 and 18 education authorities are empowered to provide education, and, if it is given in a residential school, the local authority meets the cost of maintenance when the parents are not in a position to do so. Training is provided by education authorities at recognized centres in Edinburgh, Glasgow, Aberdeen, and Dundee. Employment after training may be found in institution workshops at Edinburgh, Glasgow, Aberdeen, Dundee, Inverness, and Paisley, while blind persons may also become enrolled in a home workers' scheme. Unemployable blind persons should be visited by a member of the staff of one of the outdoor societies, of which a list is given. Blind persons become eligible for old age pensions on reaching the age of 50 years, and a claim form may be obtained at any post-office. A residential home for aged or infirm blind women is provided by the Royal Blind Asylum and School, Edinburgh, and a home for men by the Royal Glasgow Asylum for the Blind.

Centenary of the Perth Royal Asylum.

The 100th annual report of James Murray's Royal Asylum, Perth, for the year ending March 31st, 1927, was submitted to the meeting held on June 13th. The asylum was founded by James Murray, who died in 1814. He had inherited a large fortune from a half-brother, and being unmarried, bequeathed the greater part of it "for the purpose of applying a certain part of the trust estate in the purchase of ground for, and the erection of, an asylum for the reception of lunatic persons in the said city of Perth and its neighbourhood." This design on the testator's part followed a Government inquiry instituted in 1813 to improve the terrible and notorious fate of the mentally afflicted throughout the country. James Murray, the founder, was a nephew of Andrew Marshall, whose researches at Bethlem Hospital resulted in the book on *The Morbid Anatomy of the Brain in Mania and Hydrophobia*, published in 1815, and it is probable that the founding of an asylum was directly instigated by the uncle. The asylum was opened in 1826, the architect being William Burn of Edinburgh, who also designed the first house of the Crichton Royal Institution at Dumfries. The first physician of the institution at Perth was William Malcolm, M.D., a practitioner in Perth, who acted as sole physician until 1836, when he was authorized to appoint a resident physician, Dr. Pierides. The Murray Asylum was originally built to accommodate 80 patients, but as early as 1838 additional wings were added for 60 extra patients. In 1848 the neighbouring property of Pitcullen Bank was purchased for the purpose of providing accommodation for private patients, but when the parochial patients were removed to Murthly Asylum in 1864 the Murray Asylum sold Pitcullen Bank, but only to repurchase it in 1907. The report, by Dr. W. D. Chambers, physician-superintendent, on the work of the asylum for the year 1926-27 shows that at the end of the year there were 163 patients in residence. The admissions numbered 68, an admission rate of 43 per cent. of the average population. Of the admissions 44, or 64 per cent., were on a voluntary basis. Attention is drawn to the importance of rest in bed in the open air, which is to a large extent provided by verandahs and shelters in the gardens of the institution. The use of ultra-violet radiation in the same connexion is also mentioned. Attention is drawn to the value of psychotherapy in its simpler forms of suggestion and persuasion, but it is noted that in spite of the large proportion of voluntary, and therefore presumably slight, cases among the admissions, it is rare to receive a resident patient in whose case anything so extensive as complete psychoanalytic would be helpful. With regard to discharges, 50 patients left the hospital during the year, of whom 22 were recovered, 23 relieved, and 5 not improved.

Edinburgh Scheme for Mental Defectives.

At a meeting of the Edinburgh Chamber of Commerce, on June 16th, it was stated that land at Gogarburn had been acquired for the purpose of a mental hospital, at a cost of £36,000. It was now proposed to make provision for 500 mentally defective persons immediately, and eventually for 1,000. An estimate had been obtained, and approved by the General Board of Control, for administrative buildings and stores, to cost approximately £40,000, and the next step would be to erect two wards to accommodate 100 patients. The Directors of the Chamber of Commerce expressed the view that the District Board of Control, before embarking upon expenditure of such magnitude, should bring the matter prominently to the notice of the ratepayers, who would have to bear the heavy burden which such a scheme involved.

Ireland.

Royal Medical Benevolent Fund Society.

From the report presented to the annual meeting of the Royal Medical Benevolent Fund Society of Ireland, held recently in the Royal College of Physicians, Dublin, it appears that the number of grants was eighty-one, as compared with eighty-five in the preceding year. The amount so disbursed in grants was £1,762, as compared with £1,747 in 1925-26. The average amount of grants has risen to £21 15s. 1d. The recipients of the grants comprised eight medical men, eleven orphans, and sixty-two widows. The audited balance sheet of the general fund showed an income from all sources of £1,974, as compared with £2,390 in 1925-26. Receipts from dividends and interest are down by £41, and the income tax refund was less by £13 14s. 3d. Under the head of donations and bequests there was a falling off of £221 10s. Subscriptions paid through the central treasurer, although there was a small increase in the number of individual subscribers, fell off by £21, due to smaller receipts from

[1] *The Book of Remembrance*, Selkirk, 1927. (7½ × 9¾, pp. 57; Illustrated.)

hospital collections, while those paid through branch treasurers were less than in the preceding year by nearly £20. On the other hand, receipts through the British Medical Association amounted to £106 10s. 6d., against £54 4s. 0d., an increase of £52 6s. 6d. This sum of £106 10s. 6d. is made up of subscriptions collected through the Association, £30 5s. 6d.; grant from the Association's Charities Fund, £50; and from the Medical Insurance Agency £26 5s. 0d. For these contributions the committee expressed its gratitude. Once again the Irish Medical Association gave £10, and the Dublin Clinical Club £5 5s. The committee entered the year with a carry-forward of £1,114, and it closed it with a balance to next account of £1,248. It is thus living within its income, but the falling off in the amount received from investments and in subscriptions affords cause for anxiety. At the beginning of the year the Osborne Fund was still in debt to the general fund to the amount of £4 8s. 2d. This debt has been wiped out, and the balance to the credit of the fund in the general balance sheet is £86 14s. 0d. No grants have been charged against this fund, but the committee will have to consider the question of renewing such charges during the current year. The committee, while thanking the subscribers for their support, asks each member to aid by canvassing for subscriptions and pressing the claims of the fund as opportunity may offer. The grants, small though they may be, mean a great deal to the recipients. With the money available the committee does what it can to aid the needy members of its own calling, and to help the widows and orphans of its professional brethren. There is no other fund in Ireland directly concerned with this work, and the apathy of the many medical men who contribute nothing to its support is deplored.

CONFERENCE OF THE INSTITUTE OF CLEANSING SUPERINTENDENTS.

The annual conference of the Institute of Cleansing Superintendents, held during the past week in the Mansion House, Dublin, was attended by many delegates from English and Scottish cities. Mr. James Jackson, O.B.E., salvage superintendent, Birmingham, was installed president for the third year in succession. President Cosgrave welcomed the conference to Dublin, and in the course of his address said that the people of Ireland had come closer to the realization of the fact that prevention of disease was in effect a national insurance, and that it led to a diminution in the sum total of physical suffering and to the prolongation of life. He also referred to the death rate in Dublin fifteen years ago, which, he said, was one of the highest at that time in Western Europe. Within the last four years the reduction was something like two per thousand. Dr. R. P. McDonnell, F.R.C.S.I., Deputy Chief Medical Adviser, Department of Local Government and Public Health, Ireland, read a paper in which he observed that the necessity for public cleansing did not exist in the rural communities, as farmers could always be relied on to find a suitable means of disposing of the domestic and stable refuse. In the urban areas communal action was needed to secure for the citizen conditions that would not react to the detriment of his health or comfort. The establishment of a well organized cleansing department was, therefore, the first duty of every urban authority. To the public health service the officials of the cleansing staffs were indispensable; without them they would be powerless to carry on the fight, and many of the triumphs of modern sanitation owed much to the help they had given. The prompt and efficient removal from the thoroughfares of the germ-laden contents of refuse bins was a factor in the modern crusade against epidemic disease. Dr. McDonnell went on to deal with dry closets and ashpits, and said that unfortunately they were still to be found in the small towns and villages. The people had but the most elementary ideas of the laws of hygiene, and it was regrettable that hygiene did not find a place in the curriculum of the schools. Ashpits, he was glad to say, had virtually disappeared from Dublin; but they were still to be found in almost every town and village in the country. The whole method of dust and refuse removal called for improvement. The extermination of the fly should be the aim of the cleansing superintendent.

Correspondence.

TRAUMA AS A CAUSE OF AURICULAR FIBRILLATION.

SIR,—With reference to Dr. Harris's letter of May 28th, it is clear that since April 30th he has made a definite advance in his conception of auricular fibrillation. He no longer maintains that "there has not been one shred of dependable evidence produced which would suggest that trauma may induce fibrillation in a healthy heart"; for he now quotes Sir Thomas Lewis's statement—that fibrillation, started in a healthy heart by means of electric stimuli, may persist even for thirty to sixty minutes after the stimulus has ceased. It almost looks as if we shall soon be in entire agreement.

Perhaps I was wrong in suggesting that Dr. Harris held that "fibrillation in itself was evidence of myocardial damage." He vigorously denies the soft impeachment, but surely he gave me every reason for concluding that such was his view, since on April 30th he wrote: "wherever we find auricular fibrillation there we also find a damaged heart," and also, "in order to induce fibrillation it is essential that the heart must be damaged beforehand." I fail to see in what way I have misrepresented him.

Dr. Harris affirms that the important question from the medico-legal or practical point of view is whether trauma can or cannot induce fibrillation in a *healthy* heart. This is not correct. What is really of moment from the medico-legal aspect is whether trauma may not prove the exciting or determining factor in the production of fibrillation in any heart—pathological or otherwise. Whether trauma can induce fibrillation in a *healthy* heart is of scientific interest only. It is satisfactory to note that Dr. Harris acknowledges the possibility of fibrillation in such a heart, and—of still more significance—admits that fibrillation, once begun in a healthy heart, may persist after the cessation of the exciting stimulus.

His only difficulty now is in accepting our opinion as to the integrity of the hearts of the four patients whom we class as "apparently normal so far as can be determined by ordinary clinical methods." This phrase appears to be distasteful to him—he calls it "meaningless." But a man is in truth more bold than wise who will guarantee the integrity of any individual, from skin to core.

After carefully reading Dr. Harris's letters one is led to infer that he has arrived at his conclusions by the process of disregarding both the subjective evidence of the patients and the clinical findings advanced by us in our initial communication and subsequent correspondence.

I think he will agree that the following fairly represents his conclusions, up to date, in regard to our cases: First, their hearts were diseased; secondly, in any event, we are not justified in assuming any causal relationship between the trauma and the fibrillation; and thirdly, the fibrillation was probably present before the trauma.

In fact, the above only lacks one further contention—"the finishing touch"—that the patients never fibrillated at all.—I am, etc.,

JOHN HAY.

Liverpool, May 31st.

AURICULAR FIBRILLATION.

SIR,—With reference to Dr. Milner Moore's "personal experience" (BRITISH MEDICAL JOURNAL, June 11th, p. 1083) is it not in keeping with familiar experience that, clinically, there are two types of delirium cordis, *alias* auricular fibrillation—the one benign, the other malign? The former unimportant, as being relatively innocent; the latter important, because it tends to develop circulatory failure, its malignity in exact proportion to the degree of this tendency. As to the former, let me quote Sir James Mackenzie (*Diseases of the Heart*, fourth edition, p. 202): "I have already said that there are a great many individuals with fibrillation who lead useful energetic lives and whose capacity for work is little, if at all, impaired by the new rhythm."

It is interesting here to learn that in 1912 Dr. Moore consulted Sir James, who "at first did not recognize the

disease" (though it should have given a typical sphygmogram with the polygraph, if the finger could detect a delirium cordis), but finally decided that the complaint before him was auricular fibrillation—and this on the strength of the electro-cardiograms obtained. The pronouncement leaves us in the dark as to the type of the disorder, harmful or innocent, but I incline rather to infer that the diagnosis arrived at was of the more definite (serious) malady. This was in 1912, and the special interest attaching to the date is that by 1924 we know that Sir James had changed his opinion concerning the serviceableness of the electro-cardiograph, which by then he had found to be of "little or no help" in his investigations into "the functional capacity of the heart or heart failure" (BRITISH MEDICAL JOURNAL, January 19th, 1924, p. 105). This adverse opinion he does not hesitate to accentuate in the fourth edition of his book (1925, p. 428): "Already the history of the electro-cardiogram, brief as it is, shows how vain and futile have been many of the interpretations of the records taken from the human heart." Yet surely the physician's essential quest is the presence or absence of heart failure, whether in actual being or in the approach; for what have we, as practical therapeutists, to do with mere abnormality, manifesting itself only as a freakish behaviour, which does not impair functional capacity? In the opinion of Sir James Mackenzie, then, the electro-cardiograph will be useless for the purpose of differentiating between the two types of auricular fibrillation.

It remains to ask whether, failing the electro-cardiograph, the polygraph will serve our purpose. As to this, I would say that I have published my reasons in full for believing that the present interpretations of the polygraphic tracings are incorrect and, if so, the conclusions also which have been drawn therefrom. For the present, then, we must fall back upon the older methods of clinical investigation and seek from symptoms and signs to gauge the capacity of the heart to meet the demands which are being presented by the circulation of the blood in each particular case. This may seem rather dull, but should it be? Are the potentialities of symptoms and signs exhausted? Is the Hippocratic method to be shelved finally? Nay, rather, is it not certain that, in the investigation of any and every new line of research, the final court of appeal will always be the Hippocratic *argumentum ad Aegrum*, whence we shall look for the verdict "*bonum*" or "*malum*" as the case may be?—I am, etc.,

London, W.1, June 11th. HARRINGTON SAINSBURY.

DRUGS FOR SLEEPLESSNESS.

SIR,—No one with first-hand knowledge of the prevalent practice in the treatment of sleeplessness can, I imagine, be surprised that Sir Maurice Craig has promptly subjected Sir William Willcox's views to criticism in the light of his own experience. But there is more involved than comparison of results obtained under two different methods of inquiry. There are the further questions, first, how to estimate the clinical significance of defective sleep, especially in the early stages of mental breakdown (whether sleeplessness is regarded as cause or symptom is a matter of indifference in the present discussion); and, secondly, what place should be given to the prompt use of hypnotics?

If sleeplessness is looked on as a matter of primary importance it is likely that its treatment will be regarded in a much more serious light than appears to be customary. Sir Maurice Craig claims freedom, and the curious thing is that this claim has always had to be made in the case of hypnotics. Every hypnotic has been "scientifically" condemned, and the condemnation has always been accompanied by a certain suggestion that the prescriber as well as the patient is, or is likely to become, an odious person. Whisky—the night-cap—is probably the most widely used hypnotic in this country, and yet every doctor's library contains volumes on the evil effects of alcohol on the human system and the social order. The fact remains, however, that popular opinion, including the non-vocal but convincing testimony of personal habit, even among medical men, remains unaffected by scientific opinion, by teetotal clamour, and by high taxation, and most people accept the lines of Robert Burns as the proper conclusion of the whole matter:

> "Freedom and whisky gang together,
> Take aff your dram."

But why this freedom? The answer is quite unambiguous. It is in order to ask "the medical profession to treat defective sleep far more seriously than has been the custom in the past." Sir Maurice Craig, it seems to me, is justified in his effort to clarify the true issue, and in doing so he has some right to claim to put his personal experience before the profession, not merely—nor even chiefly—as testimony to the value of the drugs more immediately under notice, but to point to the serious nature of the maladies in the treatment of which he has found them useful, and to warn the profession of the danger of neglect, through unfounded fears, of measures for their prompt and efficient treatment. The practical object he has in view is to assist in reaching an adequate appreciation of the values that properly belong to the practical, as well as the theoretical aspects of the subject.

When one considers the number of disastrous incidents which constantly come to light, mostly traceable to failure to attach adequate clinical significance to defective sleep, or to use efficient remedies for it, one welcomes an attempt to awaken interest in the subject.

The sole object of this letter is to endeavour to fix attention on what I conceive to be Sir Maurice Craig's intention, and although my personal experience has run on somewhat different lines, I cordially place myself by his side in the general point of view he has presented.—I am, etc.,

London, W.1, June 19th. JOHN CARSWELL.

SIR,—I must apologize for further trespassing on your valuable space, but feel that a reply is needed to the letter of Sir Maurice Craig in your last issue.

It contains the astonishing statement that he is fully in agreement as regards the toxicity of sulphonal and trional, but apparently the toxicity of the barbitone group of drugs is disputed.

There is overwhelming evidence that on human beings the barbitone group of drugs are, weight for weight, much more toxic than the sulphonal groups. The Registrar-General's returns for England and Wales show for the twenty years 1906-25 inclusive a total number of 253 deaths from the barbitone group of drugs, while the total number of deaths from poisons of the sulphonal group is only 53 for the same period.

The British Pharmacopoeia Committee of the General Medical Council, after careful deliberation, gave in the last edition of their work a maximum dosage of 10 grains for barbitone and 30 grains for sulphonal, figures which to my mind give an approximate idea of the relatively higher toxicity of veronal as compared with sulphonal. All authorities are agreed as to the still greater toxicity of other higher barbitone compounds, such as luminal, dial, allonal.

I have on several occasions seen dangerous coma result from 50 grains of veronal, which may be regarded as an average fatal dose. In 1913 I read at the International Congress of Medicine in London what I believe was the first paper published in this country on "Veronal poisoning," and since that time have given the subject my closest attention, and have had a very extensive clinical as well as toxicological experience of the use of the barbitone group of drugs.

I have not the slightest doubt that the barbitone group of drugs possess potent toxic properties on man, and I beg of the medical profession to exercise great care and caution in the prescription of these drugs.

Sir Maurice Craig asks: "Where are the addicts, and what are they doing?" My answer is that many of them are dead and buried, as the result of fatal veronal poisoning and suicide from other causes. It is something more than a coincidence that in a large proportion of the veronal fatalities there has been to my personal knowledge definite evidence of previous addiction to the drug.

I have met with a number of persons suffering from veronal addiction in my own practice, and many of my

medical friends with whom I have discussed the subject have had a similar experience. The subjects of addiction to this group of drugs are often brain-workers and people of high intellectual grade. In addition, I have very strong grounds for believing that veronal addiction, like other forms of drug addiction, is relatively common amongst the pleasure-seeking class of the night-club type.

I have on several occasions seen dangerous nervous symptoms, such as ataxy, anarthria, diplopia, etc., result from the daily use of the drug in therapeutic doses. Some of these cases were quoted in my paper, and others have observed many similar cases.

I am fully aware that persons suffering from active mental disease can often tolerate large doses of hypnotic drugs over relatively long periods, and that it may be necessary and advisable in such cases to use the barbitone group of drugs daily over long periods, provided that the patient is under close medical observation. This may explain the wide discrepancy between the experience of Sir Maurice Craig and myself.

I stated in my recent paper (which unfortunately Sir Maurice Craig has not read) that

> the barbituric acid compounds "are rapidly acting and fairly certain hypnotics. It is for this reason that they are so commonly used. A single therapeutic dose is usually followed by a satisfactory period of natural sleep, and no marked after-effects follow when the therapeutic action has passed away, which should be after six to twelve hours."

The view that these drugs may be given in therapeutic doses daily over long periods to persons who are not suffering from active mental disease is, in my judgement and experience, most dangerous and misleading teaching.—I am, etc.,

London, W.1, June 20th. W. H. WILLCOX.

MINERS' NYSTAGMUS.

SIR,—Appearance of the articles dealing with miners' nystagmus in your issue of June 18th prompts me to send you the following paragraph taken from some notes (already in print) based on observations made by me during a short visit in the early part of this year to the United States:

"*Miners' Nystagmus.*—Opportunity was seized while at Pittsburg of gaining acquaintance with the coal-mining industry. Here, also, *more medical services are provided than in this country; but the* most striking difference in underground practice is the illumination provided. There was no need for waiting on leaving the cage to 'get your eyes'; the walls of the workings were white, and reflected the light from the lamps, stone dusting being always done with limestone or gypsum. The electric safety lamps used gave more light than ours, and were different in shape, being worn in the cap with the battery attached to the waist. This is the position which of old the miner chose for his naked candle, and still chooses in naked-light pits. No further reason need be sought for the entire absence of nystagmus among American coal-miners. One miner said that he and his son while mining in Yorkshire had suffered with eye movements, but that both had lost their troubles within two months of taking up mining work in America."

—I am, etc.,

EDGAR L. COLLIS,
Cardiff, June 18th. Member of Miners' Nystagmus Committee.

SIR,—I wish cordially to support the plea of Dr. Freeland Fergus in the JOURNAL of June 18th (p. 1092) for a thorough investigation of miners' nystagmus. There seems no other disease in which is to be found such a tangle of contradictory observations and beliefs. Even the official definition contradicts the term it should define: "The disease known as miners' nystagmus, whether occurring in miners or others and whether the symptom of oscillation of the eyeballs be present or not." The consensus of ophthalmological opinion is that bad illumination is the cause of the trouble, but Dr. Fergus shows that improved illumination is often followed by the onset of symptoms.

Dr. Robson in his article says ". . . the pathological entity round which this complex revolves is involuntary oscillation of eyeballs." Dr. Fergus writes on the previous page: "cardiac instability is much more frequently present than rotation of the eyeballs." Dr. Robson adds to the confusion when he notes that "subjective symptoms without objective signs may be the chief determining characteristic."

The absence of *post-mortem* examinations is a startling revelation: yet material has been provided by suicides ascribed to this mysterious disease. It appears from these articles that research hitherto carried on has been worse than useless, and that the only course is to scrap all our present beliefs, disregard all previous observations, and start afresh.—I am, etc.,

Southsea, June 21st. W. S. INMAN.

PALATE OPERATIONS.

SIR,—Sir Robert Woods, in your issue of February 26th, writes an interesting note on aids to palatal sufficiency after cleft palate operations, but he twice makes the statement that a cleft palate operation may be quite "good" and "successful" and yet leave a "hiatus behind the palate" either "literally huge" or "so great as to look quite hopeless." It is difficult to reconcile the two portions of the statements—for how can any operation be deemed to be successful if its primary object is not attained? As I have pointed out (*Der Wolfsrachen und Seine Behandlung*, 1913, *Stomatology*, 1912 and 1924, *Facial Surgery*, 1924), the primary object of any cleft palate treatment is to enable the posterior margin of the soft palate to approximate to the posterior pharyngeal wall; it is infinitely more important to attain this than to close the cleft in the palate.

Some of my patients who have fully functional soft palates after operation, but in whom, for one reason or another, I have not touched the cleft in the hard palate, speak, even without a plate, with most extraordinary distinctness. Anyone can "close" any cleft by utilizing all the available tissue in a lateral direction at the expense of the antero-posterior direction—at least the "hole in the palate" looks closed to the parents and friends; but it is not closed, it is merely *transferred* from the palate to the oropharynx. This mere transference of the cleft from one position to another is brought about too often, I think, by the rigid adherence to the Langenbeck operation. The antero-posterior measurement from the hard palate to the pharynx differs considerably in different patients. When it is not long and there is sufficient tissue, the Langenbeck is a perfectly good operation; where, however, it is longer *than usual*, and/or the tissue available is less than normal, then the Langenbeck operation gives bad results, a short or a rigid soft palate inevitably resulting, with consequent loss of function. In the latter type of case either a "*velum*" operation only should be done—with subsequent provision of a hinged artificial palate—or a skin-grafted flap operation. In very wide clefts, in order to avoid using up too much tissue in a lateral direction, a preliminary partial Brophy operation is also often a necessity, the indication being that the lower jaw fits up inside the upper jaw. Used with discrimination, I have never seen other than the most beneficial effects follow this operation. In any case there should be *no tension; tension and function* in any plastic operation are incompatible. I agree that the treatment of these short and functionless palates (after unsuccessful operation) is very difficult.

The paraffin wax injection suggested by Sir Robert Woods might help considerably, I should imagine, if it does not interfere with the function of the superior constrictor of the pharynx. I have usually contented myself with lengthening the palate by flaps from the pillars of the fauces or by having a solid obturator made, attached to an extension from a dental plate, on to which the superior constrictor may close, and I must say that I think the latter plan gives the better functional speech result. In planning any cleft palate operation I usually tell students that they should choose that form which will best please the child in ten years' time, not that which will best please the parents at the moment.—I am, etc.,

University of Otago, April 27th. H. P. PICKERILL.

THE SCHICK TEST.

SIR,—A ward maid at the Croydon Hospital, at the time Schick-negative and quite well, was found on taking a swab to have in her throat virulent diphtheria germs, which killed a guinea-pig in thirty-six hours.

It would appear that we must look for the dangerous carrier amongst the Schick-negative persons. The Schick-positive are not so dangerous, as if infected their sore throats at once betray them.—I am, etc.,

G. GILBERT GENGE, M.D.,
Physician, Croydon General Hospital.

June 7th.

INTRATRACHEAL INJECTION OF IODIZED OILS.

SIR,—The estimation of the dangers of introducing iodized oil into the trachea and bronchi by Drs. Archibald of Montreal and A. L. Brown of San Francisco (BRITISH MEDICAL JOURNAL, June 4th, p. 1023) may serve as a warning against the adoption of this means of examination without the consideration of the dangers which may arise.

The selection of suitable cases will rest with the physician and will exclude cases of pulmonary tuberculosis in which there is haemorrhage or pyrexia, and all suppurative cases in which there is fever. When absolutely necessary, however, such cases might be examined by the introduction of lipiodol diluted to half strength by means of almond or pea-nut oil; the risk of the injection causing untoward symptoms would be considerably lessened and the intensity of the radiographic shadow not seriously decreased.

For some time I have adopted the radiological methods elaborated by Dr. J. V. Sparks and communicated by him to the Röntgen Society in April, 1927. The injection of the iodized oils is controlled by means of fluoroscopy before the radiograms are taken. The screening must include the site of the introduction of oil, more especially if the intercricothyroid route be selected. The injection completed and the exposures made, some minutes are allowed to elapse, during which time the patient should, if possible, sit up. A screen examination of the oesophagus and the stomach should then be made, and the detection of any trace of the iodized oil in these organs should be an indication for immediate lavage.

The introduction of iodized oil into the trachea and bronchi is an excellent diagnostic procedure in selected cases, and I think that the slight risks which undoubtedly exist can be considerably minimized by the closest co-operation between the physician and the radiologist, and more particularly by the technique of the latter; in no examination is more skill required, and the actual taking of the films is a part, and the less important part, of the problem before him.—I am, etc.,

E. J. H. ROTH, M.R.C.S., L.R.C.P.,
D.M.R.E.Camb., Chief Assistant in the X-ray Department, St. Bartholomew's Hospital.

London W.1, June 6th.

INFLUENZA AND ALBUMINURIA OF PREGNANCY.

SIR,—The universal opinion that acute nephritis is caused by a toxin may possibly fall as a result of Dr. Ambrose Owen's admission that compression of the kidney is or may be a determinant of albuminuria. That such a causal nexus exists in influenza—in spite of the cough, which when persistent wracks the patient, and, as the manometer shows even in the normal, causes such a rise of intra-abdominal pressure and must do so more than ever in pregnancy—he will not allow. In influenza a toxin is at work: compression of the kidneys is not "*the* cause of albuminuria in the cases under consideration." The deduction, vitally important, is that in other cases it may be.

It seems at the moment impossible to explain acute nephritis. One of the first questions to answer is: What is the relationship, if any, between "albuminuria" and "acute nephritis"? The attribution of the latter to a toxin—it matters not which sort—is easy and satisfies most. How curious to note that in scarlet fever acute nephritis usually occurs many days after the specific toxaemia has disappeared; and that in many cases of nephritis no antecedent infection can be traced. We are not yet conversant with all the forces of the body which conjointly maintain health, or which, departing for the moment in some respect or other from the normal, either as a result of environmental change or of change arising within, determine a pathological phenomenon of magnitude. We have a long way to go yet before we understand the cause even of elementary and insignificant deviations from normal.—I am, etc.,

Rugby, May 26th. R. H. PARAMORE, F.R.C.S.Eng.

TREATMENT OF HALLUX RIGIDUS.

SIR,—Mr. Cochrane's view that the functional end-result of treatment of hallux rigidus is in a large number of cases unsatisfactory (June 18th, p. 1095) is widely accepted by those who take the trouble to observe their end-results. His endeavour to supplement the measures available by the introduction of a capsulotomy is praiseworthy, but the value of an otherwise excellent article is reduced by the indefinite account of the indications and limitations of the operation. We cannot regard his procedure as "an effective substitute" for other operations.

It has long been my belief that one of the causes of failure in the treatment of hallux rigidus is the very generally accepted view that it is, in itself, a clinical entity. It is not. It is merely an expression of metatarsophalangeal arthritis, which, like arthritis elsewhere, may be due to any one of a score of causes. To attempt to treat such a group of diseases by a single routine bone operation is as intelligent as to attempt to treat every arthritis of the knee by excision of the joint.

It is my custom to classify arthritis here, as elsewhere, into traumatic, "degenerative," and infective types. The traumatic arthritis is almost invariably due to the stubbing of the great toe by a short boot. Spasm of the short flexor muscles results, contracture of the ligaments and capsule follows, and finally bone changes may occur. In the earliest stage of muscle spasm a bone operation is an improper procedure, and no more is necessary than to protect the joint from further injury. But it must be insisted that the common practice of applying a metatarsal bar to the very boot which is causing the condition does not constitute protection. The first essential is not a bar, but a boot of correct length, and the correct size of boot can only be determined by measuring the feet with a bootmaker's measure-stick, which is as essential to an orthopaedic surgeon as a stethoscope to a physician. In my hospital orthopaedic clinics measurement of feet and boots is a routine procedure, and very interesting and instructive facts are to be elicited. One frequently finds patients—especially children and women—wearing boots one or two sizes too small. When the correct size of boot is worn (three sizes larger than the number indicated on the measure-stick) all symptoms disappear. It is very common to find patients with feet of unequal length, with a unilateral hallux rigidus affecting the longer foot. Measurements show that, although the boots are the correct size for the shorter foot, they are too small for the longer foot.

The second stage of the traumatic type of hallux rigidus, where capsular contracture is commencing, may respond to manipulation under anaesthesia, followed by protection as above. But, as would be expected by analogy with other joints, there is a later stage of capsular contraction where manipulation is ineffectual and an open operation is demanded. It is here that Mr. Cochrane's procedure will find its scope. I have on several occasions practised a similar operation in this type of case, but before actually dividing the capsule I have performed a muscle slide of the short flexor muscles, similar in principle to the operations of Steindler for claw-foot, Souttar for paralytic flexion of the hip, and Max Page for Volkmann's contracture. After operation the toe is put up, usually in plaster, in the corrected position, and movements are instituted in a few days. The result of a muscle slide should be more permanent than that of a simple tenotomy. The results have been satisfactory when the cases have been judiciously selected. My present routine is to attempt manipulation and protection first, and to go on to muscle slide and capsulotomy later, if palliative treatment should fail.

In the final stage, where the pathological changes have gone on from capsular contraction to cartilaginous erosion

and osteophyte formation, a bone operation is clearly indicated, whether it take the form of Mayo's operation, Kellar's operation, or a modified procedure. I have usually found that complete correction can be obtained without capsulotomy, if a bone operation is performed.

Other types of traumatic arthritis include the arthritis following fractures of the metatarsal head, base of the phalanx, and sesamoids: there is the type associated with flat-foot which, as a result of irritation of the tarsal joints, has been complicated by muscle spasm, most evident in the peronei, but also present in other muscles of the foot and toes. There is, moreover, the degenerative form of true osteo-arthritis of the joint, and many types of infective arthritis may occur in which the prominent physical sign is rigidity of the great toe. One has seen gouty, tuberculous, and gonococcal "hallux rigidus." The term "tonsil foot" has been applied to the hallux rigidus of young adults which is secondary to distant foci of infection, and every surgeon knows the resistant rigidity of the great toe which may arise in rheumatoid arthritis. There can be no routine treatment for all these affections—appropriate forms of therapy are to be adopted as elsewhere in the body.

In conclusion I would reiterate that rigidity of the great toe is merely a physical sign of arthritis, and that there are many forms of arthritis, each demanding its specific treatment. Arthritis of this joint should not be regarded as a peculiar and isolated condition, but treatment should be governed by the principles which apply elsewhere. In so far as Mr. Cochrane's article stimulates this view, by the application of a well known operation to the particular joint in question, I welcome it.—I am, etc.,

R. WATSON JONES, B.Sc., M.Ch.Orth.,
F.R.C.S.Eng.,
Honorary Assistant Surgeon, Orthopaedic Department,
Liverpool Royal Infirmary.

June 19th.

MEDICAL MEN IN PARLIAMENT.

SIR,—Dr. Vernon Davies's argument that membership of Parliament should be a full-time job would, if pushed to its logical conclusion, restrict entry to Parliament to professional politicians. If politics is to be a profession, training for it should, as in any other profession, begin early, and the amateur politician, coming into politics from other occupations, who constitutes nine-tenths of the present House, would vanish. The professional politician has never been looked upon with too much favour in this country, and a House consisting entirely of professional politicians seems to me a nightmare. But Dr. Davies really supports the main argument of my address when he states, quite accurately, that members who have interests and occupations outside Parliament form the large majority of the House. All that I contended was that in the clash of sectional interests which make up the House as at present constituted, medicine is very inadequately represented. Of course, medical men entering Parliament must be prepared to make large sacrifices both of time and money, as I sufficiently stressed in my address, but that a very abundant measure of professional practice can be combined with parliamentary work has been demonstrated very fully by the numerous eminent lawyers who adorn the House. Dr. Davies's argument that a man retired from practice can reflect medical opinion equally well with those in active work will not, I think, convince anyone; he is obviously himself only half-hearted in advancing it. May I in a small personal explanation say that my conception of my duties has *not* been to restrict my participation in parliamentary work to the "safeguarding of the interests of my University," although these are naturally of paramount importance to me, but I have considered myself as in some degree representing medicine as well, and have, where possible, taken a share in defending its interests. The House is rightly intolerant of men butting in on subjects of which they know little, and I have confined myself in debate to educational and medical subjects on the whole.

In answer to Dr. Nathan Raw's courteous note, I may point out that your summary of my address—excellent as that summary was—was necessarily somewhat truncated, and that I had no intention of conveying the impression that our present committee was the first of its kind. But in the new Parliament of 1924 the medical members were probably more split up into parties than was the case in 1918, and in 1924 serious doubts were expressed as to whether it would be possible to sink party differences upon professional matters, and whether it would be in fact desirable to reconstruct the committee under the then conditions. Experience has shown that this was entirely feasible, and the committee has been extremely active throughout the present Parliament.—I am, etc.,

House of Commons, June 20th. E. GRAHAM LITTLE.

THE FAMILY DOCTOR.

SIR,—Eloquent idealism and practical suggestiveness will attract attention to the lecture by Dr. C. E. Douglas, published in your issue of June 18th (p. 1120). That the mainspring of general practice is ethics, not cash, is, at least as sound philosophy as that of Romeo's apothecary, and few will maintain that the authors of the National Health Insurance system had the greatness of mind to appreciate this sober fact. Dr. Douglas breathes a prayer that it may some day be possible to hark back to the fundamental truth, that the doctor's work is the treatment of disease and nothing else. May I venture to place this pious wish in conjunction with a quotation from the report of the Royal Commissioners. "The ultimate solution," they think, "will lie in the direction of divorcing the medical service entirely from the insurance system."[1] Were this divorce accompanied by (1) restriction of the State medical service to the genuinely necessitous poor, and (2) a system of insurance against the financial risks of sickness, it would remove from general practice the greatest of the deteriorating influences which Dr. Douglas sees in his vision of the present, and help enormously to clear the way from the glories of the past to the achievements of the future.—I am, etc.,

Wandsworth, S.W., June 20th. ROBERT CARSWELL.

SIR,—I would, as a panel doctor who has worked under the insurance since its inception, like to register a protest against Dr. Douglas's statements about insurance practitioners. If he is a panel doctor he, of course, knows best the type of work he does. If he is not a panel doctor I cannot congratulate him on his good taste. Every inquiry that has been made into the working of the Act has been eloquent on the excellence of the doctors' work.

When I think of the old club system from which we have escaped I feel emancipated, not degraded. My experience differs from Dr. Douglas's. I have never met any doctor who was not in medicine for what he could honestly get out of it. It may be that the Mecca of altruism lies in the East, and even in Fifeshire, but I "hae ma doots."

I cannot see that any noble and altruistic mind would hold such a poor opinion of the great majority of the rest of his fellow doctors.—I am, etc.,

Dennistoun, June 18th. JAMES COOK.

The Services.

INDIAN MEDICAL SERVICE.

ANNUAL DINNER IN LONDON.

THE annual dinner in London of the Indian Medical Service was held on June 15th, when Major-General R. W. S. Lyons was in the chair, and ninety officers and two guests were present. At the dinner this year the chairman had on the table in front of him a gold cup of elegant pyramidal form, which had been presented by the members. It bore on its base the names of the founder and of the honorary secretaries, and of all the officers who have presided at the annual dinners since the Indian Medical Service Fund was founded in 1897, through the exertions of the late Colonel Sir Peter Freyer. At the first and second dinners the late Sir Joseph Fayrer, Bt., F.R.S., was in the chair, and his name is followed by a long and distinguished list. The dinner is an agreeable social function, when old friends meet, and for long there were no speeches

[1] Report of the Royal Commission on National Health Insurance, para. 138, p. 65.

Recently the practice of a few speeches has crept in, but it is intended that they shall all be short. On the present occasion the toast of "The Indian Medical Service" was proposed by the chairman in a reminiscent speech, and acknowledged by Major-General T. H. Symons, C.S.I., Director of the Service, by Major-General W. H. Ogilvie, C.B., Director of Medical Services, India, and by Air Vice-Marshal D. Munro, C.B., C.I.E., who began in the I.M.S., but was not long ago transferred to the Royal Air Force Medical Service, of which he is Director-General. After speaking of the affection in which he still regarded his old Service, he concluded by proposing the toast of "The Honorary Secretaries," Colonel J. J. Pratt and Colonel John Anderson, C.I.E., who both replied briefly. The valuable services rendered by the honorary secretary in India, Lieut.-Colonel J. K. S. Fleming, were specially acknowledged. The following is a list of the officers present:

Major-Generals: Sir R. H. Charles, G.C.V.O., K.C.S.I., B. H. Deare, C.I.E., G. F. A. Harris, C.S.I., Sir P. Hehir, K.C.I.E., C.B., C.M.G., H. Hendley, C.S.I., W. H. Ogilvie, C.B., C.M.G., J. B. Smith, C.B., C.I.E., T. H. Symons, C.S.I., O.B.E. *Air Vice-Marshal:* D. Munro, C.B., C.I.E. *Colonels:* H. Ainsworth, Sir H. E. Banatvala, C.S.I., J. K. Close, J. Crimmin, V.C., C.B., C.I.E., C. M. Goodbody, C.I.E., D.S.O., J. A. Hamilton, C.M.G., A. W. M. Harvey, A. J. Macnab, C.B., C.M.G., R. A. Needham, C.I.E., D.S.O., J. J. Pratt, H. Austen Smith, C.I.E., R. G. Turner, C.M.G., D.S.O., F. Wall, C.M.G., C. N. Wimberley, C.M.G. *Lieutenant-Colonels:* J. Anderson, C.I.E., W. M. Anderson, C.I.E., F. A. Barker, O.B.E., G. T. Birdwood, J. T. Calvert, C.I.E., R. Markham Carter, C.B., A. W. Cook-Young, D. G. Crawford, J. M. Crawford, O.B.E., H. R. Dutton, R. H. Elliot, J. Entrican, C.I.E., G. H. Frost, J. Fuller-Good, H. Greany, E. V. Hugo, C.M.G., J. B. Dalzell Hunter, O.B.E., J. G. Jordan, H. C. Keates, H. Kirkpatrick, J. C. G. Kunhardt, Clayton Lane, W. B. Lane, C.I.E., C.B.E., W. T. McCowen, G. E. Malcolmson, W. A. Mearns, F. O. N. Mell, C.I.E., A. Miller, T. R. Mulroney, F. O'Kinealy, C.I.E., C.V.O., A. S. M. Peebles, V. Heathcote Roberts, Sir L. Rogers, C.I.E., F.R.S., E. R. Rost, O.B.E., F. B. Shettle, O.B.E., S. Browning Smith, C.M.G., R. Steen, T. G. N. Stokes, Ashton Street, W. A. Sykes, D.S.O., H. H. Thorburn, C.I.E., W. H. Thornhill, D. P. Warliker, H. G. L. Wortabet, A. C. Younan. *Majors:* C. H. P. Allen, F. J. Anderson, *M.C.*, L. A. P. Anderson, C. L. Bilderbeck, Sir T. J. Carey-Evans, *M.C.*, N. H. Hume, W. D. Keyworth, F. J. Kolapore, S. H. Middleton-West, *M.C.*, C. Newton-Davis, *M.C.*, M. J. Quirke, J. Scott, D.S.O., O.B.E., R. S. Townsend, *M.C.* *Captains:* E. Cotter, P. A. C. Davenport, G. R. McRobert, R. C. Malhotra, O.B.E., C. M. Nicol, S. R. Prall, T. H. Thomas, H. Williamson.

The guests were Sir Dawson Williams, C.B.E., *British Medical Journal*, and Dr. E. C. Morland, the *Lancet*.

AGE OF RETIREMENT.

A ROYAL WARRANT, dated June 10th, has been issued by the India Office amending the Warrant of June 13th, 1919, in respect of the age of retirement of I.M.S. officers holding administrative appointments. The essential clause of the new Warrant is as follows:

"Our Will and Pleasure is that General Officers shall be placed on the Retired List at the age of 60 instead of as heretofore at the age of 57. It is Our Further Will and Pleasure that the provision whereby a General Officer holding an administrative appointment may be continued in employment for not more than one year in any special case where it appears to Our Governor General in Council to be for the good of Our Service, shall be cancelled."

DEATHS IN THE SERVICES.

Colonel Edward North, C.B., Army Medical Service (ret.), died at Worthing on June 6th, aged 70. He was born at Ropley, Southampton, and was educated at St. George's; he took the L.R.C.S.Ed. in 1879, and the F.R.C.S.Ed. in 1883. He entered the army as surgeon in 1880, attained the rank of Colonel in 1906, and retired in 1910. He served in the South African war of 1900-1902, when he took part in the operations in Cape Colony, including the action of Colesberg on January 1st, 1900; in the Orange Free State, later the Orange River Colony, including the actions at Paardeberg, Poplar Grove, Dreifontein, Houtnek (Inoba Mountain), Vet River, Zand River, Bethlehem, and Wittebergen; and in the Transvaal, in the actions at Johannesburg, Pretoria, Diamond's Hill, and Elands River; was mentioned in dispatches in the *London Gazette* of April 16th, 1901, and received the Queen's medal with five clasps. After his retirement he rejoined for service in the great war (1915-17), was again mentioned in dispatches, and received the C.B. in 1917. He was unmarried.

Colonel Henry Octavius Trevor, Army Medical Service (ret.), died at Torquay on June 3rd, aged 67. He was born at Nether Stowey, Bridgwater, and was educated at St. Thomas's; he took the L.S.A. in 1880, and the M.R.C.S. in 1881. Entering the army as surgeon in 1882 he became colonel in 1911, and retired in 1917. He served in the Burmese campaign in 1885-87 (medal with clasp); in South Africa from 1899 to 1902 (Queen's medal with clasp, King's medal with two clasps); and as A.D.M.S. in the recent great war. He was a younger brother of the late Surgeon-General Sir Francis Wollaston Trevor, K.C.S.I., Army Medical Service, who died on November 16th, 1922.

Major Charles Hildred Brodribb, I.M.S. (ret.), died, after long years of illness, at Penmaenmawr, North Wales, on May 27th. He was born on October 30th, 1876, educated at St. Mary's Hospital, and graduated M.B. and B.S.Lond. in 1900; he took the M.R.C.S. and L.R.C.P.Lond. in the same year. After serving as house-physician, house-surgeon, and clinical assistant in the throat department at St. Mary's, as senior house-surgeon of Scarborough Hospital, and as house-surgeon and anaesthetic and clinical assistant at Tottenham Hospital, he entered the I.M.S. in 1903. He became major on February 28th, 1915; he was placed on the temporary *non*-effective (half-pay) list on account of ill health in 1922, and retired in the same year. During the war he served as surgical specialist to the 5th and 9th Divisions of the Indian Army.

Captain John Furse McMillan, R.A.M.C. (ret.), died suddenly at Sandown, Isle of Wight, on May 31st, aged 67. He was born at Southmolton, Devon, on August 24th, 1859, educated at the Middlesex Hospital, and took the M.R.C.S. and L.R.C.P.Lond. in 1882. After serving as house-physician at Middlesex Hospital, and as a surgeon in the P. and O. Company, he entered the army as surgeon on August 1st, 1885, was placed on half pay on account of ill health on September 22nd, 1894, and retired on September 22nd, 1899. He served in one of the Balkan wars as director of the hospital at Raschka, and as physician of the arrondissement of Studenitza, Serbia.

Universities and Colleges.

UNIVERSITY OF CAMBRIDGE.

AT congregations held on June 18th and 21st the following medical degrees were conferred:

M.D.—C. J. Penny.
M.Chir.—F. W. Roques.
M.B., B.Chir.—R. D. Alexander, E. J. Greenwood, T. S. Dewey.
M.B.—F. W. Law.

UNIVERSITY OF LEEDS.

THE Council has conferred the honorary distinction of Emeritus Professor on Sir Berkeley Moynihan, Bt., P.R.C.S., who recently retired from the Chair of Surgery.

VICTORIA UNIVERSITY OF MANCHESTER.

THE Council have accepted the resignation of Miss Muriel M. Nutt, M.A., Demonstrator in Bacteriology.

The following appointments have been made: *Lecturer in Bacteriology*: Mr. A. W. Downie, M.B., Ch.B.Aberd.; *Demonstrator in Anatomy*: Mr. J. M. Yoffey, M.B., Ch.B.Manch.

The Turner Medical Prize has been divided between Muriel M. Edwards and Josephine Walmsley.

UNIVERSITY OF DUBLIN.

THE election of three representatives to the Dail has resulted as follows: Professor William Thrift, Fellow of Trinity College, Sir James Craig, M.D., F.R.C.P.I., King's Professor of Medicine, and Professor E. A. Alton, Fellow of Trinity College. The electorate numbered 2,069; the total poll was 1,589; the "quota"—under proportional representation—was 328. There were four candidates for three seats. The result leaves the representation of the constituency precisely as it was in the last Dail.

QUEEN'S UNIVERSITY, BELFAST.

PROFESSOR R. J. JOHNSTONE, M.P., has been appointed to represent the University on the General Medical Council, vice Colonel Sinclair, C.B.

Dr. J. B. Moore, F.R.C.S.I., senior surgeon to the Mater Infirmorum Hospital, Belfast, has been co-opted a member of the Senate.

ROYAL COLLEGE OF SURGEONS OF EDINBURGH.

AN extraordinary meeting of the College was held on June 14th, when Dr. A. Logan Turner, President, was in the chair.

The following were elected honorary Fellows in celebration of the centenary of the birth of Lord Lister, which will be commemorated in Edinburgh during the Annual Meeting of the British Medical Association next month: The Earl of Balfour, K.G., O.M., Sir William Watson Cheyne, Bt., Professor Harvey Cushing (Boston, Mass.), Professor Tuffier (Paris), Professor John Stewart (Halifax, Nova Scotia), Sir Robert W. Philip, M.D., President-elect of the British Medical Association, Dr. George M. Robertson, President, Royal College of Physicians, Edinburgh.

Obituary.

A. H. FREELAND BARBOUR, M.A., B.Sc., M.D., F.R.C.P., LL.D.

THE death occurred on June 11th, at his residence in Edinburgh, of Dr. A. H. Freeland Barbour. Dr. Barbour's death took place with a happy absence of any suffering. He had been in ordinary health and the best of spirits, and was engaged in signing letters when he suddenly fell forward and expired.

The reputation given to the Edinburgh Medical School by the genius and personality of Sir James Y. Simpson has ever been a stimulus to his successors in the department of obstetrics and gynaecology. The names of Sir A. R. Simpson, Sir J. Halliday Croom, Dr. Brewis, Dr. Berry Hart, Dr. A. H. Freeland Barbour, Dr. Milne Murray, Dr. J. W. Ballantyne, and Dr. Haultain are all written large in the history and development of gynaecology and obstetrics. Dr. Barbour was the last survivor of this distinguished group of men who flourished together in Edinburgh for many years, and whose united labours did much to enhance the reputation of the Edinburgh Medical School. Although he had retired from active professional work for some years, Dr. Barbour continued to take a keen and active interest in all matters connected with the university and other medical institutions in Edinburgh, and he was looking forward with great interest to the meeting of the British Medical Association in Edinburgh next month. Although he had never been of very robust constitution, his many friends had every reason to hope that he would long be spared to help them by his ready support and advice. He was not only a distinguished and honoured member of the medical profession, but his death will be mourned by a very wide circle, since his interests were catholic and his friends outside the profession correspondingly large in number.



DR. A. H. FREELAND BARBOUR.
(From a portrait by P. de Lazlo.)

Dr. Barbour was the youngest son of the late G. F. Barbour of Bonskeid and Gryffe, and was born in Edinburgh, where he was educated, graduating M.A. in 1874, B.Sc. in natural science in 1877, and M.B. with honours in 1879. From this time he devoted his attention to obstetrics and gynaecology, attracted to it doubtless in large measure by his association with his brother-in-law, the late Professor A. R. Simpson, whose assistant he shortly afterwards became in succession to Dr. Berry Hart.

After studying at various clinics in Germany, France, and Italy, he threw himself whole-heartedly into the preparation, with his lifelong colleague and friend Dr. Berry Hart, of the famous *Manual of Gynaecology*, which, when first published in 1882, marked a distinct epoch in British gynaecology. In the preface the authors stated that in writing the book they had tried to keep before their eyes the great principle that the anatomy, physiology, and pathology of the pelvic organs formed the foundation of good clinical work. The want of such a textbook had been long felt, and it met with an instantaneous and well merited success; it may be said to have been the first scientific textbook in modern gynaecology, and on it many of its numerous successors were modelled. Embodying the views not only of the Edinburgh school, which the authors represented, but also those of America and the Continent, the book included a bibliography of recent literature on each subject treated, and a wealth of illustration which had hardly ever been attempted in a medical or surgical textbook. It was received among gynaecologists with acclamation, and attracted world-wide attention to the Edinburgh Medical School, which the names of Simpson, Syme, and Lister had already made famous. It ran through six editions, was translated into French, Italian, Spanish, and even Chinese, and was for many years the standard gynaecological textbook at home, in the Colonies, and in America.

In 1884 Dr. Barbour presented a thesis for the degree of M.D. on "Spinal deformity in its relation to obstetrics." This was awarded a gold medal, and was published later as a monograph with 36 lithographic plates. This work was the outcome of original investigations applied to much unused material in the medical museums of Edinburgh and elsewhere. Continuing his studies on the anatomy of labour, Barbour published, in 1889, the first edition of his *Atlas of the Anatomy of Labour, as Exhibited in Frozen Sections*. The final and much enlarged edition of this work appeared in 1896. He devoted an enormous amount of time and care to it, and it will be a lasting monument of his scientific zeal, skill, and industry. Its publication was received with the most generous appreciation both at home and on the Continent, where work on similar lines had already been done by Braune, Schroeder, and others. His latest book, *Gynaecological Diagnosis and Treatment*, was written in collaboration with his former assistant, Professor B. P. Watson, now of Columbia University, New York, and is still a popular student's manual.

In addition to these major treatises, Dr. Barbour wrote many valuable papers, which appeared from time to time in the *Transactions* of the Edinburgh Obstetrical Society and other periodical publications, and all bore the mark of his original and scientific mind.

As a teacher he had a long and distinguished career in Edinburgh, and no department of his work brought him greater enjoyment or called forth in him a deeper interest. He was appointed university assistant to Professor Sir A. R. Simpson in 1882, and became later an extramural lecturer on midwifery and gynaecology, worthily maintaining the high traditions of the Extramural School in his own depart-

ment. He also served a full term of office as gynaecologist to the Royal Infirmary, and as physician in the Simpson Memorial and Royal Maternity Hospital. He had a singular aptitude for clear and striking exposition of subjects upon which he spoke, and many generations of students will remember with gratitude his lucid and interesting bedside clinics. Dr. Barbour's great powers of holding the attention of his hearers were also well illustrated in the lectures he delivered from time to time to working men. These dealt with subjects such as "The body as a machine," and "The most wonderful pump in the world," and formed admirable little discourses on physiology. The *Primer of Midwifery* which he wrote for nurses displayed the same clearness of thought and exposition. On the institution of a lectureship on gynaecology in the university, when Sir A. R. Simpson retired he appointed Dr. Barbour to this post, which he held during the term of Sir Halliday Croom's professorship of midwifery. After the retiral of the latter, and before the appointment of Dr. B. P. Watson, Dr. Barbour for one year delivered the lectures to the university class both in obstetrics and gynaecology.

Dr. Barbour served a term of office as President of the Royal College of Physicians; and when he resigned his ward in the Royal Infirmary he was made honorary physician to the gynaecological department. Numerous honours from foreign institutions had come to him, and he was a corresponding Fellow of the Royal Academy of Medicine of Turin and of the Obstetrical Society of Leipzig. In 1906 the University of Toronto conferred upon him the LL.D. degree of that university.

Dr. Barbour was a man of deep religious conviction and wide and warm sympathy. He took a special interest in the students with whom he came in contact, and in the "nineties" of last century entered enthusiastically into the work which was carried out for them by his friend Professor Henry Drummond. He was recently president of the Indian Association, and was a warm friend of all students of Eastern races studying in Edinburgh. He was a constant supporter of St. George's United Free Church, in which his brother-in-law, Dr. Alexander White, was minister. In foreign missionary enterprise Dr. Barbour took a special interest, and his name was for many years associated with the Scottish Auxiliary of the Chinese Mission of the English Presbyterian Church, in the presidency of which he succeeded his father.

Medical research remained always very near his heart. The Freeland Barbour Fellowship, managed by the Royal College of Physicians, was founded by him in memory of his father, for investigations conducted in the laboratory of the Royal College of Physicians at Edinburgh. In the University of Edinburgh, also, he founded a Freeland Barbour Fellowship, to be awarded in each alternate year to the graduate who had taken the highest place in anatomy, physiology, and pathology, in order that he might be able to carry out research in the subject of midwifery. In the University of Toronto he had also founded a scholarship. Medical institutions, such as the Royal Infirmary of Edinburgh, the Royal Hospital for Sick Children, the Maternity Hospital, and many others, benefited greatly from his judicious munificence.

In 1889 Dr. Barbour married Margaret Nelson, elder daughter of the Hon. George Brown of Toronto. He is survived by his widow and by two sons and three daughters.

The interment took place in the Dean Cemetery, Edinburgh, on June 15th, and was attended by a large number of representatives, including Sir Alfred Ewing, Principal of the University of Edinburgh, the Fellows of the Royal College of Physicians, who wore their academic robes, and representatives from the Royal Infirmary and other institutions in which the late Dr. Barbour had been specially interested.

The following well known foreign medical men have recently died: Dr. EDMOND ROUFFART, founder of the Belgian Society of Gynaecology and Obstetrics, member of the Royal Academy of Medicine, and formerly Senator of Brussels, aged 71; Professor GIUSEPPE MARCARINI, an eminent surgeon of Genoa; and Dr. PETRINI-GALATZ, formerly professor of dermatology at Bucarest.

Medical Notes in Parliament.

[FROM OUR PARLIAMENTARY CORRESPONDENT.]

THE chief business of the House of Commons this week has been to pass the Trade Disputes and Trade Unions Bill through its remaining stages. The Government reserved June 24th for the report and third reading of private members' bills, one of them being the Midwives and Maternity Homes (Scotland) Bill.

In the House of Lords, on June 20th, Lord Cave outlined the Government's scheme for a reformed Second Chamber with half the numbers of the present House, some to be elected by the Peers from their own number and the rest to be nominated by the Prime Minister for a period of twelve years. On Tuesday the Bishop of Liverpool, by moving the second reading of the Liquor (Popular Control) Bill, initiated a debate on temperance, in which Lord Dawson of Penn joined.

A meeting of the Parliamentary Medical Committee has been called for June 30th, and Dr. Cameron, of the Metropolitan Asylums Board, may then address the Committee on vaccination.

On June 21st Mr. Rhys Davies presented a bill making further provision with respect to procuration, trading in prostitution, and kindred offences, and to disorderly houses and other premises. The bill would also extend and amend the Extradition Act, 1870, The Children (Employment Abroad) Act, 1913, and the Criminal Law Amendment Act, 1922. The bill was read a first time.

Liquor Control Bill.

Speech by Lord Dawson of Penn.

In the House of Lords, on June 21st, the debate was resumed on the second reading of the Liquor (Popular Control) Bill, introduced by the Bishop of Liverpool. It proposed to give to boroughs with over 50,000 inhabitants, and licensing districts, the right of deciding periodically whether they are to have no change from the present system of competitive ownership of the liquor trade, or whether the trade is to be reorganized under a system of public control somewhat on "Carlisle" lines, or whether the sale of intoxicants is to be abolished.

Lord Dawson of Penn said that the most drastic proposal of the bill was the option of prohibition. That was not necessary to the fabric of the bill, and was put in to satisfy the extreme temperance reformers, who had made no secret of their intention to withhold their support from the measure if it did not contain that option. If it were adopted there would be no opportunity for going back if it turned out to be a mistake. It might be too soon to say whether prohibition had or had not been successful, but so far as it had gone it seemed to show the need for caution before touching it in any way. In countries where it had been adopted it had produced bootlegging and more drinking among the young than existed before. A fresh view ought to be taken of the liquor question and the matter approached in a fresh way. Duress was the curse of this bill. If by common agreement the causes which were known to be increasing temperance were fostered, a result would be obtained in ten years which would not be gained in a generation by any other means. There was a serious danger of temperance reformers being the greatest obstacles to reform. There was ample evidence that the country was becoming more temperate. It was only necessary to go to the theatres, the cinemas, to the big restaurants, and to the bank holiday resorts to see that the amount of actual drunkenness was extremely little. He had never seen in recent years drunkenness of so terrible a character in this country as he had seen in prohibition countries. The evidence with regard to disease due to alcohol showed a steady improvement, so much so that the provisions made in the hospitals years ago were found to be no longer necessary. But there could be a great deal of harmful drinking without actual drunkenness and disease, and he was with the supporters of the bill entirely in saying that there was too much drinking still, and that efforts should be made to hasten the movement towards greater temperance. There were grounds for encouragement in observing the habits of a large and important section of the community—the people with moderate means, who gathered in popular restaurants which had a full licence. A full inquiry three years ago showed that of the people who congregated in certain big restaurants 75 per cent. had no alcohol at all, and, of the 25 per cent. who did drink, no less than three-quarters were drinking either light wine or beer, and only one-quarter whisky or port. That was a very striking testimony to the progress of temperance and of real sobriety. He had made it his business, when he knew this debate was coming on, to inquire whether these figures had become better or worse. The answer was that in one restaurant the number of people who took liquor had gone down from 25 to 17 per cent., and in another it had fallen to 7 per cent.

In all investigations as to the progress or not of sobriety, it was the best and the fair way to make a division between the

age of 35 and under 35. After 35 people's habits were formed, and if a man became a drinker by then he was very likely to go on. What really mattered in this country was What were people doing who were under 35? He adopted that method in his next inquiry, and went among the clerk class. Taking the clerks over 40, he found that 21 per cent. were abstainers, and 40 per cent. of those under 40 were abstainers. That was in keeping with his own observations. The clerk class in this big city, especially the younger ones, drank remarkably little. If inquiries were made of those responsible for the young soldiers the same thing would be found. For instance, at Aldershot these young men came from their heavy drill in the morning about 11.30 or 12, and went helter-skelter to the canteen. Five out of six of them went to the dry canteen. It was an interesting fact that those who went to the dry canteen always asked for something sweet, showing that for the young sugar was a very good substitute for alcohol. He asked some of his friends in the army recently, and they told him, "It is absolutely true that the young soldier does not drink; you have only got to look at him to see that."

He had made it a point in the last few weeks of asking his business friends as to the drinking over business. It was quite true that it was far too rife. It was an essentially damaging form of drinking, because it involved drinking on an empty stomach, just like the cocktail habit; but it was going out, and was far less frequent than before.

In his inquiries he realized that he had not got down to the unskilled labour class, so he set to work, with some coadjutors well qualified in finding out what people did and did not drink, because in any big hospital the medical officers got to know what an answer meant, whether it was "Yes" or "No," pretty quickly. The records of something between 1,500 and 1,600 people of the unskilled labour class were examined. The results were so striking, and so much better than he expected, that he handed the papers to an actuarial friend. He (Lord Dawson) divided the total into abstainers, the temperate, and the imperfectly temperate. He was up against the difficulty as to what to make the threshold of temperance. He chose the figure 2, by which he meant to denote two drinks. He took the standard of a pint of beer or one glass—not a full one—of whisky. He found that if he took people under 35 and added together the temperate people and the abstainers they amounted to 90 per cent., and the imperfectly temperate were 10 per cent. There was a change after 35, when the temperate people and the abstainers came to 71.5 per cent. and the imperfectly abstaining people to 28.5 per cent. Taking abstaining people alone, under 35 there were 51 per cent., and over 35 only 22.5 per cent.

It was open to people to say that the reason why the percentage of temperate persons was less after 35 was that people grew into drink. That was a fallacy. People did not become drunken or intemperate if once they had acquired temperance habits up to 35. It was comparatively rare for intemperance to break out after that age, except under stress of circumstances wholly outside the present consideration. That gave food for thought, and showed that our people were becoming steadily more sober in their attitude towards alcohol. It was really an outrage to call this country a non-sober country.

It was said that the diminution of drinking was due to restricted hours and higher prices. He agreed that restricted hours promoted temperance. He would support the continuation of the restriction of hours, provided that it was made uniform in all districts; but the influence of higher prices was not worth talking about. Did a man stop drinking because he had no money? He made his wife go without money. If drink had got such a hold on him he would not stop because of the price. What had produced the change to which he had referred was better housing; this was shown by the fact that so soon as better housing was obtainable there was an improvement in respect to drinking. The next fact was the increasing love of fresh air and the constant desire on the part of the people to be out in the country. Then there was the greater companionship of men and women; but he would put above all others the very great love of physical fitness at the present time. The women had become more athletic owing to the adoption of more sensible clothing, and that had created a desire for physical fitness. Advantage should be taken of all those forces which he had mentioned. Education should be fostered, and the improvement of houses should be continued, and the chances of those who were less well off to enjoy games and outdoor sports should be increased.

If all these things were done for ten years, and if health lectures were given all over the country, then, not by fanatics preaching against the evils of this, that, and the other, but by people teaching what health meant, what good food meant, and what the disadvantages of alcohol really were, as well as its advantages, an appeal would be made to the convictions of the people, and far greater success would attend any campaign for temperance than by the provisions of a bill such as that before the House.

The Earl of Onslow said that the Government were heartily in concurrence with the wishes of the supporters of the bill, and were no less desirous than they for judicious reform. They could not, however, at the present time assent to a measure which involved the reopening of the controversial question of the amendment of the licensing laws. The report of the Southborough Committee on disinterested management had only been in the hands of the Government a short time. There were other matters connected with the licensing laws, not dealt with in that report, which it would be necessary to consider before any Government could give a pronouncement on the subject.

The debate was eventually adjourned.

Shop Acts, 1920 and 1921.

At the meeting of the Shops Committee on June 16th, evidence urging that the Early Closing Acts should be made permanent was given by representatives of the Joint Parliamentary Committee of the retail repairing boot trade (employers and employees). The witnesses declared that their trade was one in which boots, dusty and germ laden from the streets, came into direct contact with the worker. Consumption was rife amongst the operatives, as also were gastric troubles. The witnesses stated that their organization had taken medical surveys of consumptives in the trade. The Boot Trade Benevolent Society had recently made arrangements with a convalescent home for the treatment of consumptive cases. Of the deaths among boot and shoe trade operatives an average of 23.7 per cent. were due to tuberculosis.

Mr. Huntrods, president of the Incorporated Society of Pharmacy and Drug Store Proprietors in Great Britain, in a letter, argued that the necessary calls on pharmacy proprietors out of hours were very few, and that doctors had the prerogative under the National Health Insurance Act of supplying patients with really necessary medicine.

The Committee adjourned till June 30th, which will be its last public meeting.

Public Health in India.

On June 17th the House of Commons considered the Indian Estimates in Committee. Mr. Wardlaw Milne said conditions in India were better than ever before. The number of people who died of famine or starvation was infinitesimal. Immense work had been done—largely by British enterprise and under British leadership—for the relief of famine areas, by the promotion of irrigation schemes, and to deal with outbreaks of plague and cholera. Mr. Saklatvala referred to what he termed the crushing infantile death rate in Bombay. Mr. Pilcher said that the white population in Bombay, which was a tiny, infinitesimal minority, had done everything it could to improve the shocking slum conditions which existed in the city. Early marriage, when the girl was only 13 or 14, was the practice in India; it was believed that a child must be born of such a marriage as soon as possible, and that as many children as possible should be born. These were the root causes of the misery, not only in India but in China.

Mr. Johnston said that in Bengal 71 per cent of the males died before they reached 30. Malaria was rampant, and even if those attacked did not die they were weakened by it. It was questionable whether one man in a thousand of the agricultural population of India went to sleep at night after having eaten one decent meal during the day. Earl Winterton, in a brief reply at the end of the debate, said it had been agreed that when the estimates were taken again he should make a general statement on Indian matters. An amendment to reduce the vote was rejected by 173 votes to 45, and the debate was adjourned.

Poisoning of "Vermin."

On June 17th the Protection of Animals (Amendment) Bill was considered in Committee; the bill amends the Protection of Animals Act, 1911, which makes it an offence to put down poison. Dr. Shiels moved two amendments, the first of which substituted for the word "vermin," which may, under the bill, be destroyed by the laying of poison, the words "insects and other invertebrates, rats, mice, and other small ground vermin." He said that on the second reading he objected that "vermin" was too vague. He understood that his amendment was agreeable to the promoters of the bill. His second amendment was to include wild birds among creatures to be safeguarded from poison. Both amendments were accepted, and the bill passed through Committee.

Vaccination of Small-pox Contacts.—Answering Mr. Groves, on June 20th, Sir Kingsley Wood said that of patients recently admitted to the small-pox hospitals at Dartford and Yeading only one (as to the diagnosis of which there was some doubt) was vaccinated after removal to hospital. In this case the vaccination was unsuccessful. None of the patients were vaccinated after they were discovered to be suffering from small-pox. Two of the patients were vaccinated after contact with a case of small-pox, but in both instances too late to protect them from the disease.

The London Lock Hospital.—Answering Dr. Fremantle, on June 16th, Mr. Chamberlain said the London Lock Hospital was a voluntary one, and the general management of voluntary hospitals did not come under his review. Any grants to this hospital for specific services were made by local authorities, principally by the London County Council. The Council had given notice to withdraw its grant as a preliminary to a general review of its

rrangements for the venereal disease service. He had concurred i this proposed action. If the board of management asked for an iquiry into the general management of the hospital he would onsider the request.

Notes in Brief.

Answering Dr. Vernon Davies, Commodore King said that 101 oldiers were invalided for valvular disease of the heart in 1926. If these, 37 were under 21 years of age. During the present year o date 29 had been invalided, of whom 10 were under 21.

The Minister of Health doubts whether the time is ripe for a ommittee to inquire into the effect on the human system of noise nd vibration. Some aspects of the question are receiving attention rom the Industrial Fatigue Research Board.

Great Britain was free of foot-and-mouth disease from April 6th o June 16th, the longest period of freedom since 1921.

Thirty-nine cases of typhoid fever were notified in Gravesend luring the five weeks ended June 11th. A representative of the linistry of Health has visited the town.

Asked about the arrangements for aerating distilled water before upply to ships' companies, Colonel Headlam said the water was prayed through special roses into tanks.

The Minister of Health is considering whether the warning 'Unfit for babies," on tins of condensed skimmed milk should be nade more conspicuous.

The Minister of Health is not prepared to amend the law so as o make it illegal for the vaccination of children to be a condition n a tenancy agreement.

The statistics received by the Ministry of Health show a considerable decrease since 1911 in the death rate from tuberculosis in each of the six counties of North Wales.

Answering Dr. Vernon Davies, on June 20th, Sir W. Joynson-Hicks said the Government had not yet considered the unanimous recommendation of the Medical Research Council that the section of the Dogs Act, 1906, which forbids the use of stray dogs for research, should be repealed.

Answering Dr. Vernon Davies, on June 20th, Sir Samuel Hoare, in a written reply, said that 14 men were discharged from the Royal Air Force for diseases of the heart in 1926. Of these, 4 were under 21 years of age, and 2 of the 4 had a definite history of rheumatism. In 1927 to date 8 had been discharged, 2 under 21 years of age.

On June 21st Mr. Wellock withdrew the allegation he had made in a previous question that British military authorities were providing brothels for troops in China.

On June 21st Mr. McNeill told Captain Crookshank that holders of off-licences were not permitted to sell single half-bottles of spirits to their customers, even in case of illness. Certain members had put down for the Committee stage of the Finance Bill a clause proposing amendment of this law.

Medical News.

WE have received an illustrated pamphlet, entitled *Scotland's Wonderland*, describing Messrs. MacBrayne's steamship tours through the Western Highlands and Islands of Scotland. It gives a very complete account of the method of visiting these beautiful and romantic spots, together with the times and fares of the steamboats. It should be of great use to members of the British Medical Association who wish to extend their visit to Edinburgh in July. A copy can be obtained post free from Messrs. David MacBrayne, 119, Hope Street, Glasgow.

THE first annual Macalister Lecture of the London Clinical Society will be delivered by Sir Thomas Horder, Bt., M.D., at the London Temperance Hospital, Hampstead Road, N.W., on Thursday, July 7th, at 8.45 p.m. The subject of the lecture will be diet and dietists. A cordial invitation to the lecture is extended by the society to any medical practitioner.

MR. B. G. PETERS, M.Sc., has been appointed by the Grocers Company to a Grocers Research Scholarship in sanitary science, tenable in the division of medical zoology at the London School of Hygiene and Tropical Medicine.

THE DUKE OF CONNAUGHT, who for twenty years has been president of the Westminster Ophthalmic Hospital, will lay a commemoration stone in the entrance hall of the new building in Broad Street, Bloomsbury, on Thursday next, June 30th, at 4 p.m. The building has as yet only reached the first floor, but will eventually have eight stories; it is to be ready for occupation by March 25th, 1928.

THE Bearsted Memorial clinical theatre at the London Hospital will be opened by Viscount Bearsted on Wednesday, June 29th, immediately after the distribution of prizes.

A LECTURE entitled "Training defective children to become useful citizens," by Maria Montessori, M.D.Rome, D.Litt., will be given under the auspices of the London School of Medicine for Women, in aid of the Royal Free Hospital Centenary Fund, at the Æolian Hall, Bond Street, W., on Tuesday, July 5th, at 5.15 p.m. The chair will be taken by Lady Barrett, C.B.E., M.D., M.S., dean of the Medical School. Tickets for reserved seats (7s. 6d. and 5s.) may be obtained from the Medical School, 8, Hunter Street, W.C.1. Admission 2s. 6d.

DR. B. DUNLOP asks us to announce that on July 26th the Malthusian League (120, Victoria Street, S.W.1) will celebrate its fiftieth anniversary by a dinner at the Holborn Restaurant, and the public is invited to apply for tickets (10s. 6d.). Among the speakers will be Mr. H. G. Wells, Mr. J. M. Keynes, and Mrs. Annie Besant, who was the first secretary of the society.

THE Fellowship of Medicine and Post-Graduate Medical Association announces that Dr. C. M. Wilson will give a clinical demonstration at St. Mary's Hospital on June 29th, at 2 p.m., and at 1.30 p.m. that day Mr. Cairns Forsyth will give a surgical demonstration at the Royal Waterloo Hospital. On June 29th Mr. A. D. Griffith will give a demonstration in ophthalmology at the Royal Eye Hospital at 3 p.m. All these demonstrations are free to members of the medical profession. An all-day intensive course will be provided by the staff of the National Hospital for Diseases of the Heart from July 4th to 16th, and the daily sessions will start at 10 a.m. and continue until 4 p.m. As the course is limited to twenty, early application is desirable. For those desiring instruction in medicine, surgery, and the specialties the Prince of Wales's General Hospital undertakes an intensive two weeks' course from July 11th; the clinical practice of the hospital is open to those taking the course, and on each of the Saturdays visits may be paid to the mental hospital at New Southgate and the fever hospital at Homerton. From July 11th to 30th inclusive a course in proctology will be available at St. Mark's Hospital. Two demonstrations weekly (Wednesdays and Saturdays) will be given at the Park Fever Hospital from July 13th to 30th inclusive. From July 4th to 30th the West End Hospital for Nervous Diseases will hold a late afternoon course daily at 5 p.m. Copies of all syllabuses and the *Fellowship Journal* may be had from the Fellowship of Medicine, 1, Wimpole Street, W.1. A general course of work is also provided at the associated hospitals, for which a comprehensive ticket is issued and a separate programme published.

THE new Queen Alexandra wing of the Ealing King Edward VII Memorial Hospital was opened by Princess Mary, Viscountess Lascelles, on June 8th. The new wing, erected at a cost of £25,000, consists of two large wards of twenty beds each, with the requisite sanitary block, sixteen additional bedrooms for the staff, and one new private ward.

THE foundation stone of the Nicoll memorial wing of the Queen Mary's Hospital for the East End was laid by the Lord Mayor of London on June 8th. The extension will provide accommodation for thirty-two extra beds, of which twenty will be allotted to casualty patients. It is intended to serve as a memorial to the late Dr. P. J. S. Nicoll, for many years chief honorary medical officer and vice-chairman of the hospital. The additions are estimated to cost £35,000.

THE President of the French Republic has conferred the Order of Chevalier of the Legion of Honour upon Dr. Eleanor Hodson, of Canterbury, in acknowledgement of the service she rendered France as a member of the British League of Help. Dr. Hodson has already received the French Médaille d'Honneur.

MANY of our readers know of the medical visits (Voyages d'Etudes Médicales) to French health resorts arranged year by year by the Faculty of Medicine in Paris; there will be such a visit this year to the Eastern Pyrenees. The party will assemble at Balaruc on September 1st and go on that evening to Lamalou. A dozen resorts will be visited and the party will reach Luchon on September 9th; it will separate on the following day at Superbagnères. The greater part of the journey will be made by motor car. Further particulars can be obtained from Madame Juppé-Blaise, Federation of the Health Resorts of France, 19A, Tavistock Square, London, W.C.1.

THE late Mr. Lewis Spokes Richards of Edgbaston has bequeathed £1,000 each to the Birmingham Children's Hospital and the Royal Orthopaedic and Spinal Hospital, Birmingham, and £500 each to the Birmingham Eye Hospital and the Birmingham Ear and Throat Hospital. Under the will of Mr. William Bedlam of Littlehampton, who died in March last, the Littlehampton and District Hospital receives £1,000 and the Crawley Cottage Hospital £300.

A TOTAL of 6,787 cases of puerperal fever was notified in Germany in 1926, as compared with 7,003 in 1925; the incidence is highest in Hamburg.

TWELVE cases of trichinosis with two deaths occurred in Germany, exclusive of Mecklenburg-Schwerin and Hesse, in 1926, as compared with nine cases in 1925. Eight occurred in the Coblentz district, two in Bavaria, and two in Saxony.

THE cases of small-pox reported in the United States in 1925 numbered 41,643 with 702 deaths. In the last eight years Illinois alone has had over 30,000 cases, representing a community loss of no fewer than three million dollars. In the ten-year period 1916–25 Massachusetts had 253 cases of small-pox, with a community loss of 25,300 dollars.

Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to ***The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.***

ORIGINAL ARTICLES and LETTERS forwarded for publication are understood to be offered to the BRITISH MEDICAL JOURNAL alone unless the contrary be stated. Correspondents who wish notice to be taken of their communications should authenticate them with their names, not necessarily for publication.

Authors desiring REPRINTS of their articles published in the BRITISH MEDICAL JOURNAL must communicate with the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1, on receipt of proofs.

All communications with reference to ADVERTISEMENTS, as well as orders for copies of the JOURNAL, should be addressed to the Financial Secretary and Business Manager.

The ***TELEPHONE NUMBERS*** of the British Medical Association and the BRITISH MEDICAL JOURNAL are *MUSEUM 9861, 9862, 9863,* and *9864* (internal exchange, four lines).

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The address of the Irish Office of the British Medical Association is 16, South Frederick Street, Dublin (telegrams: *Bacillus, Dublin*; telephone: 4737 Dublin), and of the Scottish Office, 6, Drumsheugh Gardens, Edinburgh (telegrams: *Associate, Edinburgh*; telephone: 4361 Central).

QUERIES AND ANSWERS.

FACIAL ACNE.

"F.R.C.P." asks for advice in treatment of acne of the face in a young woman. Manganese, autogenous and mixed vaccines, unguentum iodi denigrescens, and ultra-violet light have been tried without success.

RECURRENT EPISTAXIS.

DR. O. W. D. STEEL (Llanbister, Penybont) asks for suggestions for the treatment of a girl, aged 7, who has suffered for two years with bouts of nose bleeding. At first the interval was three months, now it is only five weeks. Each attack lasts four days and there are three or four haemorrhages in twenty-four hours, chiefly by night. A year since she was seen by a rhinologist, who removed adenoids, but could find no local lesion to account for the bleeding. The coagulation time of the blood is normal. She has had calcium and adrenaline. Her father suffers from chronic bronchitis, eczema, and nasal polypus. Hitherto the haemorrhage has not been so severe as to cause anaemia. The fear and apprehension are doing harm, for she can tell when the bleeding is about to come on. She suffers nearly every spring from pneumonia.

TREATMENT OF BURNS.

DR. M. K. ROBERTSON (Kew Gardens, Surrey) writes with reference to Professor Fraser's lecture on burns (JOURNAL, June 18th, p. 1089): I find that before I see a burn it has always been covered with carron oil, olive oil, flour, or, as in a case I saw last week, a mixture of all three. Can anyone give me a satisfactory method of removing this oily mess, so that I may try one of the more modern methods?

BOOKS ON CHEMISTRY.

A MEMBER of a firm of food manufacturers asks whether any manual has been published within recent years on the lines of Attfield's *Chemistry: General, Medical, and Pharmaceutical* (1904).

*** Few of the more recent books on chemistry resemble Attfield's in its method of treating the subject. The expansion of chemistry and its cleavage into diverse branches have rendered Attfield's method incompatible with the newer plan of teaching, which has necessarily become more narrowly academic than before. Unless our correspondent obtains a comprehensive book such as Thorpe's *Dictionary of Applied Chemistry*, he may find it necessary to buy more than one, and may find the following deserving of examination: *Pharmaceutical Chemistry*, Bentley and Driver (Oxford University Press); *Chemistry, Inorganic and Organic*, Bloxham (Churchill); *Modern Inorganic Chemistry*, Mellor (Longmans, Green).

LETTERS, NOTES, ETC.

UNITED HOSPITALS' SPORTS.

THE fifty-sixth annual meeting of the United Hospitals' Athletic Sports was held at the Crystal Palace on the afternoon of June 15th. The weather was fine, the ground in good condition, and there was a fair attendance. Among those present were the President of the club (Dr. H. Morley Fletcher), Dr. Arthur Voelcker, who presented the prizes, Mr. E. B. Turner, who acted as timekeeper, Dr. Anderson, Deputy Medical Secretary of the British Medical Association, Dr. Scott and Mr. Stratford, secretaries of the Metropolitan Counties Branch. Dr. Anderson and Dr. Scott assisted in judging. The chief events, with the winners, were as follows:

One Mile.—R. A. P. Hogbin (Guy's); time, 4 min. 40⅘ sec.
100 Yards.—W. Hertzog (Guy's); time, 10⅗ sec.
Long Jump.—R. St J. Honner (London); 22 ft. 1 in.
Half Mile.—H. B. Stallard (St. Bart's); time, 2 min. 4 sec.
Putting the Shot.—W. Hertzog (Guy's).

The *Princess Louise Cup*, for the best individual performance, was presented to W. W. Craner (London) for winning the Quarter Mile race in 52 seconds.

The Cup given by Dr. C. F. T. Scott to the Metropolitan Counties Branch of the British Medical Association, to be presented to the best all-round athlete, was won by W. Hertzog (Guy's).

The Relay Race was won by St. Bartholomew's, and the Tug-of-war by the London Hospital.

MEDICAL GOLFING SOCIETY.

THE Medical Golfing Society held its annual summer meeting on June 16th at Walton Heath. All competitors were the guests of Lord Riddell and thoroughly appreciated his kind hospitality. There were over 100 entries. The competitions resulted as follows:

[illegible]. P. Kolesar.
—E. Playfair.
–V. E. Negus.
Kenneth Goadby tied with A. W. Soper. *Best last nine*: H. D. Gillies.

Class II.—First Prize: H. A. Chodak Gregory tied with G. Dawson. *Best last nine*: H. L. Hatch.

Foursomes.—These were won by J. O'Malley and W. Tindal Atkinson.

ILLUMINATION FOR FINE WORK.

AT the end of last year the Home Office published a report describing an inquiry made by Mr. H. C. Weston and Mr. E. K. Taylor on the lighting of printing rooms where hand composing was carried on. This was fully noticed in our issue of December 4th, 1926 (p. 1065). Mr. Weston has recently given an addres[s] at a combined meeting of [illegible]ng Society and the Joint Industrial [illegible]ades of the United Kingdom, in whi[illegible] The investigations, he said, were preparatory to the formulation of definite standards of artificial illumination for specific processes. The work chosen as suitable for the first experiments was type-setting by hand. Different illuminations on composing frames were taken, and the effect upon the speed and quality of the work noted. The test extended over a couple of days, and the compositors were employed in setting 7-point type (similar to that used in th s note). One fact which emerged was the effect of inadequate illumination in producing unnecessary fatigue; at the feebler illuminations the number of typographical mistakes was greater in the afternoon than in the morning, but this was no longer the case when the illumination was raised to a certain level (14 foot-candles). With an illumination of 7 foot-candles the rate of output was 10 per cent. below that obtained with a higher illumination. The best illumination for type-setting was found to be 20 fc[illegible] [illegible] frames and with this lighting the [illegible] to that obtained in g[illegible] machines was scarcel[illegible] type operator needed [illegible] if the matrices on the linotype and the small closely arranged figures on the drum of the monotype machine were to be seen easily an illumination of 20 foot-candles was not excessive. In one experiment tinted light was used, the fitting consisting of a white enamelled opaque bowl surmounted by a trumpet-shaped pale blue glass, intended to give approximately daylight correction without the coldness of north light. The compositors declared this method of lighting to be the best they had tried so far as restfulness and absence of glare were concerned, but they found it difficult to see old type, owing to the relative absence of shadows. Mr. Weston urged that the provision of adequate and suitable lighting in factories and workshops would benefit industry rather than impose an additional burden upon it. He agreed, however, that a certain number of industrial processes involved work of so fine a character that no kind of illumination would enable them to be carried out with entire efficiency and comfort, and in such cases the illuminating engineer could do no more than install really good lighting, and the ophthalmologist must be relied upon for further help in reducing strain associated with the work. In some industries the operatives had been provided with magnifying spectacles specially prescribed. Men with normal sight, however, did not appear to require magnifying glasses, and there is, or was, a reluctance on the part of compositors to resort to glasses, owing to the impression that they would be taken as evidence of failing sight and consequent unfitness. The fallacy of this idea, Mr. Weston urged, was apparent, and the use of glasses, when necessary, ought to be regarded as a natural and valuable means of maintaining, and even increasing, productive capacity.

VACANCIES.

NOTIFICATIONS of offices vacant in universities, medical colleges, and of vacant resident and other appointments at hospitals, will be found at pages 42, 43, 46, and 47 of our advertisement columns, and advertisements as to partnerships, assistantships, and locumtenencies at pages 44 and 45.

A short summary of vacant posts notified in the advertisement columns appears in the *Supplement* at page 272.

THE
British Medical Journal.
THE JOURNAL OF THE BRITISH MEDICAL ASSOCIATION.

EPITOME

OF

Current Medical Literature.

JANUARY TO JUNE, 1927.

F. W. W. GRIFFIN, M.D.,
SUB-EDITOR.

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READERS in search of a particular subject will find it useful to bear in mind that the references are in several cases distributed under two or more separate but nearly synonymous headings—such, for instance, as Brain and Cerebral; Heart and Cardiac; Liver and Hepatic; Renal and Kidney; Cancer and Carcinoma; Epithelioma, Malignant Disease, New Growth, Sarcoma, etc.; Child and Infant; Bronchocele, Goitre, and Thyroid; Diabetes, Glycosuria, and Sugar; Eye, Ophthalmia, and Vision, etc.

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neuralgia, chorea, asthma, and osteoporosis, and in such localized conditions as simple or tuberculous cervical adenitis, acne, burns, and enlarged thymus, and in some forms of tuberculosis.

13. Therapeutic Properties of Ossein.

E. MAURIN (*Bull. de l'Acad. de Méd.*, November 2nd, 1926, p. 190) defines ossein as all the organic substance obtained from bone after the prolonged action of dilute hydrochloric acid. Ossein consists of a connective tissue stroma containing other tissue elements, vessels, osteoblasts and their secretory products, and forms an integral part of connective tissue. It is a quaternary, isomeric body with the formula $C_{12}O_4H_{10}N_2$; physiologically it is an imperfect albuminoid, lacking tyrosin, phenylalanin, and trytophan, and does not give Millon's and d'Adanckowicz's reactions. It is unable to regenerate true proteins, such as muscle tissue, and therefore it cannot be substituted for meat in the diet. It has been shown that the addition of its congener, gelatin, to a mixed diet lessens nitrogenous destruction. Ossein contains about 4 per cent. of mineral matter, the phosphates and carbonates of the bone remaining after its proper treatment with hydrochloric acid; it is suggested as a regenerator of connective tissue. Maurin has used it with beneficial results in tuberculosis, and during the war found it of great value in healing fractures, especially those in which union was tardy. Unlike gelatin, it does not cause any satiety or repugnance, and Maurin has used it in daily doses of from 30 to 50 grams for three to five months without any ill effects; he finds that both dietetically and therapeutically it is preferable to gelatin.

14. Iodine as a Prophylactic in Influenza.

F. LOMBARDO (*Rif. Med.*, October 25th, 1926, p. 1011), recalling the experience of Veyrieres, where the workers in an iodine factory nearly all escaped influenza during the 1917–18 epidemic, has tried the effect of an iodine vaporous solution in certain schools as a preventive procedure. In one classroom iodine vapour from a watery solution of iodine and potassium iodide was diffused once or twice a day, and in another room no such vaporization was used; in the first room hardly any influenza occured, while there were several cases in the other room. The solution used contained one part of iodine with two parts of potassium iodide and 300 parts of distilled water. It was also used as an inhalation, adding 50 c.cm. to water, in a steam kettle.

Ophthalmology.

15. Lateral Intracapsular Extraction of Cataract.

ACCORDING to VAN LINT (*Bruxelles-Méd.*, December 5th, 1926, p. 173) intracapsular extraction of cataract is the ideal operation. The two principal methods employed, that of Smith by pressure and that of Barraquer by aspiration, have not become generalized owing to the failures met with by other operators. Van Lint's procedure is as follows: During the evening before the operation three drops of eupthalmine (5 per cent.) are instilled into the eye and one drop of the same mydriatic one and a half hours, one hour, and half an hour before the operation itself. When the patient is in the operating-room palpebral akinesia is produced by injecting a novocain-adrenaline solution, and a retrobulbar injection of 2 c.cm. of novocain (2 per cent.) is also given. The eyelids, cheek, and forehead are cleansed with iodized alcohol, and anaesthesia is produced by the use of cocaine (2 per cent.) and adrenaline. When operating on the left eye the operator stands on the left side of the patient; for the right eye he stands behind the patient. After dissection of the conjunctiva, followed by incision of the external portion of the corneal border, peripheral iridectomy is performed, and two sutures, left untied, are inserted at the supero- and infero-external edges of the conjunctiva. Any blood in the anterior chamber is washed out with physiological serum. A cupping glass is placed over the crystalline lens; to this glass, after proper manipulations, the cataract will adhere when it is removed. The two sutures are tied with perfect coaptation, and oil and pilocarpine are instilled. After forty-eight hours the other eye is freed, and on the fifth day the diseased eye is examined and the dressings are replaced for two days more; the sutures are then removed and the patient allowed to wear smoked glasses. The majority of operators have abandoned the retrobulbar injection because of its paralysing effect on the extrinsic muscles, but van Lint maintains that in lateral excision this immobility of the eyeball, far from being an inconvenience, provides greater security for operative precision. Owing to [illegible] ase, and the excellent results obtained, that the intracapsular method of catar[illegible] entirely supplant the extracapsular one.

16. Production of a New Lacrymal Punctum.

B. GRAVES (*Amer. Journ. Ophthalmol.*, September, 1926, p. 675) describes an operation for dealing with cases of epiphora due to slight failure of contact of the lower punctum to the globe. After preliminary installation of 5 per cent. cocaine drops, some solid cocaine is placed on the conjunctiva of the inner end of the lower lid. After the punctum has been identified and a few drops of cocaine and adrenaline introduced into the canaliculus, a fine grooved probe (Critchett's) is inserted along the lacrymal duct. The groove of the probe is now turned towards the globe or even towards the bottom of the fornix. The canaliculus is now divided for not more than 2 millimetres along its course from the punctum, the cut being directed towards the lower fornix. The lower lip of the slit so formed is fixed with an iris forceps, slightly pulled upon, and cut off; this will leave a triangular opening with its apex downwards, and the opening will be in contact with the globe.

17. Post-influenzal Unilateral Neuro-Retinitis.

G. A. SCHALY (*Nederl. Tijdschr. v. Geneesk.*, October 23rd, 1926, p. 1853), who records an illustrative case, remarks that the occurrence of optic neuritis after influenza in not very uncommon as it is met with, according to Groenouw, in about 5 per cent. of all cases. The remarkable feature in Schaly's case, which was that of a woman aged 37, was the presence of a unilateral neuro-retinitis, with a fully developed star figure in the macula lutea without the presence of nephritis. The urine had been constantly examined and was always free from albumin, while the patient had shown no signs of nephritis. The star figure of non-nephritic origin has been fully described by Leber in his account of cases of pseudo-nephritic diseases of the retina.

Obstetrics and Gynaecology.

18. Partial Symphysiotomy.

E. ZARATE (*Gynécol. et Obstet.*, 1926, xlv, 5, p. 289), describing his method of partial symphysiotomy in dystocia from pelvic contraction, states that enlargement of the transverse dimension of the pelvis by as much as 5 cm. can be gained without risk of injuring the soft parts, so that delivery is easily accomplished with obstetrical conjugates of 8 cm.; smaller conjugates require Caesarean section. After division of the symphyseal fibro-cartilage and the superior part of the arcuate ligament, the bistoury is withdrawn and by hyperabduction of the thighs the separation of the pubic bones is increased. With the patient on her back and under general or local anaesthesia the hips and knees are flexed and the legs held in abduction by two assistants. The position of the upper border of the symphysis is marked on the skin, and the bladder is catheterized; the index and middle finger of the left hand are placed in the vagina, so as to thrust the foetal head upwards and the urethra to one side. The point of a knife of 4½ cm. blade is introduced 5 mm. below the superior border of the symphysis and penetrates the fibro-cartilage, which is divided from above downwards and obliquely until the arcuate ligament is reached and in part divided, when the separation of the pubes to the extent of one fingerbreadth is perceptible; the knife is now withdrawn and the wound compressed. By still further abduction of the thighs the separation of the pubes is increased to two or even three fingerbreadths, and pituitary extract is injected. After delivery the pelvis is not bandaged, but the knees are tied together; the patient gets up on the twelfth to the fourteenth day. The superior safety of Zarate's procedure as compared, for example, with Frank's technique is stated to lie in (1) the completely intra-ligamentary employment of the bistoury; (2) the conservation at the time of the section of the superior symphyseal ligament and a large portion of the anterior ligament, so that too brusque separation of the pelvic halves is prevented; and (3) the cessation of the symphysiotomy before there has been a risk of damaging the clitoris, its dorsal vein, the corpora cavernosa, or the urethra.

19. Treatment of Febrile Abortions.

E. KOTTLORS (*Zentralbl. f. Gynäk.*, October 9th, 1926, p. 2616) remarks that serological and bacteriological investigations have not led to any reliable means of assessing the virulence of infection, and thus estimating the gravity of prognosis in cases of abortion with pyrexia. Some observers have agreed with Winter in regarding curetting as contraindicated during the pyrexial stage if haemolytic streptococci are present; but of late haemolysis has been admitted by Winter himself, among others, to be not only an unreliable indication of virulence, but also a variable property even in the same strains of streptococci. The Ruge-Philipp test, in which the

utero-vaginal flora are regarded as virulent or non-virulent according as they do or do not multiply in the patient's defibrinated blood, has proved disappointing; the virulence of the organism, thus assessed, varies in the course of a particular case in accordance with the clinical progress or regress. The results, both of active treatment, in which curetting is performed in spite of pyrexia, and of expectant treatment, appear very similar when large series of cases are compared with respect to mortality and morbidity, but the stay in hospital is diminished by an average of two or three days after active therapy. It is generally admitted that active treatment (curetting) is useless if the infective process has passed the bounds of the uterus—as, for example, if parametritis or adnexal inflammation is present; but the clinical detection of extrauterine infection, especially in the early stages, is uncertain. Estimating the sedimentation time of the red blood corpuscles may be helpful, but is affected, apart from infective processes, by pregnancy and by severe anaemia. Kottlors prefers clinical to laboratory methods in deciding whether in a given case the uterus should be explored and emptied; he is guided by bimanual examination, the general condition of the patient, the appearance of the tongue, and the temperature. In curetting old-standing abortion cases where the os has become almost closed he prefers dilatation by a tent to the use of Hegar's instruments. Prophylactic injections of argochrome or similar preparations before operation are believed to diminish mortality and morbidity—less, probably, by any specific action than by increasing the physical powers of resistance.

20. Preconjugal Syphilis and Pregnancy.

A. VACCARI (*Ann. di Ostet. e Ginecol.*, October 31st, 1926, p. 660) records four cases which show that foetal survival and well-being are not always assured if a preconjugal syphilitic infection of the father has been treated with apparent adequacy. The infections had occurred respectively 3, 5, 5, and 10 years before marriage, and had been followed by adequate three years' treatment, the Wassermann test becoming negative. In each case, after one or more early abortions and/or premature deliveries of macerated foetuses, the Wassermann reaction was found to be negative in both parents. In two instances antisyphilitic treatment of the mother was now undertaken from the beginning of a later pregnancy, with satisfactory results. Vaccari suggests (1) that males in whom an antecedent syphilis seems to have been efficiently treated should receive a further course of treatment before marriage; (2) that at each pregnancy antisyphilitic medication in the wife should be instituted.

Pathology.

21. Cholesteraemia and Hyperpiesia.

E. THOMAS (*Arch. Mal. du Cœur des Vaisseaux et du Sang*, October, 1926, p. 641), discussing the cause of "essential" arterial hypertension, mentions that several French authors have found in renal and arterial affections an increased cholesteraemia, and deposits of this lipoid in the diseased arterial walls. When cholesterin is added to rabbits' food, arterial changes occur, but it is uncertain whether hypertension precedes or follows the arterio-sclerosis. Thomas has tried, by experiments on rabbits, to discover whether cholesterin itself has a hypertensive action and whether repeated intravenous injections of cholesterin can cause hyperpiesia. No ill effects followed the injection of 0.015 gram of cholesterin dissolved in 0.5 c.cm. of sunflower oil. The author noted the carotid blood pressure and then withdrew 5 c.cm. of blood for the estimation of the cholesterin content. The first dose of cholesterin solution was then given, and the blood pressure again estimated; the effect of the injection was either absent or very slight. The injections were repeated at intervals of three days, and after four to six weeks the blood pressure was measured, a specimen of blood taken, and an autopsy performed. Thomas found that though cholesterin had no immediate hypertensive effect, yet its repeated injection produced prolonged hypertension. In two rabbits the blood cholesterin content fell from the beginning to the end of the experiment. As cholesterin is eliminated very slowly by the kidney, and consequently accumulates in other organs, the author thinks that there is some ground for the hypothesis that this phenomenon is peculiar to certain individuals. There was no evidence that the accumulation of cholesterin in the suprarenal cortex produced excess of adrenaline in the blood, nor that an excess of cholesterin in the blood had any effect on endocrine glands, such as the hypophysis, which have a hypertensive action.

22. Serology of B. melitensis and B. abortus.

G. FAVILLI (*Lo Sperimentale*, October 25th, 1926, p. 396) has examined twenty-two strains of *B. abortus*, seven of *B. melitensis*, and five of *B. paramelitensis*, confining his attention to the effect of various methods of inducing non-specific agglutination. The three methods employed were agglutination by heat, by peptone, and by lactic acid. Thermo-agglutination is tested by heating a suspension of the organism in 0.75 per cent. salt solution to 90° C.; when the reaction is positive the bacilli form flocculi, which deposit in the usual way. In peptone agglutination a suspension of the organism in distilled water is added to 1 c.cm. of a 1 per cent. peptone solution. The three tests gave generally similar results; the thermo-agglutination and the peptone agglutination tests were absolutely parallel, but the lactic acid test had a wider range, affecting certain strains which did not respond to the other two tests. With one or two exceptions, the *abortus* and *melitensis* strains did not react to the thermo-agglutination or the peptone agglutination tests; the *paramelitensis* strains did so. The lactic acid test has been used to distinguish between *B. melitensis* and *B. abortus*, but the author found it quite valueless for this purpose. By subculturing a strain of *B. melitensis* every day for five days in 10 c.cm. of broth containing three drops of immune anti-*melitensis* serum the author observed the appearance of thermo and peptone agglutination. After twelve or thirteen passages the organism no longer reacted to specific agglutination with its own serum; it adopted a different mode of growth in the serum broth, giving a diffuse turbidity, and had thus assumed the properties of *B. paramelitensis*. Favilli suggests that *B. paramelitensis* may arise under natural conditions by the continued existence of *B. melitensis* in the body of an immune animal. From being a type reacting to specific but not to non-specific agglutination, it changes spontaneously to a type not reacting to a specific *melitensis* serum, but reacting to non-specific agglutination.

23. The Influence of Glucose on the Bactericidal Power of the Blood.

FOR testing the bactericidal power of the blood F. MASSARA (*Il Morgagni*, October 3rd, 1926, p. 1249) used the method of Wright, slightly modified to suit his own requirements. Blood was taken from the vein of a normal person, defibrinated in a vessel with glass beads, and distributed into three tubes, 5 c.cm. being placed in each. The suspension of bacilli was prepared by rubbing up one loopful of a twenty-four-hour agar culture either in physiological saline or in a 4.7 per cent. solution of glucose. To each tube of blood one drop of bacillary suspension was added, the mixture shaken thoroughly, and incubated for six, twelve, or thirty-six hours at 37°C. A drop of the mixture was then placed on an agar plate and spread evenly over the surface with a glass rod, or dropped into a tube of melted agar, which was then poured into a Petri dish. After incubation for one and two days the number of developing colonies was counted. Two organisms were used—*B. typhosus* and *B. paratyphosus* B; the results obtained with each were closely similar. Briefly it was found that the number of surviving organisms was greater when the suspension was in saline solution than when the glucose suspension was employed. The differences were not great, but frequently amounted to 20 or 30 per cent.; in one or two instances a difference of about 50 per cent. was noticed. The most-marked effect was observed after incubation of the blood organism mixture for twelve hours; if incubation was allowed to proceed longer the organisms multiplied so as to obscure the results. The author concludes that small quantities of glucose are able to increase the bactericidal power of the blood *in vitro* towards the particular bacilli employed.

24. Serological Classification of the Gonococci.

J. M. MIRAVENT, R. QUIROGA, and P. NEGRONI (*C. R. Soc. de Biologie*, November 12th, 1926, p. 1166) have attempted to classify the gonococci serologically. About fifty strains were collected from various sources and cultured for three months on ascitic agar. Four serums were prepared by the injection of rabbits with suspensions of the organisms. For purposes of agglutination the organisms were washed off a twenty-four-hour ascitic agar culture with saline solution, the fluid was centrifuged in order to remove autolysed forms, the sediment was again suspended in saline solution, and standardized. An equal volume of serum and suspension was used, and the mixtures were incubated at 55° C. for two hours. As a rule, [illegible] proved sufficient to classify the strains [illegible] ception of agglutinins test was, however, [illegible] the grouping reached by the direct [illegible] ; place forty-five strains in four definite serological groups; two strains agglutinated equally well with *two of the serums*. The number of strains in Group A was 16, in Group B 8, in Group C 9, and in Group D 12.

EPITOME OF CURRENT MEDICAL LITERATURE.

Medicine.

25. Pulmonary Embolism.

R. C. CABOT (*Boston Med. and Surg. Journ.*, December 2nd, 1926, p. 1068) reports a case of pulmonary embolism in a man, aged 27, who complained of weakness, vertigo, and haemophysis after working for two days exposed to fumes from a composition rubber. At 15 years of age he had painful and swollen joints, especially the knees, and a slight attack of chorea, since when he had been well—serving for two years in the army and doing hard work. The attack appeared to be cardiac in nature and due to mitral stenosis resulting from the chorea; pulmonary infarction caused haemoptysis, and a friction rub developed later in the left axilla with slight dullness and some coarse inspiratory râles at the left base. Cabot considers the whole attack from the time he became dizzy and weak while at work as being pneumonic, originating possibly in an infarct thrown off from one of the heart valves as the result of an added subacute endocarditis. The man recovered sufficiently to perform light clerical work, but two years later he had an attack of nausea and vomiting with marked cyanosis and irregular cardiac action and some return of haemophysis. After a satisfactory recovery of compensation he attended as an out-patient, but later became orthopnoeic and very cyanotic, with paroxysms of tachycardia which ended fatally. The autopsy revealed a large adherent infarct in the left lower lobe, the pulmonary artery leading to it being thrombosed; the heart was dilated, and there was marked mitral stenosis. Cabot regards the original attack as being due to an acute pulmonary infarct occurring in an apparently healthy man and not as the result of any industrial poisoning from fumes from the rubber. He suggests that the clinical picture of such an occurrence is a sudden onset, prolonged pyrexia simulating pneumonia, and subsequent recovery.

26. The Prognosis of Angina Pectoris and of Coronary Thrombosis.

P. D. WHITE (*Journ. Amer. Med. Assoc.*, November 6th, 1926, p. 1525) recommends the separate classification of angina pectoris and primary coronary thrombosis. With regard to the prognosis in angina pectoris, hypertension, coronary thrombosis, syphilis, arterio-sclerosis, weak heart-sounds, abnormal T wave in electro-cardiogram, and especially cardiac enlargement, are more often found in patients with angina pectoris who die in a few years than in those who survive. Usually severe pain indicates a grave prognosis, as does the presence of one or more of these unfavourable factors. The prognosis is fairly good if the heart, blood pressure, and electro-cardiogram are all normal; in such cases early death is possible but unlikely. Probably, in the majority of cases, death is due to acute or chronic coronary occlusion. In a series of 200 cases the average duration of life after the onset of angina pectoris was 4.2 years, with 134 of the patients still living. Sex, occupation, and the direction of radiation of pain did not affect prognosis in this series. The average age at onset made a slight difference, the age of patients still alive after five years being 56, while that of those dying in less than five years was 60. White thinks that there are four factors which help to determine a good prognosis, with occasional exceptions. A patient with a sensitive nervous system who develops angina pectoris under unusual stress is a good risk provided that he shows little or no evidence of heart disease. The pain is caused by severe or moderate exertion and not induced by slight exertion, and adequate treatment causes a good response. The author adds that many patients with definite angina could pass a rigid life insurance examination by concealing their histories. These patients have true angina, but usually do well when treated properly. Any patient suffering from angina pectoris should avoid hurry, worry, over-exertion, over-eating, and severe weather. Rest, either on a voyage to warmer climates, or even when imposed by accident or surgical operation, has prolonged many lives. Cervical sympathectomy for angina pectoris is still on trial. With regard to the prognosis in coronary thrombosis many patients survive an attack for some years in good or fair health. The average duration of life after an attack in a group of 62 patients, half of whom are still alive, is nearly two years. Sex and age at the first attack appear to make little difference to the prognosis. Hypertension, arterio-sclerosis, and syphilis scarcely modify it. The heart was enlarged in the majority of patients, both living or dead. Weak heart sounds and congestive heart failure make the prognosis graver. The presence of fever or paroxysmal auricular fibrillation with an attack of coronary thrombosis made no difference in prognosis in the series; pericarditis was rather more frequent among patients who died. The electro-cardiogram did not help, but the very slow pulse of complete heart-block was a bad sign. Intraventricular block was more common among survivors. Attacks of angina pectoris prior to an attack of coronary thrombosis appear to worsen the prognosis. Prolonged rest and regular habits gave satisfactory results in the majority of these 62 patients.

27. The Myoclonic Form of Tuberculous Meningitis.

P. RIBIERRE and P. RENAULT (*Paris Méd.*, November 27th, 1926, p. 430) state that numerous cases have been recorded illustrating the difficulty in distinguishing between the acute stage of epidemic encephalitis and the various forms of meningoencephalitis, especially those due to syphilis or tuberculosis. The clinical symptoms are sometimes misleading, and the examination of the cerebro-spinal fluid does not always decide the nature of the case. Spinal lymphocytosis may be found in some cases of encephalitis and be absent in tuberculous meningitis. Excess of sugar in the spinal fluid is inconstant in encephalitis and has only a relative diagnostic value, while a normal quantity of glucose in the cerebro-spinal fluid may be found in tuberculous meningitis. It is rare for myoclonus to become so pronounced a symptom in tuberculous meningitis as to suggest the diagnosis of epidemic encephalitis. A case of this kind was recently observed by the authors in a man aged 50 who had been operated on a few weeks previously for renal tuberculosis. Examination of the cells, albumin, and sugar in the cerebro-spinal fluid showed nothing characteristic, but after two hours' centrifugalization two or three characteristic tubercle bacilli were found. The diagnosis of a terminal tuberculous meningitis was thus established although a necropsy could not be obtained.

28. Acute Articular Rheumatism Treated with Antistreptococcal Serum.

T. BARUFFALDI (*Rif. Med.*, October 25th, 1926, p. 1012) gives his experience in the treatment of 200 cases of acute articular rheumatism with antistreptococcal serum; he claims complete success in all cases. As tested by the von Pirquet reaction the number of cases which gave a positive result was rather striking, especially in the more chronic types. He gave a full dose of the serum (at least 30 c.cm.) as early as possible; no bad effects on any cardiac complications present were noted. When albuminuria or acute Bright's disease was present, these conditions were favourably influenced by the serum. In about half the cases a scarlatiniform eruption, lasting two to four days, appeared about the second week after injection. Where an early local reaction or non-febrile urticaria developed, the scarlatinal rash seldom appeared. Marked improvement in the joint troubles followed immediately after the exanthem. The treatment is said to be not contraindicated in chronic apyretic rheumatic affections, but in them not much benefit is seen. During the serum treatment the usual antipyretic and antirheumatic drugs should not be given. In only one case was any anaphylactic symptom observed.

Surgery.

29. Treatment of Haemorrhoids.

W. E. M. MITCHELL (*Canadian Med. Assoc. Journ.*, November, 1926, p. 1358), in discussing the treatment of haemorrhoids, emphasizes the necessity for a correct diagnosis and a clear conception of the underlying pathology. In those cases in which no definite cause can be discovered the treatment is considered under the headings of palliative, by injection, and operative. Palliative treatment consists in regulating the bowels with liquid paraffin after an initial soap enema, and manual reposition of any piles which do not recede spontaneously. The anus and surrounding skin must then be cleansed with soap and water and completely dried; this is followed by the free application of calamine lotion on boric lint kept *in situ* by a T-bandage. After a week of such treatment an opinion can be formed as to whether resort to injection will suffice or whether operative measures will be needed. Cases suitable for injection are those in which the piles are neither thrombosed nor inflamed, and the base of attachment is not wider than their greatest diameter, and in

which there is no general prolapse of the pile-bearing area. Such types of haemorrhoids can be efficiently and painlessly treated by injection without interference with the patient's ordinary mode of life. The permanence of cure by this method is still uncertain, but in suitable cases there has been no recurrence after two years. Other types of haemorrhoids require operation by ligature and excision. Mitchell considers forcible dilatation of the sphincters unnecessary. The pedicle is isolated by dividing with scissors the modified skin of the anal canal at the level of the lowest point reached by the base of the pile, which is separated from its lower attachments by cutting deep to its base, thus isolating a definite small neck containing the vessels of the pile.

30. Non-malignant Stricture of the Oesophagus.

A. HEINDL, jun. (*Deut. Zeit. f. Chir.*, November, 1926, p. 252) records his observations on 137 cases of non-carcinomatous stricture of the oesophagus admitted to the First Surgical Clinic of Vienna University between 1901 and 1925. Of the total cases 116 were due to corrosives: of these 47 were in children under 16 years of age, 48 were in women, and 21 in men; 36 of the cases were due to swallowing lye. The predominance of the female sex is explained by their choice of corrosives for suicidal attempts. The remaining 21 were caused by disease of the oesophageal wall due to diphtheria, peptic ulcer, oesophagitis, extra-oesophageal causes such as *tuberculosis, and congenital malformations. The prognosis* is absolutely bad in the last set of cases, but in the others it depends on the severity of the original disease. The method of choice in dealing with corrosive strictures is the passage of the bougies in mild cases, if necessary with the aid of the oesophagoscope, and in severe cases gastrostomy as well, especially when the stenosis becomes more pronounced in spite of the passage of bougies. Little benefit was derived from injections of fibrolysin and thiosinamin. Of the 116 stenoses due to corrosives 21 were treated by bougies, with one death due to perforation, 4 received no treatment, and 91 underwent the following operations: gastrostomy in 85 cases, gastro-enterostomy in one case, and jejunostomy in five cases. The subsequent history of the 91 cases was as follows: 14 died, 17 were treated by bougies, 35 underwent retrograde catheterization, 7 had a plastic operation performed, and the remainder received no further treatment.

31. Solitary Cyst in Horseshoe Kidney.

H. VIETHEN (*Zentralbl. f. Chir.*, October 16th, 1926, p. 2655) records a case in a man, aged 32, who apart from gastro-intestinal catarrh during the war had always been healthy. It was not until after the war that he began to complain of abdominal pain, especially in the right hypochondrium. The pain only lasted for a short time, and was sometimes colicky and sometimes burning. There had never been any jaundice, but there had often been vomiting of bile during the attacks. On examination there was distinct tenderness in the epigastric region, where an indefinite tumour corresponding to the position of the gall bladder could be felt. A diagnosis of cholecystitis was made and conservative treatment was at first employed, but as the pain grew much worse laparotomy was performed. A cyst the size of a child's head was found arising from the right side of the horseshoe kidney. Complete recovery followed the removal of the cyst. The absence of any symptoms pointing to renal disease, apart from an attack of haematuria several years previously, was a remarkable feature of the case.

Therapeutics.

32. Saline Injections in Gastric and Duodenal Ulcers.

T. BÁRSONY and G. SZEMZÖ (*Med. Klin.*, November 5th, 1926, p. 1721) have employed intravenous injections of 10 per cent. saline solution in 25 cases in which there had been previously operations for gastric or duodenal ulcer. Every second or third day an injection was given of 10 c.cm. of this solution, and the treatment was repeated ten to fifteen times. The patients were allowed to go about, but were kept on a meatless diet so as not to interfere with the test for occult blood. No alkali or other treatment was given unless the injections alone were insufficient. Some of the patients treated had not responded to dietetic and medicinal treatment. In fourteen of the cases all symptoms disappeared after several injections, in three they were relieved, in three others relieved only when combined with other means, and in five there was no improvement. Freedom from symptoms lasted varying times, but after eighteen months recurred in every patient who had reported. A lasting cure was therefore not effected, but the method gave freedom from disabilities for some little time. The authors consider it worth trial, either alone or combined with other means, and they find that no other ambulatory treatment is more successful. The saline treatment has many advantages over protein therapy. It causes no rise of temperature or marked focal reaction; it lessens the nausea and retching, and does not affect the quantity or acidity of the gastric secretion. In some cases occult blood persisted even in the absence of symptoms, and this is attributed to bleeding from newly formed, delicate granulation tissue.

33. The Iodine Treatment of Exophthalmic Goitre.

D. MASELLI (*Il Policlinico*, Sez. Med., November 1st, 1926, p. 565), after a full consideration of the recent work in the treatment of Graves's disease by iodine, and personal observation of 14 cases, sums up the rather contradictory results of various authors as follows. In nearly every case the exophthalmos remains unchanged. The thyroid gland becomes somewhat smaller and harder, and there is less bleeding at the operation. Metabolism and the gastro-intestinal and nervous symptoms are benefited, the body weight increases, the tachycardia lessens, and the blood condition improves. Contraindications of the iodine treatment are the presence of symptoms of tracheal compression (as in these cases suffocation may occur), grave symptoms of circulatory insufficiency, and pulmonary tuberculosis. It is essential that the patient shou d be kept in bed. Iodine treatment in the early cases renders the patient a much better subject for operative measures; the *condition termed* by Americans toxic adenoma is unsuitable for the administration of iodine. Patients who show no improvement in the metabolic index should not continue the treatment. Although it seems quite common for some early improvement to take place, these remissions are seldom of long continuance, and in a few cases iodine makes the patient worse at the very outset.

34. Sodium Salicylate in Epidemic Encephalitis.

D. DÉNÉCHAU, J. PÉIGNAUX, and H. FRUCHAUD (*Bull. et Mém. Soc. Méd. des Hôp. de Paris*, November 25th, 1926, p. 1587) observe that although the value of intravenous injections of sodium salicylate in treating epidemic encephalitis is well known, their experience in the case of a child aged 2½ is worth recording on account of the severity and multiplicity of the symptoms, which necessitated intensive treatment. Intravenous injections were rendered particularly difficult by the child's youth, so that the jugular veins, the cephalic, and the basilic veins had to be utilized in succession. When first seen, after having had coryza for three or four days, the child had a rectal temperature of 102° and was vomiting; there was a strong odour of acetone in the breath, and acetone was present in the urine. As the child had had an attack of acetonaemic vomiting a year previously the usual treatment was employed, and was followed next day by the disappearance of all traces of acetone. The rectal temperature, however, oscillated between 102° and 104°, but there were no localizing symptoms and no meningitic reaction or torpor. On the following day the spinal fluid was found to contain a great excess of glucose and a slight excess of albumin; encephalitis was suspected. On the third day the temperature rose to 105.5°; the patient was drowsy and there was paresis of the right upper limb; 1 c.cm. of fresh turpentine was injected into the outer surface of the left thigh. The temperature continued to rise and the child grew worse rapidly; he became deeply comatose with general muscular relaxation, and six days after the onset the pulse was so weak and rapid that he appeared to be dying. Next day there was a slight improvement, although the temperature remained at 104°. The fixation abscess developed normally. The child recovered consciousness and cried and coughed frequently. The paresis of the right arm disappeared, choreiform movements became general, and the features became characteristically mask-like. On the ninth day the temperature fell to 100°, and a few injections of uroformine were given as well as intravenous injections of 5 per cent. sodium salicylate solution in a 4.7 per cent. isotonic glucose serum. The veins were so small that one was exposed freely at the flexure of the elbow, and 1 gram of sodium salicylate was injected easily; a violent reaction followed, with partial collapse. In spite of this the salicylate injections were continued, both intravenously and intramuscularly, in doses of 1 to 1.7 gram thrice in twenty-four hours. The choreiform movements were intense and continuous, and the child could scarcely swallow a few drops of milk. On the twentieth day he began to improve steadily, and ultimately made a complete and permanent recovery. D. DÉNÉCHAU (ibid., p. 1592) records five cases (with four recoveries) of acute infection resembling meningitis, corresponding to neuraxitis. He thinks that the type of epidemic encephalitis is changing and that it no longer attacks only the mesencephalic nuclei, and attributes the four recoveries to intravenous injections of sodium salicylate. The fatal case was that of a man aged 36, who

improved slightly at first, but his temperature rose and he died in coma. In every case the Wassermann test was negative. The author believes that, in addition to typical lethargic encephalitis, there are not only neurotropic infections resembling myelitis, radiculitis, or polyneuritis, but also meningeal reactions, curable, in spite of their severity, by intravenous injections of sodium salicylate.

35. Digitalis in Paroxysmal Auricular Tachycardia.

S. A. LEVINE and H. BLOTNER (*Amer. Journ. Med. Sci.*, November, 1926, p. 660) report four cases of the successful treatment of paroxysmal tachycardia by digitalis in large doses. In two of these the regular administration of [illegible] prevent recurrence, but thorough [illegible] proved effective in rendering the [illegible] attacks, though in each instance when digitalis was stopped the attacks at first recurred. The authors emphasize the importance of giving digitalis in full and continued doses; in one of their cases in which it had been given in small amounts for several months it seemed to be of no value until considerably increased. They believe that the use of insufficient doses explains why digitalis has been unfairly discredited in the treatment of paroxysmal auricular tachycardia. The continued oral administration of quinidine was found unsatisfactory, but in two patients the intravenous injection of 0.2 to 0.3 gram stopped the paroxysms at once. *The authors, however, believe that repeated administration of digitalis in doses of about half a gram three times a day, followed later when digitalization is complete by doses of 0.1 gram, can be of great value when the attacks of tachycardia are frequent and incapacitating.*

Neurology and Psychology.

36. Narcolepsy in a Child.

A. A. WEECH (*Amer. Journ. Dis. Child.*, November, 1926, p. 672) reports a case of narcolepsy occurring in a child aged 7, and comments on its rarity, since this disease generally occurs about the time of puberty or during adult life. Weech's patient, after severe epistaxis due to injury, developed attacks of drowsiness, *which increased in frequency and depth. Some* hallucinations were present, but there were no symptoms suggesting epilepsy. The electrical conductivity of the child's skin was much increased, and in this connexion the author refers to Richter's view that the estimation of this resistance furnishes an objective method of determining the depth of sleep. Some attacks of emotional asthenia occurred. The child quickly improved under treatment with thyroid extract in doses of 4 grains daily. The basal metabolic rate before treatment was 18 per cent. below normal, but returned to the normal as the child's condition improved. An account is also given of a case of symptomatic narcolepsy occurring in a boy, aged 12, who did not improve under treatment with thyroid extract. The author suggests that narcolepsy is not a primary disease, but should rather be considered as a symptom-complex due to injury of a localized brain area.

37. The Nature of Epilepsy.

L. B. ALFORD (*Med. Journ. and Record*, November 3rd, 1926, p. 551) contends that epilepsy is an extrapyramidal motor disturbance. These conditions are due to lesions of the corpus striatum, substantia nigra, *red nucleus, and possibly other* basal cell groups, the best known being chorea, tremor, and athetosis, but torsion spasm and myoclonus may be added. The pathological process is a selective degeneration due to innate weakness, termed "abiotrophy" (Gowers). Conditions dependent on this process are the progressive muscular atrophies and dystrophies, Friedreich's ataxia, Huntington's chorea, and oto-sclerosis. Epilepsy is included among the abiotrophies on account of the influence of heredity, post-natal onset, and progressive mental deterioration. The latter has been ascribed to the use of bromides, to exhaustion, and to mental conflict: all may contribute to accentuate it, but it is probably an expression of the same nervous constitution as that which gives rise to the convulsions. The author believes that although epileptic attacks are usually discontinuous and extrapyramidal disturbances are continuous, there is no reason to conclude that continuity is essential to the latter, which vary with emotion and voluntary effort, and cease during sleep. The idea of the infracortical origin of convulsions is not new, and it has long been believed that the clonic stage represents infracortical activity. In 1924 Sterling described extrapyramidal epilepsy and referred to spasmodic attacks in epidemic encephalitis. Krisch states that the generalized tonic attacks may be regarded as an excited state of the motor tegmental system in which cerebellar, striatal, and cortical regulation has broken down. Alford cites the case of a family in which the mother and a son were epileptic, while a daughter had typical moderately advanced Huntington's chorea. Myoclonus epilepsy is an abiotrophy, presenting marked mental deterioration, an epilepsy closely associated with extrapyramidal disturbance. If it is conceded that the specific factor in the causation of epilepsy is a degeneration in one of the extrapyramidal nuclei, exciting factors of the attack will be provided by influences that heighten nervous tension.

38. Headache as a Prodromal Symptom of Disseminated Sclerosis.

C. FOIX, MAURICE-LÉVY, and Mme SCHIFF-WERTHEIMER (*Rev. Neurol.*, November, 1926, p. 423) call attention to the importance of headache as one of the prodromal symptoms of disseminated sclerosis. In three married female patients, aged 26, 40, and 30 years respectively, intolerable headache was present, and the Wassermann reaction of the cerebro-spinal fluid was negative. One patient became blind in a few weeks; the headache was accompanied by frequent attacks of vomiting, but this was not typically cerebral. She had some evidence of descending optic neuritis. The gait, exaggerated tendon reflexes, right ankle clonus, right hemiparesis, and the presence of Babinski's sign in the right foot all suggested disseminated sclerosis. The patient later became able to recognize near objects, count fingers, and move about *a room without accident. The hesitant gait and hemiparesis* disappeared completely after a course of daily intravenous injections of half a gram of sodium salicylate in 10 per cent. glucose serum. The patient also received 4 grams of sodium salicylate by the mouth or rectum. The second patient had a staggering gait, due to inco-ordination, brisk tendon reflexes, Babinski's sign on both sides, and occasional vertigo. In spite of the negative Wassermann reactions, the patient received a course of antisyphilitic treatment, which produced no improvement and was discontinued after an attack of paraplegia had supervened. Four weeks later the patient began to improve and the headache disappeared. Three years later the condition was practically stationary. The third patient complained also of severe headache, unrelieved by analgesics, bromides, and antispasmodics. The headache was worse at night and radiated from the forehead to the suboccipital region. Although the Wassermann reaction of the cerebro-spinal fluid was negative, the colloidal benzoin reaction was strongly positive. Bismuth was administered, but it did not relieve the headache. Six months later the gait was staggering and the patient was unstable when standing with the eyes closed; co-ordination in the lower limbs was slightly uncertain. C. FOIX, J. A. CHAVANY, and MAURICE-LÉVY (ibid., p. 429) have employed intravenous injections of sodium salicylate for the relief of headache with favourable results, and report the case of a woman, aged 31, who had had a sudden attack of violent headache associated with repeated vomiting and inability to stand. The headache persisted for some months and the patient developed definite symptoms of disseminated sclerosis, which disappeared after intravenous injections of sodium salicylate. The patient appeared absolutely normal in every respect and returned to duty as a hospital nurse. In a young woman, aged 26, whose initial symptom was intense headache with total blindness following an optic neuritis which came on shortly after a very definite right hemiparesis, the latter disappeared rapidly, and the vision was restored sufficiently for her to count fingers correctly, after intravenous injections of sodium salicylate. Another woman, aged 38, who had had difficulty in walking for four years, had spastic paralysis and vertigo: she was relieved by three courses of intravenous injections.

Obstetrics and Gynaecology.

39. Gynaecological Sequels of Appendicectomy.

R. CONDAMIN (*Lyon Méd.*, December 5th, 1926, p. 643) believes that pelvic sequels of appendicectomy, particularly in the pouch of Douglas, are much more common than has been supposed. He describes the case of a girl who was quite healthy until appendicitis occurred at the age of 14. The surgeon recommended delay for a few weeks before performing an interval operation, but three weeks later a still more severe attack occurred. An immediate appendicectomy was performed, and turbid serum was seen in the pouch of Douglas. For five years subsequently the patient suffered from persistent nausea, anorexia, abdominal pain, especially on walking, alternating constipation and diarrhoea, and severe dysmenorrhoea, associated with uterine anteflexion and adhesions in the pouch of Douglas. Systematic massage of these adhesions, and dilatation of the cervical canal, produced a rapid and complete restoration to health. The author

believes that in a large number of cases exploration of Douglas's pouch would furnish an explanation of the partial or complete failure of the operation to relieve the patients' symptoms. Gibson has reported 550 appendicectomies with 102 failures to give amelioration, and 65 cases in which the results were satisfactory, although the dyspepsia persisted. Enriquez estimated the percentage of failures as nearly 30 per cent. Condamin affirms that rational treatment after appendicectomy will prevent those disappointing sequels, *but warns against massage of the pouch of Douglas after* an attack of appendicitis, when an operation has not been performed, since it might provoke a fresh attack.

40. Cervical Pregnancy.

P. SCHNEIDER (*Arch. f. Gynäk.*, December 2nd, 1926, p. 302) remarks that cervical pregnancy probably occurs more commonly than is generally supposed, dislocation following at an early stage without well marked clinical symptoms. He agrees with Mueller that critical examination casts doubt upon almost all of the twenty-three recorded cases of cervical pregnancy. In what he believes to be a case of true pregnancy in the cervix a nine weeks ovum, 3 cm. by 2 cm. in size and covered completely by chorionic villi, was removed from one lip of the cervix. Externally, erosion had almost penetrated through the vaginal aspect of the portio into the lateral fornix. Decidual reaction was noted microscopically both in the cervix and in the corpus uteri, the cavity of which above the internal os was 6 cm. in length. The patient sought treatment for severe bleeding without antecedent amenorrhoea, and the preoperative diagnosis was uterine abortion.

41. M. IOLKIN (*Zentralbl. f. Gynäk.*, November 27th, 1926, p. 3071) mentions 40 cases of placental attachment in the cervix uteri; no child was born alive and one in three of the mothers died from haemorrhage as well as one in ten from infection. The case is recorded of a patient, aged 35, who twice had had abortion induced on account of nephropathy during early pregnancy. The first months of the next pregnancy were characterized by frequent and painful micturition and blood-stained vaginal discharge. A copious haemorrhage occurred a week before labour, which was accompanied by abdominal pain and repeated rigors. The cervix was found to be replaced by a hemispherical tumour bulging into the vagina, and the external os was of rudimentary dimensions. A diagnosis of abortion with adhesions at the external os having been made, dilatation and exploration showed a cervical canal to be absent, but the cervix, to which the placenta was attached near the external os, apparently occupied by a gestation sac and a foetus 24 cm. long, which was delivered feet first. From the gestation sac access was secured with difficulty into a higher and smaller cavity, regarded as the corpus uteri, the lining of which showed decidual reaction.

42. Simultaneous Intrauterine and Extrauterine Pregnancy.

A. G. J. HERMANS (*Nederl. Tijdschr. v. Geneesk.*, November 6th, 1926, p. 2097), who records an illustrative case, states that the earliest examples of this condition were described by Duverney in 1708, and by Geoffrey in 1722. The rarity of its occurrence is shown by the fact that Weibel in 1905 found only one example among 140 cases of extrauterine pregnancy; 244 cases were collected by von Neugebauer in 1913, and 250 by Sippel in 1922. The situation of the extrauterine pregnancy may be in various parts of the right or left tube, without any predilection for either side. Sometimes an ovarian, tubo-ovarian, or interstitial pregnancy has been found. The age of the patients has ranged from 21 to 42. Most of the patients were multiparae, but Duverney's case was in a nullipara, and one occurred in a woman who had had nineteen children. As regards the maternal mortality, Weibel states that 40 out of 111 died—from infection, septicaemia, haemorrhage, or embolism. Simultaneous intra- and extrauterine pregnancy may end in various ways: (1) Sooner or later the extrauterine pregnancy ruptures and causes the death of the mother, and at the necropsy an intrauterine pregnancy is also unexpectedly found. (2) Shortly before the mother's death expulsion of the intrauterine ovum takes place. (3) After operative removal of the ruptured extrauterine pregnancy the intrauterine pregnancy goes to full term. The case recorded by Hermans occurred in a woman aged 40, the mother of five healthy children, the youngest of whom was 7 years of age. *Symptoms of ruptured extra*uterine gestation developed in the third month of pregnancy, and at the operation, in addition to a ruptured left haematosalpinx, an intrauterine pregnancy of about three months was discovered. The following day, about twelve hours after the operation, miscarriage occurred and a foetus 7 cm. long was born. The mother made a good recovery.

Pathology.

43. The Serological Relations of Acid-fast Bacteria.

J. FURTH (*Journ. of Immunol.*, October, 1926, p. 273), who has made a serological study of the tubercle and acid-fast bacilli, has come to much the same conclusions as those reached during the past two or three years by English workers. This is of all the more interest because the method used chiefly in this country has been agglutination and absorption of agglutinins, whereas the author has used the complement-fixation test, often combined with absorption. The results show that acid-fast bacilli are divisible into four main groups—the mammalian, avian, cold-blooded, and saprophytic acid-fast. With the exception of a single bovine strain, all the organisms of human and bovine origin tested fell into one homogeneous group. In the avian group three subtypes were found; in one of these subtypes Arloing's agglutinable strain and Kedrowsky's non-chromogenic leprosy strains were classified together. The number of strains of the cold-blooded and saprophytic acid-fast types examined was insufficient to result in any definite conclusions on their classification; the strains of the former group showed little *similarity to each other or to other members of the acid-fast* group, whereas the strains of the latter group appeared to conform to one main type. In conclusion the author considers that his observations disprove the old hypothesis that all acid-fast bacilli contain one common antigen, present in varying proportions in different strains; they show rather that the differences between the members are qualitative.

44. The Nature of the Biliary Function.

J. P. SCHNEIDER (*Minnesota Med.*, November, 1926, p. 631) confirms Mueller's theory that unless bilirubin is allowed to flow into the bowel where bacteria can reduce it at least in part into urobilin, the urobilin will disappear from both bile and urine, and not reappear, irrespective of the degree of damage to the liver or of blood destruction. He also agrees with Rous that in normal circumstances the variations in the amount of haemoglobin circulating as blood from day to day find a direct expression in the amount of bilirubin discharged into the bile. Mann showed that the conversion of haemoglobin into bilirubin occurs in the territory of the reticulo-endothelial system as a whole, particularly in the marrow, spleen, lymph glands, and the Kupffer cell areas of the liver. The liver in this respect is an excretory and not primarily [illegible]n, which explains why, in the haemo[illegible]d contains so much bilirubin and not [illegible] is on its way to the liver, not to the kidney. Bilirubin for the liver, as well as the kidney, in man is a "threshold" substance, and its threshold is many times higher than that of urobilin. Schneider describes in detail his tests on liver and gall-bladder function, and believes that it will eventually be found that many bacterial toxic actions do not produce the signs of liver injury in consequence of liver-cell destruction but as a result of haemolytic action. That this blood destruction can be very rapid, and that recovery will occur when the bacterial invasion is transient, is evident from the cases of acute, [illegible] recently reported by Lederer, Brill, a

45. Sedimentation of the Red Cells.

A. FIGUERIDO and L. BILBAO (*Arch. de med., cir. y esp.*, October 9th, 1926, p. 56) record their observations on the sedimentation test, and come to the following conclusions. The so-called *reaction of Fahraeus, which* is not specific, is of value for the study of the course of tuberculosis, especially in patients who have undergone treatment by hygienic measures, sanocrysin, and artificial pneumothorax, since it is more sensitive than other clinical and laboratory methods, and should form part of the routine examination owing to the simplicity of its technique. In gynaecology the reaction is an indication of the intensity of the inflammatory process, whatever its nature may be. The existence of foci with large peripheral walls may pass unperceived by the reaction. Syphilis and anaemia accelerate the reaction. In extrauterine pregnancy with haemorrhage the reaction is not of the same value as in inflammation.

46. Production by Drugs of Reducing Substances in Urine.

R. D. LEAS (*Journ. Lab. and Clin. Med.*, October, 1926, p. 15) recalls that the administration of salicylates, uric acid, creatinine, chloroform, cinchophen, and tolysin cause reducing substances to appear in the urine, giving rise to confusion when the copper reduction test is the only one employed. These drugs, with the exception of tolysin, do not, however, reduce Benedict's solution *in vitro*. The reducing substances rotate the plane of polarized light to the left, and do not produce ozazones nor ferment yeast. They disappear from the urine in from twenty-four to eighty-six hours.

EPITOME OF CURRENT MEDICAL LITERATURE.

Medicine.

47. Muscular Cramp.

G. W. FITZ (*Boston Med. and Surg. Journ.*, October 28th, 1926, p. 854) describes a physiological cure for cramp, based upon a clinical study of about 100 cases. Accepting the alkalosis theory of the cramp state, he aims at rapidly reducing the relative alkalosis of the blood and tissues concerned in this tetanic state by holding the breath and rebreathing, so preventing the escape of carbon dioxide from the blood in the lungs. A rubber-cloth bag of three pints capacity with an opening large enough to cover the nose and mouth, and stiffened with soft copper wire shaped to the face, is pressed tightly to the face in rebreathing, accidental suffocation being impossible since failure of attention allows the bag to fall sufficiently to admit fresh air. At the first sign of cramp the breath is held and the empty bag applied, the breath being released into it as late and as slowly as possible. Since there will be too little air for rebreathing, a little air is sucked in at each inspiration when the bag empties, thus permitting the deepening respirations caused by the increasing venosity of the blood. The process acts so quickly that in some instances the cramp is aborted, while in others it is stopped merely by holding the breath and slow, shallow breathing; but success depends upon treating the first twinge, since a long inspiration or an attempt to speak may allow the cramp to develop sufficiently to require the use of the bag for rebreathing. Fitz considers that alkalosis appears to allow the lower motor nerve cells to act independently of their controls in continuing muscular contractions in opposition to inhibitory stimulation normally producing relaxation; susceptibility to cramp may indicate an overactive respiratory control favouring alkalosis by hyperpnoea, or instability of the neuro-muscular elements which are hypersensitive to slight transitory blood reaction changes. Carbon dioxide retention makes it easy to determine whether alkalosis is an associated factor in tetanic seizures of unknown origin.

48. Herpes Zoster following Injury.

H. T. SCHREUS (*Dermatol. Woch.*, October 30th, 1926, p. 1606) mentions three cases of herpes zoster following lumbar puncture, in two of which the eruption occurred in the region of the puncture, and in the third the vesicles were on the scalp. *This would seem to indicate, as the etiological factor,* some injury to the spinal cord through alteration in pressure, rather than a primary lesion of the ganglia. Similar cases following spinal anaesthesia have been recorded by several writers. It may be that the injury stimulated some latent herpetic infection of the ganglia, or that the eruption followed some injury in a region of lessened resistance. Schreus records the case of a boy, aged 11, who had been treated for Hodgkin's disease for three months by periodical irradiation of the spleen and the cervical and axillary lymph glands. A second series of irradiations was commenced eight months later, the treatment being given every second or third day on the right and left sides alternately. Six weeks later an extensive herpetic eruption appeared over the left side of the neck and the left shoulder and infraclavicular region. The eruption was accompanied by severe pain; some of the vesicles became gangrenous, and the lesions did not heal entirely for fourteen days. The etiology remained obscure.

49. Clinical Forms of Myocardial Infarction.

L. GALLAVARDIN and L. GRAVIER (*Ann. de Méd.*, September, 1926, p. 161), in a paper based on the study of twenty-nine cases, define three varieties of myocardial infarction: (1) forms with a sudden and dramatic onset, usually proving fatal in a few days; (2) those with a subacute and progressive course, lasting for some months and little benefited by treatment; and (3) infarctions with an insidious onset. The first variety, which is much rarer than might be supposed, is probably due to obliteration of a large branch of the coronary artery, giving rise immediately to extensive infarction, or less frequently to a smaller infarct occurring in an already damaged heart. The symptoms may be those of simple cardiac collapse without very marked dyspnoea, sometimes accompanied by Cheyne-Stokes breathing, restlessness at night, and insomnia. In other cases the symptoms are those of pulmonary oedema. The cardiac condition is always associated with a considerable degree of shock resembling that found in peritonitis. Two distinct types of the second variety occur. In the first, which may be described as cardioplegic, the symptoms are those of asystole chiefly affecting the left side of the heart, and consisting in marked breathlessness on the least exertion, nocturnal dyspnoea, and slight attacks of pulmonary oedema. The second type, which is less frequent, is characterized by the cachectic condition of the patients, the dyspnoea, though present, being of less importance. The third variety, of which there were only eight examples in the series of twenty-nine cases, may be subdivided into three groups according as (1) the infarction merely caused an aggravation of pre-existing cardiac insufficiency, as in subjects of Bright's disease or chronic myocarditis; (2) the infarction was accompanied by a syndrome of left ventricular insufficiency, in which digitalis was almost entirely ineffective; and (3) the infarction was entirely latent or larval.

50. Prophylaxis of Measles.

A. L. HOYNE and B. M. GASUL (*Journ. Amer. Med. Assoc.*, October 9th, 1926, p. 1184) remark that the one outstanding objection to the general adoption of convalescent measles serum for the prophylaxis of the disease is the difficulty in obtaining a suitable supply of this agent. The objection to the plan adopted by Rietschel and others of using the serum of adults with a past history of measles is that as much as 30 c.cm. of adult serum must be injected instead of the small doses of 2.5 to 5 c.cm. of ordinary convalescent serum. The present authors administered an immune goat serum, prepared according to Tunnicliff's method, to thirty-nine infants and children exposed to measles; thirty-four were protected and five had mild attacks without complications, whereas of nine infants who did not receive serum all but one contracted measles and two died. Serum rashes occurred in only 13 per cent. of the cases and lasted only one or two days. No untoward results from the serum developed.

51. Congenital Syphilis in Uniovular Twins.

F. WEISS (*Arch. f. Kinderheilk.*, August 7th, 1926, p. 18), who records an illustrative case, states that though congenital syphilis in twins is rare, a twin pregnancy, according to Gallo, is somewhat more frequent in syphilitic than in non-syphilitic women (3.9 per cent. as compared with 2.5 per cent.). Since 1918 only one other case, reported by Fischl and Steinert, has occurred at the German University Clinic at Prague. In Weiss's case the twins resembled each other in their appearance, nutrition, and behaviour as regards exogenous infection (nasal diphtheria). Both developed congenital syphilis at the age of 5 months, the first symptom in both cases being a blood-stained nasal discharge containing *Spirochaeta pallida*. The eruption was absent in one twin and ill marked in the other, who subsequently developed enlargement of the liver and spleen, which did not occur in the first. The onset of the disease was simultaneous in both cases, but the intensity of the symptoms differed in the two infants.

52. Diabetes in Denmark.

A. NORGAARD (*Ugeskrift for Laeger*, October 28th, 1926, p. 982) publishes statistics showing how great has been the increase in the morbidity and mortality from diabetes in Denmark during the past generation. In the decade 1890-99 the deaths from diabetes in Copenhagen and the other Danish towns numbered 402 for men and 271 for women; there was thus a considerable preponderance of male over female cases. In the five-year period 1920-24 the deaths from diabetes throughout Denmark among males and females numbered 1,110 and 1,157 respectively, the sex disparity having ceased to exist. Since 1923 the number of deaths has begun to decline, the deaths for the whole country and both sexes numbering 502 in 1922, 478 in 1923, and 424 in 1924. The author is not sure whether this decline is merely an oscillation depending on those obscure factors which determine the periodic fluctuations of certain diseases, or whether it is a reflection of the influence of insulin. In 1890 there were only 10 cases of diabetes treated in the large hospitals in Copenhagen; by 1911 this number had risen to 107, and by 1924 to 608. In a series of 76 cases in which accurate information was obtainable as to the duration of the disease from start to finish it was found that it was shortest in childhood and in advanced old age. In the insurance age—between 15 and 62—the average duration of the disease from the appearance of its first symptoms to the death of the patient was about five years. The disease ran, on the average, a shorter course in females than in males. The average number of deaths from diabetes in Denmark every year being 468 (the average for the last three years 1922-24), and the average duration of the disease being five years, the author calculates that

there must be between two and three thousand diabetics in Denmark. On the assumption that one-fifth to one-quarter of these patients undergo insulin treatment, it is calculated that the insulin patients number between five and six hundred. During the last eighty years in Denmark the consumption of sugar per head has increased about eight times.

53. Accidental Rashes in Varicella.

UGO DE GIRONCOLI (*Riv. di Clin. Ped.*, September, 1926, p. 623) reviews the literature, including the paper by J. D. Rolleston (JOURNAL, 1907, i, p. 1051), on accidental rashes in varicella, and records two illustrative cases. The transient erythema which may precede or accompany the eruption of varicella is regarded by some as so uncommon that in several textbooks it is not even mentioned. The rash, which is scarlatiniform in six-sevenths of the cases, and may therefore give rise to errors of diagnosis, is characterized by its sudden appearance and localization on the trunk and proximal ends of the limbs, by the fact that the subjacent skin is pale and not yellowish as in scarlet fever, by its rapid disappearance, though it may persist for five or six days, and by the absence of pruritus and subsequent desquamation. The eruption is generally regarded as a toxic erythema induced by paralysis of the capillaries in the cutaneous area which is already affected by various influences usually endogenous in origin. The author's two patients were brothers aged 7 months, the subjects of congenital syphilis, in whom a scarlatiniform eruption appeared on the second and third days of varicella respectively and faded without being followed by any desquamation or albuminuria.

54. The Dick Reaction.

E. KRAMÁR and D. FRANCZISZCI (*Monatsschr. f. Kinderheilk.*, September, 1926, p. 420), as the result of observations on 500 infants and children at the pediatric clinic at Pécs, report that the Dick reaction was positive in 48 per cent. of those who had had scarlet fever and 60 per cent. who had not had it. In confirmation of the observations of von Bókay and Johann it was found that positive Dick tests were most frequent between the third and fifth years. The authors state that in the majority of scarlet fever patients the reaction becomes negative during the disease, but the behaviour of the reaction, however, is not so regular as has been maintained, so that they do not regard the test as of any diagnostic value. Repeated Dick tests on a single individual did not always give similar results, the same person being sometimes found susceptible and sometimes immune. These spontaneous variations in the Dick reaction were found more frequently in debilitated children who had been exposed to different infections than in the healthy. In order to avoid unpleasant results from prophylactic inoculation intracutaneous injection was employed instead of the usual subcutaneous method. By this means it was possible to render the Dick reaction negative in 95.2 per cent. with decidedly smaller doses, so that the severity of the local reaction was considerably reduced and no general reactions were observed.

Surgery.

55. Surgical Treatment of Vesical Tumours.

E. S. JUDD (*Journ. Amer. Med. Assoc.*, November 13th, 1926, p. 1620) thinks that surgeons have been too ready to give up radical operations for malignant disease of the urinary bladder; vesical tumours are for a long time confined to this organ and adjacent tissues, and are therefore pre-eminently suited to surgical treatment. He considers that tumours of the bladder from the standpoint of treatment should be classified in three groups. The first group includes benign tumours, most of which are papillomas and may be treated by endoscopic methods. The diagnosis should be made with certainty, for if there is any question about the nature of the tumour, a radical operation is necessary. The second group should include all malignant cases in which the process is still confined to the bladder and all cases in which the diagnosis is questionable. The treatment indicated is radical removal of the growth and reconstruction of the bladder, if that is possible. He believes that there are certain instances in which the entire bladder should be removed if there should be a reasonable prospect of eradicating the malignancy thus. He has performed total cystectomy many times with excellent results. In most of these cases the operation was for exstrophy of the bladder, and while the operative procedure is entirely different in these cases from that in cases of carcinoma, nevertheless the operation was usually performed on children with poor physical development. The results in these cases show that the procedure is entirely practical, that subsequent function is about normal, and that often these patients have comfortable lives and are able to carry on any ordinary occupation. Although total cystectomy with transplantation of the ureters to the rectum is not an ideal procedure, it should, nevertheless, be performed more often for carcinoma of the bladder. Drainage of the renal pelvis to protect the anastomosis of the ureter to the bowel will reduce the risk in certain cases. With more experience and development of the technique, total cystectomy can be made a reasonably safe and satisfactory operation. Judd adds that too often he has tried to reconstruct the bladder after performing subtotal cystectomy, and the result was a long-continued sinus infection with fatal termination, although the carcinoma did not recur. Total removal in some of the more favourable cases should bring satisfactory results. In the third group should be placed those cases in which the malignant growth was too extensive for removal. If the lesion extends to the perivesical tissues, fixing the bladder firmly to the prostate and seminal vesicals or to other organs in the pelvis, it is not advisable to attempt to remove it. For growths too extensive for radical removal surgical diathermy offers the best prospect. This treatment should be employed in cases in which carcinoma of the bladder is less extensive, if there is some contraindication to the radical operation, such as cardiac or renal disease. Up to the present time the failures have been due to too conservative operative procedures, and often to delay in operating while some less radical plan is persisted in.

56. Malaria and Surgical Operations.

N. N. NASAROFF (*Deut. Zeit. f. Chir.*, November, 1926, p. 330) states that the prevalence of malaria in Russia in recent years has given the operating surgeon several problems to decide. During the last two and a half years Nasaroff has had the opportunity of studying at the surgical clinic of Saratov University 28 cases in which there was a history of malaria from six months to two years previously, and an operation caused a recurrence of the disease. As a general rule the process of healing and cicatrization was slower and the tendency to ulceration greater in these patients than in those who had never had a previous attack. Nasaroff's conclusions are as follows. The surgeon should inquire whether the patient who needs an operation has ever suffered from malaria; he should endeavour to prevent the operation causing a relapse and aggravating the general condition. Malarial patients should not be operated on until the fever had subsided. If the operation cannot be performed, prophylactic administration of quinine is indicated. Surgical affections in persons debilitated by malaria run a protracted course and not infrequently have a bad prognosis.

57. Adenomyoma of the Gall Bladder.

L. BIANCALANA (*Arch. Ital. di Chir.*, October, 1926, p. 539), who records an illustrative case, states that benign tumours of the biliary tract are rare, as is shown by the fact that in 1913 Bravet could only find thirty-eight cases on record. Their situation in order of frequency is the fundus of the gall bladder, the lower end of the common bile duct, the cystic duct, and the hepatic duct. Histologically the tumour may be a fibroma, myxoma, lipoma, myoma, papilloma, adenoma, cystoma, or a combination such as fibro-adenoma, adenomyoma, and so on. Cystic and a lenomatous growths of the gall bladder are the least uncommon and show considerable variations in size. Among 288 specimens from cholecystectomies performed in the course of seven years Abell found a benign tumour in eight, five being adenomata and three simple papillary adenomata. Aschoff and Bacmeister found an approximately equal number (3 per cent.) in the form of thickening of the fundus of the gall bladder and constituted partly by the normal epithelium of the biliary tract and partly by distinctly calciform cells. Four adenomyomas of the gall bladder were described by Louis Nicod at the Pathological Institute of Lausanne in 1921. These were also situated on the fundus of the gall bladder, and ranged in size from a pea to a hazel nut. In Biancalana's case of adenomyoma of the gall bladder, which occurred in a woman, aged 30, who died of septicaemia following abortion, the tumour, which was the size of half a hazel nut and situated in the fundus of the gall bladder, was found by accident at the necropsy, as there was no clinical history indicating its presence.

58. Mesenteric Cysts.

M. CORNIOLEY (*Lyon Chir.*, September–October, 1926, p. 565) records in detail two cases of cysts of the mesentery and discusses the pathology, symptoms, and treatment of this condition. It appears that these cysts may be present for a long period without causing definite symptoms beyond some slight disorders of digestion. Then they may suddenly give rise to urgent signs requiring immediate treatment. The acute onset may start with violent abdominal pain, vomiting, distension, complete constipation, and rapid pulse without

elevation of the temperature. In such cases and in the absence of a palpable tumour a diagnosis of volvulus may be made. An actual volvulus has in some cases been found present together with the cyst. A sign peculiar to this condition is a sense of abdominal ballottement noticed by the patient, while when acute symptoms supervene there is abdominal rigidity over the tumour. The mesenteric cyst is usually found to be movable, while cysts of retroperitoneal origin are generally fixed in position. Rectal and vaginal examination may be useful in diagnosing the condition from other tumours of pelvic origin. The most serious complication is suppuration of the contents, which is associated with rise in temperature; rupture of the cyst may sometimes occur. Treatment consists in removal of the tumour; as a rule there are few adhesions, and the operation may be quite simple. If, however, the intestine is adherent to the cyst it may be necessary to remove a coil of intestine at the same time and perform an end-to-end anastomosis. Occasionally in enucleating the tumour the blood supply to the gut may be damaged and resection again becomes necessary. The results after operation are good and recurrence of the cyst is almost unknown.

Therapeutics.

59. Opium as an Adjuvant to Insulin.

C.-G. DANIELSON (*C. R. Soc. de Biologie*, October 29th, 1926, p. 1058) states that for a long time it has been thought that preparations of opium diminish diabetic hyperglycaemia. Ahlgren recently found that morphine in the presence of glucose stimulates tissue oxidation in a manner similar to insulin, while Ross showed that morphine produced hyperglycaemia. Trendelenburg and other authors think that morphine acts as an irritant on the origin of the nerves of the suprarenal medullary zone, and accordingly provokes an increase of adrenaline secretion. Lewysohn and Klercker have found that a subcutaneous injection of 50 mg. of pantopon (*an opium preparation*) *into dogs leads to no appreciable* modification in the amount of blood sugar, large doses being required to increase the glycaemia. Cannon, McIver, and Bliss, experimenting on cats, and Abe on rabbits, have shown that injections of insulin cause an increase in adrenaline secretion. Since opium has been shown to have a favourable action in the treatment of diabetes it would be expected to give a reaction contrary to the hypoglycaemic one of insulin. *Danielson, in a series of experiments on rabbits, found that* a subcutaneous injection of 0.5 mg. of opium per kilo of body weight caused a hyperglycaemia, attaining its maximum (0.16 to 0.212 per cent.) one and a half hours after the injection, and returning to the normal after two hours. After an injection of 7.4 mg. the maximum (0.132 to 0.234 per cent.) was reached in one and a half hours, the return to normal taking four hours; if 50 mg. were injected the maximum of 0.105 to 0.245 *per cent. was reached in one hour, and the return to* normal in five and a half hours. The amount of insulin injected was always 0.35 Toronto units per kilo of body weight, and this caused a reduction in the blood sugar from 0.045 to 0.132 per cent., the return to normal taking from five to six hours. If insulin and opium were injected at the same time, a less-ening of the insulin hypoglycaemia was obtained only with the largest (50 mg.) dose of opium; with other doses the *hypoglycaemia increased. The author believes that* although opium and insulin stimulate the medullary substance of the suprarenal, causing a hypersecretion of adrenaline, a substance which causes hyperglycaemia, yet the two products increase the hypoglycaemia when administered together, and that opium possesses the power of augmenting the hypoglycaemic reaction of insulin.

60. Modern Treatment of Lupus.

HALKIN, P. FRANÇOIS, and L. DEKEYSER (*Ann. de Derm. et de Syph.*, October, 1926, p. 572) examined 275 patients under treatment for lupus at the Nottebohm Hospital at Antwerp, and conclude that cutaneous tuberculides indicate a generalized tuberculous infection, and demand general treatment. Artificial heliotherapy gave the best results, and clinical observations indicated the superiority of carbon arc lamps; *infra-red irradiation* was not found of use. Tuberculin treatment was only useful in attenuated tuberculosis. Local light treatment caused the least disfigurement in tuberculous lupus. Intensive regional treatment considerably reduced the length of treatment. The authors find carbon dioxide snow useful in many forms of cutaneous tuberculosis; it is indicated in lupus erythematosus. Other methods of local treatment, especially scarification and curetting, combined with pyrogallo-creosote ointments, are said to be useful in some cases; they may be combined with light treatment; *x*-ray treatment proved disappointing. General examination of the lymphatic glands and lungs is important; phototherapy *without this precaution may cause inflamed glands to* suppurate and induce pulmonary complications. The patient's weight and temperature must be watched. Benzyl-cinnamic ether is said to improve the general condition in tuberculous lupus and to hasten healing of the lesions; it has an elective action on pharyngeal and other mucous lesions. Some successes following gold treatment have been reported, but moderate doses may cause headache, fever, and diarrhoea. The older surgical methods of curetting or excision are useful in many cases. The use of high frequency currents has been recommended; this treatment may cure tuberculous skin lesions which have resisted other treatments. This treatment is most rapid and certain in lupus limited to the face, and the scars compare favourably with those resulting from other methods. In extensive lesions prolonged treatment is required. Radium treatment is useful in exuberant forms, and the cosmetic effects are satisfactory.

61. Medical Treatment of Chronic Peptic Ulcers.

D. H. ARNOTT (*Canadian Med. Assoc. Journ.*, October, 1926, p. 1238), believing that patients, even after operation for the cure of chronic gastric and duodenal ulcers, must be just as careful in their diet as before operation, has practised medical treatment for the cure of these conditions during the last twenty years. He follows one general plan of treatment, whether the disease be gastric or duodenal. For one year the patient is allowed only two meals in the day, separated by an interval of five to six hours; nothing but water is allowed between meals. The intention is to secure daily fourteen continuous hours of physiological rest for the stomach and duodenum. Should there be retention of food, the stomach is washed out with warm water four or five hours after the second meal. Fatigue is avoided and the patients are required to lie down for fifteen minutes immediately after meals. With these limitations patients may, as a rule, be allowed to follow their occupations. As regards the diet, fowl and fish are to be preferred to heavy meats, and milk soups are much better than stock soups. Arnott forbids tea, coffee, tobacco, spirits, wine, beer, highly spiced sauces or foods, nuts, bran, brown bread, salads, and raw fruit and cooked fruit containing seeds, such as raspberries; also any other articles of diet which the patient has found to be a source of trouble in digestion. These rules are to be followed for one year, at least. A mixture containing bismuth subnitrate, rhubarb, cascara, and magnesia is continued steadily for six months; the amount of cascara is regulated to ensure one natural action daily.

62. Iodine in Pulmonary Tuberculosis.

ACCORDING to L. DAVID (*Bruxelles Méd.*, November 1st, 1926, p. 31) any case of tuberculosis with limited lesions and of slow evolution is suitable for iodo-therapy. As intramuscular injections are given, injectable iodates must be administered, radio-active camphorated iodine being preferred by the *author. He injects daily for thirty days one ampoule con*taining 1 c.cm., and repeats the injections after intervals of fifteen days, during which all medication is stopped. David mentions thirty-eight cases in which this treatment was employed beneficially with the following results. General euphoria was produced with a constant diminution of asthenia, the fever abated, and the lesions improved, while the weight increased and tachycardia diminished. He *states that the eupnoeic and tonic cardiac action of camphor* must be remembered, but that this is trifling and temporary owing to the small amount present in the injections, and he insists that the treatment of pulmonary tuberculosis with radio-active iodine leads to an arrest of the morbid process and to the disappearance of signs of bacillary toxicity; this substance exerts both a direct antitoxic and also a general stimulo-defensive action.

63. Lumbar Puncture in the Treatment of Epilepsy.

G. P. U. PRIOR and A. T. EDWARDS (*Med. Journ. of Australia*, October 16th, 1926, p. 507) report 53 cases, and call attention to the value of lumbar puncture in the treatment of epilepsy and some allied convulsive disorders; the recovery rate in idiopathic epilepsy was 95 per cent. Benefit, often immediate and complete, followed the withdrawal of from 20 to 60 c.cm. of cerebro-spinal fluid in cases of status epilepticus, and it was found to be desirable to drain thoroughly until a sufficiently low pressure was obtained, as shown by the flow becoming synchronous with respiration. The authors always administered an initial soap-and-water enema, followed, if necessary, by an enema containing 2 drachms of potassium bromide, with 20 grains of chloral hydrate; in the less severe cases these, or even the soap enema alone, will cause a cessation of the attacks. The method was also found useful in convulsions due to arterio-sclerosis and general paralysis of the insane, and, by calming the patient, beneficial results

have been obtained in chronic mania. Improvement occurred in epileptics who were not actually having fits at the time, but who were very restless or even maniacal. Examination of the cerebro-spinal fluid of sixteen patients for acetone gave a positive result in nine; eight of these were in status epilepticus and one was a general paralytic suffering from severe convulsions. Acidosis is said to be common in status epilepticus, and the same metabolic disturbance may cause death without convulsions in epileptics. It is suggested that epilepsy may be the result of an interference with the detoxicating functions of the liver, whereby toxins of normal or abnormal alimentary functions are allowed to reach the systemic circulation.

64. Salol in Urinary Sepsis.

P. BAZY (*Bull. de l'Acad. de Méd.*, November 22nd, 1926, p. 225) recommends salol as a useful neutralizer of the toxins or to destroy the organisms which cause febrile attacks in patients after catheterism. He has found this drug invariably successful in his own cases, and has also used it in cases of acute infection of the urinary tract whether the kidneys were involved or not; the fever rapidly disappeared and recovery was hastened. In apyrexial infections of the kidney and bladder he employs salol when hexamethylene-tetramine has failed, and is inclined to consider that it is the more beneficial remedy. It appears to be most efficacious against infections due to the colon bacillus, but he has found it valuable in cases of mixed infection of staphylococci, enterococci, and *M. tetragenus* with the colon bacilli. He adds that large doses are necessary and advises a total of 40 to 45 grains in the twenty-four hours, given in cachets of 7½ grains, with a warm drink or at meals. He has encountered very few cases of gastric or intestinal intolerance, and only rarely has the urine become black. He considers that such discoloration of the urine is of no clinical importance.

65. X-Ray Treatment of Diphtheria Carriers.

S. WITHERS, J. E. RANSON, and ETHEL D. HUMPHREYS (*Journ. Amer. Med. Assoc.*, October 16th, 1926, p. 1266) state that the treatment of diphtheria carriers by *x* rays was first mentioned by Witherbee in 1921, and later by Witherbee and Remer in 1922. The method owes its feasibility to the fact that the pharyngeal lymphoid tissue is radio-sensitive. The present authors treated fifty-four diphtheria convalescents and carriers with very well filtered *x* rays generated at an actual voltage of 200,000, corrected to a sea-level reading. All radiation was given at 50 cm. target skin distance and filtered through 0.75 mm. of copper and 1 mm. of aluminium. In no case was more than 60 per cent. of an erythema skin dose given. Only two febrile reactions, simulating acute tonsillitis, occurred. Neither lasted more than a week, and both were in subjects of pulmonary tuberculosis. The applications were usually made at the rate of 50 to 100 milliampere minutes to each side of the head weekly. Twenty-two patients with clinical diphtheria, ten of whom were carriers, became negative in an average of 15.8 days after having been positive for an average of 43.3 days. If those carriers were eliminated who had experimental small doses of *x* rays, and those with a complicating pathological condition were also disregarded, there were left twenty-three carriers, with an average positive culture period of 60.9 days, who became negative within an average of 10.9 days after the first *x*-ray treatment.

66. The Use of Atophan in Ophthalmic Practice.

MAILLARD (*Münch. med. Woch.*, October 29th, 1926, p. 1843) describes the treatment of various eye conditions with the synthetic products atophan and cylotropin. Atophan may be given intramuscularly or intravenously, and in cases with a definite rheumatic diathesis good results have been obtained in the treatment of scleritis, iritis, and iridocyclitis, the pain and inflammation subsiding after the second injection. In cases of uncertain etiology, though improvement occurred, it was not so marked. Injections are given daily or even twice daily if necessary. Cylotropin is said to be a stronger and more irritant remedy; it must be given slowly, and if after-effects such as burning in the upper arm, etc., are experienced, atophan may be substituted. Cylotropin has been tried in all kinds of infection of the eye, perforating wounds, and sympathetic ophthalmia; it must be given very early in the treatment, because when suppuration is well established it is almost useless. Half a grain of the sodium salt, with the same amount of sodium salicylate, is given in 10 c.cm. of water. Cylotropin is a combination containing 40 per cent. of hexamine and 15 per cent. of sodium salicylate; its action is believed to be due to the setting free of small quantities of formaldehyde in the blood.

Disease in Childhood.

67. Infantile Hemiplegia Due to Congenital Syphilis.

L. BABONNEIX (*Arch. de Méd. des Enf.*, October, 1926, p. 561) states that few questions have been so keenly discussed as the relation of infantile hemiplegia to congenital syphilis. While some authorities, such as Fournier, Massol, Savy, and Vaglio, maintain the connexion, others, such as Foerster, Freud, König, Young, and B. Sachs, declare that congenital syphilis does not play any part in the development of infantile hemiplegia. This view is also held by a Scandinavian writer, Nill Silfverskiold, from his study of 91 personal cases of infantile hemiplegia. In 12 out of 38 cases of this condition studied by Babonneix evidence of congenital syphilis was found in the form of bone lesions, perforation of the palate, Argyll Robertson pupil, Hutchinson's teeth, rhagades, and a positive Wassermann reaction. Numerous foreign writers have recorded examples of infantile hemiplegia in children whose parents were obviously syphilitic. In other cases of infantile hemiplegia stigmata of congenital syphilis have been found in life, and characteristic lesions of cerebral arteritis or cerebral gummata, with other lesions of visceral syphilis, have been discovered at the autopsy.

68. Endocarditis in Early Childhood.

P. D. WHITE (*Amer. Journ. Dis. Child.*, October, 1926, p. 536) finds that endocarditis in infancy is rare, and that when it does occur it is usually associated with a "septic" infection. Ten infants under 2 years of age died; in nine the endocarditis was septic in origin, and in one rheumatic. In six of the septic cases physical signs of cardiac involvement were absent during life. Acute articular rheumatism and chorea, very rare in infancy, increase progressively in frequency after the age of 2 years, and there is an associated increase in the incidence of endocarditis. Young children with rheumatic endocarditis rarely die. Clinically there is found the loud systolic murmur of mitral regurgitation, often discovered earlier than the diastolic murmurs of mitral stenosis and of aortic regurgitation. The author emphasizes the importance of careful observation of the condition of the heart during and after every infection in early childhood, since even a slight rise of the temperature above normal, or an unexplained malaise, may indicate endocarditis in a child. White adds that the presence or absence of a family history of rheumatic infections should always be determined; it appears to be of considerable importance.

69. Influenzal Enteritis in Infancy.

S. ROSENBAUM (*Monatsschr. f. Kinderheilk.*, September, 1926, p. 441) states that in the University Children's Clinic at Leipzig 698 infants, aged from 6 to 18 months, were treated for influenza during the triennium 1923 to 1925. Of these, 58, or 8 per cent., showed symptoms of dyspepsia, which could be regarded as parenteral. The total number of cases of dyspepsia during the same period and at the same age amounted to 359, of which 98 were of parenteral origin; so that for every three or four cases of parenteral dyspepsia, six were due to influenzal infection. Infants during the first six months of life were chiefly attacked, 46 of the 58 cases being of this age. In most of the cases symptoms of catarrh occurred simultaneously with diarrhoea, and the diarrhoea was often preceded by vomiting, which was regarded as cerebral in character and as the equivalent of shivering in the adult. Mucus in varying quantities was almost always found in the stools, and not infrequently blood. The duration and severity of the diarrhoea varied. Eight children developed symptoms of toxaemia, and all but one died. Ten died of pneumonia after the diarrhoea had more or less subsided, and one died of convulsions. In three cases the cause of death could not be determined. The total number of deaths amounted to 22. Four possible explanations are given of the involvement of the intestines in catarrhal diseases of the respiratory tract—namely, impaired intestinal function due to the general infection, direct action of the toxin, invasion of the intestinal mucosa by the influenzal organisms through the blood, and ingestion of the influenzal organisms.

70. Cyclic Vomiting in Children.

L. T. LEWALD (*Radiology*, November, 1926, p. 410) reports that in a series of 200 children referred for *x*-ray examination on account of chronic disorders of the digestive tract, one-third gave a history of recurrent vomiting without distinction of sex. In most cases the vomiting was associated with lesions outside the stomach, and it is suggested, therefore, that the term "reflex vomiting" should be applied. In one-fifth of the patients a previous diagnosis of acidosis had been made. The *x*-ray findings usually showed disorder of the colon, which was often much enlarged. Pylorospasm, ptosis,

and dilatation of the stomach were also frequently found, but in very few instances was there any evidence of chronic appendicitis. In one case the vomiting was cured by correcting an internal strabismus. The author considers that cyclic vomiting is not an entity, has no specific cause, and is probably reflex in nature.

Obstetrics and Gynaecology.

71. Osteomalacia and Pregnancy.

G. MORETTI (*Ann. di Ostet. e Ginecol.*, September 30th, 1926, p. 597) describes sixteen cases of osteomalacia which were severe enough to cause deformity of the spine and legs, difficulty in walking, and in some cases bony fractures. The majority of the patients were city dwellers, and all except one were aged from 35 to 45; most of them had had rapidly succeeding pregnancies with abnormally prolonged lactations. Poverty and poor hygienic surroundings were usually reported. In one case only did the symptoms appear during a first pregnancy, and in one instance only was rickets noted in the offspring. The average number of pregnancies which had occurred in these patients was eight; an aggravation of osteomalacia during pregnancy, with improvement afterwards, was frequently reported. Not all of the patients exhibited notable pelvic contraction. The administration of calcium, phosphorus, organically combined iron, and cod-liver oil brought about improvement in some cases, but the most striking benefit was observed to follow castration. This, alone or in combination with Caesarean section, was employed in eight cases, with excellent results in five. Moretti adds that oöphorectomy can only be expected to be successful if performed early; otherwise successive pregnancies lead to permanent bony deformities.

72. Cauterization of the Cervix before Hysterectomy.

B. Z. CASHMAN (*Amer. Journ. Obstet. and Gynecol.*, October, 1926, p. 591) states that cervicitis due to gonorrhoea or secondary to lacerations is so common that in the majority of subtotal hysterectomies a diseased cervix is left behind. In such cases the patient may have leucorrhoea, sacral backache, soreness in the pelvis, and the other symptoms due to the chronic lymphangitis or parametritis which results from cervicitis. Moreover, it has been shown that malignant disease occurs in the remaining cervical stump with greater frequency than was generally supposed. On the other hand, subtotal hysterectomy is a less formidable operation than total hysterectomy; there is less extensive opening of the lymphatic spaces, the vagina is not involved, there is less danger of trauma to the ureters, and the exposure is less difficult. In order to secure the advantages of subtotal hysterectomy and eliminate the disadvantages of leaving behind a diseased cervix, Cashman adopts the following technique in benign conditions of the uterus. The cervix is dilated, the entire cervical canal is cauterized, and deep radical incisions are made at the external os extending well into the vaginal portion of the cervix. In this manner the cone-shaped, gland-bearing portion of the cervix is destroyed by a simple, rapid method. If this is done as the first step in subtotal hysterectomy there is accomplished practically all that is obtained by the total operation, the disadvantages of which are eliminated. As a result of this procedure the cervical mucosa and glands are destroyed, the cervix heals smoothly without a lumen, no after-treatment or dilatation is necessary, and the normal vault of the vagina is preserved. The author states that although the most common point of origin of cervical cancer is in the vaginal portion of the cervix, if the infected cervical mucosa is destroyed the danger of cancer of the cervix is eliminated, for it does not occur in the absence of chronic cervicitis. Cauterization of the cervix also provides a sterile field for cutting across the cervical canal in subtotal hysterectomy.

73. The Menopause and Blood Pressure.

H. LEHFELDT (*Zentralbl. f. Gynäk.*, November 6th, 1926, p. 2889) has investigated 111 cases of natural and artificial menopause to ascertain whether a rise of blood pressure, or variation in blood pressure, or both, should be expected as the result of diminished ovarian activity at that time. In every case a detailed examination was made of the urine and of the circulatory and reproductive systems; renal efficiency tests were not performed, but a detailed history of previous illnesses was taken. The pressure was estimated by the auscultatory method with the patient sitting; it was determined daily when possible. The diastolic pressure showed so little deviation from the normal that only the systolic was considered. The upper limit of the normal systolic pressure was taken to be 140 mm. of mercury, and the first estimation was ignored, being usually much higher than later ones. Of the 111 patients, only 16 had a systolic pressure over 140 mm. of mercury; in 9 of these pathological conditions accounted for the rise, leaving 7 out of the 111 with a raised pressure attributable to the menopause. In view of this small number Lehfeldt considers that while in a few cases the blood pressure may be raised by climacteric conditions, it is unjustifiable to speak of menopausal hypertension. In regard to variations of pressure he examined 56 patients in whom an average number of five estimations had been made. A variation of more than 15 mm. of mercury was considered pathological, and 13, or 23 per cent., showed this, the figures being approximately the same for the natural and artificial menopause. Such variation was twice as frequent in women over 45 years of age and in those with high blood pressure. Of 10 with endocrine disturbances 5 showed variation. From these findings the author concludes that pathological variations occur at the menopause, but they cannot be considered characteristic, since they are found only in a minority of cases and may arise from many other causes. Their recognition is important, as they may give rise to the erroneous idea that there is a permanent increase of pressure.

74. Indications for Vaginal Douching.

ACCORDING to S. R. MEAKER (*Journ. Amer. Med. Assoc.*, October 23rd, 1926, p. 1377) the healthy vagina has no need of artificial cleansing, as its natural acidity and normal bacterial flora maintain proper cleanliness at all times, even after menstruation or coitus. The diseased vagina obviously requires more than mere cleansing, which would be simply palliative. The cleansing douche is, therefore, always either unnecessary or inadequate, and by interfering with the normal bacteriology and chemistry of the vagina it may prove positively dangerous. Leucorrhoea, due to endocervicitis, is the commonest complaint for which medicated douches are used. Since endocervical infections, being deep-seated, are out of reach of any surface application, it follows that the douching is practically useless. Alkaline douches are, however, useful for washing away thick, tenacious mucus, and deodorizing ones may be advisable in cancer or fistula, but as a rule medicated douches are of very limited utility; they often irritate the tissues and set up or maintain a vaginitis. Hydrotherapeutic douches are of three kinds—the cold, the short hot, and the long hot. The cold douche is useful in haemorrhage of non-inflammatory origin, and chiefly in the bleeding from inoperable cancer. The short hot douche has a value in the treatment of pelvic hypoplasia and in the atrophic changes of senility. The long hot or depleting douche is one of the most valuable of minor gynaecological measures, and is indicated in all disorders of which chronic passive congestion is a feature. Meaker insists that, in prescribing douches of any kind, it is important to be specific about details; a douche bag should always be used and not a bulb-syringe, and all douches must be taken in the recumbent position.

75. Contraindications to Posterior Division of the Cervix.

B. SOLOMONS (*Journ. Obstet. and Gynaecol. of the British Empire*, Autumn No., 1926, p. 434) gives a list of the disadvantages associated with the operation of posterior division of the cervix, which has been employed for the treatment of dysmenorrhoea, with or without sterility, when there is stenosis of the cervix with acute anteflexion. He states that a partly unhealed scar is left which provokes marked leucorrhoea, and therefore tends to cause, instead of cure, sterility. He thinks that when pregnancy has followed the operation, thorough dilatation would have led to the same result; he doubts whether the procedure of dilatation was efficiently performed in cases where no benefit followed, while a subsequent operation was successful. He reports a case in which carcinoma occurred in the divided cervix, and, while admitting the rarity of such a catastrophe, states that irritation of the cervix is a predisposing factor to cancer in this position, and that a nulliparous woman is less likely to develop cancer of the cervix if she has not had to undergo this operation.

76. The Menopause and Basal Metabolism.

J. T. KING, jun. (*Bull. Johns Hopkins Hosp.*, November, 1926, p. 281), has studied the basal metabolism of a number of women subsequent to both the normal and artificial menopause, and has arrived at the following conclusions. Pelvic operations upon women, such as bilateral oöphorectomy, unilateral oöphorectomy, and hysterectomy, were found to cause no permanent change in the basal metabolism. The basal metabolism following such operations does not differ appreciably from the figures of normal women under comparable conditions. There is in most patients a tendency to put on weight after complete or partial oöphorectomy. Enlargement of the body surface owing to the deposition of fat is associated with a proportionate increase in basal metabolism. King thinks that deposition of fat after oöphorectomy is not due to alteration of basal metabolism, but probably to reduced vigour.

Pathology.

77. The Suprarenals in Diphtherial Infection.

E. A. MOLINELLI (*Rev. Sud-Amer. de Endocrinol.*, October 15th, 1926, p. 902), as the result of a review of the literature and experiments on mice and dogs, reports that mice for the first twenty days after suprarenalectomy are very sensitive to diphtheria toxin, but in thirty to ninety days after the operation recover or even exceed their previous power of resistance. Dogs which have had their suprarenal medulla excised have the same susceptibility to the toxin as healthy animals. Diphtherial intoxication in the dog does not increase the weight of the suprarenal gland and only produces congestion. The adrenaline content is frequently but not constantly reduced. The quantity of adrenaline secreted is the same in intoxicated as in normal dogs; in some of them it was somewhat greater than in the controls. Stimulation of the splanchnic nerve produced a smaller discharge of adrenaline in profoundly intoxicated dogs than in controls. Injection of nicotine gave rise to a smaller increase of adrenaline secretion in intoxicated dogs than in controls. The severe syndrome of diphtherial intoxication, such as vomiting, asthenia, and hypotension, in the dog cannot be attributed to acute insufficiency of suprarenal adrenaline. Adrenaline or total suprarenal extract is indicated in the treatment of diphtherial intoxication.

78. Pathological Changes in Nerve Tissues due to Hypnotics.

D. L. WOODHOUSE and F. A. PICKWORTH (*Brit. Journ. Exper. Path.*, vol. vii, 1926, p. 325), in association with the late Sir Frederick Mott, investigated the histological and histochemical changes found in the central nervous system of cats and monkeys after the administration of hypnotics of the sulphone and barbitone groups for periods ranging from a few days to several weeks so as to detect recent and cumulative effects. Sulphonal and trional were found to cause marked disturbance of nutrition in growing animals. This was less obvious in the case of the barbitone series, with the exception of luminal. Sleep was not induced in cats by any of the drugs, large doses causing coma, followed by death; in monkeys a condition resembling sleep was produced. In all cases where the hypnotics were continued longer than a week numerous mucinoid particles 5μ to 60μ in diameter were discovered throughout the central nervous system, sometimes within the nerve cells, in staining reactions resembling amyloid. Chromatolysis, loss of the Nissl substance, and signs of degeneration were found in the nerve cells of the cerebellum, mid-brain, and spinal cord after intensive treatment with any of these hypnotics. Many phagocytes were present and appeared to be digesting the nerve cells. The authors believe that this mucinoid substance is a metabolic product of the nerve cells which have been damaged by the hypnotics. It may be a product of ordinary metabolism which under these conditions is not removed or is produced in excess. Further research into the neuro-metabolism is being continued.

79. The Significance of Gastric Anacidity.

C. S. KEEFER and A. L. BLOOMFIELD (*Bull. Johns Hopkins Hosp.*, November, 1926, p. 304) state that certain people who have apparently no serious anatomical disease of the stomach fail to secrete hydrochloric acid after the ingestion of a test meal. In an attempt to ascertain to what extent the various factors which are supposed to influence gastric secretions played a part the authors studied the gastric analyses made on 1,500 general medical patients, 780 of whom were males and 720 females, the ages ranging from 10 to 81 years. These patients were divided into three groups—namely, those with digestive disorders, those with diseases not primarily of the digestive tract, and those presenting no evidence of any anatomical disease. These studies showed that age is a factor, and that the frequency of anacidity increases with advancing years, whether organic disease is present or not. While the incidence of anacidity in patients with organic disease was quite high at all ages there was very little difference in people with organic extragastric disease and in those without any organic disease. Radiograms revealed many variations as regards shape, position, and activity of the stomach, but it was found that anacidity was not associated with any one type of that organ. A ten-minute secretion of less than 10 c.cm. of gastric juice was found to be evidence in favour of organic disease, and one of over 15 c.cm. as presumptive evidence of the absence of gross lesions. Apparently the stomach emptied more quickly in anacidity cases. In testing the *p*H of the gastric secretions the authors used dimethyl as a criterion, and also the reaction to histamine, which, if injected subcutaneously, acts as a powerful stimulant to gastric secretion. Their conclusions are that anacidity to dimethyl after the ordinary test meal does not mean that a complete inability to secrete acid exists, and that *p*H determinations after suitable stimuli are necessary to settle this question. They assert that there is no definite correlation between anacidity and any other factor except age, and that it has not been possible to prove that any digestive symptoms are due to anacidity in itself; that the determination of secretory volume and of *p*H before and after histamine is essential; and that the combination of low secretory volume with complete absence of acid is practically diagnostic of serious organic disease of the stomach, whereas large secretory volumes tend to rule out such disease, with the exception of gastric ulcer.

80. Standardization of Laboratory Tests for Syphilis.

C. M. ANDERSON (*Canadian Med. Assoc. Journ.*, October, 1926, p. 1211) thinks that no laboratory procedure gives more trustworthy information than the Wassermann test when properly performed. He mentions the report in 1918 of the Medical Research Council of Great Britain in which it was stated that there was an urgent need for standardization and that it would be well that one standardized method should receive sole recognition and be alone employed for official returns. Following the lead of this committee several workers in Great Britain and the United States began investigations to find a method which could be accepted as a standard procedure. Kolmer in Philadelphia studied every element which enters into the test. He prepared a highly sensitive and specific antigen and found by experiment the proper proportions of all ingredients to use in the test. His experiments, lasting over a period of six or seven years, resulted in what is now known as Kolmer's standardized technique (*Epitome*, 1925, vol. i, para. 109). This method, after thorough testing and comparison with other methods, has been accepted in many parts of the United States and Canada as the standard test. It has been stated, however, that if a positive Wassermann reaction is due to a changed colloidal condition of the patient's serum, and not to the presence of a mysterious "Wassermann substance," the correct course for the future would seem to lie in simplifying the test for syphilis, and making it a direct test for a particular colloidal condition by perfecting the precipitation tests. Flocculation or precipitation tests as a substitute for the Wassermann reaction have been advocated by Meinicke, Sachs and Georgi, Kahn, and others. Kahn's improved precipitation test has been shown to give results very similar to a reliable complement-fixation test. (See *Epitome*, 1924, vol. i, para. 85.) In a series of 15,100 serums tested by Kolmer's complement-fixation technique and by Kahn's precipitation test in the central laboratory of the Department of Health of Ontario, Anderson found that a very close agreement was obtained in the percentage of the specimens giving definitely positive and negative reactions respectively with each method. There was a less close agreement in the results of the weakly reacting serums. In the small percentage of completely divergent results Anderson found that such discrepancies usually occurred in treated cases, though an occasional untreated case, most frequently in the latent and vascular types of the disease, might show a positive reaction in one test and no reaction in the other. The great reliability of the Kolmer method and the simplicity and apparent reliability of the Kahn precipitation test make this combination, in his opinion, the best standard procedure in the serum diagnosis of syphilis which has yet been devised.

81. Intermittent Infection with Tuberculosis.

J. PARAF (*C. R. Soc. de Biologie*, November 19th, 1926, p. 1182) has tried to determine whether the risk of contracting tuberculosis is greater with continuous or with interrupted infections with tubercle bacilli. To one set of guinea-pigs was given daily 1/1000 mg. of living virulent tubercle bacilli for fifteen days; another set was given the same dose every day for a week, and after an interval of eight to sixteen days the injections were repeated for a week. To each set the same total dose was given; the only difference was that in the first set the injections were continuous, and in the second set there was an interruption. Of 59 guinea-pigs in the second set 52 were dead in three months; of 63 guinea-pigs in the first set only 29 were dead in this time; the remaining 34 died between the third and the sixth month. The method of interrupted injection therefore proved more rapidly fatal than the continuous method. These results are in accordance with those of Grysez and Petit-Dutaillis, who found that repeated but continuous inhalations of the tubercle bacillus were much less dangerous than a single massive inhalation. They agree also with observations made by Bernard and Paraf in clinical medicine. These workers found that it was less harmful to an infant to be continuously exposed to tuberculous infection than to have an intermittent contact with its tuberculous parents.

EPITOME OF CURRENT MEDICAL LITERATURE.

Medicine.

82. Epidemic Encephalitis in China.

M. O. PFISTER (*Caduceus*, August, 1926) reports that epidemic encephalitis is not rare in China. In addition to many cases observed in northern parts of the country he has seen five cases in Hong-Kong within a few months, and presumes that by now encephalitis has spread over the whole country. The disease is stated to have first appeared in China in 1919, the patient being a student, and several small epidemics have been reported since. Though occurring throughout the year a marked rise is noted during the winter months, when the weather is dry and cold, with dusty winds—the season of catarrhs of the respiratory tract. The majority of the patients were between puberty and middle age, and were found amongst people who spent most of their time indoors. Many of the patients were students, but there were very few soldiers, a class which furnishes the greatest supply of neurosyphilitics. The clinical picture resembled that seen in other countries, and the Parkinsonian type represented the largest group, constituting 35 per cent. of the cases. Of purely hyperkinetic forms there were twenty cases. Besides small epidemics of acute cases in Peitaiho, fifteen cases of quite a benign character were recorded in Peking from January to March, 1924. Pfister also states that in five patients attacks of compulsory fixation of the eyeballs were observed, and that the "greasy" face is not a characteristic sign of the Parkinsonian type in the Chinese. Since the first incidence of epidemic encephalitis in China the disease has become milder. Most probably it was introduced from Europe through India to the seaports of southern and eastern China.

83. Relapse of Cerebro-spinal Fever after Cranial Trauma.

L. WEITZEL and L. MARTIN (*Presse Méd.*, September 25th, 1926, p. 1211) record the case of an airman who on the day following a precipitate landing in which he sustained contused wounds of the face developed symptoms of meningitis. Turbid fluid was removed by lumbar puncture, showing a predominance of polymorphonuclear cells and numerous meningococci. Death occurred within twenty-four hours. There was no necropsy, but an operation performed after the accident enabled the authors to exclude fracture of the base. On inquiry into the patient's history it was found that he had had an attack of cerebro-spinal fever accompanied by purpura eleven months previously, which had proved very refractory to repeated injections of antimeningococcal serum. The authors regard the case as an example of a relapse rather than of a second attack of cerebro-spinal fever due to persistence of the meningococcus. They believe this is the first example on record of a rapidly fatal relapse of cerebro-spinal fever due to facial trauma.

84. Intestinal Haemorrhage in Typhoid Fever.

G. HUMBLOT (*Thèses de Lyon*, 1926) states that, according to most writers, intestinal haemorrhage in typhoid fever, the frequency of which ranges from 4 to 10 per cent., is accompanied by an immediate and steep fall of the temperature. According to Humblot, however, whose observations are based on the study of 31 cases, this is very far from being the general rule. In only 37 of the 61 haemorrhages which occurred among his patients was there any fall of temperature, which as a rule was only very slight and did not exceed 0.6°C. The 24 other haemorrhages, on the other hand, were followed by an immediate rise of temperature of 1° C. or more. In some cases the fall of temperature, when it did occur, was not immediate, but was delayed for twenty-four or forty-eight hours after the haemorrhage and was sometimes preceded by a transient rise. In the period following the haemorrhage cases may be divided into (1) indifferent cases, in which the temperature is not affected by the haemorrhage; (2) unfavourable or fatal cases with hyperthermia, less frequently with fall of temperature; and (3) favourable cases in which the temperature falls regularly several degrees in a few days till it reaches normal.

85. Epidemiology of Rubella.

M. HASSELMANN-KAHLERT (*Monatsschr. f. Kinderheilk.*, October, 1926, p. 35) describes an outbreak of rubella in the scarlet fever ward of the children's clinic due to the admission of a wrongly diagnosed case. Eighteen days later a boy, admitted thirty-six days previously with scarlet fever, showed a typical German measles rash with enlarged occipital glands; nineteen days later five other cases appeared, eighteen to twenty days five more, and eighteen days later the last one. There were thus 12 cases in a ward of 20 children; the grade of infectivity was not high as these eight escaped, in seven of whom no history of previous infection could be obtained. Five patients resisted successfully the first exposure to infection but succumbed to the second; in two this lessened resistance was accounted for by attacks of otitis media in between. The outbreak was interesting as providing opportunity for accurate observation. The author considers that it proved that rubella is a definite disease, and also showed the difficulty in distinguishing between its rash and that of scarlet fever. No prodromal symptoms were seen although careful watch was kept. In all cases the auricular and occipital glands were enlarged; there was little general disturbance, only two cases showing any rise of temperature, and no complications were met with. The incubation period was between eighteen and twenty days.

86. The Septic Tank and Protozoa.

J. J. VAN LOGHEM and A. CHARLOTTE RUYS (*Nederl. Tijdschr. v. Geneesk.*, November 13th, 1926, p. 2249), as the result of their observations on the biological processes in a small glass septic tank, came to the following conclusions. The fluid of a properly working septic tank may not only lose the power to destroy pathogenic organisms such as typhoid bacilli, but, even under favourable circumstances, may be extremely slow in recovering this power. The effluent of a septic tank is thus an extremely unsatisfactory fluid from the hygienic standpoint. On the other hand, the tests showed that the activated sludge method deserves more attention. In any case the high oxygen content of sewage so treated favours the presence of protozoa, which play a very important part in the purification of sewage.

87. Cerebral Tumours and Psychoses.

A. GORDON (*Med. Journ. and Record*, November 3rd, 1926, p. 555) observes that while all cerebral changes, gross or fine, may be accompanied by mental disturbance, the evidence is increasing that local brain changes do not act as the primary and sole etiological factor in production of mental disorders, but rather as excitants. He reports eight cases in which somatic symptoms were overshadowed by mental phenomena. A woman, aged 40, with a basal dural endothelioma compressing the left frontal lobe, exhibited temporary mild confusional states, loss of memory, transient exuberance, capriciousness, and olfactory hallucinations. A man, aged 39, with a large cystic mass in the left temporal lobe, compressing the entire left hemisphere, especially the frontal area and the bulbar region, showed symptoms of increased intracranial tension—vertigo, insomnia, headache, concentric contraction of visual fields, especially on the right, without fundal changes, and bilateral deafness. He had marked disorientation, puerilism, confusion, and mild delirium, with illusions of identity. In a case of glioma involving the left supramarginal and angular gyri, the posterior third of the first left temporal convolution, compressing and encroaching on the left frontal lobe, the patient had had bilateral optic neuritis, vomiting, persistent headache and insomnia, with occasional generalized epileptiform convulsions, and manic-depressive symptoms with puerilism. Another patient, aged 50, had two cysts of the right frontal lobe. The patient had had mild left hemiplegia, double optic neuritis, occasional convulsions of the right arm and leg, and occasional severe headache. Manic-depressive symptoms were present, with pronounced euphoria, transient confusion, and disorientation. The patient died in an epileptiform attack. A man, aged 37, with sarcoma in the left sylvian fissure, had suffered from severe headache, double optic neuritis, and one attack of motor aphasia. The patient had frequent maniacal attacks, when he was boisterous, boastful, restless, impatient, and aggressive, with delusions of persecution and visual hallucinations. The intensity of his delusions and his aggressiveness suggested paranoia, while the contracted pupils, increased reflexes, and occasional right extensor plantar reflex suggested general paralysis. A haemorrhagic cyst of the right frontal lobe was found in a patient who had hadsevere paroxysmal headache and vomiting, slight left hemiplegia, and unilateral optic neuritis. There were manic-depressive symptoms with pronounced euphoria, puerility, confusion, and disorientation. The patient died suddenly. It appeared that when manic-depressive symptoms were present the frontal and temporal lobes were particularly involved. Confusion and disorientation were present when the frontal lobe was compressed from a distance. In all cases the frontal lobes were more or less

involved. The author suggests that these cases indicate the possibility of a connexion between the mental symptoms and the cerebral disease associated with or caused by neoplasms, more particularly when the frontal lobes are invaded. On the other hand, many cerebral tumours are unaccompanied by mental disturbance; therefore, this connexion is not absolute, and must be regarded only as a secondary etiological or pathogenetic element. The variations in the clinical pictures, which show a striking difference between the classical psychoses and those associated with cerebral tumours, indicate that the subjacent psychopathic state is constantly being disturbed by the progressive organic disease. Gordon concludes that the psychogenic disturbances are fundamental, while the brain lesions are only contributory to the development of psychoses.

Surgery.

88. Epigastric Hernia.

J. FRIEDENWALD and T. H. MORRISON (*Journ. Amer. Med. Assoc.*, October 30th, 1926, p. 1466) consider epigastric hernia to be more common than is generally thought, and add that the intensity of the symptoms is frequently entirely out of proportion to the physical signs. Since the symptoms often simulate those of other abdominal affections the possibility of an epigastric hernia ought to be borne in mind in the differential diagnosis of gastro-intestinal disorders. Many of these hernias are reducible and disappear in the recumbent posture, and are therefore overlooked when patients with abdominal disorders are examined while lying down. The authors report sixty-five cases, the hernia being reducible in thirty-seven of these. They state that the condition is found mainly in men, is rarely noted before the eighteenth year, and occurs for the most part between the ages of 20 and 50, especially in patients subjected to strain on the abdominal muscles. Two types are recognized, the protrusion in the first being a preperitoneal mass of fat united to the peritoneum by a pedicle, while the second is a true hernial formation, with a canal, a sac, and contents. The first variety is by far the most common and is ordinarily small. The symptoms include local tenderness on pressure, and pain, probably produced by dragging on the falciform ligament of the liver. In about half the cases the symptoms become aggravated and may take the form of intense paroxysmal pain in the epigastrium, especially on exertion, overeating, or after coughing. The pain is frequently associated with loss of appetite, vomiting, flatulence, and constipation, and occasionally with haematemesis and diarrhoea. The radical operation is the best form of treatment, according to the authors, and should be employed unless there is some definite contraindication; post-operative relapses are infrequent.

89. Vesical Calculus in a Child.

L.-D. DOUBRÈRE (*Bull. et Mém. Soc. Nat. de Chir.*, November 17th, 1926, p. 1038), in view of the rarity of vesical calculi in children, records an example of this condition in a boy aged 13. He had been troubled with urinary symptoms for several years, including frequency, pain, and sudden interruption of the flow. A calculus was felt on rectal examination and this was confirmed by a subsequent radiogram. The stone was removed by suprapubic lithotomy owing to its large size and the narrowness of the urethral meatus. The calculus was very friable and broke into pieces during its removal. The bladder was drained, and all progressed satisfactorily for six days, when the boy, during micturition, was seized with sudden pain in the perineum; examination showed that a fragment of calculus was impacted in the urethra. This had to be removed by perineal urethrotomy as it was firmly impacted. The subsequent history was uneventful. The calculus itself measured 5 by 3 cm. and weighed 61 grams.

90. Treatment of Contracture of Lower Extremities.

S. KOFMAN (*Zentralbl. f. Chir.*, November 20th, 1926, p. 2976) discusses means of immobilization and extension in tuberculosis of bones and joints and advocates the use of the plaster-of-Paris bandage. In cases with sinuses and open wounds heliotherapy, though most beneficial, does not correct contractures or prevent their formation. Kofman, therefore, uses sandbags during the sun treatment. In spinal cases the patient lies prone and sandbags are placed on the sacral region, their weight beginning at 5 lb. and increasing gradually. Some improvement soon follows and it becomes possible to stretch the drawn-up legs. The treatment causes no pain or irritation and is easily given; patients become interested, watch their progress, and help to regulate the weight used. It is also suitable in coxitis to correct the bow legs. To straighten flexion contracture and counteract subluxation the patient lies on the back, chaff cushions are put under the heel and just under the head of the fibula, and the sandbag is laid on the knee-joint; if this is sensitive chaff cushions are also placed under the leg. Treatment in this position is more difficult and troubles a sensitive patient more than the first. During the night and when there is no sun the patients wear plaster-of-Paris appliances.

Therapeutics.

91. The Treatment of Hypertension.

R. H. ROSE (*Med. Journ. and Record*, December 1st, 1926, p. 704) reports that in many cases of hypertension, unconnected with Bright's disease and other serious conditions, the diastolic pressure may be reduced 50 per cent. of its advance above 80 mm. and the systolic pressure may also be reduced to the same extent of its rise above 120 mm. After reduction the pressure can generally be maintained at the lower point. The majority of patients were obese, and of middle age, but some were older, even over 70 years. Rose finds that treatment by vaso-dilators does not remove the cause, and recommends strict dieting, endocrine medication, and the treatment of focal infections, including the alimentary tract. Terry has stated that most fat women who seek treatment have hypertension, usually without symptoms of nephritis, diabetes, or syphilis; a high protein, low calorie diet causes a decrease in weight and in blood pressure. Fisk found that it was not uncommon for a fall in blood pressure, 1 mm. per pound, to accompany reduction of weight by diet and exercise. In an analysis of 17,000 life assurance cases Fisk found no preponderance of hypertension among smokers or among those on a high protein diet, but in a group of 2,145 obese patients hypertension occurred in 14.9 per cent., as compared with only 6 per cent. of persons of normal weight. In arterio-sclerosis, with commencing circulatory failure, treatment is contraindicated, since here hypertension is the lesser of two evils, and with reduced pressure cerebral thrombosis or gangrene in a limb might follow. Rose recommends the administration of extracts of the thyroid gland, the corpus luteum, or the ovary, with cathartics containing bile salts or occasional doses of Epsom salts, and a diet consisting chiefly of milk, green vegetables, and fruit. He describes five cases, in which the ages were between 50 and 70. The average reduction in pulse rate was 25, in diastolic pressure 22 mm., in systolic pressure 66 mm., and in weight 11 lb. The results were best in recent cases. Dyspnoea, palpitation, and tinnitus were relieved, and commencing cardiac failure was benefited. No claim is made for reduction in the high blood pressure of Bright's disease, although in some cases albuminuria due to renal congestion disappears.

92. Antitoxin Treatment of Scarlet Fever.

J. F. ANDERSON and G. F. LEONARD (*Amer. Journ. Med. Sci.*, September, 1926, p. 334) state that 130 severe and moderately severe cases of scarlet fever in three institutions in three different States were treated with antitoxin prepared by the immunization of horses with filtered toxin, while 84 mild cases in the same institutions in which no antitoxin was given served as controls. Among the 130 patients, some of whom were very ill with marked toxaemia, no deaths occurred and there were only 4.6 per cent. with complications, none of which were severe or required surgical intervention. No deaths occurred among the 84 mild cases, but 28.6 per cent. had complications and sequels of varying degrees of seriousness, such as severe otitis, mastoiditis, and suppurative cervical adenitis. The authors conclude that a properly prepared and standardized scarlet fever antitoxin is effective in the treatment of scarlet fever, saving life and reducing the severity and frequency of complications.

93. Non-specific Protein Therapy in General Paralysis.

IN a preliminary report, M. M. KUNDE, G. W. HALL, and F. J. GERTY (*Journ. Amer. Med. Assoc.*, October 23rd, 1926, p. 1376) state that the beneficial effect of malarial inoculation in some cases of general paralysis is now well established. The basic theory of von Jauregg, who instituted the treatment, is that the therapeutic benefit is due to the increased temperature resulting from the malarial paroxysm, and this theory is supported by the favourable results reported after subcutaneous injections of tuberculin, the effect of inoculations with the organism of relapsing fever, and the remissions in the nerve [illegible] an
panied by [illegible] ate
available strain of tertian plasmodium, the [illegible]
(from 8 to 12 per cent.) due to malarial treatment, and the method of temperature regulation following the intravenous injection of proteose or typhoid vaccine, led the authors to investigate the effects in general paralysis of intravenous

injections of foreign proteins. Twelve patients with advanced general paralysis received intravenous injections of foreign proteins in quantities sufficient to produce a chill and fever, which resembles the malarial paroxysm, and their improvement was considered sufficient to warrant a preliminary report. The onset of the chill is stated to occur from half an hour to two hours after the injection, and lasts from fifteen to thirty minutes; the temperature reaches its maximum about four hours after the injection, and the fastigium varies from 102° to 104° F. At the onset of the chill a leucopenia is found, followed by a sharp rise, which may reach 30,000 per cubic millimetre from six to eight hours after the injection. The advantages of this method of treatment are that the chills can be produced at will; that the height of the temperature can be approximately controlled by regulating the dose; that the leucocytosis may be of value; and that the patient is not inoculated with a disease-producing organism.

94. Yeast in Pulmonary Tuberculosis.

R. LECOQ and P. FOURNIER (*Bull. Soc. de Thér.*, October, 1926, p. 217) remark that while the necessity of Koch's bacillus in the etiology of tuberculosis is incontestable, the subject must also be susceptible to tuberculous infection, especially as tuberculosis in the adult is usually due to the recrudescence of latent tuberculosis contracted in childhood. In addition to the pulmonary symptoms, considerable importance must be attached to the primary signs of tuberculous infection, which include digestive symptoms, such as anorexia and dyspepsia, and nervous symptoms, such as insomnia and palpitation. In view of the resemblance of the general symptoms of tuberculosis to those found in avitaminosis B the authors have administered vitamin B sensitized by manganese in the form of six pills a day about a quarter of an hour before each meal. In every case the yeast extract had a distinct action on the general nutrition of the patients. A gain in weight resulted without any change in the diet. The yeast extract was found effective in relatively small doses, no further improvement being obtained by increasing the dose to ten pills a day.

95. Administration of Iron to Anaemic Infants.

H. DORLENCOURT and Mme CALUGAREANU-NANDRIS (*C. R. Soc. de Biologie*, October 29th, 1926, p. 1038), as the result of experimental work, conclude that although the elimination of iron by the female mammary gland is normally only about 2.5 mg. per litre of milk, yet it can be increased by administering iron by the mouth. Ten normal women were subjected to a strict dietetic and medical régime, and it was found that the ingestion of iron generally augmented the elimination of this substance by the mammary gland, but that this increase was variable in degree and in the date of its appearance. They recommend that the mothers of anaemic infants should be given ferruginous preparations.

Dermatology.

96. Diaper Dermatitis in Infants.

J. V. COOKE (*Arch. Derm. and Syph.*, November, 1926, p. 539) states that Jacquet, in 1886, distinguished from congenital syphilis, with which it had previously been frequently confused, a dermatitis affecting infants almost exclusively, limited to the diaper area, and consisting of an erythematous papular or papulo-vesicular eruption, frequently with superficial erosions. Cooke adds that this dermatitis is caused by ammonia in the diaper and is therefore a dermatitis venenata. The ammonia is produced in the wet diaper *in situ* by the growth of a saprophytic bacillus (*B. ammoniagenes*) which splits the urinary urea into ammonia. This organism is derived from the intestinal contents, and infects the diaper area as a result of soiling by faeces. The use of diapers dried after impregnating with an antiseptic such as mercuric chloride (1 in 4,000) causes a prompt cessation of ammonia formation and rapid disappearance of the skin lesions.

97. Congenital Ichthyosis.

FRANKENHAUS (*Monatsschr. f. Kinderheilk.*, September, 1926, p. 310), who reports a personal case with a review of the literature, states that the first important work on this subject was published in 1900 by Riecke, who collected fifty-four cases and distinguished the three following groups according to the severity of the attack. The first consists of those cases in which all the symptoms are fully developed at birth, the whole body being covered with thick tough horny shells which may be as much as half a centimetre thick. The hands and feet are generally free, but are often clubbed. Death usually occurs in three days; the longest survival has been nine days. The second group consists of cases in which the symptoms appear in a more or less mild form, one part of the body being affected while the rest escapes. The hands and feet show the same malformation as in the first group, but survival is longer. In the third group the manifestations of the disease are absent or only slight at birth, and do not develop until days, weeks, or months later; survival depends on the severity of the attack. Frankenhaus's case, which belonged to the first group, was a first-born child, who showed not only considerable skin changes, but also marked deformities of the hands, feet, and face. Death, preceded by symptoms of septicaemia, occurred on the fifth day of life, and at the necropsy a well marked hyperaemia of the internal organs was found.

98. Dermatomyositis.

J. S. MCLESTER (*Journ. Amer. Med. Assoc.*, December 11th, 1926, p. 1990) reports a case of dermatomyositis in a woman, aged 50, after a violent attack of tonsillitis. The onset was gradual, both dermatitis and myositis appearing together. The skin manifestations at first closely resembled those of lichen planus; later there was a general dermatitis. The skin of almost the entire body was red, fairly smooth, and markedly thickened, with symmetrical lines of sharp demarcation, along which were vesicles similar to those of lymphangioma circumscriptum. There were also areas of telangiectasis and flat atrophic scars. Several months later, when the acute manifestations had subsided, typical arsenical keratosis appeared in consequence of the administration of much arsenic during treatment; other symptoms included extreme weakness, involving chiefly the legs and arms, pain, with diminution of reflexes, oedema, and contractures at the elbows, with a secondary anaemia of moderate degree and a slight mononucleosis. The author discusses the possibility of a bacterial etiology and mentions the suggestion by Theobald Smith that the disease may be due to the infection of the muscular system by sarcosporidia from an animal such as the pig.

Obstetrics and Gynaecology.

99. Diet in Pregnancy.

L. V. FRIEDMAN (*Boston Med. and Surg. Journ.*, November 25th, 1926, p. 1015), realizing that prolonged labour and undue size of the child probably account for most operative deliveries, reports the results of an attempt to restrict the size of the child, and so shorten the second stage of labour, by limiting the diet of the mother during pregnancy. It was found that a marked decrease in the length of the first stage was also produced, even more constantly. Comparative freedom in diet was permitted unless the weight, taken once a month, showed a greater gain than half a pound a week. A limit of one moderate helping of each dish was advised, and no meals were omitted. If the gain at the end of a month was found to be less than half a pound a week more food was given; if the gain was greater, a strict diet was enjoined, from which all sweets, potato, macaroni, and soups were eliminated, but two tablespoonfuls of cereal food once a day and one slice of bread at each meal were given to guard against acidosis. The patient's weight was then checked weekly and the diet modified as required. An ample calcium and vitamin content was ensured by the use of milk or butter and green vegetables or fruits. Friedman states that patients dieted from the twelfth to the fortieth week of pregnancy, so as not to gain more than half a pound a week, showed less hyperacidity and flatulent discomfort and that there was a marked decrease in the length of the first stage of labour, with coincident diminution in the number of operative deliveries, while the children, being smaller, were less prone to birth injuries. There was also less likelihood of post-partum haemorrhage.

100. Cancer of the Cervix Treated by Radium.

LILIAN K. P. FARRAR (*Surg., Gynecol. and Obstet.*, December, 1926, p. 719) calls attention to the reaction of the tissues to radium in the treatment of cancer of the cervix and the etiological importance of lacerations. At the Women's Hospital in the State of New York all patients treated with radium were encouraged to return for inspection once a month for five years or longer, and the reactions were found to be so nearly uniform that it was possible to predict the appearance of the cervix each month in cases progressing favourably. Five stages were noted: (1) a stage of hyperaemia one week after the initial dose, the carcinoma and adjacent vaginal mucosa being intensely red and hyperaemic; (2) three weeks later the cervix usually showed an extensive green slough, with foul discharge from the broken-down carcinomatous tissue; (3) two months after irradiation the appearance was that of healing, the slough having separated, leaving a smooth, clean, dusky red cervix without any clinical signs

of carcinoma; (4) a month later a stage of contraction caused by the development of connective tissue appeared; (5) the stage of marked contraction seen at subsequent examinations. Occasionally this shrinking of the cervix tightly closes the internal os and is accompanied by abdominal pain and signs of sepsis, which can be immediately relieved by dilatation and the discharge of purulent or bloody fluid. This may have to be repeated in women of the menstruating age. From a study of 300 consecutive histories of cancer of the cervix repeated traumatizations of the cervix by labour or miscarriage appear to exert an important influence upon the occurrence of carcinoma. Careful palpation and visual inspection of every cervix immediately after confinement is advised, with the performance of trachelorrhaphy as a means of lessening the danger of cancer development, and, where this is contraindicated, secondary repair should be effected later.

101. Treatment of Uterine Fibromyomata.

J. C. MASSON (*Journ. Amer. Med. Assoc.*, November 6th, 1926, p. 1530) states that unless a uterine fibromyoma causes dangerous symptoms, discomfort, or possibly sterility, it may not be advisable to treat it. The danger of malignant degeneration is said to be slight, sarcoma developing in about 2 per cent. and carcinoma in about 4 per cent. of cases treated surgically. Masson thinks that radium treatment is advised too frequently, and accounts for many unsatisfactory results. Radiotherapy is indicated for all patients older than 40 who have tumours of less than 15 cm. in diameter with menorrhagia as the principal complaint; in patients under 40 who refuse operation, or if a major operation is considered dangerous; in all cases of uterine fibrosis; and in essential uterine haemorrhage. The indications for surgical treatment are: age less than 40 years; pain or vesical irritability; tumours of more than 15 cm. in diameter; pedunculated or submucous tumours, or those undergoing degeneration or inflammation; tumours other than fibromyomata; and complications necessitating laparotomy. Abdominal myomectomy is said to be the operation of choice for the majority of patients under 40 years; vaginal myomectomy is indicated when the tumour presents through the cervix. Subtotal abdominal hysterectomy should be performed in women under 40 only when it is necessary to remove the greater part of the body of the uterus, and when the cervix is healthy. Total abdominal hysterectomy is best when any lesion other than carcinoma exists in the cervix and laparotomy is advisable, or when the history suggests malignant degeneration in the fibromyoma or an associated malignant condition in the body of the uterus. The author describes the case of a woman, aged 51, with fibroids for which radium had been advised. Menstruation was normal and there was no leucorrhoea. The uterus contained multiple small fibromyomata, and total abdominal hysterectomy with removal of tubes and ovaries was performed. The pathological examination showed numerous fibromyomata, hypertrophied endometrium, cystic cervicitis, multilocular cystic oöphoritis, two epitheliomatous nodules in the left ovary, and another in the fimbriae of the left tube, right chronic salpingitis, and chronic appendicitis. This case illustrates the difficulty of recognizing early malignant disease.

Pathology.

102. Conditional Reflexes in Immunity.

PAVLOV has demonstrated that by combining the showing of food to a dog with the sounding of a gong or rubbing a particular portion of its skin the salivary flow occurred eventually when the gong was sounded or the skin rubbed, in the complete absence of food; such a reflex depending on a conditional stimulus was called a conditional reflex. S. METALNIKOV and V. CHORINE (*Ann. de l'Inst. Pasteur*, November, 1926, p. 893) believe that such reflexes play a part in immunization. Guinea-pigs were given daily intraperitoneal injections of tapioca, *B. anthracoides*, or a staphylococcal filtrate; at the same time a portion of the skin was heated or rubbed. In the peritoneal fluid of these animals a great increase in leucocytes occurred, particularly between the first and third days after the injection, accompanied by a regular change in the differential count. After fifteen to twenty injections the animals were rested for a fortnight. Then, without any fresh injection, the skin was rubbed or heated. Examination of the peritoneal fluid revealed an increase in the number of leucocytes and the characteristic changes in the differential count. Having established the occurrence of a conditional reflex in these animals, they sought to use this in protection experiments. Two guinea-pigs that had received twelve doses of staphylococcal filtrate accompanied by rubbing of the skin were rested for ten days; the skin was then rubbed several times in the usual way. The following day both of them, together with a control animal, were injected intraperitoneally with one-twenty-fifth of an agar slope culture of *V. cholerae*; the control animal died in six hours, but the experimental animals survived. Several other experiments of a similar nature are recorded, and it is concluded that conditional reflexes may play an important part, not only in immunity, but in disease. The authors emphasize the importance, in such conditions as asthma, cardiac troubles, and neuroses, of breaking the patient's habits so as to remove the conditional stimuli which are so effective in precipitating an attack.

103. The Estimation of Indican in the Blood and Urine of Normal Persons.

S. CABRINI (*Il Morgagni*, November 7th, 1926, p. 1409) has estimated the titre of indican in the blood and urine of normal persons, paying special attention to alterations produced by different diets. He withdrew 20 to 40 c.cm. of blood and mixed the serum with an equal quantity of 20 per cent. trichloracetic acid. The precipitate was filtered off, and to every cubic centimetre of the filtrate two drops of a 5 per cent. solution of thymol in alcohol were added. After shaking, and adding 2 c.cm. of Obermeyer's solution, the mixture was allowed to stand for twenty minutes. To extract the colouring matter 2 c.cm. of chloroform were used: the mixture was again shaken, left for four hours, and then examined for the violet colour that is characteristic of a positive reaction. By this technique it is possible to detect as small a quantity of indican as 0.0032 gram. To titrate the amount of indican exactly the serum was diluted in varying proportions, and that dilution which just gave a positive reaction was held to contain the reacting quantity. In testing for indican in the urine a 5 per cent. solution of lead acetate was added in the proportion of 1 part of solution to 4 parts of urine. The mixture was filtered, diluted to the required extent, and the further examination conducted as already described. An examination of five normal women gave the following results: On a milk diet the indican titre of the blood varied from 0.0265 to 0.0533 mg. per 100 c.cm. of blood, giving an average of 0.04 per cent. On Cantani's diet—3 rolls, 2 eggs, 150 grams of meat, and some green vegetables—the indican varied from 0.040 to 0.064 mg. per 100 c.cm. of blood, giving an average of 0.052 per cent. On the ordinary mixed No. 2 hospital diet the indican varied from 0.064 to 0.080 mg. per 100 c.cm. of blood, giving an average of 0.072 per cent. Thus the amount of indican in the blood was least on a milk diet and greatest on a mixed diet. In the urine the amount varied from 0.32 to 6.4 mg. per 100 c.cm. This variation, it will be seen, was very much greater than that in the blood. It was found, moreover, that there was no correlation between the degree of indicanaemia and indicanuria; in many instances the amount of indican in the urine was high when that in the blood was low, and vice versa.

104. The Wassermann Test in Pregnancy.

E. KIENE and A. MAHNERT (*Zentralbl. f. Gynäk.*, November 13th, 1926, p. 2930) have investigated 1,101 patients admitted to their clinics during the first six months of 1926 in pregnancy, labour, or the puerperium, and with or without a history of syphilis. In every case the Wassermann and Meinicke tests were performed. In 79 pregnant women there was delayed haemolysis; 43 of these proved to have syphilis, 36 were doubtful. The serum of pregnant guinea-pigs was found to give seven times the number of positive reactions that serum from male animals did; the authors believe this to be due to the addition of the delaying factor in the blood of the pregnant animals to that of the pregnant woman, and that this proves the presence in serum during gestation of metabolic products giving a non-specific reaction. This was confirmed by the large number of positive reactions found in spring, when the animals of which the serum was used were often pregnant. Allowing for all fallacies 1 per cent. positives remained unexplained, and the authors conclude that in a small number of cases pregnancy causes a rise of the specific or non-specific delaying factor in the serum. They add that in testing for syphilis in pregnant women and after labour the serum required for complement should be taken from non-pregnant animals. Additional precautions are the use of a precipitation test besides the Wassermann; examination before and after labour, since the Wassermann test is often positive before and negative subsequently; and in doubtful cases the cord and placenta should be examined for spirochaetes and vessel changes. Two types of infection of infants are distinguished—namely, that through the placental circulation weeks or months before birth, in which the clinical appearances may be present at birth or appear immediately after, and, secondly, infection occurring during labour via the cord, in which the clinical signs appear only after an incubation period. Two procedures may be necessary to demonstrate syphilis in doubtful cases: repeated neurological tests, and *x*-ray examination before the fourth month, after which the appearances may be confused with those due to rickets or scurvy.

EPITOME OF CURRENT MEDICAL LITERATURE.

Medicine.

105. Myocarditis and Collapse in Typhoid Fever.

DISCUSSING the occurrence of sudden death in typhoid fever R. DE BRUN (*Presse Méd.*, December 1st, 1926, p. 1507) states that the signs of myocarditis in this disease can be divided into two groups—defective tonicity of the cardiac muscle itself, and troubles of rhythm. The muscular changes are the commoner, and comprise a left and often also a right gallop murmur, attenuation followed by disappearance of the first sound, and an embryocardia, which is almost always accompanied by tachycardia. The symptoms of myocardial insufficiency can predominate in one or other of the ventricles. On the left the symptoms are the gallop murmur, signs of bilateral congestion of the bases of the lungs, increase of the cardio-hepatic dullness, a functional mitral murmur, and exceptionally a pulsus alternans; and on the right the disappearance or attenuation of the first sound, the gallop murmur, and a more or less marked cyanosis. Besides sudden death, other dramatic complications ensue in typhoid fever, and the author describes two—the malign syndrome and typhoid collapse. The symptoms of the syndrome are an accelerated irregular pulse, a lowered arterial tension, intense prostration, frequently vomiting, and a green, foetid diarrhoea. The prognosis is usually hopeless, death supervening in five or six days. The collapsus typhosus is signalled by a fall in temperature and in tension, a remarkable alteration in the facies, cyanosis, intense peripheral coldness, tachycardia, and, more rarely, polypnoea. There are two theories as to the pathology of this condition—the cardiac and the bulbar; de Brun inclines to the latter, judging that cardiac insufficiency alone cannot account for the symptoms. He maintains that an impregnation of the bulb involving a paralysing of its different centres with the typhoid toxin occurs, and that this explains the intimate relation between the collapse and sudden death.

106. Arachnidism.

E. BOGEN (*Arch. Int. Med.*, November 15th, 1926, p. 623), who records an illustrative case, states that within recent years fifteen cases of arachnidism, or spider poisoning, have been treated at the Los Angeles General Hospital. All the patients were males, aged from 2 to 65, but more than half were young adults. Most of the cases occurred in the evening or early morning in the summer or early autumn. The spider was located in a water-closet in eleven instances, in a factory once, and in a bed once. In ten patients the bite occurred on the penis, in two on the scrotum, and in two on the back. Bogen remarks that though entomologists and arachnologists are almost unanimous in asserting that spider bites are harmless, the positive coincidence of hundreds of careful observations cannot be disregarded, more than 150 cases of poisonous spider bites having been reported in the United States during the past century. The chief and perhaps the only poisonous spider in the United States appears to be *Latrodectus mactans*, which, in addition to numerous scientific synonyms, such as *Latrodectus formidabilis, perfidus, dodatus, apicalis, variegatus*, and *thoracicus*, and *Theridium verecundum, lineatum*, and *carolinum*, is popularly known as the "black widow," owing to its habit of devouring its mate. The first symptom of arachnidism consists of a stinging sensation, followed within less than half an hour by continuous or intermittent pain spreading from the site of the wound. The final distribution of the pain, however, appears to be uniform and independent of its origin. The other symptoms, in order of frequency, are cold sweats, restlessness, anxiety, dyspnoea, anorexia, nausea, vomiting, constipation, cyanosis, delirium, shock, and acute retention of urine. Tremors, twitching, paralyses, and convulsions have also been noted. In several instances the patient has been operated on by mistake for acute appendicitis or other acute abdominal disease. The acute symptoms usually last six hours or more, and then gradually subside, but complete relief is often not obtained until the end of a week. In 1923 Baerg of Arkansas, whose observations are confirmed by Bogen, found that the bite of *Latrodectus mactans* produced a definite train of symptoms in a white rat, and that immunity was developed after repeated bites. A large number of remedies have been suggested, but no specific treatment has yet been discovered. The clinical symptoms, however, as well as experimental evidence, warrant the acceptance of arachnidism as a true clinical entity.

107. Scarlet Fever Complicated by Peritonitis.

R. E. TAYLOR (*Journ. Amer. Med. Assoc.*, November 6th, 1926, p. 1559), who records a personal case, illustrates the rarity of peritonitis in scarlet fever by the fact that it did not occur among 2,595 cases of scarlet fever observed by Weaver between 1913 and 1922. Platou found eleven cases reported prior to 1924; four of these occurred early in the disease, and seven were secondary to some other complication. Streptococci were found in the peritoneal cavity in seven cases, but there was no report of any bacteriological examination of the blood. Taylor's case occurred in a girl, aged 4, who was admitted to hospital on the seventh day of an attack of scarlet fever with the diagnosis of ruptured appendix. Symptoms of peritonitis had developed four days after subcutaneous injection of scarlet fever antitoxin. Death occurred four hours after admission, and the necropsy showed generalized purulent peritonitis without any perforation of the bowel or gross change in the appendix. Cultures of the heart blood, liver, spleen, and right lung were sterile, while cultures from the left lung and peritoneal fluid contained haemolytic streptococci. The history of the case, the time of onset of the peritoneal symptoms, and the presence of haemolytic streptococci in the peritoneal exudate suggest the possibility of infection of the peritoneum from injection of antitoxin into the abdominal wall.

108. Haemorrhagic Measles Complicated by Encephalitis.

P. A. MCLENDON (*Arch. of Ped.*, August, 1926, p. 544) reports a case of measles in a boy, aged 7 years, who on the fourth day developed frequent tonic convulsions continuing for forty hours. There were marked stupor, hypertonicity, and other symptoms indicating encephalitis; 16.5 cells per cubic millimetre were present in the spinal fluid, which was removed under pressure. The measles eruption was of a purplish hue, with numerous petechial haemorrhages about the neck, chest, and arms. The patient was given two injections of whole blood from convalescent measles cases with an interval of twenty-four hours between each injection. The symptoms rapidly subsided and complete recovery followed.

Surgery.

109. Treatment of Jacksonian Epilepsy.

R. ALESSANDRI (*Bruxelles-Méd.*, November 21st, 1926, p. 103) states that in order to relieve the epileptic attacks it is absolutely indispensable to restore the cranio-cerebral anatomical relations. Although in part the symptoms depend on circulatory disturbances, which connect this disease with common and reflex epilepsy, the local changes, shown particularly by the aura, and the initial local limitation of the convulsions, which only occasionally become generalized, are of supreme importance. The essential cause resides in the local lesion, which acts as an excitant or irritant of neighbouring centres, either directly or indirectly. That action is produced by the formation of a cicatrix, as is seen especially in post-traumatic epilepsy, because the epileptic attacks do not occur immediately, but only when the cicatrix begins to form. Similarly, in cases of Jacksonian epilepsy due to primary cerebral lesions—such as tumours, gummata, tuberculomata, and cysts—the convulsions are relieved by ablation, only to return when a cicatrix is formed. This formation of scar tissue in the thickness of the cerebral substance is inevitable, but it may be reduced to a minimum by replacing the lost tissue by muscle or fat, which also possess useful haemostatic power. But it is particularly important to restore the membranes as far as possible. When this can be done after removal of tumours, scars, or adhesions in post-traumatic or post-operative cases, the results are usually satisfactory, otherwise it is almost certain that the epileptic attacks will return. The author operated on a man for a gumma in the left parietal region. After extirpation he was obliged to plug the wound in order to arrest haemorrhage. The attacks ceased for one month, only to recur with increasing frequency as the cicatricial tissue became consolidated. A second operation was performed for excision of the scar and the patient was relieved for two months with recurrence as before. A third operation was performed; after scar-excision the dura mater was restored with a strip of fascia lata and the bone with an osteo-periosteal strip. Unfortunately the skin covering this strip caused partial necrosis. A fourth operation was undertaken to restore this lacuna in the cranial vault, and ultimately the result was entirely successful. The

patient has had no epileptic attacks since the fourth operation in 1912, and he remains in good health, except for a right spastic hemiparesis. The author believes that this case proves conclusively that anatomical conditions are the most important cause of the Jacksonian syndrome, and that the ablation of scar tissue will produce a definite cure.

110. Ilio-abdominal Amputation.

S. JUDIN (*Surg., Gynecol. and Obstet.*, November, 1926, p. 668) has collected 70 cases, including one under his own care, of ilio-abdominal amputation, which was first introduced by Billroth more than thirty-seven years ago. The operation consists in disarticulation of the bony pelvic ring in front through the symphysis and behind through the sacrosciatic synchondrosis. In the great majority of cases the operation has been performed for sarcoma of the thigh or pelvis and in a few cases for tuberculosis or non-tuberculous osteomyelitis. The high mortality of the operation is shown by the fact that only 16 of the 70 recovered. A large number of patients die either immediately after the operation or as the result of a relapse, or metastasis soon after leaving hospital. Judin, however, thinks that the results may be improved by progress in the technique of the operation, including spinal anaesthesia, nerve-block, ligation of the vessels of the flap, or extension. Judin's case was that of a woman, aged 36, the mother of eight children, on whom the operation was performed under spinal anaesthesia for chondrosarcoma of the femur. Six months after the operation she became pregnant and was delivered of a normal child at full term. The labour and puerperium were normal, and a year later she reported herself in good health.

111. Bloodless Reduction of Long-standing Dislocation of the Lower Jaw.

U. KARELL (*Zentralbl. f. Chir.*, December 11th, 1926, p. 3160) refers to Fink's classification of dislocations of the mandible into the recent, of from one to three days' duration; the intermediate, persisting for a period of from one to three weeks; and the chronic, in which the dislocation has existed for more than three weeks. In such cases Perthes recommends reduction by an open operation. Karell reports the case of a young girl whose lower jaw had been dislocated during the extraction of a carious molar. In spite of daily attempts at reduction, with and without anaesthetics, the dislocation remained unreduced for fifty days, and the patient could not close her lips on account of the displacement of the lower jaw. There was a gap of 2 cm. between the edges of the upper and the lower incisors, and in front of both ears there were projections produced by the dislocated articular surfaces of the mandible. The masseters were very prominent; lateral movements were possible, but with obvious limitation, and the patient had difficulty in swallowing and in articulation. A brief attempt at reduction was made, the patient sitting on a low seat with her head fixed. Continuous increasing pressure was applied on the lower molars, downwards and backwards. After some time the right side was seen to slip backwards slightly, but nothing further occurred. Two hours later another attempt at reduction was made, this time under deeper anaesthesia, the patient lying in the prone position with the head fixed. After prolonged pressure on the molars, combined with firm upward pressure on the chin, the right side was reduced, and with further intermittent manipulation the reduction on the left side was effected. The entire operation lasted forty minutes. Karell recommends that in all cases of long-standing dislocation of the lower jaw similar prolonged conservative manipulation should be employed before resorting to a cutting operating.

112. Vacuolar Osteo-fibrosis.

CHABÉ (*Journ. de Med. de Bordeaux*, December 10th, 1926, p. 915) reports a case of this rather rare disease, which is a variety of Recklinghausen's disease, in a woman, aged 33. The radiogram showed numerous cysts in the femora and a few in the arm and leg bones. One apparent cause in her case was unhealthy surroundings and absence of the sun, for almost complete cure followed in two years from exposure to sunlight. In these cases, Chabé states, acidosis is present and prevents the formation of insoluble calcium salts. The usual symptoms are lightning pains in the limbs, deformity of the bones, bony swellings, spontaneous fracture or after very slight injury, and a fairly wide distribution of the cysts, not excluding the flat bones. The author's case illustrated most of these points. Mikulicz's disease, on the other hand, is characterized by a solitary cyst, confined to the long bones, near the epiphysis, in the period of growth. Moreover, in treatment medical measures may suffice in Recklinghausen's disease, whilst in Mikulicz's disease the treatment is surgical. The distinctive features of Paget's and of Lobstein's disease are detailed also, and a bibliography of the subject is appended.

Therapeutics.

113. A Stable Preparation of Male Fern.

H. BUSQUET (*Paris Méd.*, December 4th, 1926, p. 454) points out that, owing to the inconstant strength of the active principles of male fern, patients treated with this medicament are sometimes given inactive, and sometimes toxic, doses. In the search for a more stable substance, veterinary practitioners were the first to use filicin. This is prepared by titrating the ethereal extract of *Filix mas* with ten times its weight of magnesia. The homogeneous powder produced is decanted and filtered. To the filtrate hydrochloric acid is added; the resulting precipitate, which is dissolved in ether and then dried, is filicin. It is a greyish-red powder, soluble in ether, slightly so in alcohol, but insoluble in water. Filicin is a combination of various acid bodies, and must not be confounded with filicic acid. Its local action is irritant, and if given by the mouth in large doses it causes vomiting and diarrhoea. According to Busquet it is eliminated by the bile. This investigator has studied its action on flatworms and tapeworms, and has found it to be an excellent helminthicide; he states that the ingested filicin reaches the intestine, impregnates the taenia, passes into the blood and then into the bile, and returns to the intestine, where it again acts on the parasites—this cycle being repeated many times. Busquet administers the drug in pills or capsules (in an oil solution) in 12-grain doses for adults; to children he gives three-quarters of a grain for each year of age. He reports that, if given in suitable doses, there are no toxic effects from this drug, that it is of stable composition, and that it exerts a powerful action against the taenia, which are expelled in a few hours. If combined with calomel, both an antihelminthic and a purgative action is obtained.

114. Vaccine Treatment of Whooping-cough.

H. A. N. VECHTMANN (*Nederl. Tijdschr. v. Geneesk.*, October 16th, 1926, p. 1740) relates his observations on 63 children treated with antipertussis vaccine, including four cases in which it was used as a prophylactic; 54 made a rapid recovery. None of the four children given preventive injections contracted whooping-cough, although they were not isolated. The doses ranged from 1,000 million to 3,000 million organisms, with about five days between the injections. Improvement occurred in 7 cases after a single injection, and in 15 cases after two. In 31 cases three injections were sufficient, 11 cases required only two, 15 had four, and 6 needed five. During the last eight months Vechtmann has adopted the plan recommended by Enklaar (*Epitome*, 1926, vol. i, para. 344) of giving a dose of about 3,000 million organisms every other day, with remarkably good results, as of 27 so treated 26 recovered, though one after an initial improvement was not affected; 6 recovered after two injections, 12 after three, 5 after four, and 2 after five.

115. Inefficiency of Skin Antiseptics.

M. B. TINKER and H. B. SUTTON (*Journ. Amer. Med. Assoc.*, October 23rd, 1926, p. 1347) consider that for antisepsis of the skin some degree of penetration is necessary in order to combat the bacteria in the deeper layers of the skin. In the presence of blood the moisture and dilution affect the action of most antiseptics. Serious infections in clean wounds still occur owing to the inefficiency of antiseptics. Laboratory tests have indicated the inefficiency of iodine, and a study of more than 1,550 cultures demonstrated that iodine, trinitrophenol, Harrington's mercuric chloride solution, mercurochrome, and potassium mercuric iodide will not kill most of the resistant and some of the less resistant pathogenic germs, even under conditions of perfect contact. They add that the selective action of antiseptics must be considered, and that the aniline dyes deserve wider use, owing to their germicidal power, penetration, low toxicity, harmlessness to instruments and supplies, and excellent outlining of the field.

116. Auto-haemotherapy.

M. KEMAL and S. SALVATORE (*Il Policlinico*, Sez. Chir., November 15th, 1926, p. 577) describe experiments with the injection of whole blood in phlegmonous inflammation in dogs, and also quote five cases in man similarly treated. From 1 to 30 c.cm. of pure blood are taken from the veins of the elbow and injected directly into the affected part, a special device being employed in the syringe to avoid coagulation of the blood. The authors observed no bad results, and the effect on such inflammatory conditions as boils, phlegmon, and ulcers proved to be decidedly beneficial, improving both the local and general condition. They state that by this means the bactericidal power of the blood is augmented and cure accelerated. Some lymphocytosis is induced and also an increase in the red corpuscles and haemoglobin.

117. The Effect of Sodium Bicarbonate on Gastric Function.

C. S. KEEFER and A. L. BLOOMFIELD (*Bull. Johns Hopkins Hosp.*, December, 1926, p. 379) state that there is considerable disagreement as to the effect of sodium bicarbonate on gastric activity, and that a possible explanation of some of the discordant views may lie in the large size of the dose employed, since very large amounts of soda, in addition to neutralizing the acid, may produce irritative effects. As the result of experiments with test meals to which one or two grams of sodium bicarbonate had been added Keefer and Bloomfield conclude that the introduction of alkali into the stomach causes neither an increase nor a decrease in the volume of gastric juice secreted. The time at which free acid reappeared in the stomach contents after the administration of sodium bicarbonate seemed to depend largely on the emptying time of the stomach; the more rapid the motility (emptying time) the sooner would free acid appear, the volume of secretion being of less importance. No definite changes in motility could be attributed to alkali, which appeared to exercise no effects other than a quantitative neutralization of gastric acid.

Anaesthetics.

118. Prophylaxis of the Complications of Spinal Anaesthesia.

DANIEL (*Bull. Acad. de Méd.*, October 5th, 1926, p. 105) has devised the following method of preventing the shock which occurs after spinal anaesthesia, either at an early stage in the form of cardiac or respiratory syncope and death, or, more commonly, at a later stage in the form of severe and obstinate frontal headache, accompanied by giddiness, nausea, and vomiting, and secondarily by vasomotor changes such as a weak and rapid pulse associated with a high or subnormal temperature. After removal of 5 to 10 c.cm. of spinal fluid by lumbar puncture, and injection of the anaesthetic, the cerebro-spinal fluid is injected intravenously at the bend of the elbow and the operation is commenced five or six minutes later. As the result of his experience of 34 subcutaneous and 66 intravenous injections Daniel came to the following conclusions. (1) After subcutaneous injections the immediate results were generally good, the pulse became rapid in eight or ten minutes and returned to the normal in fifteen to twenty minutes; the respiration remained normal as a general rule, the colour remained good, and there was only some nausea but no vomiting. (2) The late results were also good and none of the symptoms usually following spinal anaesthesia were noted. After intravenous injection the immediate results were still better, and in the great majority of cases the late results were excellent, as out of 66 injected only four had transient headache on the third day. Daniel attributes the benefit obtained to antianaphylaxis, the injection of a small quantity of cerebro-spinal fluid into the blood causing a slight shock which desensitizes the organism for a certain period.

119. Ethylene in Obstetrics.

E. D. PLASS and C. N. SWANSON (*Journ. Amer. Med. Assoc.*, November 20th, 1926, p. 1716) compare the results in the case of 592 patients to whom ethylene-oxygen was given during labour with 300 deliveries under nitrous oxide-oxygen anaesthesia. The same six operators were responsible in all cases, and variations due to individual practices were eliminated by adherence to the same general routine in the delivery rooms. Nurse anaesthetists have given the anaesthetics, using a standard gas machine adapted for ethylene as well as for nitrous oxide. Although no conclusive evidence was obtained the authors believe that ethylene is definitely more rapid than nitrous oxide in the production of anaesthesia. It was found that quite satisfactory obstetric analgesia could be obtained with weaker mixtures of ethylene than of nitrous oxide. A 25 to 50 per cent. ethylene mixture with air was usually sufficient until the presenting part distended the vulva, when higher concentrations became necessary. Three-quarters of all spontaneous deliveries and one-quarter of all operative deliveries were conducted under ethylene alone, whereas with nitrous oxide only about one-quarter of the spontaneous deliveries and only an occasional operative delivery were completed without the addition of ether. The incidence of foetal asphyxia was roughly twice as great under nitrous oxide as under ethylene anaesthesia. In patients who had morphine or pantopon during labour there were twice as many asphyxiated children as when no drugs were given in addition to the anaesthetic. When ethylene was administered by the authors' method the cost was about two-thirds as much per patient per hour as when nitrous oxide was employed. There was a 30 per cent. incidence of nausea or vomiting under ethylene alone, and this was admittedly greater than occurs with nitrous oxide. In their experience the nausea was of very short duration, and vomiting more than once was absent. The addition of ether increased the vomiting incidence in both cases. The authors experienced difficulty with both anaesthetics in the prolongation of the first stage, but with ethylene the use of the weak mixture was advocated as producing analgesia without any noticeable slowing of dilatation. There was no appreciable prolongation of the second stage with either anaesthetic nor any increase in the incidence of post-partum bleeding, but the addition of ether to either agent considerably increased the average bleeding and the incidence of post-partum haemorrhage. Multiparity was a factor in producing excessive bleeding. No explosions occurred in approximately 600 administrations, although the only precaution taken was to earth the metallic parts of the machine. The authors consider that as an anaesthetic for obstetric work ethylene has many advantages over nitrous oxide, and they suggest that it should be used more extensively.

120. Chloroform and Creatin Metabolism.

M. MARONGIU (*Il Policlinico*, December 15th, 1926, p. 619) records the results of a clinical and experimental investigation of the behaviour of creatin bodies after chloroform narcosis and in diseases of the liver and spleen. His conclusions are based on creatinuria seen in patients suffering from echinococcal cysts of the liver after splenectomy for malarial splenomegaly, and after anaesthesia produced by chloroform. He states that creatin originates in the muscles, and that in the normal chemistry of this tissue creatin is discharged from the muscle in a nearly constant ratio, according to the diet and work done. When a toxic cause, such as chloroform, affects a muscle fibre a larger amount of creatin is passed into the circulation. The transformation of creatin into creatinin is effected in the liver. The spleen appears to have no influence on the metabolism of creatin bodies; any such apparent change after splenectomy is due rather to effects on the general and hepatic metabolism than to any direct splenic effect.

121. Spinal Anaesthesia in Genito-Urinary Operations.

H. W. MARTIN and R. ELSIE ARBUTHNOT (*Anesthesia and Analgesia*, October, 1926, p. 261) describe spinal anaesthesia as a root anaesthesia produced by the injection of some anaesthetic agent into the subarachnoid space around the cord, and affecting chiefly the intraspinal segment of the posterior roots in the region where the injection is made. Reviewing more than 6,000 cases in the Los Angeles Hospital, these authors state that the sum of the primary and secondary dangers of spinal anaesthesia for the average case of suprapubic prostatectomy is less than the sum of the primary and secondary dangers from ether administration in the same type of patient. In the 6,000 cases there were only six deaths, four of which would have undoubtedly occurred within a few hours with any anaesthetic, while two were the result of an overdose. The authors conclude that with spinal anaesthesia the fall in blood pressure is greater than with any other method, hence it should not be used in patients with great circulatory hypotension, with myocardial degeneration, or anaemia. Spinal anaesthesia is rendered safer and more generally applicable by being supplemented with a light gas-oxygen anaesthesia. Blood-pressure readings should be taken frequently. Patients as a rule should have a preliminary opiate. Needles should be of small calibre, and loss of spinal fluid should be guarded against as far as possible. If spinal anaesthesia is only used in selected cases and carefully supervised the mortality should be less than 1 in 1,000. The authors add that even if the mortality was 1 in 100 spinal anaesthesia would still be desirable in selected cases because the post-operative mortality directly attributable to inhalation anaesthesia in many prostatics is considerably greater. This form of anaesthesia, when used with discrimination and for special reasons, is most valuable and efficient for operations below the diaphragm where complete muscular relaxation is required.

Obstetrics and Gynaecology.

122. Conservative Treatment of Polypoid Myomata.

V. MAUGERI (*Rev. d'ostet. e gynecol. pratica*, November, 1926, p. 441) describes the case of a woman, aged 33, who after seven months' diminished menstrual losses was pronounced to be pregnant; three months later labour had not occurred and there was considerable pyrexia. After dilatation of the cervix portions of a fibrous substance were removed; another rise of temperature followed and the urine contained albumin and hyaline casts. Further examination showed a large myomatous uterus extending to the umbilicus and containing three large tumours, of which one was presenting through the cervix. After seven days' expectant treatment the general

condition improved until a sudden attack of pain and pyrexia necessitated an intervention in which the polypoid myoma, now occupying the vagina, was removed piecemeal. The second and third myomas led to similar attacks of pain accompanied by pyrexia and morbid renal conditions; vaginal myomectomy had therefore to be repeated on two occasions, respectively three weeks and five months after the first operation. Bimanual findings subsequently became normal. The first acute symptoms occurred within a few months of the commencement of marital relations. Maugeri has also noted vaginal expulsion of a myoma in a woman aged 40 soon after such relations, suspended for three years, had been resumed.

123. Treatment of Impacted Shoulder Presentation.

O. KÜSTNER (*Zentralbl. f. Gynäk.*, November 27th, 1926, p. 3058) contends that in impacted shoulder presentations division of the vertebral column is frequently not only easier but also less dangerous than decapitation. He points out that the tighter the impaction the more difficult is access to the neck, and the greater the danger of causing rupture of the uterus. The most accessible part in advanced cases of impaction is the thorax, and intervention in this region is therefore likely to be least dangerous. For division of the spinal column Küstner recommends the rachiotome, which he described thirty years ago. This resembles the craniocla-t, but has shorter blades, which cut instead of crushing, one being unfenestrated. Before its application the thorax must be opened by the perforator or by a blunt instrument. If the closing of the blades does not completely divide the vertebral column and ribs, this is achieved by closing the screw-clamp which joins the ends of the handles of the ins rument. The rachiotome may now be used to divide the ventral abdominal wall. The lower half of the bisected foetus is extracted first, preferably with the cranioclast.

124. The Foetal Head in Breech Presentations.

P. TRILLAT (*Gynecol. et Obstét.*, 1926, xiv, 4, p. 211) describes an attitude of the foetal head which he has occasionally found in breech presentations; the only illustration in the literature found by him is that by Smellie in 1765. The head is rotated so that the chin approaches the acromion, and inclined so that the parietal eminence approaches the front wall of the thorax and the ear may lie on the sternum. This attitude may persist for several days after birth, when a flattening and atrophy of one cheek as compared with the other may be seen. This a ttude of the head was noted in eight of twenty-four incomplete and one of twelve complete breech presentations; it appeared to be more common in primiparae. Such an attitude of the head in the fundus uteri may have the clinical consequences that diagnosis of the lie of the foetus may be rendered difficult by absence of head ballottement and of the submental sulcus; efforts to perform external version may fail for the reason that flexing pressure on the foetal head is not transmitted to the trunk. In delivery of the after-coming head which has been in the position described there may be difficulty in reaching the mouth, which is situated near the pubis and needs to be drawn backwards.

Pathology.

125. The Haematology of Typhoid Fever.

M. MOREL (*Thèses de Lyon*, 1925–26, No. 97), whose thesis is based on the study of 77 cases of typhoid fever, 36 of which ran a normal course, while 41 showed various complications, comes to the following conclusions. (1) Normal typhoid fever is very often accompanied by more or less intense anaemia, especially at the time of defervescence. (2) Typhoid is not a disease habitually associated with leucopenia, which is only found in prolonged forms at the end of the second month, and is always slight. (3) The lymphocytosis shows a progressive rise from the onset until the end of the disease. (4) The number of moderate-sized mononuclears is much increased throughout the disease, especially at its height. (5) The onset of the disease is marked by a polynucleosis; this is rapidly replaced by a mononucleosis which is sometimes of an extreme degree. Return to the normal is slow. (6) The cosinophils disappear at the onset and reappear at the end of the disease. (7) In normal typhoid fever the haemato-logical formula of a positive blood culture is that of poly-nucleosis. (8) In normal typhoid fever the haematological manifestation of a positive serum test is mononucleosis. (9) Complications give rise to a more marked anaemia, and return of the blood to normal requires more time. (10) Leuco-penia, which is always slight, is more frequent in complicated than in normal cases. (11) Relapses and suppuration produce slight leucocytosis, and myocarditis and nephritis a slight leucopenia. (12) As a general rule the various complications entail a diminution in the number of the lymphocytes and moderate mononucleosis, but do not act on the large mono-nuclears. (13) Relapses, haemorrhages, and pulmonary com-plications are accompanied by polymorphonucleosis, while myocarditis, nephritis, and suppuration give rise to a variable polymorphonuclear reaction. (14) Eosinophils disappear in severe typhoid and reappear at the end of the disease.

126. Relation of Cancer to Nutrition.

Y. FUJIMAKI and M. MASAKI (*Trans. Far Eastern Assoc. Trop. Med.*, 1925, vol. i, p. 943), as the result of experimental work, conclude that a diet free from vitamin A has some relation to the development of carcinoma. They found that when albino rats were fed on such a diet there was thickening and growth of the epithelial cells in the mucous membrane of the stomach, which in some cases proceeded to the formation of carcinoma. While in rats fed on a normal diet the stomach showed no signs of any keratosis, yet in those deprived of vitamin A such a process was usually present. They believe that carcinoma begins in this way, the process continuing with the formation of papillomatous growths succeeded by heterotypical extension, and, finally, by the destructive growth typical of carcinoma. No local injury or irritation was employed. Similar epithelial changes occurred in other organs, including the urinary bladder, kidney, ovary, uterus, and tongue. The authors therefore believe that in experi-mental carcinoma a constitutional predominant cause is present.

127. Pathogenesis of Cancer.

T. J. GLOVER (*Canadian Lancet and Practitioner*, November, 1926) reports the successful treatment of fifty cases of advanced carcinoma by an antitoxin prepared from horses infected with the filter-passing organism isolated by himself. He also discusses the production of carcinomata in rats which have eaten cockroaches infested with a nematode (*Spiroptera neoplastica*), and suggests that the nematodes are the carriers of this specific cancer germ, which probably flourishes in the presence of sugar, as indicated by the fact that the hosts were found to be only those rats and cockroaches which infest sugar refineries and sugar-carrying ships. Glover states that the life-cycle of this organism comprises three microscopically visible stages: (1) the bacillus stage; (2) the spore or coccus-like stage; and (3) the spore-sac stage; in addition to which there is what has been previously described as the filterable phase. Each of these individual stages can be obtained in pure culture, but alterations in the composition or the reaction of the culture medium or in the environment may cause one stage to pass into another. He mentions a test in which the complete agglutination of the antigen occurs in up to 1 in 250,000 dilution, while antigens made from various strains of other pathogenic, and a number of non-pathogenic, organisms, are not agglutinated beyond a 1 in 25 dilution. He describes the method of preparation of a toxin and its standardization, and also a precipitation test. He has found that weak dilutions of the toxin may be used in skin tests to determine susceptibility to, and in some cases the presence of, carcinoma, but adds that further investiga-tion is necessary in this respect. Blood cultures, taken in most of his fifty cases before the antitoxin treatment was begun, showed the specific micro-organism in nearly every instance. After a few injections of antitoxin it was usually found impossible to detect the organism, and in no non-cancerous case was it found. The following clinical con-clusions were reached. Early cases where the disease is local will yield to antitoxin treatment in a large percentage of cases. In more advanced cases where the main growth is surgically removed the metastases will usually disappear with the antitoxin treatment. In cases where the disease is widely disseminated little is to be expected from any form of treatment, although many of the distressing symptoms, such as pain, offensive discharges, and mental confusion and lethargy, are alleviated by the antitoxin. Institutional treatment is desirable.

128. Non-agglutinating Cholera Vibrios.

J. W. TOMB and G. C. MAITRA (*Indian Med. Gaz.*, November, 1926, p. 537) have investigated the non-agglutinating vibrios invariably present in washing tanks during cholera epidemic months, and conclude, as the result of experimental work, that these organisms are identical with the specific cholera vibrios, [illegible] quired temporarily during epidemi [illegible] vibrios are believed to be pathogenic to man, being found in constant association with sporadic cholera. The authors therefore suggest that they constitute the reservoir of endemic cholera in Bengal, being changed in the human intestine into the agglutinating type.

EPITOME OF CURRENT MEDICAL LITERATURE.

Medicine.

129. The Prevention of Serum Disease.

H. HECKSCHER (*Ugeskrift for Laeger*, December 23rd, 1926, pp. 1167 and 1169) gives in two consecutive papers an account from the Blegdams Fever Hospital in Denmark of the incidence of serum disease in connexion with the treatment of diphtheria with large doses of serum, and of experiments in the prevention of this condition. From January 1st, 1924, to April 1st, 1926, there were 1,113 cases of diphtheria treated with serum, this number representing about two-thirds of the total number of the cases of diphtheria in this period. The remaining third required no serum treatment, for the degree of the diphtheria was slight. About 15 per cent. of the serum-treated patients suffered from severe diphtheria, and the doses of serum given were large—that is, 200,000 to 300,000 units, distributed over a period as long as three days in some cases. About nine-tenths of the patients were children under 15 years of age. In 55.6 per cent. there were signs of serum disease, as shown by a rash not limited to the site of injection, pains in the joints and muscles, or fever, or a combination of these symptoms. It was observed that large doses of serum caused serum disease more often than small doses, that the incidence of serum disease increased with the patient's age, that the severity of the serum disease also increased with age, and that, contrary to the observations of others, serum disease was not so frequent after intravenous as after intramuscular injections. The preventive experiments were made with a polyvalent staphylococcal vaccine containing 1,000 million bacteria to the cubic centimetre. For patients over 15 years of age from 0.5 to 5 c.cm. (correspondingly smaller doses being given to patients below this age) were administered by intramuscular injection on five successive days, from the fourth to the ninth day after the injection of the serum. This preventive treatment was given to 193 patients admitted on odd dates between July 25th, 1925, and April 1st, 1926, the 192 patients admitted on the even dates in the same period serving as controls. The patients admitted before this period also served as controls. This preventive treatment appeared to reduce the incidence of serum disease by about a third, the reduction affecting the severe cases almost exclusively.

130. Atypical Lethargic Encephalitis.

J. A. JACKSON and H. V. PIKE (*Med. Journ. and Record*, November 3rd, 1926, p. 569) discuss the difficulty of early recognition of encephalitis lethargica and its multiform clinical symptoms. They record six cases to illustrate the variability of onset and clinical course. A previously healthy girl, aged 6, had a nocturnal epileptiform convulsion, followed by a second one three days later and by others subsequently. Her mental development was arrested, tremors of the hands appeared within three months, and eighteen months after the initial convulsion all the neurological signs of Parkinson's syndrome were present. A woman, aged 50, caught a cold and two days later complained of swelling, pain, and tenderness in the right parotid region, with rapid extension to the opposite side. The temperature ranged between 100° and 102° and the case ran the usual course of mumps. In ten days all local symptoms had subsided, but the temperature did not fall, and the patient became restless, mentally confused, delirious, then somnolent, and finally stuporous. Focal manifestations of cranial nerve involvement appeared—namely, ptosis, partial ophthalmoplegia externa, unequal and irregular pupils, left facial paralysis, and dysphagia, together with general muscular rigidity, fibrillary tremors of trunk muscles, and vesical and rectal incontinence. There was no evidence of meningitis. After three months the patient improved, and in six months she had recovered entirely. A man, aged 22, was awakened by general abdominal pain and vomiting; twelve hours later an operation for appendicitis was advised but declined. After two days the patient appeared to collapse, passing into somnolence, stupor, and finally semi-coma, which persisted for six weeks. He then gradually improved, but did not recover his former strength, while slight right ptosis and right external strabismus appeared. Six months later the syndrome of multiple sclerosis was definite, and included nystagmus, intention tremor, and inco-ordination, increased deep reflexes, a positive Babinski sign, and emotional outbursts. A man, aged 31, had an acute illness lasting six weeks, which was diagnosed as enteric fever. During the third and fourth weeks attacks of maniacal delirium alternated with stupor, but there was no evidence of organic nervous disease. He returned to work but was mentally dull, and complained of pain and weakness in the legs. Within two months he became irritable and impulsive, depressed, and occasionally had hallucinations. Two years later all the signs of paralysis agitans were present and he became bedridden and helpless. A woman, aged 32, suffered from puerperal septicaemia and apparently recovered after several weeks. A few months later she began to have difficulty in walking, tremors appeared in both arms, she became dull and depressed, she was confused, developed hallucinations, and threatened suicide. She was found to have advanced paralysis agitans. A boy, aged 14, had good health except for frequent attacks of tonsillitis. Tonsillectomy was performed, and seven days later, while the throat was still unhealed, he complained of diplopia, headache, and vertigo, and the temperature rose to 102°. Two days later he had a severe convulsion followed by ptosis, right facial paralysis, and nystagmus, but no stupor nor delirium. The temperature fell gradually, and after six weeks the paralysis almost disappeared. He returned to school, but could not learn. His conduct became so bad that he was expelled, and a year later he was certified and admitted to a mental hospital. The authors conclude that the micro-organism of encephalitis lethargica may reach the central nervous system by a variety of channels; the onset of the disease may simulate that of many other diseases. Neurological symptoms may be absent or so slight as to escape attention in the acute stage, and the sequels alone indicate the nature of the disease. All acute general infections should be studied neurologically, the possibility of encephalitis being borne in mind.

131. Angina Pectoris.

S. LA FRANCA (*Arch. di Patol. e Clin. Med.*, Bologna, November, 1926, p. 425) refers to certain cases of angina pectoris where the pain is largely epigastric and accompanied by girdle pains, and he gives diagrams of the usual areas of irradiation. He denies the possibility of angina existing without pain. Attacks coming on in the night, with the patient at rest, may be excited by cerebral activity, as in bad dreams. The diagnosis of cardiac pain of anginal origin is very often difficult, but the existence of dyspnoea, cyanosis, and a small pulse is rather against the attack being purely anginal, while increased blood pressure, bradycardia, and a difference between the axillary and rectal temperatures point to true angina. In tabetic forms of angina the attack usually comes on without any predisposing cause, such as effort or exposure to cold wind. One of the most resistant forms of angina is that associated with aortic stenosis. Its exact etiology is still rather obscure; coronary embolism, arterial spasm, nerve lesions, toxic causes such as tobacco, and cardiac lesions have all been found. The author discusses various explanations of how the pain is produced, especially in relation to coronary embolism, thrombosis, spasm, and aortic disease; he suggests that it is due to dilatation of the artery above a point of occlusion, and to dilatation of the aorta due to increased blood pressure. The nerves transmit and radiate the stimulus according to their degree of susceptibility; some people are more susceptible in this respect than others. During the attack amyl nitrite is recommended for mild cases; trinitrin is slower in its action, but more lasting, and the same applies to erythrol tetranitrate. Morphine and atropine are often necessary. When acute pulmonary oedema or acute cardiac dilatation supervenes bleeding is indicated, with general treatment in the intervals. In surgical treatment the quality of nerve fibre removed seems more important than the extent of removal.

132. Skin Tests in Measles.

R. TUNNICLIFF and R. E. TAYLOR (*Journ. Amer. Med. Assoc.*, September 11th, 1926, p. 846) state that in skin tests with killed cultures of the haemolytic diplococcus associated with measles Tunnicliff obtained positive reactions in 100 per cent. of persons who had not had measles and in only 4 per cent. of those with a history of measles. This intracellular toxin was neutralized in persons with a negative history of measles by convalescent human measles serum, but not by the serum of a person who had not had measles. Ferry and Fisher have recently demonstrated an extracellular toxin in filtered cultures of haemolytic streptococci from measles with which they produce skin reactions in 40 per cent. of persons with a negative history of measles and in only 3 per cent. of persons with a history of measles. Antigens of killed measles diplococci are therefore more effective for susceptibility tests than extracellular toxins.

133. Symptomatology of Headache.

J. L. HALLIDAY (*Glasgow Med. Journ.*, November, 1926, p. 281) discusses the onset, progress, and disappearance of transient headaches and the problem of their production. In forty consecutive cases pressure over the points where cutaneous nerves emerge elicited the fact that one or more tender points were found in every case during the attack round which it centred, and that involvement of the supraorbital nerves, either singly or together, predominated. Many predisposing causes existed, and no one apparent cause was associated with any particular position. Modifications of cutaneous sensibility occurred in the vicinity of these tender points, and in the majority they were in the nature of overaction to painful, and diminished reaction to tactile, stimuli. Intensification of the pain by pressure over other areas occurred, and in one instance pressure over the left mastoid caused a shooting pain over the right forehead. Halliday regards headache as the product of two variable factors—an alteration in the equilibrium of the primary synapses, and the overflowing of impulses from a neighbouring neurone. He considers them analogous to cases of referred pain occurring in such conditions as appendicitis, and differing therefrom only in the ease with which they can be provoked. The frequency of headaches as a symptom is attributed to impulses from cerebral as well as organic causes readily gaining access to the pain tracts of the scalp; the low resistance of the synapses guarding the pain tracts of the ophthalmic division of the trigeminal nerve accounts for the majority of headaches being frontal.

134. Antidiphtherial Immunization by Anatoxin.

J. MEGIAS and F. MORENO DE VEGA (*La Med. Ibera*, December 11th, 1926, p. 533) review the literature and record their observations on 112 subjects who gave a positive Schick reaction and were submitted to active immunization by anatoxin. The ages ranged from 5 to 16 years. Three subcutaneous injections of anatoxin were given on the other side of the arm to the Schick mark, the first dose consisting of 1/2 c.cm. and the next two of 1 c.cm., with eighteen days' interval between the first and second injections, and twenty-one days' interval between the second and third. Two months after the third injection a Schick test was performed on 101 cases, with the following result: 31 boys aged from 5 to 11 had all become Schick-negative, 35 out of 38 boys aged from 10 to 15 had become negative and 3 remained positive, and 31 out of 32 girls aged from 5 to 16 were also negative. The reactions, both local and general, were least marked in small children and most severe in adults. The symptoms were usually slightest after the third injection.

135. Lymphangitis in Pirquet's Reaction.

L. E. HERZFELD (*Monatsschr. f. Kinderheilk.*, October, 1926, p. 48) states that in children with a positive Pirquet reaction there are often not only a papule, but also slightly raised and palpable streaks passing upwards from it 1/2 to 1½ cm. broad and from 5 to 25 cm. long. This lymphangitis is not accompanied by fever or regional lymphadenitis. The lymphangitis appears either with the papule in the Pirquet reaction or a day later, and subsides at the same time as the papule or one or two days earlier. Opinions are divided as to the origin of this lymphangitis. Some, such as Parrhysius, think that the tuberculin has been infected with pyogenic organisms and that these are the cause of the lymphangitis, which is therefore independent of the neighbouring tuberculin reaction. H. Koch, on the other hand, maintains that the lymphangitis is specific—that is to say, is part of the tuberculin reaction—on the following grounds: (1) the lymphangitis occurs only when the cuti-reaction is well marked. (2) Tuberculin only causes lymphangitis in an individual when the Pirquet reaction is intense. (3) Undiluted tuberculin prepared with glycerin and carbolic acid can in all probability be regarded as sterile. Of twelve children with a positive Pirquet reaction observed by Herzfeld only one showed lymphangitis. The tuberculin in all twelve cases was sterile, and Herzfeld attributes the lymphangitis to a definite allergic condition of the organism.

136. Painful Influenzal Nephritis.

Y. GOIA (*Bull. et Mém. Soc. Méd. des Hôp. de Paris*, November 25th, 1926, p. 1599) states that during a small epidemic of influenza at Cluj in Rumania in 1925 renal complications were relatively frequent. In every case the nephritis was manifested by abundant haematuria associated with polyuria. The disease assumed a septic course, with an oscillating temperature and leucocytosis which was sometimes very pronounced. The most remarkable feature, however, was the presence of severe lumbar pain; this Goia attributed to intracapsular tension, and was increased by the occurrence of small emboli and renal congestion. In some cases the pain radiated to the thorax and shoulder, probably owing to the congestion extending to the perirenal tissue.

Surgery.

137. Diagnosis of Biliary Tract Disease.

J. G. MATEER and W. S. HENDERSON (*Arch. Intern. Med.*, December 15th, 1926, p. 708) record the results of an analysis of the diagnostic criteria in chronic biliary tract disease based upon the pathological findings in 94 consecutive operation cases. Recent investigations have shown that cholecystitis is only part of a generalized chronic infection of the biliary tract, there being also a chronic interstitial hepatitis and cholangitis with dilatation of the larger extra-hepatic ducts. Since the relative degree of involvement of the gall bladder, ducts, and liver varies in individual cases it is important to correlate carefully the data obtained from the clinical history and physical examination; from the quantitative serum bilirubin determination, to gain some idea as to the involvement of the liver; from biliary drainage, to detect the earliest stages of bile-duct infection and inflammation; and from cholecystography, to ascertain the pathology and anatomy of the gall bladder. By such methods disease of the biliary tract may be discovered in its early stages. Duodeno-biliary drainage has been used extensively as a diagnostic and also as a therapeutic measure, the significant microscopic findings being bile-stained clumps of pus cells and bacteria and cholesterin or calcium crystals. The authors have used cholecystography in examining 590 patients, the dye being given by the mouth in gelatin capsules previously exposed to formaldehyde fumes for six hours to ensure their more prompt digestion in the intestine. Each capsule contained half a gram of sodium tetraiodophenolphthalein emulsified in olive oil, 0.06 gram per kilogram of body weight being given, with minimum and maximum doses of 2.5 and 5.5 grams respectively. Failure to define the gall bladder or persistent faintness of its shadow with delayed emptying are the most suggestive signs of indirect diagnostic value, while negative gall-stone shadows and angular irregularity in the gall-bladder contour shadow are of direct value in diagnosis. The authors found that cholecystography afforded correct evidence of the presence of chronic gall-bladder disease in 89.1 per cent. of a group of 64 cases coming to operation. In duodeno-biliary drainage direct evidence of chronic cholangitis, with indirect evidence of cholecystitis, is afforded by the finding of bile-stained clumps of pus cells and colonies of bacteria, while showers of clumped crystals in the bile strongly suggest gall stones.

138. Malignant Degeneration of Hypertrophied Prostate.

DE BROECK (*Le Scalpel*, December 25th, 1925, p. 1062) reports the case of a patient, aged 65, with prostatic hypertrophy, in whom the only symptoms were pain, sometimes at the beginning, sometimes at the end of micturition, with difficulty of emission. The urine was cloudy, but gave negative cultures. The sound showed a stricture present in the posterior third of the urethra, and progressive dilatation was prescribed. The right lobe of the prostate was hard, but the left was soft and delimitable. The sign of Chevassu was negative, and on cystoscopy the bladder, with a capacity of 150 c.cm., appeared normal except at the lowest part, which was red and raised, hiding the ureteral orifices. Fifteen days later, as examination showed the right lobe to be increased in size and the Chevassu sign became clearly positive, prostatectomy was successfully performed, the gland being easily enucleated, except at the floor of the bladder where there were adhesions due to an adenoma. The patient made an uneventful recovery. The growth proved to be a papilliferous cysto-adenoma undergoing malignant degeneration. The author adds that by tactile examination he was able to follow the evolution in a few months of a prostatic hypertrophy into a malignant tumour.

139. Haemorrhoidectomy.

J. M. LYNCH (*Amer. Journ. Surg.*, November, 1926, p. 245) finds that discomfort after haemorrhoidectomy may be due to a tight sphincter, divulsion preceding operation, rough handling of the tissues, plugging, and the habit of confining the bowels. If the sphincter is found to be tight before operation cutting it is the only method that will relieve pain. He considers divulsion bad surgery. Local infection is often a cause of pain after operation; it is due to damage of the tissues, and can be avoided by gentleness. Packing is unnecessary and should be avoided, while the bowels may be safely opened forty-eight hours after operation. Lynch thinks that some form of ligature operation, under local anaesthesia, is the most satisfactory. With the patient lying in Sims's position the piles are seized in artery forceps, withdrawn, and ligatured; if the sphincter is tight it is divided in the posterior commissure. The stay in hospital after operation ranges from three to five days.

140. Renal Tumours.

R. BRETSCHNEIDER (*Zentralbl. f. Gynäk.*, December 4th, 1926, p. 3134) reports two cases of renal tumour, and discusses the possible difficulties of diagnosis. If the three cardinal symptoms—intermittent haematuria, palpable tumour, and pain—are present, the diagnosis is relatively easy. If one is absent, especially the haematuria or tumour, it may be extremely difficult, and Bretschneider strongly recommends ureteral catheterization and the renal efficiency test. In the past many renal tumours without haematuria were thought to arise from the ovary, spleen, gall bladder, or bowel, and the operating surgeon has been sometimes obliged to remove one kidney without knowledge of the functioning capacity of the other. The author finds that fever occurs fairly early; it is usually intermittent and is found, according to Israel, in 8 per cent. of the cases. Diarrhoea may alternate with constipation, or be absent even in presence of a large tumour, suggesting that the causation is not purely mechanical; Bretschneider thinks it may be of endocrine origin, and due to the close connexion between a hypernephroma and the suprarenal gland. Although some renal tumours are apparently innocent, the great majority are fatal sooner or later. Early operation is advisable, and in doubtful cases a laparotomy should be performed for investigation. Should operation on a hypernephroma be delayed, or not sufficiently thorough, widespread and rapidly growing metastases will appear and hasten the fatal termination. With early operation the prognosis is fair; of Israel's 124 cases 25 per cent. were alive after five years. Few cases treated by *x* rays have been reported yet, but among these good results were obtained in a sarcoma and a hypernephroma. Bretschneider thinks it should be tried in inoperable cases, and after operation to prevent recurrence.

141. Primary Tuberculosis of the Parotid.

F. LAZZARINI (*Il Policlinico*, Sez. Chir., November 15th, 1926, p. 565) reports a case of this rare affection in a girl aged 17; there was no history of tubercle in the family. The author discusses the various theories as to the mode of entrance of the bacillus in these cases, and gives a photograph of the histological appearance of the growth removed from this patient. In this case it took the form of an isolated mass, interfering slightly with mastication, painless, and with the overlying skin unaffected; it was excised, and on section proved to be tuberculous. The author refers to twenty-two similar cases of primary tuberculosis without signs of tubercle elsewhere. The isolated type is not so common as a generalized disseminated affection, with or without fistulae. Age, sex, and heredity seem to play no important part in the etiology of these cases. The treatment is surgical, by excision, aspiration, or scraping, and the prognosis is good.

142. Lumbar Pain as the First Sign of Mammary Cancer.

E. LIEK (*Zentralbl. f. Chir.*, December 18th, 1926, p. 3212) describes the case of a woman, aged 36, who had been incapacitated for a month by severe pain in the lumbar region which defied all treatment. Liek was at first unable to find any evidence of pathological change, and skiagrams were also negative. Four weeks later the pain had increased, and Liek then detected a projection of the right nipple, caused by a scirrhus as large as a walnut. The patient died five months later, a very early metastasis in a lumbar vertebra being demonstrable by a skiagram. Liek has seen two other cases of lumbar pain for which no cause could be found until a mammary carcinoma was discovered; he observes that such occurrences show the necessity of a most thorough physical examination.

143. Double Penis.

C. BRUNI (*Arch. Ital. di Otol.*, October, 1926, p. 143), who records an illustrative case, states that while anomalies of the genito-urinary system are frequent, cases of double penis with a double urethra are very rare. The first case was seen in a cadaver at Bologna by I. I. Wecker in 1609. Ballantyne, in 1895, collected thirteen cases from the literature, and Bruni has found three more, making a total of sixteen. Bruni's case was that of a man, apparently about 35 years of age, who was found dead in the street. Nothing could be learnt as to his past history in general or his sexual life in particular. The body showed two penes, with one half of the scrotum containing a testicle beneath each. The meatus and urethra of each were normal. On opening the body the kidneys were in the normal position, but the ureters were connected with two distinct bladders. A prostate was present on each side. The pelvic portion of the rectum bifurcated into two distinct portions, each of which opened by an anal aperture behind each half of the scrotum.

Therapeutics.

144. Iodine in Goitre.

D. GUTHRIE (*Therap. Gazette*, December 15th, 1926, p. 837) believes that many goitre patients are injured by the incorrect use of iodine in treatment. While iodine in small amounts will prevent the developme[illegible] goitre of adolescence, and in a certa[illegible] effect a cure, it is important that [illegible] under observation during treatment. He considers it unsafe to give iodine after the age of 25 because the glands may contain small adenomata which may be rendered active thereby. This applies also to the chronic rounded goitre, since these quiescent adenomatous goitres are rendered toxic by iodine, which should not be given to any adenomatous goitre patient who is already toxic. Such conditions are essentially surgical if the patient's condition sanctions an operation. In exophthalmic goitre treatment by iodine is not curative, but may be useful in preparation for operation; during its administration the patient should be in hospital so that repeated metabolism readings may be taken, and the patient prepared by the administration of Lugol's solution, which lessens the need for stage operations and reduces the mortality and morbidity of the disease. Guthrie considers that the public should be warned of the great danger which attends the self-administration of iodine in the treatment of goitre, and that physicians should recognize the types which are suitable or unsuitable for such treatment.

145. Vaccine Treatment of Urinary Infections.

M. LARGET, J.-P. LAMARE, and E. MOREAU (*Presse méd.*, December 15th, 1926, p. 1571) state that *B. coli* being polymorphous and of variable virulence, it is often difficult to use stock vaccines with any assurance of success. They recommend, therefore, the use of autogenous vaccines and auto-filtrates in the treatment of urinary infections with this bacillus. They describe in detail their technique in preparing the vaccines and filtrates, and their routine of treatment is as follows. The urine is obtained aseptically by catheterization, and a cytological and bacteriological examination made. A vaccine is prepared containing 500 million organisms in each cubic centimetre. An initial dose of half a cubic centimetre is given at once, followed at intervals of two days by 1 c.cm., 1½ c.cm., and 2 c.cm. The authors also employed weekly irrigations of both kidney pelves with bacillary filtrate, ending each irrigation with an intravesical injection, which the patient retained as long as possible. The results were watched and controlled by repeated cultural examinations. No reactions have occurred after the use of either the vaccine or the filtrate. The authors claim to have obtained excellent results from this method in both acute and chronic urinary infections, but advise dietetic and alimentary medication during the course of treatment, and lay stress on the method of preparing the vaccine, as this plays an important part in the success of the treatment.

146. Treatment of Infantile Tetany.

J. P. SCOTT and S. J. USHER (*Journ. Amer. Med. Assoc.*, December 4th, 1926, p. 1904) report a series of twenty-one cases of infantile tetany treated in various ways. Calcium chloride was given by the mouth to nine infants, in 15 grain doses for three hours, with rapid improvement. In three cases ammonium chloride was given by the mouth in 7 grain doses, with similar benefit as regards the symptoms. In one case, when the calcium chloride was discontinued for a day convulsions reappeared and the signs of latent tetany were found present, even after several weeks' administration of either salt. As a rule the blood calcium content was raised, but in two cases there was a definite decrease. Frequent treatments with the mercury vapour quartz lamp were found to give the most rapid and most permanent results in raising the calcium content, and both the tetany and accompanying rickets were cured. The authors add that infantile tetany may occur with a blood calcium content within the normal range.

147. Novarsenobenzol in Lupus Erythematosus.

P. RAVAUT and BOCAGE (*Ann. de Derm. et de Syph.*, December, 1926, p. 657) report their results of treating lupus erythematosus by intravenous injections of novarsenobenzol. The treatment is based on the idea that at the back of many cases of this disease there is a syphilitic taint, usually hereditary, and that syphilis, though not the sole cause, acts by preparing the soil for the development of lupus, as it may do in other tuberculous lesions. Of the 23 cases treated, in 7 the lupus completely disappeared, in 4 almost completely, in 4 there was marked improvement, and in 2, where the disease was situated in the hair and was thus difficult to cure, no good results were observed. In the other 6 cases treatment had

to be abandoned because of unpleasant sequelae. The average dose given once a week was 45 cg. Rather troublesome reactions were occasionally seen, such as congestion, nausea, salivation, cough, cyanosis, headache, and insomnia, either immediately after injection or two or three hours later. As a rule the reactions were only transient; cyanosis or loss of consciousness contraindicates further treatment. The authors find that this intolerance may be lessened by the simultaneous injection of glucose and sodium hyposulphite. At least ten or twelve injections are needed, and as a rule no improvement is noted until about the fifth injection. In 22 cases the Wassermann reaction was positive eight times.

148. Treatment of Insomnia.

J. B. LOGRE (*Bull. Soc. de Thér.*, December 8th, 1926, p. 255) distinguishes four groups of insomnia: symptomatic, constitutional, intermittent, and the insomnia in febrile disorders. In symptomatic insomnia the causal disease must be discovered and treated; in this, as in all the other groups, the hypnotic is not the best treatment of insomnia, but merely a makeshift to be used only when all the known causes of insomnia have been excluded. The principal causes of an apparently isolated insomnia are gastric disease, puberty, in which pituitary medication is often useful, the menopause, for which thyro-ovarian treatment is indicated, disturbance of arterial tension, and latent infections, such as appendicitis, osteomyelitis, or syphilis. In constitutional insomnia drug treatment is of secondary importance, and more attention should be paid to physical and moral hygiene, physiotherapy, ultra-violet rays, and psychotherapy. In intermittent insomnia treatment of any kind is almost always unsuccessful, and in febrile diseases only small doses of hypnotics should be given, as otherwise the action of the drug combines with the infection to produce dream delirium.

149. Diathermy in Gonorrhoeal Endocervicitis.

B. C. CORBUS and V. J. O'CONOR (*Journ. Amer. Med. Assoc.*, November 27th, 1926, p. 1816) consider diathermy to be a valuable method of eliminating endocervical gonorrhoea. They state that the persistence of gonorrhoea in women is mainly due to the presence of the gonococcus in the paraurethral, cervical, and endocervical glands, and that treatment should aim at destroying the organisms *in situ* without causing any permanent injury to the endocervical canal. Since the gonococcus is instantly destroyed at 113° F., or at 104° F. prolonged for six or eight hours, while normal epithelial cells can resist 118° F. for an hour, the rationale of destroying the gonococcus within the living tissues is obvious. The clinical application of diathermy provides a means of obtaining the effect of regulated, deep-seated, localized heat on metabolism and the specific action of heat on the gonococcus. Cure will depend upon the use of a high-frequency machine delivering the proper current through properly designed and adjusted active and inactive electrodes, the time of application being controlled by thermometer readings. Details of such a machine and electrodes are described. It is added that treatment must be continued until the gonococcus can be proved to have been eliminated from the tissues. The authors are fully satisfied with the clinical results obtained by careful application of diathermy during a period of over six years in approximately 150 cases.

Radiology.

150. Radiographical Diagnosis of Aortic Regurgitation.

G. W. HOLMES (*Brit. Journ. Radiol.*, November, 1926, p. 409) reports the results of *x*-ray examination of thirty-four cases of aortic regurgitation of doubtful etiology. The method was found particularly valuable in distinguishing syphilitic from rheumatic cases. Diagnosis was based on the shape of the heart shadow and the presence or absence of aortic dilatation. Holmes states that in uncomplicated aortic regurgitation the curve of the left ventricle is rounded, the apex is blunt, the left axis approaches the horizontal, and the pulsations of the left ventricle are distinct. Increase in size varies in degree, but is always to the left. With involvement of other valves or auricular dilatation there is a general increase in the size of the heart, and *x* rays become less helpful. Increase in the transverse diameter of the aortic shadow may be due to syphilitic aortitis, hypertensive heart disease, arteriosclerosis, or an unusually high diaphragm. In syphilitic aortic regurgitation there is increase in the supracardiac dulness, abnormal pulsations in the region of the aortic valve, a cone-shaped supracardiac shadow, a flattened aortic knob, pyramidal shadows extending from the heart in the region of the innominate and subclavian arteries, and slight general enlargement of the heart's shadow, or marked enlargement of the left side of the heart with a blunt apex and horizontal position.

151. Indications for the Static Electric Current.

THE treatment of various forms of inflammation by the static electric current is recommended by W. B. SNOW (*Med. Journ. and Record*, December, 1926, p. 769), who traces its usefulness to the fact that, being a direct or constant current of high potential, it possesses the power of inducing contraction of the muscle cells. It aids in the mechanical removal of infiltration from engorged tissues where no infection is present, and relieves tense muscles by overcoming the contraction associated with inflammation; it also improves local and general metabolism. Snow has treated many hundred cases of prostatitis in this way, and believes that surgical treatment could be obviated very often by the early employment of the static current. Similar benefit is obtainable in other pelvic conditions, such as dysmenorrhoea, uterine congestion, subinvolution, and vaginismus, while visceral congestion, not associated with local infection or malignancy, also responds well. Other conditions treated successfully include exophthalmic goitre, arthritis, poliomyelitis, sciatica, and neuritis. The good effect on general metabolism from the active passage of the current through the body during its administration has often been found to be remarkable.

152. X-ray Treatment of Malarial Spleens.

P. HEYMANN (*Journ. de Radiol. et d'Electrol.*, November, 1926, p. 481) distinguishes two types of malarial spleens—the acute and the chronic. In the acute type, which follows a recent infection, the increase in the size of the organ is relatively small, the principal lesion being a general congestion of the adenoid elements; in the chronic, due to a slow infection of long duration, the spleen is much enlarged, often reaching down to the umbilicus and invading the left hypochondrium. In these chronic spleens there is, besides a congestion of the Malpighian follicles, a hypertrophic sclerosis, not only of the pulp, but also of the follicular portion. Failure to distinguish these two types is the cause of the failures experienced in radiotherapy. The author reports sixteen cases of malarial splenomegaly treated by *x* rays, and describes the treatment in each of the three groups into which he divided the cases. His findings were that in acute cases there was a complete regression, due to the influence of the rays on the lymphoid tissue, but in the chronic this diminution in size was only partial, the Malpighian follicles being affected by the rays, while the greater part of the spleen, being composed of fibrous tissue, was unaffected. In conclusion, Heymann states that radiotherapy in certain acute cases is efficacious, but that it does not produce a complete amelioration in chronic ones where a profound fibrous infiltration renders the tumour insensible to the action of *x* rays. He claims that the length of the treatment, its difficulties and inconveniences, are sufficient grounds for rejecting it in the treatment of malarial spleens, that acute cases regress spontaneously, or with the aid of quinine and arsenic treatment, and that chronic cases are best relieved by surgery.

153. Radium Treatment of Diseased Tonsils.

J. C. SCAL (*Med. Journ. and Record*, December 1st, 1926, p. 673) describes the treatment of tonsillar hypertrophy by removable platinum radon seeds on the lines suggested by Joseph Muir of New York. Using a special implanter, which is illustrated and described, the pain of insertion and removal is practically nothing. No anaesthetic is required, and no disability or shock results. The radon seed is planted in the middle of the tonsil and the rays are filtered by 0.3 mm. of platinum, which cuts off the caustic beta rays, so avoiding burning, necrosis, and sloughing. When the implanter is withdrawn the seed is left embedded with a short length of thread protruding from the opening; at the end of four days the seeds are easily removed by pulling on the thread. The author states that in this way the amount of radiation can be accurately measured and complete distribution effected. Only one treatment is necessary. He believes that this procedure affords an adequate substitute for tonsillectomy in cases where surgical treatment is contraindicated.

154. Iodized Oil in Bronchiectasis.

B. WHYTE (*Canadian Med. Assoc. Journ.*, December, 1926, p. 1443), from an experience of 150 cases, recommends the use of iodized oil in bronchiectasis as a means of ascertaining the extent and size of the bronchial dilatations and for treatment. Its diagnostic value in endobronchial injection lies in its fluidity, opacity to *x* rays, tolerance by the bronchial mucous membrane, and the comparative ease of its administration by the supraglottic method, 15 c.cm. of the oil being injected into the glottis in thirty seconds by means of a laryngeal syringe. The soft palate and posterior portion of the tongue are previously anaesthetized with a 5 per cent. solution of butyn or 10 per cent. cocaine, and the patient breathes slowly and rather more deeply than normally. The oil having a specific gravity of 1,350 its deposition in the

bronchi can be largely controlled by posture, the initial injection being made with the patient seated. Inclination of the body to the right, or forwards, or backwards will allow the oil to run into the right bronchi or the anterior or posterior branches as desired. For injection into the middle and ascending bronchi the patient should be lying on a tilting table with the desired side downwards. The intervals between the injections varied from five to fourteen days, and the duration of the treatment depends upon the tenacity of the symptoms. Thirteen patients treated by iodized oil were improved, and Whyte advocates the supraglottic method of injection because it is easy for both patient and operator, is brief in duration, requires only a small amount of local anaesthetic, and it answers the requirements of both diagnosis and treatment. The procedure should be avoided in conditions of acute pulmonary disease, cardiac decompensation, or in cachexia.

Obstetrics and Gynaecology.

155. Bandl's Ring as a Cause of Dystocia and Foetal Death.

H. H. SCHMID (*Zentralbl. f. Gynäk.*, October 23rd, 1926, p. 2760) relates the case of a 2-para, aged 26, whose first pregnancy had been terminated by perforation of the living child. After being forty-eight hours in labour she was prepared for Caesarean section, which was abandoned owing to death of the foetus. Vaginal examination, now made for the first time, showed almost complete dilatation of the os, an intact amniotic sac, and presentation of the vertex, together with a pulseless loop of the cord. Uterine exploration demonstrated compression of the cord between the breech and Bandl's ring, which was situated two fingerbreadths below the umbilicus. Delivery was completed by rupture of the membranes, version, and perforation and extraction of the after-coming head; a small degree of pelvic contraction was present. Bandl's ring in this case is regarded as purely a contraction ring; retraction was absent, as shown by the complete relaxation of the corpus uteri and the lower uterine segment between the pains, the absence of tension in the round ligaments and of tenderness in the lower uterine segment, the ease with which version was done, and the occurrence of five-minute intervals between the uterine contractions. The case is noteworthy in that Bandl's ring was perceived before intrauterine or even vaginal examination had been made. Quinine had been given five hours before delivery, but Schmid regards the case as an example of non-traumatic, possibly physiological, ring contraction, for which, if recognized before death of the foetus, Caesarean section is the ideal treatment.

156. Premature Detachment of the Normally Situated Placenta.

L. PRAGER (*Tidsskrift for den Norske Laegeforening*, December 15th, 1926, p. 1169) reports from the University Maternity Hospital in Oslo 50 cases of premature detachment of the normally situated placenta. The period covered was the last five years, during which there were about 8,000 confinements. There were 39 multiparae to 11 primiparae, and only in 16 cases was the urine free from albumin. Labour terminated spontaneously in 34 cases; in the remainder it was hastened artificially, vaginal Caesarean section being performed twice and abdominal Caesarean section four times. Four of the mothers died, both of the cases of vaginal Caesarean section terminating fatally. The infant mortality was 62 per cent. Only in 10 cases did the confinement occur at term; in 4 cases the pregnancy went beyond term, and in the remaining cases the pregnancy had not reached term when this accident happened. Discussing its frequency and diagnosis, the author states that before 1905 it was hardly ever diagnosed at the Maternity Hospital. Between 1905 and 1914 its incidence was 0.16 per cent., by 1921 it had risen to 0.5 per cent., and by 1926 to 0.6 per cent. The same evolution has been observed in the Rotunda Hospital in Dublin, where the incidence of this condition has risen from nothing some time ago to 0.74 per cent. Yet the clinical picture is well defined, and the diagnosis so easy, provided the condition is remembered, that midwives trained at the Maternity Hospital in Oslo make this diagnosis in private practice and send their patients forthwith to hospital. The symptoms which the author considers characteristic in a typical case are: (1) sudden pain in the lower abdomen; (2) internal or external haemorrhage, or both, with signs of anaemia; (3) hardness, enlargement, and tenderness of the uterus; (4) absence of labour pains at first, and, when labour has begun, imperfect differentiation of contraction and relaxation. The placenta is born immediately after the infant, together with numerous recent and old clots. In all the author's cases in which the placenta was detached over an area of a hand's breadth the infants died. With regard to the pathology of this condition, the author regards it as a sequel to a general poisoning, which in one case gives rise to eclampsia, in another to early detachment of the placenta, and in yet another to both these manifestations.

157. Cancer of the Cervix after Subtotal Hysterectomy.

R. MONOD (*La Gynécologie*, October, 1926, p. 614) states that the frequence of development of carcinoma in the cervical stump after subtotal hysterectomy is considerably greater than has been supposed. In addition to 40 cases reported in 1910 he has been able to trace 101 new ones. Many patients, he finds, are treated by radiotherapy without having been to gynaecological clinics. About one-third of the cases occur within so short a time of the removal of the major part of the uterus that it is probable that the carcinoma had originally an endocervical site and was present in an early stage at the time of operation. Probably in such cases, metrorrhagia occurring about the age of 40 has been erroneously attributed to myoma or chronic metritis. He adds that in the interpretation of biopsy findings, it must be remembered that the infiltrating forms of endocervical carcinoma usually give negative reports after curetting, and that it is advisable to obtain thorough dilatation by means of laminaria tents and to excise widely in the suspected area. For cancer occurring later in the cervical stump radium therapy is the treatment of choice. The prognosis, however, is not good; among 17 cases Oppert had no survival after eighteen months. Out of 14 cases treated by Vallon there were 3 survivals only of two to three years; and of 17 cases treated at the Paris Radium Institute 6 appeared to be cured at the end of intervals of two to five years.

158. Occipito-posterior Presentation.

MERCKEN (*Gynécol. et Obstét.*, 1926, xiv, 5, p. 343) remarks that occipito-posterior presentations of the vertex may turn during the course of labour so that the occiput goes towards the pubis or the sacrum; corresponding to these there are two modes of forceps application, whereby it is sought to turn the occiput respectively forwards or backwards. At the Lausanne Maternity Hospital it is the rule in forceps cases to bring about delivery with the occiput posterior, the greater fontanelle being turned forwards. Analysing 100 cases of occipito-posterior positions treated during four years and constituting 3 per cent. of vertex presentations, Mercken states that in 57 the occiput turned forward spontaneously and in 43 backward. The left occipito-posterior positions showed a much greater tendency than the right to persist in the posterior position. Pelvic contraction did not appear to favour occurrence of posterior positions. It is admitted that the perineum is more liable to suffer by delivery of the posterior than the anterior occiput; in correspondence with the posterior position there was a larger proportion of tears of the first degree and of episiotomies. In the occipito-posterior cases labour lasted more than thirty-two hours in 14 per cent. of cases as compared with 5 per cent. of occipito-anterior cases. In the series of 100 cases there were no stillbirths; this, together with the fact that 90 per cent. of persistent occipito-posterior presentations terminated by spontaneous delivery, is taken to justify the treatment at this clinic.

159. Urethral Stricture in Women.

W. S. PUGH (*Journ. Amer. Med. Assoc.*, November 27th, 1926, p. 1790), in view of the relief to urinary symptoms which frequently follows cystoscopy in women, concludes that urethral stricture is a definite pathological entity of more common occurrence than is generally supposed. He believes that the association of a urethral infection with a gonorrhoeal vaginitis is often overlooked, and that the stricture is almost always the result of an antecedent urethritis which has become chronic. The stricture formation usually commences on the floor of the urethra, and in many cases is annular with a pathology similar to the corresponding condition in the male. The lesion may involve the entire canal, but the anterior portion, especially at the meatus, is most frequently affected. Dysuria, urgency, and frequency are among the most important symptoms, and signs of toxaemia may be present. In some cases the symptoms are referable to the upper urinary tract, showing the relation between the urethra and kidneys through the sympathetic system. The diagnosis may always be established by using the bulbous bougie, and urethroscopy is indicated in urinary lesions in the female. Prognosis appears to depend largely upon the etiological factor, soft infiltrations responding well to treatment, while the prognosis for dense strictures is doubtful. Pugh advocates treatment by gentle dilatation, deprecating any form of rapid dilatation; operative procedures should only be employed in filiform types or complete obstruction. Commencing with the largest bougie that will pass the stricture, an increase of two numbers a week up to No. 26, or a little larger, should be made, followed by the passage once a month for a year of a large dilator.

160. Relation of Diseases of the Pelvic Alimentary and Genital Viscera.

E. VOGT (*Med. Klinik*, December 24th, 1926, p. 1986) discusses the relations of carcinoma of the rectum and of the sigmoid with the internal genitalia in women. Rectal cancer may manifest itself first during pregnancy, and whenever there is any bleeding from the bowel haemorrhoids should not be diagnosed until after a rectal examination. In rectal carcinoma occurring during pregnancy Vogt advises Caesarean section if the child is viable, followed by an operation on the rectum. He states that it is now known that in cancer of the internal genitalia, of the breast, or of the rectum occurring during pregnancy, the prognosis is rendered distinctly more favourable by changes in the internal secretions, and the increased activity of all vital processes. In making a diagnosis *of left ovarian or tubal disease the possibility of cancer of the* sigmoid must be borne in mind. Such a tumour may be so large and mobile as to suggest an adnexal tumour until examination under an anaesthetic renders the diagnosis clear. Carcinoma of the sigmoid may produce symptoms of simple stricture for a long period before its malignancy is discovered; 20 per cent. of ovarian carcinomata, with or without ascites, are of metastatic origin. The primary growth, in the great majority of instances, is in the alimentary canal, the most frequent sites after this being the gall bladder, uterus, or breast. Whenever bilateral ovarian carcinoma is found the alimentary canal should be explored and any tumour, however small, should be removed. In the last stage of cancer of the cervix the growth may invade the rectum, thus producing constipation and possibly obstruction; recto-vaginal fistula may occur also. Cancer in the body of a retroflexed senile uterus may invade the rectum. Dermoids, although not malignant, may drag down the mesosigmoid and so reach the intestinal wall. Discharge of pus from the rectum is usually due to a ruptured pyosalpinx, especially when of tuberculous origin. Puerperal parametritis may produce an abscess in the pouch of Douglas; this may rupture into the rectum or vagina. An abscess due to gonorrhoeal pelvic peritonitis usually clears up when the pus has reached the bowel. An unsuitable pessary may produce recto-vaginal fistula; Vogt strongly condemns wing and stem pessaries.

Pathology.

161. Clear Cerebro-spinal fluid in Epidemic Cerebro-spinal Meningitis.

ACCORDING to DUCAMP (*Progrès méd.*, November 27th, 1926, p. 1781) clear cerebro-spinal fluid may be found sometimes in the course of epidemic cerebro-spinal meningitis. In advanced cases when the fluid is purulent or turbid at the height of the disease it may have been clear either at the onset—that is, within the first forty-eight hours—or become clear during the period of subsidence, where polymorphonucleosis is being replaced by lymphocytosis. The cerebro-spinal fluid may remain clear throughout the disease in three conditions—namely, (1) incomplete attenuated cases; (2) normal cases with persistent lymphocytosis, or with a microscopically and macroscopically normal fluid; in such cases the lateral ventricles have been found to contain turbid fluid; and (3) fulminating cases, of which Ducamp records an example in which meningococcal meningitis gave rise to a lymphocytosis only. The practical conclusion drawn from a study of such cases is that an intrathecal injection of polyvalent anti-meningococcic serum is usually the best treatment for a case of acute meningitis during an epidemic of cerebro-spinal fever.

162. Conditions of Anaerobic Growth.

JUDA H. QUASTEL and MARJORY STEPHENSON (*Biochem. Journ.*, xx, No. 5, 1926, p. 1125) have advanced a hypothesis to explain why strictly anaerobic bacteria are unable to flourish in the presence of free oxygen. Working with *B. sporogenes* they showed that *if tryptic broth is inoculated with this organism* there is no growth within eighteen hours, but that if 0.1 per cent. of cystein is added to the medium a heavy growth occurs in this time, even when incubation is carried out aerobically. The cystein therefore acts either by its preventing the access of oxygen to the cell or by its ability to reduce intracellular peroxide. They then showed that if a stream of oxygen is bubbled through a suspension of *B. sporogenes*, which is then transferred to broth, growth occurs in eighteen hours if the broth contains cystein, but not for sixty-six hours if no cystein has been added. Clearly the oxygen has not killed the organisms; but it has decreased their ability to reproduce in a plain broth medium. The long lag phase is completely abolished by the presence of cystein in the broth. This lag phase was not due to the presence of peroxides in the cell, because in oxygenated suspensions in which the peroxide was reduced by cystein—which was itself subsequently removed—the same delay growth occurred. Since neither oxygen nor peroxides actua kill the organisms, and since growth occurs without p liminary lag in a cystein medium, it would appear that t long latent phase in plain tryptic broth is occupied by t production of hydrosulphides which enable the organisms proliferate. The authors suggest that before growth *B. sporogenes* can occur reducing substances, if not alrea present in the medium, must be formed in such quantity *to attain a certain critical reduction potential. The effect* oxygen in preventing growth is due to its removal of su stances responsible for the maintenance of this critic potential. Under aerobic conditions the reducing substanc can never be formed in sufficient quantity—in plain broth to neutralize their removal by the free oxygen present. B if reducing substances, such as cystein, are added to t medium, the critical reduction potential is obtained, and t organisms can therefore start growing immediately, ev under aerobic conditions.

163. The Diagnostic Significance of Urinary Diastase.

L. KREYBERG (*Norsk Mag. f. Laegevid.*, November, 19 p. 992) set out to determine the following questions: (1) t normal diastase content of the urine; (2) the significance the increased diastase content; (3) the diastase content the urine in the course of diseases of the pancreas a salivary glands. The technique corresponded to Wohlg muth's short test. Urine in decreasing amounts (1/2 c.cm *1/4 c.cm., 1/8 c.cm., etc.*) was mixed in a set of test tub with 0.9 per cent. saline solution so as to make a total volu of 1 c.cm.; 2 c.cm. of 1 in 1,000 watery solution of starch w added to each tube. After the tubes had been incubated f half an hour at 38° C. the diastatic action was increased b the addition of iodine, and the diastatic index showed ho many cubic centimetres of the starch solution were tran formed by 1 c.cm. of the urine tested. Among 235 health persons examined the index ranged from 4 to 64. Acu diseases of the pancreas and salivary glands usually, if n always, were accompanied by a considerable rise of th index. The rise was sudden and very often of short duratio Several acute febrile and abdominal diseases were accom panied by a moderate rise of the index, probably as th result of slight damage to the pancreas.

164. Circulation of the Cerebro-spinal Fluid.

CATHELIN (*Rev. Scientif.*, November 27th, 1926, p. 679) believe that there are no to-and-fro movements of the cerebro-spin fluid and that the subarachnoid mucous membrane is n permeable; it is a barrier rather than a filter, and the fluid neither its product nor a filtrate. There exists a glandul apparatus for the secretion of the liquid, which, coming fro the blood of the choroid plexus, returns to the blood by th perivascular sheaths or lymphatics. Cathelin asserts tha there is a definite circulation of the spinal fluid, as in th case of the blood and lymphatic systems. He believes the the change in composition of the circulating cerebro-spin and lymph fluids occurs in the spongy tissue of the per vascular sheaths. He found that subarachnoid injections Prussian blue, passing through the perineural sheath and th [illegible] reached the lymphatic ganglia, and coloured th vessels of the cistern of Pecquet, th reat lymphatic vessel. Methylene blu injected into the subarachnoid space, stained in certain case limited segments of the immediate marrow, and in the grea majority of cases coloured the marrow and the isthmus an base of the brain, penetrating into the ventricles. Th presence of the colouring matter in the cranial sinuses, th jugular veins, and the cranial venous plexuses indicates direct communication between the subarachnoid space an the venous system. Cathelin thinks that this knowledge o the true circulation of the cerebro-spinal fluid is of grea importance in medico-surgical procedures.

165. The Complement Fixation Test in Gonorrhoea.

I. GHEORGHIU (C. R. Soc. de Biologie, December 31st, 1926 p. 1577) has performed 400 complement fixation tests o patients with gonorrhoea. The antigen used was a salin suspension of an eighteen-hour culture of the gonococcus several strains of the organism being used; the suspensio was heated to 50° C. for thirty minutes. Of 41 cases o urethritis lasting six days or less 35 reacted positively. O 283 cases of urethritis lasting from *twenty to thirty days* al reacted positively. All cases of gonorrheal complications such as arthritis, salpingo-oöphoritis, and endocarditis were positive; the only exception was a case of kerato conjunctivitis. Control serums from patients with rheum atism, gout, arthritis, and endocarditis of non-gonorrhoea origin were uniformly negative, and all gonorrhoeal patient who had been cured gave a negative reaction. The author in summarizing his results, states that all patients in whon the gonococcus was demonstrated reacted positively.

EPITOME OF CURRENT MEDICAL LITERATURE.

Medicine.

166. Veronal Poisoning.

M. AJAZZI-MANCINI (*Il Policlinico*, Sez. Med., November 1st, 1926, p. 614) reports a case of fatal veronal poisoning in a woman, aged 43, who died after two days of broncho-pneumonia. At the necropsy the author found 0.683 gram of veronal in the brain and 0.182 gram in the liver. The preponderance of the drug in the brain agrees with other records. Bronchopneumonia as a final phase is common in veronal poisoning, and the author believes it to be due to the depressive effect of the drug on the neurotrophic system, rendering the pneumonic tissue much more susceptible to bacteria. Experiments on animals have confirmed this view. As regards elimination, the drug may be found in the urine for the first four or five days, but usually has disappeared before ten days have elapsed. Apart from the history, veronal poisoning has to be distinguished from cerebral haemorrhage, morphine poisoning, alcoholism, encephalitis, [illegible] traemia, diabetic [illegible] he chief reliance [illegible] h as strychnine, [illegible]

167. Early Syphilitic Aortitis.

H.-W. GRAF (*Rev. Méd. de la Suisse Romande*, November 25th, 1926, p. 855) finds that aortitis, the most frequent and tardiest manifestation of syphilis, occurs in 70 per cent. of cases. This affection usually appears between the ages of 45 and 50, on an average about twenty years after infection. V. Romberg, who studied 278 cases, places the lowest interval at four years and the maximum at forty-three. It is impossible to judge when these [illegible] ons (usually in the supracoronary [illegible] aorta) really commence, as they [illegible] their presence by subjective or ob[illegible] necropsies performed by Stadler on twelve syphilitic patients dying before the age of 30 no macroscopic alteration of the aorta was found. Bruhns and Wiesner found that in necropsies on the newborn evidences of congenital syphilitic aortitis, consisting of an infiltration of the media and adventitia of mononuclear cells or epithelioids, but no true gummata, were seen. Graf states that under the latest methods of treatment there has been a modification in the general evolution of syphilis, and Willmanns has shown that the tertiary cutaneous and osseous symptoms are giving place to nervous and visceral manifestations, the change being attributed to salvarsan. Jungmann and Halis have shown from necropsies that the number of cases with specific aortic lesions from 1921 to 1925 has nearly trebled those from 1904 to 1908, and that the interval of symptomatic appearance is much shorter in the treated than in the untreated. Gürich found *post mortem* these specific lesions in fifty cases in 1912 as against ten cases in 1909. These results lead the present author to conclude that systematic medication by the arseno-benzols is an important determining factor in the increase in frequency and early existence of specific aortic lesions, but that, nevertheless, the benefits from salvarsan are so great, and complete cure so often obtained, that this treatment should not be abandoned. He insists upon the importance of systematic and repeated examinations of the heart in all cases of syphilis, even in the absence of every subjective symptom. V. Romberg has shown that accentuation of the second aortic sound with a normal or lowered arterial pressure is the earliest objective symptom of supracoronary aortitis; that it can exist in the absence of a systolic murmur at the orifice; and that it is wise to combine methods of clinical exploration and of radiography in order to detect aortic changes at their commencement.

168. Gastric Crises in Tabes.

J. WAGNER-JAUREGG (*Wien. klin. Woch.*, September 16th, 1926, p. 1093) remarks that gastric crises are frequently observed in cases of tabes which are in a stationary condition and show a negative Wassermann reaction in the blood and cerebro-spinal fluid, so that the syphilitic process appears to have subsided. The dearth of tabetic symptoms in cases of gastric crises has been described by many observers. In some cases a gastric crisis is the first indication of the disease, and in rare instances may be the only symptom. Very little is known about the histological changes in the afferent nerves of the stomach in gastric crises, and the relation of these crises to the dorsal segment of the spinal cord is based more on clinical experience than on anatomical investigations. The unsatisfactory action of opium and its derivatives on the lightning pains of tabes is also illustrated in gastric crises, but with this difference—that in the former condition pain is the only symptom requiring treatment and therefore may yield to various antineuralgic drugs, whereas in gastric crises there is also the nutritional disturbance. Antisyphilitic treatment often proves ineffective. Förster at first obtained very good results by section of the posterior roots of the seventh to the tenth dorsal nerves, which supply the stomach with sensation. Subsequent failures induced him to divide more roots—namely, the fifth to the twelfth, and even the first two lumbar nerves. All operative methods, however, are liable to failure or recurrence of symptoms. Survival in any case does not last many months. In not a few cases malarial therapy has produced good results, although recurrences have also been observed after this. It has, however, the advantage over operative procedure that it can be repeated several times and may be successful when operation fails.

169. Hemiplegia in Epidemic Encephalitis.

H. VERGER (*Gaz. hebd. des Sci. Med. de Bordeaux*, November 27th, 1926, p. 710) remarks that though hemiplegia is generally regarded as not being one of the sequels of epidemic encephalitis, during the last three years at least four examples of the kind have been reported. He now reports two cases in women, one aged 29 and the other 44, who suddenly developed right and left hemiplegia respectively. Syphilis was excluded in both cases by a negative Wassermann reaction and the failure of specific treatment, while the existence of epidemic encephalitis was suggested by the presence of stupor, myoclonus, somnolence, and slight fever.

Surgery.

170. Ischio-Pubic Osteochondritis.

M. WÜLFING (*Deut. Zeit. f. Chir.*, December, 1926, p. 413) remarks that a very large number of articles have been published on osteochondritis, although it is only fifteen years since it was first described as an independent disease. Most of these articles, however, refer to that form of osteochondritis known as osteitis deformans juvenilis coxae, or the Calvé-Legg-Perthes disease. Next in frequency comes apophysitis tibiae, or Schlatter-Osgood's disease, Köhler's disease of the os naviculare pedis, and various other rare forms. Examples of osteochondritic changes in the pelvis, of which van Neck was the first to report two cases, are extremely uncommon. Wülfing, who records two cases, in a boy aged 12 and a girl aged 9 respectively, maintains that in the case of indefinite disturbance of gait suggesting disease of the hip-joint, the possibility of ischio-pubic osteochondritis should be considered if hip-joint disease can be excluded, as the symptoms are the same in both conditions. The defective ossification is manifested in the skiagram by a globular thickening at the junction of the pubis and ischium. The symptoms rapidly subside under conservative treatment and rest in bed. It is doubtful if the administration of calcium preparations, *x*-ray treatment, or artificial sunlight hastens recovery.

171. Diseases of the Gall Bladder.

E. A. GRAHAM (*Amer. Journ. Med. Sci.*, November, 1926, p. 625) believes that in man hepatitis is a constant accompaniment of cholecystitis, that perhaps in a majority of cases cholecystitis is produced by a direct extension of inflammation from a liver already inflamed to the wall of the gall bladder, and that this extension of inflammation occurs through the abundant lymphatic anastomosis between the liver and the gall bladder, the spread in the gall bladder being from the serous to the mucous surface, as the richest supply of lymphatic vessels in the gall bladder is situated immediately beneath the serosa. This conception of the pathogenesis of cholecystitis might also explain the frequency of vomiting as an early symptom, since peritoneal irritation would almost certainly occur early from the proximity of the lymphatic vessels to the peritoneal coat of the gall bladder. Hepatitis may follow experimentally produced cholecystitis, so that the establishment of a vicious circle between the liver and the gall bladder is suggested. Some cases of cholecystitis are due to haematogenous infections of the gall bladder, and others are contact infections with primary involvement of the mucosa. Kodama thinks that there is an intimate

relation between the lymphatics of the first part of the duodenum and those of the gall bladder. This would indicate that a duodenal ulcer might induce cholecystitis directly by means of lymphatic extension without the intervention of hepatitis. For the diagnosis of cholecystitis Graham recommends radiography, and describes his technique for the administration of sodium phenoltetraiodophthalein. He claims for this method that this, being a functional test of the gall bladder, discloses abnormality in very early and mild cases of cholecystitis, perhaps even before structural pathological changes are visible. Graham reports also that cholecystographic studies show that bile from the gall bladder does pass out through the cystic duct. He rather doubts the existence of the sphincter of Oddi, and describes experiments to show that it is of little importance in any case. Recent experiments by Copher and Kodama have shown that the emptying of the gall bladder is purely passive and can be explained on simple mechanical principles. Graham found that an artificial elastic gall bladder acted like a normal gall bladder in emptying and filling. Cholecystography showed that it behaved like a normal gall bladder, except for the inability to concentrate the bile by absorption of water.

172. Carcinoma of the Small Intestine.

E. D. CLARK (*Surg., Gynecol., and Obstet.*, December, 1926, p. 757) reports a case of colloid carcinoma of the small intestine. Commenting on the unusual occurrence of any type of carcinoma in this situation the author states that the growth appears more frequently at the upper and lower ends than in the middle of the small intestine. The symptoms are those of intestinal obstruction, and in no case has the diagnosis been made before operation. Clark advises that examination of the stools should be made for occult blood when there are indefinite symptoms suggesting partial intestinal obstruction. He adds that *x* rays give valuable assistance in diagnosing intestinal stenosis and in locating the lesion. Clark's patient was a woman, aged 59, whose first symptoms were severe epigastric pain, intestinal colic, and vomiting attacks occurring one to three hours after meals at intervals of two or three days. Constipation was present, but lavage and enemata gave marked relief. An *x*-ray examination showed marked distension of the small intestine, but no operation was permitted until complete obstruction supervened. The tumour mass was found in the ileum, about twelve inches from the ileo-caecal valve; no enlarged glands were detected. Recovery was uneventful.

173. Drainage after Cholecystectomy.

O. H. WANGENSTEEN (*Annals of Surgery*, December, 1926, p. 821) remarks that the advocates of dispensing with drainage after cholecystectomy have in mind three advantages which accompany its omission: diminution of adhesions, more rapid healing, and less danger of hernia. The chief deterrent has been the danger to life through the escape of bile, haemorrhage, and infection. This "ideal cholecystectomy" is not considered by the author to be a safe procedure. Numerous instances are reported where a second laparotomy was necessary because of bile leakage when drainage was omitted. A still greater number of patients died because of the escape of bile and the failure to drain. The leakage of bile may be early or delayed. That occurring soon after removal of the gall bladder is due to injury to the liver bed or severance of small aberrant bile ducts. The delayed escape of bile is occasioned by insufficiency of the cystic duct occlusion. In view of the risks of its omission drainage is therefore considered necessary. A gutta-percha tissue drain down to the stump of the cystic duct is said to be adequate. The drain should be left in undisturbed for about eight days and then removed gradually.

174. Malignant Tumours of the Long Bones.

W. B. COLEY and B. L. COLEY (*Arch. Surg.*, December, 1926, p. 779) dispute the current view that periosteal sarcoma of the long bones is one of the most malignant of all tumours, and that prognosis in these cases is hopeless. They consider that prognosis depends on early diagnosis and careful judgement in the selection of treatment. Amputation alone, even if early, gives little hope of cure. Radium and *x* rays, even when pushed, have failed to effect a permanent cure. The mixed toxins of erysipelas and *Bacillus prodigiosus* alone have effected a cure in a certain number of cases of the round- or spindle-cell type characterized by little production of bone. The mixed toxins and radium combined have given even better results, but no benefit has been obtained in cases associated with new bone production. The authors believe that the choice of treatment depends on this condition, and as a start the injection of toxins and the local application of radium may be tried. If marked improvement is noted the treatment may be continued, but, otherwise, amputation should be performed. Ten patients with inoperable disease treated with toxins and radium have remained alive and well for five to twenty-four years subsequently. This, the authors add, should prevent hope being abandoned in cases beyond surgical relief.

Therapeutics.

175. Vaccine Treatment of Whooping-cough.

D. VAN DER KOOI (*Nederl. Tijdschr. v. Geneesk.*, November 27th, 1926, p. 2455) refers to previous articles by Dutch writers on the subject (see *Epitome*, 1926, vol. i. paras. 40, 343, and 344) and records his observations on twenty-five cases which he treated with a polyvalent pertussis vaccine in successive doses of 1,000, 2,000, 3,000, and 5,000 million pertussis bacilli, with intervals of three, three, and four days between each injection. The results were classified in the following groups: (1) Two cases with complete recovery on the sixth day, when the third injection was given. (2) Fourteen cases which showed considerable improvement on the tenth day, when the third injection was given, and were practically cured on the seventeenth day, a week after the last injection. (3) Seven cases showed very little improvement on the tenth day, when the fourth injection was given, but were considerably improved by the seventeenth day. (4) Two cases which were not affected by the treatment. Thus in sixteen of the twenty-five cases an excellent result was obtained. The author's conclusions are as follows. Polyvalent whooping-cough vaccine is very beneficial in uncomplicated whooping-cough; in cases complicated by even mild attacks of bronchitis a mixed vaccine consisting of Bordet-Gengou bacilli, influenza bacilli, and pneumococci is best. When general or focal reactions occur caution is necessary in increasing the dose. General or focal reactions do not justify a favourable prognosis. In order to prevent local reactions the injections are best given in the trunk—for example, between the scapulae. Careful attention must be paid to unsuccessful cases, as thereby suggestions may be found for improving the method.

176. L. H. VAN DER VELDE (ibid., December 11th, 1926, p. 2665) reports his observations on seventy-three cases of whooping-cough in children treated with polyvalent vaccine from the Dutch Serological Institute at Utrecht. In sixty-one, or 80 per cent., there was rapid improvement, but of the remaining twelve none derived any direct benefit from the treatment, and four, who already had bronchopneumonia, died. The vaccine is most effective when it is injected in the catarrhal stage or as early as possible after the first typical paroxysm. At first four injections were given in doses of 1,000, 2,000, 3,000, and 4,000 million bacteria above the age of 2 years, and below that age 500, 1,000, 2,000, and 3,000 million. In protracted cases three more injections were given of 5,000, 6,000, and 7,000 million. Lately the doses have been 2,500, 5,000, and 7,000 million irrespective of age, only three injections being given, and always intracutaneously.

177. Mercurochrome in Local and General Infections.

H. H. YOUNG (*Journ. Amer. Med. Assoc.*, October 23rd, 1926, p. 1366), in a study of 680 cases comprising septicaemias, general infections, and local infections, reports that 74.4 per cent. showed great improvement or cure after intravenous injections of mercurochrome, and 19.6 per cent. complete failures. In the series were 13 cases of pernicious anaemia, in 10 of which the treatment was followed by immediate improvement, thus strongly supporting the belief that this disease is the result of a deep-seated, chronic infection. He states that in two-thirds of the cases there was little, if any, reaction; marked elevation in temperature, accompanied by a chill and followed by a sudden drop, generally occurred, but was usually followed by obvious benefit and often complete cure. Young states that when full doses are used care should be exercised, and the intervals between injections should be at least three days. A pronounced rise in the blood cell count was found after the injections, due probably to stimulation of the blood-forming organs. The author believes that mercurochrome has so great an action in curing infectious conditions that curative intravenous therapy has now become an established procedure.

178. Potassium Borotartrate in Epilepsy.

W. G. LENNOX and L. H. WRIGHT (*Boston Med. and Surg. Journ.*, December 23rd, 1926, p. 1199) refer to the treatment of epilepsy by potassium borotartrate, as advocated by P. Marie, who reported success with ten epileptics. The therapeutic action of this salt may be due to its reduction of the alkalinity of the blood. The present authors selected eight epileptic patients who for six months had received no sedative drugs; for one month each patient received 15 grains

of potassium borotartrate thrice daily. In the following month no medicinal treatment was given. In the third month each patient received 1½ grains of luminal twice daily. In the fourth month no drugs were given, and in the last month both luminal and borotartrate were given in the previous doses. The charts showed that during each month of treatment the epileptic attacks were somewhat less frequent than during subsequent drugless months, but that the only distinct fall in the number of convulsions occurred in the month in which luminal was given when major attacks were reduced to less than half their usual frequency. There was no corresponding decrease in the number of minor attacks. Patients who suffered from petit mal did not seem to do so well on a combination of the borotartrate and luminal as on luminal alone. In the case of a woman who had very frequent attacks potassium borotartrate reduced the daily attacks to less than ten, while luminal arrested them completely. When either drug was stopped, the number of attacks increased greatly. The authors conclude, therefore, that potassium borotartrate, though useful, is less effective than luminal.

179. Treatment of Erysipelas.

E. S. PLATOU and L. RIGLER (*Arch. Intern. Med.*, November 15th, 1926, p. 573), comparing the reports of eighteen unselected cases of erysipelas treated by iced magnesium sulphate and glycerin packs with a group of twenty-three cases treated by *x* rays, found vastly superior results from the latter method. Among those treated by the routine procedure there were four deaths, while among the twenty-three cases treated by *x* rays there was only one death, that of a child recovering from measles; the local signs of erysipelas in this child disappeared within thirty hours, but the toxic signs persisted, death being due to bronchopneumonia. In the majority of cases the temperature dropped to normal within twenty-four hours, and pain, toxicity, and general malaise disappeared within one or two days, whereas in cases treated by local applications the symptoms lasted longer. While practically all the control cases showed spreading of the disease after treatment was begun, only one patient treated by *x* rays showed a very slight extension. The authors conclude that treatment by this method effectively shortens the course and decreases the morbidity and mortality of erysipelas, producing a rapid improvement in both its local and general manifestations.

Laryngology and Otology.

180. Auditory Complications of Neosalvarsan Treatment.

C. FERRETTI (*Arch. Ital. di Otol.*, November, 1926. p. 605), discussing the effects of neosalvarsan on the apparatus of hearing, states that following the administration of this substance to human beings there have been inflammations of the auditory nerves on one or both sides, with or without other cranial nerves being affected. Seven rabbits were given intravenous injections of varying strengths and of varying frequency, and in none was he able to detect any interference with the function of the auditory apparatus, though some showed marked somnolence and one or two of them stages of excitement. In one rabbit, to which 2.05 grams had been given in ten doses, there was some fragmentation of Nissl's granules in cells in the region of the ventral cochlear nucleus and of the tuberculum acusticum. Another animal given a large dose of 0.45 gram was killed five days later, and the chromatin material in the cells of the spiral ganglion of Corti was found not as granules but dispersed evenly throughout the protoplasm; the nucleus tended markedly to move to the periphery of the cell. In no animal was there any change in the myelin sheath, the axis cylinder of the acoustic nerve, or in the sensory epithelium of the organ of Corti.

181. Naso-pharyngeal Fibroma.

C. MORARD (*Rev. Méd. de la Suisse Romande*, December 25th, 1926, p. 934) records a case of fibroma of the naso-pharynx in a young man, aged 22, in whom a large tumour filled the naso-pharynx and prevented nasal respiration, but did not bleed. After an unsuccessful attempt at snaring the growth it was removed in two attempts by means of strong forceps. The condition recurred after a few months, and three years later Morard again removed the growth and placed the patient on testicular gland therapy, believing that these tumours have a definite connexion with the male genital glands. The author reports that they usually occur in youths who have arrived at sexual maturity. He has also found, and his observations are confirmed by Escat, that they always occur in young men who have been absolutely continent and who are usually of a hard-working and studious nature. It is rare to find such tumours in married men or in immature boys. He compares this tumour with the fibromyoma of the uterus which occurs more often in sterile women or those with few children than in multiparous women. The uterine tumour stops growing or shrinks when the ovaries cease to function. The naso-pharyngeal growth, on the contrary, becomes more active during incomplete testicular activity. In dealing with the post-operative haemorrhage the author has had to pack the post-nasal space, and remarks how rarely middle-ear disease occurs after such treatment, despite the foul smell of a tampon after having been *in situ* for twelve to twenty-four hours.

182. Allergy in Oto-laryngology.

W. W. DUKE (*Arch. of Otolaryngol.*, November, 1926, p. 430) reviews the recent literature on allergy, mentioning particularly the transfer of hypersensitiveness and desensitization. Local sensitization has been repeatedly produced in the skin of animals and man, and the local areas can be again desensitized by the injection of the appropriate solutions. The theory of Zinsser that in human hypersensitiveness the immune bodies are attached to the tissues and in animals are free in the circulating fluids has been confirmed by experimental work with hay-fever serum. In some cases where there has been transfusion of blood to a sensitized patient there has resulted a very severe and serious reaction. Transfusion of blood from a sensitized donor to a normal individual does not appear to carry the sensitization with it. It has been suggested that most of the sensitizing bodies are foreign proteins, but that in some cases a new protein is formed *in vivo* by the action of some outside factor such as heat or light. As regards treatment, a number of cases of radical cervical sympathectomy have been reported; unilaterally it has proved ineffective, but the bilateral operation appears to offer some chance of alleviation. Some good results have been obtained by exhibition of calcium iodide, and improvement is reported after the use of iodized oils. In pollen therapy better results are obtained by giving the treatment during the season than by prophylactic doses. It is shown that after treatment in one season there will be no diminution in sensitiveness the following season, but that the patient will respond equally well to the treatment each year. Duke does not consider that surgical treatment of nasal lesions will of itself cure any cases of hay fever or asthma, but agrees that gross abnormalities must be corrected before success can be obtained by other methods.

183. Diagnosis of Accessory Nasal Sinus Disease.

A. A. HAYDEN (*Journ. Amer. Med. Assoc.*, October 23rd, 1926, p. 1390) finds that auscultation and percussion are valuable procedures in the diagnosis of accessory nasal sinus disease. Sound waves travel more easily through denser mediums, and the denser sinus will naturally transmit sound more readily. The density may be increased by thickening of the mucosal lining, the result of recent congestion or old and recurrent inflammations, by fluid or new growths, and by a combination of any or all of these factors. Other things being equal and both sinuses normal, the smaller should transmit sound better than the larger, as the impulses travel less distance through a less dense medium (the air of the sinus) and farther through a denser medium (bone, muscle, skin). Conversely, a large sinus with thickened walls, especially when filled with fluid, neoplasms, or both, affords a much better path for sound transmission than the normal sinus of corresponding size. The differential stethoscope is essential for all sinus auscultation, because opposite sinuses should be auscultated as nearly simultaneously as possible, and the following sounds may be utilized: Conversation, breathing, humming, tuning-fork vibration for relative intensity, and tuning-fork vibration for duration. Percussion—a blow on the top of the head—is felt more distinctly in the acutely or subacutely diseased sinuses. Hayden describes cases in which by the use of these methods he has been enabled to make correct diagnoses of sinus disease.

Obstetrics and Gynaecology.

184. Mitral Stenosis in Pregnancy.

ED. DOUMER (*Arch. des Mal. du Cœur des Vaisseaux et du Sang*, December, 1926, p. 791) observes that while acute pulmonary oedema is particularly ominous in cases of aortic disease, of hypertension, and in Bright's disease, it is also one of the complications that may occur in pregnant women with mitral stenosis. Apart from pregnancy it is said that the occurrence of pulmonary oedema in the course of mitral stenosis is quite exceptional. He reports three cases of minor attacks of pulmonary oedema, and concludes that they are much more common than has been believed hitherto. Doumer's patients appeared to have advanced stenosis with but a moderate auricular dilatation. These cases tend to

disprove the classic theory that hypertension is the dominant factor in the etiology of pulmonary oedema; even in the case of mitral stenosis it may occur without stasis or pulmonary hypertension. Pulmonary oedema due to mitral stenosis, apart from pregnancy, often follows a second infection, particularly a recurrence of articular rheumatism, as several previous writers have observed. No such factor occurred in the cases now reported. Donner draws attention to the remarkable fact that although pregnancy in a case of mitral stenosis is considered to be an important factor in the production of acute pulmonary oedema in one of his patients the symptoms disappeared during pregnancy. In explanation of this he states that pregnancy may produce cardiac dilatation and frequently causes the breakdown of a hitherto well compensated mitral lesion; by producing auricular dilatation it frequently evokes a reflex oedema, but when the auricle is already dilated pregnancy completes the dilatation, and may thus cause pre-existing crises of oedema to disappear. Thus it is unnecessary to hold pregnancy responsible for any disturbance that may directly induce pulmonary oedema in order to explain the crises of oedema that are due to certain mitral lesions. Pregnancy is only a factor in cardiac dilatation, and Doumer's patient appears to show clearly that its consequences vary with the previous condition of the myocardium.

185. Estimation of Foetal Maturity.

R. JARDIN (*Gynécol. et Obstét.*, 1926, xiv, 4, p. 240) states that Béclard's discovery, made in 1819, that ossification commences before the end of foetal life in the lower epiphysis of the femur was forgotten for many years until its importance was emphasized by Orfila in 1825 and Casper in 1862. From radiological studies of the epiphyses above and below the knee-joint in premature and full-time babies Jardin has found that the centre of ossification for the lower epiphysis of the femur (Béclard's point) appears at the beginning of the ninth month of foetal life and is always present at term: the centre for the upper epiphysis of the tibia appears at eight and a half months, but is not always present at term. It is justifiable to conclude (1) that a new-born child weighing 5½ lb. or more and measuring 18 inches in length, having centres of ossification both in the lower end of the femur and the upper end of the tibia, is a full-time baby; (2) a child weighing more than 5½ lb. and measuring more than 18½ inches, and showing Béclard's point, is a full-time baby; (3) an infant of weight less than 5½ lb. and length of from 16½ to 17½ inches, possessing an early centre of ossification in the lower femoral epiphysis, is at the beginning of the ninth month; (4) a child showing no centre of ossification either in the lower end of the femur or the upper end of the tibia, and having a weight less than 4½ lb. and a length less than 16½ inches, has not reached the beginning of the ninth month of gestation.

186. Application of Leeches in Puerperal Phlebitis.

GONNET, JEANNIN, and JOSSERAND (*Lyon Médical*, December 5th, 1926, p. 657) observe that the occurrence of puerperal venous thrombosis is always serious on account of the possible complications and the prolonged rest that is necessary. They describe six cases in which they attempted to prevent thrombosis and to modify the coagulability of the blood by the application of leeches. It is known that leeches produce, not only a local haemophilia, but also a diminution of the coagulability of the circulating blood. In the case of a primipara, aged 25, pain commenced in the right groin and calf on the ninth day after a normal delivery, the temperature being 101.5°. Five leeches were applied to the external surface of the right thigh; the pain was relieved, but the fever persisted. On the fourteenth day there was slight oedema over the right tibia, and five leeches were applied to the right leg; two days later all symptoms had disappeared. In a case of breech presentation in another primipara, aged 28, premature rupture of membranes was followed by a difficult extraction. On the fifteenth day pain began in the right leg, with muscular weakness and oedema of the ankle. The next day five leeches were applied, and the treatment was repeated on three days in succession. The oedema and pain disappeared, but the temperature rose to 103°. In spite of the repeated application of leeches the fever and oedema persisted though the temperature fell to normal. On the fiftieth day the patient had excessive oedema of both legs, which had not been influenced by recent applications of leeches. The authors consider that the antithrombotic action was clear. One of them had seen a multipara who had phlegmasia after each of her eight confinements; after the last of these leeches were applied twice and no sign of phlebitis was found. The only complication in the series of cases was one of anaphylactic urticaria. The authors cannot accept the suggestion that the secretion of the leeches, passing into the circulation, dissolves the fibrin of the clots already formed, but think that it modifies coagulation appreciably and rapidly.

Pathology.

187. The Metabolism of Oxalic Acid.

G. VIALE (*Rev. Swl-Amer. de Endocrin.*, November, 1926, p. 967), as the result of experiments on rabbits and dogs, has come to the following conclusions. (1) Injection of insulin does not cause any definite changes in the quantity of oxalic acid in the blood. (2) Injection of insulin into rabbits and dogs considerably lowers the elimination of oxalic acid by the kidneys; the same effect is observed in diabetic patients. (3) Injection of adrenaline considerably increases oxaluria. Periodic and daily injection of adrenaline always has a more intense effect on glycosuria. (4) Removal of the pancreas increases oxaluria. (5) In phloridzin diabetes no appreciable changes in the elimination of oxalic acid are observed. (6) It is therefore probable that the oxalic acid is derived from the metabolism of carbohydrates. The origin of oxalic acid is regulated by the internal secretion of the pancreas. (7) Injection of insulin is indicated in the treatment of oxaluria.

188. Tetanus Agglutinins and Antitoxin in Human Serums.

G. E. COLEMAN and K. F. MEYER (*Journ. Infect. Dis.*, October, 1926, p. 332) examined the blood serums of 104 persons in San Francisco for the presence of agglutinins and antitoxin to the tetanus bacillus, continuing the inquiry of Bauer and Meyer in California into the frequency of the tetanus bacillus in the faeces, in which they found that 24.6 per cent. of 117 persons examined were excreting the bacillus in their stools. Of the eight serological types of tetanus bacilli Types 1 and 3 were the most frequent, being present in 66.6 and 18 per cent. respectively of the positive cases. In the present work the patients' serums were agglutinated with washed antigens of each of the types, with the exception of the locally rare Type 6. Of the 104 serums 20 per cent. contained no agglutinins in dilutions of 1 in 10; 50.9 per cent. contained agglutinins in a dilution of 1 in 20; and 16.3 per cent. contained agglutinins in a dilution of 1 in 40 to 1 in 60. The authors paid no attention to titres of less than 1 in 40, considering that agglutinins in a dilution less than this were probably due to non-specific causes. Of the 17 serums containing agglutinins at 1 in 40 or higher, 11 acted on Type 5, 5 on Type 2, and 4 on Type 1, some serums being able to agglutinate more than one type of bacillus. The predominance of agglutinins to Types 2 and 5 was unexpected, since the commonest types found in the faeces were Types 1 and 3; this discrepancy may be due to a higher degree of agglutinability of Types 2 and 5. Tests for antitoxin were made on 44 serums, chiefly those containing agglutinins; in no case was sufficient antitoxin found to neutralize two minimal lethal doses of toxin for the mouse. These results are not in accord with those of Ten Broeck and Bauer, who demonstrated the presence of antitoxin in 37.5 per cent. of the inhabitants of Pekin (*Epitome*, June 5th, 1926, para. 579). It [illegible] tetanus bacillus does not remain long [illegible] tinal tract of persons in California to [illegible] whereas in China, where the sanitary conditions are poorer, the bacillus may be able to establish some degree of permanency.

189. Bacteria in the Muscles and Blood of Normal Animals.

A. F. REITH (*Journ. Bacteriol.*, November, 1926, p. 367) finds that living bacteria are frequently present in the blood and muscles. He examined 42 hams taken from apparently healthy pigs (altogether 216 samples were tested with the strictest aseptic precautions). Of these, 77 per cent. were found to contain organisms capable of yielding growth in artificial media; the percentage containing anaerobes was 57. He also removed portions of the gracilis muscle from anaesthetized hogs, rabbits, and guinea-pigs, and made blood cultures at the same time. From the muscle bacteria were isolated in all the hogs, 61 per cent. of the rabbits, and 89 per cent. of the guinea-pigs. From the blood they were isolated in all the hogs, 67 per cent. of rabbits, and 33 per cent. of guinea-pigs. The highest percentage of positive blood cultures was obtained in the 1 in 100 dilutions, probably because in the lower dilutions the bactericidal power of the blood was sufficient in many instances to prevent growth. Finally, a series of 20 hogs was examined at different times after feeding, in order to ascertain whether there is any truth in the belief that the number of organisms in the tissues varies with the state of digestion. From the blood of all the animals bacteria were isolated. A full determination of the identity of the different organisms isolated from the tissues of the animals was not made; 59 per cent. were staphylococci, 22 per cent. bipolar rods, 19 per cent. Gram-positive rods, 16 per cent. other cocci, and 6 per cent. Gram-negative rods. The low proportion of Gram-negative rods indicates that the organisms do not as a rule gain entrance from the intestinal tract.

EPITOME OF CURRENT MEDICAL LITERATURE.

Medicine.

215. Concurrent Varicella and Herpes Zoster.

E. C. WILLCOX and J. D. ROLLESTON (*Brit. Journ. Child. Dis.*, October–December, 1926, p. 270) report the case of a boy, aged 4, who first developed a characteristic eruption of herpes zoster of the left side of the chest and four days later a generalized eruption of varicella, the lesions of which were scattered over the trunk, face, and scalp, and were also present on the palate, base of the uvula, and buccal mucosa. The lesions were in various stages of development, some being papular, others vesicular, and others umbilicated from partial escape of their contents. On the trunk the vesicles were uniformly circular or ovoid, the better developed ones being surrounded by the pink areola commonly present in chicken-pox. Commenting on the case Rolleston points out that by far the most frequent association of herpes zoster and varicella is the occurrence of zoster in one individual, followed by the eruption of varicella in another, usually after an interval of fourteen days, corresponding with the incubation period of varicella. A much rarer association is the occurrence of varicella in one individual, followed by the appearance of zoster in another with whom he had been in contact, of which only ten examples were collected by A. Netter in 1920 and fifteen by H. Netter in 1921. Intermediate in frequency is the group of cases, of which the present one is an example, consisting in the concurrence of zoster and varicella; of this group H. Netter has collected twenty-one cases. While some writers regard the concurrence of varicella and herpes zoster as due to dissemination of a virus which in the first instance attacks certain posterior roots only, Rolleston adopts the more obvious explanation that, in view of the extraordinary frequency of varicella and the rarity of zoster, there is nothing remarkable in the occasional association of the two diseases, though the association is a mere coincidence.

216. Voluntary Pulse Control.

A. S. HYMAN (*Amer. Heart Journ.*, December, 1926, p. 188) remarks that voluntary and conscious control of the radial pulse is rare though not unknown. Some individuals with loose joints can rotate the humerus until the brachial artery is wound round the bone and compressed thereby. More obscure cases are those in which the radial pulse is controlled by voluntary muscular contraction in persons who have unusual neuro-muscular reflexes. The author reports three cases. The first, a German soldier who had become a professional entertainer, claimed to be able to stop his heart at will. After making several "passes" the radial pulse would stop entirely for fifteen or twenty seconds, and then return gradually. Medical examination showed that while the radial pulse was impalpable the apical heart sounds were normal. Moreover, there was no change in the opposite radial pulse nor in either femoral artery. Apparently the man could compress his subclavian artery, but this could not be determined as he refused further examination. The second case, a man aged 51, had noticed that he was able "to will" his left radial pulse to become smaller, and once he stopped it for about fifteen seconds without appreciable effort. This arrest was not associated with any change in cardiac rhythm, nor with the pulsation of any other artery. Electro-cardiograms showed very small beats coming through the radial artery, although they were too small to be palpated. The block appeared to be in the left subclavian, where it crossed the first rib beneath the insertion of the scalenus anticus. There was no visible muscular contraction, but the fluorescent screen showed slight movement in the soft tissues beneath the outer end of the clavicle. The patient is not aware of muscle movement, but he soon experiences muscle fatigue, definitely localized in the deep neck muscles. The longest period during which the patient could stop the radial pulse was 18.6 seconds; at the end of an hour's experiment he lost this power for more than a few beats at a time. When standing no change was noted until the left arm was held horizontally at shoulder level, when the radial pulse returned. When the patient lay down the pulse could be controlled even when the arm was held vertically. The patient's general health was excellent. This appeared to be a clear case of so-called pulse control by unusual neuro-muscular development. The third patient, a neurotic girl aged 22, had had many attacks of tonsillitis in childhood and two attacks of acute rheumatism, which resulted in aortic and mitral disease. During a routine cardio-vascular examination it was observed that the left radial pulse was smaller than the right, but a few moments later the radial pulses were equal. Since childhood the patient had retained an unconscious fear whenever her pulse was taken; apparently it recalled the long period when she lay bedridden with rheumatic endocarditis. She admitted that the mere act of feeling her pulse was always associated with a strong desire to stop her heart entirely. Electro-cardiograms showed that, as in the two previous cases, there was no change in the cardiac cycle. Ability to control the pulse was lost rather quickly through fatigue. In this case also the site of the arterial obstruction was probably in the subclavian artery. The author adds that this type of pulse control must be clearly distinguished from that due to extreme vagotonia, in which the heart may be slowed even to 44 beats a minute when the breath is held, but the pulse, though slow, does not stop.

217. Purpura in Women.

W. DAVID (*Med. Klinik*, November 12th, 1926, p. 1755) describes five cases of an unusual purpuric condition in women: two were severe and ended fatally, in two recovery was slow, and one was still under treatment. The onset in all was sudden, with no history of previous attacks; the symptoms were invariably a haemorrhagic rash on the trunk and limbs, profuse bleeding from the gums, severe uterine haemorrhages, and blood in the urine and stools. The bones and joints were unaffected; there was no pain and no fever. One case showed actual multiple subcutaneous haematomata. The blood count in all cases showed a normal or decreased number of leucocytes; the erythrocytes were much diminished, ranging from 1,800,000 per c.mm. in a fatal case to 4,000,000 in the mildest. The haemoglobin count was 20 to 60 per cent.; in only one case was anisocytosis present. In all cases physical examination was negative, and the spleen was not palpable. In a necropsy on one fatal case a large haemorrhage into the medulla was found. All forms of treatment seemed equally unavailing, though vitamin dieting, calcium, serum and milk injections, and blood transfusion were tried. Although the patients at first sight appeared to be scorbutic, careful inquiry failed to elicit a real vitamin deficiency in the diet, and they did not improve on antiscorbutic diet. Some infection is suggested by the sudden onset and the occurrence of all five cases in the space of two months; but they came from different parts of the country, only women were affected, and there was no fever. David thinks that the cases belong to the ill defined class of haemorrhagic diatheses which have been divided by Frank into a true thrombopenia (morbus Werlhofii) and abnormal permeability of the capillaries due to a toxic agent in the blood stream (Henoch's purpura). Although his cases at first sight suggested the former condition, the onset was atypical; a fatal termination is rare in a true thrombopenia, and thrombopenia was least marked in his fatal cases. But they were not true Henoch's purpura, in which bleeding from the gums does not occur. He concludes that the present dual division of cases of purpura is inadequate, and suggests that in his cases an internal secretion may be at fault.

218. The Dick Test in Practice.

G. A. RADEMAKER (*Nederl. Tijdschr. v. Geneesk.*, September 18th, 1926, p. 1290) records his observations on the Dick reaction in the department for infectious diseases of the Municipal Hospital at The Hague, his conclusions being as follows. (1) The Dick reaction is an indication of the presence or absence of antibodies against scarlet fever, and therefore may be employed (*a*) in diagnosis of scarlet fever, (*b*) in the determination of the susceptibility to scarlet fever of healthy persons; this is of special importance for those coming in contact with scarlet fever patients, such as nurses, for children's homes, vacation colonies, and hospital wards. (2) A previously positive reaction is rendered negative in most cases by an attack of scarlet fever. This change confirmed the diagnosis in some doubtful cases before absolute certainty was obtained by other clinical symptoms such as desquamation, etc. (3) A negative reaction in the first four days of scarlet fever may occur (*a*) because the skin, although it previously gave a positive reaction, now possesses sufficient antibodies, (*b*) because the skin for the time being is not able to react. (4) A Dick reaction obtained in a susceptible person before the onset of the disease, or one obtained during the eruptive period and therefore not recognizable, is often manifested by the appearance of a white spot, showing that the formation of antibodies has taken place. (5) A previously

positive reaction on appearance of the eruption tends to flare up again at the same time as, or even before, the first signs of the disease, but before anything can be detected on the rest of the skin. (6) In 11 out of 278 cases the reaction remained positive after an attack of scarlet fever. (7) In all doubtful cases a positive reaction should be compared with a control reaction, to see if it is due or not to a pseudo-reaction which does not exclude susceptibility to scarlet fever. (8) Susceptibility seems to be less among the poor classes than among the well-to-do, as the chance of infection among the former is naturally much greater. (9) In 29 cases a positive reaction was found before the appearance of the eruption. Rademaker never saw a person with a negative reaction contract scarlet fever.

219. Typhoid Osteitis and Periostitis.

D. Y. KEITH and J. P. KEITH (*Journ. Amer. Med. Assoc.*, December 25th, 1926, p. 2145), who report three illustrative cases, maintain that typhoid bone infection is much more frequent than is indicated by statistics, as in a great number of cases suppuration does not occur. It is much more frequent in males than in females, because a larger percentage of males have typhoid fever, and owing to their occupation are more liable to injury to their osseous system. The complication may occur as early as the thirteenth day, or as late as forty-five years after the onset of the typhoid infection. Almost every bone in the skeleton may be affected, but the most frequent are those exposed to trauma—namely, ribs, tibia, spine, femur, humerus, ulna, foot, and clavicle. The infection may involve the medulla, periosteum, osseous tissue, and cartilage. Periosteal involvement is usually not so great as in syphilitic periostitis, and bone destruction is much less than in the metastatic staphylococcic bone-infection so frequently seen in the young. The typhoid spine shows very constant *x*-ray changes, which consist in destructive lesions in the bodies of the vertebrae with absorption of the intra-vertebral discs, which are thinner than usual and blurred. Later new bone deposits are seen around the vertebral bodies, with exostosis laterally to the spine, and with bony deposits in the vertebral ligaments. Clasp-like bone projections may be seen connecting the bodies of the vertebrae laterally.

220. Syphilis and Hypertension.

ACCORDING to WOLFF (*Dermatol. Woch.*, No. 52a, Bd. 83, 1926, p. 1911) the importance of high blood pressure in the later stages of syphilis has been unduly emphasized. He investigated 160 cases of syphilis: of these, 70 had been infected recently, 15 were cases of tertiary syphilis, 35 had old latent syphilis, 10 were congenital syphilitics, and 30 suffered from neuro-syphilis or parasyphilis. Only 20 of these patients (12.5 per cent.) had a high blood pressure. This is contrasted with Thom's series of 50 patients, all of whom had distinctly positive Wassermann reactions and very slight heart and kidney lesions; in 58 per cent. of the cases hypertension was found, and Thom concluded that the blood pressure was raised in more than 50 per cent. of all cases of syphilis. Among his 160 patients Wolff could not find a single case of definite "essential" hypertension. Although evidence of former syphilitic infection in elderly patients is often associated with cardiac, vascular, or renal lesions, these may be the result of senile degenerative changes, or be due to other infections. Wolff believes that the more virulent manifestations of syphilis in its early stages have greater influence in producing hypertension than have syphilitic lesions occurring more than a decade after the primary infection, and that the apparently essential hypertension of this later period is due to some obscure organic changes in the vascular system. He recommends accurate blood pressure observations in all stages of every case of syphilis.

221. Post-influenzal Heart-block.

A. S. HYMAN (*Med. Journ. and Record*, December 1st, 1926, p. 698) records three cases of heart-block — in a woman aged 28, a girl aged 18, and a man aged 63 respectively—illustrating the various degrees of conduction system depression following mild attacks of influenza. His conclusions are as follows. (1) Heart-block of the first degree with delay in conduction time from the auricles to the ventricles not infrequently follows a severe attack of influenza. (2) Heart-block of the second degree with intermission of the pulse due to dropped beats may follow a mild attack of influenza. (3) Heart-block of the third degree with complete dissociation of the auricles and ventricles may occur in an already badly damaged heart, as a result of an influenzal infection. (4) Myocardial damage following influenza bears no relation to the character of the original attack. In Hyman's experience the mild or unrecognized cases showed the most severe cardiac complications. (5) Electro-cardiographic studies of all cases having myocardial involvement following influenzal infection is suggested.

Surgery.

222. Traumatic Asphyxia.

H. E. CONWELL (*Journ. Bone and Joint Surg.*, January, 1927, p. 106) reports four cases of traumatic asphyxia, and considers that the condition is probably more frequent, as a possible complication of injuries to the chest and abdomen caused by sudden violent compression, either of prolonged or short duration, than study of the literature would suggest. Its occurrence immediately following an injury is characterized by marked violet, purple, or black discoloration, involving the head, face, neck, and shoulders to the level of the clavicles in front, and the lower border of the trapezius behind, though in some cases it extends lower and down the arm to the attachment of the deltoid. The discoloration is not always uniform in intensity, and apparently the more severe the injury the darker it is. There was a well marked line of demarcation in all Conwell's cases, and in one there was a band of normally coloured skin over an area covered by a tightly buttoned collar at the time of the accident. In all four cases there was bilateral subconjunctival haemorrhage. In fatal cases death is due to associated injuries, and is never apparently directly due to the asphyxia; in patients who recover the discoloration lasts only a few hours, though deep-coloured spots may remain for some time. The subconjunctival haemorrhages clear up slowly, and a guarded prognosis should be given as to sight, since optic atrophy has been reported. The condition is not due to an extravasation of blood, but to compression of the abdominal veins causing distension of the superior vena cava and its tributary veins and capillaries, the venous blood being forced into the capillaries of the face and neck. Treatment is that for shock, with artificial respiration, oxygen, and stimulants when necessary; patients who recover should be advised to wear coloured glasses.

223. Simulated Tuberculous Peritonitis.

O. WIEDHOPF (*Zentralbl. f. Chir.*, January 15th, 1927, p. 145) records an error in diagnosis in the case of a girl, aged 16, who had had an abdominal swelling with feeling of pressure for some months. The bowels were irregular and occasionally constipated; there was no vomiting, and the appetite was good. The chest was asymmetrical, the upper lobe of the right lung being smaller than that of the left. The breath sounds were generally harsh, with prolongation of expiration at the right hilus. The abdomen was very swollen and tense, with epigastric tenderness on pressure, but skiagrams failed to show any disease of the abdominal viscera. There was a family history of tuberculosis, and the patient stated that she had had a cough for two years, with frequent night sweats. A diagnosis of tuberculous peritonitis was made, and the patient was treated by *x* rays, but the abdominal circumference increased by 3 cm. in three weeks and the constipation became worse. In spite of the epigastric tension, several nodular masses could be felt. The urine contained indican. The patient's condition became worse, the abdominal circumference was 88 cm., and preparations were made for laparotomy. Under the anaesthetic the distension suddenly disappeared and the abdomen assumed normal proportions. No enlarged glands or exudate were found, nor was there any sign of intestinal tuberculosis. The appendix was removed. During narcosis, the abdominal circumference decreased from 88 to 76 cm. As the patient recovered from the anaesthetic the abdomen again became distended, so that there could be no doubt that it was a case of meteorism produced by muscular spasm, possibly of the diaphragm. When the wound had healed the abdominal circumference was found to be only 80 cm. The patient and her mother were informed that there was no tuberculosis and that the appendix had been removed. The patient made a good recovery, and when last seen the abdominal scar was firm and painless and the abdominal circumference was only 71.5 cm. The author adds that there is no doubt that neuropathic patients can produce abdominal distension by aerophagy and by active contraction of the diaphragm.

224. Fatal Embolism after Injection for Varicose Veins.

S. LOMHOLT (*Ugeskrift for Laeger*, January 6th, 1927, p. 7) reports a case of death following the treatment of varicose veins with saline injections, but remarks that an isolated fatality does not warrant the abandonment of a satisfactory treatment which has not caused similar disasters in the past. A man, aged 60, suffered from much dilated veins of the left leg. Some of the varices were very large, and though there were no scars, some eczematous patches were present. Five injections of 5 c.cm. of a 20 per cent. saline solution were given at short intervals and without any difficulty, the local reaction being no more severe than usual. On the day of the last injection there was slight tenderness and swelling of

a vein on the inner side of the thigh, and, consequently, the last injection was introduced into a very dilated vein over the Achilles tendon. Three days afterwards the tenderness in the thigh increased, and two days later the saphenous vein was found to be thrombosed up to the fossa ovalis; it was tender, and the skin over it was a little red. His temperature was 100.5° F., and he complained of pain in the right side of the chest. During the following days there were signs of recurrent pulmonary emboli, and a little over a month after the last saline injection had been given a new embolus caused death within an hour. The author has treated more than 100 cases in the same way without any pulmonary complications, and correspondence with K. Linser, whose name is associated with this treatment, elicited the information that in his knowledge no such accident had hitherto been recorded.

225. Ranula.

AS D. C. L. FITZWILLIAMS (*Brit. Journ. Surg.*, January, 1927, p. 472) remarks, "ranula" is a loose term which has been applied to all cystic swellings of the floor of the mouth. Ranulae may take origin in the mucous glands, the sublingual gland, Blandin's gland, and the submaxillary gland. These tumours first form in the mouth and then burrow into other regions. Fleischmann described a type originating in a bursa, but no one has been able to confirm his findings. With regard to the sublingual gland, it is often difficult to define the connexion between it and a ranula. Many ranulae are thought to arise in the submaxillary gland. There are congenital, acute, and traumatic ranulae, and those due to the blocking of Wharton's duct. Mucous glands are numerous under the tongue and are liable to become cystic, as is frequently seen on the lips. The conclusions drawn are that ranulae arise in the salivary glands and the mucous glands, but nowhere else.

226. Paraformaldehyde as a Surgical Disinfectant.

ELISE SANDERS (*Nederl. Tijdschr. v. Geneesk.*, January 15th, 1927, p. 349) performed a series of experiments with instruments and rubber gloves which had been infected with staphylococcal pus. They were left for twenty-four hours with a 1-gram tablet of paraformaldehyde, and a broth culture was then inoculated. The 70 tests with paraformaldehyde were all negative, whereas of 70 controls without paraformaldehyde 21, or 30 per cent., were positive. Sanders therefore recommends paraformaldehyde as a simple and cheap means of disinfecting instruments and rubber gloves.

Therapeutics.

227. Vaccine Treatment of Vulvo-vaginitis in Infants.

L. V. BLANCO and N. M. VILLAZON (*Amer. Journ. Dis. Child.*, December, 1926, p. 805) discuss the treatment by vaccines of gonorrhoeal vulvo-vaginitis in infants, giving notes of eleven cases—five treated with an autogenous vaccine and six with a stock vaccine. From a review of the literature and their own experience they consider that autogenous vaccines have undeniable curative properties enabling a condition hitherto tenaciously resistant to treatment to be cured in a relatively short time. The authors claim very good results, not only with autogenous but also with stock vaccines, provided that the organisms are derived from a female child. The vaccine is used in three series of six 1 c.cm. ampoules, each containing a mixture of gonococci, *B. coli*, staphylococci, and streptococci. The six doses of each series were injected within forty-eight hours, and there was an interval of eight days between the series, and bacteriological examinations of the vaginal discharge showed disappearance of the gonococcus and diminution in the colonies of other organisms. Of the eleven infants so treated ten were entirely cured; in six the cure was effected in from one to two weeks, in three in from two to four weeks, and in one in six weeks. The discharge diminished considerably a few days after the commencement of the treatment.

228. Treatment of Typhoid and Paratyphoid Fever with a Staphylococcal Vaccine.

V. BIE (*Acta Med. Scand.*, December 10th, 1926, p. 160) has during the past four years treated typhoid and paratyphoid fever with vaccines, giving a typhoid vaccine during the first two years, and a staphylococcal vaccine subsequently. By avoiding a specific typhoid vaccine he was able to start treatment at once, relying on a clinical diagnosis and without fear of interfering with the Widal reaction. The staphylococcal vaccine was given by intramuscular injection to avoid the comparatively severe reaction which may follow an intravenous injection, and the commencing dose was 100 million. On the four following days the injections were repeated and gradually increased, the dosage on the fifth day being 1,000 million. Rigors were a rare sequel, and there was never any collapse; the local reaction was insignificant. During the four years under review 51 severe cases of paratyphoid B, and 54 severe, or rather severe, cases of typhoid fever were thus treated. Among the 51 cases of paratyphoid fever there were 39 in which the temperature fell during or immediately after the treatment, this fall usually being by lysis. In four cases the fall of the temperature was more gradual, and in eight the treatment seemed ineffective, although none of these 51 cases terminated fatally. Among the 54 cases of typhoid fever there were 35 in which this treatment seemed beneficial. Seven of the patients died. The cases in which the treatment proved ineffective were usually complicated by pneumonia, and nearly all the uncomplicated cases responded satisfactorily to this treatment, which apparently shortened appreciably the duration of the disease. In this way the author suggests that he may have reduced the mortality of the disease, but he admits that his material is not sufficient to justify the claim on statistical grounds.

229. Tartar Emetic in Phagedaenic Ulcerations.

J. KINGSBURY and S. M. PECK (*Journ. Amer. Med. Assoc.*, December 4th, 1926, p. 1900) state that the intravenous use of antimony potassium tartrate in chronic infections was suggested by the germicidal action of arsenicals in syphilis, malaria, and trypanosomiasis since antimony belongs to the same chemical group as arsenic. The authors and others have shown that antimony potassium tartrate in fairly high [illegible]. Its external [illegible] uses so much [illegible] uble tartrate is best used in a 1 per cent. solution in 5 or 10 c.cm. ampoules. The sterility of the solution is assured by its germicidal power, and it should not be boiled, since this causes decomposition of the salt. The authors recommend an initial dose of 3 c.cm., so that the patient's sensitivity may be tested. This dose should be increased by 1 c.cm. at each injection till the maximum of 10 c.cm. is reached, and three or four injections a week may be given; they should be administered slowly, thus diminishing the tendency to a reaction. In phagedaenic ulcerations the authors find that treatment should be continued until almost complete epithelialization has occurred, and in granuloma inguinale it should be continued for several weeks longer to prevent recurrence. A few cases show reactions. A mild reaction is marked by coughing and salivation, and a severe one by cyanosis, gasping, and vomiting. Even in the latter case the benefits are so great that patients welcome treatment. The authors have obtained excellent results from this method in phagedaenic ulcerations of the genitals, and have found that it causes a rapid subsidence of the discharge, and prompt relief of pain and swelling in lesions refractory to other measures. It renders unnecessary local applications, which such complications as phimosis and balanitis render painful or difficult. They add that it should not be employed for simple chancroids.

230. Metal Salts in Pulmonary Tuberculosis.

H. LARSEN and K. TÖRNIN[illegible] uary 13th, 1927, p. 19) report from [illegible] ark, clinical experiments based o[illegible] who has recently shown that manganese and cadmium in certain doses greatly increase the concentration of antibodies in the blood of mice and guinea-pigs. The sanatorium observations ran parallel with the laboratory experiments, manganese being first given to a series of patients, and cadmium at a later stage, when its extraordinarily beneficial action in experimental animals was observed. From February, 1925, to May, 1926, intravenous injections of manganese chloride were given twice a week to 31 patients, of whom 4 were in the first, 9 in the second, and 18 in the third stage. As a rule, reactions occurred directly after the injections, consisting of congestion of the head, a rise of temperature, giddiness, headache, palpitation of the heart, and nausea. Tubercle bacilli were demonstrable at the commencement of treatment in 18 cases, and only in 3 did they disappear from the sputum. Of the 31 patients, only 12 showed improvement, whereas 12 showed no change and 7 became worse. Lunde published very encouraging results from treatment of patients in the third stage with injections of cadmium, 66 per cent. being rendered sputum-negative, but the present authors cannot confirm this experience. Since March, 1926, they have treated 10 patients with injections of cadmium, and in none could the claim be made that an improvement had been effected which could be traced to the treatment. They add, however, that even though the result of this investigation was entirely negative, no judgement on the suitability of this remedy in the treatment of tuberculosis in general is possible because the cases were too few and too severe.

231. Treatment of Malarial Bronchopneumonia.

G. CAUSSADE and A. TARDIEU (*Bull. Soc. de Thér.*, November 10th, p. 232), who record an illustrative case, remark that, in addition to acute bronchopneumonia, malaria may be responsible for chronic respiratory syndromes, among which may be included bronchitis, chronic fibroid pneumonia, chronic intestinal pneumonia, "sclerosis of the pulmonary framework with pigmentary infiltration or pneumo-paludism of Grall," and the pneumo-malaria of the apex of De Brun du Boisnoir. The authors' case was that of an Algerian native, aged 33, who had contracted malaria many years previously; he was suffering from subacute or chronic purulent bronchitis with congestion of the bases. The malarial nature of the attack was shown by the occurrence of typical malarial paroxysms during the course of the broncho-pulmonary attack. A rapid cure was obtained by the method advocated by Bretonneau and Trousseau of administration of powdered cinchona in daily doses of 10 grains, whereas the previous treatment, such as antipneumococcal serum, auto-vaccine therapy, and intratracheal injection of eucalyptol, had proved quite ineffective.

Neurology and Psychology.

232. Epidemic Polyneuritis with Meningeal Reaction.

M. ROCH and R. RICHEL (*Schweiz. med. Woch.*, January 1st, 1927, p. 18) report four cases of a condition which they have observed during the last two years, and regard as a new clinical entity. The disease begins suddenly with signs of infection which are sometimes ill marked but may consist of fever, headache, and sore throat. The attack would appear to be of little importance were it not for the fact that a neuro-meningeal syndrome develops simultaneously or shortly afterwards presenting the following features: slight and transient meningitis with spinal predominance; paralysis or paresis of varying site and extent with loss of the tendon reflexes, especially in certain muscle groups, and more frequently the proximal than the distal regions; an almost complete absence of sensory changes, which are represented merely by slight paraesthesia and spontaneous or provoked painful sensations connected with meningeal irritation; and a rapid course as soon as the motor symptoms develop, slow retrogression, and a favourable prognosis. The authors are inclined to regard the condition as related to epidemic encephalitis, for the following reasons: (1) Epidemic encephalitis is capable of producing lesions of the nerve roots, nerve trunks, and peripheral nerves. (2) Typical cases of peripheral forms have been accompanied by undoubted symptoms of encephalitis. (3) The clinical course of the polyneuritis is also in favour of an encephalitic nature. The manifestations vary from day to day, and are usually of long duration, but the cases generally have a relatively favourable prognosis. (4) The well recognized polymorphism of encephalitis. (5) The epidemiological character of the cases closely resembles that of epidemic encephalitis, the cases being sometimes sporadic and sometimes in groups. (6) The coincidence of the date of the appearance of the first cases of polyneuritis and those of the first cases of epidemic encephalitis in 1916–17. Subsequently cases of polyneuritis became increasingly numerous, so that it may be maintained with Crouzon that the character of Economo's disease underwent a change in that in 1917–18 lethargy and diplopia were usually seen, in 1919–20 neuralgia and myoclonus, and in 1925–26 motor polyneuritis. (7) Some striking cases in which contagion appeared possible. In the same family and in the course of six months a girl had encephalitis, her mother neuralgia and flaccid paraplegia, and her sister sensory changes with Babinski's sign and transient amaurosis. (8) The absence of any other disease to which the syndrome of epidemic polyneuritis could be attributed.

233. Hydrotherapy in Mental Diseases.

THE use of hydrotherapy in mental diseases is recommended by A. H. RING (*Med. Journ. and Record*, December 15th, 1926, p. 773), who gives details of the treatment and the indications. A prolonged bath at a temperature of 97° F. is sedative, regulates the circulation, and promotes elimination. In addition to its use in acute mania and chorea, it is beneficial in insomnia, asthenia, or cardiac conditions, if limited to about twenty minutes to an hour, according to the reaction and comfort of the patient. The wet pack is also useful as a sedative in conditions of excitability, and promotes nutrition by stimulating metabolism. Hot spinal fomentations are valuable as sedatives in mild cases of nervous disorder, and at night for insomnia; they are also useful in backaches and acute colitis. Simple shower or needle baths give mild stimulation, the degree of which can be increased by subsequent vigorous rubbing with table salt, followed by another colder shower. This leaves a very active hyperaemia and is a most valuable general tonic. For more robust cases and in alcoholic conditions a Scotch douche is preferable, the patient being placed in an electric light cabinet, with his feet in warm water and a towel wrung out in iced water upon his head, until profuse perspiration begins. A warm shower is then applied, followed by alternative hot and cold douches, beginning at the feet and slowly extending over the body. The pressure is increased for a few minutes so as to massage the tissues, and in this way an active and deep hyperaemia results, which greatly diminishes restlessness, produces a comfortable glow, and quickens metabolism. The author claims that, in dealing with sluggish or otherwise disturbed bodily functions and local congestions, which occur in nearly all nervous and mental conditions, there is no single measure so satisfactory as hydrotherapy.

234. Involuntary Movements in Tabes.

G. GUILLAIN, T. ALAJOUANINE, and L. GIROT (*Ann. de Méd.*, November, 1926, p. 530) remark that though a few writers, such as Cruveilhier, Trousseau, Leyden, Rosenbach, and Pierre Marie, allude to the occurrence of athetotic movements in tabes, no mention is made of them in most of the text-books of neurology. The present authors, who report four cases which they have observed at La Salpêtrière in the course of the last few years, describe the following three groups of involuntary movements in tabes, which differ in their character and situation, and in their relation to the other signs of tabes and to the evolution of the disease. The first group consists of movements which are mainly athetosiform, variable in character, non-rhythmical, and frequently set going by voluntary movements such as walking and diminished by rest. They are chiefly localized in the extremities, which present special deformities. They are associated with other signs of tabes, such as disturbance of tonus, superficial and deep sensibility and motility, and the presence of ataxia. The movements in the second group consist of a rhythmical tremor, diminished by rest and exaggerated at the end of a voluntary movement like an intention tremor. It affects the whole of the limbs and not the extremities only. The tremor is probably due to a focal syphilitic lesion in the mid-brain. The movements in the third group are of a chronic type and are confined to the face, tongue, and soft palate. In these cases there is probably a focal lesion involving the central tract in the mid-brain or certain adjacent motor tracts.

235. Mental Disease and Physical Form.

F. I. WERTHEIMER and FLORENCE E. HESKETH (*Medicine*, November, 1926, p. 375) observe that although some investigators have attempted to distinguish by anthropometry insane from normal individuals, yet it is extremely difficult in psycho-pathology to make a generic distinction between abnormal and normal. It appears certain that various psycho-pathological reactions are concerned in psychopathic personalities, and even in the behaviour of normal people. This is true also for the two commonest psycho-pathological reaction types—the manic-depressive and the schizophrenic. Modern researches have shown that there are no very significant differences in the quantitative incidence of mental disease in the ancestry of normal and abnormal individuals. The tendency of these modern studies has been increasingly to draw on all even slightly abnormal relatives, and finally on all members of the family. Despite the progress of modern heredo-biological psychiatric research, the knowledge of even a complete family history gives no clue to the pathogenetic factors of psychoses. For this study the authors consider that the modern dynamic and analytic point of view have proved more fruitful therapeutically, emphasizing the changeable psychogenic and environmental factors. The authors studied sixty-five male patients chosen without regard to diagnosis or physique, and found a certain correlation between morphological constitution, mental disease, and personality. They state that the pyknic (thick-set) types seem to occur more frequently in affective psychoses, while the more slender types are found to have schizophrenic psychoses and self-conscious personalities. Physical abnormalities are associated with schizophrenic reactions, and are undoubtedly traceable at times to certain endocrine disorders, such as those of the gonads and pituitary gland. The morphological and mental changes in cretinism and myxoedema are well known examples of endocrine etiology, but this subject has not yet been investigated by accurate anthropometric methods. The authors conclude that although structure and function may be assumed to be definitely related in the psychological sphere, yet both the extent and the nature of this relation are so far unknown. The use, therefore, of morphological constitutional signs in psychiatric diagnosis or prognosis is premature, although the occurrence of physical abnormalities may give some help in differential diagnosis.

Obstetrics and Gynaecology.

236. Treatment of Rigidity of the Cervix.

E. TONEFF (*Gynecol. et Obstet.*, December 6th, 1926, p. 384) states that in accouchements all interventions in dystocias should combine the minimum of risk with the maximum of benefit to both mother and child, and that dystocias of the maternal soft parts are twice as fatal to the infant as are those of the pelvis. Among the former rigidity of the os often occurs, even in patients with normal pelves and good uterine contractions, thus rendering dilatation slow and painful and labour very prolonged. Various writers describe two forms of cervical rigidity—the anatomical and the spasmodic. Toneff maintains that spasm of the uterine os is commoner than is thought, and is often the sole cause of the rigidity. This tetaniform spasm of the muscular fibres of the os may be either primary or secondary to some pathological condition, and is a great factor in causing long painful labour. With a view to exercising a sedative antispasmodic action on the rigid os Toneff has employed with excellent results belladonna or atropine, often combined with morphine, in the form of suppositories. He claims that chloroform has no appreciable sedative action on the uterus, an action markedly possessed by atropine, especially when used with morphine. The dosage recommended is about 1/4 grain of morphine with 3/4 to 1 grain of belladonna. No toxic effects to either mother or child have been observed. The author claims that this treatment, by abolishing the cervical spasm and rigidity, facilitates, quickens, and eases labour; that it should be administered as soon as the rigidity has been unmistakably diagnosed; and that the usual obstetrical interventions, whether by a bag, metallic dilator, bimanual manipulations, or Caesarean section, should not be employed until this simple therapeutic method has been used.

237. Quadruple Pregnancy.

D. ROSSI (*Rassegna internaz. de clin. e. ter.*, November 30th, 1926, p. 673) records an example of quadruple pregnancy in a woman, aged 38, who had had four children and two miscarriages by her first husband and two children and two miscarriages by her second husband. The quadruplets, which were born by podalic presentation, all died within a few hours of birth. Rossi has also collected 15 other cases of quadruple pregnancy from the literature from 1900 to the present day. In 11 of the 16 cases the pregnancy ended prematurely; in 1 there was placenta praevia, in 3 post-partum haemorrhage, and in 11 intervention was needed for difficult labour. Of the 60 foetuses born only 9 survived. The statistics of the frequency of quadruple pregnancy vary with the different writers. According to Veit there is one case among 388,000 births, and according to Patellani one among every 963,692 births. Brat-tröm found that one quadruple pregnancy occurred in Sweden every two or three years. According to Veit male foetuses are slightly more common than female in quadruple births. As a rule the mothers of quadruplets have had more pregnancies than the mothers of twins or triplets, and their average age (35 to 40) is higher. Examination of the foetal membranes shows that quadruple pregnancy is almost always due to fecundation of several ova and rarely to fecundation of a single ovum. In view of the fact that quadruple pregnancy is obviously related to a high multiparity, and especially to advanced age, a pregnancy of this kind may be regarded as a sign of sexual decadence.

238. Induction of Labour in Pelvic Contraction.

J. MCGIBBON (*Med. Journ. of South Africa*, November, 1926, p. 121) advocates the induction of labour for minor degrees of pelvic contraction, or of equivalent foetal oversize, as affording the nearest approach to normal labour, and in preference to Caesarean section. In the prevention of stillbirth induction is of value in avoiding the pathological results of excessive moulding. Except in those cases where the child is small McGibbon practises induction in all elderly primiparae a week or ten days before the expected date of confinement, and he thinks that Caesarean section should be reserved for extreme degrees of contraction and for elderly primiparae for whom it may be the last chance of having a living child. Prior to induction about 15 grains of quinine are administered daily for two or three days in order to sensitize the uterus, following which, by means of one or two fingers, the membranes are extensively detached from the decidua, usually producing a definite "show." This should be performed under an anaesthetic in primiparae, but in many multiparae no anaesthetic is needed. In cases where an unyielding os prevents the satisfactory detachment of the membranes by the finger alone bougies may have to be used. Induction of labour under rigid asepsis and with judicious selection of cases has an almost negligible maternal and and a diminishing foetal and neo-natal mortality; the method described is suitable in private practice. McGibbon recommends that the premature infant should be treated for one month in a maternity hospital.

239. Maintenance of the Foetal Heart Beat during Labour.

E. SPIER (*Med. Klinik*, December 3rd, 1926, p. 1885) advocates cardiac stimulants and general anaesthesia in cases of foetal distress where the heart beat is below 100 or over 160 during several intervals between pains. If quick delivery is possible ether anaesthesia alone will quicken the slowed foetal heart and maintain it during spontaneous or forceps delivery. More difficult are the cases in which the foetal heart is failing before forceps can be applied after Caesarean section is advisable. The usual cause of intrauterine asphyxia and foetal death is disparity between the size of the head and the pelvis, and it may also be due to abnormally strong pains. It is seen mainly in the case of a flat pelvis with a large child, or a normal pelvis and a post-mature child. Poeck has treated four cases successfully by giving the mother intravenous injections of cardiac stimulants, and in one case a similar injection was made into the caput succedaneum just before applying forceps. Spier reports a case in which the foetal heart was 80 between the pains and slower during them; it was irregular, and meconium was being passed. Strophanthin was given intravenously and ether anaesthesia begun. Half a minute after the injection the foetal heart increased to 120 and became regular, and anaesthesia was maintained until forceps delivery was possible (1 hour 10 minutes). The heart beat remained regular at a rate of 120, except when the anaesthesia was light enough to allow of strong pains, when it slowed again. The child was blue on birth, but revived quickly. Spier prefers ether to chloroform, because it can be kept up longer and the dosage better regulated; its slower induction is compensated by giving strophanthin to maintain the heart until anaesthesia is complete.

240. Gonorrhoea in Pregnancy.

E. V. DAVIS (*Urol. and Cutan. Rev.*, December, 1926, p. 710) states that the incidence of gonorrhoea in pregnant women during his thirty years of obstetrical work has been about 22 per cent. and that of syphilis about 3 per cent. Neglected gonorrhoea in women may lead to mixed infections and involve the uterus, tubes, and ovaries to such an extent that sterility is the usual sequence. Laboratory findings should not determine the diagnosis, since a chronic gonorrhoeal discharge is often mistaken for leucorrhoea. The best plan is to examine the patient several times during her pregnancy. If the discharge is not due to chronic gonorrhoea it will clear up under proper douching in a few days; if it is due to gonorrhoea it will be more stubborn and will return if the treatment be neglected. The treatment consists in simple vaginal douches of mercury perchloride 1 in 4,000, twice daily in active cases, and once daily as soon as the discharge begins to disappear. After it has ceased the douches are given every other day and then twice a week, but the patient should be under observation until the time of her delivery. If the discharge recurs after a day or two without treatment the initial treatment is resumed. In cases so treated ophthalmia neonatorum is very rare. As soon as the infant's head is born the eyes are wiped with dry sponges, and 1 per cent. silver nitrate solution is instilled into them soon after birth. The entire body is then washed in a bath of 1 in 10,000 mercuric chloride solution, and the child is placed in a sterile blanket.

Pathology.

241. Transmutation of Pathogenic Cocci?

MORGENROTH and his co-workers asserted that by growing pneumococci in a medium containing optochin they were able to transform them into streptococci of the *viridans* group, but H. A. REIMANN (*Journ. Exper. Med.*, January, 1927, p. 1) has repeated this work, but has been unable to confirm their results. A Type I pneumococcus was grown in serum broth containing a sterilized suspension of dried yeast on to which optochin hydrochloride (ethyl hydrocupreine hydrochloride) had been absorbed. After three subcultures plates were made, and a number of small thin colonies with a rough surface, similar to the "rough" type of pneumococcus observed by other workers, appeared. Similar results were obtained when the organism was grown in broth containing optochin alone or in serum broth containing yeast alone. These rough colonies are similar to those which were obtained by Morgenroth and

considered as true *Streptococcus viridans* colonies. The present author, however, believes that they are not streptococci but rough varieties of pneumococci, since they are soluble in bile, though not so readily as the ordinary variety of pneumococci, and they can be dissolved by a 2.5 per cent. solution of sodium taurocholate provided a saline suspension is employed. If a broth suspension is employed a 2.5 per cent. solution is unsatisfactory, but higher concentrations of taurocholate will effect lysis. These organisms also undergo autolysis very easily, which streptococci do not. Saline suspensions of six strains of the rough pneumococci when incubated at 37° C. for forty-eight hours were completely autolysed; similar suspensions of ten strains of *Streptococcus viridans* were not autolysed in this time. Moreover, the immunological reactions of the rough pneumococci obtained by Morgenroth's method were identical with those of rough pneumococci obtained by other methods. An attempt was also made to convert *Streptococcus haemolyticus* into *Streptococcus viridans* by growth in serum broth containing rivanol. Morgenroth claimed that he had been successful in this. In spite, however, of attempts made with twenty-six strains of haemolytic streptococci, about 400 transfers being made, Reimann failed to effect this transformation.

242. Graphic Representation of the Pressure of the Cerebro-spinal Fluid.

S. TZANCK and P. RENAULT (*C. R. Soc. de Biologie*, January 21st, 1927, p. 81) have devised a simple method for registering the pressure of the fluid in the subarachnoid space. A lumbar puncture is performed in the usual way with the patient in the recumbent position. Attached to the needle is a rubber tube, fitted apparently with a three-way tap by which it is possible to lead off the cerebro-spinal fluid to a tube for collection, or to put it into communication with a manometer, or to arrange for the reinjection of air into the spinal canal. As soon as the needle is in position the pressure of the fluid is noted; then 1 c.cm. is withdrawn at a time, the pressure being determined after each portion, till 10 c.cm. have been removed. A graph is then plotted with the amounts withdrawn along the ordinates and the pressures along the abscissae. In a normal person the resultant curve is a horizontal line on which undulations due to coughing, muscular effort, and other disturbing factors are apparent. The pressure, which corresponds to 15 c.cm. of water, remains stable. In pathological conditions the actual pressure may be different and the curve is no longer horizontal. For example, if the withdrawal of the fluid is accompanied by a rapid fall in the pressure, an encysted meningitis or a meningeal tumour may be present. If, on the contrary, the pressure is high and is not lowered by the withdrawal of 10 to 20 c.cm. of fluid, it is possible that the subarachnoid spaces are distended, as may happen in tuberculous meningitis. Such observations may be made in the absence of any chemical or cytological alterations in the fluid.

243. Plasma Proteins in Health and Disease.

H. A. SALVESEN (*Acta Med. Scand.*, December 10th, 1926, p. 147) refers to the work of Rowe, Epstein, Robertson, and others, and states that there is considerable variation in the concentration of plasma proteins and in the relation of albumin to globulin. As the result of examining sixteen men and sixteen women, whose ages ranged from 23 to 40, he found in the men an average total protein content of 7 per cent., the albumin averaging 4.44, the globulin 2.58 per cent., and an albumin-globulin ratio of 1.72. In the women the total protein averaged 7.02 per cent., the albumin 4.35, the globulin 2.68 per cent., and the ratio 1.62. Repeated determinations in the same individual showed considerable variations in the total protein as well as in the ratio. Salvesen states that in nephrosis, in which the changes in the plasma proteins are most pronounced, the albumin fraction is usually very low, while the globulin fraction is but little diminished or even slightly increased; instead of the normal concentration of about 7 per cent. of plasma proteins, values of 4 per cent. or even less are found with a low ratio. The author reports a case of this disease (ibid., p. 152) in which opposite conditions obtained, the total proteins being increased to 10.73 per cent., the globulin to 8.32 per cent., while the albumin (always greater than globulin in normal plasma) decreased to 1.9 per cent., and the ratio to 0.23. The usual symptoms of hypertension, eye changes, haematuria, pronounced functional disturbances, and oedema were absent, but the protein excretion was high. Discussing the case, Salvesen states that a plasma protein increase of nearly 50 per cent., and the increase found in the globulin, have not been previously reported in Bright's disease. The loss of albumin from the blood through the urine was evidently repaired by the production of globulin in such large amounts that the result was a total plasma protein increase; the absence of oedema supports the theory of the causal relation between hypoproteinaemia and oedema production. According to this theory there should be no cause for increased diffusion of water from the blood in this case, as the osmotic pressure of the plasma protein was not lowered.

244. The Action of Cyanides on Bacteria.

NUMEROUS biologists have reported that potassium cyanide inhibits growth by interfering with the oxygen uptake of the cell, and F. M. BURNET (*Journ. Path. and Bact.*, January, 1927, p. 21) finds that though it has little direct disinfectant action on bacteria it is able, in comparatively low concentrations, to prevent their growth. Some organisms were sensitive and others insensitive to small amounts of cyanide. The sensitive organisms included the coliform group, staphylococci, the diphtheroid group, *B. pestis*, *B. melitensis*, *B. subtilis*, *V. cholerae*, and the meningococcus. The chief members of the insensitive group were the streptococci and the pneumococci. On glucose agar the sensitive organisms were inhibited by a concentration of 0.04 to 0.1 per cent. of cyanide, while the others required a concentration of 1 to 2 per cent. It was found that though the members of the first group were unable to grow aerobically in glucose agar containing cyanide they were able to grow anaerobically. The two groups are distinguishable also by other characteristics. Thus the members of the first group are sensitive to low concentrations of hydrogen peroxide; members of the second group are not, and some can form peroxide during growth, which none of the organisms of the first group can do. On the other hand, most organisms of the first group form catalase, which none of the second group can produce. The author concludes, therefore, that these two groups of organisms possess different respiratory mechanisms. He suggests that the bacteriostatic effect of potassium cyanide on the members of the first group is due to a lowering of the upper limit of oxidation potential within which they are able to develop.

245. Tissue-digesting Enzyme (Histase) of Streptococci.

M. FROBISHER (*Journ. Exper. Med.*, December, 1926, p. 777) has demonstrated the presence of an enzyme capable of digesting ox or human heart muscle in a number of streptococci —mostly of the β-haemolytic type, using Holman's modification of Robertson's cooked meat medium. Digestion, which was manifested by the subsidence of the meat in the tubes, was evident after forty-eight hours' incubation at 37° C.; after five days about 30 per cent., and after thirty days about 75 per cent. of the meat had been digested. The enzyme responsible for digestion is present in Berkefeld filtrates of the cultures; it was partly inactivated by exposure to 60° C. for one hour. There was no absolute correlation between the power to digest meat and the ability to haemolyse rabbit's blood; some strains produced a haemolysin but no histase, and one strain among twenty-two studied secreted a histase but no haemolysin. Some of the histase-producing strains digested casein, but none of them had any action on gelatin or blood serum. Formol titrations showed that in meat cultures undergoing digestion there was an increase in the amino-acid content of the fluid portion of the medium. The enzyme, which closely resembles trypsin, has not hitherto been described, and the author thinks that owing to the ease with which it can be demonstrated it should prove useful in the identification and possibly the classification of streptococci.

246. Production of Tetanus Anatoxin by Growth in Bile Broth.

G. RAMON, A. BERTHELOT, E. GRASSET, and Mlle AMOUREUX (*C. R. Soc. de Biologie*, January 14th, 1927, p. 30) report that if the tetanus bacillus is grown in broth to which ox bile has been added an anatoxin is formed directly which can be detected by the Ramon flocculation test. In their experiments a strain of tetanus bacillus was grown in broth to which quantities varying from 1 to 7 per cent. of bile had been added. After twenty-five days' incubation the cultures were filtered and the filtrates tested for their toxicity to guinea-pigs. The results showed that the 1 per cent. bile-broth filtrate was fatal in a dose of one-thousandth of a cubic centimetre, while the 7 per cent. bile-broth filtrate was not fatal even in a dose of 2 c.cm.; the remaining filtrates showed values intermediate between these two. It might have been concluded that the bacillus had failed to form a toxin in the 7 per cent. bile medium; but when this filtrate was examined by the flocculation test it was found to give a strong reaction, showing that the antigenic component of the toxin had been formed. Judged by the flocculation test all the filtrates from cultures in bile broth were of approximately the same strength, and all were two or three times as strong as filtrates from plain broth cultures. It would appear, therefore, that by growth in broth containing about 7 per cent. of bile it is possible to obtain an anatoxin directly.

EPITOME OF CURRENT MEDICAL LITERATURE.

Medicine.

270. Spirochaetosis Icterohaemorrhagica.

P. C. CLEYNDERT, jun. (*Nederl. Tijdschr. v. Geneesk.*, January 29th, 1927, p. 562), refers to the fourteen previous cases of this disease reported in Dutch literature (see *Epitome*, October 10th, 1925, para. 288; June 19th, 1926, para. 612; August 7th, 1926, para. 91; October 16th, 1926, para. 343; November 6th, 1926, para. 418) and reports a fatal case in a man, aged 33, who had been a regular attendant at the municipal swimming baths at Gouda. Although *Leptospira icterohaemorrhagiae* was not found on section of the organs, the clinical course and the positive result of the serological examination left no doubt as to the diagnosis. As the patient had presumably become infected in the swimming bath, Cleyndert made an inquiry as to whether other visitors to the bath had had a similar illness, and found that a man aged 23 and a girl aged 21 had both had fever, headache, and pains in the calf muscles, the agglutination test being positive in both cases. Cleyndert also thinks it probable that the swimming bath instructor, who had died some months previously of what was diagnosed as purpura fulminans, was really suffering from spirochaetosis icterohaemorrhagica, but no serum test was performed. Like Kramer and van Gelder, he maintains that Weil's disease has been more prevalent in Holland, at least in the last two years, than is generally supposed, and that it is not always so benign as German publications would suggest. According to Schürer the mortality ranges from *nil* to 30 per cent., the average being 7.4 per cent. Of the eighteen Dutch cases now on record five were fatal—a mortality of 27.8 per cent. The Gouda bathing establishment is in the middle of the town, close to the cattle market, and is infested with rats. Examination of the bath water and of rats found both in the swimming bath and elsewhere in Gouda showed the presence of the leptospira. As the result of Cleyndert's advice the swimming bath was closed.

271. K. M. HAYMAN, jun., and F. B. LYNCH, jun. (*Amer. Journ. Med. Sci.*, January, 1927, p. 80), who record a typical case in a labourer aged 42, with a review of the literature, maintain that Weil's disease is of sufficiently frequent occurrence to warrant the consideration of that diagnosis in any illness of sudden onset with headache, generalized pains, exhaustion, vomiting, conjunctival congestion, herpes labialis, a temperature of 103° or 104°, and jaundice appearing on the third or fourth day. A positive diagnosis requires the demonstration of *Leptospira icterohaemorrhagiae* in the blood and urine, preferably by guinea-pig inoculation. The organism, as a rule, is not present in the blood after the seventh day. Apart from the use of convalescent serum and an artificially prepared antiserum the treatment is wholly symptomatic.

272. Chronic Dysentery.

H. KOOPMANN and E. KRÜGER (*Med. Klinik*, December 24th, 1926, p. 1993), from a study of eighty cases of chronic dysentery at Hamburg, came to the following conclusions: (1) Infection with chronic Y dysentery is very prevalent, especially in young persons and tuberculous subjects. The transmissibility of the disease, although proved, is not great. (2) The Widal test may be regarded as conclusive in the diagnosis of chronic dysentery. (3) The sites chiefly affected by dysentery bacilli where they may remain latent for a long period are the gall bladder, pancreas, and appendix. (4) Chronic dysentery is a relatively harmless disease which is very amenable to treatment, although occasionally it may be a very obstinate complaint. (5) Of the therapeutic methods for the treatment of chronic dysentery oral administration of a yoghurt preparation known as "Imbar 6" is said to be the method of choice.

273. Cancrum Oris in Unrecognized Scarlet Fever.

H. AUDEOUD (*Rev. méd. de la Suisse romande*, October 25th, 1926, p. 824) reports a case, in a boy aged 2½ years, admitted to hospital with oral fetor, gangrene of the upper gum margin, and necrosis of the upper jaw with loss of the four upper incisors. In the lower jaw only the right portion of the bone was involved, with loss of the second incisor and canine. The cheeks, palate, and pharynx were unaffected. Cultures yielded streptococci and staphylococci only, and no Vincent's or Schimmelbusch's organisms were found. The hands and feet showed well marked desquamation, which justified a retrospective diagnosis of scarlet fever, especially when it was found that the child had had a sore throat and a generalized rash nine weeks previously. Under local treatment with novarsol, potassium permanganate, and tincture of iodine, accompanied by subcutaneous injections of collargol, camphor oil, and strychnine, gradual improvement occurred, but the child lost sixteen of the twenty milk teeth and an indefinite number of the permanent set. Recovery finally ensued, but considerable deformity of the gums resulted.

274. Clinical Varieties of Scarlatinal Nephritis.

S. LEFEBVRE (*Thèse de Paris*, 1926, No. 563) describes three varieties of nephritis in scarlet fever. In the very acute form, which is associated with the onset of malignant scarlet fever, the urine is scanty, dark, loaded with albumin, and sometimes there is complete anuria; haematuria is frequent. The prognosis is generally fatal. According to different observers early nephritis may be a rare, or an almost constant, phenomenon. It is most frequent in cases with a high temperature and severe angina, but may be found in the mildest attacks. It has been noted in a little more than half the fatal cases. Late nephritis chiefly appears between the fifteenth and the twenty-fifth day, and is very often accompanied by a recurrence of fever and other complications, such as angina, adenitis, and joint affections. In Lefebvre's experience the majority of cases of scarlet fever are not complicated by any renal lesion. Among his 191 cases there was not a single one which was complicated by typical scarlatinal nephritis, but there were a few examples of transient febrile albuminuria.

275. Pollen Toxaemia in Children.

I. S. KAHN (*Journ. Amer. Med. Assoc.*, January 22nd, 1927, p. 241) finds that in hay fever and asthma in children there is very slight alteration in the general health, even over extended periods, in most cases. In some children, however, there is not only the physical discomfort, but also a condition due to toxaemia. The differential diagnosis from other toxaemias is established by appropriate laboratory measures and by treatment designed to relieve hay fever and asthma. The etiological factor is usually combined pollen and feather sensitiveness. The children present a picture of continuous catarrh, and the characteristic attacks of hay fever are unusual. The chronic catarrhal condition suggests tonsil and adenoid obstruction, but excision does not give relief. The patients appear to be sickly, with deficient growth and weight, and they are mentally backward. The facies is sallow and suggests that of congenital syphilis. The nasal mucosa is typical of vasomotor rhinitis. The chest is barrel-shaped, and emphysematous râles are present. Cardiac enlargement and murmurs are not found. Eosinophilia is an uncertain symptom, but a lymphocyte increase is not unusual. The most outstanding peculiarity of the disease is the mental condition, and, in severe cases, the extreme psychical alteration, listlessness alternating with spells of intense temper and easy weeping on the least provocation. Within a few weeks, or even days, following desensitization and pollen precautions, the entire picture changes and there is a rapid approach to normal; especially is this the case mentally. Desensitization treatment is usually long and tedious, but ordinarily succeeds in the long run.

276. Clinical Characters of Variola.

S. E. SWEITZER and K. IKEDA (*Arch. Derm. and Syph.*, January, 1927, p. 19) record their observations on the small-pox epidemic at Minneapolis which persisted throughout the whole of 1924 up to September, 1925, during which time there were 1,430 cases with 365 deaths—a mortality of 25.5 per cent. In none of the fatal cases had vaccination been performed successfully within the last seven years. In 71 cases successful vaccination had been performed more than seven years before, 279 had never been successfully vaccinated, and in the remaining 15 cases no history was obtained. During the epidemic 581 small-pox patients were admitted to the Minneapolis General Hospital, of whom 246, or 42 per cent., died; 10 were of unclassified type with no deaths; 225 were discrete cases with 14 deaths, a mortality of 6 per cent.; 151 were confluent cases with 68 deaths, a death rate of 45 per cent.; 144 were haemorrhagic pustular cases with 113 deaths; and 51 were purpuric cases, all of which were fatal. Of these, 29 had only a diffuse purpuric eruption and 22 had a papular eruption also, which was usually scanty, erythema, petechiae, and ecchymoses being the predominating clinical manifestation. The blood in the pustular stage showed a leucocytosis with a relative lymphocytosis and a high platelet count. The authors state that in purpuric small-pox there is hyperleucocytosis as a rule, with an absolute

lymphocytosis and a persistently low platelet count. They found fragmentation and condensation of the nucleus of the polymorphonuclear cells, while normoblasts, basophilic stippling, and polychromatophilia were present without evident anaemia. Various remedies, including serum, mercurochrome-220 soluble, gentian violet, and neo-arsphenamin, were tried, but none proved of any value.

277. Typhoid Meningitis.

A. SCHWEISGUT (*Klin. Woch.*, January 29th, 1927, p. 215), who records an illustrative case, states that after discovery of the typhoid bacillus it was expected that the organisms would be found in the meninges and cerebral lesions, and so explain the occurrence of meningitis in typhoid fever. Such a finding, however, proved to be extremely rare. Typhoid meningitis was accordingly attributed to toxins, and purulent meningitis in typhoid fever was said to be due to a mixed infection. Staubli in 1905 made the following classification of meningeal involvement in typhoid fever: (1) typhoid meningism, which he regarded as frequent; (2) serous meningitis or purulent meningitis due to mixed infection; (3) very rare cases of meningeal suppuration due to typhoid bacilli only. Subsequent publications, including records of cases examined histologically during the war, showed that true purulent typhoid meningitis without mixed infection was exceptional. Schweisgut's case was that of a lad, aged 18, admitted to hospital with typhoid fever and signs of meningism. As the intestinal condition improved cutaneous and intestinal haemorrhages developed, followed by purulent spinal meningitis, which dominated the clinical picture and was the cause of death. A pure culture of typhoid bacilli was obtained from the purulent cerebro-spinal fluid. In addition to the purulent meningitis the necropsy showed healing typhoid virus in the intestines.

Surgery.

278. The Surgery of Gastro-Duodenal Ulcers.

J. M. T. FINNEY (*Amer. Journ. Surg.*, December, 1926, p. 323), after relating the history of the surgical treatment of these conditions, states that experienced surgeons prefer to follow a middle course in dealing with these lesions. They make use of the more conservative types of operation and reserve the more mutilating methods for exceptional cases. In view of the danger of perforation, haemorrhage, and malignant changes it would appear that resection of the ulcer is indicated. Pyloroplasty or gastro-duodenostomy, associated where possible with resection of the ulcer, would be the first choice, while gastro-enterostomy or extensive gastric resection would be relegated to second or third choice. Extensive resection of the stomach is reserved almost entirely for malignant disease. The risks of this procedure in the hands of the average surgeon appear to contraindicate its general adoption. In the treatment of perforation gastro-enterostomy should be reserved only for cases where pyloric stenosis or multiple ulcers are present. Cases treated by simple suture do as well or better than those in which a gastro-enterostomy is performed. The best end-results in gastric surgery will be obtained if the surgeon keeps an open mind, establishing first the facts and then performing that operation which in his judgement is best adapted to the conditions found.

279. Thoracic Stomach.

MENTIONING the great rarity of the condition R. E. ROBERTS (*Brit. Journ. of Radiol.*, January, 1927, p. 17) records the case of a patient whose stomach developed above the diaphragm instead of below it. The patient was a girl aged 3 years and 10 months; the family history was unimportant. Except that she was constipated and undersized, no special abnormality was noted until she was a year old, when she began to vomit milk and food, especially if fatty. This vomiting increased in severity and sometimes occurred immediately after ingestion, at other times after the interval of an hour or more. At the age of 2 there was vomiting of the ejaculatory type at every meal. Some of the food was always retained and there was no great constitutional disturbance; small meals were best tolerated. There was no chest pain, and although after meals her breathing was difficult, she was never cyanosed. By *x*-ray examination the stomach was found lying above the diaphragm in the posterior mediastinum. The gullet was short and the cardiac orifice was situated at the fourth costal cartilage in the middle line. There was no oesophageal obstruction. The pylorus occupied an opening in the right leaf of the diaphragm below the eleventh rib. Immediately after the examination by opaque meal the patient vomited, but on subsequent examination a portion of the meal was found in the intestines, after having been seen to pass through the pylorus.

280. Lumbo-sacral Backache.

C. E. AYERS (*Boston Med. and Surg. Journ.*, January, 1927, p. 9) gives an account of recent work on lumbo-sacral backache, with reports on a series of cases treated by fusion operations. He believes that lumbo-sacral arthritis as a cause of pain in the back is of more common occurrence than has been supposed, and that the production of ankylosis is probably the best form of treatment. Congenital abnormalities of the fifth lumbar vertebra are far from rare, and it is possible that sacralization of the lumbar vertebrae may be the cause of persistent pain. In diagnosis the lateral *x*-ray examination of the lumbo-sacral region is absolutely essential, and in cases where the *x*-ray findings do not confirm the clinical diagnosis the examination of the bones at the fusion operation will establish the nature of the condition. The fusion operation is not accompanied by shock, and, suitably conducted, is not a dangerous procedure.

281. Recurrent Post-typhoid Osteitis.

A. DUFOURT and ALOIN (*Lyon méd.*, January 7th, 1927, p. 42) report the case of a girl, aged 20, who, nine months after an attack of typhoid fever, developed osteitis of the right humerus, and three and four months subsequently osteitis of the left ankle and right ribs in the submammary region. Nine months afterwards right otalgia and otorrhoea ensued, complicated three months later by signs of meningitis. A clear sterile fluid under hypertension, containing an excess of albumin, was removed by lumbar puncture. On operation pus was evacuated from the mastoid process and numerous pockets in the petrous portion of the temporal bone. Death in coma occurred four days after the operation. Cultures of the carious petrosal bone showed typhoid bacilli associated with streptococci. The cerebro-spinal fluid was sterile but agglutinated the typhoid bacilli in a dilution of 1 in 500. This case is thought to be the first on record of typhoid osteitis of the petrous portion of the temporal bone. The authors emphasize the importance of vaccine treatment in typhoid osteitis, especially at an early stage, when it may prevent the necessity of a surgical operation. In the present case this treatment was not employed.

282. Fragilitas Ossium.

J. J. SHUGRUE, R. ROCKWOOD, and E. W. ANDERSON (*Arch. Intern. Med., January 15th, 1927, p. 98*) report four cases of fragilitas ossium, the patients having blue sclerotics, brittle bones, and deafness; in one case the Mendelian type of familial transmission was clearly shown. The disease is hereditary, and one, two, or all the symptoms may be present. Children with blue sclerotics alone affected usually die in infancy, but when this coloration manifests itself in adolescence brittle bones are also present, and deafness due to oto-sclerosis may occur later. The fractures may be spontaneous or the result of trauma, and *x*-ray examination shows bone atrophy. It is thought that such cases are the result of a congenital mesenchymal defect, and though this theory does not explain why other tissues of mesenchymal origin are not affected, one of the author's patients had an associated cardio-vascular degeneration. The disease is said to be rare and progressive, but is concomitant with longevity. The colour of the sclerotics was uniform in all cases, the homogeneous leaden blue being seen through the scleral conjunctiva in whichever direction the eyeball was turned.

283. Prevention of Rheumatic Arthritis by Removal of Septic Foci.

IN view of the failure of salicylates to prevent relapses following acute rheumatism ÖSTEN HOLSTI (*Acta Med. Scand.*, January 26th, 1927, p. 352) has tried prophylactic treatment of the inflammatory processes in the upper respiratory passages in 35 cases of acute and relapsing rheumatic arthritis. No surgical procedure was attempted, as a rule, before the patient had completely recovered from the acute rheumatic attack. Before a tonsillectomy the rate of coagulation of the blood was determined in most cases, and calcium was administered when considered necessary. The examination of the teeth and the treatment of all inflammatory conditions in the mouth were dealt with in a dental clinic. Among the 35 patients, whose ages ranged from 10 to 60 years, there were 13 males, and as many as 28 were between the ages of 15 and 25. The average period of observation was four and a half years, and the author was able to follow up every case. The course of the disease after treatment of the inflammatory processes in the upper respiratory passages was classified as follows: (1) Two patients died. (2) In 3 cases relapses, similar to those before the treatment, occurred; two were not purely rheumatic, one patient having gonorrhoea, and the other haemophylia. (3) In 4 cases occasional swellings of the joints occurred without fever or disturbances of the general condition. (4) In 9 cases minor rheumatic manifestations, such as pain without swellings of the joints appeared. (5) Three patients continued to have slight attacks of sore

throat, 4 suffered from recurrent colds in the head, one developed pulmonary tuberculosis, one hay fever, and two had recurrent attacks of urticaria. (6) In 14 patients the general health remained poor, although there were no well defined signs of disease. (7) Good health was maintained in 19 patients, of whom as many as 14 had had two or more attacks of rheumatic disease of the joints, while 5 had had only one attack when treatment was first instituted. During the observation period of four and a half years there was not one patient, among those who had reached puberty, who suffered from a relapse of the purely rheumatic condition after treatment had been instituted. He considers it possible that the treatment modified the course of the disease, the removal or reduction of septic foci preventing relapses or diminishing their severity to a marked extent.

284. Congenital Dislocation of Both Knees.

J. GROSSMAN (*Med. Journ. and Record*, February 2nd, 1927, p. 189) describes two forms of this condition. The first is a hyperextension of the knee rather than a true dislocation, with no marked displacement of the tibia or the femur. The second is a true dislocation, in which the condyles of the femur are displaced backward in their relation to the tibia. It is suggested that this deformity is the result of compression in the uterus with the knee in a bad position. Congenital dislocation of the hip, also supposed to be caused by pressure, may accompany the knee condition. Grossman reports one case of the second type in an infant a week old. Both knees were hyperextended and the knees could be further extended passively until the anterior surfaces of the thighs and legs came into contact. The patellae could not be felt. The condyles of the femur could be palpated in the popliteal region, being displaced backward in their relation to the tibia. The hips were normal. Treatment consisted in manipulation into the straight position and the subsequent application of circular plaster-of-Paris bandages. This was continued over a period of four months, when the patient was discharged cured.

Therapeutics.

285. Gold Salts in the Treatment of Psoriasis.

G. HUFSCHMITT (*Paris Méd.*, January 22nd, 1927, p. 91) has tried the effect of "triphal" and sanocrysin (salts of gold) in 12 cases of psoriasis. There appeared to be no difference in the therapeutic action of the two preparations, and except in one case of erythrodermia and one of slight albuminuria no ill effects were noted. The ages of the patients ranged from 16 to 58 years, and the duration of the disease from some months to several years. The initial dose was 0.005 gram of triphal and 0.05 gram of sanocrysin. Two of the patients ceased treatment after the tenth injection as no benefit appeared. In three cases the pruritis disappeared after the fourteenth injection and the eruption was improved. In seven cases the success was complete, with total disappearance of the rash, and no recurrence after six months. The author adds that where there is extensive dermatosis, red and very squamous, the treatment is contraindicated.

286. Injection Treatment of Varicose Veins.

V. MEISEN (*Ugeskrift for Laeger*, January 20th, 1927, p. 47) analyses his experience, during the past twelve months, of 500 cases of varicose veins treated by injections of equal parts of a 25 per cent. solution of sodium salicylate and of a 10 per cent. solution of sodium chloride. The maximum quantity of this solution given at one injection in the most recent series of cases was 10 c.cm., the patient standing on both feet till the point of the needle was within the lumen of the selected vein. The patient was then made to lie down, and the vein allowed to empty itself of blood before the injection was started. This was given slowly and was interrupted at once if it caused pain. In cases in which pain was anticipated, a preliminary injection of a 0.5 per cent. solution of novocain, containing no adrenaline, was given. When the saline injection was completed and the needle withdrawn, the site of the injection was gently massaged and then compressed with a gauze pad which was firmly secured with an elastic bandage while the leg was still raised. Altogether 2,224 injections were given, and in the most recent series of cases the average of four or five injections per case was increased to a greater number. The patients included 130 males and 370 females, their ages ranging from 15 to 81. Advanced age was not found to be a contraindication. In 135 cases the varicose veins were complicated by ulcers, and in 40 by chronic eczema. In all but two cases the sores were healed on the patient's discharge, and only in a few did the ulceration recur. In 14 cases (3 per cent.) operative treatment had been attempted and had proved unsatisfactory. In no case did the injections lead to the patient's death or to permanent injury, but in 8 cases (1.6 per cent.) there were complications necessitating rest in bed. Among these cases there were 2 of pulmonary infarcts in direct association with the treatment. This accident was due to faulty technique; both patients suffered from enormous varicosities and were in a hurry to have the treatment completed. The author states that the dosage of as much as 20 to 25 c.cm. at a single injection must in these cases be considered as a mistake and as being responsible for this complication. In 2 other cases there were signs of infarcts with phlebitis, in 3 cases phlegmons developed as a sequel to necroses, and in one case there was a severe haemorrhage. Meisen concludes that by skilled and cautious technique—as for example, by keeping the quantity of each injection within the 10 c.cm. limit—the frequency and seriousness of complications can be reduced, and that, compared with operative treatment, injections possess the advantages of being less dangerous and more likely to give permanent results, notably as far as subsequent ulceration and eczema are concerned.

287. Stovarsol in Syphilis.

F. W. CREGOR and F. M. GASTINEAU (*Arch. Derm. and Syph.*, January, 1927, p. 43) remark that the present method of intravenous arsenical therapy is not entirely satisfactory in all cases of syphilis. They sketch the history of the evolution of the therapeutics of [illegible] mpounds and show that so great was the [illegible], discovery of arsphenamine that it has [illegible]t in arsenic products, and caused emphasis to be placed on the trivalent arsenic. French workers have recently been using stovarsol, and Oppenheim of Vienna has obtained good results with it. Stovarsol can be given by the mouth, and it is well tolerated. The present authors have tried stovarsol for six months, giving as a general rule one 0.25 gram tablet per kilo of weight. A dose of about 0.5 or 1 gram was given in water before breakfast, some patients reaching daily doses of 2.25 grams for four days without untoward results. The course lasted from five to six weeks, a total of 15 grams being administered. A short rest period followed, Wassermann tests were performed, and succeeding courses were given similarly to the first. An account is given of fifteen cases so treated, and the results, compared with those of other observers, seem to indicate that stovarsol is useful in controlling the clinical manifestations of syphilis and causing good serological effects. Systemic reactions are slight as compared with those of the intravenous method, but the authors agree that the accurate dosage has yet to be determined. Tolerance appears to be high in comparison with other arsenicals.

288. Chinosol in the Treatment of Epidermomycoses.

LORTAT-JACOB and C. BIDAULT (*Presse Méd.*, January 12th, 1927, p. 49) recommend chinosol, the sulphate of ortho-oxyquinoline, in the treatment of certain diseases due to fungi. It is a yellow crystalline powder, easily soluble in water, slightly so in alcohol, and insoluble in ether. It does not coagulate albumin nor injure the skin, mucous membrane, or muscular tissue, though in some patients it may cause a slight and transient burning sensation when applied to mucous membranes in a strength of 1 in 2,000. Experiments have proved it to be non-toxic, and in America it has been orally administered in 15-grain doses without any ill effects. It inhibits the growth of m[illegible] staphylococci, *B. anthracis*, and avian [illegible] of 1 in 180,000 to 1 in 400,000. The [illegible] also that the growth of various tricophyta, microspora, the *Achorion schonleini*, and the *Epidermophyton inguinale* was inhibited by a 1 in 25,000 solution. The results of these experiments led to clinical trial, and chinosol has been used with beneficial effects in many mycoses; within a week tricophytic conditions of the face, arms, and wrists were cured by applications of a solution repeated many times daily. It is claimed that chinosol is a valuable dermatological remedy.

289. Digitalis and Calcium in Cardiac Failure.

C. C. DIMITRIU (*Bull. et Mém. Soc. Méd. des Hôp. de Bucarest*, October, 1926, p. 252) has found calcium salts of great value when combined with, or given alternately with, other cardiac tonics which were inactive when prescribed alone. He describes the case of a man, aged 51, with chronic bronchitis, emphysema, and effort dyspnoea. In 1924 an attack of cardiac failure was relieved by digitalis, ouabain, and diuretics, and subsequent slight attacks were easily relieved by digitalis. A severe attack of heart failure occurred in 1926, accompanied by cyanosis, orthopnoea, cough, precordial oppression, anasarca ascites, and obvious cardiac dilatation, the blood pressure having a maximum of 180 mm. Hg and a minimum of 110 mm. Only slight improvement followed the administration of Nativelle's digitaline and theosalvose

with bleeding and purgation. Ouabain caused a violent rigor, with hyperpyrexia, vomiting, and headache, and was discontinued, the patient's general condition remaining very bad. Wet-cupping over the liver and drastic purgation, followed by 50 drops of digitaline and 10 grams of calcium chloride daily for three days, produced free diuresis for five days, and afterwards the urine amounted to 1,500 to 1,200 c.cm. daily. Anasarca disappeared and the ascites was much reduced. The cardiac dullness diminished, and the pulse rate fell from 130 to 88. The maximum blood pressure fell 70 mm., and cyanosis, orthopnoea, and the hypostatic pulmonary congestion disappeared. For four days the calcium chloride treatment was continued, then for six days no medicine was given, but on the sixth day slight dyspnoea with tachycardia appeared. For two days 50 drops of digitaline and 20 grams of calcium chloride were given daily, then 2 grams of theosalvan for six days. This treatment again produced diuresis and relieved tachycardia and dyspnoea. All other symptoms disappeared, and the patient returned to work. Dimitriu claims that while neither digitaline nor calcium when prescribed separately is efficacious, their combination has an immediate and powerful effect in cases of severe cardiac dilatation. He thinks that calcium represents the true cardio-tonic element, while digitalis is only the agent which sensitizes the heart to the action of calcium. There may be danger of calcium producing emboli by reason of clots forming in the right side of the dilated heart, but Dimitriu considers that in desperate cases this risk must be taken. It is necessary to give large doses of digitalis to produce the result.

Laryngology and Otology.

290. Inhalation Therapy in Oto-laryngology.

C. SIMEONI (*Arch. Ital. di Otol.*, December, 1926, p. 653) describes tuberculosis as a general disease—a bacteriaemia—which only attacks the lungs in the third or ultimate stage, and may attack bones and glands previously. The subcutaneous method of introducing therapeutic substances is slow and very uncertain, and the intravenous is quicker and more certain in its action, but very inconvenient. Simeoni considers the peroral method better than either of these, and in diseases of the upper air passages the substances can be brought direct to the diseased area by inhalation. Certain salts, such as those of calcium, are not at all easily soluble or digested in the alimentary canal, and it has also been shown that these salts, administered hypodermically, are not absorbed and tend to form abscesses. The demineralization, and particularly the decalcification, of the tissues in tuberculosis is well known. The administration of calcium can take the form either of a dry cloud or a strong aqueous solution of the salt at 16°. The local changes on inhalation consist of irritation and congestion with expectoration of a considerable quantity of sputum. Some of the salt is absorbed and helps to reduce the decalcification. In treating lesions of the larynx it has been found that the infiltrative type responds best to the inhalation method and that the dysphagia associated with the ulcerative type is improved by the treatment, but the ulceration does not respond very well. The solution of calcium salts recommended consists of six parts of calcium lactate, five of calcium hypophosphite, and four of manganese lactate in one hundred of water. Usually about forty inhalations are given. The results of this treatment are that the laryngeal condition is greatly improved, the general health becomes better, and the pulmonary symptoms are lessened.

291. The Thymus Gland.

W. W. WASSON (*Arch. of Oto-Laryngol.*, December, 1926, p. 495) has investigated the thymus by *x*-raying the chests of young children during life and after death. In certain cases he was able to *x*-ray them shortly before death. After death he made various experiments, including the artificial inflation of the lungs, outlining the heart and thymus by opaque substances such as copper wire and lead foil, and in some cases injecting the large vessels with an opaque substance. He states that the heart shadow is formed by the heart and the superior and inferior venae cavae, and is surmounted by a triangular shadow formed by the great vessels and interrupted by the light area of the trachea. The shadow of the thymus is also triangular, and if present in any size it overlaps the shadow of the vessels. The base of the shadow overlaps that of the auricular part of the heart. The widest part of the thymic shadow is at the third interspace, and may be two to three times the width of the vertebral shadow at this level. If the shadow of the thymus does not overlap that of the great vessels it is a small thymus. The thymus lies between the sternum and the spine and can only expand in a lateral direction, and that at the expense of the lung room. By increasing the intrapulmonary pressure the thymus can be compressed between the sternum and the packet of vessels and the trachea, thus increasing the pressure on these structures. The author has found that in a large number of children there was a small thymus at birth, but that it grew steadily up to the age of 10 to 14 months and then receded gradually to the age of 28 to 32 months, when the shadow of the thymus was not apparent in the skiagram of the chest. He considers that the thymus is of maximum size at about 12 months, and that it shrinks to a small gland by about 2½ years. He describes a small gland as one which casts no shadow outside that of the great vessels. A moderate-sized gland throws a shadow twice the size of that of the upper dorsal spine, and a large one at least three times the size. In a large series he found that the underweight child had a small thymus and the overweight child had a large thymus. Wasson thinks that all children of more than normal weight should be *x*-rayed before an operation, and that operating on children over 2 years of age who have a large thymus is distinctly dangerous. *Irradiation* is used to reduce the size of a large thymus in a child under 2 years before a surgical operation and in all children over 2½ who retain enlargement of the thymus.

292. A Conservative Method of Treating Otorrhoea.

BIRKHOLZ (*Med. Klinik*, January 21st, 1927, p. 87) agrees with most authorities that conservative treatment is preferable in most chronic cases of otorrhoea. He considers that the cause of chronicity in many refractory cases in otherwise healthy children lies in a pathological condition of the Eustachian tube and of the mucous membrane surrounding its tympanic end, associated with excessive secretion. He regards the following points as diagnostic: (1) The perforation in these cases is frequently small and situated in the lower anterior quadrant; (2) the rest of the drum is little affected; (3) the secretion is typically tough, mucinous or seromucinous, and small in amount, while pus is usually absent; (4) if a Eustachian catheter is passed in these cases inflation is difficult, which indicates probable swelling of the mucous membrane lining the tube. Astringent treatment of the tube should therefore be instituted in all cases which, despite good general condition and a healthy naso-pharynx, resist the usual methods of treatment. The author has for some years used with great success a modification of a method suggested by Schwartze in 1868, which is as easily applied in children as in adults. The auditory meatus is washed out and dried, and the patient is politzerized if possible. While the head is bent so that the Eustachian tube is vertical not more than 5 drops of a 5 per cent. silver nitrate solution are instilled. This is sucked through the Eustachian tube by Toynbee's method, the patient swallowing while the nostrils are closed. If the tube is blocked to such an extent that this is ineffective an "external air douche" is applied by inserting the nozzle of a Politzer bag into the external auditory meatus and blowing air through while the Eustachian tube is kept vertical. When the solution passes down the tube slight burning is felt in the throat and one or two drops of the solution run out of the nostrils. The external meatus is then dried, no saline irrigation being necessary. The pathological condition clears up after two or three repetitions of this treatment. Large perforations and those situated in the upper posterior quadrant absolutely contraindicate the method.

293. Latent Cerebral Abscess following Mastoiditis.

G. COULET (*Arch. Internat. de Laryngol.*, January, 1927, p. 38) reports the case of a boy, aged 10, who had an acute mastoiditis for which a cortical mastoid operation was performed. As the cavity did not heal a radical mastoid operation followed, and the cavity became completely dry. The dura mater of the middle fossa was exposed but appeared healthy. Three years after the acute mastoiditis the boy was brought into hospital in a state of semi-coma, from which he could be roused just enough to obey instructions as to movements of eyes and limbs. He suffered from complete aphasia. He had been perfectly well during the three years, had regularly attended school, and had gained a good place in an average form. On the morning of his admission to hospital he had complained of a severe headache and had become rapidly comatose. The mastoid cavity was filled by bulging dura mater, which was punctured, and greyish purulent fluid, followed by normal cerebro-spinal fluid, was evacuated. The same night the temperature rose and the boy became completely comatose. The dura mater was at once opened and the cerebral abscess discovered and drained. The boy was very much better and the power of speech returned. It was obvious that a very old-standing cerebral abscess had burst into the subdural space and caused the sudden onset of symptoms. Meningitis supervened and death occurred in three days. The interesting features of the case are the latency of the abscess in the brain for two and a half years

with spontaneous rupture into the intrameningeal space, and the fact that, though the abscess was on the right side, aphasia—indicating a left-sided lesion—was present. The author raises the question whether he should have explored the meninges at the time of the earlier operations, but concludes that without some definite indication of intracranial lesion the meninges should not be punctured.

294. Unrecognized Nasal Sinusitis.

I. W. VOORHEES (*Med. Journ. and Record*, December 15th, 1926, p. 741) suggests that unrecognized chronic nasal sinusitis may be a source of general bacterial invasion of even more importance than tooth infection, and that the nose may well precede and supersede the teeth or the tonsils in the search for bacterial foci. While many cases of acute sinusitis subside spontaneously or after simple treatment, it is important to recognize the subacute, latent, or chronic infections of the paranasal cavities. Symptomatic of involvement of the frontal sinuses are headache occurring at a definite hour each morning and ceasing about the same time each afternoon, post-nasal discharge, and tenderness at the inner canthus and on percussion over the frontal bones. Since chronic purulent sinusitis may set up chronic tonsillitis, such tonsils should be removed before any sinus operation is attempted, as an acute tonsillitis not infrequently supervenes upon any intranasal operation. There may also be some associated nasal obstruction. Voorhees believes that many cases, though easy to diagnose, are often missed, but a definite diagnosis can be made from the history, careful clinical examination, irrigation and aspiration, and radiography. While the acute condition usually clears up easily, operation and prolonged treatment are required when it has become chronic.

Obstetrics and Gynaecology.

295. Treatment of Placenta Praevia.

G. L. BRODHEAD and E. G. LANGROCK (*Surg., Gynecol. and Obstet.*, January, 1927, p. 39) report a series of 165 cases of placenta praevia with eighteen deaths, and discuss its treatment. They advise that when this condition is suspected a firm tampon should be prepared before digital examination is made, so that any resultant profuse haemorrhage may be checked while arrangements are completed for delivery. Six of the eighteen fatal cases were patients in poor condition through loss of blood, the cervix being dilated to the breadth of two or three fingers, and it is suggested that Caesarean section might have saved their lives. This operation occupies less time than completing the dilatation of the cervix and performing version and extraction; the loss of blood is also little as a rule. Of twenty-two cases of central placenta praevia in women pregnant between six and eight months, three were successfully treated by Caesarean section and nineteen were treated by version, with four deaths. The authors add that after any method of delivery the uterus and vagina should be tightly packed with iodoform gauze as a routine procedure to control any active bleeding and to prevent subsequent haemorrhage. In view of the value of blood transfusion in these cases, preliminary typing of the blood is advisable in order that transfusion may be performed, if required, without delay.

296. Vicarious Menstruation.

D. C. ELKIN (*Amer. Journ. Obstet. and Gynecol.*, January, 1927, p. 65) reports a case of vicarious (supplementary) menstruation occurring in a single woman, aged 35. Menstruation, which began at the age of 12, had been regular, but was almost always accompanied by bleeding from some other organ, coincident with the periods and never in the intervals. In the earlier years this occurred from one or both nipples without any swelling or ecchymosis in the breast, and on several occasions there was haemorrhage from the gums and cheeks and into the root cavities of the upper incisors, causing severe toothache and necessitating extraction. From fifteen to twenty pulmonary haemorrhages occurred with negative physical signs, and there was bleeding at times from the stomach and bowels; on one occasion there were pin-point haemorrhages from the skin. The most unusual feature was brisk bleeding from the left eye, the blood overflowing the lids and running down the cheek in a steady stream. No bleeding point could ever be found and there was no conjunctival injection. On two occasions the haemorrhage was stopped by instilling three drops of adrenaline solution, 1 in 10,000, into the eye. At the age of 23 the appendix and right tube and ovary were removed without relief, and at 34 uterine suspension was performed, and the gall bladder, containing a stone, was removed, but without any subsequent improvement. The patient was admitted to hospital on account of severe abdominal pain following peritonitis; at the operation dense adhesions were found and a tense left tubo-ovarian abscess was removed, since when there has been no bleeding from any organ. Elkin concludes that the condition was a menstrual phenomenon due to ovarian dysfunction as proved by cure following oöphorectomy.

297. The Lumen of the Fallopian Tube.

W. ZORN (*Zentralbl. f. Gynäk.*, November 27th, 1926, p. 3054) has made careful measurements of the lumen of 84 freshly extirpated Fallopian tubes, using specially calibrated probes. He finds that the average width of the lumen in normal tubes of patients in full sexual activity, of gravid tubes, and of the tubes in chronic inflammatory conditions is 0.8 to 1.0 mm. A tubal lumen of 0.6 mm. diameter or less points with certainty to atrophy or hypoplasia of the oviduct. A lumen of 0.7 mm. denotes a borderline condition, and is chiefly found in patients at or near the menopause.

298. Spinal Anaesthesia in Labour.

S. E. RISACHER and R. WAITZ (*Bull. Soc. d'Obstét. et de Gynécol. de Paris*, January, 1927, p. 41) find that, if a strongly hypertonic solution of novocain is injected into the subarachnoid space of a seated individual, the drug, owing to its density, falls to the bottom of the cul-de-sac, and paralyses only the roots of the cauda equina, one drop of the solution being sufficient to produce an anaesthesia limited to the vagino-perineo-anal region. For use in obstetrical conditions the solution is prepared by dissolving 50 grams of novocain in 50 grams of distilled water; sterilization at 120° C. does not alter its anaesthetic properties. With a specially marked hypodermic syringe one drop of this solution is injected, while the patient is in a sitting posture; this is the equivalent of about three centigrams of novocain. Anaesthesia appears rapidly, being complete in five minutes, and lasts from one and a half to two hours. The muscular relaxation of the vagina, perineum, and anus is said to be absolute, and; while the pains are no longer felt, uterine contractions persist unaffected. After delivery uterine contraction is perfectly normal. No ill effects have resulted from the injection, only a slight headache being occasionally felt. The authors have used this method with great benefit in forceps applications; internal versions, embryotomies, breech presentations, and perineorrhaphies, but advocate its employment only in those cases in which labour has to be ended artificially.

299. Influence of Rectal Disease on the Female Genito-urinary Organs.

C. J. DRUECK (*Med. Journ. and Record*, February 2nd, 1927, p. 157) calls attention to the frequent association of diseases of the rectum and of the female pelvic genito-urinary organs. Anal fissure or the operation for haemorrhoids may cause either acute retention of urine or frequent micturition. Retroposition of the uterus may lead to obstructive constipation. A given causative factor may produce very different symptoms—for instance, one patient with an ovarian tumour had chronic constipation, while another had irregular bleedings after bowel evacuation. Carcinoma of the cervix and of the vagina may invade the rectum and cause fistulous openings, but only when in an advanced stage. On the other hand, low cancer of the rectum involves the vaginal wall comparatively early. The loose pelvic cellular tissue permits of easy dissemination of infection, which may result in a localized pelvic cellulitis or go on to general peritonitis. Ulceration within the rectum or trauma of its wall is the most frequent cause of pelvic cellulitis, while its chief symptom is pelvic and rectal pain, usually more accentuated on one side than the other. Symptoms of mastitis, ovaritis, and cystitis may appear. Ulceration of the rectum, and even constipation, may cause irregularity or suppression of the menses. Menstruation may be accompanied by diarrhoea or constipation. An ulcer of the rectum, anal fissure, or stricture will cause local neuralgia or even spasmodic dysmenorrhoea. On the other hand, rectal pain and tenesmus may be due to cystitis, vulvo-vaginitis, displacements, or adhesions of the uterus or appendages.

300. Low Transverse Arrest of the Foetal Head.

C. COGHLAN (*Med. Journ. of Australia*, January 8th, 1927 p. 52) draws attention to the not infrequent occurrence in an occipito-posterior position of the arrest of the advancing foetal head at the transverse diameter of the pelvis. He thinks that the fundamental cause of this condition is insufficient flexion of the head when engaged, so that the occiput and sinciput are nearly at the same level, the occiput slightly leading. When the head reaches the pelvic floor it is stopped and the occiput tends to rotate to the front, but, owing to its advance being resisted, extension is increased with each pain, so that the sinciput becomes level with the occiput and rotation ceases, equal forces acting now at opposite ends of the long axis of the head. With continued uterine action

the head is tightly jammed into the narrowing transverse diameter of the pelvis, and, in consequence of uterine retraction, cannot be displaced except perhaps under deep anaesthesia. In a case which Coghlan quotes in illustration, Kielland's forceps were applied with the blades in the occipito-mental diameter; upward displacement, flexion, and traction resulted in rapid rotation of the head and delivery of a stillborn child. The puerperium was uneventful, except for temporary incontinence of urine and faeces. The author recommends that in such cases, if Kielland's forceps are not available, the ordinary pelvic curved forceps should be applied biparietally to the foetal head in the occipito-mental diameter, with the outside of the pelvic curve towards the occiput. When flexion and partial rotation to the front have been obtained, the forceps should be removed and reapplied in the usual manner, with the inside of the pelvic curve towards the occiput. Coghlan adds that if the condition is recognized early, it is sometimes possible to displace, flex, and rotate the head manually under deep anaesthesia.

Pathology.

301. Vicarious Excretion in Nephritis.

ACCORDING to E. T. MCENERY, J. MEYER, and A. C. IVY (*Journ. Lab. and Clin. Med.*, January, 1927, p. 362) it is well known to clinicians that gastro-intestinal symptoms occur in the course of nephritis; these complications have been attributed to various factors, such as oedema of the gastric mucosa and involvement of the central nervous system. Van Noorden suggested that toxins probably played the more important part, and numerous observers have noted that substances usually excreted by the kidney may also be eliminated by the alimentary tract; ammonia, for instance, occurs in quantity in the stools of uraemic diarrhoea cases. The authors' method of investigation was to study the changes that occur in the secretion of gastric juice in nephritis. Pavlov pouches were produced in dogs and nephritis was caused by occluding the renal blood vessels for varying periods of time. It was found that acute nephritis resulting from occlusion of the renal vessels for forty-five minutes decreased but did not abolish the response of the meal, and that the chronic nephritis following such occlusion did not appreciably affect gastric secretion. In normal dogs 2 to 10 mg. per 100 c.cm. of urea was found in the secretion. When urea was given intravenously its amount in the gastric juice was also increased. Similarly an increase in the blood urea was noted in animals in which an experimental nephritis had been produced. In patients suffering from nephritis the authors found urea in the saliva and bile-free gastric juice, the quantity present being considerable in cases with a high blood urea content. The authors conclude, therefore, that the stomach as well as other portions of the gastro-intestinal tract must be considered to be organs of elimination in cases of nephritis and anuria.

302. Staphylococcal Erysipelas.

F. LÜLSDORF (*Münch. med. Woch.*, December 24th, 1926, p. 2211) states that although Fehleisen in the early eighties of the last century isolated a streptococcus which he regarded as the only causal agent of erysipelas, subsequent investigations showed that this view was not correct. In 1901 Jordan reported two cases in which undoubted staphylococci gave rise to erysipelas as well as to suppurative osteomyelitis and abscesses. According to Lexer there are no fundamental differences in the action of streptococci and staphylococci, as both may produce various degrees of inflammation. The occurrence of erysipelas in one case, of septicaemia in another, and of metastasis in a third, depends, according to Jochmann, on the local and general predisposition as well as on the virulence of the cocci. Experimentally, typical erysipelas has been produced by Jordan, Felsenthal, and Petruschky with staphylococci, by Neufeld with pneumococci, by Petruschky with *B. coli*, and by Rheiner with typhoid bacilli. Kulenkampff regards the following features as typical of staphylococcal erysipelas: (1) The peculiar bluish colour of the skin, which later assumes a dark blue hue. (2) The presence of dark cords resembling strings of pearls in the affected areas, and later small bullae. (3) A low tension and often relatively full pulse at the onset. (4) The euphoria of many of the patients. (5) The occurrence of miliary phlegmons in the terminal stage. (6) Staphylococcal septicaemia ends the scene. The disease lasts from five to twenty-four days, the average time being thirteen days. The morbid anatomy consists of an inflammatory process in the skin and subcutaneous tissue, lymphangitis and phlebitis or thrombophlebitis. In well developed cases the prognosis is unfavourable. Lülsdorf's case occurred in a wharfinger, aged 48, in whom the condition of the left arm was at first mistaken for anthrax. Recovery followed, the favourable issue being attributed to the fact that only one extremity was involved.

303. A Streptococcus in Rheumatic Fever.

J. C. SMALL (*Amer. Journ. Med. Sci.*, January, 1927, p. 101) states that the belief that rheumatic fever is an infectious disease has much in its support. The association of the onset of the disease with attacks of acute streptococcal tonsillitis, and the presence of these organisms in the valvular vegetations of ulcerative endocarditis of rheumatic origin have led to the theory that a particular group of streptococci is the etiological factor in rheumatic fever. Working along these lines Small isolated from the blood of a patient with acute rheumatism a streptococcus, for which he suggests the name *Streptococcus cardio-arthriditis*. Agglutination with the patient's serum occurred in dilutions up to 1 in 320. In rabbits acute arthritis and proliferative osteo-arthritis were produced by the organism comparable with the human type. The organism is described as a spherical, non-haemolytic, Gram-positive coccus of short chain formation. It stains readily, is non-motile and facultatively anaerobic, and possesses neither flagella, spores, nor capsules. The optimum temperature of growth is 37° C., and the organism is killed in six to ten minutes at 60° C.; enriched media are required. The organism is insoluble in bile, and ferments glucose, sucrose, inulin, raffinose, and salicin, with formation of acid but not gas. Mannitol is not fermented, and lactose by only some strains. Characteristic opaque, red-brown colonies are formed on blood agar. Vaccines of this organism have been beneficial in only a limited number of arthritic cases, but the administration of a serum, prepared first in the rabbit and then in the horse, resulted in marked improvement in the pain, tenderness, articular swelling, and stiffness. Small considers that the striking results obtained in cases of rheumatic fever by the administration of the serum in proper dosage warrants this preliminary report.

304. Persistence of Infectivity of Convalescent Scarlet Fever Patients.

EDITH E. NICHOLLS (*Amer. Journ. of Hygiene*, January, 1927, p. 84) has examined a series of forty patients suffering from scarlet fever in order to determine how long the *Streptococcus scarlatinae* remains in the throat during convalescence. Weekly cultures were made from the throat on blood agar plates. One colony was transferred to phosphate broth, which was incubated for four days, and filtered through a Berkefeld candle. The filtrate was tested for toxicity by intracutaneous injection of 0.1 c.cm. of a 1 in 1,000 dilution into Dick-positive and Dick-negative persons. Tests of the specificity of the toxin were made by mixing one portion suitably diluted with a human scarlet fever blanching serum and another portion with a non-blanching serum. Each mixture was then injected intracutaneously into a person with a positive Dick test. If a local erythema was present twenty-four hours later over the site where the toxin and non-blanching serum were injected it was concluded that the toxin was specific. In all the forty cases studied the *Streptococcus scarlatinae* was found in the throat cultures at the end of the third week, and the strains isolated produced fully potent toxins. Only a few patients were examined during the fourth and fifth weeks and none at a later date, so that it was not ascertained how long the specific organism remains in the throat. The author concludes, however, that patients convalescent from scarlet fever are still infectious three weeks after the onset, and recommends that isolation should be prolonged beyond the three-week period customary in Connecticut.

305. Renal Pelvic Duplication.

L. E. GRAJEWSKI and P. EISEN (*Urol. and Cut. Rev.*, January, 1927, p. 46) record five cases of this kind, one of which was bilateral and the others unilateral. In none of the cases were there more than two ureteral openings into the bladder. In only one instance were signs of disease present. Although in this case the duplication was bilateral, the pathological findings were confined to one side and consisted in a dilated ureter beyond a point of obstruction to the inserted catheter. The patient had extensive tuberculous peritonitis with ascites and visceral displacement with fixation, and pressure from without may have caused this obstruction with consequent dilatation. In all the other cases both pelves and ureters were of normal size. The variation in number and displacement of the calyces was about the same as is found in many otherwise normal kidneys. One case occurred in a female and four in males. The ages ranged from 19 to 36. None of the symptoms for which the patients sought relief indicated the existence of the renal anomaly. Complaints of weakness and lassitude were frequent and sometimes of backache and loss of weight. None showed any spinal anomalies or evidence of spina bifida occulta. The diagnosis of renal pelvic duplication can only be made by a pyelogram.

EPITOME OF CURRENT MEDICAL LITERATURE.

Medicine.

306. Thyroid Failure.

C. H. LAWRENCE (*Boston Med. and Surg. Journ.*, January 13th, 1927, p. 43) discusses the physiological background for the symptoms of thyroid failure and the results of treatment. Forty cases showing symptoms and metabolic derangements characteristic of thyroid failure were studied with a view to determining what functional disturbances were associated with various symptoms, and the results of the analysis were separated into two groups according to the presence or absence of myxoedema in order to determine the similarities and contrasts between them. Fatigue, palpitation, headache, vertigo, abnormal weight, deafness, irregular catamenia, and sterility showed no significant differences between the myxoedemic and the non-myxoedemic group; while loss of memory, dyspnoea, overweight, and sensitiveness to cold were more frequent in the former, and underweight and delayed puberty in the latter. In both groups interference with the basal metabolic rate, the circulatory efficiency, and renal function formed the basis of many symptoms of thyroid failure. It is stated that the presence of myxoedema is not essential to the existence of marked thyroid failure, its presence being apparently as much dependent on vascular pathology as on diminished thyroid function *per se*. In the absence of demonstrable organic disease depression of thyroid activity may be the cause of abnormal fatigue of the body as a whole, or of subnormal function of any of its parts. Lawrence adds that such depression of thyroid activity can only be determined in most cases by vital function tests, of which the basal metabolism is only one, and that the administration of thyroid extract is not often justified without the evidence afforded by such tests. The degree of response of symptoms to treatment depends largely upon the presence or absence of organic changes associated with the hypothyroidism, and thyroid extract can only render normal the function of organs structurally capable of normal function; it cannot remedy irreparable tissue changes even though of thyrogenic origin.

307. The Prognosis of Miliary Tuberculosis.

M. DE BRUIN (*Nederl. Tijdschr. v. Geneesk.*, December 4th, 1926, p. 2526) has collected 47 cases from the literature which were regarded as examples of recovery from miliary tuberculosis, and divides them into the following three groups: (1) Thirty cases in which it was very improbable that the disease in question really was miliary tuberculosis; (2) nine cases in which recovery followed haematogenous miliary tuberculosis; (3) eight doubtful cases. Some of the cases in the first group were published between 1850 and 1874, when the term "miliary tuberculosis" had not the same meaning that it has now. Wünderlich, for example, regarded acute melancholia, delirium tremens, and puerperal mania, among other conditions, as definite forms of miliary tuberculosis. To the same group belong the cases described by Burnard and Sayé, who diagnosed miliary tuberculosis from the appearance in the lungs of numerous small foci on *x*-ray examination. In three of the cases of the second group, reported respectively by von Muralt, Assmann, and Kern and Johan, the diagnosis of miliary tuberculosis was confirmed by a *post-mortem* examination at a later period. In Cohn's case, in which splenectomy was performed for supposed Banti's disease, pathological examination showed that the real condition was miliary tuberculosis, and complete recovery followed. In the other cases the diagnosis was made from the *x*-ray appearances in the lungs. As regards the ultimate prognosis De Bruin adds that it is remarkable that the three patients in whom the diagnosis of miliary tuberculosis was made on clinical grounds died some time later of tuberculosis. The recovery, therefore, was only temporary and not permanent. He thinks that the prognosis of miliary tuberculosis, though not necessarily hopeless, should be guarded, as there is always the possibility of the meninges and kidneys being affected after the tuberculous process has cleared up in the lungs.

308. The Blood Pressure in Pulmonary Tuberculosis.

As the result of observing 701 tuberculous patients over an average period of eight months, B. P. STIVELMAN (*Amer. Journ. Med. Sci.*, January, 1927, p. 46) comes to the following conclusions: Blood pressure determination is of little diagnostic value in incipient tuberculosis, since the arterial tension in patients with early disease falls within the normal limits. With the advance of the tuberculous process the blood pressure decreases to a greater extent in the active than in the more quiescent cases. The pressure is higher in fibroid disease than in other forms of tuberculosis, particularly in women over 40; this is probably secondary to the menopause. The incidence of haemoptysis is greater when the arterial tension is below the average for the condition, but the author thinks that the arterial tension and a haemoptysis are not etiologically related, but are coincidental symptoms of advancing disease. Haemoptysis in tuberculous patients with essential hypertension was less frequent than in cases with normal or subnormal blood pressure. The coexistence of pulmonary tuberculosis and syphilis produced a higher blood pressure and a more favourable immediate prognosis than in patients without syphilitic infection. The development of an effusion and the induction of pneumothorax had no appreciable and permanent effect on the blood pressure in the brachial artery, so long as the intrathoracic equilibrium was not unduly disturbed as the result of mediastinal displacement, which was prevented by early and judicious aspiration or careful adjustment of the intrapleural pressure. No indication of the course of the disease during treatment was given by changes in the blood pressure, but a higher arterial tension than the average for the age, sex, and degree of the disease or the patient rendered the prognosis more favourable.

309. Herpes Zoster Associated with Bismuth Treatment.

SÉZARY, PERNET, and GALLERAND (*Bull. Soc. Française de Dermatol. et de Syph.*, November, 1926, p. 654) report two cases of herpes zoster occurring in syphilitic patients under treatment by bismuth injections, and suggest that the eruption might have been due to the bismuth. A few similar cases have been recorded. In the present cases, although the eruptions were typical, they were not accompanied by any pain, disturbance in health, or subsequent scarring. Neither of the patients had been in contact with persons suffering from varicella, nor were there other cases of herpes. In one case the rash appeared during treatment, and in the other forty-eight days after the end of a course of bismuth. Another case of herpes possibly due to bismuth is reported by Martineau (ibid., p. 657).

310. Persistence of Streptococcus scarlatinae in Convalescent Scarlet Fever Patients.

E. E. NICHOLLS (*Amer. Journ. Hyg.*, January, 1927, p. 84) made an investigation of scarlet fever cases to determine how long toxin-producing scarlatinal streptococci persisted in the throat after recovery from the acute stage of the disease. For this purpose throat cultures were taken at the end of each week of the patients' stay in hospital in forty cases of scarlet fever. As the patients were admitted at an early stage these periods corresponded closely to the weeks of the disease. All types of cases were chosen—mild, moderate, and severe. Both sexes were represented, and the ages ranged from 2 to 48 years. Some were treated with antitoxin and some were not. In every case *Streptococcus scarlatinae* was found in the throat cultures at the end of the third week. There seemed to be little diminution in the degree of throat infection, as judged by the amount of growth, irrespective of the severity of the case, the use of antitoxin, or the presence of complications. Nicholls concludes that patients convalescent from scarlet fever are still infectious three weeks after the onset of the disease.

Surgery.

311. Pre-operative Preparation of the Diabetic Patient.

E. H. MASON (*Canadian Med. Assoc. Journ.*, January, 1927, p. 23) asserts that in properly handled diabetic cases the surgical mortality should be very little, if any, above that of the non-diabetic. In the preparation of the diabetic patient for operation attention should be paid to minor details in the daily hygiene, such as treatment of boils and pimples and cleanliness of the skin. The patient should not be dehydrated, the reserve glucose should not be exhausted by prolonged semi-starvation, and there should be no ketosis. An abundant intake of water (2,000 c.cm. daily) will prevent dehydration, and a diet containing at least 1 gram of carbohydrate per kilo of body weight, supplemented with insulin to ensure oxidation in part and storage of the remainder, will maintain a satisfactory glucose reserve and also abolish ketosis. Immediately before the operation an additional 10 units of

insulin should be given. For anaesthesia ether and chloroform should be avoided, and gas, gas and oxygen, or a local anaesthetic be used. Post-operative treatment is as important as the pre-operative. Freedom from glycosuria and ketosis should be maintained through diet, fluids, and insulin. Vomiting should be guarded against, and, if nausea persists, gastric lavage should be performed before vomiting starts. The diet should be gauged by the carbohydrate tolerance of the patient, fluids and soft foods being given at the start. Mason adds that the so-called diabetic gangrene occurs usually in untreated or poorly treated cases. Associated with the reduced carbohydrate tolerance and hyperglycaemia there is an arterial change, and the author asserts that the last is primary, the hyperglycaemia and glycosuria being secondary to arterial changes in the pancreas. Prophylactic treatment of diabetic gangrene is most important, and by a strict control of the diabetic state and daily attention to the local condition much can be accomplished. Mason has found that several cases of extensive gangrene have been completely healed by purely medical treatment, including the control of the condition, rest, warmth, daily exercises, and general and local exposures to ultra-violet light from a quartz mercury vapour lamp.

312. Congenital Pyloric Stenosis.

A. C. STRACHAUER (*Annals of Surgery*, January, 1927, p. 67) finds that in congenital hypertrophic pyloric stenosis the pyloric region is occupied by a tumour measuring about an inch in length and three-quarters of an inch in diameter. It consists of massive hypertrophy of the circular musculature of the pylorus. As a result the pyloric canal becomes stenosed and lengthened, interfering with the outlet from the stomach. The lesion has been seen in a 7-months' foetus and in the stillborn, and would seem to be developmental. It is often impossible to palpate the tumour in these cases as it may be covered by the liver, and *x* rays are not of much help in making a diagnosis. Before operating on such patients careful preparation is essential, gastric lavage and the administration of water being most important. The Rammstedt operation is the standard and safest procedure. The circular muscle is divided, and retracts and undergoes atrophy, thus relieving the obstruction. After division of the muscle a free portion of omentum is sutured over the incision. In a series of forty-eight cases reported by the author there was one death. Ether was the anaesthetic used; it appears to give the best and most satisfactory results. Local anaesthesia was unsatisfactory owing to straining of the infant, causing protrusion of the bowel through the wound and increased shock.

313. Angioma of the Tongue.

CHASTENET and GÉRY (*Bull. et. Mem. Soc. Nat. de Chir.*, January 22nd, 1927, p. 10) record an interesting and unusual tumour of the tongue. A woman, aged 19, had noticed its presence for a considerable period, but it had not grown appreciably in size. It caused no pain, but there was a little difficulty in speaking. The tumour was on the right side of the tongue, near the anterior margin, and was the size of a hazel nut. It was elastic and painless on palpation. The movements of the tongue were free and the overlying mucosa appeared normal. The tumour was removed with a local anaesthetic. It was nodular in appearance, like an adenoma, and on section was reddish and homogeneous to the naked eye. It consisted of fibrous tissue with cavities containing blood, and was considered to be a fibro-angioma. It was therefore probably of congenital origin and had undergone partial fibrosis in portions of the original angiomatous tissue.

314. Disease of the Sacro-iliac Joint.

A. LUX (*Wien. klin. Woch.*, January, 1927, p. 88) believes that sacro-iliac disease is far commoner than is supposed, and is often wrongly diagnosed as sciatica or lumbago. While primary tuberculosis of this joint does not, in his opinion, occur, chronic inflammatory changes are common, and, whether following chronic arthritic change or not, severe pain is often experienced following very slight trauma in this region; golf players, and persons accustomed to much stooping or carrying heavy weights, are instanced. The history is usually of sudden and severe, but not very clearly localized, pain in the lower part of the back, after some definite exertion. This improves slowly, but always recurs on movement of the upper part of the body, such as stooping or sitting. In examining the patient, Lux emphasizes the necessity for extreme gentleness, when, with the patient lying on his abdomen, a point of maximum tenderness may be made out over the joint, usually at the point of insertion, at the level of the fourth lumbar vertebra, of the posterior sacro-iliac ligament. Lasègue's sign is usually positive in these patients, and so is the attempt at compression of the iliac bones; but these signs are also present in severe sciatica, which must be distinguished by other methods. An *x*-ray examination is important to confirm the diagnosis and to eliminate the possibility of impacted stone in the kidney or ureter, or undue pressure on the sacral nerve plexus. In women retroversion of the uterus must be excluded. The treatment consists of massage and diathermy; rest, perfectly flat in bed, and on a hard mattress, is very important, and should be continued, even if it causes severe pain, for which the usual analgesics may be employed.

Therapeutics.

315. Thyroid Extract in Post-operative Embolism.

W. WALTERS (*Minnesota Med.*, January, 1927, p. 25) suggests reducing the incidence of post-operative embolism in elderly patients by the use of thyroid extract. With a view to increasing metabolism, with consequent increase in peristalsis and respiratory depth and acceleration of blood flow, and generally speeding up all the functions, 2 grains of thyroid extract were given by the mouth three times a day for seven days, commencing from the third or fourth day after operation and continuing until the patient was out of bed. Movements in bed and from side to side were recommended in order to increase the rate of circulation. Of 1,745 major operations thus treated no patient over 70 years of age died from pulmonary embolism and no deleterious effects were noted. The value of increased metabolism in the prevention of thrombosis and embolism is supported by Plummer's observation that these accidents rarely occur in severe cardiac decompensation coincident on hyperfunctioning thyroids. Experiments with the extracorporeal vascular loop in rabbits showed that thrombosis normally occurred in from four to ten minutes, whereas after administering 1 mg. of thyroxin daily for three days thrombosis did not occur for from twenty-five to thirty minutes, and this retardation was sustained for three days. Walters considers that there is reason to hope that post-operative embolism may be prevented by increasing metabolism in this way.

316. Treatment of Asthma by Ultra-violet Rays.

J. SAIDMAN (*Bull. Soc. de Thér.*, December 8th, 1926, p. 262) states that the first case of infantile asthma treated by ultra-violet rays was recorded by Mme Henry at the Société de Pédiatrie, although some writers had previously published cases in adults so treated. Saidman now records his observations on thirty-six asthmatic patients treated by ultra-violet rays whom he had kept under observation for a considerable time. All the patients had previously undergone a variety of anti-asthmatic treatment, including nasal sprays, administration of adrenaline, potassium iodide, glandular extracts, and climatotherapy, from which some had derived transient benefit. Although actinotherapy, like other measures, does not produce a permanent cure, and relapses occur in two-thirds of the cases, the number of the attacks is considerably reduced. Saidman groups his patients in the following four classes: (1) Children below 3 years of age. Out of five cases three were successes and two failures as regards the asthma, but in every case the rays had a good result on the general condition. (2) Children aged from 3 years up to puberty. Thirteen out of fourteen cases were successful, and in half the cases the attacks disappeared after the first application of the rays. (3) From puberty to 30 years of age. In this group the action of the rays was less rapid and more uncertain. (4) In adult life and old age. Although the results were incomplete, the cough became less frequent and distressing, the expectoration diminished, and the general condition improved under treatment.

317. Glucose and Insulin in Obstetric Toxaemia.

W. E. LEVY (*Amer. Journ. Obstet. and Gynecol.*, December, 1926, p. 866) states that the addition of insulin to the already successful glucose treatment in certain toxic conditions of pregnancy has proved remarkably beneficial. Thalhimer's work on post-operative acidosis with vomiting led to his investigating the pernicious vomiting of pregnancy, the basic idea being that the acidosis which is so prominent in the last stages of this vomiting is not only a result of the stomach's intolerance of food but also a factor in producing it. If the resulting vicious circle can be broken either by abortion, which removes the toxin of pregnancy, or by the correction of the acidosis, good results may be expected. If the vomiting, whether toxic or neurotic, is not checked a starvation acidosis will ensue. Levy has used the combination of glucose and insulin with marked success in the vomiting of pregnancy, in eclampsia and pre-eclamptic toxaemia, and in acidosis following haemorrhage. In the last-named condition, although acidosis is not necessarily present in shock, it often exists, may be extreme, and needs rapid treatment. It is important to distinguish between a true eclamptic

toxaemia and a purely renal condition, since in the latter glucose and insulin are valueless. Levy believes that this treatment would be beneficial in the acidosis of sepsis. His method of administration is to give 500 to 1,000 c.cm. of a 10 per cent. glucose solution with one unit of insulin to each 3 grams of glucose used, administering one-third of the amount of each until the whole has been given, and injecting the solution slowly. The glucose is given intravenously and the insulin hypodermically. Levy emphasizes that this therapy should be preceded by careful laboratory determinations and the dosage based on these findings. He controverts the conclusion of Stander and Duncan that the blood sugar is increased in eclampsia, and holds that their advice to use insulin without the necessary quota of glucose is most dangerous.

Radiology.

318. X-Ray Diagnosis of Pleural Effusions.

L. R. SANTE (*Journ. Amer. Med. Assoc.*, January, 1927, p. 215) considers *x*-ray examination most important in the detection of pleural effusions. Diagnosis of localized collections of fluid or of a generalized pleural effusion with underlying consolidation is always a matter of difficulty, and is sometimes impossible by ordinary physical examination. In general effusions the lung is well aerated and movement is free; there is a dense *x*-ray shadow in the lower part of the thorax, the costo-phrenic sinus being obliterated. The upper border of such an effusion is curved, concave, and extends upwards and outwards from the hilum to the axillary line, the shadow being little influenced by changes of position. Where the effusion is large the mediastinal contents are displaced, or, in the absence of such displacements, there is persistence of the aeration of the apex. At the diaphragm the liver and spleen shadows are continuous with the thoracic shadow. Where the lung is consolidated or fibrosed there is a ribbon-like shadow along the parietal wall of the chest. In local effusions, which usually appear during the course of an inflammatory process, the effusion generally occurs where two pleural surfaces come in contact. Whatever the site of the effusion, there is one particularly characteristic shadow which shows a convex rounded border with its base at the periphery and its convexity inwards towards the lung.

319. Radiotherapy for Cancer of the Tongue.

G. ZANOTTI (*Il Policlinico*, Sez. Chir., January 15th, 1927, p. 34) considers that a primary cancerous lesion confined to the tongue may be satisfactorily treated by deep radium therapy. If, however, the lesion is quite small and at the tip of the tongue, it is better, both for diagnostic and therapeutic reasons, to excise freely. Where necrosis has followed unsuitable radium treatment it is useless to continue it, and it is better to proceed surgically. Penetrating radiotherapy, either alone or associated with radium puncture, is said to be unable to cure cancer of the tongue, and still less the glandular metastasis; in advanced cancer, with palliative irradiation, it is useful. For enlarged and definitely cancerous glands external and deeply penetrating radium therapy is more effective than surgery. Zanotti adds that it should be remembered that a large percentage of the glands removed (40 per cent. according to Poirier) are *not* cancerous. Where the glands are bulky it is advisable to excise as much as possible as a preliminary to the radium treatment, but if the glandular enlargement is not marked radium therapy alone will suffice. Treatment by local radium puncture with external application should be simultaneous and continuous, using screened tubes of 2 mm. and 1 mm. platinum respectively. The dose should be weak, but capable of destroying cells in mitosis. If less screened tubes are used, it is better to divide the treatment into two stages, so as to avoid the risk of necrosis. Sterilization of the tumour by long-continued treatment according to the method of De Nabias is generally preferable. Since the radium treatment of lingual cancer is so full of technical difficulty it should be given in a properly equipped hospital.

320. Radium Treatment of Experimental Tar Cancer.

G. STOEL (*Nederl. Tijdschr. v. Geneesk.*, January 8th, 1927, p. 234) finds that experimental tar cancer in the mouse's skin can be caused to disappear entirely with almost the same dose as in the case of human cancer of the skin. Disappearance of the tumour is followed by a "radium sore," which also heals up in course of time. Complete healing of the tumour by this method is a strictly local phenomenon. No effect from irradiation on dissemination of the growth was observed in these experiments. Histologically the effects of irradiation were shown by the following appearances, which reached their fullest development in two to four days: (1) changes in the tumour cells, consisting in swelling of the nuclei, basophilia of the plasma, and the accumulation of large masses of nuclei; (2) disturbance of mitosis; (3) keratinization; (4) engorgement of the blood vessels. Subsequently the irradiated tumour cells are invaded by other cells, especially polymorphonuclear leucocytes, and later all kinds of connective tissue cells. The arteries in the irradiated area often show much thickening of their walls, whereby the lumen of the vessel is narrowed. After destruction of the tumour the space is occupied by newly formed connective tissue and fat.

321. Radiotherapy for Epithelioma of the Skin.

F. H. RIVERO (*Rev. med. Panamericana*, November, 1926, p. 23), who records several illustrative cases, describes three varieties of epithelioma of the skin—namely, spinocellular, basocellular, and naevocellular, with the appropriate treatment for each variety. His conclusions are as follows: Naevocellular epitheliomata should be treated by electrolysis exclusively. The basocellular forms may be treated by *x* rays, or, better still, by radium, which leaves soft and almost invisible scars. The spinocellular forms, which are refractory to deep radiotherapy in many cases, should be treated by the hard gamma rays of radium according to Regaud's technique. In districts where these methods of treatment are not available he recommends curetting away the tumour under local anaesthesia with novocain and adrenaline, and swabbing the curetted area with a solution of methylene blue (methylene blue 1 gram, glycerin and alcohol of each 5 grams).

322. Radiological Diagnosis of Ascariasis.

M. MUZII (*Il Policlinico*, Sez. Prat., January 17th, 1927, p. 83) publishes details of three cases of ascariasis, with radiograms showing the presence of the parasites. The medium used was a mixture of milk and water containing 150 grams of gelatinous barium sulphate. The worms appear as transparent streaks, and by pressing on the intestine to squeeze out the barium they can be shown more clearly. In some cases the worms swallowed some of the barium mixture and became opaque owing to the barium in their intestinal canal.

Obstetrics and Gynaecology.

323. Backache in Women.

F. KERMAUNER (*Wien. klin. Woch.*, January 6th, 1927, p. 15) protests against the commonly accepted teaching that backache in women is invariably due to the condition of the genital organs and that it is needless to look for any troubles other than uterine displacements. He reports the case of a patient who a year previously had had an *operation for correction* of uterine displacement. The anatomical result was excellent, but the sacral pain and dyspareunia were entirely unrelieved. The patient was thin, asthenic, and very depressed. Another patient was a bi-para, aged 33, who in the seventh month of her second pregnancy had severe pain radiating from the sacrum and buttocks to the legs. She had a normal confinement, but subsequently suffered from persistent sacral pain, which was aggravated on straining. She was thin and delicate, but the genital organs were normal. She had lordosis in the lumbar region with contraction of the *left erector spinae*, and pain on pressure over the fifth lumbar vertebra. Skiagrams showed an oblique fissure in the arch of the vertebra, indicating apparently spina bifida occulta; this had possibly been aggravated by changes in the bones and ligaments during pregnancy. The pain was relieved by irradiation over the site of the lesion. Another woman, aged 27, who had borne three children, had sacral pain towards the end of her first pregnancy, which improved after confinement but became worse in the subsequent pregnancies. A skiagram showed relaxation of the sacro-iliac ligaments with rotation of the sacrum on its transverse axis. A fourth patient had had a prolonged and difficult confinement due to the size of the child. Recovery was protracted, and a skiagram showed a lumbar lordosis. In these last two cases strong pelvic belts gave definite relief. The author believes that damage to the pelvic bones and ligaments due to pregnancy is much more frequent than has been supposed hitherto, especially when the normal temporary relaxation of the sacro-iliac ligaments persists. In some cases arthritic changes have been observed. Post-climacteric obesity, by increasing the size of the abdomen, may produce similar changes in the pelvic bones and joints.

324. Paratyphoid Ovarian Abscess.

R. CORDUA and E. A. KECK (*Zentralbl. f. Gynäk.*, October 23rd, 1926, p. 2747) refer to fourteen cases in which typhoid bacilli have been found in abscesses of the ovary. They record the case of a woman, aged 36, who in the fourth week of paratyphoid B fever suffered from acute abdominal pain; double

adnexal tumours which had been previously recognized became at the same time very tender, especially the left. At operation a large left inflammatory adnexal tumour was found adherent to the omentum and intestine; it burst, giving issue to foul pus from which *B. paratyphosus* B was isolated. *Inflammatory disease of the left adnexa had been noted four* years previously, so that the case is regarded as secondary infection by the paratyphoid bacillus of pre-existing inflammatory adnexal disease. Allusion is made also to the case of a woman, aged 32, from whom chronically inflamed and adherent right adnexa were removed at an operation for abdominal pain of four years' duration; the ovary contained a small abscess from which *B. paratyphosus* B was isolated. The history afforded no evidence of a pre-existing typhoid or paratyphoid illness, but the tumour was adherent to the sigmoid colon.

325. Labour with Double Uterus.

VAUDESCAL and KERNÉIS (*Bull. Soc. d'Obstét. et de Gynécol. de Paris*, December, 1926, p. 607) relate the case of a woman, aged 25, whose first four pregnancies terminated respectively in abortion in the fourth month, a difficult forceps delivery, and two spontaneous live births. Twin gestation was diagnosed during the ninth month of a fifth pregnancy; after delivery of the first infant at term the existence of double cervix and corpus uteri was recognized. The puerperium appeared normal, save that lactation was absent; the second foetus was not born until forty days later, with dystocia, attributed to obstruction by the empty half of the uterus or to an intrapelvic septum. The second child died, but in the second puerperium the breasts secreted so freely as to permit suckling of the first infant. J. BUREAU (ibid., p. 619) describes cases of premature expulsion and of retention of the decidua of the empty half of a double uterus of which the other side was pregnant. In the first case a woman, aged 25, became pregnant shortly after division of a vaginal septum for dyspareunia. During the eighth month she was admitted to hospital for abdominal pain, and there expelled the lining membrane of the non-pregnant uterine cornu; labour occurred normally one month later. The second patient, a primipara aged 23, was delivered, after section of a vaginal septum, of a live foetus presenting by the breech. When it was decided during the puerperium, on account of pyrexia and fetid lochia, to explore the uterine cavities, the one which had lately been gravid was found to be healthy and empty, and the other to contain a retained and infected decidua. Both these patients had amenorrhoea following conception.

Pathology.

326. Oral Sepsis and Focal Infection.

E. C. ROSENOW (*Med. Journ. of Australia*, November 27th, 1926, p. 735) states that clinical observation and experiments on animals have shown the importance of even small and symptomless localized infections as a frequent source of various systemic diseases. Many reports of the relief of symptoms following the removal of foci of infection have been published, and the author refers to his own work on gastric ulcer and arthritis, due to oral sepsis, and to that of others on the etiology of pyelonephritis, ulcerative cystitis, iritis and other eye diseases, ulcerative colitis, and endocervicitis, due, in many cases, to a streptococcus. Haden has even succeeded in producing onychia in rabbits with streptococci from infective foci in patients suffering from multiple onychia —an example of extreme specificity. There is a fundamental difference between an area of infection around a joint, as in chronic arthritis, and infection in the jaw around dead or diseased teeth, or *in the tonsils containing dilated crypts* with narrowed or plugged orifices, or an encapsulated abscess. In systemic or secondary foci the number of organisms is usually small, whereas in the primary foci mentioned the number is usually large. Clinical observations indicate that localized infections—as, for example, in the tonsils, teeth, and sinuses—are more likely to be associated with systemic effects than are those in other structures, such as the lung, or in the urinary tract. Generally speaking, the damage due to infective foci is directly proportional to the lack of drainage. The more virulent the bacteria the less they need a gross focus for entrance, and the lower their virulence the greater is the factor of focal infection in the production and maintenance of chronic disease. An infective focus which cannot heal or drain and teems with organisms, often in mixed culture, is recognized not only as a favourable starting point of invasion, but also as a suitable place for bacteria to maintain or acquire great virulence. Rosenow claims to have produced gastric ulcer in animals during a series of experiments on the transmutation of pneumococci and streptococci with laboratory strains which had attained increased virulence by repeated passage through animals. These results led to the formulation of the theory of elective localization. Experiments have indicated that the elective localizing power of bacteria in infective foci determines largely the site of the systemic lesion or disease, but this does not always occur independently of predisposing factors. Exposure, trauma, fatigue, and many other factors undoubtedly lower local or general resistance, and thus increase the probability of elective localization of bacteria and of other infective processes. Direct injection of bacteria grown in foci such as tonsillar crypts has often been followed by localization, with production of lesions corresponding to those of the patient. There are many difficulties in the practical application of the principles of focal infection and elective localization. Systemic diseases, once established, and often associated with anatomical changes, may continue after all evident foci have been removed, but instances of cure or of arrest of systemic disease by removal of infective foci show that this is indicated in almost every case in which focal origin can be proved.

327. The Virus of the Rous Sarcoma.

F. PENTIMALLI (*Lo Sperimentale*, January 25th, 1927, p. 623), repeating Gye's experiments on the virus of Rous sarcoma, paid particular attention to the inactivation of the virus by chloroform, and finds that if an extract of the tumour filtered through sand is treated with chloroform—1 c.cm. of chloroform being added to 10 c.cm. of filtrate—it is completely inactivated at 37° C. in three hours. But if only 0.1 c.cm. of chloroform is added the resultant mixture, when injected with kieselguhr, is often, though not always, able to produce a tumour in a dose of 5 c.cm. or occasionally of 2 c.cm. The chloroform was liberated from the mixture before injection by evaporation in a current of warm air. Having shown that 1 c.cm. of chloroform is sufficient to destroy the virus, he then tried to repeat Gye's work on the cultivation of the virus *in vitro*. He found that a mixture of 1 c.cm. of chloroform-treated filtrate (specific factor) *plus* 1 c.cm. of a fourth subculture of the virus in modified Hartley's broth with the addition of kieselguhr, when injected into the pectoral muscle of a hen, completely failed to produce a tumour. A few successful experiments resulted when only 0.1 c.cm. of chloroform was used to kill the virus, but in these cases the controls were also positive. Certain observations lead him to believe that the kieselguhr is not entirely inactive. He finds, for example, that it is possible to produce a tumour with a mixture of chloroform-treated filtrate (0.1 c.cm. of chloroform being used) and 1 c.cm. of Ringer's solution with kieselguhr more easily than when a mixture of chloroform-treated filtrate with 1 c.cm. of a culture of the virus is employed. He thinks, therefore, that the kieselguhr may act by rendering active a virus that has not been completely destroyed. Having failed to confirm Gye's results Pentimalli endeavoured to repeat Carrel's experiments on the production of tumours with a mixture of embryo pulp or inflammatory tissue and arsenious anhydride, indol, or scatol; these attempts also failed. He concludes that neither the virus nor the chemical theory of the nature of the Rous sarcoma is satisfactorily demonstrated.

328. The Cerebro-spinal Fluid in Human Rabies.

K. LÖWENBERG (*Münch. Med. Woch.*, December 24th, 1926, p. 2203) records his observations on the cerebro-spinal fluid in four cases of human rabies. In the first case, in which death occurred twenty-four hours after lumbar puncture, the spinal fluid was clear and under increased pressure, and the Nonne, Pandy, and gold-sol reactions were negative. The fluid, therefore, was apparently normal, although the disease ran a very severe course after an incubation period of about seven weeks, and the central nervous system showed several degenerative changes on histological examination. In the second case, in which paralyses of both lower extremities occurred five months after termination of prophylactic treatment, the Nonne, Pandy, and Weichbrodt tests were positive and the gold-sol test negative. In the third case, in which death occurred in the acute stage after an incubation period of six months, the cell count was not increased, although severe inflammatory symptoms were present in the mid-brain. In the fourth case, in which rabies developed fourteen days after the patient had been bitten on the mouth by a mad dog, lumbar puncture showed a turbid fluid due to well marked leucocytosis. The necropsy, which was performed three hours after death, showed well developed acute leptomeningitis and severe degenerative change in the cerebral cortex, cerebellum, and spinal cord. Löwenberg adds that these cases show that human rabies is one of those infections in which only slight changes are found in the cerebro-spinal fluid in spite of very severe lesions in the central nervous system.

EPITOME OF CURRENT MEDICAL LITERATURE.

Medicine.

329. Vaccination of Pregnant Women and Newborn Infants.

J. A. URNER (*Amer. Journ. Obstet. and Gynecol.*, January, 1927, p. 70) reviews the literature and reports the results of vaccination against small-pox of 129 pregnant women and 200 newborn infants. The period of pregnancy ranged from the twelfth to the thirty-ninth week; 66 women were vaccinated from the eighth to the tenth month and their infants reacted with 66 per cent. positive vaccinations. Between the first and eighth months 63 women were vaccinated, and their infants reacted with 71.5 per cent. positive vaccinations. Only 5 per cent. of the women successfully vaccinated showed rather severe symptoms of backache, anorexia, and malaise with a rise of temperature, and there was not a single case of threatened abortion, miscarriage, or premature labour. It was found that newborn infants stood vaccination well, and even better than older children; the temperature curves did not differ in any respect from those of unvaccinated infants, and no infant showed exanthemata or other generalized reactions. In no single instance could intrauterine transmission of immunity to small-pox or vaccination be demonstrated. Urner concludes that intrauterine transmission of immunity to small-pox should not be taken into account, as at best it is passive, slight, infrequent, and of insufficient consequence to protect the infant from either vaccination or small-pox.

330. The Serum Prophylaxis of Measles.

R. DEBRÉ, H. BONNET, and P. JOANNON (*Arch. méd., chir. et esp.*, January 29th, 1927, p. 156) state that four factors must be taken into account in considering the causes of failure of the prophylaxis of measles by the injection of convalescent serum—namely, the quality of the serum, the quantity administered, the state of health of the recipient, and the date of the injection. A "bad serum" may be totally destitute of immunisins or poor in protective antibodies. Deficiency of the serum in immunisins may be primary, or secondary to heating or to being kept too long. Failures, however, are much more frequently due to an inadequate dose. Although the dose in every case should be proportionate to the age of the individual, in many circumstances it must be increased to make up for the scarcity of immunisins in the serum. Thirdly, a serum with a normal quantity of anti-measles immunisins may show diminished efficiency because the organism, owing to the concurrent illness, is unable to make a proper use of them. Fourthly, when the serum is injected as late as the ninth or tenth day of incubation it is usually ineffective; the attack of measles is not attenuated and grave complications may occur. In some cases a good serum which has been kept only a few weeks and injected in sufficient doses at the right time into healthy subjects fails to afford any protection against measles. These failures, for which at present there is no explanation, do not exceed 1 per cent.

331. Diphtheria Carriers among School Children.

S. FEILBERG (*Tidsskrift for den Norske Laegeforening*, February 15th, 1927, p. 181) compares the incidence of diphtheria carriers in school children in Oslo during the periods 1903 and 1925–26. During the severe diphtheria epidemic in 1903 an examination of 967 school children in June showed that 9.2 per cent. were carriers. In September of the same year 4.2 per cent. of 4,455 school children were found to be carriers. During this year the incidence of clinical diphtheria in Oslo was 6.9 per 1,000. In the period 1925–26, when the incidence of clinical diphtheria was only between 0.2 and 0.3 per 1,000, an examination of 2,085 school children showed that only 0.45 per cent. were carriers. Though the diphtheria bacilli, which were all obtained in pure culture, conformed to the standard tests indicative of true diphtheria bacilli, they were avirulent to guinea-pigs, and in this connexion the author points out that there are no definite means of proving that the diphtheria bacilli of carriers are avirulent to man; virulence to guinea-pigs does not necessarily imply virulence to man. The upshot of the author's comparison of the one period with the other is the demonstration of a definite parallelism between the frequency of clinical diphtheria and that of carriers. The number of carriers would seem to be greatly in excess of the number of patients suffering from clinical diphtheria; this excess is somewhat reduced, but not altogether banished, during epidemics of the disease. The author admits that no clue is given as to whether the clinical cases should be regarded as primary and the carriers as secondary, or vice versa. All that can be claimed is that the striking parallelism demonstrated is an indication that there is some relation between the frequency of clinical cases and that of carriers. As in the observations of 1925–26 no case of clinical diphtheria developed in contact with any carrier, the author sees in this observation confirmation of the now general opinion that diphtheria carriers need not be isolated nor be the object of any special measures in the majority of cases.

332. Congenital Malaria.

F. MAGIOLI (*Thèse de Paris*, 1926, No. 188) states that though there are several cases on record of congenital malaria the condition is rare, as it has often been proved that transmission of the parasite by the mother to the child is not constant. The transmission may occur at all stages of pregnancy, and especially in the last three months. All forms of malaria are liable to be transmitted, but it is chiefly when infection has taken place in the second part of pregnancy and in badly treated cases that the parasite is most likely to pass through the placenta. The same parasite is found in the child as in the mother. The placenta is the centre of activity in which the young forms of the haematozoön are found in large quantities, whereas the umbilical and peripheral blood is poor in parasites. Sudden rise of temperature with cyanosis and coldness of the extremities is the predominating clinical syndrome, but the symptoms of congenital malaria may be very varied. The following abortive or larval forms have been described: (1) herpetic form, characterized by vesicular or bullous eruptions on the trunk, face, and scalp; (2) gastro-intestinal form, characterized by vomiting and diarrhoea; (3) nervous form, characterized by restlessness, convulsions, or somnolence. The existence of pregnancy does not contraindicate the use of quinine. On the contrary, the drug should be given freely to every malarial patient during pregnancy as well as to the newborn child as soon as it shows any signs of malaria.

333. Asthma.

P. CANTONNET (*Bull. Acad. Méd.*, February 22nd, 1927, p. 255) suggests that asthma is due to a hypercholesterinaemia which upsets the balance of the equilibrium of the blood colloids, while the excess of cholesterin in the tissues leads to a diminution of sensitiveness of the sympathetic system. Since lipoids can fix mineral salts in the blood increased lipoidal richness of the pulmonary tissue may favour a process of sclerosis which strangles the terminal nerve filaments. In support of this hypothesis Cantonnet adduces the origin of asthma in hepatic deficiency, its increase before menstrual periods and during pregnancy, when the cholesterin percentage of the serum is high, its disappearance in acute infectious diseases and exacerbations of tuberculosis when there is hypocholesterinaemia, its reappearance during convalescence from these diseases, and the special liability of the emphysematous to attacks. He has treated 3,200 asthmatic patients successfully with a series of twenty to twenty-five daily intramuscular injections of iodized polypeptone solution together with a solution of calcium chloride in a jaborandi medium. Nasal sprays and tracheal injections were used locally. In 28 cases the treatment failed completely. Of the 3,000 patients who were subsequently traced two-thirds were definitely cured of their asthma. In the other third 20 to 30 per cent. had one relapse, 10 to 15 per cent. two relapses, 5 per cent. three relapses, 1 per cent. four relapses, while only two or three per thousand had more than four. For prevention of attacks after a cure systematic decholesterinization was aimed at by the administration of various sodium salts; all cholesterin was eliminated from food, calcium chloride was administered for a long period, jaborandi was given, and the functions of the liver were encouraged.

334. Complications of Pertussis.

A. BERARDI (*La Pediatria*, February 15th, 1927, p. 188) reports two cases of severe cerebral symptoms occurring as a complication in whooping-cough. A boy, aged 3½ years, developed convulsions in the second week; these were repeated for two or three days and were followed by slight right facial paralysis, rigidity of the right upper limb, and slight spasm of the right lower limb. The Kernig and Babinski signs were present. On lumbar puncture 20 c.cm. of clear fluid came out under increased pressure. The child

was given a series of vaccine injections and left the hospital quite well after about six weeks. In a boy, aged 9, convulsions started in the second week and were succeeded by slight right facial paralysis, spasm of the left upper limb, and paresis of the left lower limb. The patella reflexes on the left side were much diminished. Clonus and the Babinski and Kernig signs were absent; there was marked dermographism and some slight rigidity of the neck. On lumbar puncture 15 c.cm. of clear fluid was let out under pressure. The patient was given a course of vaccine treatment and completely recovered. In each case the spinal fluid gave evidence of inflammation.

335. Routine Medical Examinations in Athletic Training.

O. JERVELL (*Tidsskrift for den Norske Laegeforening*, February 15th, 1927, p. 165) describes the routine medical examinations of persons in training which were commenced in 1920 by an athletic association in Oslo. By January 1st, 1926, as many as 3,845 males between the ages of 10 and 65 had been examined. Among them there were 665 who were advised either to discontinue athletics altogether or to be careful during training. The fact that as great a proportion as 17 per cent. of the total were in need of advice and restriction of exercise points to the importance of this system of routine medical examination. In as many as 166 cases the fragile build of the person examined was regarded as an indication for limiting exercise, the relation of height to weight and circumference of the chest being considered in connexion with the general appearance. In 28 cases of bronchitis, 1 of asthma, and 4 of pulmonary tuberculosis, athletics were forbidden, and caution in this respect was enjoined on 14 persons with slight pulmonary emphysema, and on 5 with a history of pleurisy. Twenty-two persons suspected of pulmonary tuberculosis were referred to private practitioners. With regard to cardiac arrhythmia, there were 15 cases in which a definite extrasystolic arrhythmia was found, but as in none of these cases was there any sign of organic heart disease training was not forbidden, though those concerned were kept under supervision and were not at first allowed to take part in any competitions. Adventitious heart sounds were heard in 430 out of 3,871 cases—that is, in 11.1 per cent. Among these were 31 showing signs of organic heart disease, which was presumably due in 20 cases to rheumatic fever, in 1 to chorea minor, in one to angina faucium, in 1 to chronic nephritis, in 2 to syphilis, in 1 to lethargic encephalitis, and in the remainder to unknown causes. Among these 3,871 persons there were 60 with a history of rheumatic fever, and of these 60 there were 15 with signs of valvular disease of the heart. There were as many as 348 cases of albuminuria, but only in 7 of them was there definite evidence of renal disease. Phosphaturia was found in 3.7 per cent. of the total, and in more than 5 per cent. of the persons between the ages of 20 and 30 it was not considered as a contraindication to training. Pyuria was found in 23 cases, and in most cases contraindicated athletics.

Surgery.

333. Resection of the Presacral Nerve.

D. FEREY (*Presse Méd.*, February 19th, 1927, p. 227) reports six cases of very severe neuralgia in the sacral and pelvic area, due to cancer, in which the pain was abolished by resection of the sacral nerve. In all these cases large doses of morphine had to be given before any relief could be obtained, but after resection of the nerve all pain disappeared and no morphine was needed. This good result lasted several months. In a sixth case, of atheroma of the aorta in a woman aged 76, who suffered acutely from pelvic neuralgia, the presacral nerve was divided and no pain occurred during four months after operation. Ferey states that the nerve can usually be found near the bifurcation of the aorta, a little to the left of the median line, its most important relation being that with the iliac vein. As a rule no ill effects followed the operation, but in one case some anaesthesia of the middle and upper part of the labia majora was noted. The operation in question has been tried with success in some obstinate cases of dysmenorrhoea.

337. The Mortality from Intestinal Obstruction.

T. ERLUND (*Finska Lakaresällskapets Handlingar*, January, 1927, p. 24) analyses 140 cases of mechanical intestinal obstruction treated in the general hospital at Tammerfors between January 1st, 1911, and November 1st, 1926. There were 93 males and 47 females; among the former there were 44 deaths and among the latter 10, the total of 54 deaths representing a mortality of 38.6 per cent. It is shown that this mortality does not compare unfavourably with that of various large hospitals in recent times. Thus, in 1925, Perthes admitted a mortality of 35 per cent. (200 operations), Bier had 107 deaths among 200 cases, and Körte, in three series of cases, had a mortality of 53, 30, and 40 per cent. respectively. Guillaume's French statistics, published in 1921, showed a mortality of 63 per cent., and Horine's statistics from the University Hospital in Maryland a mortality of 52 per cent. In Eklund's series there were 69 cases of intestinal obstruction caused by adhesions, the number of deaths in this class being 16. Among the cases of volvulus there were 13 affecting the small intestine, 15 the caecum and colon, and 21 the sigmoid flexure. There were 12 cases of intussusception, 6 of intestinal knots, and 4 of internal incarcerated hernia. The author concludes that, as the mortality among his cases compares favourably with that of several first-class hospitals outside Finland, reform of conditions within his institution is not likely to improve matters appreciably. But he believes that the mortality could be halved if patients were sent earlier to hospital, and he recommends education of the public in this connexion. He draws attention to the delay often caused by medical practitioners not visiting patients in the morning, which is commonly devoted to attendance in the surgery.

338. Rupture of Abdominal Incisions.

L. FREEMAN (*Archives of Surgery*, February, 1927, p. 600) discusses the cause of post-operative rupture of an abdominal incision, which may occur a week after operation, and is generally attributed to the giving way of sutures or to strains such as vomiting. Infection may account for some cases, while failure of the healing process has been suggested. The formation of a haematoma may weaken a wound, but its pressure is hardly likely to separate the fascia. He thinks that these causes may be contributory, but do not appear to be the main factors, and he attaches more importance to inadequate closure of the peritoneum. Between the loose stitches the omentum forces itself, and in expanding acts as a wedge, which separates the tissues and prevents proper union. A rupture may then be precipitated by vomiting or distension. If rupture occurs from within the danger can be lessened by care in closing the peritoneum; the sutures should be placed close together. Post-operative hernias are similarly explained by subcutaneous wound rupture, which is more common than complete rupture.

339. Volvulus of the Stomach.

M. G. JEAN (*Bull. et Mém. Soc. Nat. de Chir.*, February 5th, 1927, p. 110) records a case of the rare partial volvulus of the stomach in a woman aged 31. She had previously had indefinite abdominal pain and had been regarded as a case of visceroptosis. Prior to the operation the condition had been provisionally diagnosed by x rays and the presence of a mobile tumour was discovered. At the operation a partial volvulus was discovered, the posterior surface of the stomach being anterior and covered by the transverse mesocolon, the transverse colon itself having been carried round with the greater curvature. The organ was untwisted and normal relations were restored, the stomach being then fixed in position. Such a condition is seldom recognized before operation. The volvulus in this case was probably secondary to the general visceroptosis and relaxation of the ligaments, which, associated with some alteration in the abdominal pressure, following a meal, and accompanied by active peristalsis, favoured the production of the condition. It is added that after detorsion in such a case it seems advisable to perform some type of gastropexy to prevent a recurrence of the volvulus.

340. Carcinoma of the Stomach.

G. B. EUSTERMAN and W. H. BUEERMANN (*Journ. Amer. Med. Assoc.*, January 29th, 1927, p. 295), considering the present position of diagnosis and prognosis of gastric carcinoma, conclude that the time has come for revision of the traditional conception of this condition, so that pace may be kept with the clinical and histological information now being obtained from patients who undergo operations. Delay in diagnosis is attributed to procrastination, incomplete examination, failure of both the patient and his medical attendant to appreciate the gravity of a dyspepsia commencing in middle or late adult life, and the obsolete teaching of the textbooks. The authors advocate team work for diagnosis, and estimate that one person in four has an operable lesion. The simulation of simple ulcer is said to be much commoner than is generally supposed, for every gastric ulcer is potentially malignant. It is noteworthy that 8 per cent. of carcinomatous ulcers occur in subjects under 40 years of age. Increasing skill in the diagnostic use of x rays diminishes the need of other investigations, including exploratory operations. The more important diseases simulating cancer of the stomach are such intrinsic conditions

as gastric syphilis, lymphosarcoma, and benign tumour; extrinsic affections including carcinoma of the pancreas, duodenum, and gall bladder; and constitutional disorders, of which pernicious anaemia is the most important. Much has been done in pre-operative preparation of patients and in the administration of the anaesthetic. Apart from extensive spread of the disease or metastases, the most unfavourable occurrence as regards operative intervention is perigastric lymphatic involvement. The authors report that of patients without this involvement 52.5 per cent. were alive and well three years subsequent to the operation, but with lymphatic involvement there is a very marked reduction in the percentage, the survival figure falling to 18 per cent.

341. Recurrent Jejunal Ulcer following Gastric Resection.

J. HOLST (*Norsk Mag. f. Laegevidensk.*, February, 1927, p. 111) records the case of a man, aged 23, who, on account of duodenal ulcer, had undergone Polya's resection of the ulcer and pyloric part of the stomach. Nine months after the operation perforation of a jejunal ulcer occurred. The anastomosis was resected, together with 3 cm. of the fundus of the stomach and 15 cm. of the jejunum, including the perforation and entero-anastomosis, only one-third of the stomach being left. The amount of free hydrochloric acid was reduced to 9 and the total acidity to 20. Microscopical examination of the wall of the stomach left *in situ* showed the characteristics of the mucous membrane of the fundus. Eleven months after the second operation another jejunal ulcer perforated and excision was performed. Since the third operation, which was performed a year ago, the patient has been in good health. The case shows that resection of two-thirds of the stomach, including the pyloric portion and entailing a considerable reduction of the gastric acid, does not prevent the formation of post-operative jejunal ulcers.

342. Acute Pancreatitis.

PICOT (*Bull. et Mém. Soc. Nat. de Chir.*, February 16th, 1927, p. 198) discusses two cases of acute pancreatitis reported by J. Charles-Bloch. This condition is seldom diagnosed before operation; one of these cases was regarded as acute intestinal obstruction, the other as peritonitis. They were marked by a very rapid and acute onset with distension and complete obstruction. There was no rigidity. In one case the pain was referred to the left iliac fossa and was attributed to a volvulus. The other patient had pain chiefly in the epigastrium radiating to the left flank. The chief features in these cases were the violent pain and the rapid onset of meteorism. The pulse rate was 120, and the temperature 100.4°. The general condition became rapidly worse, and in this respect differed from obstruction. In the history there was nothing to suggest intestinal trouble, but in both cases there was a suggestion of previous gall-bladder trouble. The treatment of the condition is drainage of the pancreas, and the drain must be retained in position for several weeks. In one case it was removed early and the patient died with a subphrenic abscess. If the gall bladder is distended or there are gall stones, the gall bladder should be drained. Picot concludes that if this condition was more often remembered its occurrence would be more often recognized.

343. Prostatectomy in Two Stages.

ROCHET (*Journ. d'Urol.*, January, 1927, p. 5), discussing the surgical treatment of chronic retention of urine due to enlarged prostate, holds that a temporary cystotomy, as a preliminary to removal of the prostate, is not always desirable. This method has been condemned by some surgeons and is not acceptable to many patients. It has distinct disadvantages where it has been present for some time when the second operation is undertaken. The abdominal wall becomes hard and indurated round the scar. This renders the removal of the prostate more difficult, while the gland itself, after drainage of the bladder, becomes shrunken and fixed in position. Cases of chronic retention may be divided into three groups. In the first there is incomplete retention without infection or renal failure, and an operation is performed to do away with the trouble of catheterization. In the second group there is retention and distension of the bladder. Here again the urine may be clear, but there is impaired renal function with evidence of nephritis. In the third group there is retention complicated with infection and possibly evidence of uraemia due to pyelonephritis. In the first group an immediate prostatectomy may be performed with little danger. In the second group a two-stage operation will be advisable, while in the last a perineal drainage of the bladder is the best and safest treatment. If severe haemorrhage follows the cystotomy an urgent and rapid removal of the prostate may be necessary in a few cases.

Therapeutics.

344. Sanocrysin in Pediatrics.

G. SCHELTEMA and H. E. ROOKMAKER (*Nederl. Tijdschr. v. Geneesk.*, February 5th, 1927, p. 702) employed sanocrysin in 15 cases of pulmonary tuberculosis at the Groningen Children's Hospital, and in 4 obtained a remarkable and extremely rapid improvement, both as regards the symptoms and the physical signs and *x*-ray appearances. No bad effects could be attributed to the treatment apart from slight rise of temperature and transient albuminuria. In 7 cases some improvement was observed, but not of any considerable degree, nor confirmed by *x*-ray evidence, and in 4 cases of miliary tuberculosis no benefit of any kind was detected. The results, however, as a whole were thought to be sufficiently satisfactory to make further trial of sanocrysin in children suffering from pulmonary tuberculosis desirable.

345. X-Ray Treatment of Pertussis.

W. M. SHERIDAN (*Radiological Review*, January, 1927, p. 5) in the course of a year has treated with *x* rays 22 patients suffering from whooping-cough. Only one failed to improve, 11 showed abortion of the disease and marked improvement within a few days, and the rest were rather better in one or two weeks. Nearly all the cases were very severe and most patients had been whooping for two or three weeks. No deaths occurred. As a rule the shorter the duration of the disease and the younger the patient the better were the results obtained. The average total leucocyte count on admission was 16,411, with 58.1 per cent. lymphocytes. Within a week following *x*-ray treatment nearly every case showed a reduction in the total cell count and in the percentage of lymphocytes. *X*-ray films taken before treatment showed peribronchial thickening and enlargement of the tracheo-bronchial lymph glands. In severe cases there was also mottling of the lung, suggesting early bronchopneumonia. Films taken two weeks after *x*-ray treatment showed less peribronchial thickening and a definite diminution in the size of the tracheo-bronchial glands.

346. Diathermy in Tonsillar Hypertrophy.

F. G. HUELBES (*Arch. med., cir. y esp.*, January 8th, 1927, p. 44) maintains that diathermy is superior to all other methods for treating enlarged tonsils, especially as it avoids the occurrence of haemorrhage, which is one of the greatest dangers inherent in tonsillectomy. Another drawback to excision of the tonsils is the post-operative period, during which the patient must keep in his room or at least remain on fluid diet to prevent the occurrence of haemorrhage or infection. On the other hand, diathermy is a bloodless operation which lasts no longer than a minute, does not require constant post-operative attention or interfere with the patient's ordinary life or diet. The diathermy is preceded by anaesthetizing the tonsil with a 6 per cent. solution of cocaine, reinforced in the case of timid patients or very large tonsils by a deep injection of 1 per cent. solution of novocain and adrenaline. Two sittings are required, one for each tonsil, the interval between the two being eight to ten days.

347. Ultra-violet Rays in Pulmonary Tuberculosis.

H. J. GERSTENBERGER and C. W. BURHANS (*Amer. Journ. Dis. Child.*, January, 1927, p. 54) report seven cases of pulmonary tuberculosis in infants in which distinct improvement and recovery followed treatment by ultra-violet rays from the quartz mercury lamp. In order to evaluate the therapeutic power of the actinic rays the patients were kept in bed and indoors, exposure to outside air, sunlight, and the carbon arc light being avoided. Previous experience in treating tuberculous peritonitis and tuberculosis of the mesenteric glands with a quartz lamp convinced the authors that the actinic rays had a distinct therapeutic value in such cases. While rest in bed, dieting, and cod-liver oil improved the nutrition of the patients the authors think these measures were not entirely responsible for the success of the treatment, exposure to ultra-violet rays being of value in bringing about a change of disposition and a more consistent progress towards recovery. The patients were kept under observation for one to two years, and the experience gained showed that pulmonary exudates, which were massive in character and lobar in distribution, were especially likely to improve. Full notes, with *x*-ray plates and temperature and weight charts, of the seven patients are given. Each one was exposed to quartz lamp irradiation at least three times a week, and in some cases there were cavities in a dense right upper lobe. It is sugges.ed

that the good results obtained may be due mainly to the fact that such massive infiltrations represent a valuable beneficial immunologic attack of the body against the tubercle bacillus rather than that they are the result of local tissue irritation by the tubercle bacillus.

348. Serotherapy in Scarlet Fever.

C. ZOELLER (*Bull. Soc. Méd. des Hôp. de Paris*, February 10th, 1927, p. 115) reports two cases of scarlet fever successfully treated by an antitoxic serum prepared by O'Brien. The first patient was still suffering from pulmonary congestion after influenza when he developed a bad sore throat, a typical scarlet fever rash, and a temperature of 103.6°. He was given 20 c.cm. of the serum, and next day the temperature had fallen to 100°, the pulse from 120 to 100, the rash had disappeared, and the throat was much less troublesome. The temperature remained down and no further symptoms appeared, except some passing articular pain and fever on the ninth day, due to the serum, and slight desquamation on the eighteenth day. In the second patient marked albuminuria followed previous attacks of measles and tonsillitis, and some weeks later he showed definite signs of scarlet fever. He was given 20 c.cm. of the serum, and on the next day another injection of 10 c.cm. The rash completely disappeared on the third day, and by the seventh day the patient was convalescent. On the second day the urine contained 6.2 grams of albumin per litre; next day the albumin fell to 0.6 gram per litre, and on the fifth day there was no trace of albumin. In the urine examined before the serum was given streptococcal toxin was detected; this was not present subsequently.

349. Malarial Treatment of Leukaemia.

C. J. GAMBLE (*Journ. Amer. Med. Assoc.*, January 8th, 1927, p. 87) has investigated the therapeutic value of tertian malaria in two patients, one with lymphatic and the other with myelogenous leukaemia. They were inoculated with a strain of *Plasmodium vivax* which had already been used for therapeutic purposes and shown to be promptly curable by quinine; 5 c.cm. of blood from a patient in the paroxysmal stage were injected intramuscularly. The blood of the patient with lymphatic leukaemia was used to infect the myelogenous patient. Both were allowed to have a series of febrile paroxysms, and in each there was a fall in leucocytes to less than half the original number, but, following the termination of the paroxysms by quinine, the white cell count rose in six and three days respectively to approximately its previous level. In the lymphatic case a marked haemolytic effect was produced, the red cells falling from 2,460,000 to 1,520,000 and the haemoglobin from 47 to 30 per cent.; the use of quinine did not bring about a rapid return to the previous level. In the myelogenous case this effect on the erythrocytes and haemoglobin was not so pronounced. During the year following the injection of blood from the lymphatic into the myelogenous case there was no evidence of transmission of the lymphatic leukaemia. Gamble concludes that while tertian malaria during the stage of paroxysms markedly decreases the leucocyte count in both types of leukaemia it does not appear to have any permanent curative effect.

350. Quinidine Sulphate in Auricular Fibrillation.

N. SIDEL and F. G. DORWART (*Boston Med. and Surg. Journ.*, February 10th, 1927, p. 216) record a series of twenty unselected cases of auricular fibrillation to demonstrate the desirability of treating the condition with much larger doses of quinidine than are usually administered. They think that the drug should be used to supplement and not to supplant digitalis. All but one of their patients had become compensated with digitalis, rest, and morphine before quinidine was started. In the series of twenty cases quinidine sulphate produced regular rhythm in thirteen (65 per cent.), and in all patients with a cardiac history of two years or less. Treatment commenced with two test doses of 3 grains at a four-hour interval, followed, if no idiosyncrasy manifested itself, by five doses daily of 6 grains at three-hourly intervals for from three to five days. If at the end of that time fibrillation still persisted 10 grains were given three times a day for one day and then four times a day for two days, and if necessary five times a day for a further two days, up to, finally, 15 to 40 grains five times a day. It is added that when quinidine is given in large amounts in gradually increasing doses the patient should be under observation in hospital. The highest single dose was 45 grains, the highest daily dose 200 grains, and the highest total dosage over a period of two months 3,381 grains. While large amounts are not advocated, it is clearly shown that they can be employed, if divided up, in cases where small quantities have failed.

Ophthalmology.

351. Paresis of Convergence following Encephalitis Lethargica.

W. F. HOFFMAN (*Amer. Journ. of Ophthalmol.*, November, 1926, p. 823) describes seven cases of this condition following encephalitis lethargica. In some of these cases diplopia was noticed from the first, but as a whole it was a sequel rather than a concomitant of the initial attack. In no case was there any paralysis of any muscle, but rather an inability to perform the act of convergence. The pupils, however, in all cases reacted to accommodation. Paralysis of the function of divergence, causing diplopia for distance, was a marked feature of the encephalitic cases of the spring of 1924, but paralysis of convergence does not seem to have been previously reported in association with encephalitis lethargica.

352. Endophthalmitis from Retained Foreign Body Cyst.

D. T. VAIL, jun. (*Arch. of Ophthalmol.*, January, 1927, p. 5), describes the case of a young mechanic who had a unilateral cataract, the result of an intra-ocular foreign body. The foreign body, which was a particle of steel, was brought forward into the anterior chamber by the giant magnet and subsequently removed by a keratome section. Soon afterwards the eye became severely inflamed and a hypopyon appeared. A few days later a yellowish vesicle attached to the anterior surface of the lens was visible. The eye became steadily worse in spite of treatment, which included intramuscular milk injections. A week later an iridectomy was performed and the cataract removed, after which the eye speedily quieted down with good vision resulting. Examination showed a yellowish cyst attached to the lens. This cyst had contained the foreign body, and after removal of the foreign body the cyst had produced this marked inflammatory reaction in the eye. Animal and cultural experiments for pathogenic organisms were negative, as also was a skin test with lens protein.

353. Iris Reposition in Cataract Extraction.

R. FOSTER MOORE (*Brit. Journ. of Ophthalmol.*, January, 1927, p. 10) describes a manœuvre for dealing with the iris when it slips in front of the knife in making the section of the cornea in an extraction. When this happens before the section is completed, if a repositor is taken and with it stroking movements are made on that part of the cornea which overlies the blade, the iris can be expressed from between the blade and the cornea and be made to slip under the knife; the section can then be completed in the ordinary way.

354. Intra-Ocular Sarcoma in Children.

W. P. PARKER and W. H. STOKES (*Journ. Amer. Med. Assoc.*, December 4th, 1926, p. 1891) report ten cases of intra-ocular sarcoma in children, in which fourteen eyes were clinically affected. In eight cases the history showed no evidence of heredity, and in two the history was unknown. In six cases the orbit was subjected to α-ray treatment after exenteration; in three recurrence and death occurred, in two there was no recurrence, and in one the result is unknown. A clinical diagnosis of glioma was made in all but one case, which was treated for tuberculous uveitis, but was proved six months later to be sarcomatous. The authors state that nothing definite is known of the etiology of intra-ocular neoplasms in children. The work of certain investigators indicates the possibility of a retinal origin of these so-called gliomas, and there is a probability of the occurrence in the retina of growths of mesoblastic origin. These malignant growths may be either retinal or choroidal in origin; they are non-pigmented, and in a number of cases show rosette formations. The growth characteristics are the same, and they are all highly malignant. According to Parsons, the rosettes are aggregates of rod and cone fibres. The basal membrane represents the membrana limitans externa, the protoplasmic protrusions into the lumen are rods and cones, and the nuclei are the outer granules. The distinction between a retinal and choroidal malignant tumour occurring in children is difficult, and pathological knowledge is still insufficient to justify positive conclusions. Most writers agree that a glioma of the retina has nothing in common with one of the central nervous system. Retinal gliomas are found only in the young, while gliomas of the brain and cord occur at all ages; choroidal malignant growths have been reported in both adults and children. Summarizing their cases, the present authors state that pathological examination proved the growths to be sarcomatous and to possess properties of angioblastic proliferation. The apparent rosette structure, seen in only two cases, represents early perithelioma tous proliferation; it is due entirely to the proliferation of the

cells arising from small blood vessels and is not characteristic of epiblastic tumours. In older portions of the neoplasms this arrangement is absent. The authors claim that further study is necessary to prove that a glioma or neuroepithelioma does not exist as a clinical entity in children.

355. Refraction without Mydriasis.

DORLAND SMITH (*Amer. Journ. of Ophthalmol.*, December, 1926, p. 896) in this article advocates a method of estimating errors of refraction without the use of a mydriatic, which he terms "cyclodamia." The complete test includes the successive stages of examination of the media and fundus, the measurement of the best distant vision obtainable, ophthalmometric examination, skiascopic examination, and subjective testing, with particular attention to the obtaining of as full accommodative relaxation as possible.

Obstetrics and Gynaecology.

356. Placenta Accreta.

D. S. FORSTER (*Canadian Med. Assoc. Journ.*, February, 1927, p. 204) reports a case of placenta accreta, which has been estimated by Polak as occurring in 1 in 6,000 deliveries; the present case was the only one among 8,000 deliveries at the Montreal Maternity Hospital during the past six years. In this condition, as the result of absence of decidua at the placental site, the villi penetrate the uterine muscle and make separation impossible; it differs thus from other forms of adherent placenta, where there is invariably a decidua basalis. The predisposing causes are repeated or too vigorous curetting, endometritis, submucous fibroid, and previous manual removal. In Forster's case a Jewish woman, aged 32, had had three previous pregnancies, none being instrumental, but her second child was born dead following a blow on the mother's abdomen, and on this occasion the afterbirth was removed with instruments. In the case of the third child the placenta had to be removed manually; there was much bleeding, and a two months' confinement to bed. When her fourth pregnancy reached term the blood pressure was 132/82, there was a trace of albumin in the urine, some backache, and slight bleeding from the vagina. She gave birth to a dead foetus, difficulty being experienced in removing the after-coming head. The placenta did not follow, expression under anaesthesia failed, and efforts at manual removal only tore away two small cotyledons. Hysterectomy was therefore performed. The placenta covered the whole of the interior of the uterus; it was variable in thickness and the normal line of cleavage could not be found. The absence of decidua was demonstrated by histological section. Forster agrees with Polak that hysterectomy is the proper treatment of this condition.

357. Gonorrhoea in Women.

A. SIREDEY (*La Gynecologie*, December, 1926, p. 705) remarks that the search for the gonococcus is of little diagnostic value in the female except in acute gonorrhoea; in the more common form which is chronic from the beginning it is rarely found, being replaced by other pathogenic organisms and saprophytes. Acute gonorrhoeal metritis is rare and results from infection by a male suffering from acute gonorrhoeal urethritis; it usually occurs in young prostitutes, as an immediate sequel of marriage, or in married women whose husbands have recently returned after absence. The symptoms include vulvo-vaginal redness and pain, dysuria, hypogastric pain, and pyrexia; hypersensibility renders vaginal examination very difficult, and acute adnexal or peritoneal reactions are not uncommon within a few days of infection. Examination a few days later shows a red desquamated cervix bathed in pus. Apart from microscopical examination the concomitant existence of purulent urethritis is of diagnostic importance. Subacute gonorrhoeal metritis is more common, and may or may not follow an acute stage; vaginal examination being easier, its detection is less difficult. Gonococci in the secretions gradually diminish in abundance, and later are only to be detected immediately before or during the two or three days following menstruation. Chronic gonorrhoeal metritis is much the most common, but —especially when chronic from the first—is often unsuspected by the patient, to whom it reveals itself by but one definite symptom—namely, leucorrhoea. The leucorrhoea of chronic gonococcal infection is characterized by intermittent loss (especially on rising in the morning, after walking, or after standing) of thick, tenacious, greyish or opal-coloured fluid. Sterility is common, and it is very rare to detect the gonococci microscopically. Vaginal examination shows a mobile uterus which is neither enlarged nor tender, and a swollen cervix which in a nullipara is conical, with a small orifice surrounded by a congested zone and emitting on pressure a characteristic greyish glairy mass. Such a condition may persist almost indefinitely, causing sterility, of which the origin is often unsuspected by the medical adviser; usually the husband has been infected some years before marriage and has apparently good reasons for believing himself cured. Secondary extragenital infections are common after acute and subacute gonorrhoeal metritis, but in the chronic forms are rarely encountered save as a sequel to surgical or instrumental manœuvres on the cervix. In the treatment of chronic cervical gonorrhoea Siredey prefers to Schröder's or other resections of the cervical mucous membrane the use of a diffusible caustic introduced by Richelot and consisting of two parts of potash to one of lime. By successive applications of this at about ten days' interval, and lasting twenty to thirty seconds or more, the diseased glands and mucosa of the cervix are eliminated. It is admitted that the applications, if sufficiently radical to be effective and sufficiently conservative to avoid the risk of inconvenient or dangerous cicatrices, demand considerable skill, experience, and judgement; they must not be employed in acute or subacute cases, in the presence of pyrexia, or when the adnexa are at all swollen or painful. To avoid stenosis of the os or cervical canal the patient must be carefully watched for a month after this treatment, and the introduction of olled bougies may be required. The author regards these caustic applications as the best treatment for chronic gonorrhoea, but thinks that diathermy after further trial may prove to be a valuable adjuvant or substitute.

358. Treatment of Eclampsia.

A. HOCHENBICHLER (*Zentralbl. f. Gynäk.*, February 19th, 1927, p. 486) gives an account of the treatment of eclampsia in the Third Maternity Hospital in Vienna, from the beginning of 1910 to the end of 1926. During that time 275 patients were treated. Until the middle of 1922 the mortality, in spite of energetic treatment by the usual methods, continued to vary from 15 to 20 per cent., the statistics merely showing a slightly lower mortality in primiparae, and also in cases in which there was no operative intervention. In July, 1922, the author began to treat his patients with ultra-violet rays, using a quartz lamp; of the 64 women admitted since then 37 have been treated with ultra-violet rays, with a mortality of 2 (5.4 per cent.). In 10 cases with no deaths the only treatment given was light; in the remaining 27 it was combined with morphine, luminal, or chloral, or with venesection and intravenous or subcutaneous injections of saline or Ringer's solution. Labour was induced by de Ribes's bag, rupture of the membranes, or bringing down a leg, according to the suitability of the case, and forceps applied, or craniotomy performed on a dead child as soon as dilatation was complete. The patients received a ten minut s' exposure of the whole body (five minutes each side), the face, breasts, and genital area alone being protected by a gauze covering; this was given as soon as possible after admission, under a light ether narcosis and at a distance of 1 metre from the lamp. A further ten minutes' exposure was given at a distance of 1½ metres after about five hours, and this was repeated the next day, not more than two exposures being given in twenty-four hours. The chief result of this method of treatment, and the one to which Hochenbichler attributes its success, is an instantaneous fall of blood pressure after the first exposure, often from 200 to 50 c.mm., due to dilatation of the surface blood vessels, the heart and lungs being thereby much relieved; general metabolism is also stimulated. The author suggests the prophylactic use of ultra-violet rays during late pregnancy for pre-eclamptic cases.

359. Uterine Fibroma and Pregnancy.

V. AZA (*La Med. Ibera*, February 5th, 1927, p. 146) records a case showing that operations can be performed in pregnancy, not only on organs anatomically and physiologically connected with the uterus, such as ovaries with cystic formation, but even on the uterus itself, without in any way interfering with the normal course of pregnancy. The patient was a primipara, aged 42, who in the third month of pregnancy developed severe pain in the right abdominal quadrant. The diagnosis lay between extrauterine pregnancy and a new growth of the right adnexa. On laparotomy a round tumour the size of a large coco-nut with torsion of its pedicle towards the left was found attached to the right side of the uterus, which corresponded to that of a three months' pregnancy. The tumour was successfully removed and subsequent recovery was uneventful. Histological examination of the tumour showed that it was a fibroma without the slightest trace of malignant desquamation. At the time of publication, three months after the operation, the pregnancy was proceeding normally.

Pathology.

360. Local Production of Immune Bodies in the Meningeal Cavity.

S. MUTERMILCH (*C. R. Soc. de Biologie*, February 18th, 1927, p. 397) records some experiments on the local production of agglutinins to bacteria introduced into the cerebro-spinal fluid. One series of rabbits was injected intraperitoneally with a cholera vaccine; another set received the same dosage into the subarachnoid space. In all the animals the serum developed an agglutinin titre to *V. cholerae* of 1 in 1,000 to 1 in 5,000, but the agglutinin titre of the spinal fluid of those rabbits injected intraperitoneally was *nil*, though in those in which the organisms had been introduced into the subarachnoid space it was 1 in 800 to 1 in 1,600. This indicates that antibodies in the serum are unable to gain access to the spinal fluid, and suggests that the antibodies found in the spinal fluid of those animals which were injected by the subarachnoid route must have been formed locally. In a second experiment one series of rabbits was injected intraperitoneally with the cholera vibrio and intraspinally with the typhoid bacillus; another series was injected intraperitoneally with the typhoid bacillus and intraspinally with the cholera vibrio. The results showed that the serums of all the animals agglutinated both organisms, whereas the spinal fluid agglutinated only that species of organism which was injected into the subarachnoid space. In another experiment rabbits which had been vaccinated intraperitoneally with the cholera vibrio were given an intravenous injection of urotropine. The spinal fluid of these animals collected from twenty minutes to six hours later was found to contain a small quantity of agglutinins—about 1/400 or 1/500 of the amount present in the serum. In another experiment rabbits which had been vaccinated intraperitoneally with the cholera vibrio were injected intraspinally with 0.5 c.cm. of 10 per cent. suspension of flour in saline. The agglutinating power of the spinal fluid of these animals reached a point equivalent to about one-tenth of the serum titre. The author concludes that agglutinins may be formed locally in the meningeal cavity; these agglutinins may then pass into the blood serum. But agglutinins formed in the blood serum are unable to pass into the spinal fluid unless an injection of urotropine is given or an aseptic meningitis is set up.

361. Variations in the Amylolytic Power of the Blood and Urine.

A. GUALDI (*Il Morgagni*, February 6th, 1927, p. 201) has investigated the amylolytic power of the blood serum and the urine in a number of pathological conditions. The fluid to be tested was put up in ascending dilutions in small test tubes with 1 per cent. sodium chloride solution and a 0.1 per cent. solution of cooked starch. After shaking, the tubes were incubated at 37° C. for half an hour, then cooled rapidly, and to each was added a drop of N/50 solution of iodine. The smallest amount of fluid that just served to digest the starch was taken as the index of amylolytic power. The amylolytic activity of the blood serum throws light on the functional condition of the pancreas; the simultaneous examination of the amylolytic powers of the serum and the urine indicates the extent of renal permeability. In pulmonary tuberculosis it was found that the results obtained depended on the gravity of the disease. In mild cases or in cases that were doing well the amylolytic titres of the blood serum and urine were within the normal range of variability, that of the urine being generally higher than that of the serum. In severe cases the titre of the serum was higher than normal, and the titre of the urine not only lower than normal but lower than that of the serum. The author therefore thinks that this test may be of value in the prognosis of pulmonary tuberculosis. In exudative pleurisy, chronic bronchitis, bronchial asthma, gastric and duodenal ulcer, typhoid and paratyphoid fever, and certain other conditions, the serum and urine titres were within normal limits. In epidemic parotitis, however, the serum titre was always increased.

362. A Streptothrix in the Meningeal Fluid.

M. GERBASI (*Centralbl. f. Bakt.*, February 5th, 1927, p. 369) has isolated six strains of a streptothrix from the cerebro-spinal fluid of children suffering from purulent meningitis in Palermo. The rod-shaped organisms, of varying length, stained irregularly, and resembled the diphtheria bacillus. They refused to grow on agar or in broth, even when glycerol was added, but growth occurred both under aerobic and anaerobic conditions in media containing animal proteins such as serum, blood, and ascitic fluid, and also occurred in dextrose broth, a slight turbidity appearing after three days. In culture the organisms appeared as non-motile, Gram-up into two to five short segments; they were arranged in groups, palisades, and V-forms, and granular staining was common. In old cultures coccoid forms were seen. Branching was never observed. The organisms produced acid in glucose and galactose. Inoculated subcutaneously into guinea-pigs they sometimes caused death in about a week, preceded by cachexia and general malaise. The local lymph glands were enlarged, the suprarenals were congested, and small haemorrhages were found in the central nervous system. Direct injection of the organism into the subarachnoid space was without effect. A filterable toxin was formed, producing much the same symptoms on inoculation into guinea-pigs as did the injection of whole cultures. Serums prepared by injection of rabbits with heated cultures agglutinated all six strains. This organism resembles the members of the Actinomyces group in certain respects, particularly in its low virulence to animals, but the author was unable to identify it with any particular species of this group. On the other hand, it agrees closely with the organisms previously described by Rutelli, Sindoni, and Fonzo, which were similarly isolated from the meninges. Gerbasi gives it the name *Streptothrix meningea*.

333. Effect of Quinine on Phosphorus Metabolism in Man.

T. A. HUGHES and D. L. SHRIVASTAVA (*Indian Journ. Med. Res.*, January, 1927, p. 601) report that the administration of quinine, orally or intravenously, causes a lowering of the blood sugar content, and that this hypoglycaemia is due to an excessive liberation of insulin. Phosphorus plays an important part in carbohydrate metabolism, and the relation of phosphorus to the breaking down of carbohydrates in muscle has been demonstrated by Embden and his co-workers. It is generally agreed that insulin and adrenaline cause lowering of the inorganic phosphates of the plasma and urine, followed by a rise, and whatever the nature of the process whereby the blood inorganic phosphates are used up during carbohydrate metabolism, the change is only temporary. The authors conducted two series of experiments, in which 10 or 15 grains of quinine, alone or followed in fifteen minutes by 1 c.cm. of pituitrin subcutaneously, was administered to both normal individuals and hospital patients. Their results show that quinine in antimalarial doses causes a retention of phosphates. This fact is evidence of the interference of this drug with carbohydrate metabolism, resulting in a fall in blood sugar and an increased output of insulin. The investigations of Brittin and of Clarke indicate that quinine produces its effect on the circulating glucose by acting as a stimulant of the parasympathetic system. While the fall in blood sugar after the administration of quinine can be prevented by the previous ingestion of carbohydrates, this does not reduce, but rather tends to augment, the effect on the islet tissue. When, therefore, quinine is administered in large doses over long periods, as in malaria, it is acting more or less continually as a stimulant of the pancreatic islets, and since overstimulation of this tissue is known to produce exhaustion, it is not unlikely that in many cases quinine plays a part in the production of a diabetic condition.

364. A Specific Flocculation Reaction for Pneumococci.

C. W. JUNGEBLUT (*Journ. Exper. Med.*, February 1st, 1927, p. 227) states that, though numerous flocculation reactions for the sero-diagnosis of syphilis have long been recognized, the action of bacterial lipoids in a specific flocculation reaction was not studied until in 1924 de la Rivière and Roux described flocculation occurring between alcoholic extracts of meningococci and antimeningococcus serum, and suggested the value of this reaction in the standardization of anti-meningococcus serum. More recently they have included the gonococcus in their studies. Georgesco has reported the application of the same method to the sero-diagnosis of cerebro-spinal meningitis and typhoid fever. Jungeblut now reports the existence of a similar reaction between pneumococci and antipneumococcus serum, and discusses the question whether this reaction is both species-specific and type-specific. The bacterial antigens were prepared by extracting the centrifugalized, washed sediment of 1,500 c.cm. of an eighteen-hour pneumococcus broth culture in 40 c.cm. of absolute or 95 per cent. ethyl alcohol for four weeks at room temperature. These extracts were filtered through paper, and were then ready for use. A 10 per cent. alcoholic extract of Sumatra benzoin was used as a non-specific reinforcing agent, and monovalent antipneumococcus serums, obtained from horses immunized by various methods, were employed. Jungeblut maintains that a flocculation reaction does occur between alcoholic extracts of pneumococci and antipneumococcus serum, and that this reaction appears to be species-specific, but not strictly type-specific. The flocculating power of the serum does not develop to any extent before the end of the fourth or fifth month, and some relation appears to

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Medicine.

385. Prevention of Measles by Immune Goat Serum.

R. TUNNICLIFF and A. L. HOYNE (*Journ. Amer. Med. Assoc.*, December 25th, 1926, p. 2139) immunized goats by intravenous injection of green-producing measles diplococci and their filtrates, and thus obtained an antibacterial and antitoxic serum. Injections of 4 to 6 c.cm. of the serum were given to children aged 1 year and over and to a few nurses with a negative history of measles, after definite exposure to the disease. All who did not receive serum and those who had it five days or more after exposure developed measles. Goat serum, however, prevented measles in 45 per cent. of those injected with it on the fourth day after contact with measles patients and in 97 per cent. of those who received it within the first three days after exposure. Eleven infants under 1 year of age who received the serum later than the fourth day after exposure all developed measles, but 33 infants, of whom 10 were over 6 months old, and who were given serum within the first four days after exposure, showed no signs of the disease. Local and general serum reactions occurred in only 12 per cent. of those injected. The authors hold that, though the duration of passive immunity conferred by immune goat serum is only a few weeks, the serum is useful in preventing measles in very young and sick children and in stopping epidemics in institutions.

386. Convulsions in Whooping-cough.

E. HÄSSLER (*Jahrb. f. Kinderheilk.*, December, 1926, p. 376) states that only a few data are available as to the frequency of convulsions in whooping-cough. Heubner observed this complication in 6 out of 187 cases, and Eckert in 25 out of 476 cases. Hässler states that during the last epidemic at Dresden severe general convulsions were observed in 14 out of 67 infants and in 8 out of 53 young children—an unusually high percentage; 11 of the 22 patients died, 10 of them had pneumonia also. Of the 11 who recovered 5 were infants and 6 young children. The relatively favourable results are attributed by Hässler to the use of strontium chloride and urea, which was given intramuscularly every two or three days in doses of 1/2 to 1 c.cm. The effects of the administration of strontium were a general diminution of irritability without undesirable cerebral complications, a tonic action in the heart, and prevention of hypostatic pneumonia. Seven illustrative cases are recorded.

387. Pulmonary Abscess.

ACCORDING to F. BEZANÇON, A. JACQUELIN, and J. CÉLICE (*Bull. et Mém. Soc. Méd. des Hôp. de Paris*, February 3rd, 1927, p. 92) pulmonary abscess rarely develops as an ordinary acute infection; more often there are grave general signs, the abscess cavity seldom heals, and the condition usually passes into chronic subacute infection, interrupted by the periodical retention of pus. They report, however, the case of a man, aged 24, in whom a central cavity developed and healed in a month; it would have escaped observation but for a skiagram. His symptoms were cough, expectoration, and thoracic pain. There was increased vocal fremitus and dullness over the middle of the right lung, from the vertebral border of the right scapula to the anterior axillary line. Breath sounds were absent; there were a few subcrepitant râles after coughing, and also bronchophony and whispering pectoriloquy. In contrast with the slight physical signs the morning temperature was 101°F., rising at night to 103°. The pulse was rapid, there was no cyanosis or dyspnoea, but the frequent severe cough increased the pain. The sputum was muco-purulent and tinged with blood, copious, odourless, and full of pneumococci. Radioscopy showed a central round cavity in the right lung, which changed its shape on coughing; it was half filled with fluid. About twelve days previously there had been a sudden rigor, followed by fever and sweating, dyspnoea, cough, and intense pain in the middle of the right lung. After four days the symptoms were slightly worse; the temperature remained between 100° and 101.4°. In ten days the sputum became muco-purulent, blood-tinged, and more abundant; in twelve days the patient had lost 6 kilograms. The temperature fell by lysis, and twenty-five days after admission the cavity had disappeared, leaving a slightly darker shadow at its former site. Six months later the patient was in good health, and the only sign of the lesion was a slight roughness of inspiration. In a second case, a boy aged 17 was attacked with cough, fever, vomiting, and diarrhoea. He improved and returned to work though asthenic. Three weeks later he had slight rigors, headache, pain at the right base, profuse sweating, and dyspnoea; his temperature was 104° and his pulse 108. His general state suggested enteric fever, but the Widal test was negative. The sputum was scanty, gelatinous, and muco-purulent; it contained numerous Gram-positive cocci. The temperature fell slightly, but no crisis occurred, and the whole of the right side of the chest was painful, especially at the base. On the left side over a small persistent area at the left scapular spine there were subcrepitant râles. The symptoms now resembled those of influenzal bronchopneumonia. There was scanty greenish muco-purulent sputum, containing Gram-positive diplococci and staphylococci. All abnormal physical signs in the left lung cleared up, but dullness persisted at the right base. The sputum increased in quantity and yielded a pure culture of *Staphylococcus aureus*. Signs of excavation were discovered in the right infraspinous fossa, and the general condition showed some improvement. Radioscopy showed a small cavity partially filled with fluid in the centre of the right lung, with complete diaphragmatic immobility on that side. An autogenous vaccine was injected daily for four days, causing a sharp febrile reaction and increasing the quantity of sputum. The dose was increased, and though the sputum was still very profuse the general condition improved notably. The physical signs diminished and the cavity closed, leaving a shadow in the skiagram the size of a bean. Three months after the initial attack the patient was discharged cured. The authors have been unable to find any record of a staphylococcal pulmonary abscess, and observe that visceral staphylococcal abscesses are usually secondary to a bony or skin invasion. They call attention to the rapid recovery under vaccinotherapy after the failure of ordinary treatment, and without surgical intervention.

388. Enteritis caused by B. paratyphosus B.

P. DELANOE and A. PAOLETTI (*Arch. de l'Institut. Pasteur d'Algerie*, December, 1926, p. 575) report a case of *B. paratyphosus* B infection in which a married woman was suddenly taken ill during the night after a meal of sausages. The chief symptoms were intense vomiting and profuse diarrhoea, the stools being semi-liquid, green, and fetid. The conjunctivae were discoloured and the tongue coated. Treatment consisted in dieting and the administration of calomel, followed by small doses of soda, urotropine, and benzonaphthol. The attack lasted about a month. After partaking of the same food the husband suffered from a similar attack, which, in his case, lasted only three days. Bacteriological examination of the faeces of the female patient produced an almost pure culture of *B. paratyphosus* B to the exclusion of *B. coli*, a point to which the authors draw attention. Repeated examinations of the faeces proved that this patient developed into a carrier of *B. paratyphosus* B, thus confirming the difficulty of eliminating these organisms from the intestinal tract.

Surgery.

389. Pelvic Sarcoma diagnosed as Appendicular Abscess.

A. LURJE (*Zentralbl. f. Chir.*, February 5th, 1927, p. 337) refers to Silberberg's record of the faulty diagnosis of appendix abscess as a malignant tumour, and reports a case in which the opposite diagnostic error was made. A girl, aged 14, had complained of severe pain in the right hip for five weeks; it later extended to the right iliac fossa, and the temperature rose to 102°. On the inner side of the right anterior superior iliac spine a definite swelling, covered by normal skin, was visible; it was dull on percussion, distinctly palpable, and appeared to rise from the deeper part of the iliac fossa. It was as large as a fist, very tender, globular, smooth, with definite induration, which on passive flexion of the hip became less. The abdominal wall was tense in this region. Extension produced lordosis and increased the pain; rotation was limited. No glands could be felt, the vertebral column was normal, and adnexal disease was excluded; on account of the fever it was regarded as an inflammatory infiltration with central suppuration of appendicular origin. On dividing the transversalis a spongy mass of sarcomatous tissue appeared which did not communicate with the peritoneal cavity; the operation was abandoned. A skiagram taken subsequently showed a shadow in the right iliac fossa and indefinite atrophy of the ileum. The patient died ten days later. At the necropsy there was found a well defined tumour covered by peritoneum arising from the middle of the right iliac fossa; it originated

in the iliacus and was unconnected with the subjacent bone. The greater part of the tumour consisted of chronic inflammatory tissue; in places there was some fibrino-purulent exudate, and elsewhere fibrous changes, resembling interstitial fibrous myositis. At the periphery there were ill-defined and very vascular masses of round cells of typically sarcomatous appearance.

370. True Adenoma Sebaceum.

V. PETTINARI (*Arch. Ital. di Chir.*, November, 1926, p. 693), who records an illustrative case in a man aged 26, states that there is an adenoma, properly so-called, of the sebaceous glands corresponding with the type described by Porta in 1859. It is a rare condition and must not be confused with the "adenoma sebaceum" of the Pringle and Balzer type, nor with the epithelioma adenoides cysticum of Brooke. It is quite distinct clinically from rhinophyma. The condition appears in the form of a nodule, which is usually single and varies in size from that of a pea to a large hen's egg; it is found in a situation full of sebaceous glands, such as the nose—as in Pettinari's case—scalp, or back. It always has a poor vascular supply, is sometimes ulcerated, and is usually adherent to the skin, but can be isolated from the surrounding tissues, and is of a fleshy and pasty consistency. It may appear at any age, but congenital or hereditary forms are not known. Most of the cases occur in males late in life. The course is benign, the growth slow, and the glands are not involved; recurrence, however, may take place after removal. Histologically the tumour is characterized by a new growth and hypertrophy of the sebaceous glands. It can be distinguished from a malignant growth by the strict limitation of the glandular acini, the morphological character of the cells, and the sharp separation from healthy tissues. Surgical removal is the only effective and rational treatment, and this was successfully performed in Pettinari's case.

371. Melanoma of the Toe.

A. CHAUVENET and MLLE E. DUBREUILH (*Bull. et Mém. Soc. Nat. de Chir.*, February 12th, 1927, p. 143) report a case of melanotic carcinoma of the little toe, in a man aged 48, who came for treatment on account of an ulcerated tumour of the toe which had grown slowly and was painless. The condition was diagnosed as a melanoma and high amputation advised. This was refused and the foot was removed by a Syme's operation in December, 1925. There was an apparent recovery following operation, but two months later the patient returned with oedema of the limb, ascites, and pleural effusion, and died in February, 1926, from recurrence of the disease. Melanoma of the nail-bed was described by Jonathan Hutchinson in 1856, and termed "melanotic whitlow." This tumour is more often found in the upper limb than in the leg. At first it may start as a black patch, and is taken for an ecchymosis; ulceration follows later, and the tumour may be black or red. When ulceration occurs the progress of the disease is usually rapid and it then becomes painful. The glands may be enlarged at any period of its growth, and they are often more pigmented than the primary tumour. The spread by the lymphatics occurs as in epithelial tumours, and in this respect it differs from sarcoma, which spreads by the blood stream. This tumour is commonly seen in those about 50 years of age, and is more frequent in females than in males. Trauma appears to be a definite predisposing factor. These growths have been regarded as sarcomata in the past, but appear really to have the structure of naevo-carcinomata, and arise in the epidermis.

Therapeutics.

372. The Action of Caffeine.

GROSSMANN and LUSICKY having reported that the caffeine portion of such double salts as caffeine-sodium-benzoate has no action on the central nervous system, pulse rate, or blood pressure, R. DREIKURS (*Wien. klin. Woch.*, February 3rd, 1927, p. 156) investigated the effects of injections of 0.4 gram of caffeine-sodium-benzoate, alone and in conjunction with atropine, on the pulse rate and blood pressure of 25 patients without demonstrable organic disease at a Vienna psychiatric-neurological clinic. He found that the response to the drug was fairly constant for each individual, but varied considerably from case to case, producing in some a slowing of pulse rate from 94 to 72 with lowering of blood pressure from 110 to 95 mm., while in others the pulse rate was unaffected or even increased, the blood pressure remaining unaltered or being raised, control injections of saline having in each case no effect. He reviews the literature and discusses the variations in his own observations, the discrepancies found in the results of other workers, and the fact that caffeine occasionally has a soporific effect, especially in persons in whom it produces marked bradycardia and lowering of blood pressure. He suggests as an explanation of these phenomena that hypodermic injections of 0.4 gram of caffeine-sodium-benzoate normally produce mild stimulation of the vagus. In certain individuals this may be marked, feeble, or absent, while in others the same dose produces stimulation of the sympathetic, the effect of the caffeine apparently depending on the comparative irritability (tone) of the vagus and sympathetic, as shown experimentally by means of atropine injections. The author's results indicate that the temporary preponderance of the vagus or the sympathetic which has been demonstrated by many workers may remain constant for a considerable length of time.

373. X-Ray Treatment of Erysipelas.

E. S. PLATOU and L. RIGLER (*Arch. Intern. Med.*, November, 1926, p. 573) remark that erysipelas is a striking example of those diseases in which the multiplicity and variability in the methods of treatment indicate an uncertainty as to the value of therapeutical procedures. It is obvious that, as erysipelas is a self-limited disease, any form of treatment to be judged effective must be so in a very prompt and definite manner. The authors record the results of *x*-ray treatment of 23 cases, with 18 cases as controls, in which the usual routine procedure of iced magnesium sulphite and glycerin packs was employed. Only one dose of *x* rays was given, and most patients had no other form of treatment except analgesics and sedatives, with the result that rapid improvement occurred in both the local and systemic manifestations, with a fall of the temperature to normal in one to two days. The duration of the disease from the time of *x*-ray treatment to clinical cure was from two to five days, with an average of three days in the irradiated cases; whereas in the controls the disease lasted from four to twenty-one days, with an average of more than nine days. Four of the control cases were fatal, while only one death occurred among the cases treated by *x* rays, in a patient suffering from measles bronchopneumonia complicated by erysipelas. No deleterious effects of the irradiation on the skin or hair were observed.

374. Antitoxin Treatment of Scarlet Fever.

W. T. BENSON and D. P. MACIVER (*Edin. Med. Journ.*, December, 1926, p. 701) record their observations on 107 cases of scarlatina simplex treated with intramuscular injections of concentrated scarlet fever antitoxin, with 107 control cases. Symptoms of serum disease appeared in 34 patients from four to fourteen days after the injection. In 28 cases a rash was observed, mostly urticarial, which persisted several days in the more severe cases. Other symptoms were rise of temperature, adenitis, and fleeting joint pains. The authors' conclusions are as follows: (1) Administration of antitoxin within the first forty-eight hours of the disease has a very favourable influence on the specific toxaemia of scarlet fever. In relieving the more urgent symptoms of the acute stage it undoubtedly renders the patient more comfortable. (2) There are indications that the liability to subsequent complications is diminished. (3) Administration of serum, even on the first day of illness, is not an absolute safeguard against the development of septic complications in convalescence. (4) In toxic scarlet fever serum should be given intravenously or intramuscularly as soon as possible and repeated when necessary.

375. Sodium Nucleinate in Pneumonia.

L. E. MILLER (*South African Med. Record*, December 11th, 1926, p. 531) refers to Gardner-Medwin's article in the BRITISH MEDICAL JOURNAL (1924, vol. ii, p. 49), in which it is shown that injections of sodium nucleinate increase the number of polymorphonuclears in the blood and the opsonic power, with beneficial effects in such diseases as influenza and pneumonia. Miller has now used the treatment for 117 natives, of whom 87 had lobar pneumonia and 30 bronchopneumonia. In 51 of the cases of lobar pneumonia the temperature fell by crisis; in 24 the crisis occurred on the second day after injection, and in 18 on the third day. In 16 other cases the temperature fell by lysis, and of the remaining 20 cases 13 appeared to be unbenefited, 7 terminating fatally. In the 30 cases of bronchopneumonia crisis occurred in 10, lysis in 10, and in the remaining 10 there was no response to treatment, and 4 deaths occurred. The case mortality of the treatment was thus 8 per cent. for lobar pneumonia, and 13.3 per cent. for bronchopneumonia. Miller finds that the intramuscular injection of 0.1 gram of sodium nucleinate is not too high a dose and usually brings down the temperature in forty-eight hours, otherwise the dose is repeated. Sodium bicarbonate is also given by the mouth, in half-drachm doses every four hours in severe cases, when the urine contains acetone. In a few cases profuse sweating occurred about two or three hours after the injection, and in six cases there was a false crisis about twelve to eighteen hours after injection. Miller believes that this treatment, though requiring further investigation, is of definite assistance in terminating lobar pneumonia quickly and successfully.

Anaesthetics.

376. Spinal Anaesthesia in Intestinal Obstruction.

P. DUVAL (*Bull. et Mém. Soc. Nat. de Chir.*, February 19th, 1927, p. 169) discusses two cases of acute intestinal obstruction, reported by A. CHENUT and J. QUÉNU, in which spinal anaesthesia brought about an immediate evacuation of the bowels. Duval has been able to collect a further series of twenty-two cases of a similar nature. It appears that in certain cases of intestinal obstruction—more particularly in cases of post-operative ileus—spinal anaesthesia is a most efficacious form of treatment. It has also proved successful in certain cases of mechanical ileus. The evacuations have been so complete in some of the cases that the condition has been cured. The question, however, arises in others as to what further treatment should be adopted. This depends on the real cause of the condition, and where this is mechanical further measures will, of course, be necessary. The effect of the relief of the obstruction, however, completely transforms the condition of the abdomen and allows exploration to be performed under excellent conditions. The abdomen instead of being distended is flat and relaxed, and the gut also is collapsed and easy to manipulate. The conditions and prognosis are completely changed by this procedure. This form of treatment may render an enterostomy unnecessary, specially in cases due to carcinoma of the bowel. The mechanism whereby this acts probably depends on the fact that the ileus is produced by stimulation of the peripheral nerves of the intestine which act on the centre in the medulla. The effect of the spinal anaesthetic is to suppress the inhibitory impulses, and this brings about active peristalsis owing to the free action of the excitatory nerves. This corresponds with the results obtained in certain animal experiments that have been carried out.

377. Spinal Anaesthesia in Urological Surgery.

M. F. CAMPBELL (*Brit. Journ. Anaesth.*, January, 1927, p. 162) records the results of spinal anaesthesia in 536 operative procedures in the urological department of the Bellevue Hospital, New York. It is regarded as the ideal anaesthetic for urological surgery, most of the patients having diseases of the kidneys, with advanced renal damage in many. Cases with hypertension are said to be especially suitable. Nephrectomies cannot yet be painlessly performed under spinal anaesthesia, since the pain of clamping the pedicle is not eliminated, but by the use of the double or "split" spinal anaesthesia satisfactory results are obtained in bladder work and suprapubic prostatectomy. Before the operation patients should be given a liberal amount of fluid, 1/4 grain of morphine, and 1/150 grain of atropine hypodermically. With the patient upright or prone local anaesthesia through the dura is used, and the injection is generally made in the third lumbar space, the average dose being 80 mg. novocain crystals dissolved in about 3 c.cm. of spinal fluid slowly withdrawn for the purpose and then reinjected. For the double or "split" spinal anaesthesia the injection is made in the twelfth dorsal and in the third lumbar spaces, the lower injection blocking at the point of their emergence those fibres which were centrally located in the cord at the site of the upper injection. While patients with hypertension do well under spinal anaesthesia, even though suffering from grave cardio-nephropathies, its use is said to be contraindicated in those with hypotension with a blood pressure below 100 mm. Other contraindications are extreme toxicosis, the moribund state, and the presence of spinal or brain tumours. A comparison of the mortality between general and spinal anaesthesia revealed a 4 per cent. difference in favour of the spinal. Campbell concludes that for operations below the diaphragm spinal anaesthesia is admirable, and is specially indicated in the presence of renal impairment.

378. Anaesthetization of Cardiac Cases.

H. K. DIMLICH (*Anesthesia and Analgesia*, February, 1927, p. 35) states that heart lesions in patients whose compensation is good do not contraindicate the use of nitrous oxide and oxygen, and that this method of inducing anaesthesia will give the best results in cardiac and other poor surgical risks when combined with preliminary injection of magnesium sulphate, morphine, and novocain one and a half hours before operation. The blood pressure is estimated after three-quarters of an hour, and another similar injection is given if the patient seems to require it. This is equivalent to the usual 1/4 grain of morphine, and is usually sufficient, though occasionally a larger dose may be deemed advisable. The patient is then encouraged to sleep, carried to the operating room, and anaesthetized with nitrous oxide and oxygen. A smaller amount of the anaesthetic than usual is often adequate, but occasionally ether may be required; these cases are exceptional, and the amount of ether employed is so small as to have no bad effect. Dimlich has found that in this way the excitement stage during induction is absent or only slight, greater relaxation is obtained, and no deleterious effects result. There is a marked reduction in the pain when consciousness returns, and morphine is less early required to relieve it. Careful examination of the heart, blood pressure, and kidney function before the operation is important.

379. Effect of Ethylene Anaesthesia on the Coagulability of the Blood.

D. C. STRAUS and H. H. RUBIN (*Journ. Amer. Med. Assoc.*, January, 1927, p. 310) have investigated the tendency to increased haemorrhage which occurs in operations performed under ethylene anaesthesia. In a series of twenty-five patients so anaesthetized the coagulation time was determined immediately prior to operation, during it, and on the following day, Bogg's modification of the Russel-Brodie coagulometer being used. In 20 cases the coagulation time was shortened during the administration of the anaesthetic and a further drop was noted at the end of anaesthesia. In four cases the coagulation time was not diminished until after the operation, and in one case the time was increased. The authors think the cause of the shortening of the coagulation time is the direct effect of the gas on the red blood cells, leading to agglutination and coagulation with the formation of fibrin. Other possible explanations relate to changes in the blood pressure or to increase in the specific gravity of the blood.

Obstetrics and Gynaecology.

380. Treatment of Abortion.

W. H. MAXWELL (*Journ. Med. Assoc. S. Africa* (*B.M.A.*), January 22nd, 1927, p. 40) in apyrexial cases of incomplete abortion advocates early evacuation of the uterus as being simple, safe, and avoiding the risk of haemorrhage and infection. He prefers the laminaria "tent," since Hegar's dilators may cause serious damage. Tents can be kept aseptic indefinitely in absolute alcohol and ready for use, and a slow, steady, and uniform dilatation is secured without any danger of laceration. The advantage of this method of dilatation is said to be most apparent in cases of about four months, and it is a great advantage to be able to explore the uterus with the finger. The use of the curette is only necessary when a piece of placenta is too firmly adherent to be removed by the finger. In febrile cases of sapraemia or septic intoxication rapid improvement follows the emptying of the uterus under an anaesthetic. In septicaemia caused by injury to the wall, cervix, or vaginal fornix Maxwell recommends dilatation and digital exploration, with removal of the septic contents, gentle douching, and avoidance of the unnecessary and dangerous curette.

381. Primary Carcinoma of the Fallopian Tube.

J. H. ENGELKENS (*Nederl. Tijdschr. v. Geneesk.*, January 22nd, 1927, p. 470), who records an illustrative case, states that, though secondary carcinoma of the Fallopian tube is frequent, usually following carcinoma of the uterus, a primary growth is very rare. So experienced a gynaecologist as Treub had never seen an example. Kehrer in 1908 collected 80 cases, of which only one was diagnosed before operation. In almost all the cases on record mention is made of a light yellow amber coloured discharge which is sometimes tinged with blood, or slightly pink. Le Dentu and Delbet draw attention to the occurrence of intermittent tubal crises, accompanied by violent pain in the lower part of the abdomen and by swelling of the tubes, which suddenly disappear after discharge of a watery or blood-stained fluid. As regards the etiology, as little can be said of cancer of the Fallopian tube as of cancers of other parts. All writers, however, mention a concomitant or pre-existing infection of the tube whereby the ostium abdominale is closed. The prognosis is generally bad, as tubal cancer rapidly gives rise to metastases. Successful treatment, as in all other cancers, depends on early diagnosis. Engelkens's patient was an unmarried woman, aged 60, who had had a watery vaginal discharge for about six months. She had never had any real pain, but only a feeling of discomfort in the lower part of the abdomen. On laparotomy the uterus was found to be enlarged and anteflexed, and the left tube showed a club-shaped swelling on its lateral aspect. Metastases were also found in the vesico-uterine fold and great omentum. The whole of the uterus with the adnexa and portion of the great omentum was removed. Subsequent recovery was uneventful. Histological examination showed that the growth was an aveolar carcinoma.

382. Gynaecological Complications of Appendicitis.

ACCORDING to SELLHEIM (*Zentralbl. f. Chir.*, February 12th, 1927, p. 386) while it is not uncommon for inflammation of the appendix to extend to the adnexa and set up such a condition as salpingitis, extension of adnexal disease to the appendix occurs less frequently. Many years ago he found that in appendicitis in women there is a definite inflammatory thickening of the right utero-sacral ligament. On rectal examination in a normal case, it will be found that the utero-sacral ligaments form only slightly perceptible ridges on either side of the pouch of Douglas; these ligaments are of great clinical importance as indicators of inflammation of the female genital organs. They are bilaterally thickened in endometritis, vaginitis, cystitis, proctitis, and peritonitis. Though the inflammatory process begins in the utero-sacral ligament, it frequently extends to the base of the broad ligament; also a slight degree of parametritis may be present. Sellheim states that twenty years' experience has shown him that unilateral inflammatory thickening of the right utero-sacral ligament is pathognomonic of appendicitis, when puerperal and gonorrhoeal inflammatory processes have been excluded.

383. Axial Torsion of the Fibromatous Uterus.

A. CHAUVENET (*Journ. de Méd. de Bordeaux et du Sud-Ouest*, February 10th, 1927, p. 106) describes a case of axial torsion of the fibromatous uterus in a married woman, aged 35, and states that 89 previous cases have been recorded. The patient had had two normal confinements, and had always been healthy, except for an attack of appendicitis, for which an operation had been performed. Two months after a slight and transient attack of pelvic pain she had a sudden violent paroxysm of pain; when seated the pain ceased, but it recurred on the slightest movement. The bowels acted normally and the patient slept that night, until awakened by recurrence of pain, which caused her to faint. On the following day she felt sick and could not pass flatus. A tumour in the right iliac fossa was thought to be an ovarian cyst with twisted pedicle. The patient's general condition was good. There was no fever and no abdominal distension, but some tenderness on palpation in the hypogastric and right iliac regions: in the latter a hard, tender, and slightly mobile tumour as large as two fists was felt. Bimanually the uterus was found to be abnormally high and displaced towards the right; it was surmounted by a hard mass which was separated from the uterine body by a groove. On opening the peritoneum a small quantity of blood-stained fluid escaped. The fibromatous uterus was found to be rotated axially from left to right through 180 degrees, so that the left ovary was on the right side and the right ovary on the left side. The torsion was easily corrected. The left ovary appeared to be healthy, but the right ovary was of a deep violet colour, cystic, and contained some ecchymoses. There was cervical oedema, and two small fibromata of the isthmus were present. Subtotal hysterectomy, with preservation of the left ovary, was performed. A large single interstitial fibroma occupied the posterior aspect and fundus of the uterus. Chauvenet adds that when torsion through 180 degrees occurs it is evident that tension on either round ligament must direct the fundus into the corresponding iliac fossa rather than into the lateral pouch of Douglas. He believes that this sign in certain cases may permit a diagnosis of uterine torsion to be made before operation.

Pathology.

384. Atypical Forms of the Tubercle Bacillus.

WHILE investigating leprosy, J. REENSTIERNA (*Arch. de l'Instit. Pasteur de Tunis*, December, 1926, p. 309) found that in one of his cultures, taken from a leproma of a tuberculous leper, bacilli appeared which after a time lost their acid-resisting properties and assumed the form of granular rods similar to *B. leprae*, or of small diplococci or streptococci. All the forms were Gram-positive, though they did not retain the Ziehl-Neelsen stain. In two cultures of Gram-positive, non-acid-resisting streptococci isolated from the blood of the same patient, acid-resisting bacilli of typical *leprae* form spontaneously appeared. The possibility of contamination was excluded, and the worker concluded, after experiments on monkeys, that both acid-resisting and non-acid-resisting forms of *B. leprae* do exist, and that this bacillus is a fragmentary form of a fungus. The close relation between the bacilli of leprosy and tuberculosis led Reenstierna to pursue further experiments on the latter. Working with an oidium, he found that after seven days' growth on bouillon glycerin, acid-fast bacilli, showing all the characteristics of tubercle bacilli, suddenly appeared among the buds and mycelia of the fungus, and in other cultures cocci were seen. Serums of rabbits, prepared by injections of different strains of these cocci, showed agglutination and complement fixation with the serums of individuals suffering from pulmonary tuberculosis, and not with those of the controls. The author maintains that these cocci are granules of tubercle bacilli (granules of Much), and that the bacilli themselves exist in both acid-fast and non-acid-resisting forms. He draws attention to the very small forms that traverse the placenta in congenital tuberculosis, and to different types of cutaneous tuberculosis in which bacilli seem to be absent.

385. A Modification of the Meinicke Test.

L. FEUERSTEIN (*Wien. klin. Woch.*, January 27th, 1927, p. 122) describes a modification of the Meinicke test for syphilis which has been employed at the Innsbruck Children's Clinic for more than two years in 600 cases. A drop of blood is drawn into a capillary glass tube 10 or 11 cm. in length and 0.2 to 0.7 mm. in diameter. When the blood is within 2 cm. of the distal end of the tube this is withdrawn from the skin and the distal end fused in a flame, the other end being left open, or it may be sealed with vaseline. In fifteen minutes the clot is extracted easily from the open end, and the capillary tube is then centrifuged for fifteen to thirty minutes. Into a small test tube is poured 0.1 c.cm. of Meinicke's antigen, which is a mixture of extract of horse heart with cholesterin, and 1 c.cm. of a 3 per cent. sodium chloride solution is poured into another similar tube. Both are then placed in a water bath at a temperature of 43° to 46° C. for ten minutes. On a glass slide 1 part of the patient's clear serum is mixed with 5 parts of the mixed contents of the two tubes; a coverslip is applied and ringed with vaseline to prevent evaporation. The slide is left at room temperature for one or two hours and then examined microscopically for flocculation on a dark stage, and again in six or eight hours. Feuerstein's results generally correspond with those of the Wassermann test; he finds this procedure very sensitive and of great value in quickly confirming a diagnosis of syphilis.

386. Glucose Distribution in the Blood.

R. EGE and KAREN M. HANSEN (*Acta Med. Scand.*, January 26th, 1927, p. 279) state that while glucose is only found in the plasma of animals, it occurs in both the red corpuscles and plasma in man. Mason, Ege, and Hagedorn have previously shown that the amount of sugar associated with the blood corpuscles was rather lower than the plasma-glucose concentration, and there was postulated a simple tension equilibrium between the two. The membrane of the blood corpuscles of man must be permeable for glucose. Osmotic experiments, however, proved the case to be more complex, and Ege then suggested that glucose was both combined (adsorbed) with the surface of the blood corpuscles and dissolved in a free state in their water content. The present authors conclude, as the result of experimental work, that glucose occurs in equal concentrations in the blood corpuscles and plasma of normal fasting individuals, but that in the corpuscles there is a considerable quantity of reducing substance (combined sugar) which is not given up instantly to an outer liquid with a lower sugar tension, and that the distribution of glucose between the plasma and red blood corpuscles in man cannot therefore be explained on the grounds of a simple distribution of glucose in a free dissolved form between the fluid of the plasma and of the red corpuscles.

387. Serology of the Bacillus of Whooping-cough.

M. KRISTENSEN (*C. R. Soc. de Biologie*, February 11th, 1927, p. 355) has found that the various strains of *B. pertussis* isolated in Denmark appear to be remarkably homogeneous, resembling eac[illegible] growth, their cultural reactio[illegible] In America, however, Krun[illegible] sch observed two different serological types of the bacillus. While accepting their results Kristensen regards it as possible that the serological variation originated during subculture in the laboratory and not in the human body. He argued that if there were really two serological types then there should also be two different antibodies demonstrable in the blood serum of the patients. To ascertain whether two types were actually present in patients suffering from whooping-cough he collected ten strains from patients situated in five separate areas of Copenhagen, together with the blood serum of the same patients. Each serum was tested against every organism, and all the strains reacted in the same manner, there being no indication of difference between them. Absorption tests were made with eight of the serums and eight of the strains, each serum being absorbed with each strain. In every test the agglutinins were completely absorbed. These observations, though made on a small scale, confirm his previous findings, and lead him to conclude that in Denmark there is only one serological type of *B. pertussis*.

EPITOME OF CURRENT MEDICAL LITERATURE.

Medicine.

388. **Neo-Natal Meningitis.**

DORA KARPLUS (*Wien. klin. Woch.*, February 24th, 1927, p. 250) concludes that the diagnosis of meningitis during the first month of life presents special difficulties and depends on the examination of cerebro-spinal fluid obtained by lumbar puncture. The sutures and fontanelles readily yield to moderate increase in intracranial pressure at this age, and meningeal signs and symptoms may be vague and limited to somnolence, increased or diminished irritability, and staring facial expression, while head retraction, abnormal reflexes, and pyrexia may all be absent. The infecting organism probably reaches the meninges most frequently, especially in *B. coli* cases, by the blood stream from some septic focus such as the umbilicus, mouth, or skin. Direct spread may occur in spina bifida or from a suppurating otitis media. The incidence of the various organisms producing meningitis at this age differs greatly from later infancy and other age periods. No case of tuberculous meningitis in an infant under 3 months has been recorded; *B. coli*, on the other hand, accounts for a large proportion (30 per cent.) of the recorded cases of neo-natal meningitis, while this organism is extremely rare as a cause of meningitis in older individuals. Streptococcal and staphylococcal cases also occur comparatively frequently (32 per cent.), especially in spina bifida with or without operation. Meningococcal meningitis is rare during the first weeks of life and does not respond to serum treatment so well as in older children. In pneumococcal meningitis the prognosis is even worse, death occurring within a few days of the onset of the disease. Cases due to various other organisms, such as *B. lactis aerogenes* and *B. pyocyaneus*, have also been recorded. Some authorities suggest that the otitis media found in a number of cases at necropsy is due to infection from the bath water, either by way of the external auditory meatus or by the mouth and Eustachian tube. Karplus has stated, however, that otitis media is so frequently found at necropsy in young infants that it is not justifiable to assume, when both conditions are present, that the meningitis is directly due to the otitis media.

389. **Contagious Influenzal Hiccup.**

MATESCO (*Paris méd.*, February 26th, 1927, 211) records an outbreak of six cases of hiccup at the Rumanian Ministry of War in the course of twelve days (December 29th, 1924, to January 10th, 1925). The spasms of hiccup commenced suddenly, were very intense, and the intervals between each were very short. Some attacks were double (in inspiration and expiration) and others subintrant, giving rise to respiratory obstruction and general disturbance, including headache, congestion, and restlessness. There was no morbid condition in the other organs. None of the patients presented myoclonus, diplopia, strabismus, ptosis, pareses, hyperaesthesia, or somnolence, but all had nasopharyngeal catarrh with slight secretion containing streptococci, staphylococci, and in two cases small groups of Pfeiffer's cocco-bacilli. All showed erythema and congestion of the tonsils. Blood cultures were negative. Matesco regards the outbreak as a form of phrenic influenza which is frequent among overworked persons, or as a larval form of encephalitis.

390. **Obesity and Heart Disease.**

W. D. REID (*Amer. Heart Journ.*, February, 1927, p. 311) remarks that in cardiac disease obesity appears frequently to influence the heart unfavourably, though the explanations of this fact given hitherto are unconvincing. He denies that the heart can be injured by the additional work thrown upon it by the increase in body weight, and adds that obese persons are known to be more prone to diabetes, which in turn leads to early arterio-sclerosis. In cases of obesity the diet is usually too rich in carbohydrates, and lacks vitamins and calcium. It has been shown that digitoxin is inactive without calcium. In animals or human beings living on diets deficient in minerals and vitamins there is impairment of the skeletal musculature and presumably also of the heart muscle. The unhygienic mode of life of most obese persons affords a partial explanation of the unfavourable influence of obesity upon the heart. Furthermore, statistical evidence shows that the obese are prone to chronic hyperpiesia and diabetes; both of which lead to arterio-sclerotic degeneration. This may explain the more serious impairment of the heart in some cases of obesity, probably through the deposit of cholesterin esters in the connective tissue of the intima. When this is overloaded with lipoids it is asphyxiated by these cholesterin esters, which decompose into cholesterin and free fatty acids, depositing calcium phosphate of bony hardness. The richness and character of the blood plasma are essentially influenced by diet, and thus atheromatosis is favoured. Atheromatous deposits are prone to change into athero-sclerotic lesions after the age of 30. The author concludes that the term "fatty degeneration" is a misnomer; fat does not result from the breaking down of cell protein.

391. **Confusion States in Insulinism.**

ACCORDING to T. SJÖGREN and J. TILLGREN (*Acta Med. Scand.*, February 28th, 1927, p. 684) Fletcher and Campbell have found that, in overdosage with insulin when the blood sugar drops to 0.05–0.08 per cent., symptoms appear in the form of profuse sweatings, pallor, sometimes increased pulse rate, marked anxiety, disturbance of co-ordination in the extremities, vertigo, and diplopia. On still further reduction of the blood sugar sensory and motor aphasia, dysarthria, delirium, and collapse supervene. Toronto investigators attribute the disturbed respirations and convulsions in animals to the central effect of insulin on the medulla oblongata. Olmstedt and Logan, using decerebrated cats, found anoxaemia with the hypoglycaemia if the medulla oblongata was intact, and concluded that this anoxaemia was the determining factor in the convulsions. Larsson believes that molecular or ionic displacements in the brain cause the eclamptic fits elicited by salt elimination in nephrosis. Snapper has described a case of diabetes with hypoglycaemic attacks of insulinism occurring as confusion with subsequent amnesia of the confused state. The present authors state that sensitiveness to insulin varies considerably, and is particularly prominent in children, youthful diabetics, and progressive pulmonary tuberculosis. They report four cases in which insulinism took the form of attacks resembling epilepsy. In three of these cases there were no signs of an epileptic constitution nor any psychical disturbance. The fourth patient, a case of genuine epilepsy with diabetes, gave no definite evidence of the epileptic attack and subsequent semi-stuporous condition having been caused by insulin hypoglycaemia. The authors observe that the possibilities of diagnosing a latent epileptic state are unfortunately extremely limited, and that a positive result of the hyperventilation test (normal in all their patients) is obtained in no more than 40 per cent. of cases, and only in very favourable circumstances.

Surgery.

392. **Aneurysm of the Hepatic Artery.**

O. TENANI (*Il Policlinico*, Sez. Chir., February 15th, 1927, p. 92) reports the case of a soldier who was admitted into hospital with a history of an attack of severe colic and slight jaundice, diagnosed as gall-stone colic. The distended gall bladder was palpable, the liver was not enlarged, and there was no haemorrhage. An aneurysm of the hepatic artery was found closely adherent to the bile duct and vena porta; the gall bladder was much distended and full of grumous fluid. The aneurysmal sac was excised and the artery tied. The patient died a few days later from hepatic insufficiency. At the autopsy multiple foci of hepatic necrosis were seen, the biliary passages were full of bile, and a very small track between the aneurysmal sac and the ductus choledochus could be made out. There was no history of syphilis, but the patient had had an attack of typhoid fever. The author refers to the small number of cases hitherto described and discusses the difficulty of treatment. The common triad of symptoms is pain, jaundice, and haemorrhage.

393. **Treatment of Hernia by Living Sutures.**

B. L. COLEY and E. BURKE (*Amer. Journ. Surg.*, January, 1927, p. 1), considering the later methods of repair of hernia, describe a procedure adopted for the closure of large indirect and direct hernias. Fascial strips are taken from the opposite thigh by an assistant. The conjoined tendon and internal oblique muscle are approximated to Poupart's ligament with the continuous living suture precisely as in the ordinary overlapping operation. A second row of sutures is superimposed upon the first row. The medial leaf of the external oblique is then sutured to Poupart's ligament and the lateral leaf is overlapped. Thus at the end of the operation the cord lies subcutaneously. The patient lies during convalescence with the shoulders and knees raised to relieve tension on the

parts repaired. Wound infection has been the most serious complication after operation. Fifty patients have been treated, with six recurrences. Apart from wound infection the post-operative course does not differ from that in ordinary hernia. The authors add that the operation is valuable in post-operative ventral and large umbilical hernias. The cases treated offered poor prospects by any other method of treatment, and so the percentages of recurrence are somewhat misleading.

394. Epithelioma of the Lip.

W. M. SHEDDEN (*Boston Med. and Surg. Journ.*, February 17th, 1927, p. 262) gives statistics of the surgical treatment of 294 cases of epithelioma of the lip in the Massachusetts Hospital from 1909 to 1923. He describes a radical neck dissection employed, and states that cures lasting for three years were obtained in 76 per cent. of all cases so treated and in 42 per cent. of cases when the glands were infected. He states that metastatic cervical gland cancer can exist in the absence of palpable glands, but every palpable gland is not necessarily cancerous. As in all malignant disease, early diagnosis is most important, and something may be learned as to prognosis and choice of operation from classification of the relative pathological malignancy of the growths removed. The extent of neck dissection required is determined by the position of the growth on the lip. Syphilis is rarely present and does not contraindicate operation. There is little evidence of heredity.

395. Hydatid Disease in Childhood.

L. BACCARINI (*Arch. Ital. di Chir.*, December, 1926, p. 73) records five cases in children aged from 5 to 10 years, which were the only examples of hydatid disease met with among 30,401 children who attended the out-patient department of the surgical pediatric clinic of Florence University from 1909 to 1924. In the first case the hydatid cyst was found in the thyroid gland, in the second in the liver, in the third in the liver and right lung, in the fourth in the right lung, in which suppuration had taken place, and in the fifth in the neck. All these children came from the country, where there was greater likelihood of their coming into contact with animals suffering from hydatid disease. In all the cases the cysts were unilocular and showed no daughter cysts. In three the cyst was not of great size, but in two (those in which the liver was affected) the size was considerable. The symptoms and signs, however, were not marked, apart from some difficulty noticed in the first case due to pressure on the upper respiratory tract. Suppuration occurred in only one case. All made a good recovery after operation.

Therapeutics.

396. Novasurol as a Diuretic.

R. LINCIO (*Rev. Méd. de la Suisse Romande*, January 25th, 1927, p. 19) discusses the diuretic action of novasurol, which is a combination of veronal with a salt of mercury and sodium. It is often given with success when all other diuretics have failed, either intramuscularly or intravenously, the dose ranging from 0.5 to 2 c.cm. of a 10 per cent. aqueous solution. No toxic action on the kidneys has been observed following these doses; but the powerful diuretic action is only transient, though it may strengthen the action of other diuretics and cardiac tonics. Of twelve cases of acute or chronic nephritis treated with novasurol combined with ammonium chloride given by the mouth in daily doses of from 5 to 16 grams, diuresis was much increased in ten, in one case the treatment failed, while in another the ammonium chloride caused acidosis and the treatment was stopped. The value of novasurol in hepatic cirrhosis is doubted; some authors regard it as a direct liver poison, while others claim good results in ascites, which had previously resisted all other treatment. Lincio describes the successful treatment of cardiac failure, chronic glomerulonephritis, hepatic cirrhosis, and tuberculous pleurisy. He concludes, however, that it should be regarded as a last resort, only to be employed when other remedies have failed. Ammonium chloride increases the action of novasurol, and the action of both drugs is cumulative, so that after their discontinuance normal diuresis is maintained.

397. Banana Pulp in the Treatment of Marasmic Infants.

H. THURSFIELD (*Arch. Dis. in Childhood*, February, 1927, p. 49) records rapid improvement following the use of banana pulp in six infants—four of the true marasmic type, and two "ruminators." One patient, who was 3 months old, weighed 10 lb. on admission. At the end of ten weeks, on a diet of cow's milk, whey, and Benger's food, of a calorie value of 580 daily, he weighed less than on admission. About 300 calories were carbohydrate, 200 fat, and the remainder protein. The pulp of one ripe banana was then added to his diet. There was a gain in weight of 4 ounces in the next two days. In five days' time the diet consisted of cow's milk and the pulp of two bananas, with a calorie value of 590. Shortly after it was possible to increase the amount of milk, though previously such additions had always caused indigestion and loss of weight. The infant put on weight steadily, gaining 1½ lb. in three weeks, when he was discharged on a diet of about 700 calories, of which 100 were banana-carbohydrate calories. The banana pulp is prepared by peeling a ripe banana, removing bruises and obvious fibres, pulping the remainder with a fork, and straining it through coarse-meshed muslin. The resulting pulp is mixed with the milk in one or several feeds. The author cannot account for the remarkable improvement noted in all the cases of his series.

398. Datura Stramonium in Parkinsonism.

E. JUSTER (*Bull. Soc. de Thér.*, February 9th, 1927, p. 48), who first recommended datura stramonium for the treatment of Parkinsonism two years ago (see *Epitome*, March 27th, 1926, para. 346), states that though its action is usually very definite it persists only so long as the patient is under the influence of the drug. It should therefore be given every day. There is no fear of its prolonged use causing habituation. On the contrary, Juster has been able to diminish the dose, especially if large doses were given at the onset. Moreover, no toxic symptoms were observed provided the patient was not allowed to get constipated. If for any reason he developed gastro-intestinal disturbance, the datura was stopped for two or three days and then resumed in larger doses. In order to prevent the occurrence of secondary symptoms, such as dryness of the mouth and mydriasis, the datura was given two to six times a day in the form of suppositories, each containing 20 cg. of powdered stramonium leaves. Juster suggests the following tests for determining the degree of Parkinsonism rigidity: (1) There is an apparent shortening of the affected arm when both arms are extended parallel; (2) forced pronation or supination is difficult in the rigid arm; (3) there is great variability in the suppleness and stiffness of the movements when the joint is passively moved a certain number of times (thirty to fifty); (4) there is a diminution or complete absence of the ability to swing a stick, the patient carrying it like a candle. These tests render it possible to estimate the degree of rigidity which responds to the action of stramonium.

399. Malarial Treatment of Leukaemia.

T. LUCCHERINI (*Il Policlinico*, Sez. Med., February 27th, 1927, p. 60) reports four cases of leukaemia treated successfully by the artificial induction of malaria. He considers this treatment likely to be effective in the acute and subacute forms of leukaemia, in which types radiotherapy is useless. In chronic leukaemia, malaria therapy should not be used except where *x* rays have done no good; in such cases it may be tried experimentally.

400. Therapeutic Value of Reducing the Salt Intake.

P. SAXL (*Wien. klin. Woch.*, February 17th, 1927, p. 229) believes that a reduction in the use of sodium chloride is of value in a variety of conditions because the osmotic pressure of the body fluids is thereby altered; he advocates it particularly in all forms of more or less generalized oedema, cardiac, renal, or anaemic, though not in the purely local or inflammatory types. Since a reduction in the elimination of salt entails also a reduced excretion of water, the work of the kidneys is diminished. The intake of salt should therefore be strictly limited in acute and chronic nephritis, but there is no need to reduce the salt in the diet in focal nephritis if urine of normal concentration is being passed. A salt-free diet is also indicated in diabetes insipidus where polyuria is associated with some degree of salt retention, though there is no tendency to oedema, likewise in cases of arterio-sclerotic kidney, where in spite of polyuria and absence of oedema there is often a reduction in the salt excretion. Such dieting is also of value in acute endocarditis, in which salt retention may occur without evidence of gross renal damage. It is likewise useful as an adjuvant to other diuretic measures, especially the use of such diuretic drugs as digitalis, theobromine, caffeine, and novasurol, which all have a greater effect on the excretion of salt than on the output of water by the kidneys. It is now generally recognized that dehydration may be almost as readily effected by a salt-free diet as by the limitation of fluids; it has therefore been found useful in certain types of obesity in which there is marked retention of water in the tissues. In cases of high arterial tension salt restriction and limitation of fluids should only be tried when there is definite evidence of inefficient excretion. F. DONATH (*ibid.*, p. 230) describes in some detail the planning and preparation of diets with reduced salt content so as to be most palatable to the patient. He supplies a table of the chloride content of the commoner articles of food.

Dermatology.

401. Recurrent Erysipelas of the Legs.

I. L. MCGLASSON (*Arch. Derm. and Syph.*, December, 1926, p. 518) quotes statistics showing that while from 81 to 90 per cent. of all cases of erysipelas occur on the face, only 8 per cent. involve the legs. He records his observations on seventeen cases of recurrent erysipelas, sixteen of which occurred on the feet and legs, associated with dermatitis of the feet, and one on the hand, in a dentist the subject of novocain dermatitis, who had had eight attacks of erysipelas extending over a period of three years. The oldest patient in the series was a man, aged 74, who had had twenty or thirty attacks extending over a period of twelve years. The youngest man was aged 28. Treatment was unsatisfactory before the etiology of the dermatitis in the toes was known, but after the paper of Ormsby and Mitchell in 1916 it was possible, except in the case of novocain dermatitis, to find mycelia in practically every case, and treatment of the eczematoid ringworm resulted in arrest of the complaint.

402. Arsenical Dermatitis.

B. P. BANNERJI (*Indian Med. Gaz.*, February, 1927, p. 81) reports the case of a man with hard chancre on the prepuce and a history of syphilitic infection, to whom an initial dose of 0.3 gram of novarsenobillon was administered. This was followed by injections of 0.45 gram and 0.6 gram eight or ten days later respectively. As no improvement was shown 0.9 gram was given twelve days subsequently when a severe rigor set in with fever, acute headache, and nausea, the symptoms subsiding in twenty-four hours. The ulcer remaining unchanged, a fifth dose, of 0.9 gram, was given ten days after the preceding one. This time the reactionary symptoms were severer, and on the third day the patient developed intense jaundice with a maculo-papular rash over the whole body, very severe pain, and pruritus. Gradually the whole body became swollen, the mouth was full of aphthous patches, and continuous fever, nausea, vomiting, and anorexia developed. The case was clearly one of arsenical dermatitis, with symptoms of acute yellow atrophy of the liver. The treatment given was a saline mixture by the mouth, calamine lotion externally, absolute rest, and a regulated diet. Later a proprietary preparation, acnetox, was prescribed, and subsequently a general tonic. The patient made an uninterrupted recovery.

403. Dermatitis due to Celery.

LEGRAIN and BARTHE (*Bull. Soc. Française de Dermatol. et de Syph.*, November 18th, 1926, p. 662) report a case of dermatitis due to working with celery. A man, aged 30, ten days after picking celery presented a dermatitis limited to the forearm and hands; it was characterized by oedema and vivid red erythema, with some large-sized vesicles. The eruption was confined to the dorsal and lateral aspect of the hands, fingers, and forearm. The maximum display was on the index finger, thumb, and radial border of the forearm, which were the parts coming most into contact with the celery. Simple sedatives and abstention from work soon cured the rash, but it returned when he went back to his employment. The authors do not know of any other reported case of dermatitis due to celery.

404. Xanthoma Diabeticorum.

E. GOLDSTEIN and J. HARRIS (*Amer. Journ. Med. Sci.*, February, 1927, p. 195) report the occurrence of diabetic xanthoma showing a peculiar process of involution in a patient suffering from diabetes mellitus, to whom insulin was administered in the late stages of the disease. There was no history of any previous specific or serious illness, but three years previously the patient began to have symptoms of diabetes, and was put on a low carbohydrate regimen. One year after the onset of the initial symptoms small, discrete, yellowish nodules appeared on the extensor surfaces of both legs, and six months later similar nodules invaded both palms and elbows. After another six months he entered hospital and was placed on a diet of 1,200 calories and given 45 units of insulin daily. During the next three months there was a gradual improvement in the skin lesions, and he became sugar-free, marked glycosuria, however, returning. The blood plasma cholesterol never showed more than 306 mg. per 100 c.cm., and repeated Wassermann tests were negative. Histologically the nodules proved to be xanthoma with connective tissue proliferation. The authors state that there is a definite relationship between the type of nodule and the manner and rapidity of involution, the miliary disappearing much sooner than the lenticular form. In most cases the disappearance of glycosuria is accompanied by a marked improvement or a complete resolution of the lesions. The eruption, however, may disappear when diabetic symptoms are unchanged; and again, diminution of sugar may find the nodules unaltered or even worse. It has not been determined whether insulin has any effect on the xanthoma. Though xanthoma diabeticorum is characterized by a hypercholesterolaemia the level of blood cholesterol need bear no definite relation to the severity of the diabetes, the blood sugar, and the xanthoma lesions, and hypercholesterolaemia (an occasional symptom of diabetes) does not necessarily imply the presence of xanthoma. The consensus of opinion is that the xanthoma nodules vanish entirely on resolution, but the authors found in their case that, while the palmar lesions disappeared completely, those on the elbows coalesced and left large pigmented patches, and those on the legs and thigh underwent degenerative changes resulting in extensive scar formation.

Obstetrics and Gynaecology.

405. Whooping-cough at the End of Pregnancy.

K. GOLDSCHMIED (*Wien. klin. Woch.*, February 17th, 1927, p. 186), who reports a personal case, illustrates the infrequency of whooping-cough in adults by the fact that in Heubner's series of 187 cases there were only three adults. The occurrence of whooping-cough in pregnancy is so rare that Goldschmied has found only a few examples on record. According to Simpson, haemorrhage and abortion are not frequent even when whooping-cough occurs in the early months of pregnancy. Schott has published a case of hydrorrhoea due to the rupture of the membranes during violent attacks of coughing. In the puerperium pneumonia is likely to arise as a complication. Goldschmied's case occurred in a 2-para, aged 38, who contracted whooping-cough in the last month of pregnancy and gave birth to a healthy child one and a half weeks before the expected term. Delivery, which was accompanied by violent paroxysms of coughing, was somewhat precipitate. The child, who was kept away from the mother for five weeks, being fed on the pumped-off breast milk, did not contract the disease. Goldschmied adds that it is a mistake to suppose that whooping-cough does not occur in the newborn, as examples have been reported by Bouchut, Rilliet and Barthez, Cockayne, and John Phillips, among others.

406. Treatment of Complete Prolapse of the Uterus in Aged Women.

ACCORDING to L.-E. PHANEUF (*Bruxelles Méd.*, February 20th, 1927, p. 524) uterine prolapse in women past the menopause is generally treated by vaginal or vagino-abdominal operations. He prefers the former, and employs the Watkins-Schauta-Wertheim method, which consists in the interposition of the uterus into the vesico-vaginal septum in order to support the bladder, followed by amputation of the cervix when atrophy, ulcerations, or lacerations are present, and colpoperineorraphy. A curved sound is introduced into the bladder, and a transverse incision made through both the mucosa and aponeurosis. The bladder, separated from the vaginal septum (the mucosa and aponeurosis forming two layers, one on each side), is drawn towards the symphysis. The vesico-uterine peritoneum is opened, the uterus is drawn into the vagina, and its posterior surface sutured to the peritoneum. Four sutures are then inserted into the anterior uterine wall, the upper one at the level of the cornua and the lower one in the angle between the cervix and body, the others being placed at equal distances between these two. If the uterus is atrophied, Phaneuf practises vaginal hysterectomy. In all cases high colpoperineorraphy is performed, Douglas's pouch being also obliterated where there is a probability of the formation of an enterocele. The author cites 126 vaginal operations (111 by uterine interposition, 10 by vaginal hysterectomy, and 5 by the operation of Le Fort) with only 3 deaths, none of which were due to the operation. Phaneuf maintains that these uterine interposition operations involve less risk to the patient and less danger of recurrence. In debilitated patients, in whom a lengthy operation is contraindicated, he performs Le Fort's operation.

407. Pituitary Extract in Obstetrics.

W. GOSSET (*Therapeutic Gazette*, February 15th, 1927, p. 77) finds pituitary extract a most valuable drug in obstetrics, though it is dangerous in unskilled hands. He prefers pituitrin, and indicates the conditions in which it may be administered. He does not use it for the induction of labour, but he states that during the latter part of the first stage, in a slowly progressing tedious labour, where the relations of the head and pelvis are normal, the administration at intervals of 2 to 6 minims of pituitrin will increase the force of uterine contractions and thus shorten labour. Pituitrin is especially useful in the second stage of labour, doses of 2 to 4 minims often inducing the necessary contractions to complete delivery; but in the third stage of labour Gossett never

employs it. Pituitrin is indicated in prolonged labour, where the patient is becoming exhausted, where uterine contractions are getting weaker, and in uterine stasis with the head on the perineum. He adds that the following conditions must be present: normal relations of head and pelvis, engagement of the presenting part, fully or nearly fully dilated or dilatable os, and normal presentations. In marginal or partial placenta praevia with incomplete dilatation of the os and rupture of the membranes a small dose of pituitrin may be sufficient to force the presenting part down against the placenta and into the pelvis, the head thus acting as a very efficient tampon.

408. Idiopathic Menstrual Bleeding.

E. ALLEN, E. L. COMPERE, Jun., and W. C. AUSTIN (*Amer. Journ. Obstet. and Gynecol.*, February, 1927, p. 156) have tried parathyroid extract for the control of idiopathic menstrual bleeding. Collip had previously shown that injections of this extract raised the calcium content of the blood and increased the viscosity, and working on his lines the authors found that the best results were obtained in the treatment of idiopathic menstrual bleeding when the administration of the extract was spread over three or four days. They recommend a total amount of from 120 to 160 units, given in doses of 20 units morning and evening, the best results being obtained by starting the intramuscular injections the day before a period was due. Though the cases were too few to permit of definite conclusions being formed, the authors state that parathyroid extract appears to shorten the bleeding and clotting time of the blood, to reduce appreciably the length of the period and amount of blood lost, and to produce a feeling of greater strength, vitality, and energy during the intermenstrual periods.

Pathology.

409. Anaphylaxis and Asthma.

V. PENNATI and A. TOLOMEI (*Rif. Med.*, February 14th, 1927, p. 151) have investigated the proteins of asthma-producing substances with regard to their capacity for causing anaphylactic symptoms. The proteins employed were derived by alcoholic extraction from the pollen of *Poa pratensis* and *Brassica rapa*, and from the scurf of the horse, ox, and ass. The concentrations of the various extracts varied from 0.03 to a maximum of 10 per cent. Using rabbits as experimental animals, 5 c.cm. of the solutions were injected subcutaneously every six days, and after an interval of several days following the sixth or seventh injection, 2 to 4 c.cm. of the same solution was injected intravenously. The characteristic phenomenon of Arthus was taken as evidence of anaphylaxis. Control rabbits injected in a similar manner with normal horse serum gave typical anaphylactic reactions. The experiments showed that the proteins of epidermic derivatives and pollen of flowers which give rise to bronchial asthma are unable in the doses employed to cause the local anaphylactic phenomenon of Arthus in rabbits.

410. Preparation of Diphtheria Anatoxin.

ACCORDING to J. L. MONTEIRO (*Memorias do Inst. de Butantan*, 1926, p. 96) the attenuation of diphtheria toxin by its transformation into anatoxin on the addition of formalin varies according to the composition of the broth culture. He advocates the adoption of a uniform technique for preparing broth cultures for the production of toxin in various serum institutes. Anatoxin may be employed with advantage in the production of diphtheria antitoxin, with results closely resembling those obtained with pure toxin but in a shorter time and without any risk. It also indicates after four or five injections which animals are good and which are bad producers of antitoxin. For the production of antitoxin it seems best to employ a mixed method consisting in injection of four or five doses of anatoxin followed by pure toxin. In conclusion Monteiro maintains that, owing to its harmlessness and the rapid immunity which it induces, anatoxin is of undoubted value in antidiphtherial immunization, and should be used for this purpose as widely as possible.

411. Toxaemia in Scarlet Fever.

J. D. TRASK (*Journ. Clin. Invest.*, December 20th, 1926, p. 391) states that the skin test dose employed by the Dicks is that at present taken as the unit of toxin, the strength of other toxins being measured by it. In order to ascertain the degree of toxaemia in scarlet fever cases by determining the number of toxin units present in the circulating blood, this investigator tested the serums from twenty-five scarlet fever patients. The amount of toxin in the blood was estimated by determining the smallest quantity of serum which would give a positive reaction on intracutaneous injection; then by discovering the reactivity of the same individual to the standard filtrate toxin, the toxin content of the serum could be calculated in terms of standard units. The results showed that the amount of toxin in the blood during the acute stage of the disease varied between very wide limits; that the size and intensity of the local skin reaction caused by 0.3 c.cm. of serum from scarlet fever patients provides a rough but fairly satisfactory measure of the amount of toxin present; that clinical estimation of the degree of toxaemia is subject to considerable error; and that, owing to the difficulty in estimating the actual degree of toxaemia by clinical observation, a generous excess of antitoxin should be administered in the treatment of scarlet fever. F. G. BLAKE and J. D. TRASK (ibid., p. 397) find that the specific toxaemia of scarlet fever is a self-limited phase, and that its duration parallels that of the rash. The degree of toxaemia, while the rash is present, depends largely on the presence and severity of septic complications. When the rash has faded, the specific toxaemia is of low degree or has terminated, even though severe septic complications may continue.

412. The Toxins of Haemolytic Streptococci.

MARY B. KIRKBRIDE and MARY W. WHEELER (*Journ. of Immunol.*, January, 1927, p. 19) have compared the toxin production of strains of haemolytic streptococci isolated from cases of scarlet fever with that of strains from other sources. Of 109 strains isolated from typical cases of scarlet fever 99, or 90.82 per cent., produced potent toxins, while the remainder were non-toxic under the conditions used. Of 111 strains of haemolytic streptococci recovered from infections not diagnosed as scarlet fever 76, or 68.47 per cent., produced potent toxins. According to toxin-antitoxin neutralization tests on goats approximately 67 per cent. of the toxic strains from both sources produced toxins similar to those produced by the standard Dochez strain; the toxins of the remaining strains were not neutralized by an antitoxic goat serum produced against the Dochez strain. These results suggest that there may be important differences in the action of streptococcus toxins, and emphasize the difficulty that is so often encountered in distinguishing a specific group of scarlatinal streptococci from other haemolytic strains. Further tests made on human beings show that this difficulty is a very real one. Some filtrates from scarlatinal strains failed to elicit a skin reaction in persons who were susceptible to filtrates of the standard strain; at times they induced a reaction in persons who were insusceptible to the standard strain. Sometimes the filtrates were not neutralized by a standard antitoxin. Similar observations were made on strains of non-scarlatinal origin. The results obtained were in fact so irregular that the authors consider it impossible by means of toxin neutralization tests to distinguish between haemolytic streptococci of scarlatinal and non-scarlatinal origin.

413. The Prophylactic Action of Tellurium in Experimental Syphilis.

C. LEVADITI (*C. R. Soc. de Biologie*, March 11th, 1927, p. 585) has followed his demonstration of the therapeutic action of tellurium in experimental syphilis of the rabbit and in naturally acquired syphilis in human beings by an attempt to determine whether this drug has any preventive action. In his first series eight rabbits were injected with 0.025 to 0.095 gram of tellurium per kilo of body weight. From ten to twenty-seven days later they were infected with a syphilitic virus, a subscrotal graft being made. Six of these animals proved refractory; two developed syphilis. In his second series ten rabbits received 0.0363 to 0.1 gram of tellurium per kilo, and were inoculated with the virus eight days later. Only one animal developed syphilis; the other nine proved refractory. The author concludes that the administration of 0.025 to 0.1 gram of tellurium per kilo eight to twenty-seven days before infection exercises a very marked prophylactic action on the development of syphilis. To ascertain how long the state of resistance lasted he reinoculated fourteen of the rabbits with the virus 103 to 116 days after the injection of tellurium. Eight of the animals developed syphilis; the remainder again proved refractory. It would therefore appear that the prophylactic action of tellurium may remain in evidence for three or four months, though its action after this time is not so sure as at an earlier period. An endeavour was made by C. LEVADITI and Y. MANIN (ibid., p. 587) to find out why some rabbits remained refractory for three months or more after a single injection of tellurium, while others had again become susceptible. It was surmised that the prophylactic action depended on the quantity of tellurium remaining in the tissues. Analyses were therefore made to estimate quantitatively the distribution of the metal in the tissues of the two lots of rabbits. The results showed that in the refractory animals the quantity of tellurium, particularly in the kidneys, was much greater than in the rabbits that had become susceptible. It would appear that for prophylaxis a definite amount of the metal must be present in the tissues; a smaller quantity cannot prevent the growth of the syphilitic virus.

EPITOME OF CURRENT MEDICAL LITERATURE.

Medicine.

414. Desquamation following Measles.

A. REULAND (*Jahrb. f. Kinderheilk.*, February, 1927, p. 202), as the result of the examination of 70 cases of measles, came to the following conclusions. With very few exceptions desquamation occurs in every case of measles. It starts directly after the appearance of the eruption, the first signs developing between the second and fourth day from the outbreak of the rash. The desquamation usually lasts on the average seven to eight days; it seldom lasts less than four days, but often persists for more than eight days, though a duration of more than sixteen days is exceptional. In at least half the cases it is confined to the face, and is almost always found there first, the cheeks, circumoral region, labial commissures, forehead, chin, naso-labial folds, and above the nose being specially affected. Only certain parts of the rest of the body are involved, chiefly the back and sides of the trunk, and the extensor surfaces of the limbs. The hands and soles usually escape. The character of the desquamation is almost always branny. Scales of any size are rarely, if ever, seen. The degree of the desquamation does not always depend on that of the eruption, although intense desquamation occurs only after an intense rash, and a faint rash is usually followed by slight desquamation. The form and size of the individual scales are more or less affected by the degree of the papule formation. Artificial means of producing hyperaemia, such as hot baths and mustard packs, also favour desquamation.

415. Sudden Death in Enteric Fever.

J. JACOBI (*Med. Klinik*, March 4th, 1927, p. 316), who records an illustrative case, states that in a small proportion of cases sudden death may occur in enteric fever, mainly in convalescence and irrespective of the patient's age and constitution. The two principal causes of this occurrence are myocarditis and vasomotor paralysis on the one hand and pulmonary embolism on the other. Myocarditis usually develops in the second or third week of the disease, and early signs of circulatory weakness are to be attributed to vasomotor paresis. Inflammation of the heart muscle is recognized by the relative bradycardia of typhoid fever being replaced by tachycardia, an irregular and unequal pulse, dilatation of the heart, and the appearance of murmurs. Often, however, the cardiac inflammation which gives rise to sudden death is not manifested by any clinical signs. Both myocarditis and vaso-paresis are much more common in typhoid than in paratyphoid fever, in which such complications are rare, and occur only in severe forms. Pulmonary embolism may be due to thrombosis in a peripheral vein, or, less frequently, to cardiac thrombosis. Jacobi's patient was a girl, aged 17, who while recovering apparently from a paratyphoid B infection collapsed suddenly, became dyspnoeic, and died in a few minutes. The necropsy showed thrombosis in the left femoral vein and embolism of the main branches of the pulmonary arteries. The femoral thrombosis had not given rise to any symptoms during life.

416. Chronic Myelogenous Leukaemia.

M. C. RIDDLE and C. C. STURGIS (*Arch. Intern. Med.*, February 15th, 1927, p. 255) record the results of a statistical study of 257 determinations of the basal metabolic rate in chronic myelogenous leukaemia. In untreated cases the rate is, with few exceptions, characteristically raised, the degree of elevation depending in general upon the severity of the leukaemic process and thus being of value in indicating prognosis. Treatment with *x* rays usually produces a transitory rise in the rate which does not last more than three days, and in those benefited by the treatment this rapidly falls to normal for from three to six months. Patients in the last stages of the disease are unaffected by treatment and continue to have an elevated rate. A direct correlation exists between the pulse rate and the degree of elevation of the metabolism, showing an average increase in the basal pulse rate of 17 per cent. for each 10 per cent. rise in basal metabolism. No fixed relationship appears to exist between the basal metabolic rate and the degree of anaemia. The basal metabolism is frequently high with high white cell counts, and low with low counts; it is usually high when the percentage of young myeloid cells is great, and especially when their degree of immaturity is marked. Careful daily studies of five patients showed that the general level of the basal metabolic rate depends upon the degree of elevation of the total white blood cell count and of the percentage of immature myeloid cells. It is suggested that the increased rate of destruction of the white blood cells may be an important factor in causing the elevation of metabolism in the disease.

417. Meningococcal Purpura Fulminans.

S. BATTLEY (*Amer. Journ. Dis. Child.*, February, 1927, p. 244) reviews the literature and reports a case of this disease in a male infant aged 10 months, the total duration of the illness being twenty hours. Bluish-red blotches appeared on the skin, especially of the face and buttocks. Death was preceded by convulsions. The necropsy showed several small haemorrhages in the pleura and on the epicardium, and extensive haemorrhages into the suprarenals. Nothing abnormal was found in the brain except engorgement of the small vessels. Bacteriological examination showed intracellular and extracellular organisms resembling meningococci in sections of the various tissues. The case is an example of the frequent finding of haemorrhage into the suprarenals in rapidly fatal cases, which, according to some authors, is probably the cause of death. It also illustrates the presence of meningococcic septicaemia without the development of meningitis.

418. The Effect of Bronchial Asthma on the Heart.

H. L. ALEXANDER, D. LUTEN, and W. B. KOUNTZ (*Journ. Amer. Med. Assoc.*, March 19th, 1927, p. 882), as the result of the study of fifty patients who had suffered from bronchial asthma for not less than five consecutive years, have come to the conclusion that, as a rule, the heart remains singularly free from injury in such cases, in spite of the attendant emphysema. In three cases definite cardiac disease was present, but in two of these it had preceded the onset of asthma; the third patient was aged 78 and had auricular fibrillation. Some suggestion of cardiac impairment was found in four patients, but there was insufficient evidence to establish the presence of myocardial disease. The authors suggest that the increased intrathoracic pressure during an asthmatic paroxysm may impede the return to the heart of the venous blood and thereby decrease the actual work of the heart.

Surgery.

419. Appendicitis and Tonsillitis.

A. LIACRE (*Bull. Soc. de Thér.*, February 9th, 1927, p. 43) states that the analogy between appendicitis and tonsillitis was noted long ago by Le Gendre, Brun, and Goluboff. Delacour drew attention to the frequency of appendicitis in the subjects of adenoids. In both instances the affected organs showed the same histological appearances and the same susceptibility to pathogenic agents, especially in predisposed individuals. Liacre in the course of a few years has had fourteen cases in adolescents or young adults who since childhood had been subject to attacks of tonsillitis and had all been operated upon for appendicitis. On the other hand, among 200 patients at a spa in whom there was no history at all suggestive of appendicitis, there was also the absence of a history of recurrent sore throat. In a third series of patients at the same spa fifty individuals had suffered from recurrent tonsillitis and appendicitis with or without operation, and three of them while under treatment at the spa developed attacks of acute appendicitis.

420. Congenital Deformities of the Intestine.

R. APPELMANS (*Rev. de Chir.*, No. 10, 1926, p. 729) describes the different varieties of congenital malformation of the intestine. Among the lesions of the small intestine commonly seen are those where there is a valvular formation of the mucous membrane, true stenosis, and complete absence of a segment of the gut. The valvular deformity is formed by a reduplication of the mucous membrane in the form of a diaphragm, obliterating to a greater or lesser degree the lumen of the bowel. True stenosis is the more common type of deformity, the intestine usually being dilated above and atrophied below the constriction. In other cases there may be complete absence of a segment of the ileum, the intestine being divided into two culs-de-sac, the upper being dilated, the lower atrophied. The interval between the two segments is occupied by a thickening of the mesenteric border, or in some cases by nothing at all. The symptoms of stenosis are absence of meconium and vomiting and distension; the only treatment is to establish the continuity of the gut by operation. Among the deformities of the large

intestine megacolon or Hirschsprung's disease is perhaps the best known. In this there is a dilatation and hypertrophy usually affecting the sigmoid. The cause of this condition is unknown, the symptoms being obstinate constipation and abdominal distension; the only treatment is colectomy. Inversion of the gut is rarely seen where the small intestine lies on the right side of the abdomen and the large bowel on the left. It is due to an error of development, and is treated by rotating the gut and fixing the ascending colon and hepatic flexure in its correct position.

421. Cornu Cutaneum Penis.

M. KISMAN (*Nederl. Tijdschr. v. Geneesk.*, February 26th, 1927, p. 1060), who records an illustrative case, states that Friedrich in 1891 collected twenty-one cases of this condition; it occurs more often in old men and is rare in the young. The horn is usually situated on the corona glandis and may attain a considerable size; Hebra has described a case in which it was 4 inches long. Microscopically the horn consists of epidermal cells which in the uppermost layers have no nuclei. At the base the horn cells pass into the normal cells of the epidermis and send offshoots of epidermal cells into the deeper layers. Eleven cases of its development in association with phimosis have been recorded. Other etiological factors are mechanical causes, friction, dirt, and so on. Kisman's case was a Javanese native, aged 33, who had been circumcised under local anaesthesia for phimosis. When seen six months after the operation he presented a horn about 2 inches long in the mid-line proximal to the corona glandis. The patient stated that it had first appeared four months previously as a wart-like thickening. The horn was excised, and there had been no recurrence when the patient was seen six months later.

422. Treatment of Cancer of the Bladder.

F. DE QUERVAIN (*Rev. Méd. de la Suisse Romande*, March 16th, 1927, p. 259) recommends the application of cold for the treatment of vesical cancer, in preference to radium, *x* rays, and operative measures. Therapeutic freezing has been used for some twenty years in the treatment of angiomata and carcinomata of the skin. The elective action of cold against certain neoplastic cells has been studied by Jensen, Ehrlich, Bashford, and others, and the present author holds that by its use it is possible to save the ureters while destroying the cancer. He first employed this method ten years ago, successfully treating a case of multiple papillomata of the bladder. He now reports the successful treatment by carbon dioxide snow of a case in which the bladder contained two cancerous growths, and there was a metastasis in the abdominal wall. Two years subsequently the patient was alive and apparently cured, the vesical functions being normal and there being no signs of recurrence. The snow, in a chamois leather bag, is placed in a compress of four layers of absorbent gauze, the whole forming a spherical ball about the size of a mandarin orange. This is applied to all sides of the tumour with sufficient pressure to cause the cold to penetrate the perivesical tissues and to prevent the intervention of the gas that is formed. The application is continued for at least five minutes, and the bladder is left open to permit further treatment if advisable. De Quervain adds that the healthy vesical mucosa and the ureters resist freezing; though this method may not ensure cure, it causes an appreciable amelioration of the condition with disappearance of the haematuria, and prolongs life for more than a year.

423. Cancer and Life Insurance.

P. MÖLLER (*Ugeskrift for Laeger*, February 17th, 1927, p. 129) states that, according to official returns, there were 4,673 deaths from cancer in Denmark in 1922, this disease being responsible for 11.8 per cent. of all the deaths in that year. Among insured persons in Denmark, two series of investigations (one covering the period 1871–1905, the other 1872–1911) together showed that 12.5 per cent. of the deaths were due to cancer. What was still more striking was the observation that cancer came third in frequency as a cause of death within three years of the issue of an insurance policy. It may be presumed that some of these persons had already developed cancer at the time of the insurance, and the author refers in detail to a case of cancer of the rectum which was overlooked at the time of the medical examination. Until ten years ago it was the custom of the Danish insurance companies to refuse all lives complicated by new growths, even if they had been removed or were supposed to be benign; lipomata were an exception to this rule. In 1916 a group of large Danish life insurance companies formed a special committee to which all these societies could refer those applicants for life insurance who could not be accepted on the usual terms. In the period which has subsequently elapsed this committee has had 41 cases of new growths to deal with, but only in 12 did the parties concerned come to terms. For want of experience with regard to the expectation of life in each class of new growth these cases had to be lumped together in one class, and in most cases the companies insisted on an interval of five years between the issue of the premium and the insured person's right by death to the sum insured. In only one of the 12 cases did death occur within this interval; in 3 other cases the insured person discontinued the payment of the premiums. The nature of the new growths could not always be determined with certainty; some were most probably benign (fibroma of the breast and chondroma of the scapula), while in two-thirds of the cases the new growths were considered to be malignant. The severity of the terms offered was shown by the fact that 29 of the 41 persons refused them.

Therapeutics.

424. Parathyroid Therapy.

J. B. COLLIP (*Journ. Amer. Med. Assoc.*, February 19th, 1927, p. 565) thinks that the active principle of parathyroid extract is probably a complex protein derivative. The parathyroid hormone relieves or prevents tetany when injected into animals from which these glands have been removed, and in dogs a definite mobilization of calcium in the blood stream follows its injection, whether the glands are present or not. With excessive administration the serum calcium content may rise from about 10 mg., the normal average, to 20 mg. per 100 c.cm. Such overdosage, of which vomiting is an early symptom, causes great increase in the inorganic phosphorus, urea, and non-protein nitrogen in the blood, the greater viscosity of which is associated with decrease in the plasma volume and chlorides, and with a marked acidosis and almost complete anuria in the stage before death ensues. The function of the hormone in the normal animal appears thus to be calcium mobilization, and, after death, the tissues are found to contain greatly increased amounts of calcium salts.

425. W. S. MCCANN (ibid., p. 566) discusses the unit of biologically standardized parathyroid preparations in various conditions, and concludes that at present the only definite indications for their administration are tetania parathyreopriva, infantile tetany, and those pathological conditions in which there is a low blood serum calcium content. They may possibly be found later to be of value in the elimination of lead from the body in cases of poisoning; in rickets, apart from the control of tetany; and in the convulsions of pertussis. Their influence on the regulation of blood pressure and renal function are also being studied. McCann adds that their use must be controlled by frequent and accurate determination of the calcium content. Values higher than 12 mg. per 100 c.cm. are undesirable, and when over 15 mg. may be dangerous. Local irritation is often pronounced after injection, and it is doubtful whether long-continued use is possible without the administration of calcium.

426. Vaccine Therapy in Staphylococcal Infections of Children.

W. POCKELS (*Monatssch. f. Kinderheilk.*, March, 1927, p. 229) has been investigating the action of vaccines in various diseases of children. He states that cases of *B. coli* infection, urinary as well as intestinal, are uninfluenced both by injections of autogenous vaccines and by their oral administration in tablet form. In staphylococcal infections, on the other hand, he finds them of definite value. In a series of eight children accidentally infected by staphylococci four were given three tablets of solid staphylococcal vaccine daily; they healed more quickly and had a less severe reaction than the other four, who were not given a vaccine of any kind. This conclusion has been confirmed experimentally in the case of staphylococcal infection of rats.

427. Sodium Chaulmoograte in Leprosy.

E. BALBI (*Giornale Ital. di Dermat. e Sifilol.*, Fasc. ii, 1926, p. 623) treated five cases of advanced leprosy with a 3 per cent. solution of sodium chaulmoograte. He aimed at saturating the system with the salt by slowly increasing the dose up to the limit of toleration, small quantities up to 40 cg. being given intravenously every second day, followed by intervals of twenty-five days after each series of twelve injections, so as to minimize the toxic effects. Good results were obtained in one mixed and one tubercular leprosy case in which treatment was continued for eight and six months respectively, the total amounts of salts given being 17 grams and 12 grams. In a third case, of mixed leprosy, dennite improvement followed the administration of a total dose of 7 grams of the salt in three months. The two remaining patients showed less improvement, the treatment having been shorter and less intensive. With the exception of the third case the patients were in the tertiary stage of the disease; there was profound trophic disturbance, both local and general, and the natural defensive powers were obviously

inadequate. Complete disappearance of Hansen's bacilli from the nasal secretions followed two and a half months' treatment in the third case, but the bacilli reappeared five months after its suspension. No change occurred in the Wassermann reaction in any case, and the complement-deviation test was positive in all five cases, both before and after treatment. Injection of sodium chaulmoograte caused first a leucopenia, which was followed by leucocytosis up to 14,000 per c.mm. Febrile reactions were usually provoked by the injection, the fever lasting from two to twenty-four hours and abating generally during sleep; the reactions were probably attributable to the toxins caused by bacteriolysis (Rogers). In some cases it was found better to dilute the chaulmoograte solution to one-half or one third strength. Balbi concludes that the intensive injection of this salt, if continued sufficiently long, is one of the best remedies for leprosy, and that it is particularly beneficial, intense, and rapid in chronic cases. It is necessary, however, to estimate carefully the tolerance of each patient so as to diminish as far as possible the general toxic reaction to this preparation.

423. Novarsenobenzol in Perineal Pruritus.

H. KHOUBESSERIAN (*Thèse de Paris*, 1926, No. 288) records five illustrative cases, three of which were in women aged 40, 49, and 38, and two in men aged 54 and 51, suffering from vulvar or anal pruritus, of which the duration had ranged from a few months to several years. On inquiry a more or less definite history of acquired or inherited syphilis was obtained and a rapid cure was effected by treatment with novarsenobenzol. The author recommends that in all cases of perineal pruritus where the ordinary methods of treatment have failed to produce relief an antisyphilitic course should be tried before handing over the patient to the surgeon for superficial neurotomy or resections of the mucous membrane.

Neurology and Psychology.

429. Ketonaemic Nervous Disturbances in Children.

ACCORDING to H. C. CAMERON (*Arch. Dis. in Childhood*, February, 1927, p. 55), acetone bodies appear in the breath and urine of children during infection marked by considerable pyrexia, during fasting, in severe vomiting after anaesthesia, when given a diet rich in fat and poor in carbohydrate, and when excited or overfatigued. Coincidently with the rise in the amount of ketone bodies in the blood there is a corresponding fall in the alkaline reserves and a considerable, though sometimes short-lived, reduction of the blood sugar. In children prone to cyclical vomiting this response is of maximum intensity. Such children come of an intellectual and nervously sensitive stock, prone to exhaust themselves by the energy they expend in the business of life. With an unstable nervous system a relatively unstable metabolism may perhaps be taken for granted, and one will react on the other. These children are subject to sudden attacks which may or may not culminate in excessive vomiting; amyotonia with transient muscular pains, vasomotor pallor, cardiovascular weakness, abdominal pain or discomfort, and irregular pyrexia are the most common symptoms. Constipation is usual, but headache and giddiness are only occasional complaints. When the vomiting is worst acetone is generally detectable in the breath and in the urine, but its presence in great amounts often follows and does not precede the vomiting. Treatment should be directed to management, diet, and the removal of infection. When busy, happy, and occupied these children thrive and are often free from attacks. The diet should be antiketogenic, with a relatively high intake of sugar. An alkaline aperient may be administered daily. Infection should be dealt with whenever present; it is often a cause of the metabolic disturbance, but may be the result.

430. Diagnosis of Pyramidal Tract Irritation.

IN view of the frequent failure to elicit the signs of Babinski, Oppenheim, and Schaefer in disease of the pyramidal tract, J. A. SICARD (*Presse Méd.*, February 26th, 1927, p. 257) suggests the use of osseous percussion instead of tickling the sole of the foot, brusque flexion of the toes, and pinching of the dorsum of the foot. This procedure consists in laying the lower part of the leg in the open palm and shaking the foot in a lateral, but not antero-posterior, direction. The shaking should be rapid and last about half a minute, and its cessation should also be sudden. The foot may be either raised or allowed to rest on the bed; in the latter case a double excitation is caused both by the shaking and also by the friction of the sole on the bed. A positive response is indicated by an extension of the great toe only, by extension of all the toes, by extension of the great toe and flexion of the other four, by dorsal flexion of the foot alone, by flexion of the foot on the leg and of the leg on the thigh, or by a combination of any two or all of these. A more pronounced response is often elicited by lightly flexing the lower limb in its whole extent, leg on thigh, thigh on pelvis. Sicard considers this response to be a defensive spasm reflex of pyramidal origin, and it is always present in spasmodic paraplegias with medullary compression, or paraplegias of central origin. It is never elicited in normal states or in paraplegias of parapyramidal origin, conditions in which the other signs are often positive and lead to erroneous diagnosis.

431. Vertigo in Epidemic Encephalitis.

L. LEQUINT (*Thèse de Paris*, 1926, No. 211), who records eight cases, including two not hitherto published, describes a special form of epidemic encephalitis characterized by vertigo. The pure form is very rare, and as a rule there is a coexistence of signs of vestibular involvement with ocular and other symptoms. The differential diagnosis of this form of encephalitis from other diseases of the internal ear and nervous system, especially disseminated sclerosis and syphilis of the nervous system, may be very difficult. The prognosis even in the mildest cases should be guarded, owing to the frequent persistence of ocular symptoms and signs of vestibular involvement and the possible occurrence of later complications such as Parkinsonism, as in other forms of epidemic encephalitis.

432. Dermatitis as a Psychological Manifestation.

W. J. O'DONOVAN (*Brit. Journ. Derm. and Syph.*, February, 1927, p. 49) records several cases illustrating a psychological factor in dermatitis, and recommends the routine examination of a patient suffering from dermatitis to ascertain whether there is an emotional history, evidence of mental injury, or whether any such causes are operating as are known to prolong invalidity after ordinary surgical accidents. Examples are given of eruptions which were resistant to ordinary treatment but were cured by sedatives, being due to mental shock. In some cases suggestion was found to be the sole factor in the production of an extensive and long-standing superficial dermatitis, which in others followed some minor injury. In two cases of varicose ulcers neurasthenia was responsible for their chronicity, and O'Donovan considers that patients of this type derive a morbid satisfaction and an outlet for their repressed feelings in a constant consideration of their ulcers, which receive little surgical rest, good results following the application of an occlusive dressing combined with sedative treatment. He adds that the effect of the Workmen's Compensation Acts in delaying recovery is evident in dermatological work, and notes of cases of dermatological malingering and of traumatic cutaneous neurasthenia are quoted in support of this view.

Obstetrics and Gynaecology.

433. Treatment of Puerperal Sepsis by Local Application of Vaccines.

P. TRON (*Zentralbl. f. Gynäk.*, January 29th, 1927, p. 298) remarks that local application of vaccines, according to Besredka's method, is subjected in puerperal sepsis to a severe test, for the circumstances are exceptionally favourable to a generalization of uterine infection in that the casting off of the placenta opens widely the maternal blood vessels and the uterine and abdominal cavities communicate freely by means of the Fallopian tubes. Nevertheless, he is favourably impressed, on the whole, by the result of the application by Besredka's method of vaccines to the vagina, perineal wound, or uterus, on gauze tampons or by intra-uterine douching. The vaccine used was a polyvalent filtrate, prepared at the Pasteur Institute, from staphylococci or streptococci incubated from fourteen to sixteen days in broth. The earliest application was of a mixed staphylococcal and streptococcal filtrate; from the second day a staphylococcal or streptococcal filtrate alone was used, according to the bacteriological findings from examination of the discharge. It was found to be important that the filtrate should be used in the earliest possible stages of the infection; after one or two applications the local conditions showed macroscopically a well marked increase in cleanliness and microscopically distinct phagocytosis.

434. Pelvic Pain in Women.

H. H. SCHMID (*Med. Klinik*, February 25th, 1927, p. 271) describes and classifies cases of pelvic pain in women. He first excludes extrapelvic causes, such as sciatica, chronic arthritis of the hip or sacral joints, disease of the vertebrae, flat-foot, coxa vara, appendicitis, stone in the kidney or ureter, and then extragenital causes, such as stone in the bladder. Enteroptosis was responsible for 70 per cent. of the remaining cases of persistent dull aching pain in the lower part of the abdomen or back. They are diagnosed by having the patient in the erect position, and supporting the lower part of the abdomen with both hands; often the pain

disappears, to return when the support is relaxed. These patients are treated by a fairly tight belt or support over the lower part of the abdomen. In dealing with the purely genital cases, Schmid gives a warning against the assumption that retroversion of the uterus always causes pain: pain may persist even after perfect correction of the displacement. In these genital cases the pain is usually felt at a lower level than in the former classes. On examination traces of old pelvic peritonitis are usually found, or a fixed retroversion, or adhesions between the fundus uteri and pelvic colon. Schmid describes a group of cases in which the utero-sacral ligaments are shortened, often thickened, and tender. In these cases there may be no history or signs of parametritis; they are often associated with chronic constipation and straining, or with irregularities of sexual life, such as masturbation or coitus interruptus; spasm of the unstriped muscle of the ligaments has occasionally been observed. Pain may only be felt at certain times—as, for example, during defaecation or sexual intercourse—and can be aroused for diagnostic purposes by pressing forward towards the symphysis pubis with the finger in the posterior vaginal fornix or in the rectum. The treatment of all these cases is—(1) local applications, hot sitz baths, long hot vaginal douches, and vaginal diathermy; (2) mechanical treatment—massage, stretching of the ligaments under anaesthesia; (3) antispasmodic remedies, such as atropine, papaverin, and camphor; and (4) operative procedures. Injections are made into the ligament or its neighbourhood. Schmid injects from 20 to 40 c.cm. of a 1/2 per cent. to 1 per cent. solution of novocain through the posterior vaginal fornix.

435. Cirsoid Aneurysm of the Uterus.

E. LOUBAT (*La Gynécol.*, January, 1927, p. 15) records the case of a woman, aged 62, who had suffered at a few months' intervals from alarming attacks of uterine haemorrhage, of which the first occurred ten months after the menopause; slight blood-stained discharge was reported during the intervals. The cervix was of normal size and configuration and the corpus uteri bulky; in both lateral fornices vigorous pulsations of an artery as thick as a lead pencil could be felt, accompanied by a slight thrill. Diagnosis was thought to lie between carcinoma of the corpus uteri and an angiomatous tumour. At the operation the enlarged body of the uterus showed a small rounded swelling on the upper portion of the anterior surface; the whole uterus pulsated forcibly and a systolic thrill could be felt. The subperitoneal juxta-uterine veins were as large as the jugular veins. Histological examination showed the myometrium to be extensively replaced by cirsoid tissue with arterio-venous communication.

436. Extrauterine Pregnancy.

B. C. HARDIMAN (*Canadian Med. Assoc. Journ.*, March, 1927, p. 297) reports five cases of ectopic gestation and outlines the history of the treatment of this condition, since the time when almost certain death was the outcome to the present day when the mortality has been reduced to below 5 per cent. An important factor in the occurrence of ectopic gestation is abnormality of the Fallopian tubes, such as inflammation, parametric exudation, and malformations, including diverticula and accessory tubal canals, usually associated with protracted sterility. This possibility should be remembered in the case of a married woman complaining of irregular haemorrhages and colicky pains; the necessary vaginal examination should be made very gently and care be taken to avoid mistaking a retroverted uterus for ectopic pregnancy. A tender elastic mass behind or at one side of the uterus, associated with a history of irregular haemorrhages, spasmodic or tearing pain, faintness and thirst, calls for immediate laparotomy.

Pathology.

437. Atypical Tubercle Bacilli.

PIRONET (*Arch. Méd. Belges*, February, 1927, p. 53) gives a short account of the nature of the polymorphism of the tubercle bacillus. Vaudremer showed that tubercle bacilli could grow on media of low nutritive value. When sub-cultured from colonies on agar without glycerin the bacilli are found to have lost completely their resistance to acid; they stain by Gram's method, and certain strains no longer infect guinea-pigs. Grown on potato broth without glycerin, the bacilli on the surface are longer than ordinary tubercle bacilli and are feebly acid-resistant, but below the surface polymorphic forms appear which stain well by Gram's method and are not acid-resistant. The young bacilli grow large and develop branches and buds which become detached. On filtration through a Chamberland L_3 filter, culture of the filtrate yields similar branching, non-acid-fast filaments. When these are inoculated subcutaneously in guinea-pigs they produce a local induration which disappears in two or three weeks without causing generalized tuberculosis. In guinea-pigs intravenous inoculation produces a chronic generalized polyadenitis and occasionally periarthritis. In some cases after three or four months a gland breaks down. On making a culture from the pus on Petroff's medium, acid-fast granules are found; after a series of sub-cultures on the same medium the bacilli revert to the normal acid-fast form. When acid-fast granules are injected subcutaneously they produce a scar, which disappears in five or six weeks and is not followed by tuberculosis. When injected intravenously, if they do not kill the animal in eight days they confer local but not general immunity, and no inoculation sore follows the subsequent inoculation of virulent tubercle bacilli. When a normal culture of tubercle bacilli on glycerinated potato is emulsified in physiological saline solution and filtered through a Chamberland L_3 candle the filtrate yields non-acid-fast forms of mycelial type. After filtration of tuberculous sputum or pus, guinea-pigs inoculated with this filtrate died with lesions containing typical tubercle bacilli. But in tuberculosis thus produced there was no inoculation sore and the corresponding lymph node was not enlarged. At the autopsy the viscera appeared healthy and the tracheo-bronchial and cervical glands were normal or slightly enlarged; there were no histological lesions, but the fluid expressed from the glands contained typical tubercle bacilli. Such filterable forms can traverse the placenta, for inoculation of the mother is followed by the appearance of typical tubercle bacilli in the foetus.

438. A Photographic Method of Counting Blood Cells.

IN order to eliminate the error in counting incurred by the use of the ordinary haemocytometer method A. H. SANFORD (*Journ. Lab. and Clin. Med.*, February, 1927, p. 456) has devised a simple photographic method of counting blood cells. Instead of making the counts directly under the microscope, a photograph is taken of 100 squares of the haemocytometer field, and the cells are counted on the positive print. Using a Spencer microprojector as the source of illumination, an 8 mm. objective, a 6× eyepiece, and an ordinary view camera, he obtains satisfactory results on process films with a two seconds' exposure. The magnification is about 200. The cells are counted on the prints, and to avoid counting the same cell twice he pricks it with a needle connected to an automatic counting machine. A comparison of counts made in this way with those made by a direct microscopic count of the haemocytometer slide reveals a small discrepancy, the former method giving the higher values. This the author considers to be due to the uneven focusing of the slide under the microscope. In a photograph of the slide all the cells are reproduced, even though they are not all in perfect focus; but when a direct count is made the observer, in endeavouring to focus all the cells clearly, inevitably throws some out of focus, so that these are missed. At present he advocates the photographic method for research use only, considering that the extra trouble involved is compensated by the greater accuracy of the results.

439. Cardiac Action of Calcium Chloride.

E. FROMMEL (*Arch. des Mal. du Coeur, des Vaisseaux et du Sang*, February, 1927, p. 85) comments on the use of calcium chloride as a cardiac tonic, and states that the principal objection is that it must be administered intravenously, which is painful. It may be dangerous in heart disease, since by increasing the coagulability of the blood it enhances the risk of thrombosis and embolism. Calcium chloride has been so efficacious in the treatment of persistent vomiting of pregnancy, in haemoptysis, and in diarrhoea due to tuberculosis that its other uses have been neglected. The author reports that immediately after the injection of a 5 per cent. solution in a frog's heart a powerful ventricular contraction occurred, followed later by a similar auricular contraction. These effects resemble, at least in part, those produced by stimulation of the pneumogastric nerve. It has been suggested that calcium increases vagal tonus, but Frommel's experiments on rabbits showed that similar disturbances of cardiac rhythm occurred in rabbits with paralysed or divided pneumogastric nerves and in normal animals. He is uncertain whether calcium acts directly upon the myocardium or on the intracardiac nerve ganglia. The chloride slows, strengthens, and prolongs systole, while diastole is less complete. In both the frog and rabbit death results from tetanic ventricular contraction, the ventricle is hard, pale, and so strongly contracted that the cavity is practically obliterated. He concludes that calcium chloride modifies cardiac excitability and conductibility, both in healthy animals and in those in which the pneumogastric nerves have been damaged. These latter animals, however, require larger doses and appear to be less sensitive to the drug.

EPITOME OF CURRENT MEDICAL LITERATURE.

Medicine.

440. Diabetes in Children and Infections.

R. LECOCQ (*Thèse de Paris*, 1926, No. 266), who reports seventeen illustrative cases, states that although almost all infectious diseases have been reported as giving rise to diabetes mellitus this etiology has very rarely been proved. Mumps and syphilis have furnished undoubted examples of diabetes in children following an infection, but such cases are very rare. While infections are not usually the true cause of diabetes, they often appear to provoke symptoms in those who are predisposed, as in cases where diabetes has manifested itself after an attack of appendicitis. The influence of infections on the course of diabetes in children is very variable. Increase in glycosuria appears to have been more frequently noted than its diminution. The latter when it occurs is probably due in large degree to the change in the diet. Increase in glycosuria, on the other hand, appears to be the sign of an aggravation of the disease due to the infection, whether through the pancreas, nervous system, or some other channel. The general course of diabetes in children appears to be aggravated in most cases by the supervention of an infection such as scarlet fever or typhoid fever, especially when the strictness of the regimen has been relaxed. On the other hand, if the patient is carefully treated, the intercurrent disease does not aggravate the course of diabetes, apart from tuberculosis and infections, such as mumps, which are liable to affect the pancreas. Insulin is a valuable addition to the treatment of diabetes in children, and enables them to offer a better resistance to intercurrent infections.

441. Glandular Fever.

H. A. SALVESEN and R. MAGNUSSON (*Norsk Mag. f. Laegevidensk.*, March, 1927, p. 189) review the literature, including the paper by H. L. Tidy and E. B. Morley (BRITISH MEDICAL JOURNAL, 1921, i, p. 452), and record two cases in men, both aged 23. The attack in each case was characterized by fever, moderate enlargement of the lymphatic glands, especially in the cervical region, sore throat, and a leucocytosis with a lymphocytosis of 75 per cent. Cultures of the throat showed streptococci and staphylococci only. In one case the blood was examined after an injection of sterile milk during convalescence, when a neutrophil leucocytosis was found.

442. Immunization against Diphtheria.

M. P. GLUSMANN, J. W. SOLOWJEWA, and I. N. GLADSTERN (*Zeit. f. Hyg. u. Infektionsk.*, January 27th, 1927, p. 130) have made a number of experiments on guinea-pigs and children with formolized diphtheria toxin (anatoxin). They found that the addition of 0.2 to 0.3 per cent. of formol to the toxin was sufficient to lower its toxicity in two to six days at 37.5° C. to about one-hundredth of its initial value. The resulting anatoxin was not completely innocuous. When diluted 1 in 20 and injected into guinea-pigs in a dose of 5 c.cm. it gave rise to a marked infiltration and sometimes death—though not in less than five days. Three injections of the anatoxin rendered about 90 per cent. of children immune in a little over a month. Comparisons with immunization by the toxin-antitoxin method showed that it had no superiority over this method, and they therefore see no reason for preferring it in practice.

443. PROGULSKI and F. REDLICH (*Wien. klin. Woch.*, March 3rd, 1927, p. 284) have immunized Schick-positive children with anatoxin following the directions of Ramon, and using doses of 0.5 c.cm. subcutaneously at the first injection, 1 c.cm. after fourteen days, and 1 c.cm. after three weeks. Four to eight weeks later the Schick tests were repeated. Out of 121 children treated 102 gave negative reactions, and of the remaining 19 the reactions were distinctly weak. In 9 cases, although the blood, examined according to the Roemer method, was found to contain no antitoxin, or only a negligible amount, there was evidence of a definite protection against [illegible] sing of the antitoxin titre. In 13 cases t[illegible] " of Kraus was used, subcutaneous injections of 0.1 c.cm. in 2 c.cm. saline being given three times every third day. After forty days the Schick reaction was negative in 11 children and only slightly positive in 2; the protection is said to be complete. The authors add that the Kraus diphtheritoxoid has an advantage over the anatoxin of Ramon in that the immunizing process requires only eight days, which is an important consideration, especially during a diphtheria epidemic. Children stand the injections of anatoxin and diphtheritoxoid equally well. The frequent occurrence of local reactions is unimportant as these pass off in from twenty-four to forty-eight hours. General symptoms such as fever and headache were only rarely observed.

444. The Dick Reaction at Different Ages.

S. HELLER (*Med. Klinik*, March 4th, 1927, p. 320) has studied the Dick reactions in 1,112 patients of various ages; the result of the test was positive in 47.6 per cent. He considers the variations at different age periods important. In twenty newly born babies the result was negative in all, although two of the mothers showed positive reactions. Schultz and Charlton found that the subcutaneous injection of 0.5 to 1 c.cm. serum from a convalescent caused fading of the rash at the site; this has been confirmed by many observers, and this property of the convalescent serum is regarded as specific. Heller has observed the same process after injection of serum from an infant, showing that its immunity is specific and confirming the observations of Hainiss. The greatest sensitiveness is found between the ages of 2 and 5 years; after prophylactic injection 75.5 per cent. of such children were negative. A weak positive reaction becomes negative more readily than a strong positive. The author thinks that younger children are more difficult to immunize, partly because of their higher sensitiveness to the disease and partly owing to the greater difficulty they have in forming antitoxins. He gives three important results from the Dicks's work: estimation of the individual sensitiveness to scarlatina, active immunization, and a form of specific treatment in advance of any yet known. He adds that time will show the prophylactic benefit of these injections; their therapeutic value is already established.

Surgery.

445. Ramisection in Hirschsprung's Disease.

R. B. WADE and N. D. ROYLE (*Med. Journ. of Australia*, January 29th, 1927, p. 137) report and discuss two cases of Hirschsprung's disease (congenital megalocolon). In one extirpation of the colon failed to effect a cure, the dilatation reappearing in the ileum close to the anal sphincter, while in the other benefit followed a specially designed lumbar sympathetic ramisection on the left side, the white ramus to the first lumbar ganglion and the medial branches from the first, second, third, and fourth lumbar ganglia being severed and the trunk cut across below the fourth ganglion. The condition appears to be due to failure of the sphincter to relax owing to overaction of the sympathetic. By the daily use of enemata relief can be obtained, but the trouble tends to recur, while ramisection is considered a simple procedure free from operative risk, and it is held that the authors' second case shows that a hitherto intractable condition can be relieved by cutting part of the sympathetic nerve supply to the large bowel. The method used differed from an ordinary ramisection in that the medially directed fibres passing to the hypogastric and inferior mesenteric plexuses were divided, and not the laterally directed rami communicantes of the second, third, and fourth lumbar nerves. The authors conclude that the results of such treatment in Hirschsprung's disease and similar conditions open up great possibilities, since persistent constipation and visceroptosis can be relieved by the safe procedure of ramisection.

446. Perforation in Gastric and Duodenal Ulcer.

SERRADA (*La med. Ibera*, February 26th, 1927, p. 233) gives the following statistics for perforation in peptic ulcer: 28 per cent. for duodenal ulcer (Mayo brothers); 12.5 per cent. for duodenal ulcer, and 9.5 per cent. for gastric ulcer (Buel); and 6 per cent. for gastric and duodenal ulcers in his own experience. Recovery followed in 50 per cent. of the patients on whom Serrada operated for perforation. The following recovery rates were obtained by various surgeons who operated within six hours of the perforation; 61 per cent. (Hartmann), 92 per cent. (Duval); after a lapse of twelve hours the mortality is 33 per cent., and after twenty-four hours from 80 to 100 per cent. After thirty-six hours an operation is considered useless, since the patient is doomed. The perforation may be preceded by sharp pain, slight fever, nausea and vomiting, or may occur suddenly without any

prodromes, being manifested by agonizing pain, contraction of the recti abdominis, loss of hepatic dulness, shock, and early phrenic dyspnœa. Perforation of peptic ulcer must be distinguished from hepatic colic, which is often preceded by a history of gastric disturbance and accompanied by pain sufficiently severe to produce symptoms of shock, perforation of the appendix, hæmorrhagic pancreatitis, and perforation of the gall bladder.

447. The Undescended Testis.

O. H. WANGENSTEEN (*Archives of Surgery*, March, 1927, p. 663) reviews the literature and describes his own experimental work, which included the transplantation of testes into the abdominal and inguinal region, determination of testicular reaction to injury, transference of the testis to the peritoneal cavity or inguinal region with later replacement into the scrotum, and ligature of the vas deferens and of the blood vessels. Several undescended human testes, removed during hernia operations, and many normal ones were also examined. He concludes that undescended testes in the human adult are nearly always aspermatic. They form mature germinal cells, but their aberrant position does not permit of the continuance of spermatogenesis. The testes before puberty and of the newborn differ but slightly in weight, and the histology is practically the same. The undescended testis before puberty is histologically similar to a scrotal one of the same age. If placed in the scrotum without vessel damage before puberty, the undescended testis will develop normally. Tying all the vessels to the testis with the exception of the artery and vein accompanying the vas deferens is followed by destruction of the testis. Scrotal fixation does not minimize the possibility of an undescended testicle becoming malignant. He adds that castration in the absence of complications is too radical a proceeding in the management of undescended testes.

448. Left Subphrenic Abscess.

M. NOGUERAS (*Arch. de med. cir. y esp.*, February 26th, 1927, p. 292) states that a subphrenic abscess on the left side may be due to any of the following causes: a suppurative process in the upper half of the spleen, infected blood cysts or hydatid cysts of the same organ, perforation of the greater curvature of the stomach on its posterior aspect, perforation of the duodenum in the neighbourhood of and above Treitz's ligament, perforation of the posterior aspect of the splenic flexure of the colon, localized peritonitis of this gastro-splenic region, suppurative process of the ribs or vertebral column, suppurative pleurisy and pericarditis which pass through the diaphragm, and open or closed wounds giving rise to extravasations of blood which subsequently become infected. The contents of the abscess may be blood-stained pus, remains of hydatids, carious bone, caseous masses, and almost invariably fetid gas which occupies the greater part of the cavity. In addition to more or less general disturbance the symptoms consist of a swelling in the left hypochondrium with elevation of the ribs, sharply defined tenderness on pressure, occasionally œdema and redness of the skin, and an upper zone of tympanism and a lower zone of dulness when the patient is sitting or standing. Although the prognosis of subphrenic abscess on the left side is not so grave as on the right Mayo reports a mortality of 56 per cent., Elsberg of 40 per cent., and Sonenburg of 42 per cent. Treatment consists in early operation under a local anæsthetic, which will reduce the mortality to 15 to 20 per cent.

Therapeutics.

449. Tryparsamide in General Paralysis.

S. B. HADDEN and G. WILSON (*Journ. Amer. Med. Assoc.*, February 12th, 1927, p. 473) state that tryparsamide has been shown, by its use in neurosyphilis and trypanosomiasis, to be more penetrable than the ordinary arsenicals, and therefore more potent in acting on the central nervous system. Its only unfavourable property is its tendency to produce amblyopia in a small percentage of cases. The authors have obtained excellent results from its use in the treatment of fifty-two cases of general paralysis, the benefit being greater than with other arsenicals, mercury, or bismuth. The patients gained in weight and general health, and the tremor of the face, tongue, and lips, and consequently the speech defect, considerably improved. Those who have received this treatment do not show such a tendency to develop trophic sores as do the untreated. Only seven patients showed any bad effects, two developing jaundice, one dermatitis, two Herxheimer's reaction, and only two serious visual defects. The dose of tryparsamide is 3 grams in 10 c.cm. of distilled water; one dose a week is given, and after ten doses a six weeks' rest follows. Before treatment a careful ophthalmic examination should be made. If any visual symptoms appear treatment should be stopped, and resumed only when these disappear. The clinical benefit obtained far surpassed the serological improvement; other authors have reported better serological results when this drug is combined with mercury, bismuth, or some other arsenical, a procedure recommended by the present authors. They believe that tryparsamide produces beneficial results in 40 per cent. of cases, and that it is by far the best drug to use in the treatment of general paralysis.

450. Serum Treatment of Weil's Disease.

W. A. TIMMERMAN (*Nederl. Tijdschr. v. Geneesk.*, March 26th, 1927, p. 1572) states that though only fifteen cases of spirochætosis icterohæmorrhagica have been recorded in Holland during the last two years, more have undoubtedly occurred. Schüffner has been able to collect twenty-five cases, with a death rate of 32 per cent., while the mortality of those cases following a fall into water was as high as 45 per cent. In view of the increasing number of cases of the disease in Holland a therapeutic serum has been prepared at the Dutch Serological Institute at Utrecht by injecting rabbits with the *Leptospira icterohæmorrhagiæ*. Rabbits are used instead of horses, which require a long time and great quantities of leptospiræ to become immune. It is recommended that the serum should be given as soon as possible after the diagnosis has been made, the intramuscular route being used except in very severe cases, in which the intravenous method is employed. The quantity of serum to be given will depend on the stage of the disease and the severity of the attack; an average initial dose of 30 c.cm. intramuscularly is certainly not excessive. The further course of the disease will determine whether the dose need be repeated or not. It is added that, though it is impossible to prevent all deaths from Weil's disease by using this serum, the treatment will certainly reduce the mortality very considerably; omission to give it at the right time must be regarded as an error of judgement.

451. Alcohol in Acute Infectious Diseases.

J. D. ROLLESTON (*Clin. Journ.*, March 9th, 1927, p. 109) remarks that recent investigations have shown that there are no grounds for regarding alcohol as a cardiac stimulant. The most that can be said for it is that it acts as a narcotic and that in adults accustomed to its consumption it produces a sense of euphoria. In the case of children, who form the great majority of patients suffering from acute infectious diseases, there does not appear to be any justification for its use. Rolleston states that it is more than twenty years since he abandoned the therapeutic use of alcohol; during the last ten months, since his appointment as medical superintendent of a fever hospital, the amount of alcohol ordered on the diet sheets has fallen from an average of about 30 ounces daily to *nil*, without any evil effects; the mortality from diphtheria, in which disease most of the alcohol was used, was lower in 1926 (4.53 per cent.) than in the previous year (5.19 per cent.). During the last quarter of 1926 the total amount of brandy ordered, though not entirely consumed, was only 2½ ounces, as compared with 1,112 ounces during the corresponding period of the previous year, the average number of patients under treatment in these two periods being approximately the same (about 400 on any given day).

452. Ephedrine Sulphate.

R. D. RUDOLF and J. D. GRAHAM (*Amer. Journ. Med. Sci.*, March, 1927, p. 399) have examined the therapeutic action on human beings and animals of ephedrine, the active principle of the Chinese herb ma huang. They found that ephedrine raised the blood pressure and slowed and strengthened the heart beat in man, though not in animals, in which the pulse was quickened, possibly owing to the vagal tone having been removed by the anæsthesia. They recommend it, therefore, in the treatment of conditions where the blood pressure is too low, and especially for preventing or combating the fall in blood pressure caused by spinal anæsthesia. Some evidence was obtained that the drug tended to relieve asthma and to raise the blood sugar content. When applied locally to mucous membranes, a blanching and shrinking effect was produced without any adverse sequels. The difference in the effects produced by the drug when given by the mouth, subcutaneously, or intravenously was found to be only one of degree. The authors administered the drug usually in single doses of 50 to 100 mg. of the sulphate in solution, and found that its efficacy was not destroyed by prolonged boiling or by exposure to light for a considerable time. They conclude that ephedrine has very much the same action as has adrenaline, but its effects are much more lasting, and are, moreover, produced when the drug is given by the mouth.

Laryngology and Otology.

453. Latent Influenzal Otitis in Children.

P. GAUTIER (*Rev. Méd. de la Suisse Romande*, February 28th, 1927, p. 104) discusses the frequency of otitis in children, and the difficulty in its diagnosis. He states that the recent influenzal epidemic showed that latent otitis was of common occurrence; it is easy to overlook this complication. Early and energetic treatment is important. Latent otitis is often found in infants and in older children, either alone or as a complication of some other disease, though influenza has not been described previously as one of the most frequent causes. Gautier describes four cases of latent otitis in children whose ages ranged from 11 months to 8 years. In each case hearing appeared to be perfect, and there were no symptoms of otitis, but examination of the membrana tympani showed that there was otitis media, and paracentesis revealed the presence of pus, its evacuation being followed by speedy recovery. The author concludes that every case of prolonged fever, whether oscillating or remaining at a high level, without pulmonary or abdominal symptoms, should lead to an immediate examination of the ears, even when no mastoid tenderness, otorrhœa, or deafness is present. Paracentesis confirms the diagnosis and gives almost immediate relief. The temperature falls quickly and, in general, the otitis is cured most rapidly when it has been recognized at the earliest moment. Latent otitis, when not detected, may persist for weeks and produce most serious symptoms. The majority of these patients suffered also from adenoids, and Gautier considers it most important that these should be removed in order to prevent a recurrence of otitis media, with the grave dangers of mastoiditis and meningitis.

454. Surgery of the Frontal Sinus.

C. FERRETTI (*Arch. Ital. di Otol.*, February, 1927, p. 82) describes the course and treatment of seven cases of frontal sinus conditions varying from an acute sinusitis to a chronic mucocele. He concludes that an *x*-ray photograph is essential in these cases so that the size and shape of the sinus may be determined, and that all secondary prolongations may be dealt with. He believes that the ethmoidal labyrinth is always infected with the frontal sinus, and he recommends that this system of cells be opened and curetted at the time of operation. He does not think it necessary to remove the whole of the anterior wall of the sinus and its floor, and he only makes an opening large enough to clean and inspect the inner walls of the sinus and to ensure efficient drainage by the fronto-nasal canal. This is achieved by removing a part of the frontal process of the maxilla with a portion of the anterior extremity of the middle turbinal bone and dilating up the remains of the canal. He insists on the importance of closing the wound at once without any drainage. He claims that this technique will cure any case of sinusitis, that the resulting scar will be almost invisible, and that there will be no depression over the area of operation.

455. Abscess of the Frontal Lobe following Sinus Disease.

G. PORTMANN and N. MOREAU (*Rev. de Laryngol. d'Otol. et de Rhinol.*, January 15th, 1927, p. 1, January 31st, p. 41, and February 15th, p. 81) discuss the occurrence of abscesses of the frontal lobe of the brain following suppuration in the frontal sinuses. The condition occurs about puberty, and its frequency increases from then to a maximum at about the age of 30, whence it decreases, until examples are almost unknown after the age of 55. Approximately two males are affected to one female. Tuberculosis, diabetes, and syphilis appear to be without influence on its occurrence. As in ear conditions, it is the recrudescence of a chronic or a quiescent suppuration that appears to be most commonly followed by an abscess. Minor traumata acting on an infected sinus appear to influence its spread, and incomplete operations which leave behind infected pockets and fronto-ethmoidal cells are likely to be followed by an abscess. Careful search has to be made at the time of operation for subsidiary cells and reduplicated sinuses. The purulent infection may spread directly through the posterior osseous wall of the sinus and finally reach the brain, or it may pass along the walls of an infected vein. The abscess forms in the frontal lobe, is usually pyramidal in shape, and is limited in its backward progress by the anterior extremity of the lateral ventricle. It varies in size from that of a small nut to a hen's egg. It may be single, may have diverticula, or there may be several small abscesses just under the cortex. The contents are yellow or greenish-yellow pus and may include some gas; there is usually a very fetid collection of pus. Localizing symptoms are absent, and in the presence of a frontal sinus suppuration attention is drawn to the brain by signs of intracranial tension. Frontal headache is the most common sign, and vomiting, and slowing of the pulse and of cerebration may follow. There is rarely any papilloedema, and attempts at localization are difficult. In the earlier stages changes of a psychical nature somewhat similar to the grandiose ideas of general paralysis may be noticed, and the conversation may take on a very childish strain. There is often a marked and unnatural loquacity. As the disease progresses there is a weakening of judgement, of memory, and of will, and a confusion of ideas. The olfactory function is interfered with, and this, if unilateral, is of great value in localization. In large abscesses the motor area may be affected, giving rise to epilepsy, or sometimes, in very late cases, to paralysis. There are four stages in the formation of an abscess. In the first there are slight fever, headache, and slight vomiting; this may go on to acute encephalitis, or more usually it subsides and the condition falls into the second stage of remission; the third stage is that of manifestations of intracranial pressure and irritation; the fourth is the terminal stage, in which coma follows the continued increase of pressure, or death is caused by irruption into the lateral ventricle.

453. Anaesthesia of the Superior Laryngeal Nerve in Laryngeal Tuberculosis.

ACCORDING to A. DI CORE (*Rassegna internaz. di clin. e. ter.*, January, 1927, p. 27), since Sicard and Braun, in 1905, first proposed cocainization of the superior laryngeal nerve to relieve dysphagia in laryngeal tuberculosis, this method has remained almost exclusively in the hands of specialists. The dysphagia may be due to any of the following causes: (1) oedema, infiltration or ulceration of the epiglottis, arytenoids, or ary-epiglottidean folds; (2) painful rise during deglutition of a larynx of which the glottis or crico-arytenoid articulations are affected; (3) the passage of the bolus of food over an ulcerated mucous membrane or the constant rubbing of the posterior wall of the larynx against the pharynx. Di Core injects both superior laryngeal nerves with 2 or 3 c.cm. of a solution containing cocaine, morphine, antipyrine, quinine hydrochloride, and iodized glycerin; within about a quarter of an hour he obtains an anaesthesia of the larynx which allows the patient to swallow in comfort. The duration of the anaesthesia varies from a week to fifty days. In fifty cases it ranged from fifteen to twenty days, and in five, for some unaccountable reason, the treatment caused only a transient relief. Anaesthesia of the superior laryngeal nerve is considered a better method for relieving the dysphagia than resection of the nerve, first performed by Avellis in 1909, as the results of this operation are inconstant, anaesthesia is transient, and the death of the patient is sometimes accelerated thereby.

Obstetrics and Gynaecology.

457. Treatment of Cancer of the Body of the Uterus.

L. F. DRIESSEN (*Zentralbl. f. Gynäk.*, January 29th, 1927, p. 272) states that operable carcinoma of the body of the uterus demands surgical treatment consisting in abdominal total extirpation, but not Wertheim's operation. The earlier reports of 90 per cent. of cures were too optimistic, but 63 per cent. of cases of five years' freedom from recurrence has been attained in the author's experience. The results are better than those of radiotherapy. "Operability," however, is a very subjective term; it must be remembered that patients suffering from cancer of the body of the uterus are more often aged from 45 to 65 than from 40 to 45, and are frequently obese, with chronic cardiac, renal, or vascular disease. Accordingly the post-operative complications to be feared are not peritonitis, pyrexia, or other inflammatory conditions, but cardiac failure, bronchitis, or thrombosis. "Local operability," as gauged by technical facility of complete ablation of the carcinomatous area, approaches 100 per cent., but "general operability," assessed by careful survey of the patient's general condition, is very much less. In cases of poor operative risk Driessen has recently returned to the century-old method of intrauterine caustic applications; he uses sticks 8 to 10 mm. thick and 7 to 13 cm. long (according to the length of the uterine cavity), composed of zinc chloride 4 parts, zinc oxide 1 part, starch 3 parts, and water. The hygroscopic and caustic action of the zinc salts produces mummification of the endometrium and myometrium, with thrombosis in blood and lymph vessels, so that a cylindrical sequestrum may be removed within eight to fourteen days without narcosis. Radiotherapeutic applications are subsequently made. Similar "chemical extirpation" of carcinoma of the body of the uterus in certain cases has recently been advocated in America by Babcock and by Masson at the Mayo Clinic. In four out of five cases of cancer of the body of the uterus "locally operable," but appearing in patients suffering from heart disease, adiposity, diabetes, pyelonephritis, and chronic nephritis, Driessen has obtained, by the method described, cures lasting already from one to five years.

458. **Purpura Haemorrhagica in Pregnancy.**

H. W. HOFFENSTEIN and W. O. KLINGMAN (*Amer. Journ. Obstet. and Gynecol.*, March, 1927, p. 375) report a case of purpura haemorrhagica complicating pregnancy. It was similar to other recorded cases associated with pregnancy in the essential features of diminution of blood platelets, spontaneous bleeding from mucous membranes, purpuric skin lesions, delayed coagulation and increased bleeding time, non-retractility of the clot, and anaemia; but it differed in that it did not retrogress soon after labour. The patient, aged 30, with no history of familial blood dyscrasias or any serious illness except peritonitis following an abortion three years previously, had had a full term living male child eighteen months previously, when there was profuse post-partum haemorrhage but no purpura. About the fourth month of the next pregnancy purpuric spots appeared over the body and extremities; they increased in number and size as the pregnancy advanced, and there was some bleeding from the gums. Labour was rapid and there was no abnormal bleeding, but on the third day a septic temperature developed. In spite of blood transfusions the condition was always retrogressive, and, as oozing from the gums continued, splenectomy was performed immediately after a transfusion. The spleen was not enlarged and cultures showed a short chain streptococcus. The patient's condition after the operation was at first fairly good, with relatively high blood findings, but she died two days later. The necropsy showed generalized subcutaneous haemorrhages, oedema, and congestion of the brain and lungs with multiple haemorrhages in the latter, and petechial haemorrhages in the kidneys, ureters, and gastro-intestinal tract; there was also an acute necrotic endometritis.

459. **Pregnancy and Appendicitis.**

PORTES and SEGUY (*Gynécol. et Obstét.*, February, 1927, p. 114), while rejecting the view that the state of gestation renders women especially susceptible to acute appendicitis, assert that pregnancy plays an important part in causing acute recurrences in cases of chronic appendicitis. About half the cases of acute appendicitis during pregnancy are recurrences of this sort, so that it is prudent to counsel removal of the appendix before marriage in women who have previously had acute appendicular crises. Generalized peritonitis does not appear to be more common in the acute appendicitis of pregnant than that of non-pregnant subjects, but it is especially frequent in the "appendicitis of labour"; this, however, is usually an instance of antecedent appendicitis during pregnancy, aggravated or renewed by the phenomena of labour. On account of the special severity of the course which is likely to be taken by an attack of appendicitis at term, the authors dissent from the frequently expressed opinion that early operation is inadvisable for appendicitis during labour. Even when spontaneous cure has apparently followed an attack of acute appendicitis during pregnancy, the dangers associated with recurrence during labour are so great that the appendix should be removed as soon as the inflammatory conditions have settled down; the chances of the patient aborting as a consequence are little greater than those accompanying expectant treatment. The authors give details of three fatal cases of acute diffuse peritonitis accompanying acute appendicitis during labour or abortion.

Pathology.

460. **Surface Tension and the Action of Disinfectants.**

M. FROBISHER (*Journ. of Bacteriol.*, March, 1927, p. 163) has studied the effect on disinfectants of lowering the surface tension of their solutions. Using *B. typhosus* as the test organism, he found that the disinfectant action of phenol was lowered by the addition of 0.1 c.cm. of 1 per cent. sodium oleate solution, raised by the addition of 0.25 c.cm., and again lowered by the addition of 0.5 c.cm. There was thus an optimum concentration of sodium oleate which increased the disinfectant power. The reason why an increase in concentration of sodium oleate above the optimum lowers the disinfectant power is probably that a film of soap is deposited on the surface of the bacteria, which are therefore protected from the phenol. Similar experiments with similar results were made on hexylresorcinol. In another series of experiments ethyl acetate was substituted for sodium oleate. The addition of a suitable amount of this substance lowered the surface tension of phenol solutions from 70 to 57 dynes per centimetre, and considerably increased their disinfectant action. Working with the alkyl and the acyl resorcinols—substances which are at once disinfectants and reducers of surface tension—it was found that there was an inverse relation between the surface tension of the solution and the disinfectant power. It would appear, therefore, that the addition of suitable amounts of a surface tension reducer to phenol or hexylresorcinol increases the disinfectant power of these substances; and that in a series of substances which are themselves actively disinfectant, the disinfectant power is usually in proportion to their power of lowering surface tension. The way in which surface tension reducers act is probably (1) by increasing the penetration of the solution into minute crevices; (2) by aiding osmosis and diffusion; and (3) by favouring the adsorption of the disinfectant on to the surface of the bacteria.

461. **Pulmonary Embolism.**

E. HOLMAN, L. R. CHANDLER, and C. L. COOLEY (*Surg., Gynecol. and Obstet.*, March, 1927, p. 328) have investigated the process of inflammation following the experimental introduction into the jugular vein of emboli consisting of live tubercle and pyogenic bacilli. It was found that the tuberculous emboli started pathological changes in the pulmonary tissue resulting successively in anaemia, infarction, caseation, central softening, and abscess formation. The first appearance of a well defined abscess was on the twelfth day, whereas pyogenic emboli were found to produce abscesses within four or six days. The pathological changes due to pyogenic emboli included limited consolidation about the embolus, with early recovery; haemorrhagic infarction, with recovery or with central softening and abscess formation; and massive haemorrhagic consolidation and death. A relative lymphocytosis accompanied the tuberculous process, in contrast with a true polymorpholeucocytosis, which characterized the pyogenic processes. The emboli, as such, produced only slight changes in the pulse and the respiratory rates, which did not become elevated until the effect of the accompanying infection appeared after the lapse of twelve or twenty-four hours. Positive blood cultures were obtained as early as twenty-four hours after the introduction of pyogenic emboli, but this bacteriaemia was often only temporary and the animals recovered. The embolus introduced with the animal in the supine position usually followed the main current in the pulmonary artery, lodging in the left lower lobe fourteen times, in the right lower lobe eleven times, in the left upper lobe twice, and in the right upper lobe and the right middle lobe once each. The authors believe that this experimental method may assist in clearing up such questions as the effect of tuberculin in establishing immunity, the pathway of tuberculous infection, and the value of various therapeutic agents.

462. **Dissociation of Immunity from Hypersensitivity in Experimental Tuberculosis.**

M. NASTA (*C. R. Soc. de Biologie*, March 25th, 1927, p. 78) injected a number of guinea-pigs with 1/2000 mg. of bovine tubercle bacilli subcutaneously just in front of the shoulde The disease following this injection was very slow; eve after two and a half months the lesions were confined to th cervical, axillary, and tracheo-bronchial glands. The sam dose given subcutaneously into the thigh led to generalize tuberculosis with death in three months. At varying time after infection the animals were given a second injection either beneath the skin or into the peritoneum, a dose bein used far greater than that given in the first place. Contro animals which had not been previously infected received th same dose. It was found that the disease following the second inoculation was much milder than that in the contro animals. Thus certain animals had subcutaneous injections into the thigh of 10 mg. of living bacilli twenty-seven and forty days after the primary infection. At necropsies a month later it was noticed that the local abscess was either empty or contained caseous material practically free from tubercle bacilli, and that the iliac glands were only slightly affected; no tubercles were found in the spleen or liver, and only a few in the lungs. The control animals, on the other hand, showed a local abscess swarming with tubercle bacilli, and advanced lesions of the glands, spleen, liver, and lungs. Similarly in animals that were injected intraperitoneally with 50 mg. of living tubercle bacilli twenty-seven and forty days after the primary infection the progress of the disease was greatly retarded. In animals which received their second injection only fifty-four days after the primary infection a few caseous nodules developed; the spleen and liver remained intact. The control animals showed generalized tuberculosis. The author thinks that these experiments point to the establishment of immunity before hypersensitivity. In no case did Koch's phenomenon appear after subcutaneous injection, and in no case was there any evidence of toxaemia after intraperitoneal injection of the second dose. It is possible that these results depended on the slow evolution of the disease set up by the primary injection.

EPITOME OF CURRENT MEDICAL LITERATURE.

Medicine.

463. The Improved Prognosis in Pulmonary Tuberculosis.

A. J. COHEN (*Therapeutic Gazette*, March 15 h, 1927, p. 159) comments at length on the improved outlook in pulmonary tuberculosis which has been achieved by the combination of modern methods of treatment. Whereas fifteen years ago sanatoriums were limited to incipient cases the proportion of sanatorium beds allocated now to bed patients is stated as being 75 per cent., the hope of recovery of these cases having so greatly increased. As an illustration of the justifiability of such optimism he records the case of a girl, aged 11, who on admission to sanatorium had a large cavity in one lung, intestinal tuberculosis, enlarged cervical glands, carious teeth, vomiting, and diarrhoea. Her temperature ranged from subnormal in the morning to 103° in the afternoon, and she was very emaciated. After being kept in bed in the open for forty-three days it was decided to induce artificial pneumothorax, and gas was injected forty-six times at intervals of one, two, and three weeks. During treatment an effusion developed necessitating seventeen aspirations of fluid, amounting to a total of 150 ounces, which was positive for tubercle bacilli both by smear examination and by inoculation. She had seventeen intravenous injections of calcium chloride for the abdominal tuberculosis and 1,127 quartz lamp treatments for the abdominal and glandular conditions, with *x*-ray treatment also for the adenitis. Her teeth were put in order and she was kept in bed for eighteen months. Upon discharge, after two years in the sanatorium, she was above normal in weight, her digestion was good, she had no cough, and she looked the picture of health. She has remained in good health for eighteen months.

464. Cerebral Involvement in Measles.

F. REDLICH (*Zeit. f. Kinderheilk.*, February 14th, 1927, p. 178), who reports a personal case, illustrates the variety of nervous complications in measles by the fact that Boenheim, in 1925, out of 5,940 cases found that only 0.4 per cent. had such complications, of which six were examples of encephalitis. Redlich's patient was a child, aged 4, who shortly before the measles rash had faded developed signs of encephalitis. During the first few days the most striking phenomenon was drowsiness, accompanied by meningeal symptoms of moderate degree, myoclonus of the extremities, a mask-like expression, and amaurosis. At the beginning of the second week of disease the somnolence disappeared and choreic movements of the extremities and general restlessness developed, while the amaurosis persisted. On the fifteenth day of the encephalitis the clinical picture suddenly changed concurrently with the onset of left otitis media. The child became quieter, the choreic movements subsided, the vision returned, and within three weeks complete recovery resulted. Basal meningitis was excluded by the afebrile condition, the absence of well marked meningeal symptoms, such as Brudzinski's and Kernig's signs, as well as vomiting, and especially the normal cerebro-spinal fluid. The probability of the condition being due to a secondary toxic encephalitis was suggested by the onset occurring during the presence of the eruption, the mild course, and complete recovery.

465. Splenomegaly in Primary Syphilis.

R. LACROIX (*Thèse de Paris*, 1926, No. 254), who records nineteen illustrative cases in men aged from 18 to 57, maintains that enlargement of the spleen is a latent but constant symptom in the primary stage of syphilis. Owing to its being evidence of syphilitic septicaemia it is an important sign which helps to confirm the diagnosis, especially in recent cases in which the serum test is still negative. In association with the presence of other symptoms, such as the general appearance and induration of the chancre and concomitant adenopathy, it is of value in the differential diagnosis from other conditions, such as herpes. In mixed chancre in which a positive serum test is not obtained until late, and bacteriological examination is almost always negative, splenomegaly is a very important sign, and in association with other symptoms indicates the presence of syphilis and gives the patient the benefit of early treatment. Lacroix has found that by a systematic daily examination of the spleen, accompanied by daily clinical study of the chancre, he was able to declare that a primarily soft chancre had been transformed into a hard sore long before the serum test was positive, whereas the absence of splenomegaly in cases of septicaemia was shown to be an excellent proof of the absence of syphilis.

466. Acute Yellow Atrophy of the Liver.

M. PACKARD and H. ADLER (*Journ. Amer. Med. Assoc.*, March 19th, 1927, p. 892) report four fatal cases of acute hepatic toxic cirrhosis, with necropsies, the patients being aged respectively 27, 38, 16, and 4. They report that this acute degenerative process of the liver parenchyma may run an acute, subacute, or chronic course. In chronic cases an acute condition may supervene very exceptionally. Leucine and tyrosine were not found in the urine of any of the four patients. In one case there was some suspicion of arsenical poisoning, and another patient (aged 16) illustrated the fact that, in a case of supposed acute catarrhal jaundice, excited or irrational actions should lead to the suspicion that acute yellow atrophy is present. The authors add that in a doubtful case it is unwise to accept a diagnosis of acute catarrhal jaundice as being final until the patient has recovered.

467. Acute Dysentery and Uraemia of B. coli Origin.

P. MELNOTTE and A. FARJOT (*Bull. et Mém. Soc. Méd. des Hôp. de Paris*, March 24th, 1927, p. 361) observed in Morocco, during the summer of 1925, cases of acute dysentery accompanied by progressive uraemia which ran a rapidly fatal course. Microscopical examination of the stools, which were very frequent, haemorrhagic, and fetid, showed leucocytes and actively motile Gram-negative rods with the cultural characters of *B. coli*; amoebae were not detected. There was oliguria with slight albuminuria and a raised blood urea content of from 2 to 4.4 grams. Urine drawn aseptically from the bladder had the microscopical appearance of an eighteen-hour culture of *B. typhosus*, and the organisms on culture gave the characters of *B. coli*. All cultures from the blood were negative. With one exception all the cases terminated fatally in the course of a few days; treatment by emetine, stovarsol, and antidysenteric serum was without result. The necropsy showed numerous superficial, often confluent, ulcerations of the large intestine, especially about the rectum and the flexures of the colon; the small bowel was congested in places, but was not ulcerated. The kidneys were generally increased in size; the capsules stripped readily, but the cortical substance had a putty-like aspect on section. The patient's serum was negative for Shiga and Flexner cultures, and also for the *B. coli* isolated from the stools and urine.

Surgery.

468. Torsion of the Omentum.

A. POLLIDORI (*Arch. Ital. di Chir.*, March, 1927, p. 453) has collected 114 cases, including one under his own observation, of this condition, which was first described by Oberst in 1882. Lejars has described three varieties of torsion of the omentum, (1) torsion combined with an irreducible hernia; (2) torsion with an empty hernial sac; (3) torsion unaccompanied by a hernia, of which Pollidori's case was an example. Hernia is given as the most frequent cause of torsion of the omentum and is usually of the right inguinal variety. In only six cases reported by Vignard was the inguinal hernia on the left side; in another case the hernia was umbilical. Souligaux and Deschamps have recorded a case in which there was a parietal hernia following laparotomy. The great majority of cases of torsion of the omentum belong to Lejars's first two groups; there are only sixteen examples of the third group on record, including the one observed by Pollidori. The predisposing causes of torsion of the omentum may be classified as follows: (1) pathological thickening of the omentum due to chronic inflammation or the development of tumours; (2) adhesions between the omentum and the abdominal wall, or organs or tumours in the abdominal cavity, or the neck or fundus of a hernial sac. Torsion of the omentum must be distinguished from strangulated inguinal hernia, epiplocele, and appendicitis. If untreated the prognosis is usually unfavourable, except where only small portions of the omentum are involved, when adhesions or necrotic degeneration develop without giving rise to further symptoms. Of sixty-six cases collected by Lejars seven were fatal, but of these three died after the operation from accidental complications. Operation is

indicated in every case, and consists of removal of the twisted portion of the omentum. Polidori's case occurred in a woman, aged 38, in whom the diagnosis of acute intestinal obstruction of mechanical course was made before operation. Rapid recovery followed excision of the twisted part of the omentum.

469. Embolic Carcinoma of the Lung.

M. LOEPER and R. TURPIN (*Arch. Méd. Chir. de l'Appareil Respiratoire*, Vol. I, No. 5, 1926, p. 395) describe the pathological findings in a case of embolic pulmonary carcinoma. The disease started six years previously with the symptoms of gastric ulcer, followed by extensive phlebitis in the upper and lower extremities, and finally by malignant emboli of the lung. The primary gastric growth was a cubical-cell glandular epithelioma; the hepatic metastases resembled the characters of the original tumour. On the auricular side of the tricuspid valve was a nodule resembling a neoplastic graft the cancer cells of which were distributed in a support of young connective tissue and fibrino-leucocytic exudation on the way to becoming organized. Many arterioles were partially or completely obliterated by emboli of cancer cells and were adherent to the vascular periphery without inflammatory lesion. At the junctions of the interalveolar septa the capillaries were distended with red blood corpuscles and masses of neoplastic cells. The pulmonary alveoli showed cancerous and oedematous conditions distributed in relatively distinct areas; in some alveoli cancer cells with a few polymorphous leucocytes and red cells were free in the cavity of the alveolus, but more often the alveoli were completely filled with a homogeneous mass of malignant cells, though not adherent to the wall of the alveolus, the interalveolar septa usually remaining intact though yielding in places to the pressure of the growth. The alveolar wall did not react to contact with the cancer; no fibrino-leucocytic reaction was associated with the neoplastic infiltration. The lesions of the medium-sized bronchi consisted of invasion of the peripheral lymph vessels by malignant growth, and endobronchial agglomerations of neoplastic cells, pus cells, and red cells with mucus. The cavities of the small bronchioles were obliterated by masses of cancer cells. Discussing the nature of the obliterating phlebitis, the infective origin of which was excluded by negative blood culture and the absence of febrile symptoms, the authors consider that the presence of the nodule on the tricuspid valve and the endarteritis and venous lesions of the pulmonary parenchyma indicate that cancer cells are capable of growing on the inner lining of blood vessels and that the phlebitis may possibly be due to the same process.

470. Pulmonary Abscess.

M. SCHWARTZ (*Med. Journ. and Record*, November 17th, 1926) reviews eighteen cases of pulmonary abscess following tonsillectomy. In one case reported in detail a boy, aged 16 years, two weeks after tonsillectomy under local anaesthesia, complained of fever and weakness and of sudden pain in the right hypochondrium and lower right chest. The pain did not radiate, but was increased by motion, deep breathing, or coughing. He had some nausea, but did not vomit. Headache was absent, but malaise was marked. There were no symptoms referable to the gastro-intestinal, genito-urinary, cardio-vascular, or nervous systems. A family history of pulmonary tuberculosis, together with the physical signs in the chest, justified a tentative diagnosis of inflammation of the right pleura, probably tuberculous in origin. Some days later, changes in the physical signs and the appearance of temperature of the septic type, together with the results of investigation of the blood and sputum and an *x*-ray examination of the chest, justified a change in diagnosis to pulmonary abscess and interlobar empyema. Two weeks after admission *x*-ray examination showed a marked change in the condition of the right base; pleurisy was still present, and in addition there was an area of consolidation about two inches in diameter extending from the eighth interspace downwards. The upper border was sharply demarcated from the surrounding lung, and there was no evidence of breaking down in this area. A few days later liquefaction appeared to be occurring, and the patient expectorated large quantities of greenish-grey sputum. He continued to cough and expectorate profusely for the following two or three days, and after that the temperature became normal and remained so. A physical examination a few days later revealed evidence of a thickened pleura, and the breath sounds were distinct. Discussing the mode of onset of pulmonary abscess following tonsillectomy Schwartz states that it appears to be generally agreed that the condition is due to aspiration of infected material, and that the right lung is more often involved than the left owing to the bronchus on that side being larger and straighter. The condition may terminate by rupture into the bronchus thus being drained, by bursting into the pleura and causing empyema, or it may become chronic. Medical treatment should include bronchoscopic aspiration, together with the use of vaccines, rest, a high calorie diet, supportive medication, and a suitable posture. If these fail, then surgical intervention becomes necessary.

471. Treatment of Enlarged Prostate.

A. HINTZE (*Deut. Zeit. f. Chir.*, March, 1927, p. 450) records nineteen cases of enlarged prostate which were treated with injections of animal blood and *x* rays. The patients were all over 60, the average age being 71, and had suffered for several years from difficulty with micturition, which had gradually increased and led to complete retention of urine. The great majority of the patients were in the third stage of complete chronic retention, which required repeated use of the catheter. As the result of treatment all the patients recovered the power of spontaneous micturition, except three who had been in the habit of catheterizing themselves; the frequency of the act diminished by half, the jet of urine became more powerful, the pain completely disappeared, the residual urine fell to 30 to 50 c.cm., and the prostate became more or less considerably reduced in size. In most of the patients no recurrences took place. The injections, in doses of 2 to 5 c.cm., of ox, pig, or sheep's blood were made into each half of the prostate without anaesthesia. As a general rule the desired results were obtained after one to three injections or irradiations in the course of one to three months. In only a few cases were four or five injections and irradiations required.

Therapeutics.

472. Pituitrin in the Treatment of Post-operative Industrial Paralysis.

A. KRINSKY and E. C. STEIN (*Zentralbl. f. Chir.*, March 5th, 1927, p. 591), to illustrate the value of pituitrin in overcoming tympanites due to intestinal paralysis, report the case of a man, aged 64, who had suffered from abdominal pain for twenty years. After a sudden attack of severe pain in the right iliac fossa, with signs of obstruction, it was decided to operate, and as a preliminary a subcutaneous injection of physiological salt solution with 0.001 gram of strychnine was given. The abdomen was opened by a pararectal incision, under local anaesthesia. A violent cough caused the protrusion of a loop of deeply congested small intestine, and light ether anaesthesia was needed for its reposition. An abscess was found in the hollow of the sacrum; 20 c.cm. of a 20 per cent. oily solution of camphor was poured into the peritoneal cavity, two rubber drainage tubes were placed in the abscess cavity, and the wound was closed. Next day the condition was worse, there being increased tympanites with faecal vomiting. Atropine injections, glycerin enemata, gastric lavage, and hot applications all failed. There was no peristalsis. It was then decided to try intravenous injections of pituitrin in sodium chloride solution. After 100 c.cm. had been injected the breathing became easier, and the face was flushed. The injection was discontinued for five minutes, then a further 350 c.cm. was given. Colicky pains occurred, followed immediately by the sudden expulsion of much flatus and liquid faeces. That night the patient was free from pain and restlessness, without a narcotic, but next day the tympanites recurred, accompanied by vomiting and absence of peristalsis. Consequently the injections of 500 c.cm. of saline solution with 4 c.cm. pituitrin were repeated twice daily. Two days later a spontaneous evacuation occurred, and after this the patient did well.

473. Toxic Reaction from Luminal.

A. S. JACKSON (*Journ. Amer. Med. Assoc.*, February 26th, 1927, p. 642) reports six cases illustrating the toxic sequels of treatment by luminal; none terminated fatally, only temporary severe discomfort occurring. The characteristic signs and symptoms were the appearance of a generalized erythematous maculo-papular skin eruption accompanied by intense itching, fever, weakness, vertigo, and malaise. Prompt withdrawal of the drug, combined with the use of local sedatives, sufficed to clear up the condition. Jackson agrees that luminal is a valuable drug in the treatment of various nervous and mental disorders, including insomnia, associated with organic diseases such as toxic goitre, but thinks that its danger is not sufficiently appreciated.

474. Ergotamine as a Sympathetic Depressant.

C. DREYFUS (*Paris Méd.*, March 26th, 1927, p. 301) describes the inhibitory action of ergotamine on the sympathetic system. Hitherto, while a vagal inhibitor (atropine), an excitant (pilocarpine), and a sympathetic excitant (adrenaline) have all been known and used, the sympathetic depressant has been lacking. Rothlin showed experimentally that all

the effects of adrenaline, including vaso-constriction, acceleration of the heart, and [illegible] ected by the administration o[illegible] It has been used with grea[illegible] exophthalmic goitre, the tachycardia tremor and sleeplessness being much lessened in a few days. Other conditions in which ergotamine has been tried with success include glaucoma (where a hypodermic injection of ½ mg. reduced the intra-ocular pressure appreciably within an hour) paroxysmal tachycardia, migraine, disturbances of the menopause, and urticarias; but it is particularly in the non-operative and pre- and post-operative treatment of exophthalmic goitre that its value has been most clearly demonstrated. Three to five capsules of ergotamine, each containing 0.001 gram of the active principle, are given daily for about a week, followed by a rest of four or five days; after this the treatment is continued for another week, succeeded by another rest, and so on.

475. Interaction of Adrenaline and Colloidal Silver Preparations.

J. D. PILCHER (*Journ. Amer. Med. Assoc.*, March 5th, 1927, p. 720) has investigated the action of various silver preparations on adrenaline and finds that inactivation occurs within a few hours. The destructive action of protargol was much delayed by the presence of chloride, possibly owing to the precipitation of the silver. Pilcher recommends, therefore, that when the local effect of adrenaline on the nasal mucous membrane is required, it should not be used in combination with silver compounds; or, if the joint action is required, the mixture should be freshly made. Colloidal silver iodide and silver nitrate solutions were found to inactivate adrenaline less rapidly, and have, therefore, some advantage therapeutically.

Radiology.

476. Cholecystography.

E. A. GRAHAM (*Surg., Gynecol. and Obstet.*, February, 1927, p. 153) discusses the present position of cholecystography in the diagnosis of gall-bladder lesions, and the mechanism of emptying the gall bladder. The procedure provides a means of investigating the ability of the gall bladder to concentrate its contents as shown by an increasing density of the shadow and its ability to store bile as indicated by changes in size of the shadow. Not only is it useful in diagnosing cholecystitis, but more cases of stone can be recognized than is possible by ordinary *x*-ray examination, and by its means pericholecystitis, adhesions, anomalies, and abnormalities are revealed, and shadows can be definitely identified as being related to the gall bladder or not. Of a total of 1,246 patients so examined the gall bladder was removed in 147, the original *x*-ray diagnosis being confirmed in 143, showing a percentage of correctness of 97.28. Graham prefers the intravenous method to the oral as giving greater accuracy, and he considers phenoltetraiodophthalein as most satisfactory from the point of view of toxicity; he uses ampoules containing individual doses of the crystals as a safeguard against oxidation. After discussing the various theories put forward as to the mechanism by which the gall bladder empties he concludes that it does so through the cystic duct by the washing out of its contents by bile from the liver, by the elasticity or contractile mechanism of its walls, and by variations of intra-abdominal pressure. He adds that although the intrinsic muscular contractions are an important factor they act in conjunction with the others and are not in themselves the only mechanism of emptying.

477. Radiography of the Temporal Bone.

ACCORDING to P.-L. MAGNIEN (*Arch. Internat. de Laryngol.*, December, 1926, p. 1158) the temporal bone comprises three parts from a radiological point of view—the petrous, the mastoid, and the squamous portions. Examination of the squamous portion often reveals aberrant cells, especially those running up into the root of the zygomatic process and surmounting the middle-ear cleft. The author's studies of radiographs of the mastoid process in health and when inflamed have led him to the conclusion that the normal mastoid process is pneumatic or at least diploic in type and that the sclerosed or condensed type of mastoid is always the result of inflammation. In slight cases of acute mastoiditis the outlines of the cells are rather less distinct than usual. As the disease progresses there is a diminution in the density of the shadow thrown by the bone, and in empyema of the process the details of its structure disappear. The examination of the petrous bone is very important, since the detection of fractures may have considerable medico-legal value. The vertical and oblique fractures are the easiest to display; the horizontal ones need the special vertex-chin exposure of Hirtz. The apex of the petrous bone has been shown to be diseased in a number of cases of Gradenigo's syndrome. There may be a sclerosing osteitis or a rarefaction of the tip, with presumably surrounding inflammation of the soft tissues. Normally the lateral sinus does not give any impression, but in the cases of chronic osteitis it sometimes comes into view. Cushing and some French workers have shown radiographically the dilatation of the internal auditory meatus in cases of cerebello-pontile tumour. The localization of foreign bodies is facilitated by the introduction into the external ear, and in some cases the middle ear also, of an opaque substance such as bismuth, preferably on gauze. By similar methods the extent of a previous mastoid operation can be gauged.

478. X-ray Therapy in Malignant Disease of the Skin.

J. M. MARTIN (*Radiology*, March, 1927, p. 204) advocates the use of *x* rays in treating new growths of the skin, since they afford a reliable means of removing precancerous conditions without leaving an unsightly scar. Relief of pain is often obtained thus, while the prevention or control of metastases may be possible if treatment is started early. The chance of recurrence at the site of the former lesion is said to be no greater than after any other method. Notes and photographs of ten cases are given showing the satisfactory results obtained. For the local treatment of lesions he uses a 5-inch spark-gap and a current of 5 milliamperes, with five to ten minutes' exposure at a 10-inch target skin distance and a filter of 1/2 mm. of aluminium, while for the treatment and prevention of glandular metastases a 9-inch spark-gap, a current of 5 milliamperes for thirty minutes at a 12-inch target skin distance, with a filter of 1/2 mm. of copper, 1 mm. of aluminium, and four layers of leather are employed. Martin claims that most early lesions respond promptly, but that in many advanced lesions better results follow excision, actual cautery, or electrical coagulation, while the use of *x* rays combined with other methods is sometimes indicated.

479. Treatment of Vesical Neoplasms by Radium.

J. MCIR (*Journ. of Urology*, January, 1927, p. 53) describes a method of treating neoplasms of the bladder by means of removable platinum radon seeds, radiation being directed to the growth and to the tissues surrounding it in order to deal with the mitotic cells. Overlapping of the zones of radiation is avoided, and the radon seeds are easily removed through the cystoscope after the required radiation has been delivered, a thread being attached to each seed and serving also as a landmark by means of which other seeds can be spaced exactly.

Obstetrics and Gynaecology.

480. Treatment of Cancer of the Cervix in Pregnancy.

REEB (*La Gynécol.*, January, 1927, p. 1) states that increasing experience of radium therapy entails reconsideration of the principles of treatment of cancer of the cervix in association with pregnancy. In view of the satisfactory early results of treatment by radium and of the good remote results which follow Wertheim's hysterectomy combined with the Mikulicz drain, the following scheme of treatment is proposed. If the cancer is operable and the infant not viable, a surface application of radium to the cervix should be followed in a few weeks by wide hysterectomy, the fate of the foetus being ignored. With operable carcinoma and a foetus viable or approaching viability, the application of radium may be succeeded in four weeks by Caesarean section and wide hysterectomy. In cases of very advanced or inoperable carcinoma (whatever the stage of the pregnancy) removal of vegetations by the sharp spoon should be followed by superficial radium application. [illegible] ossible, until term, Caesarean section is [illegible] by subtotal hysterectomy, a further app[illegible] the cervical remnant by the combined abdominal and vaginal route, and later, if the neoplasm has regressed, by removal of the cervix. If the combination of carcinoma and gestation is not encountered until labour, it is suggested that if the general condition is good and the carcinoma appears operable, Caesarean section should be followed by Wertheim's operation. If the patient's condition is poor, or if she is very fat, or if the carcinoma is inoperable or of doubtful operability, Caesarean section should precede supravaginal hysterectomy or a classical Porro operation. An abdomino-vaginal radium application is made as soon as possible; if the tumour is smaller and the cervix is mobile, the latter may be removed vaginally a month later by means of Schuchardt's incision. Reeb adds that towards term Wertheim's operation is more simple than in the non-pregnant, since the isolation of the large vessels and the ureters is comparatively easy. On the other hand, the separation of the bladder is more difficult on account of the increased softness and vascularity of the

neighbouring tissues. The generalized softening of the pelvic tissues also hinders tactile appreciation of the limits of penetration by the growth.

481. A. P. RAMOS (*Gynécol. et Obstét.*, February, 1927, p. 125) believes that pregnancy renders cervical carcinoma much more susceptible to the influence of the gamma rays of radium. He relates the case of a 4-para, aged 29, who in the seventh month of pregnancy was found to have early operable squamous-cell carcinoma of the cervix. Two intracervical applications of 0.1 cg. of radium bromide for twenty-four hours were made. Death of the foetus was followed six weeks later by the onset of labour. Wertheim's operation was performed and *x*-ray treatment was given; the patient was well twelve months later. In a second case a 5-para suffering from operable carcinoma of the cervix was admitted to hospital with fetid lochia three days after rupture of the membranes. A living child having been removed by Caesarean section, Wertheim's operation was performed, followed by *x*-ray applications. Mikulicz's drain was used in this case. The author agrees with J. L. Faure and others that pregnancy, far from complicating Wertheim's operation, renders it more easy by reason of the increased softness and elasticity of the tissues.

482. Etiology of Rupture of the Uterus.

E. MORVAY (*Med. Klinik*, February 11th, 1927, p. 206) reviews a number of cases of rupture of the uterus, and concludes that rupture, whether spontaneous or following mild trauma during pregnancy or labour, is almost always due to several factors, of which local damage to the uterine wall from previous pregnancies or a Caesarean cicatrix is particularly important, especially if the uterine incision was high up in the fundus or sepsis delayed healing. He describes one case and mentions others in which the rupture started at a point in the uterine wall which had been damaged by recent curetting. In the majority of cases of spontaneous rupture the rent is in the fundus under an abnormally high placenta. Some cases occurring during labour follow internal manipulation or the use of instruments with slight general contraction of the pelvis, while malposition of the foetus and adhesions or stretching of the supports of the uterus also play some part in the etiology. Occasionally the rupture is due to mechanical stretching of the uterine wall over an ovum implanted in the interstitial end of a Fallopian tube. Many cases, however, remain unexplained because the histology of the condition has hitherto been neglected. Morvay describes in detail a case in which concealed accidental haemorrhage at the sixth month in a 4-para was followed by rupture after slight trauma. At the laparotomy, two days after the onset of symptoms, the macerated foetus was found lying in the abdominal cavity, and the placenta, which showed evidence of old and recent haemorrhage, was very firmly adherent to the uterine wall; the tear in the uterus involved the placental site and was 15 cm. long. On microscopic section it was found that the foetal trophoblast had penetrated the myometrium. In this case the rupture was apparently due to destruction of defective muscle in the uterine wall by abnormal proliferation of the placental cells.

483. Artificial Pneumothorax in Pregnancy.

A. DECAULNE (*Thèse de Paris*, 1926, No. 242), who records twelve illustrative cases, comes to the following conclusions. The occurrence of pregnancy in women treated by artificial pneumothorax does not aggravate the tuberculosis either before or after confinement. The performance of artificial pneumothorax during pregnancy produces an arrest of the tuberculous process and enables the pregnancy to pursue a normal course. Labour in such cases was always normal and did not appear to be more difficult than in women without any morbid antecedents. The child was always healthy, robust, and well formed.

Pathology.

484. Carbohydrate Metabolism in Malaria.

G. DE M. RUDOLF and R. G. B. MARSH (*Journ. Trop. Med. and Hyg.*, March 1st, 1927, p. 57) made the following observations upon carbohydrate metabolism in malaria, with special reference to the effect of insulin and glucose upon benign tertian malaria. The patients were cases of general paralysis and dementia praecox who had been inoculated therapeutically with the benign tertian parasite. It was found by the examination of single specimens of urine from each case that glycosuria was present in 0.9 per cent. of untreated general paralytics, but in 15.4 per cent. of those who had been inoculated. When the urine was examined repeatedly glycosuria was found in 90 per cent. of the treated paralytics. Blood sugar curves made in two cases after ingestion glucose tended to approach the normal more after inoculati with malaria than before. During malarial treatment t blood sugar varied inversely with the temperature. T subsequent rise in the blood sugar did not necessarily occ steadily, and the final curve after the temperature had fall might be higher than before the pyrexia. The administr tion of glucose during malarial pyrexia produced no obvio change in the objective signs, but apparently relieved t symptoms. No effect upon the parasites was observe Administration of insulin during malarial treatment had definite effect on the number of parasites, but in 60 per cen the fever terminated after insulin had been given. Relaps occurred, but differed from those following small doses quinine in showing a lower degree of pyrexia. The lowerin of the blood sugar did not appear to be the cause of th cessation of the fever. The authors regard it as inadvisabl to give insulin if there is a possibility of a rise of temperatur occurring shortly after.

485. Bacteriological Diagnosis of Pulmonary Tuberculosis in Infants.

P. F. ARMAND-DELILLE and J. VIBERT (*Presse Méd.*, March 30th, 1927, p. 402), in suspected pulmonary tuberculosis of infants where examination of the sputum was not possible, have had good results from washing out the stomach. An ordinary gastric tube was passed as long after a meal as possible, or immediately after the attack of coughing which occurred after sleep; by means of a large funnel 80 to 100 c.cm. of warm water was introduced into the stomach and quickly siphoned off. In this gastric washing bronchial secretion could often be recognized and examined for tubercle bacilli. In many cases where the bronchial secretion was only slight in amount it was found better to centrifuge the entire washing in three or four tubes for three-quarters of an hour. The deposits of the tubes were mixed in a porcelain dish; 30 c.cm. of water and 10 drops of soda lye were added, and the whole was heated over a gas burner for ten minutes, a further 50 c.cm. of water being added little by little and then allowed to cool. Three or four films were prepared from each washing and stained for tubercle bacilli. Out of 174 stomach washings 62 were not centrifuged, but were examined directly and gave only 6 positive results, and these were all from cases with definite physical and radiological signs, running a rapid and fatal course. From the examination of 110 centrifuged washings there were 34 positive results (30.9 per cent.). Of these, 13 confirmed the physical and radiological findings, 18 supported the radiological signs where physical signs were absent, and in 3 cases both physical and radiological signs were absent. Of the 56 negative results among the uncentrifuged series 38 had radiographical signs resembling tuberculous lesions, and 18 were tuberculous suspects owing to the nature of the environment. Among the 76 negatives of the centrifuged series only 15 showed radiological signs; the remaining 61 were examined on account of a history of possible contagion.

486. Preparation of Small-pox Virus in vitro.

A. CARREL and T. M. RIVERS (*C. R. Soc. de Biologie*, April 1st, 1927, p. 848) describe a method for the preparation of small-pox vaccine by cultivating the virus in a suitable tissue medium. The testicles of rabbits in which the virus had been growing were ground up in a mortar and suspended in saline so that each cubic centimetre contained 10,000 vaccinal units. (The unit is the smallest quantity capable of producing a characteristic pustule on intradermal injection into the rabbit.) A small quantity of this suspension was then inoculated into suitable tissues. The tissues used were the pulped skin, cornea, or brain of chicken embryos aged 6 to 14 days; the most favourable appeared to be embryonic pulp. The actual inoculation was made by mixing the testicular suspension with the tissue pulp, and leaving the mixture either in the incubator at 37° C. or in the ice chest for about twenty-four hours; flat circular flasks 5 or 8 cm. in diameter were used. The mixture of virus and tissue was placed in a coagulum of hen plasma contained in these flasks; the actual amount of medium used ranged from 2 to 16 c.cm. The cultures were washed every two or three days with Tyrode's solution, and were nourished with a dilute fowl embryo extract. After one to four weeks the coagulum and the tissues which they contained were withdrawn from the flasks and ground up in a mortar. Various dilutions were injected into rabbits intradermally. It was found that the cultures, which were inoculated with 25 to 250 units per cubic centimetre, contained after incubation, for a week between 10,000 and 100,000 units per cubic centimetre; the virus had evidently multiplied actively in the tissues of the cultures. The authors calculate that a single fowl embryo reduced to fine pulp should provide as much vaccine as a calf. They add that the technique is very simple, and could easily be used for the commercial manufacture of vaccine.

EPITOME OF CURRENT MEDICAL LITERATURE.

Medicine.

512. Diet Calculation in Diabetes Mellitus.

R. C. WINN (*Med. Journ. of Australia*, March 5th, 1927, p. 321) suggests a way of simplifying the dietetic treatment of diabetes mellitus without sacrificing any essential principles. By multiplying the patient's weight in pounds by twelve the number of necessary calories required in the diet is ascertained, and by using varying combinations of three "diet groups" (of 500, 600, and 900 calories) different diets containing any desired number of hundreds of calories can be prescribed. It is claimed as an advantage over the Lawrence line-ration scheme that the combination of "diet groups" is easy of calculation, and that the completed diet will never contain a smaller quantity than half an ounce of any foodstuff. On the diet prescribed very light work is allowed for a week, when the same diet is continued if sugar is still present though reduced in quantity, while if there is no reduction a diet of 200 calories less is prescribed, to be increased again if sugar-free at the end of the second week. If, however, the patient is not sugar-free by the end of the second week insulin should be given. If the urine remains free from sugar another increase of 200 calories may be made, and repeated each week until the patient is getting sufficient to be able to do light work. Winn contends that the islands of Langerhans can be best rested by such moderate reduction in diet without insulin in the majority of cases; insulin is added if sufficient food to give the strength for light work cannot be supplied otherwise.

513. Value of Exercise in Heart Disease.

E. FREUND (*Wien. klin. Woch.*, March 17th, 1927, p. 359) considers that exercise or mechano-therapy adapted to each case is useful in nearly all forms of heart disease to prevent atrophy of the cardiac muscle. In fully compensated cardiac lesions only the more strenuous forms of exercise, such as football and swimming, should be forbidden, while walking, skating, dancing, and gymnastic exercises are permitted and mechano-therapy is not required. Carefully graded mechano-therapy or passive exercise is very valuable for accelerating the patient's return to more active exercise during convalescence from decompensation, and in conditions of mild cardiac insufficiency such as are frequently associated with early mitral disease and obesity, or follow infectious diseases. The treatment can, if necessary, be applied with the patient in the recumbent position first. Freund advocates the following forms of mechano-therapy, either separately or combined, as benefiting the heart indirectly: centripetal massage of the limbs and passive movements to promote the drainage of lymph and blood from the extremities; breathing exercises to facilitate the return of venous blood to the heart by suction action within the thorax and compression of the liver by the diaphragm; while vibratory massage and tapotement of the precordium and interscapular region have a direct action on the heart. Exercises against resistance are also of value so long as dyspnoea is carefully avoided. Mechano-therapy is contraindicated in advanced failure of compensation, after recent cerebral haemorrhage, when there is danger of embolism, in endocarditis and severe cachexia. In arterio-sclerosis the amount of exercise or mechano-therapy required depends on the severity of the cases.

514. Typhoid Pleurisy.

T. LUCHERINI (*Rif. Med.*, February 28th, 1927, p. 211), who records two illustrative cases, states that pleurisy in typhoid fever is rare. It may occur at the onset of the disease and for a time disguise the character of the typhoid infection, when it is known as pleuro-typhoid; or, as more frequently happens, develop in the second week of the disease or even in convalescence. As regards the frequency of the complication Eichhorst, in 1,824 cases of typhoid, found pleurisy in 32 instances (2.5 per cent.); Sears saw it in 18 out of 1,056 cases (1.7 per cent.); Liebermeister met with it in 4 per cent., and Louis in 1.57 per cent. The character of the effusion may be serous, sero-fibrinous, haemorrhagic, or purulent. The pleurisy may be due to the sole action of the typhoid bacillus or to association with the ordinary [illegible] sometimes cultures of the fluid are s[illegible] cavity may be saccular, the fluid being purulent in one compartment and sero-fibrinous in another. In very rare cases the pleurisy may be bilateral or form part of a polyserositis. Cytological examination may show predominance of large mononuclear cells or more or less damaged neutrophil polymorphonuclears with a few mononuclears or lymphocytes or large endothelial cells, or red corpuscles. Lucherini's first case was in a boy, aged 14, who in the third week of typhoid fever developed pleurisy first on the right side and then on the left. The effusion was at first sero-fibrinous; later it became haemorrhagic, and finally purulent; death followed. Bacteriological examination showed the typhoid bacillus in association with *Staphylococcus pyogenes aureus*. The second case was that of a girl, aged 15, who developed a purulent effusion in the left pleura as the temperature was beginning to fall; she recovered. A pure culture of the typhoid bacillus was found in the pleural fluid.

515. Leprosy in Holland.

J. J. C. SCHREUDER (*Nederl. Tijdschr. v. Geneesk.*, March 12th, 1927, p. 1321), who records an illustrative case, remarks that autochthonous infection with leprosy is extremely rare in Holland, and that he has been able to find only three cases in Dutch literature. In each instance the patients had been infected by their brothers, who had contracted leprosy in the East Indies. In Schreuder's case also the patient had never been in contact with a case of leprosy until his brother, who was suffering from the disease, returned from the Dutch Indies. The patient took no precautions against infection, but rubbed ointment into his brother's sores with his unprotected hands and even wore his clothes and underlinen. Schreuder records the case to show that a leprosy patient may be a source of danger to his environment if the principles of hygiene are neglected.

516. The Dick Test.

J. A. TOOMEY, S. BRAUN, and I. HALPERIN (*Amer. Journ. Dis. Child.*, February, 1927, p. 197), as the result of their experience of the Dick test on more than 3,500 cases, came to the following conclusions: (1) The test is extremely specific, 1 c.cm. of the scarlatinal toxin being sufficient to make from 17 to 20,000 tests each of 0.1 c.cm. (2) The Dick test is the best method of ascertaining individual immunity or susceptibility to scarlet fever. (3) Control reactions do not ordinarily occur if the control toxin is boiled for twenty minutes. (4) The reactions that occur about the control mixtures in a small number of cases disappear in less than twenty-four hours. (5) As a rule persons with negative Dick tests have had negative reactions for as long as eighteen months.

Surgery.

517. Diverticulitis of Colon.

M. BALLIN (*Amer. Journ. Surg.*, February, 1927, p. 130) reports ten cases of diverticulitis of the colon, illustrating the great variety of symptoms to which the condition may give rise, and which, if better understood, would lead to the diagnosis of sigmoid diverticulitis much more frequently than is now the case. The condition is a sacculation, usually occurring between the mesentery and the epiploic appendages, caused by the mucosa being extruded through a weak spot in the muscularis. The sacculi are small, thin-walled, and often filled with calcareous faecal masses; the entrance is *minute*, so that inflammation and perforation easily occur. Such inflamed areas quickly become covered by the epiploic fat tabs of the colon, and the sigmoid easily becomes adherent to the neighbouring organs, giving rise to complications with bladder and ureteral symptoms or retroperitoneal abscess and intestinal adhesions. Clinical diagnosis rests mainly upon a history of colic in the left lower quadrant of the abdomen, the term "left-sided appendicitis" being descriptive of an attack. X-ray diagnosis is uncertain, since the diverticula may be filled with faecal matter so that no barium can enter; they are generally too small to be shown separately from the sigmoid, unless fresh plates are taken three or four days later when the sigmoid is empty of barium, and the small sacs can then be demonstrated. A severe case may present all the symptoms of an "acute abdomen," and inflammatory attacks may occur and quiet down again, the diverticulum emptying or becoming walled off. Even with abscess formation other attacks may occur if multiple diverticula are present. They may exist without giving rise to any symptoms, but constipation, a feeling of fullness, mucus in the stools, and aching in the left side, relieved by defaecation, may be due to chronic diverticulitis which may become

a factor in the formation of cancer. In chronic cases treatment aims at reducing the amount of faecal matter by a waste-free diet of meats, fish, eggs, and fats; vegetables are forbidden, and colonic irrigations are given to reduce the danger of hard masses stagnating in the diverticula. Perforations and abscesses require drainage, resection, anastomosis, or colostomy, as indicated by each individual case.

518. Thoracoplasty in Active Pulmonary Tuberculosis.

SEBRECHTS and DE WINTER (*Rev. Belge de la Tuberculose*, December, 1926, p. 246) and L. LOUTE (ibid., p. 272) advocate the more extensive employment of thoracoplasty in cases of pulmonary tuberculosis unsuitable for treatment by artificial pneumothorax. Although pneumothorax, when performed in the earlier stages, often prevents cavitation and pleurisy, and affords the necessary rest to the collapsed lung, it is useless in cases of pleuritic symphysis or of extensive pleural adhesions. Sebrechts and De Winter consider that in febrile cases, with extensive unilateral lesions and adherent pleurae, thoracoplasty should be employed as a substitute for pneumothorax. Hitherto its use has been very restricted. The authors report the case of a young married woman, aged 23, with tubercle bacilli in the sputum, who, six months earlier, had had a right pleuritic effusion. She had cough, dyspnoea, night sweats, and evening fever. Several attempts at insufflation showed extensive pleuritic adhesions. As no improvement followed, ten ribs were resected under local analgesia, with light chloroform anaesthesia for the deep resections. For two days the patient was comfortable, but on the third and fourth days the heart caused serious disturbance. On the twenty-third day healing was complete and the temperature was subnormal. The result was comparable in every respect with the best obtained by pneumothorax. Although the patient left hospital on the thirty-third day, her general condition remained very satisfactory nine months later; the thoracic deformity was very slight, but scattered crepitant râles were still heard in the right infraclavicular region. Loute strongly advocates extrapleural thoracoplasty in those cases of unilateral tuberculosis which are unsuitable for pneumothorax. He states that a previous minute clinical and radiological examination is essential, and considers that as the immediate results are very grave the operation should never be performed on debilitated patients, nor on those suffering from cardio-renal disease or diabetes. He refers to the very satisfactory results obtained by Sauerbruck—namely, 39 per cent. cured, 27 per cent. improved, 10 per cent. unchanged, 4 per cent. of patients died after operation, 20 per cent. died later from extension of the disease to the opposite side; but adds that the figures reported by other authors are scarcely so favourable.

519. Pseudo-Tumours of the Orbit.

V. CELADA (*Arch. de med. cir. y esp.*, March 12th, 1927, p. 363) states that the term "pseudo-tumour" was given by Birch-Hirschfeld to a condition presenting all the signs of an orbital tumour—namely, slow development, exophthalmos, diminution of the movements of the eyeball, increase of the orbital contents, and occasionally palpebral oedema, without any evidence of a tumour on microscopical examination. Three groups of pseudo-tumour are recognized—namely, (1) those which clear up spontaneously or under drug treatment, such as potassium iodide, mercury, or quinine, including cases due to syphilis or tuberculosis; (2) those in which no tumour is found on operation; and (3) those which resemble a tumour macroscopically but on microscopic examination show the appearances of a chronic inflammatory process. In the presence of an orbital tumour Williamson-Noble recommends the following investigations: examination of the urine for sugar; the Wassermann test, which should be activated if negative; the tuberculin test or deviation of complement; a blood count and determination of the coagulability of the blood; search for focal infection, including *x*-ray examination of the teeth and nasal sinuses; consideration of the possibility of Graves's disease; and an exploratory operation.

Therapeutics.

520. Malarial Treatment of General Paralysis.

H. CLAUDE, R. TARGOWLA, and M. CÉNAC (*Ann. de Méd.*, March, 1927, p. 169) report ten cases of general paralysis treated by malaria infection with beneficial results, subcutaneous injections of 3 to 5 c.cm. of blood from an infected, untreated patient being used. According to these authors most accidents in this procedure are slight and unimportant, but they enumerate the following conditions as contraindicating the treatment: advanced age, cardiopathy, nephritis, and morbid conditions such as tuberculosis. The plasmodium employed should always be of known virulence, the patient also being kept under strict observation during treatment. Before commencing the injections, a preparatory antisyphilitic treatment is advised, which should be stopped during the incubation and evolution of the malaria, and followed by a mixed treatment of arsenic and quinine. The benefits are an improvement in general health and an amelioration of neurological and mental symptoms; the authors emphasize the fact that many of their patients were enabled to resume professional activities.

521. A. FERRARO and T. C. C. FONG (*Journ. Nerv. and Ment. Dis.*, March, 1927, p. 225) report similar good results from this method of treatment, and state that even in unimproved cases beneficial results from the malarial treatment of general paralysis can be seen in the prolongation of life of the patient. Their method of administration was the intravenous injection of 2 c.cm. of the infected blood. Many authors have claimed that the rise in temperature is the real beneficial factor, the patient's response to this permitting a more successful fight against the disease. Other theories mentioned are an antagonism between the plasmodium and the spirochaete of general paralysis, the causation of an immunity reaction, and the establishing of a leucocytosis. Bunker and Kirby hold that a satisfactory outcome may depend, not only on the absence of irreparable anatomical changes, but also on the capacity of the patient to react to the stimulation.

522. V. ASKGAARD (*Ugeskrift for Laeger*, March 24th, 1927, p. 231) reports on the hospital treatment of 37 women and 160 men suffering from general paralysis and inoculated with malaria between October, 1922, and March, 1926. Of the 37 women, 6 were much improved, being rendered fit for work, 8 were improved, being rendered partially fit for work, 3 were improved but were still in hospital, 9 were unaffected by this treatment, and 11 were dead, 2 of the deaths occurring in connexion with this treatment. Of the 160 men, 25 showed no recurrence, 38 were improved and fit for work, 11 were improved but were still in hospital, 6 were improved but were still nursed at home, 50 were unaffected by this treatment, and 30 were dead, 8 of these deaths occurring in connexion with this treatment. With regard to the patients in the first category—namely, the 25 who showed no recurrence of symptoms—it was noteworthy that the disease had existed in most of them for less than a year. All the male patients were also treated with neosalvarsan in connexion with the malarial inoculation, but the women were not given specific treatment. The difference in the results among the men and the women was not great enough to warrant the drawing of conclusions as to the part played by the specific treatment of the men. The author also compares the fate of the subjects of general paralysis before and after the institution of malarial treatment at his hospital, but he gives percentages only and not the actual numbers. During 1917, 55 per cent. were dead after one year, 75 per cent. after two years, 85 per cent. after three years, and 86 per cent. after five years. In 1923, on the other hand, only 6 per cent. were dead after one year, 15 per cent. after two years, and 33 per cent. after three years. He concludes that the results of malarial treatment continue to be so encouraging that it is seldom warrantable to withhold it, and it is the more valuable now that recent research has greatly facilitated the early diagnosis of this disease.

523. Treatment of Tetanus.

S. O. FREEDLANDER (*Annals of Surgery*, March, 1927, p. 405) reports and analyses a series of 25 cases of tetanus which were treated by intravenous injections of antitetanic serum for comparison purposes. The wounds were exposed freely to the air by removing devitalized tissue, and a small amount of antitoxin was injected round them. Within the first twenty-four hours a total of 50,000 to 150,000 units was injected intravenously in three to five doses, and thereafter a daily intravenous injection of 15,000 to 150,000 units was given. This daily routine was maintained into convalescence, sometimes for as long as twelve to fifteen days, depending upon the muscular rigidity; in the later cases the injections were not continued so long. Every six hours morphine was given hypodermically and chloretone by the rectum. Food and fluids were pressed upon the patients. Of the twenty-five patients treated in this routine way, eleven had an incubation period of less than ten days, with a mortality rate of 45.5 per cent. Six patients died before sufficient antitoxin could be administered; if these are excluded, the mortality rate becomes 12 per cent. It is concluded that the intravenous administration of tetanus antitoxin in large doses has some therapeutic value. The author hopes that others will record series of cases treated systematically by antitoxin in different ways so that their results may be compared.

524. **Nasal Instillations of Oily Preparations.**

L. BECO (*Le Scalpel*, March 12th, 1927, p. 242) criticizes statements about the danger of using oily preparations for nasal instillations. He refers to the report by Laughlen of five cases, in three of which nasal instillations of mentholated paraffin had been administered for a long period, and in two liquid paraffin as a laxative. These patients died of pneumonia, and necropsies revealed areas of bronchopneumonia. Microscopical preparations showed in one case a polynuclear leucocytosis, such as is found in septic conditions; in another, mononuclear cells containing vacuoles, which by appropriate staining proved to be oil droplets, were seen; and the remaining cases gave mixed septic and macrophagic pictures. Beco draws attention to the facts that all the cases were asthenic, that large doses had been employed, and that the oil might have carried infection from the respiratory passages to the lungs. He maintains that there is *no danger to be feared* from the use of these oily preparations if they are administered carefully and in proper doses, and that their employment is indicated in certain infectious fevers in order to guard against auricular and pulmonary complications.

525. **Oxygen Therapy in Pneumonia.**

J. H. EVANS (*Anesthesia and Analgesia*, April, 1927, p. 57), who records twelve illustrative cases, recommends higher percentages of oxygen in the treatment of pneumonia than have hitherto been advocated, and urges that it should be used earlier in the disease instead of waiting till it is almost certain that the patient is going to die. Of the twelve patients six recovered, although five of the six were apparently doomed. Three of these received as nearly as possible 100 per cent. oxygen from twenty to twenty-four hours out of the twenty-four for several days. In the case of two patients who recovered oxygen was started a few hours after the onset of the pneumonia. The six deaths occurred in patients who were moribund when the oxygen was started.

Dermatology.

526. **X-Ray Treatment of Lichen.**

M. NIJKERK (*Nederl. Tijdschr. v. Geneesk.*, February 12th, 1927, p. 848) who records eight cases of lichen in patients aged from 22 to 63 treated by x rays, states that Gouin in 1925 introduced a new treatment of lichen, consisting in interscapular x-ray treatment of the sympathetic at the level of the fourth and fifth dorsal vertebrae. In cases of generalized lichen Gouin saw this treatment cure the lesions on the chest, arms, thighs, and legs. In lichen corneatus universalis lumbo-sacral irradiation at the level of the third lumbar vertebra was required, in addition to the interscapular application, to cure the lesions on the feet. Lichen of the mucous membranes associated with the skin lesions was not affected by the method. In early cases the treatment was successful in about a month; in more chronic cases the lesions took from one to one and a half months to clear up. In some patients there was increased itching and redness of the lesions within twenty-four hours of the irradiation, but a few days later improvement set in and the papules disappeared, leaving pigmentation. Nijkerk irradiated the interscapular and lumbo-sacral regions like Gouin, but employed smaller and repeated doses; in seven out of eight cases complete recovery followed in from one to ten months. The success of the treatment is attributed to alterations in the composition of the blood, such as diminution of the calcium ions and increase of the potassium ions, changes in the autonomic nervous system, and endocrine modifications.

527. **Oïdiomycosis of Nails.**

J. A. SCOTT (*Brit. Journ. Derm. and Syph.*, March, 1927, p. 119) describes a case of oïdiomycosis of the nails of two years' duration in a single woman, aged 35. The infection commenced in the nail of the right thumb; it was followed a few months later by a similar affection of the nails of the right index finger and the left middle finger. Except for slight pain for a short time in the nail of the right index finger the condition was painless and the disease affected only the middle third of the nails, appearing as greyish-yellow patches under the nails, which were very little thickened and only slightly raised from the nail bed. All the other nails were healthy; there were no lesions round the growing edge of the nails and no skin lesions of the fingers. Scrapings showed the presence of [illegible]. Sabouraud advises remo[illegible]ainting with 1 per cent. io[illegible] rectified spirit, or wet dressings at night with a solution of iodine 1 gram, potassium iodide 2 grams, and distilled water 1,000 grams, and during the day the application of an ointment of benzoic acid 1 gram, zinc oxide 1 gram, and vaseline 30 grams; in resistant cases 1 per cent. chrysophanic acid in lard is recommended. The patient refused to have the nails removed, but considerable improvement followed treatment applied after scraping away the nails down to the infected parts. She suffered from vague gastro-intestinal troubles and was in low general health, which may have resulted from the same cause, since it is recognized that oïdia, when they invade the body, may produce serious general disorders. Scott considers that the possibility of the condition being a port of entry for the systemic disease renders its recognition and treatment important.

528. **Pityriasis Rosea.**

R. S. WEISS, C. W. LANE, and W. A. SHOWMAN (*Arch. Derm. and Syph.*, March, 1927, p. 304) have made a critical study of 380 patients suffering from pityriasis rosea. In 56.6 per cent. of the cases the disease was found to occur between the ages of 10 and 30, women being attacked twice as frequently as men. The beginning and end of the year were the periods of greatest case incidence, the height of the curve being in January. The primary patch was most often noted on the anterior wall of the thorax. The classical macular type occurred in 76.1 per cent. of cases. Itching was a prominent symptom in 26.8 per cent. of the patients. The authors believe that in time a parasitic factor will be discovered. As a rule immunity to another attack is observed, although second attacks sometimes occur; cases of relapse have been reported.

529. **Creeping Disease.**

E. CAZENAVE (*Ann. de Derm. et de Syph.*, March, 1927, p. 164) describes a case of creeping disease, sometimes known as larva migrans. A girl, aged 19, who spent a holiday amongst pine woods and on the seashore, going about with bare feet, first noticed an itching area on the inside of the right foot on September 7th; two days later some vesicles were seen and more appeared on successive days. On September 18th the area was cauterized, and for two or three days the itching ceased but soon recurred. Balsam of Peru gave some relief, but on October 9th the area had increased in length to 1½ inches. On raising the cutis straw-coloured serum escaped, but no blood. Finally a compress soaked in xylol was applied for ten minutes, and the area and furrows were touched with the cautery at dull heat. This cured the disease, and there was no recurrence. The larva was not discovered in this author's case.

Obstetrics and Gynaecology.

530. **Tubo-uterine Implantation.**

ACCORDING to G. COTTE and P. BERTRAND (*Gynécol. et Obstét.*, March, 1927, p. 182) implantation of the Fallopian tube into the cornu of the uterus was first performed by Watkins in 1899; ablation of an adenomyomatous nodule of the isthmic portion had preceded the implantation. The adnexa of the opposite side had previously been extirpated, and the fact that a few months after the first operation the patient had a uterine abortion showed that the anastomosis had retained its permeability. The second observation was published twenty-two years later by H. N. Shaw, and the present authors record the first three cases published in France. In their cases post-operative permeability of the anastomosis was proved by radiographic examination after intrauterine injection of lipiodol, five months after operation in one case and fifteen days in the other two. Of twelve other cases summarized from the literature the tubal permeability after operation was demonstrated in three by Rubin's insufflation method. Of the total of fifteen cases alluded to in this paper, no fewer than thirteen have been operated on within the last four years. Nevertheless six pregnancies have followed, of which two are known to have resulted in live birth at term, so that the results of this conservative operation appear to be encouraging.

531. R. MICHAELIS (*Zentralbl. f. Gynäk.*, March 26th, 1927, p. 779) alludes to four pregnancies and three live births following thirty-five to forty tubal implantation operations. He gives details of a hitherto unpublished case of live birth at term after bilateral tubo-uterine implantation. The patient, a recently married woman aged 34, showed signs during her first pregnancy of acute pulmonary tuberculosis, for which, on medical grounds, the induction of abortion was advised, combined with sterilization; Caesarean section was preceded by ligature and division of the Fallopian tube on both sides. A year later the tuberculous process had ceased to be evident, and the patient, who now felt well, was anxious to have a child. At a second laparotomy the impermeability of the

tubes was demonstrated and tubal implantation was performed on each side according to the Strassmann technique. The patient became pregnant within six months, and was delivered at term of a living child weighing 3¼ kilograms. The indications given by Strassmann for tubo-uterine implantation are: (1) ectopic pregnancy in the isthmic or interstitial portion of the tube; (2) adenoma of the tubal angle or *salpingitis isthmica nodosa*; (3) *correction of a previous* sterilizing operation on the tube. The possibility of pregnancy is much greater in cases where the operation has been performed for non-inflammatory morbid conditions of the tubes.

532. Pregnancy and Heart-block.

W. DRESSLER (*Wien. Arch. f. Inn. Med.*, March 15th, 1927, p. 83) cites Mackenzie's conclusion that sinus arrhythmia and extrasystoles are of little importance in pregnancy. Auricular fibrillation is a much graver complication, especially when it is associated with mitral stenosis. Dressler describes two cases of primiparae who, in spite of symptoms of serious heart-block, passed through pregnancy and labour without any untoward occurrence. The first patient, aged 35, had suffered from frequent syncopal attacks. For twenty years she had had symptoms of partial or complete heart-block associated with the Stokes-Adams syndrome. The other patient, aged 22, had had frequent syncopal attacks after influenza, five years previously. For a long time she had felt weak, but improved after the commencement of pregnancy. The heart was slightly enlarged and the cardiac sounds were impure; the pulse rate was 40. The confinement and puerperium were entirely normal, but on her discharge from hospital an electro-cardiogram showed complete heart-block. On the other hand, Freund has reported the case of a patient, aged 36, who had signs of mitral regurgitation and possibly stenosis. She had numerous syncopal attacks during her seventh pregnancy; a severe uterine haemorrhage necessitated induction of premature labour. A year later she was again five and a half months pregnant, with almost continuous haemorrhage from the commencement of pregnancy; she was very anaemic. Shortly after admission the patient had an eclamptic seizure and died. The necropsy revealed mitral incompetence and old and recent endocarditis; pathological changes in the bundle of His were demonstrated. It is probable that the syncopal attacks during the seventh pregnancy were due to the Stokes-Adams syndrome. Reviewing the present state of knowledge in these cases, Dressler concludes that every woman who exhibits even slight symptoms of the interruption of the bundle of His should be kept under most careful observation; the existence of any extensive myocardial disease must be regarded as absolutely prohibiting the risks of pregnancy and parturition. He thinks that a more complete heart-block may not produce perceptible reduction of the functional capacity of the auriculo-ventricular bundle; partial heart-block does not therefore necessarily forbid the patient running the risk of pregnancy, provided that she is kept under observation, so that pregnancy may be terminated if signs of extensive myocardial disease appear. He adds that in treating these cases of partial heart-block the possibility of the onset of Stokes-Adams syndrome during pregnancy or labour must be always remembered, as this would indicate that pregnancy should be terminated in the interest of the patient.

Pathology.

533. Small-pox Immunization and Rabies.

B. BUSSON (*Wien. klin. Woch.*, April 7th, 1927, p. 449) had previously reported that a freshly acquired small-pox immunity gave a definite protection to guinea-pigs against a usually fatal infection with rabies virus, and the question arose whether this was due to some specific interrelation of the two viruses, or was only the result of a non-specific raised resistance caused by the previous vaccination. Nine guinea-pigs were inoculated with 1/2 c.cm. of a thick emulsion of rabies virus, and on the following day each was vaccinated. Within fourteen to seventeen days eight had died of rabies and only one survived. Eight other guinea-pigs were satisfactorily vaccinated and five days later were strongly infected with rabies, of which seven died; in the controls three out of four guinea-pigs and all of six rabbits died with rabies. Of fourteen guinea-pigs vaccinated with glycerinated lymph and twenty days later inoculated with rabies virus, ten died and four were well at the end of a month. Of two guinea-pigs subsequently inoculated with large doses of vaccine lymph and after fourteen and sixty days respectively infected with rabies, both remained free from symptoms of rabies for a month. These results show that vaccination during the incubation period of rabies infection in no way changes or influences the period of onset or the character of the rabies. The onset of rabies infection is, however, delayed in guinea-pigs previously vaccinated and already immune from small-pox.

534. Experimental Atherosclerosis.

S. SHAPIRO (*Journ. Exper. Med.*, April 1st, 1927, p. 595) has found that in rabbits thyroidectomy, splenectomy, and gonadectomy augment hypercholesterolaemia, and accelerate the development of atheromata of the aorta. The deposition of cholesterol within the aortic intima starts the cellular alterations which result in atheroma. The relation of the spleen to the reticulo-endothelial system and its function in the destruction of old and the formation of new erythrocytes indicate the possibility that this organ not only stores but utilizes cholesterol. Hypercholesterolaemia has been found to follow splenectomy. Little is known about the relation of the gonads to cholesterol metabolism, but a synergistic functional association appears to exist between the sex-glands and the thyroid, and on this may depend the importance of the gonads in cholesterol metabolism. The thyroid plays the essential part in the metabolism of fats and fat-like substances, including cholesterol; thyroid insufficiency over long periods is accompanied by hypercholesterolaemia, the increase in the blood cholesterol being directly proportional to the degree of thyroid insufficiency. Suprarenal insufficiency does not aid in cholesterol deposition, and may even exert an inhibitory influence on the development of atheroma. Atherosclerosis is rare in individuals with lymphatism and other conditions of lymphoidal overgrowth. Shapiro's findings indicate that the deposition of cholesterol within the intima of the aorta initiates the formation of atheromata, and any condition—such as hypercholesterolaemia or mechanical forces—which predisposes to such precipitation favours the development of atheromatosis. He adds that this view agrees with the findings of Aschoff and of Wacker and Hueck.

535. Calcium Metabolism in Calcareous Gout and Scleroderma.

REPORTING their findings in a case of scleroderma, M. WOLF and A. VALLETTE (*Rev. de Méd.*, 1926, No. 9, p. 1121) discuss in detail the subject of calcareous deposits in the body. A woman, aged 55, suffered from calcareous nodules on various parts of the body, which on analysis proved to consist of pure phosphate of lime. They were comparable with the tophi of gout, excepting that they contained neither cholesterin nor uric acid, and resembled those found in calcareous gout. Clinically, the authors divide these cases into an inflammatory type, characterized by calcifications at the site of small abscesses or necroses, and a non-inflammatory type, which occurs, with perceptible differences, according to age. In young patients the trouble has the appearance and clinical characteristics of a general affection, and pathologically is clearly due to an endocrine derangement, a diathesis being also indicated. In old subjects there exists a predisposition to sclerosis and tissue calcification, as in atheroma of the blood vessels. The authors consider that the pathology of this disease is concerned with endocrine modifications, and that possibly the same endocrine factor acts in both old and young subjects. The blood calcium is increased, but it is unknown whether this is due to an actual excess or to a diminished solubility of the calcium in the blood. Treatment of this condition has been unsatisfactory. In cases with a history of congenital syphilis some amelioration has followed specific treatment. In their own case Wolf and Vallette performed sympathectomy at the cervical ganglia. This produced a slight retrocession of the scleroderma of the face and neck and a marked lessening of the pain, but there was no change in the lesions in other parts of the body. They recommend in all cases ultra-violet irradiation, and state that this often gives appreciable results.

536. The Serum Calcium Content in Skin Diseases.

G. H. PERCIVAL and C. P. STEWART (*Journ. Derm. and Syph.*, April, 1927, p. 144) have ascertained the calcium content of the blood serum in a variety of skin diseases, the method of estimation used being that devised by Kramer and Tisdal. The average was between 9.2 and 10.2 mg. per 100 c.cm. of serum. The figures recorded agreed with those of previous observers, and on the whole there was no great departure from the normal content. No clinical benefit was found to follow the administration of parathyroid extract in various conditions, including psoriasis, acne pustulosa, and lupus erythematosus, although the serum calcium was definitely increased. The authors conclude that in skin diseases disturbance of the calcium metabolism has no etiological relation to the onset or course of the various pathological processes.

EPITOME OF CURRENT MEDICAL LITERATURE.

Medicine.

537. Incidence of Late Forms of Syphilis.

C. BRUHNS (*Med. Klinik*, February 18th, 1927, p. 233) combats the view, expressed by a number of workers recently, that the incidence of such late manifestations of syphilis as aortitis, tabes, and general paralysis of the insane has been increased by the intensive treatment with salvarsan in the early stages which has been practised in recent years. He states that since the undisputed increase in aortic syphilis during recent decades began before the use of salvarsan became general in 1910, and aortic syphilis takes fifteen to twenty years to develop after infection, the next few years will show what effect early treatment has had on this late form. Shortening of the incubation period of aortitis and the late nervous manifestations has not been demonstrated, nor has there been any marked increase in the number of cases of general paralysis as a result of the usually incomplete courses of injections given during the earlier years of the salvarsan era. Though metasyphilis has apparently increased in spite of the more extensive use of mercury, the conclusion is not justified that more intensive salvarsan treatment will similarly be followed by an increase in metasyphilis, more especially since complete cure of the early stages is much more readily obtained with systematic salvarsan treatment. That intensive salvarsan treatment has certainly greatly diminished the spread of syphilis by shortening the infective stage was shown in a report by Jadassohn based on the findings of a number of dermatologists in various countries. It is therefore the best general prophylactic against aortitis and other late forms of syphilis, even if it does not ultimately prove entirely effective in all cases.

538. Active Immunization in Scarlet Fever.

J. MUNK and M. DE KORTE (*Nederl. Tijdschr. v. Geneesk.*, January 1st, 1927, p. 132) record an outbreak of 22 cases of scarlet fever in an asylum for mentally defective children. Of the 52 other inmates only 12 gave a positive Dick reaction. One of the latter developed scarlet fever the day after the test and the whole of the lower arm became swollen and red. Of the remaining 11, 5 were inoculated with Dick toxin and 6 received no immunizing injection. Five weeks later 3 of the 5 gave a negative Dick reaction, while 2 were still positive. On the other hand, of the 6 positive cases which had not been injected 5 had become negative and only 1 was still positive. This indicates that in a community where an infectious disease is prevalent susceptible persons may become immune without showing any signs of disease. The possibility of mild attacks could be excluded, as these children were kept under close observation. Another conclusion drawn is that it cannot be said with certainty that the children who had been actively immunized owed their negative reactions to the injections.

539. Solitary Living as a Cause of Scurvy.

ED. MEULENGRACHT (*Ugeskrift for Laeger*, March 3rd, 1927, p. 165) has, during the past two years, observed as many as eight cases of scurvy in patients admitted to his hospital under a variety of diagnoses, none of which was that of scurvy. The patients were middle-aged or elderly bachelors or widowers, and the most prominent manifestations of the disease were large extravasations of blood in the skin and subcutaneous tissues. The colour of these extravasations was much variegated—red, blue, violet, green, and yellow alternating in one and the same limb according to the age of the haemorrhage. In some cases there were also haemorrhages into the muscles, which felt tense and hard. When these haemorrhages occurred in the neighbourhood of joints there were effusions into them. In almost every case there were also numerous tiny haemorrhages around hair follicles, and both the large and the small haemorrhages were most common in the legs. In most cases there was a typical gingivitis with loosening and tenderness of the teeth. There was not a trace of gingivitis in the patients who had already lost all their teeth. Most of the patients were anaemic, but the rate of coagulation of the blood was normal. There was slight jaundice in some cases, and the patients were emaciated and mentally and physically debilitated, looking tired and apathetic. All had lived, or rather existed, in lodgings by themselves, not having access in most cases to the kitchens of the houses in which they lived. With only an oil or spirit lamp, or with not even these elementary accessories, they lived on bread, butter, margarine, fat, salted or smoked food, cheese, and beer or coffee. They had not the money, or would not take the trouble, to provide themselves with fruit and vegetables, and they were thus living on a diet containing practically no antiscorbutic C vitamin. In six of the eight cases the symptoms developed between March and June. Recovery was rapid under an ordinary mixed diet which included plenty of vegetables and fruit. The diagnosis under which these patients were sent to hospital was phlebitis in two cases, the haemorrhagic diathesis in two, heart disease in two, anaemic jaundice in one, and peliosis rheumatica in one. The author concludes that this cause of illness may be much more common than hospital and general practice records suggest, the true state of affairs being overlooked and the wrong diagnosis made. Also, for every such fully developed case of scurvy there must be many less definite and obvious.

540. Sickle-cell Anaemia.

H. S. ALDEN (*Amer. Journ. Med. Sci.*, February, 1927, p. 168) describes this severe anaemia as a familial and hereditary disease of negroes, occurring in both sexes, and characterized by the presence of peculiar sickle-shaped erythrocytes in the blood, a moderately severe anaemia, a varying degree of jaundice, physical and sexual under-development, a general glandular enlargement, and ulcers of the legs. In the active form the sickle cells are present in the circulating blood, but in the latent type the cells only become sickle-shaped after standing in a closed chamber for some hours. At the necropsies on patients dying from this anaemia there is found a small, contracted, fibrotic spleen with large numbers of old and recent haemorrhages and evidences of increased blood destruction in and about the Malpighian corpuscles. The bone marrow shows marked diminution of fat with a large number of sickle-shaped and curiously formed cells, red blood cells, and, in some cases, a rather marked hyperplasia. Since 1910 there have been reported 106 cases of this disease, and Alden now adds two further cases. There were many points of similarity with haemolytic jaundice, and an erroneous diagnosis, as of syphilis or acute appendicitis, is possible. In one case, for three months the ulcers on the legs were considered syphilitic; in the other, sudden abdominal pain and distension, due probably to a splenic haemorrhage, was diagnosed as acute appendicitis. Sickle-cell anaemia is only temporarily relieved by medical treatment and transfusion. Splenectomy has been suggested, but it has not been attempted. The prognosis is bad, the disease pursuing a gradually downward course, and the patients rarely living beyond the age of 30.

541. Conjugal Tuberculosis.

FROM an analysis of 1,491 patients admitted to the chest department of the Jefferson Hospital, N. BLUMBERG (*Therapeutic Gazette*, February 15th, 1927, p. 81) found that, among 814 married patients with tuberculous disease, a history of tuberculosis in the marriage partner was obtained in 54 instances. The percentage of patients who had apparently contracted this disease from their husbands or wives was approximately 6.6. If 17 cases in which there was a family history are deducted, the figures drop to 37 cases, or 4.5 per cent. From these investigations the author concludes that conjugal tuberculosis is not common; that contact infection in married couples is less than the contact rate for the general population; that, if there is no distinct family history, the individual is not so likely to show infection; and that the majority of individuals have developed an infection during childhood which has been cured, and are not so likely to become infected or reinfected later in life.

542. Tuberculosis Indicated by Slight Menstrual Pyrexia.

S. TRENTINI (*Il Policlinico*, Sez. Prat., March 7th, 1927, p. 343) discusses the appearance of slight pyrexia at or immediately before the menstrual period. His observations are based on a study of 35 tuberculous women—the average rise of temperature observed was from 4 to 8 tenths of a degree. He suggests that when a woman, normally [illegible] a rise of temperature in her pre-menstrual period the possibility of tuberculosis should be considered. When the rise of temperature occurs in early tuberculosis it usually appears one or two days before the menstrual period and disappears quickly when the flow is established. Probably the rise in temperature is due to the toxic state of the blood which precedes menstruation. If this pre-menstrual temperature

persists beyond the duration of the period it usually indicates some specific tuberculous activity. In the first type of temperature the fever suggests a latent tuberculous focus and indicates a simple thermic instability in a woman. In the second group where the temperature persists it is more likely to be the expression of a tuberculous focus in process of evolution causing some toxaemia while the powers of defence in the body are lowered by the process of menstruation.

523. Massive Collapse of the Lung.

L. R. SANTE (*Radiology*, January, 1927, p. 1) discusses massive collapse of the lung, and reports three unusual cases. He considers it a clinical entity, and states that it must not be confused with congenital atelectasis. Massive collapse is characterized by sudden shrinkage of one or more lobes of the lung without bronchial obstruction or other apparent cause, previous aeration having been good. It occurs most commonly after abdominal operations, wounds, and other traumatic conditions, such as fractures of the pelvis. Sometimes, however, very trivial injuries may be followed by this condition. X-ray examination shows a dense consolidation corresponding to the lobes affected and resembling that seen in lobar pneumonia, but the narrowing of the chest on the affected side, approximation of the interspaces, elevation of the diaphragm, and the mediastinal displacement render the diagnosis simple. With reference to etiology it is suggested that some traumatic or toxic injury acts upon the vagal supply and so the bronchioles collapse; their walls cohere and the lung rapidly contracts owing to the absorption of alveolar air by the circulating blood. In one of the three cases described the collapse did not occur until thirty-three days after an operation, and the septic condition present was considered more likely to be responsible. Further, there was slight deviation of the trachea before consolidation. The chest wall assumed its normal position when it was opened at autopsy, and the lungs did not completely fill the cavity. In the second case there was nothing in the past history to account for the onset of collapse; expansion of a large part of the lung was re-established by merely rolling the patient over for radiographic examination. In the third case there was no definite etiology and the patient was rolled over on the uninvolved side, when the lung was seen to commence to inflate, the condition being watched under direct fluoroscopic vision. Complete recovery eventually took place.

Surgery.

541. Chronic Prostatitis.

W. S. PUGH (*Med. Journ. and Record*, January 19th, 1927, p. 105), discussing the surgical aspects of chronic prostatitis, regards the condition as a definite entity necessitating a complete cysto-urethroscopic examination to determine its extent, and only amenable to treatment by thorough removal of the polypoid masses found at the vesical neck and sometimes in the prostatic urethra. These masses are the foci of a chronic infectious process, and their complete removal can be effected by the fulgurating tip, electrotome, or prostatic punch. Prostatectomy is, he thinks, seldom indicated, and its performance in chronic prostatitis is usually contraindicated. Among the symptoms, in order of frequency, are itching and perineal pain, backache, lowered sexual power, testicular pain, premature ejaculations, and urethral fullness, together with such nervous symptoms as frontal headaches, neuralgias, joint pains, attacks of dizziness, and sexual neurasthenia.

542. Numerous Foreign Bodies in the Stomach.

A. GOLDSCHMIDT (*Zentralbl. f. Chir.*, February 19th, 1927, p. 465) reports the case of a man, aged 23, who was admitted to hospital complaining of very severe epigastric pain. He vomited black fluid and food, the faeces were "tarry," and the epigastric region was very tense and tender on pressure. A diagnosis of gastric ulcer was made. A skiagram showed that the fundus of the stomach was filled completely with a large mass of pins, nails, and coins. Gastrostomy was performed, and the operator removed 1,273 pins, 223 nails of various sizes, 15 French coins, 2 metres of small brass chain broken into short lengths, and four handfuls of small splinters of glass. The total weight of the collection amounted to 930 grams. A skiagram taken five weeks later showed four more nails lying between the abdominal wall and the vertebral column. A second laparotomy was performed, two nails were removed from the omentum, and another from the anterior edge of the liver. One nail had penetrated deeply into the liver, but as there were no signs of irritation it was not removed. The patient made an uninterrupted recovery. Subsequently he stated that three months before admission to hospital, in order to obtain his discharge from the Foreign Legion, he swallowed in two nights the various objects described above. Afterwards he deserted, and when admitted to hospital had said nothing as he feared arrest by the police. Goldschmidt cites a number of cases previously recorded in which foreign bodies were removed from the alimentary canal.

546. Infection of the Kidney.

J. R. ROBERTS (*Indian Med. Gaz.*, February, 1927, p. 75) discusses staphylococcal infection of the kidney with perinephritic abscess, and *B. coli* infection. The former has a direct relation to an attack of boils, and is an infarct of the cortical portion of a lobule or adjacent lobules, a small abscess forming under the capsule and burrowing into the perinephritic tissue. The symptoms are rigors and fever, with pain and a subsequent large swelling in the loin, but pus and blood are not necessarily found in the urine. Treatment is by incision and drainage. The forms of *B. coli* infection are the acute, subacute, and chronic. The acute is an intense infection of one kidney only with haemorrhagic infarcts, general congestion, and inflammatory oedema of the kidney substance. It is ushered in suddenly with rigors, the collapse is intense, and high fever, vomiting, intense pain in the loin, palpable kidney, and marked haematuria develop. Palliative treatment may suffice, but often immediate excision of the kidney is required. In the subacute form the apical portions of the lobules and the pelvis of one kidney, but not the cortex, are attacked, and the chief symptoms are nausea, vomiting, and haematuria. Treatment aims at the production of alkalinity of the urine as quickly as possible by large doses of potassium citrate (1 drachm every three or four hours). Hot fomentations to the loin must be assiduously applied, and the bowels evacuated. Rest in bed for three weeks is important. The subacute passes into the chronic form by recovery of the kidney; the infection remains, however, in the pelvis of the kidney, and vesical irritability sometimes occurs. Roberts maintains that the treatment of the chronic form by oral urinary antiseptics and by vaccines has conspicuously failed, and that the only effective treatment is lavage of the pelvis of the kidney through a ureteral catheter under anaesthesia. The antiseptic employed may be silver salts, flavine, boric acid, carbolates, or mercury salts, but the essential point is to use one which effects a cure in from four to six washings.

547. Surgical Treatment of Bilateral Pulmonary Tuberculosis.

E. RUAIS (*Thèse de Paris*, 1926, No. 250), who reports forty-five cases, maintains that in view of the frequency of bilateral lesions in pulmonary tuberculosis (about 25 per cent.) bilateral artificial pneumothorax is often necessary. The operation may be performed under the following conditions: (1) There may be a considerable interval between the operations on the two sides of the chest. (2) The pneumothorax on one side may be followed immediately by pneumothorax on the other. (3) Pneumothorax may be in existence on both sides at once, or partial bilateral pneumothorax may be performed in pregnancy as a prophylactic measure. The technique differs according to each of the varieties. In the first case the pneumothorax will be performed as if it were a primary operation. In the second case the first side treated may be decompressed or spontaneous absorption of the gas may be allowed to occur. In the third case a minimum degree of pressure should be exerted on one lung and a considerable degree on the other. The immediate results are said to be better than might be expected, as the operation causes a fall of the temperature and relief of the cough, and has a more gradual effect on the general condition and expectoration. In 70 per cent. of the cases favourable results were obtained. Bilateral artificial pneumothorax is contraindicated when the lesions have extended to the peritoneum, and still more when the pleura and mediastinum are affected. Early tuberculous laryngitis, far from being a contraindication, is an indication, as the larynx becomes contaminated by the sputum, and by preventing expectoration artificial pneumothorax has a curative effect. Ruais agrees that it is too early to assess the remote results, but bilateral artificial pneumothorax seems to him a very promising method in spite of the possible risk of perforation of the lung.

548. M. BORCHARDT, L. DÜNNER, and M. MECKLENBURG (*Med. Klinik*, January 28th, 1927, p. 123) suggest that, though artificial pneumothorax can seldom be induced on both sides, it is not only possible but advantageous to perform a phrenic avulsion on one side even when the other has been put out of action by a pneumothorax. They think that the therapeutic results of phrenic avulsion are greater than can be accounted for by its mere mechanical effect of paralysing the diaphragm, and they maintain that apical and adherent cases, though seemingly incapable of being influenced by such a measure, are improved by the operation. In view of this they suggest

that in a bilateral case pneumothorax should be induced on one side, and that at a later date, say in two weeks, phrenic avulsion may be performed on the other. Since such cases are of a grave nature, so large a percentage of arrests as in unilateral cases is not to be expected. The authors record eight cases, of which four were definitely improved.

549. Torsion of an Intra-abdominal Testis.

J. K. ORMOND (*Annals of Surgery*, February, 1927, p. 280) reports the case of a man, aged 42, who complained of sudden abdominal pain on the right side. The right testis was undescended, and a diagnosis of appendicitis or some lesion of an intra-abdominal testis was made. At operation a black swollen testis was found with one complete twist in its mesentery. This was removed and recovery was uneventful. Only five other recorded cases of a similar nature could be found in the literature. Incomplete descent with a developmental abnormality of the attachment of the cord to the testis seems to be the predisposing cause. In all the recorded cases except one the right side was affected, and faulty descent of the testis seems to occur more frequently on the right side. It is suggested that the presence of the caecum with its intermittent loading and pull on the peritoneum must have something to do with the frequency of torsion on the right side. Torsion seems to occur usually about puberty, though it is occasionally seen in infants.

Therapeutics.

550. Treatment of Scarlet Fever with Streptococcus Antitoxin.

J. E. GORDON (*Journ. Amer. Med. Assoc.*, February 5th, 1927, p. 382) records his observations on 317 cases of scarlet fever treated with serum at the Municipal Contagious Diseases Hospital, Chicago, and 367 controls. The serum used was a concentrated antitoxin prepared according to the Dick method. An intramuscular injection was given on admission, and in some severe cases repeated in twelve to twenty-four hours, but not more than three doses were given to any one patient. The general method of treatment of the two groups was the same, except that convalescent scarlet fever serum was used for a few of the more severe control cases. The definite drop in temperature described by Dick was not observed so frequently, but in many cases there was a decline from 104° or 105° to 99° within twenty-four hours. The immediate result was frequently a rise in temperature, probably as the result of the foreign protein injected. The total febrile period in days was shorter in patients receiving serum. The effect on the rash was usually striking. The typical rash faded in from eighteen to twenty-four hours. Desquamation began later in serum-treated cases than in controls, was usually slight, and lasted only a short time. There were fewer complications in the serum-treated cases, and haemolytic streptococci disappeared more rapidly from their nose and throat than in the case of controls.

551. Sodium Thiosulphate in the Treatment of Salvarsan Complications.

A. KRISTJANSEN (*Ugeskrift for Laeger*, February 24th, 1927, p. 154) reviews the various procedures recommended for the abortion or mitigation of the most serious complications of salvarsan treatment, and classifies these complications according as they occur (1) at the time of the injection, (2) a few seconds or minutes after it, or (3) days or weeks after it. The painful perivenous infiltrations, caused by the escape of some of the salvarsan into the tissues outside a vein, can be effectively treated by running from 10 to 15 c.cm. of sterile normal saline solution into these tissues through the salvarsan needle. The "nitroid crises" which occur a few seconds or minutes after an injection of salvarsan can be successfully combated by injections of 0.5 to 1 mg. of adrenaline once or twice a day. Much more difficult is the treatment of the late manifestations of salvarsan poisoning, but the author's experience with injections of sodium thiosulphate—first recommended for salvarsan poisoning in 1920 by Ravaut—is most encouraging. Ravaut argued that the reduction in the tissues effected by this drug would counteract the processes of oxidation for which he held salvarsan poisoning responsible. The author gave sodium thiosulphate by intravenous injection, the dosage for adults ranging from 0.6 to 1 gram per day, and the strength of the aqueous solution used being 10 per cent. The thirteen patients thus treated were classified in three groups, according as the drug was given (1) a week or less after the last salvarsan injection, (2) three to four weeks after the last salvarsan injection, or (3) in cases in which a preventive of salvarsan poisoning seemed necessary for infants suffering from congenital syphilis. Both in the treatment of severe salvarsan dermatitis and in the abortion of salvarsan poisoning in infants this drug proved most successful, only a few injections of sodium thiosulphate being required to arrest the development of salvarsan dermatitis in nine cases and to check its development in two cases of late salvarsan poisoning which threatened to be most dangerous and protracted. While this drug has never yet failed the author, he has also never observed any ill effects from it, and he recommends daily intravenous injections of from 0.6 gram to 2 grams in every case in which salvarsan poisoning threatens. It should also be given as a prophylactic to those patients who in the past have tolerated injections of salvarsan badly.

552. Vaccine Treatment and Prophylaxis of Whooping-cough.

O. PELLEGRINI (*La Pediatria*, January 1st, 1927, p. 71) reviews the literature and records his observations on 81 cases of whooping-cough at the out-patient department of the Alessandri Children's Hospital at Verona treated by stock vaccines. The ages of the patients ranged from 3 months to 6 years. The injections were given either subcutaneously or intramuscularly. No severe general reactions were observed; at most there was a slight rise of temperature (98.8° to 99.6°) and a local redness and infiltration at the site of injection. In severe cases slight haemorrhages from the bronchi and epistaxis were observed after the first few injections in patients who had not shown these symptoms previously. The results of treatment were as follows: 41 (51.3 per cent.) were cured, 23 (29.8 per cent.) were improved, 15 (19 per cent.) derived no benefit, and 2 died during the course of treatment. The results of prophylaxis were more successful, as out of 18 children who had been undoubtedly exposed to infection only 2 contracted the disease, and in a very mild form, which was completely cured after injection of 3 c.cm. of vaccine.

553. Treatment of Acute Early Syphilis.

S. S. GREENBAUM (*Therapeutic Gazette*, January 15th, 1927, p. 1) divides acute early syphilis into three stages: (1) the incubation period without cutaneous or serological manifestations; (2) chancre development without serum changes; and (3) the chancre with discoverable serum changes, and with or without the generalized exanthem of the clinical secondary stage. Treatment to abort the infection should commence not later than twenty-four hours after exposure. If a longer period than this has elapsed since risk of infection, unless a full series each of arsenobenzol and of bismuth is given it is much wiser to wait, since insufficient treatment in the early stages may only mask the disease. While awaiting developments serum tests should be made every third day for six weeks after the average incubation period has terminated. In the case of the person innocently and frequently exposed to infection by another with an unrecognized chancre a full series of injections of arsenobenzol and of bismuth should be given, but in no circumstances should one or two injections be administered, thus producing a false sense of security. For immediate abortive treatment the author advises local application of a 33 per cent. calomel ointment wherever possible, if exposure has occurred within three hours. In addition the injection of arsenobenzol (1.8 grams) or novarsenobenzol (2.7 grams) in divided doses, as often as the patient's tolerance permits, followed by 60 cg. of bismuth tartrate intramuscularly, in 200 mg. doses, will abort the disease. After either immediate or late abortive treatment the serum should be tested every three months for at least a year. Many records of reinfection have shown that efficient abortive treatment has cured syphilis. The consensus of modern opinion favours immediate treatment when a chancre appears, although the serum reaction may be negative. All genital erosions or ulcers should be examined ultra-microscopically, since the chances of cure are greatest when treatment starts while the serum is still negative. The intensive administration of large daily doses of arsenobenzols is dangerous, and acute poisoning may occur even after 150 mg. of novarsenobenzol; acute arsenical poisoning may not completely destroy the spirochaetes, as visceral, cutaneous, and neuro-syphilitic lesions have been known to occur subsequently. In the subintensive method the total dosage is less important than the quantity given at each injection. Large doses of the arsenobenzols are rapidly reached by increasing the earlier test doses, together with bismuth or mercurial injections, without any remissions. The first dose should be 150 mg. of the arsenobenzol given intravenously. In tolerant cases the dose at two, then four, five, and seven-day intervals should be rapidly increased to a full dose of 60 cg. of arsenobenzol or 90 cg. of novarsenobenzol to a total quantity of 4.8 grams of the former or 10.8 of the latter. This is larger than the quantity generally recommended, but the author considers it essential. This is followed at once by 2 to 3 grams of bismuth in 100 to 200 mg. doses; both courses should be repeated. This treatment lasts for about a year. Serum tests after the first arsenical course will be almost certainly

negative; they should be repeated at the end of the other series, then every three months for a year, after which comes a cerebro-spinal fluid examination and a provocative test. In sero-positive chancre, with or without secondary symptoms, the treatment is more prolonged and three courses of arsenobenzols should be given. Instead of the last bismuth course one of mercurial inunctions or injections is advised. The serum reactions should be persistently negative for two years before cure can be presumed.

Disease in Childhood.

555. Acute Intestinal Invagination in Small Children.

S. MONRAD (*Arch. Dis. in Childhood*, December, 1926, p. 323) records his experience of 115 cases of this condition; 34 patients were aged between 7 and 9 months, 73 were under 1 year, and no child was more than four years old. There were twice as many boys as girls. Almost all the cases fall into two large groups: (1) Large intestine invaginations, 75 per cent., including the ileo-caecal type comprising over 50 per cent. of the whole series, and the colic type. (2) Small intestine invaginations, 21 per cent. The treatment advocated is non-surgical reduction of the invagination, by traction and rectal irrigation, in children under 2 years of age with invagination of the colic, the ileo-caecal, or the iliac forms of, respectively, not more than thirty-six, twenty-four, or twelve hours' duration. All other patients should have immediate laparotomy, which, the author considers, would be the operation of choice in all cases if it were not for the heavy mortality associated with it. His technique is as follows. After emptying the bladder, and perhaps the stomach, the child is put under deep chloroform anaesthesia. If there is a large intestine invagination the surgeon first grasps its neck with both hands and compresses it for one or two minutes. He then steadies the neck with the left hand, takes hold of the apex with the right hand and tries to reduce the invagination by pulling the intussusception back through the intestine. In no case does he persist in these manipulations beyond ten or, at most, fifteen minutes. If it is an iliac invagination, where the head and the neck cannot readily be distinguished, he grasps the two ends of the tumour and cautiously pulls from each side alternately until the invagination is reduced. Such manipulation should not extend beyond five minutes. After the traction, whether successful or not, he injects water into the bowel, using, as Hirschsprung does, an enema syringe and Oser's sound, which are introduced as high up as possible. Only one or, at most, two such injections are given. The child is then put to bed with hot water bottles and an abdominal binder; if necessary injections of camphor and of salt solution are given. The author admits that it may be difficult in some cases to recognize whether the invagination has been reduced. If the treatment has been unsuccessful laparotomy is necessary. Particles of faecal matter returned with the enema afford satisfactory proof that the invagination has been reduced, but in nearly half the author's cases it was necessary to wait from two to twelve hours for a motion, while in four cases there was no motion passed for sixteen to thirty-four hours. The chief signs that indicate the failure of the treatment are: the return of the periodic attacks of colic, of the characteristic facial expression, and of the passing of typical blood and slime per anum. Severe symptoms of intoxication, such as vomiting, high temperature, and eclampsia, are said to occur in certain cases even though the invagination may have been successfully reduced. This intoxication resulted in death in 3 out of 75 successfully reduced cases in the author's series. Over the whole of his cases he has had a mortality of 19 per cent., with traction alone 14 per cent., and with traction and secondary laparotomy 60 per cent., figures which, he maintains, compare favourably with the results of the primary operation.

555. Mastoid Infection in Infants.

A. M. ALDEN (*Arch. of Oto-Laryngol.*, January, 1927, p. 39) recalls that the tympanic cavity and ossicles of a child are practically the same size and shape as those of an adult. The Eustachian tube is much shorter and wider and the upper part of the tympanum is filled with mesodermal folds which tend to block the aditus. The wide Eustachian tube accounts for the fact that it is possible to have a middle ear full of pus, which discharges through the tube into the nasopharynx and leaves the tympanic membrane of almost normal appearance. Incision in such cases reveals the presence of pus. In the first of the two types of mastoiditis in infants there is a general constitutional disturbance with pyrexia, irritability, and pain for a day or two. A swelling appears behind the ear, signifying perforation of the cortex and reduction of the pressure; this is accompanied by considerable relief and amelioration of the symptoms. Incision and cleansing of the mastoid cells is almost always followed by a rapid and complete cure. The causative organism is usually a staphylococcus. The second type is due to a haemolytic streptococcus and does not give rise to external signs. The extension of the infection is along the blood vessels of the bone, and there are very considerable constitutional symptoms, particularly gastro-intestinal. The diarrhoea is so severe as to warrant the term "cholera infantum." The children are very ill and have been treated entirely for the gastro-intestinal disturbance until they have died of emaciation or of some complication of the otitis media. The only signs of change in the drum may be slight alteration in the colour and sagging of the superior wall of the meatus. The mastoid process and the general condition require very vigorous treatment.

556. Relapsing Fever in Childhood.

G. S. LEVY (*Zeit. f. Kinderheilk.*, December 23rd, 1926, p. 627) records his observations on 360 cases of relapsing fever in children up to the age of 16 observed at the Odessa Paediatric Clinic from 1917 to 1924, with the histories of seven cases illustrating the association of relapsing fever with typhus. His conclusions are as follows: (1) Rise of temperature after a short apyrexial period of three or four days should suggest that relapsing fever is complicated by another disease, for normally the duration of the first apyrexial period is not less than a week. (2) When relapsing fever is complicated by typhus the skin eruption is usually absent. (3) Cases where relapsing fever was complicated by typhus ran their course without any further complication. (4) Leucocytosis before the crisis usually indicates a fresh attack. A normal number of leucocytes or their diminution contraindicates the appearance of a fresh attack. (5) Insufficient nourishment on the part of the mother is a cause of frequent attacks of relapsing fever in the breast-fed infant. (6) The change in immunity due to hunger may cause an increase in the number of attacks and an atypical character of the apyrexial interval.

557. Idiopathic Osteo-Psathyrosis.

IN an account of this form of bony friability M. MIRAGLIA (*La Pediatria, November 15th, 1926, p. 1228*) distinguishes between this disease and other causes of fragilitas ossium. He considers the reported cases of osteogenesis imperfecta, which, he contends, fall into two groups: (1) the osteogenesis imperfecta of Vrolich, in which there is defective ossification, as shown by the delayed and poor reparative processes in the fractured bones (absence of callus), and the associated aplasia of the cranial bones and sclerotics (blue); (2) the osteo-psathyrosis of Lobstein, in which the cranial bones and sclerotics are unaffected, the bones are normal at birth, the time of appearance of the fractures is far later, and there is prompt and abundant callus formation. When the disease makes its first appearance the diaphyses of the long bones become subject to an increased activity on the part of the osteoclasts, leading to absorption of the inner layers of the compact bone with consequent enlargement of the marrow cavity, showing a typical picture by *x* rays. Miraglia describes the case of a girl, aged 15 months, in which the family history was entirely negative although both parents gave positive Wassermann reactions, as did the patient. At the age of 6 months a trivial accident caused the first fracture, and subsequent fractures occurred after slight injuries. The child showed no signs of rickets; the anterior fontanelle was almost closed and the cranial bones were normal. The diaphyses of the long bones were abnormally slender, causing the epiphyses to appear enlarged. There was no deformity of the bones unaffected by fracture; this and the normal body calcium exchange excluded osteomalacia. *Radiograms* showed the typical reduction of compact bone, increase in size of the marrow cavity, and plentiful callus associated with the fractures. There was sympathicotonia, though at this age vagotonia is normal. Discussing the pathogenesis of this disease, Miraglia points out that infancy and old age are the two periods of most energetic physiological absorption of bone, accompanied in infancy by rapid formation of new bone by the periosteum, which quickly replaces the skeletal tissues of foetal life. There is an equilibrium between destruction and deposition which is disturbed in osteo-psathyrosis in the direction of increased absorption, which should tend to become less with age, as is indeed the case. Several authors have described an actual increase in the number and activity of the osteoclasts, and Miraglia holds that all the data go to prove that it is these and not the osteoblasts or bone-forming elements which are at fault; the reverse of this is probable in osteogenesis imperfecta. He thinks that syphilis in this case only acted indirectly, probably causing dysfunction of the thyroid and parathyroid glands, the sympathicotonia, and resultant effect on the bones. There was no direct syphilitic affection of the skeleton, and he contrasts the rarity of this disease with the frequent occurrence of congenital syphilis.

Treatment was antiluetic and by ultra-violet rays, the beneficial effect of which Miraglia attributes to their acting on the endocrine system, in this case preventing further fractures and restoring the radiographic appearances to normal.

Obstetrics and Gynaecology.

558. Induction of Labour by Castor Oil, Quinine, and Pituitary Extract.

A. MATHIEU (*Amer. Journ. Obstet. and Gynecol.*, February, 1927, p. 223) considers that the value of castor oil, quinine, and pituitary extract in the induction of labour is not sufficiently recognized as being the one safe method in combating many abnormalities. Two ounces of castor oil and 10 grains of quinine sulphate are given, and followed exactly two hours later by a hot simple enema. When this is about to be expelled 3 minims of pituitary extract are injected hypodermically, and this dose is repeated every half-hour until labour starts, after which the labour is conducted as if its onset had been normal. Failure is admitted and the procedure stopped at the end of eight hours if no sign of labour is present; a sedative is given and the process is repeated after an interval of twenty-four or forty-eight hours. In a series of 91 cases there were only three failures, induction being successful in the remaining patients without any maternal or foetal deaths; 62 inductions were successful on the first attempt, 20 on the second, and 6 on the third. In 33 the labour terminated normally, 51 required low or mid forceps delivery, version and breech extraction occurred in 5, and Caesarean section was needed in 2. The method was successful in all the 39 multiparae, the average number of pituitary extract injections needed being six and a half; in the 52 primiparae the average number in the successful cases was six, in the 3 failures ten and a half, and in only 8 cases were more than twelve injections given on account of urgency. Mathieu states that the method is free from the dangers and difficulties attending the use of the bag or bougie, and he urges its adoption in those cases in which induction before term is indicated.

559. Etiology of Eclampsia.

E. CARLONI and M. FERRARI (*Ann. di Ostet. e Ginecol.*, January, 1927, p. 1) have analysed the records of 134 cases of eclampsia treated in Bologna between 1901 and 1925. They find it to be three times more common in primiparae than in multiparae. In both the incidence is highest during the age periods 15 to 20 and 35 to 45; for example, 9.3 per cent. of primiparae aged 15 to 20 were eclamptic, as contrasted with fewer than 3 per cent. of those aged 20 to 35. Comparing the incidence of eclampsia with the menstrual history of various patients the authors find that of patients with normal menstruation about 1 per cent. suffer from eclampsia; of those with genital hypofunction (Stameni), shown by scanty menstruation, late puberty, and early menopause, about 1.5 per cent.; and of those with hyperfunction, indicated by such signs as profuse menstruation, about 0.4 per cent. The incidence of eclampsia appears to be considerably greater among those who during the early months of pregnancy have shown well marked functional disturbances—in primiparae six times as great; moreover, among those who have not had troublesome functional symptoms in early pregnancy the onset of eclampsia is apt to be sudden, without prodromal pre-eclamptic danger signals. About one-fifth of the present series were cases of post-partum eclampsia, of which the onset was usually abrupt and the course benign. There were no cases of eclampsia before labour.

560. The Toxaemias of Pregnancy.

J. W. WILLIAMS (*Journ. Amer. Med. Assoc.*, February 12th, 1927, p. 449) classifies the toxaemias of pregnancy as eclampsia, pre-eclampsia, chronic nephritis, eclampsia superimposed on chronic nephritis, and low kidney reserve. He notes that in eclampsia when recovery ensues the return to health is very prompt, and the disease is unlikely to recur in subsequent pregnancies; after chronic nephritis recovery is tardy, and exacerbations occur earlier with each successive pregnancy. In pre-eclampsia the patient is acutely ill and presents a very high blood pressure and urinary albumin content, amaurosis, epigastric pain, and the typical blood chemistry picture of eclampsia. In these cases convulsions can be prevented only by the most prompt termination of pregnancy consistent with safety. Cases of low kidney reserve may be due to congenital causes, or to such factors as may have lessened the number of functioning glomeruli without producing chronic nephritis. There is no change in the chemical constitution of the blood. Oedema, headache, and more or less malaise are present, but the condition usually improves with rest in bed and a restricted diet. In eclampsia superimposed on chronic nephritis patients are more ill than with uncomplicated eclampsia, the blood pressure is usually high, and the amount of albumin excessive. Chemical examination reveals marked retention of non-protein nitrogen, and after recovery the symptoms of renal insufficiency persist. Williams believes that the ultimate cause of eclampsia and other late toxaemias of pregnancy is the formation of some chemical substance which leads to a profound disturbance of metabolism, accompanied by certain organic lesions, but whether its origin is in the mother, child, or placenta is unknown. He adds that until this problem is solved the treatment of eclampsia must remain empiric, the most effective measure being prevention by close pre-natal care. In both pre-eclampsia and nephritic toxaemia pregnancy should be terminated as soon as the condition becomes serious. Williams advocates a modified Strogonoff routine in mild as well as severe cases of eclampsia. He states that all the generally used anaesthetics superimpose an additional toxaemia on that of the disease, and that operative treatment will not show better results until some non-toxic anaesthetic is discovered. He thinks that Caesarean section performed under the usual general anaesthetics is the worst treatment for eclampsia.

561. Transmission of Tuberculosis from Mother to Foetus.

M. A. COUVELAIRE (*La Gynécologie*, December, 1926, p. 725) reports a further series of 126 cases of parturition in women suffering from pulmonary tuberculosis. He finds that in mothers who have slowly advancing disease, with slight or transitory aggravations during gestation, the infection exercises little or no influence on the intrauterine development of the foetus. Of 41 pregnant subjects, however, with rapidly advancing disease, 13 gave issue to stillborn foetuses or children dying shortly after delivery. Examining in conjunction with Calmette, Waltis, and Lacomme six such foetuses, with a view to detection of tuberculous infection, he found that (1) in three cases tubercle bacilli could be found by direct examination of foetal lymphatic glands which anatomically did not appear to be tuberculous; (2) ganglionic tuberculosis was present in a certain number of guinea-pigs inoculated with fluid from extracts of coronary or mesenteric glands or fragments of liver or spleen—this was true for all foetuses; (3) in two instances inoculation of guinea-pigs with filtrates from mesenteric glands or those of the hilum of the liver was followed by detection of Koch's bacillus in certain of the animals' lymph glands—without tubercle formation. Studying children who survived the puerperal period but died with the syndrome of "progressive denutrition," Couvelaire and his fellow workers found that in guinea-pigs inoculated with ground-up lymph glands, or with filtrate from lymph glands or mixed viscera, the lymph glands—in the absence of anatomical tuberculous lesions—contained acid-fast bacilli. It is concluded that apart from very exceptional transplacental transmission of tuberculous virus with lesions developed *in utero* there is also transplacental passage of a tuberculous virus which does not produce a specific anatomical lesion. These investigations are regarded as pointing to the existence of a tuberculous ultra-virus capable of passing through the placenta in the same way as it traverses a filter; of such a virus Koch's bacillus would constitute a more resistant form.

562. Treatment of Carcinoma of the Female Genitalia.

I. IKEDA (*Zentralbl. f. Gynäk.*, February 12th, 1927, p. 407) reports 461 cases of carcinoma of the female genitalia treated by radium between 1915 and 1923; of these, 432 were cervical; 198 are still living, the deaths including those from all causes up till the end of 1925. He shows that the number living from the end of the second and third years after treatment is remarkably constant; local recurrences and metastases occur most often from the end of the first to the end of the second year and then decrease in number. Among conditions complicating the carcinoma he mentions four cases of myoma which were much benefited by the treatment, and seven of pregnancy, of which two women in the second and third months aborted during treatment and died later. The other five women were in the latter half of pregnancy; all went to full time and had healthy children. Three of them became pregnant again and all died of haemorrhage, having given birth to living children, the cause of death being the scar tissue formed in the passages; for this reason Caesarean section is advised in such cases. Damage to neighbouring organs, specially the rectum and bladder, is usually the result of overdosage. Ikeda's youngest patient was 23 years of age, and in 45 per cent. of his cases malignancy started between the ages of 41 and 45. Recurrence and metastasis were more frequent in the patients under 35 to 40 and their prognosis was worse. Women in good circumstances come earlier for treatment

and consequently do better. All the 432 patients were married, 14 per cent. were sterile and 86 per cent. had from two to twelve children; the maximum number of cases was found in women with four children. As regards heredity 376 had no such history; 56 had familial, 15 paternal, and 28 maternal histories of malignant disease. Of 18 patients with carcinoma of the body of the uterus, 61 per cent. are living, and of 9 in whom the vagina was the seat of disease 33 per cent. In two cases affecting the external genitals a radical operation was performed first; in one the carcinoma recurred and she died; the other patient is alive.

Pathology.

563. The Effect of Aeration on the Bacteriophage.

F. D'HERELLE (*C. R. Soc. de Biologie*, February 25th, 1927, p. 451) has investigated the effect of aeration on the activity of the bacteriophage. He used four strains, active respectively against *B. dysentariae*, a staphylococcus, *B. pestis*, and *V. cholerae*. The bacterial suspensions were standardized to a strength of 250 million per cubic centimetre. Tests were made with 10 c.cm. of bacterial suspension at a temperature of 37° C., and the time taken for complete lysis to occur was noted. Under ordinary conditions the dysentery bacillus was lysed in five hours, the staphylococcus in twenty-four hours, the plague and the cholera bacilli in thirty-two to forty hours. In the dysenteric and staphylococcal suspensions secondary growth occurred after three to six days; in the plague and cholera suspensions the dissolution was never complete, and secondary growth became apparent a few hours after the minimal opacity had been reached. Under conditions of strict anaerobiosis lysis occurred very much more slowly than when the tubes were merely plugged with wool and exposed to the air. The staphylococcal suspension, for example, was not cleared for four days, and secondary growth did not become apparent for at least twelve days. When, however, the tube suspensions were exposed to a current of air in a thin layer, so as to obtain the maximum aeration, lysis occurred with great rapidity. The dysentery suspension was cleared completely in two and a half hours, and the other three suspensions in seven to eight hours. After ten passages under these hyperaerobic conditions the activity of the bacteriophage had so increased as to cause lysis of the staphylococcal, plague, and cholera suspensions in four hours; secondary growth often did not occur for two or three days, sometimes not at all. The author considers that these observations will be of value in the preparation of bacteriophage for therapeutic uses.

564. Benign Glycosuria.

K. FABER (*Journ. Clin. Invest.*, December 20th, 1926, p. 203) emphasizes the importance of distinguishing between the two essentially different forms of glycosuria—namely, that due to a disease of the islands of Langerhans, and the variety traceable to a deficient blood sugar regulation, which is dependent either on a persistent abnormally low threshold or on an habitually high alimentary blood sugar rise, or on both. In these cases the glycosuria is the result of a constitutional abnormality rather than of disease, and is harmless to the individual. Faber maintains that the correct diagnosis will depend upon the fasting blood sugar. If this is abnormally high a diagnosis of true diabetes should be made. If normal, the examination should be repeated several times at intervals of a few weeks, the patient being allowed a carbohydrate diet. Should a normal fasting blood sugar continue in these circumstances, the glycosuria is most probably of benign origin. If a low threshold is the only cause of the condition the case must certainly be considered as harmless. He adds that he has not heard of any definitely established case of benign glycosuria becoming changed into true diabetes.

565. The Acetic Anhydride Test of Cerebro-spinal Fluid.

J. G. [illegible] E. A. CARMICHAEL (*Journ. Neurol. and* [illegible], 1927, p. 220) have investigated the value [illegible]ride test of the cerebro-spinal fluid in a series of cases of general paralysis and other forms of neuro-syphilis. The cerebro-spinal fluid tested was never over forty-eight hours old, and was not heated. The authors remark that when the test cannot be performed at once the fluids should be kept in an ice chest; they may be stored thus for a week or more without affecting the results. In the test 1 c.cm. of the fluid is measured into a test tube and 0.3 c.cm. of chemically pure acetic anhydride added. The tube is gently agitated so as to form an emulsion, and then, drop by drop, 0.8 c.cm. of chemically pure sulphuric acid is added. If there is no immediate colour change the tube is again shaken gently. This coloration usually occurs when 0.6 c.cm. of the acid has been added, the additional 0.2 c.cm. merely intensifying it. The reaction is rapid and fleeting, and requires immediate recording. A positive result is shown by the appearance of a very definite lilac tint of varying shades. Other colours were considered negative, and it was found that a dirty brown hue was associated with a high protein content. The authors report that the reaction cannot be associated with any single one of the usual syphilitic reactions or combinations of these. They assume that the causal factor must be some other substance in the fluid than that producing the other serological reactions, and suggest that it may be due to an increased cholesterol content. They obtained a positive result in 15 out of 16 cases of dementia paralytica. They add that a positive reaction may occur in secondary neuro-syphilis, and that cases of cerebral degeneration may give a weak reaction. No definitely positive result was obtained in any case of tabes dorsalis.

566. Tubercle Bacilli in the Faeces.

P. CORSONELLO (*Bruxelles Méd.*, January 23rd, 1927, p. 373) states that all tuberculous patients do not expectorate, and that in granulia and diseases of the rhino-pharynx it is useless to search for the tubercle bacillus. The presence of this micro-organism in the faeces in granulia and articular tuberculosis has been reported by numerous workers, and Corsonello affirms that Koch's bacillus is constantly present in the faeces of the majority of pulmonary tuberculous cases. He considers that faecal examination is a certain diagnostic method and allows early bacteriological confirmation of the disease in latent cases or in those with no expectoration, that the bacillus is not met with in the faeces of healthy individuals, and that its presence in those of tuberculous patients establishes a possible source of infection. Corsonello follows the technique of Moreau and Venot, and, agreeing with Calmette that the bacilli reach the intestinal tract from the lungs by way of the biliary passages, he administers some days before the examination a cholagogue, such as calomel. A faecal fragment is triturated with a 25 per cent. sodium chloride solution till semi-liquid, and then filtered through gauze. To the filtrate equal parts of ether and ligroine are added and the mixture centrifuged. Films of the deposit are made, and stained by the Ziehl-Neelsen method. The author adds that the films should be very carefully examined as the number of bacilli present is small. A single negative search is valueless, and many films, taken at regular intervals, should be studied.

567. Experimental Epidemiology of Tuberculosis.

D. PERLA (*Journ. Exper. Med.*, February 1st, 1927, p. 209), having observed a number of spontaneous infections in animals kept in the same room with tuberculous animals, tried to determine more precisely the frequency with which spontaneous transmission of the disease occurs. The general plan of the experiments was to place artificially infected guinea-pigs in the same cage with normal guinea-pigs and to observe the animals for some months. In order to maintain the conditions as constant as possible every infected animal that died was replaced by a fresh infected animal, and every normal animal that died by a fresh normal animal. The proportion of infected to normal guinea-pigs varied from cage to cage. In the first experiment the guinea-pigs were infected by intraperitoneal inoculation of a small dose of a virulent human culture. In one cage there were 3 infected and 9 normal animals; in another 6 infected and 6 normal; and in a third 9 infected and 3 normal. Observation was maintained for seven and a half months. Of 13 normal animals that survived the entire period 3 acquired tuberculosis. In the second experiment the guinea-pigs were infected by subcutaneous inoculation, so as to provoke abscess formation and ulceration. Of 8 normal guinea-pigs exposed in the same cages to the animals with open lesions for seven months 3 developed tuberculosis. In the third experiment larger numbers of animals were placed in the same cage, so as to test the influence of overcrowding. Infection was performed by the intraperitoneal route. In one cage where the infected and normal animals were present in equal numbers—6 and 6—no spontaneous infections occurred. In another cage—6 infected and 12 normals—29 per cent. of the normal animals developed tuberculosis. In another cage—6 infected and 18 normals—60 per cent. of the normal animals developed tuberculosis. And in the last cage—6 infected and 24 normals—36 per cent. of the normal animals developed tuberculosis. In all the experiments the infection appeared to occur by the alimentary tract, the chief lesions being in the cervical and mesenteric lymph glands. It was shown that the animals injected intraperitoneally excreted tubercle bacilli in their faeces, especially for a week or two before death. On the whole the greater the intensity and duration of exposure to infection, the higher was the incidence of spontaneous tuberculosis in the normal animals.

EPITOME OF CURRENT MEDICAL LITERATURE.

Medicine.

568. Intraventricular Haemorrhage.

I. J. SANDS and M. LEDERER (*Journ. Nerv. and Ment. Dis.*, April, 1927, p. 360) record three cases of intraventricular haemorrhage and summarize the literature on this subject. Sanders stated that the most common and direct cause of primary intraventricular haemorrhage was rupture of some vessel on or near the ventricular walls, and mentioned seven possible sources of the blood. According to Gowers, the haemorrhage usually comes from the vessels of the choroid plexus. Tilney and Casamajor described a case which was under their close and continuous observation; they divided the symptoms into those resulting from haemorrhage into the cisterns, and those due to the extent of the haemorrhage into the ventricles. Death from intraventricular haemorrhage is usually inevitable, but the rare possibility of recovery is shown by a case reported by Launin. In the three cases reported by the present authors the symptoms were in close agreement with those described by Tilney and Casamajor. In one case it was found at the necropsy that the haemorrhage filled the entire ventricular system; the basilar and both middle cerebral arteries showed atheromatous areas, but the bleeding point could not be found. In another case a subarachnoid haemorrhage filled the cerebro-medullary cistern; numerous cerebral arteries were markedly sclerosed, and a sagittal section revealed a large pontine haemorrhage filling the fourth ventricle. In the third case the entire ventricular system was filled with blood clot, and two aneurysms on the left posterior communicating artery had ruptured, one into the left inferior horn of the lateral ventricle, the other into the subarachnoid space. The authors state that the onset of intraventricular haemorrhage is always sudden, and that if any premonitory symptoms seem to be present, they are due to some concomitant malady. They add that the acute onset of cranial symptoms in a man of known cerebral arteriosclerosis or of suspected intracranial aneurysm, with the early appearance of coma, persistently haemorrhagic spinal fluid, and spasms of the entire somatic musculature with absence of signs of paralysis, should lead to a diagnosis of intracranial haemorrhage.

569. Heredity in Simple Goitre.

W. R. BRAIN (*Quart. Journ. Med.*, April, 1927, p. 303) reports a series of six families including twenty-six persons suffering from simple goitre; in two of these families cases of goitre occurred in four successive generations. In a second series of five families there were twelve cases of simple goitre associated with congenital deaf-mutism. Brain submits evidence that the environment alone cannot account for the development of goitre and suggests that hereditary predisposition is an important factor in its etiology. A maternal goitre may activate a latent tendency in the child. He discusses the relation between such a tendency and the environment, with special reference to the iodine content of the soil and water, reconciling this etiology with McCarrison's emphasis on an infective process. Goitre seems to be transmitted more frequently by women than by men, the former being apparently more susceptible to iodine deficiency. Brain suggests that the difference between the two sexes as regards transmission is not generic, the predisposition being transmitted equally by both sexes, though it appears more frequently in the children of affected women owing to the influence on the foetus of the established disturbance of thyroid function in the mother. *He concludes that simple goitre may be the manifestation of more than one abnormal hereditary factor, there being a Mendelian dominant, affecting women particularly, which is latent in the absence of iodine deficiency, and also a Mendelian recessive, manifested equally by males and females, and occurring in the presence of a normal iodine supply.*

570. Mediastinal Pleurisy and Bronchiectasis.

E. RIST, P. JACOB, and P. TROCMÉ (*Ann. de méd.*, February, 1927, p. 144), who record seven illustrative cases in patients aged from 16 to 53, state that mediastinal pleurisy, of which the morbid anatomy was first described by Laennec and later by Andral and Cruveilhier, was not recognized as a clinical entity until the end of the nineteenth century. Attention was first paid to the acute purulent forms, such as the posterior mediastinal empyema described by Dieulafoy, characterized by dysphagia, recession, paroxysmal cough, and the formation of a collateral circulation. Subsequently attention was drawn to anterior mediastinal empyema and the difficulty in distinguishing it from acute pericarditis, as well as to anterior serous mediastinal pleurisy. The advent of x rays enabled an earlier and more certain diagnosis of these conditions to be made. Chauffard in 1902 showed that a paravertebral vertical shadow was characteristic of posterior mediastinal serous pleurisy. The present authors have found that dilatation of the bronchi is the condition most frequently associated with the radiological appearance of posterior mediastinal pleurisy. They maintain that every patient in whom a triangular shadow suggesting mediastinal pleurisy is found should be given an intratracheal injection of lipiodol. If the presence of bronchiectasis in the neighbourhood of the pleurisy is indicated it will have to be decided whether this is suppurative or, as is the rule, adhesive, and the treatment will then have to be directed accordingly.

571. Clinical Manifestations of Enlarged Thymus.

E. A. MORGAN, H. A. ROLPH, and A. BROWN (*Journ. Amer. Med. Assoc.*, March 5th, 1927, p. 703) have investigated 54 cases of enlargement of the thymus gland, 28 in males and 26 in females. In all except 2 cases the enlargement was accompanied by suggestive manifestations, which the authors have tabulated in the order of relative frequency. Spasms of holding the breath were observed in 29 cases, syncope in 9, cyanosis in 8, a continual hoarse cough in 7, noisy nasal breathing in 6, and choking attacks in 5. The authors think that these symptoms are not toxic, but that they are caused mechanically by vagus stimulation; in 96 per cent. of the cases x-ray treatment brought rapid relief. Recurrence of thymic enlargement or of clinical manifestations was recorded in 12 cases, but repetition of the x-ray treatment resulted in complete recovery in each case.

Surgery.

572. Cancer of the Breast simulating Erysipelas or Mastitis.

H. NÖLLE (*Zentralbl. f. Chir.*, March 19th, 1927, p. 724) describes six cases of mammary cancer in young women in which the early symptoms simulated erysipelas or mastitis. One patient lived for fifteen months after she first observed an irritation of the left nipple; this was followed by swelling of the breast and reddening and oedema of the skin, originating in the outer lower quadrant. The temperature was normal and there was no lymphadenitis. An exploratory incision confirmed the diagnosis of Paget's carcinoma. The skin condition precluded a radical operation, but autohaemotherapy, and simultaneously intensive x-ray treatment, arrested the morbid process for a long time. A severe rigor with temperature of 104° F. preceded an invasion of the right breast, and the skin became bright red suddenly, the erythema being sharply defined and the skin slightly tender. No direct connexion with the carcinoma of the left breast was found. The condition suggested erysipelas originating in the eczematous condition of the nipple; it subsided under alcohol dressings, but at the site of the redness a vesicular scleroderma appeared, followed by rapid development of nodules and the characteristic appearance of cancer *en cuirasse*, with slight local superficial ulceration. Later there was a milder recurrence of fever and erythema, and, towards the end, metastatic nodules appeared. The rapid extension of carcinoma *in a form resembling erysipelas* is very unusual, but Nölle refers to several recorded cases in which this condition was associated with Paget's disease of the nipple. Another woman, aged 27, discovered a swelling as large as a plum in the left breast three weeks after childbirth. The breast increased rapidly in size and became red with a stony hardness; the axillary glands were swollen. The milk was drawn from the other breast and a severe inflammatory swelling was found. No improvement followed three weeks' treatment, and an exploratory incision showed carcinoma of the skin. A woman, aged 21, complained of pain in the right breast, and redness of the skin suggested abscess formation, though no pus was found on excision. Klose found that the breast was of stony hardness; in the lower inner quadrant there was a tumour as large as an apple. The skin was red, with a sharply defined raised margin resembling that of erysipelas. There were no nodules. An exploratory incision showed that it was a case of medullary carcinoma, and the patient died within three months. In two of Klose's cases

irregular atypical fever persisted. Another patient with what appeared to be a left mammary abscess of four weeks' duration was found to have a hard, slightly tender tumour as large as a fist in the outer lower quadrant of the left breast. There was no fever, but the skin over the tumour was red and oedematous, and there was slight deep fluctuation. Above the tumour was a second one as large as a walnut. There were no skin changes, but the axillary glands were slightly swollen. An exploratory puncture showed a cavity containing necrotic tissue and serous fluid, and ablation of the breast and the subjacent muscles was performed, the axilla being cleared. The patient improved at first, but died from exhaustion on the ninth day. The autopsy revealed generalized metastases in the lungs, liver, spleen, kidneys, ovaries, and peritoneum. The sections showed large-celled carcinoma with some cirrhotic portions. The peculiarity of all these cases was the surprising resemblance of very malignant mammary cancer to erysipelas or inflammatory swellings. In nearly every case the original diagnosis was erroneous.

573. Arthritis following Typhoid Osteitis.

MOURGUE-MOLINES (*Bull. Soc. Sci. Méd.*, March, 1927, p. 130) reports the case of a patient with arthritis of the knee who had suffered from a severe attack of typhoid fever thirteen years previously. Following the attack fistulas and areas of osteitis persisted in various bones of the body, *B. typhosus* being isolated from the pus. Curetting was followed by apparent cure after some months. The patient was able to resume work, but thirteen years later, owing to a slight injury, arthritis of the right knee developed. Two symmetrical fistulas at both condyles of the femur were discovered, and bacteriological examination again revealed the presence of *B. typhosus*. Arthrotomy, with drainage, was performed, and an autogenous vaccine administered. No benefit being obtained, a stock vaccine was tried, with slightly better results; the Wassermann blood test was strongly positive, and a course of novarsenobenzol was begun. Despite all treatment no cure followed, and a perisynovitis, one of the signs of tertiary syphilis, still persists. The author draws attention to the following points in this case; the long period of latency of *B. typhosus* and its site of election, this micro-organism rarely attacking articulations: the association of this bacillus with the *Spirochaeta pallida* evidently causing a persistency of the lesions; and the improvement following the use of a stock rather than an autogenous vaccine.

574. Duodeno-Jejunal Diverticula and Intestinal Obstruction.

A. KROGIUS (*Deut. Zeit. f. Chir.*, March, 1927, p. 273) has collected eleven cases, including one of his own, in which diverticula of the duodenum, jejunum, or ileum have given rise to symptoms of acute intestinal obstruction. Seven of the patients were males and four females. The youngest was aged 6 years, one was 20, and another 27, while all the rest were over 40. In one case the disease appeared in the form of acute peritonitis due to gangrene of a duodenal diverticulum. In all the rest the clinical picture was that of mechanical intestinal obstruction, which developed slowly in four cases and rapidly in six. In four cases the diverticula were situated in the duodenum (in two of these diverticula were also present in the upper part of the jejunum), in one in the duodeno-jejunal flexure, in four in the jejunum, and in one in the ileum. In four cases there was only one diverticulum, in two there were two, and in five from five to sixteen. In only one case was the diagnosis of diverticulum made before operation by means of an *x*-ray examination. One patient was believed to have acute appendicitis, and in all the rest the diagnosis of intestinal obstruction was made without its nature being determined. Laparotomy was performed in ten cases and six recovered, including Krogius's patient, a previously healthy woman, aged 64, who suddenly developed symptoms of high intestinal obstruction, which was found to be due to a diverticulum at the duodeno-jejunal junction.

575. Retroperitoneal Adenosarcoma simulating Appendicitis.

S. LINDQVIST (*Zentralbl. f. Chir.*, March 12th, 1927, p. 662), operating on a boy, aged 3, for what appeared to be appendicitis, found a large tumour, the upper pole of which pushed the diaphragm upwards and outwards and was adherent to the under surface of the liver, while its lower end was attached to the upper pole of the right kidney. The medial surface of the tumour sloped deeply inwards and was also extensively adherent to the under surface of the liver and to the stomach. To remove the tumour it was necessary to open the peritoneum. Rather free bleeding from the liver and stomach was arrested by catgut sutures, and there was no appreciable injury to the stomach wall. The right kidney was removed. No metastases were found. The great portion of the cavity was closed and some small rubb drainage tubes were inserted. Although the operation last only thirty minutes under light ether anaesthesia, the patie was very collapsed, but quickly improved after intraveno injection of normal salt solution, and in the evening was o of danger. The tumour, which weighed 2½ lb., was found be an embryonic mixed tumour (adenosarcoma); there w no evidence of any connexion with the suprarenal capsul In some parts it resembled a pure leiomyoma or lei myosarcoma, in others there was distinctly differentiat epithelial tissue suggestive of an adenocarcinoma, wi occasional retention cysts. Lindqvist considers that t sudden onset of severe pain and local muscle rigidity justifi a diagnosis of acute appendicitis, but he regrets that differential blood count was made before the operation.

Therapeutics.

576. Cardiac Medication.

ACCORDING to V. GALLEMAERTS (*Bruxelles Méd.*, March 27t 1927, p. 699) the therapeutic effect of digitalis is the resultar of a series of actions on the various properties of cardia muscle re-establishing the functional equilibrium of th myocardium. The four functions of cardiac muscle ar automatism, conductivity, excitability, and contractility and digitalis acts on these different functions, its actio varying with the strength of the dose given. A weak dos has no effect on automatism, a medium dose diminishes i and a strong dose augments it until fibrillation occurs. Co ductivity is not affected by a small dose, but is diminishe by a larger one, and signs of heart-block occur. The actio of digitalis on contractility is more complex, but, generall speaking, a weak dose lessens while a medium dose increase it. Excitability is increased by both weak and moderate doses but owing to the effect of digitalis on the other functions, an especially by reason of the improvement of the coronar circulation, excitability is diminished indirectly. It has bee shown that there are three phases in the action of digitalis (1) Systole and diastole are prolonged and the cardiac actio is retarded by diminution of automatism. (2) Systole is stil more prolonged and strengthened, the quantity of circulatin blood being increased. (3) In the third or toxic phase cardia action becomes rapid and irregular, the quantity of circu lating blood diminishes, and the intraventricular pressur falls. The author thinks it is best to give a moderate dos (about 1 mg. of digitaline) two or three times and then t stop it; this form is more reliable than the official prepara tions. He prefers to give it in aqueous solutions. *Digitalis* often fails in cases of cardiac dilatation with a slow, regular pulse; in these cases renal diuretics, such as theobromine, diuretine, and squills, are indicated. Instead of *digitalis*, strophanthus and ouabain should be prescribed; the latter increases the tonicity of the myocardium and is thus particularly useful in severe dilatation, acting more *rapidly* than digitaline. Gallemaerts insists that radiography and electro-cardiography are most important adjuncts in the treatment of cardiac dilatation, and states that disastrous results may follow the blind administration of cardiac medicaments. Each functional disturbance requires an appropriate drug; thus auricular fibrillation is benefited by digitaline and still more by quinidine, while in treating disturbances of conduction digitalis should be withheld.

577. Bismuth Treatment of Syphilis in Children.

R. SOUTHBY (*Med. Journ. of Australia*, March 12th, 1927, p. 357) distinguishes three types of congenital syphilis in children: the early or florid type; the latent type, which becomes evident some years after birth; and the unsuspected type, which is only discovered by routine Wassermann tests. With the object of ascertaining whether treatment with bismuth alone was effective in children Southby treated 73 children with "bismol," an oily suspension containing 0.15 gram of bismuth hydroxide in 2 c.cm. of oil. Ten injections of the warmed preparation were given once a week intramuscularly into alternate buttocks, a second, third, or more courses following if the Wassermann reaction remained positive. Escape of oil was prevented by injecting it rapidly under pressure, when it seemed to diffuse more rapidly through the muscle. There was no interval between the courses unless the patient showed signs of bismuth intoxication, as evidenced by a gingival blue line, stomatitis, albuminuria, or the more severe symptoms of icterus, haemoptysis, rigors, and joint pains. The clinical and serological response to treatment was very good, especially in infants with the early congenital or florid type of disease; the rash, snuffles, and ulcerations rapidly subsided, and there was improvement in the general condition. Southby concludes that bismuth

treatment is apparently effective in obtaining a cure in children, the clinical manifestations subsiding rapidly; a longer period is required, however, to alter the Wassermann reaction than is the case with the arsenicals. The early congenital florid type was found to respond most rapidly and with greater certainty than the other types, and the local reaction at the site of the injection was much less than when arsenic is given. Toxic symptoms can be avoided by watching for the gingival blue line and by regular examination of the urine for albumin.

578. **Sanocrysin in the Treatment of Pulmonary Tuberculosis.**

N. OEKONOMOPOULO (*Acta Med. Scand.*, March 22nd, 1927, p. 1) discusses the findings of Moellgaard and his collaborators concerning the clinical application of sanocrysin. Moellgaard reported that this gold salt possessed great bacteriotropic properties, and that the severe reactions with fatal issues could be attributed to an intense toxaemia caused by the liberation of bacillary toxins owing to the bactericidal action of the salt. From the results obtained by Danish clinicians, Oekonomopoulo believes that the action of sanocrysin, favourable or otherwise, depends on the immuno-biological condition of the patient, the form of the lesions, and the age of evolution of the tuberculous process. The author reports the results of an investigation of thirteen cases treated by sanocrysin. He believes that the grave reactions and shock occurring in this method of treatment should be attributed to a metallic and not a biological intoxication, and that this salt possesses no sterilizing action, but exerts a toxic influence on the organism. He thinks that the use of sanocrysin is not dangerous if an appropriate dosage is employed and a judicious choice of patients exercised. The drug acts directly on tuberculous tissue by favouring the formation of cirrhotic tissue, and, though without absolute sterilizing powers, it has an indirect therapeutic action, and can effect relatively good results, which, however, are not stable.

579. **Ionized Tin in Furunculosis.**

IN view of his observation that tin miners are not subject to boils, G. B. MCAULIFFE (*Med. Journ. and Record*, April 20th, 1927, p. 547) decided to try tin applications in furunculosis of the ear, and found that this metal seemed to have a specific antagonism to staphylococcal infection when introduced beneath the surface of the skin. He used a mixture of metallic tin and its oxide, which was placed in solution in the ear; a current of 3 to 5 milliamperes was then applied for about ten minutes. Three daily treatments were given and rapid improvement followed, especially as regards the pain and inflammation. The author adds that the furuncle does not abort, but proceeds to painless maturation and discharge; the tin seems to relieve the pain of tension after the first treatment. When the boil is discharging he gives instillations of 5 per cent. mercurochrome, which he finds an efficient local antiseptic.

Anaesthetics.

580. **"Narco Local" Anaesthesia in Caesarean Section.**

F. E. KELLER (*Amer. Journ. Obstet. and Gynecol.*, February, 1927, p. 234) records nine cases, in patients aged from 20 to 41, of Caesarean section in which "narco local" anaesthesia was used, ether being contraindicated for the following reasons: chronic endocarditis and myocarditis with decompensation, chronic pulmonary tuberculosis, acute bronchitis, pyelitis with infection of the kidneys, hyperthyroidism, and nephritis with deformity of the symphysis. In the preparation of the patients no enema or purgative is necessary, and a dose of morphine sulphate, 1/6 grain, with scopolamine hydrobromide, 1/100 grain, is given one hour before operation. At the operation 0.5 per cent. novocain is administered by infiltration, an attempt being made to infiltrate the entire thickness of the abdominal wall before incising it. Keller thinks it is best to perform sterilization in selected cases at the time, thereby saving the patient the necessity of another operation either for ligation of the tubes or a therapeutic abortion in order to save her life.

581. **Scopolamine in Goitre Surgery.**

E. FISCHEL (*Anesthesia and Analgesia*, April, 1927, p. 100) maintains that the psychic factor in the induction of anaesthesia in goitre patients must not be ignored. Some have no dread of the operation, but are afraid of losing consciousness; others wish to be put to sleep before they see an instrument or the inside of an operating room; and others, again, overor under-estimate their ability to control themselves. Fischel advises that on first contact with the patient an attempt should be made to establish confidence, which will do much to quiet the overactive brain. Then come the usual sedatives, such as bromides, luminal, or veronal. Two days before the operation Fischel gives a test dose of scopolamine, one-half of that indicated for operative anaesthesia, in order to make sure that the patient will not be excited by the drug. A hypodermic injection of morphine combined with scopolamine is given one and a half hours before operation, the dose being determined by the degree of irritability of the nervous system and the weight of the patient. If only local anaesthesia is used Fischel gives 0.5 per cent. novocain with 3 drops of adrenaline (1 in 1,000) added to each ounce of the solution, infiltrating the tissues according to Braun's method. If an inhalation anaesthetic is given he uses the same novocain solution, but infiltrates only the line of incision. Nitrous oxide-oxygen is his inhalation anaesthetic of choice; it should be given to allay mental shock and to keep the patient sufficiently quiet to allow the operation to be performed. Ether is prescribed for patients with very high blood pressure and for those with obstruction of the trachea.

582. **Ephedrine as a Local Anaesthetic.**

IN order to obtain a local anaesthetic less toxic than cocaine and its allies B. E. READ and CH'IAO-CHIH LIN (*Chinese Journ. Physiol.*, January, 1927, p. 23) have tested various preparations by the wheal method of Sollmann. They found that a mixture of ephedrine with adrenaline and potassium sulphate produced as intense local anaesthesia as a similar mixture containing novocain in place of ephedrine. A definite synergism was shown to be caused by the mixing of ephedrine, adrenaline, and potassium sulphate, since ephedrine alone did not produce anaesthesia, though it was able to intensify slightly the anaesthetic action of novocain. The addition of 0.005 per cent. ephedrine to a 1 per cent. solution of novocain resulted in considerable shortening of the time taken in blocking the motor impulse along the sciatic nerve. The authors suggest that for dental surgery and ophthalmological work a mixture of ephedrine, adrenaline, and potassium sulphate may prove very valuable, especially since the relative toxicity of ephedrine is low, and it is stable, easily prepared and purified, and beneficial in conditions of shock.

583. **Brachial Plexus Block.**

E. M. LIVINGSTON and H. WERTHEIM (*Brit. Journ. Anaesth.*, April, 1927, p. 203) report the results of brachial plexus anaesthesia in 105 cases. They claim that it is suitable for any operation on the upper extremity, since its effects are limited to it and the vital centres are not affected. It has the advantage of allowing co-operation between the conscious patient and the surgeon, thus enabling the latter to dispense with an assistant in emergencies. If preliminary narcotics are used, the nerve trunks are avoided, and the operation is delayed until the full anaesthetic effect has been reached, as shown by the finger tips being insensitive to pain, operations can be performed without additional forms of anaesthesia. By the supraclavicular route of Kulenkampff 30 c.cm. of a 2 per cent. novocain solution are injected beneath the deep cervical fascia, usually through a single puncture; contact with the nerve trunks is avoided. No attempt is made to obtain paraesthesia, the solution rather than the needle finding the cords of the plexus. A hypodermic injection of 1/8 grain of morphine is given half an hour before the operation and repeated in some cases shortly before the brachial block is induced. In 102 of the 105 cases the operations were completed without additional means of anaesthesia. The authors state that the patient should be kept recumbent and under observation until the anaesthesia has passed away. Transitory complications, such as flushing, tremor, palpitation, and mild mental inco-ordination, occur in about 2 per cent. of cases, but they are of no greater severity than those following other methods of anaesthesia and never constitute a contraindication. Among operations performed under this method were those for infections and osteomyelitis of the forearm and hand, reduction of fractures and dislocations, repair of tendons and extensive injuries, removal of tumours and foreign bodies, amputation of the forearm, plastic operations, and median nerve suture.

Obstetrics and Gynaecology.

584. **Menstrual Haemorrhage and Health.**

B. ASCHNER (*Zentralbl. f. Gynäk.*, March 5th, 1927, p. 577) raises the question of menstruation being an excretory process. He believes that menstrual toxins are produced which, if the flow is arrested, scanty, or infrequent, give rise to symptoms of autointoxication. The presence of such toxins has not been confirmed chemically, but clinically their results are plainly seen. Abolition of menstruation, even in young women, leads to lasting disability, not only to passing

nervous and vasomotor disturbances, but to obesity, hyperaemia, raised blood pressure, gout, and rheumatism; such disabilities are commoner in normal or full-blooded women than in the small and anaemic. That these symptoms are probably due to retention and not to loss of ovarian hormones is indicated by the fact that they occur after hysterectomy when the ovaries have been retained. He suggests that less disturbance results from keeping part of the uterus and risking a return of any benign condition, and so maintaining menstruation, than by total removal. He adds that hysterectomy for an innocent condition should not be undertaken lightly because of the effect on the general health. Similar results are even more obvious in oligomenorrhoea and infrequent menstruation, classed together as hypomenorrhoea; here the retained products seek other paths, showing their results in diseases of the skin and eye, psychic disturbances, rheumatism, obesity, and polycythaemia. He urges strongly that the treatment should consist of emmenagogues and elimination of toxins, by diuretics, diaphoretics, salines, and, in suitable cases, venesection.

585. Treatment of Uterine Myoma.

ACCORDING to A. P. RAMOS and E. NICHOLSON (*Bull. Soc. d'Obstet. et de Gynécol. de Paris*, February, 1927, p. 89) the correct treatment for the great majority of cases of uterine myoma is surgical; radiotherapeutic measures should be reserved for patients who by reason of general disease, such as diabetes, cardiopathy, and tuberculosis, cannot tolerate operation. Their conclusion, which is shared by numerous other gynaecologists, is contrasted with the enthusiastic advocacy, about ten to twenty years ago, of *x*-ray and radium treatments, for which success was claimed in as many as 98 per cent. of cases. It is now acknowledged generally that *radiotherapeutic treatment of uterine myoma is contra-*indicated by pregnancy, inflammatory complications, malig*nant metaplasia, excessive size, and compression phenomena.* Apart, however, from these conditions, the authors state that *x*-ray or radium applications are certain to affect ovarian function, and much more often than not cause cessation of menstruation; while surgical treatment, with recent perfections of technique, in the majority of cases will permit retention of the ovaries and of menstruation. Reports from the Mayo Clinic show that about two-thirds of myomatous patients with medium-sized tumours show amenorrhoea after radiotherapeutic treatment; oligomenorrhoea only, as a result of careful gradation of dose, though theoretically attainable, is rarely achieved in practice. Myomectomy, as Goullioud states, is the only operation permitting the patient to retain her physical, intellectual, and moral value. Ramos and Nicholson believe that over 80 per cent. of myomatous subjects are amenable to this conservative treatment; they have so far had no cases of post-operative recurrence of symptoms, and quote the finding of Aschner, whose 47 patients, with two exceptions, had five years' freedom from recurrence after myomectomy. In cases in which myomectomy is too difficult or complex, Ramos and Nicholson utilize, when possible, Freund's cuneiform hysterectomy, with conservation of sufficient endometrium to preserve the function of menstruation.

586. Caesarean Section in Eclampsia.

L. TOMASI (*Il Policlinico*, Sez. Prat., April 11th, 1927, p. 526) records twelve cases of Caesarean section in eclampsia and advocates its more general use in this condition. He agrees that when the os is well dilated and the head advanced more ordinary means of delivery should be used; but when eclampsia sets in early in labour with a rigid undilated os, unbroken membranes, and a living child, Caesarean section is preferable, being the most rapid way of emptying the uterus. Alternative methods, such as turning, mechanical dilatation of the os, and forceps, introduce the risks of sepsis, injury to the soft parts, and delay; section, on the other hand, is rapid and in suitable conditions not very risky, the narcosis serving to diminish the convulsions.

Pathology.

587. The Process of Immunization.

H. D. WRIGHT (*Journ. Path. and Bact.*, April, 1927, p. 185), investigating antipneumococcal immunity in rabbits, found that a single intravenous injection of 5 c.cm. of a killed culture of pneumococci conferred on the animal a greatly enhanced capacity of removing a subsequent dose from the circulation, and of suppressing completely or in part the subsequent increase of the organisms. When a non-lethal dose of pneumococci was injected intravenously, it was found that the organisms diminished in numbers in the blood for about five hours; after this time they started to multiply to a variable extent, and then underwent a second diminution in numbers, leading to their complete disappearance in three or four days. If a lethal dose was injected, the same preliminary diminution in numbers occurred, but after this the organisms multiplied progressively and led to the death of the animal. If a virulent organism was injected intravenously into a rabbit which has recovered from a non-lethal dose of pneumococci, of which had received a formolized vaccine or a pneumococcal autolysate, the preliminary diminution in numbers was greatly augmented, so that the subsequent increase might fail to occur. Wright concludes that the clearing capacity of the immunized animal is considerably greater than that of the normal animal, and adds that the development of this increased clearing capacity may be detected as early as five hours after the immunizing dose; it is very marked after three days, and may persist for as long as ten months. It is both species- and type-specific. No definite association could be determined between this capacity and the production of antibodies such as agglutinins, precipitins, or opsonins. If this capacity was dependent on the production of an antibody, either this antibody must be of a new order hitherto undescribed, or the antibodies at present known must be capable of acting in the living body at a very much higher dilution than *in vitro*. That it was a true humoral antibody seemed to be proved by the fact that the increased clearing capacity could be transferred to a normal rabbit by means of the serum of an immune animal. How this antibody acted was not ascertained, but there was evidence suggesting that it favoured phagocytosis. Diminution of the circulating leucocytes by injection of benzol, and blocking of the reticulo-endothelial system with indian ink or lithium carmine, did not interfere with its action. The author also found that the blood of an immunized rabbit *in vitro* destroyed virulent pneumococci or delayed their growth; and he observed that this property appeared earlier and lasted longer than any other antibody activity tested. It would appear, however, that the ability of the whole animal to destroy virulent pneumococci is very much greater than that of the blood alone. The author considers that the clearing mechanism is dependent on a complex series of factors involving phenomena of adhesion and phagocytosis by mutually complementary systems of cells.

588. Bacteriolysis of B. tuberculosis by Living Tissue.

C. RICHET, JUNR. (*C. R. Soc. de Biologie*, April 26th, 1927, p. 965), has continued his experiments on the bacteriolytic action of the tissues on Koch's bacillus. A piece of tissue, weighing about half a gram, was removed aseptically and placed in a tube containing 5 c.cm. of sterile saline solution. A thin suspension of a human strain of tubercle bacillus was prepared, to contain about one organism per field of the microscope after it had been added to the tissue. The mixture of tissue and bacilli was examined every day for about a fortnight, and the number of organisms visible was noted. Using liver, spleen, or muscle removed from a rabbit that had been bled to death, the author found that the bacilli generally diminished in numbers and often disappeared completely. Thus in sixteen experiments disappearance of the organisms was recorded in ten, a diminution in four, and no effect in the remaining two. Injection of some of these mixtures into guinea-pigs was performed. Five of the mixtures, in which raw tissue had been used, proved innocuous, but two, in which the spleen and liver had been previously heated, gave rise to tuberculosis. Further experiments were made with similar results on the tissues of guinea-pigs. The author concludes that the liver, spleen, and muscle tissue of the rabbit, and the liver tissue of the guinea-pig, exert a bacteriolytic action on tubercle bacilli *in vitro*, and that the principle responsible for this lysis is thermolabile.

589. Nematode Parasites and the Etiology of Cancer.

A. BORREL (*Bull. l'Assoc. Française pour l'étude du Cancer*, February, 1927, p. 126) recalls his previous observations on the association of rat sarcoma of the liver with the cysticercus of *Taenia crassicula* of the cat, which, he states, was confirmed experimentally in America by feeding rats with ova of this nematode. He raises the question whether the cysticercus acting as an irritant is able to cause a cancer to grow, or if it is only the carrier of a virus. Borrel has often found a filaria in association with mammary growths in the mouse; the worms were discovered either within the tumour or in its near neighbourhood. On several occasions he observed living threadworms containing mature embryos in early formed very small growths 1/2 to 2 mm. in diameter. He considers that the presence of the living parasite is only transitory, and that if the mice had been killed two or three days later no living filaria would have been found. He suggests that some ectoparasite inoculates the mouse with the filaria; in certain periods of the year fleas are very abundant in the breeding cages and he has found young filarial embryos in the subcutaneous tissue of the mice: the question whether a virus may be carried by the parasite is raised.

EPITOME OF CURRENT MEDICAL LITERATURE.

Medicine.

590. Measles Prophylaxis by Convalescent Serum.

KARELITZ and S. LEVIN (*Amer. Journ. Dis. Child.*, March, 1927, p. 403) review the literature and record their own observations on the prophylactic treatment with convalescent serum of children exposed to measles. Their conclusions are as follows. (1) Children under 2 years of age, those suspected of having tuberculosis, infants in hospitals or nurseries, and others in whom measles would be a dangerous complication should receive complete passive immunization. All others could be benefited more by small doses or late injections, which would lead to a mild modified form of measles, probably causing permanent immunity. (2) Convalescent serum has the greatest immunity titre from six to ten days after the temperature has reached normal. Adult donors should be free from tuberculosis, syphilis, and other transmissible disease, and they must have had measles. (3) For complete protection of a child up to 3 years of age, who has been exposed from one to four days, 5 c.cm. of convalescent serum, 5 c.cm. of adult serum, or 75 c.cm. of adult whole blood is given intramuscularly. If exposed from five to seven days the same child should have 10 c.cm., 30 to 40 c.cm., or 75 to 100 c.cm. of convalescent serum, adult serum, or whole blood respectively. For a child aged 3 years and over the dosage after exposure of from one to four days is 10 c.cm., 30 to 40 c.cm., or 75 to 100 c.cm. After five to seven days' exposure the same child should receive from 15 to 20 c.cm., 30 to 40 c.cm., or 100 to 200 c.cm. For production of modified measles, one-third to one-half these doses is given. (4) Of 75 patients exposed to measles 3 not treated had typical attacks, 11 of 60 treated with convalescent serum had a very modified form of the disease, and 3 of 14 treated with adult blood or serum had more severe forms of the modified disease; 2 of the last 3 received transfusions from donors who had never had measles. (5) Modified measles is characterized by prolonged incubation periods of from twelve to thirty-one days, mild or absent invasion period, mild or absent coryza and photophobia, no or few Koplik's spots, mild prodromal rash, little or no eruption, very mild constitutional reaction, and no complications.

591. Asthma Simulating Tracheal Stenosis.

C. SCHWARZER (*Zentralbl. f. Chir.*, April 2nd, 1927, p. 857) describes the case of a primipara, aged 21, who, towards the end of pregnancy, had a sudden attack of dyspnoea with loud stridor; there was a moderately large goitre, and a diagnosis was suggested of tracheal stenosis due to pressure of the goitre. The patient was very cyanosed, and a loud stridor persisted. Schwarzer was not convinced that the goitre was sufficiently large to produce dyspnoea, and a skiagram showed that there was no tracheal stenosis. He also observed that the stridor occurred during expiration only, and auscultation revealed the presence of râles and rhonchi, confirming his opinion that the patient was suffering from severe asthma. She was relieved by treatment with daily injections of calcium and adrenaline. Shortly afterwards she was delivered spontaneously and painlessly, and there was no recurrence of the asthma. Schwarzer emphasizes the necessity for very careful examination of these cases before any operative procedures are undertaken.

592. Tuberculous Endocarditis.

ACCORDING to A. PIC and L. MORENAS (*Journ. de Méd. de Lyon*, April 20th, 1927, p. 185) there is a form of tuberculous endocarditis of inflammatory nature which is characterized by sclerosed cicatrices in the parietal or valvular endocardium. It is believed to be a cause of many cardiopathies of adults, particularly the so-called congenital mitral stenoses. The authors state that this condition may occur at any age, but is mostly seen in children and adolescents; it has been found in the newborn, infection having possibly been transmitted from a tuberculous mother by filterable viruses through the placenta. Rheumatic endocarditis is said to be a predisposing factor, as is also tuberculosis in other parts of the body. The authors recognize four groups of tuberculous endocarditis. (1) The vegetating, in which the lesions can be very extensive and involve especially the valves of the left cavities. They resemble those of the rheumatic type, but in the tuberculous form the vegetations are more strictly localized on the valves, the fibrinous coagulum is less thick, and the inflammatory lesions less extensive. (2) The attenuated inflammatory type, in which the two auriculo-ventricular valves are affected, and especially the mitral. This form is found in bacillary septicæmia. (3) The fibro-calcareous type, in which the mitral orifice is enclosed in a quasi-osseous ring; this form is very rare. (4) The sclerosed type, in which the sclerosis may be generalized over the valves and myocardium, or may be localized in one valve. The authors add that tuberculous endocarditis may be associated with pericarditis and myocarditis, and may cause symptoms of cardiac insufficiency. Its diagnosis is practically presumptive. The relative youth of the patient, possible infection from an adjoining tuberculous focus, the finding of Koch's bacillus in the blood, and collateral and hereditary tuberculous antecedents are the chief diagnostic points. No specific treatment is known. Simple inflammatory forms often heal spontaneously, while septic cases end fatally. In children preventive measures may be supplemented by the administration of Calmette's and Guérin's vaccine; in an already established endocarditis the treatment is that of tuberculosis elsewhere.

593. Optic Neuritis in Scarlet Fever.

HAKEN (*Münch. med. Woch.*, March 25th, 1927, p. 495), who records three illustrative cases, states that Groenow collected eight cases from the literature. Among 253 cases of optic neuritis occurring in infectious diseases Uhthoff found that only three were due to scarlet fever. A case reported by Barlow showed symptoms of nephritis. In Betke's patient there was evidence of neuritis. None of the other cases showed any further complications. The margins of the papilla were in all cases indistinct and deformed, in some cases choked disc was present, and others showed haemorrhages and neuro-retinal changes in the fundus. Two cases recovered, two showed considerable improvement, and one ended in optic atrophy. Haken's cases all occurred in a Berlin hospital in the spring of 1926. Two were women, aged 21 and 25 respectively, and one a man aged 36. In all three cases the attack of scarlet fever was severe and complicated by myocarditis, but none had any albuminuria. Visual capacity and perception of colour were considerably diminished in all. Ophthalmoscopic examination showed at first redness and deformity of the papilla with dilatation of the vessels, the latter persisting for a long time after visual capacity had been regained. Complete recovery followed in two or three weeks. In one case meningitis could not be excluded; in two there was otitis media. The sinuses in all the cases were intact.

Surgery.

594. Primary Hydatid Disease of the Omentum.

G. CIAPRINI (*Il Policlinico*, Sez. Prat., April 4th, 1927, p. 489), who records an illustrative case, states that while secondary involvement of the omentum is fairly frequent after spontaneous or provoked rupture of hydatid cysts in intraperitoneal organs, especially the liver, primary hydatid disease of the omentum is very rare. According to Aimes only 32 cases had been described up to 1920, and to these must be added one reported by Bolognesi and two by Margarucci in 1923. Ciaprini's case, which appears to be only the thirty-sixth on record, occurred in a soldier, aged 20, who since the age of 15 had suffered from abdominal pain, which had recently become localized in the right lower quadrant. On examination a hard movable swelling the size of a mandarine orange was found about two fingerbreadths to the right of the umbilicus. A diagnosis of chronic appendicitis and partly calcified mesenteric adenitis was made. At operation three hydatid cysts were found in the omentum and removed. The liver and appendix were normal and no cysts were found elsewhere. An *x*-ray examination of the thorax was negative. Subsequent recovery was rapid and uneventful.

595. Diseases of the Thyroid Gland.

A. S. JACKSON (*Amer. Journ. Surg.*, March, 1927, p. 228), in discussing diseases of the thyroid, draws attention to the fact that it is not always easy to diagnose cases of hypothyroidism; a patient who is above average weight, whose skin is dry, and whose powers of cerebration are slow should be suspected in this connexion. Cold weather causes suffering in these cases and the basal metabolic rate is slowed. Thyroxin given intravenously causes rapid improvement and after this thyroid given by mouth. Adenomata frequently develop in colloid goitre as a form of compensatory hypertrophy. Iodine does no good and may do harm in these cases

after the age of 20 years. Adenomatous goitres are potentially malignant and should be removed; they do not become toxic before the age of 30. They invariably develop before the age of 20; hyperthyroidism only occurs slowly in these cases, and the true condition may not be noticed at first. Conversely exophthalmic goitre is characterized by a rapid onset which seldom exceeds three months. The appetite of these patients is frequently ravenous, which is a valuable diagnostic point. Tachycardia and increased basal metabolic rate are always present. Jackson considers that surgical treatment in these cases has been revolutionized by the use of iodine before operation. With proper preparation the mortality after operation has been reduced to 1 or 2 per cent. or even less. These cases may be operated on with excellent results, particularly if the disease is treated early.

596. Tuberculosis of the Tongue.

J. RICHARD (*Thèse de Paris*, 1926, No. 521) states that tuberculosis of the tongue is a polymorphous affection of which the following varieties may be described: (1) Tuberculous ulceration. This is the commonest form, which is met with in adult life, and in the majority of cases is secondary to pulmonary tuberculosis. Primary ulceration is much rarer, but undoubtedly does occur. (2) Tuberculous gumma. This is a rarer form, of which only forty cases have been recorded. Primary and secondary forms are equally common. The prognosis is better than that of tuberculous ulceration, as it is more frequently primary. (3) Lupus vulgaris. This is an affection of adolescence, and is always associated with lupus of the face or nasopharyngeal mucosa. It is situated usually at the base of the tongue and may assume a papillomatous, ulcerative, or mixed form. (4) Lupus erythematosus is a still rarer variety, of which only eight cases have been recorded. Like the previous variety, it has always been associated with facial lesions. It appears in the form of erythematous, occasionally infiltrated, patches, which are partly or entirely concealed by scar tissue resembling leucoplakia or lichen planus. (5) The papillomatous form, of which ten cases have been recorded, differs from the two previous varieties by existing independently of lupus of the face or adjacent mucosa. It is an affection of adult life often secondary to pulmonary tuberculosis, and is situated by preference on the middle part of the dorsum of the tongue in the form of a round or oval tumour. It is readily cured by surgical treatment.

597. Thrombo-Angiitis Obliterans.

J. A. SICARD (*Bull. et Mém. Soc. Méd. des Hôpitaux de Paris*, April 7th, 1927, p. 443) describes, under the title of Buerger's disease, a form of arteritis occurring in young men. It runs a steady progressive course, attacking first the extremities of the lower limbs and then extending to the extremities of the upper limbs. It is accompanied by a moist inflammatory reaction, but does not proceed to a dry gangrene because the venous thrombosis is almost always associated with arterial thrombosis. It is resistant to all forms of medical and physical treatment, and surgical intervention is always needed. Pain is relieved immediately by amputation, after which the skin incision heals by first intention. Death supervenes from some intercurrent complication, usually of pulmonary origin. The disease is said not to occur in women; it is especially found among Russian Jews, Poles, Rumanians, and Japanese. On this account, and particularly from its sex selection, the author thinks that it is connected with some endocrine condition, such as the insufficient or defective secretion of adrenaline, which more especially affects the distal arterioles owing to their feebler resistance. The author refers to successful results obtained by removal of one of the suprarenal glands, and since the suprarenal glands are actuated by a testicular hormone he suggests that these cases should be feminized. Failing ovarian grafts or testicular radiotherapy he advocates daily subcutaneous injection of 10 c.cm. of woman's blood and of 4 to 5 grams of parovarian extract. He claims by this treatment to have postponed the necessity for operation and to have limited the focus of the inflammation.

598. Pseudarthroses.

B. PFAB (*Deut. Zeit. f. Chir.*, March, 1927, p. 271) states that during the period 1920–25 among 433 fractures of the leg bones and patella admitted to the Orthopaedic Hospital at Graz there were 40 cases of pseudarthrosis, which were classified as follows: tibia and fibula 18 cases, forearm 7, tibia 5, neck of femur 4, upper arm 4, patella 1, finger 1. No pseudarthoses in the femur were observed. Operations were performed on 34 patients, of whom 76.4 per cent. made a complete recovery. Ether anaesthesia was used, and the subperiosteal ends of the fracture were exposed, special care being taken to bring the ends together and to open the medullary cavity. Steel wire or kangaroo tendon was employed for uniting the fragments.

Therapeutics.

599. Treatment of Neuro-syphilis.

S. HECHT (*Med. Journ. and Record*, March 16th, 1927, p. 403) agrees that the characteristic headache of syphilis indicates a specific meningitis; he has seen cases in which the cerebro-spinal fluid gave a positive reaction six weeks after the appearance of the chancre. Every syphilitic should be regarded as a potential neuro-syphilitic. He doubts whether a patient can be cured in less than three years by modern treatment; even then he is not absolutely sure of the permanency of the results. He finds neosalvarsan quite as active and far less dangerous than old salvarsan. Freshly distilled water should always be used, since many, if not all, reactions are due to stale or impure water. A routine examination of the heart and urine should always be made, a good aperient be given on the previous night, and the patient should have no food for four hours before the injection. Hecht prefers silver salvarsan given intravenously in doses of 0.15 to 0.2 gram every five days; he finds it efficacious and prompt in action where old salvarsan or neosalvarsan has failed, and much less prone to cause reactions. He describes three cases of severe lightning pains and gastric crises in tabetics who were much improved and rendered able to attend to business after treatment by this salt after the older remedies had failed. He considers it the best remedy for neuro-syphilis, and thinks it should be given in courses of eight to ten injections at intervals of five days. He agrees that mercury has not been superseded by salvarsan, but he dislikes mercurial ointment and prefers insoluble preparations, such as mercury salicylate (20 per cent.) in oil, which is injected every five days. Twelve of these injections are given after the course of silver salvarsan unless bismuth is included in the treatment, in which case six mercury injections are followed by six intramuscular injections of an insoluble bismuth preparation at intervals of five days. Hecht states that bismuth is but slightly superior to mercury; it has the advantage of being practically painless, and in some cases its use is followed by better results than those of the older remedies. He gives eight or ten intravenous injections of silver salvarsan at intervals of five days, and six intramuscular injections of bismuth. After a month's rest the course is repeated in the same order. This is continued for a period of three to five years, disregarding the serological reactions. He employs spinal drainage following the intravenous injection of salvarsan to promote the flow of arsenic into the newly formed spinal fluid, and adds small quantities of salvarsan (1 to 2 mg.) to spinal fluid which is reinjected into the spinal canal. He condemns tryparsamine, but approves of the malarial treatment of neuro-syphilis by intravenous injections of 2 to 5 c.cm. of blood from a tertian case. After ten attacks of fever the patient is given quinine for two months and then has a course of ordinary anti-syphilitic treatment. Malarial treatment was tried in eight cases which had been treated intensively by other methods without result. Of these, five were greatly improved, and, after being bedridden, regained power to walk. He finds that malarial treatment is only efficacious in those patients who develop high fever.

600. Treatment of Tuberculous Empyema.

G. CAUSSADE and A. TARDIEU (*Bull. Soc. de Thér.*, March 9th, 1927, p. 70) record four cases of tuberculous empyema, in patients aged from 16 to 45, treated by intrapleural injections of a mixture of the following composition: iodoform 1 gram, sulphuric ether 10 c.cm., and 25 per cent. solution of ethyl morrhuate in olive oil to 100 c.cm. The object of the treatment was to combine the antiseptic action of iodoform with the local and general chemotherapeutic action of cod-liver oil as well as with compression of the lung. In three cases complete recovery, and in one considerable improvement, resulted from the treatment, which was continued from three to six months.

601. Treatment of Snake-bite.

H. WADA (*Japan Med. World*, February 15th, 1927, p. 35) has made a series of experimental investigations of the treatment of snake-bite by potassium permanganate and hydrogen peroxide, both of which were found to destroy *in vitro* the toxicity of the venom of the *Agkistrodon* snake; rabbits were employed in the investigations. It was shown that, after being bitten by the snake, the animals could be saved if 1/2 to 1 per cent. permanganate solution was injected into the wound within seven hours; the action of this venom is chiefly local. Injections of hydrogen peroxide solution were found to be similarly effective if given within nine hours of the snake-bite; no local injury other than slight haemorrhages was caused by this solution. Subcutaneous injections of lobelin and camphor were found to prolong life, but not to cure

the condition; repeated injections of these two drugs assisted the action of potassium permanganate or hydrogen peroxide and helped to save life. Local intravenous injections of calcium chloride (recommended by Kobayashi) were found to have no curative action, and this salt did not destroy the venom *in vitro*.

602. **Calcium Salts in Epilepsy.**

As the result of treating twenty-seven epileptics, fourteen with intravenous injections of calcium chloride and thirteen with injections of gluco-calcium, a product of glucose and calcium, E. KLEIN and E. FORCIONE (*Journ. Nerv. and Ment. Dis.*, April, 1927, p. 372) conclude that no benefit is derivable from the use of calcium in epilepsy. They add that the number of seizures shows a tendency to increase, and also that there is no advantage in the use of gluco-calcium over calcium chloride. No sustained increase in the calcium concentration of the blood serum was found after the injection of 1/2 to 2 grams of calcium salts.

Neurology and Psychology.

603. **Disorders of Conduct in Children.**

I. S. WILE (*Journ. Amer. Med. Assoc.*, April 16th, 1927, p. 1222) reviews the more common causes of disorders of conduct in children and warns against limiting treatment to the obvious condition, which is often only symptomatic of deep-seated trouble. He states that in all emotional outbursts it is necessary to distinguish between the factors preceding the *disturbance and the subsequent manifestations*. Among the contributing causes which must be assessed are inherited tendencies, physical and functional defects, failure in adaptation to environment, and parental overcontrol or neglect; an abnormality may be due to one or more of these. He adds that it is useful to ascertain whether conduct disorders are occasional, periodical, or habitual. Problems arise from the fact that the child is a human as well as a physical being, and it is necessary to realize that society plays a part in creating the difficulties of individuals. The child must, therefore, be carefully studied in his environment, and not apart from it, and mental deficiency is not to be considered more important etiologically than superiority of intellect. Wile *thinks the psycho-analytical method of approach is* valuable, but he does not champion any specific theory of psychic action. There is, he adds, little excuse for the assumption of *universal Oedipus and Electra complexes*. A fixed belief in constitutional inferiority as a cause is little more helpful than the view that conduct is a predetermined phenomenon of behaviour. *Each child needs a rational and* individual study, and treatment must be directed to both the patient and the environment.

604. **Nervous Manifestations of Helminthiasis.**

J. ZAMIA (*Thèse de Paris*, 1926, No. 440), who records seven illustrative cases in patients aged from 14 to 35, five of which are original, states that the nervous phenomena observed in the course of intestinal helminthiasis are due to two causes: (1) mechanical irritation of the mucous membrane of the intestine, (2) toxic disturbances due to the secretions of the parasites. The latter alone are of clinical importance. The mechanical disturbances are transient and usually precede or accompany the expulsion of the worms. The toxic disturbances, on the other hand, are of gradual onset, protracted and difficult to diagnose. One of the most important forms is helminthic meningitis, which is accompanied by chemical and cytological changes in the cerebro-spinal fluid. The possibility of its occurrence should always be considered in the presence of a meningeal syndrome. Another nervous manifestation of helminthiasis is neurasthenia, which is characterized by anxiety and headache, most pronounced at night. The presence of such a syndrome should indicate examination of the stools.

605. **Diffuse Cortical Sclerosis.**

G. Y. RUSK and C. E. NIXON (*Journ. Lab. and Clin. Med.*, April, 1927, p. 644) state that, in addition to the secondary cortical scleroses, there is a distinct form, commonly found in children, which is of unknown origin, and is associated with diffuse cortical atrophy and sclerosis. They cite several cases described by other observers, and report two further cases, both in children, one aged 2 years and 10 months, the other 1 year and 5 months. In both cases the family and antecedent history was negative, and the vision was affected. Hearing was definitely involved in the second case and probably also in the first. The first child was definitely rigid, with exaggerated deep reflexes when first seen, but these diminished later; the second was spastic, and also had exaggerated reflexes. Macroscopically, the brains showed a striking diffuse symmetrical atrophy of the convolutions, with wide, shallow sulci. There was an intense hypertrophy of the glial tissue in the cortex, and to a much less extent in the white matter of the brain, the basal ganglia, the brain stem, and cord, with marked involvement of the cortical nerve cells. All types of glia cells were seen, and there was a marginal

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these changes were much more marked, and satellitosis and neuronophagia were also present. The myelin sheaths in the first brain showed little abnormality, but in the second these were markedly involved. The meninges in the former contained a thick overgrowth of connective tissue, but in the latter there was only a thin, delicate membrane associated with a marked external hydrocephalus. Neither brain showed inflammatory changes. The grey matter of the cortex in both cases was evidently primarily involved, and the authors think that the condition represents a primary disease of the nerve cells with secondary glial hypertrophy. The absence of inflammatory processes and changes in the blood vessels preclude a vascular origin, and the disease is most likely an agenetic condition.

606. **The Neuropathology of Acute Chorea.**

L. H. ZIEGLER (*Journ. Nerv. and Ment. Dis.*, March, 1927, p. 273) reports a case of acute chorea with the necropsy findings in view of the doubtful etiology and pathology of this disease consequent upon the paucity of histological evidence. There is admittedly some relation between chorea, endocarditis, and rheumatism, and choreic movements have been observed in other conditions, such as pregnancy and the puerperium, gastro-intestinal diseases, exophthalmic goitre, polycythaemia, and acute epidemic encephalitis. The pathological findings in acute chorea have been so varied that a proved and definite lesion is unknown. Recent work points *especially to toxic changes in the brain cells and to destructive* lesions of the corpus striatum, some of which resemble the lesions of epidemic encephalitis. In Ziegler's case the chorea was associated with acute endocarditis. There was chromatolysis of practically all the cells of the central nervous system, with swelling of the nuclei and eccentric displacement. Some neurons were destroyed, especially in the sixth nerve and calcarine cortex, where glia cells were much proliferated. Other conditions present were neuronophagia; fatty deposits in the large cells of the motor cortex and pallidum; fat in the perivascular spaces; and petechial haemorrhages in a small area near the dorso-medial aspect of the restiform body of the medulla. Ziegler suggests that in this disease some of the elements of the brain may be less resistant to toxins or infections, which may, alternatively, have an elective action (irritating to destructive) on certain areas of the brain. Though recovery from the disease is possible, yet certain morbid tendencies observed in those who have had chorea make it apparent that the motor system has never developed properly, or that there are slight residual effects.

Obstetrics and Gynaecology.

607. **Rectal Analgesia in Obstetrics.**

J. WALKER (*Med. Journ. and Record*, April 6th, 1927, p. 474) discusses the relative value of the different analgesic methods in obstetrics and the indications for their use. He concludes that the nearest approach to the ideal of painless childbirth is afforded by that originally advocated by Gwathmey—*namely, rectal analgesia with ether, morphine, and magnesium* sulphate. At the onset of labour the bowel is emptied by a simple enema. When the pains are occurring every three to five minutes and lasting about half a minute, and the cervix is about the size of a five-shilling piece, an intramuscular injection of 1/6 to 1/4 grain of morphine sulphate in 2 c.cm. of a 50 per cent. magnesium sulphate solution is given, preferably during a pain, into the gluteal region. The patient is then kept very quiet, and half an *hour* later a second injection of 2 c.cm. of the magnesium sulphate solution alone is given. If there is no relief in twenty minutes the ether instillation is administered. With a gloved finger in the rectum the end of a catheter is directed beyond the foetal head, vaseline being *applied to the anus to prevent* burning by any escaping ether. An ounce of warm olive oil is poured through a funnel into the catheter and then the ether mixture, consisting of quinine hydrobromide 20 grains, alcohol 3 drams, ether 2½ ounces, and olive oil to 4 ounces, is given, followed by another ounce of warm olive oil. The administration of this instillation should extend over a period

of from ten to fifteen minutes; it should occur between the pains, and may be followed by another injection of magnesium sulphate solution. The success of the treatment depends upon judgement in giving the initial injection and the time of instillation; it appears to act best in primiparae and in those who are inclined to be nervous. All the patients slept for several hours after delivery, and did not show the signs of fatigue seen in those delivered by other methods.

608. The Capillary Circulation in Eclampsia.

T. HEYNEMANN (*Zentralbl. f. Gynäk.*, February 26th, 1927, p. 518) has found as the result of five years' trial that the use of the capillary microscope is of considerable practical value in eclampsia and the pre-eclamptic state. The alterations noted fall as a rule within two main groups: in the first the capillary circulation shows quickly and almost rhythmically alternating conditions of flow and stasis, while the second is characterized by repeated stases which may last one or even several minutes. The latter group is noted most frequently after serious operative interventions. Heynemann speaks with considerable reserve of the diagnostic utility of capillary microscopic observation. He states that the changes seen in eclampsia are also encountered in many normal pregnant women, and especially in healthy parturients; also that some cases of eclampsia are not associated with any morbid microscopic findings in the capillaries. The value of the method is chiefly prognostic, and it provides an index of the success or failure of therapeutic measures. For example, if the capillary circulation has temporarily improved after venesection, renewed signs of impairment may indicate the induction of abortion. With continued improvement of capillary circulation after bleeding narcotics are indicated if the circulation shows rapidly alternating streaming and stases; cardiotonic and stimulant measures are required if the circulation is of the type showing prolonged stases. Heynemann does not consider it justifiable to regard the alterations in capillary circulation as causative of an eclamptic convulsion, even supposing that conditions similar to those in the skin exist in the central nervous system; it is possible that they are merely an associated phenomenon.

609. Insulin in the Vomiting of Pregnancy.

E. SACHS (*Med. Klinik*, April 15th, 1927, p. 556) has found insulin treatment successful in severe cases of the vomiting of pregnancy when patients were losing weight and rejecting food. He begins with small injections of 5 units twice a day and progresses to two daily doses of 20 units. These doses are not preceded by the administration of carbohydrates, and it is to this that he believes the efficacy of the treatment is due. Symptoms of hypoglycaemia have never appeared. The improvement is immediate; the patients cease to vomit, their appetite improves, and they gain in weight. The mode of action is obscure, but the author holds that since the causation of the disease is possibly psychological, its treatment along the same lines—namely, by the administration of a popular drug—is at least justified by the results.

Pathology.

610. The Virus of Pleuropneumonia.

J. ORSKOV (*Ann. de l'Inst. Pasteur*, April, 1927, p. 473) has studied three strains of the pleuropneumonia virus. The medium used for cultivation was serum agar or ascitic agar; on both of these good growth occurred, with the formation in three to five days of colonies visible to the naked eye. To study the morphology of the organism the author examined growing colonies under the microscope, using the ordinary agar block method. With a small arc lamp as his source of illumination, an immersion lens, and a high compensating ocular, he obtained a clear image of the actual organisms; he was thus able to dispense with the use of the dark background. The morphology of the three strains was not identical; two of them were closely similar, but the third strain showed noticeable differences. He states that, generally speaking, the early or elementary form consists of a small oval body or a short rod; as this grows it forms a ramified mycelium, which later undergoes division into the small elementary forms. The organism, however, appears to be highly pleomorphic; at the edge of a growing colony, after four days' incubation, it was possible to distinguish a number of very irregularly shaped, branched and unbranched bodies, together with small, almost streptococcal forms, and rods constricted at the equator. The large swollen forms are probably the result of degeneration; for if cultures containing many of these forms are transferred to a fresh medium no growth occurs. In cultures aged about twenty to thirty hours one strain showed colonies having a central more compact portion surrounded by long streaming filaments, often with slightly nodular ends. The colonies formed by the other two strains had shorter filaments; moreover, after incubation for about two days autolysis became very active, so that the elements were transformed into swollen vesicles looking not unlike a hydatidiform mole. These large swollen forms were no longer capable of reproduction; this process depended exclusively on the small elementary forms of the organism. The author adds that while his observations agree with those of Bordet and others, they differ from those of Barnard.

611. The Intradermal Salt Solution Test in Scarlet Fever.

BEATRICE R. LOVETT (*Amer. Journ. Med. Sci.*, April, 1927, p. 539), after performing a series of intradermal salt solution tests on sixty patients with severe scarlet fever, concludes that the time of disappearance of the wheal is shortened in this infection, the shortening being proportional to the severity of the illness. If the disease progressed without complications, the duration of persistence of the wheal decreased rapidly, the normal being reached usually before the patient was in a fit state to get up. Urticaria was usually found to be associated with a shortened disappearance time. The author adds that an interval of less than thirty minutes before the wheal vanishes may be taken as an additional indication for giving scarlet fever antitoxin.

612. The Sedimentation Test in Appendicitis.

A. VIOLATO (*Rif. Med.*, March 14th, 1927, p. 248) refers to the findings of Starlinger that the plasma of persons whose red blood cells have a raised rate of sedimentation is richer in fibrinogen and globulin than normal plasma, and that this increase in fibrinogen is associated with increased disintegration of albumin in the tissues, there being a correlation between destructive organic processes and raised velocity of red cell sedimentation. Other workers have found that the red blood cells have a negative electrical charge, whereas fibrinogen and globulin have a positive electrical charge, and that the varying proportions of these charges determine the varying sedimentation rates of the red cells. In cases of acute infection of chronic inflammatory conditions accompanied with wasting such as tuberculosis, the sedimentation rate is raised. Using the method of Katz, details of which are given, the author has observed the red cell sedimentation rates in 103 cases of appendicitis, presenting various clinical appearances. In all cases, especially in those accompanied with suppuration or periappendicular abscess, the sedimentation rates were raised, but fell immediately after operation and gradually returned to normal with healing of the operation wound. This increased velocity of red cell sedimentation was associated with a corresponding rise in the number of the polymorphonuclear leucocytes. It is concluded that the estimation of the sedimentation rate is a useful means of determining the presence of an intraperitoneal suppuration.

613. Renal Function Tests in Prostatic Enlargement.

L. LURZ and HAMMEL (*Deut. Zeit. f. Chir.*, March, 1927, p. 200) consider the amount and concentration of the urine excreted during the first four hours after the administration of 1½ litres of fluid, such as weak tea, as one of the most valuable tests of renal efficiency when prostatectomy is contemplated, except in cases of complete retention. The difference between the lowest and highest specific gravities of the specimens obtained during the test should be not less than 15, and the kidneys should be capable of excreting urine of a specific gravity of less than 1006. This test should be used in conjunction with cystoscopy, the indigo-carmine excretion test, and the estimation of the residual urine, the blood pressure, and the residual nitrogen in the blood. Prostatectomy is contraindicated if the blood pressure exceeds 160 mm. of mercury after preliminary treatment.

614. Blood Changes in Scarlet Fever.

A. TÜDÖS and P. KISS (*Jahrb. f. Kinderheilk.*, April, 1927, p. 356) examined the fibrinogen in twenty-eight cases, the total albumin content of the serum in twenty-one cases, and the residual nitrogen in thirteen cases of scarlet fever, and came to the following conclusions. In the initial stage of scarlet fever a rise of fibrinogen is characteristic; in uncomplicated cases there is later a gradual fall. This rise serves as a delicate guide to complications and in some cases is perceptible even before these develop. The total amount of serum albumin is often increased, but this cannot be utilized as a prognostic sign. The residual nitrogen of the blood pressure varies in the scarlet fever patient as in the normal individual within fairly wide limits. In two cases the rise of the residual nitrogen preceded the appearance of nephritis, whereas other inflammatory complications had no influence on the residual nitrogen.

EPITOME OF CURRENT MEDICAL LITERATURE.

Medicine.

615. Active Immunization against Erysipelas.

K. E. BIRKHAUG (*Journ. Amer. Med. Assoc.*, March 19th, 1927, p. 885) has found that *Streptococcus erysipelatis* produces a soluble and thermostable toxin when grown in the Douglas tryptic medium digest for a period of five days, the concentration of toxin varying between 10,000 and 50,000 skin doses per cubic centimetre. During the acute stage of erysipelas the patient's skin reacts positively with the skin-test doses of *Streptococcus erysipelatis* toxin until about the tenth day of disease, when the reaction becomes rapidly negative to multiple skin-test doses of toxin. Simultaneously with the immunization of the skin to erysipelas toxin, the toxin in the patient's blood and urine completely disappears, and is replaced by a gradually increasing amount of antitoxin in the patient's blood serum, which in proper mixtures completely neutralizes the toxin produced by *Streptococcus erysipelatis*. Active immunization against erysipelas toxin, conferred by an attack of erysipelas, disappears in some persons six weeks after the onset, and their skin reactions suddenly become positive. It was found that persons with a history of recurrent attacks of erysipelas contracted the disease almost simultaneously with the reappearance of a positive skin reaction. Active immunization against recurrent attacks, by bi-weekly intramuscular injections of 500, 5,000, and 50,000 skin-test doses of the extracellular and intracellular toxin derived from *Streptococcus erysipelatis*, produced in the patient's blood serum a rapidly increasing concentration of antitoxin, so that in some persons 1 c.cm. of blood serum was able to neutralize completely 1,800 skin-test doses of toxin. Birkhaug records twenty-four cases with definite histories of frequent recurrent attacks of erysipelas; after active immunization the patients remained free from recurrent attacks for a period approaching two years.

616. Endocarditis Lenta.

A. F. CAGIGAL and C. CORTÉS (*Ars medica*, March, 1927, p. 68), who record an illustrative case in a woman, aged 23, with an account of the necropsy, state that endocarditis lenta is usually caused by *Streptococcus albus*. A history of inherited cardiac disease may often be obtained. The predilection of the lesions for the mitral valve can be explained by the fact that this valve is the most frequently affected by previous disease. In the present case the patient had suffered from acute rheumatism and typhoid fever. The condition of endocarditis lenta is characterized clinically by asthenia and septic fever. On the other hand, apart from the murmur, which remains unchanged from first to last, the cardiovascular symptoms are ill marked, and are only a terminal manifestation. The duration of the disease ranges from four to fourteen months. The fatal issue, which according to Vaquez is invariable, though Libman speaks of a recovery rate of 3 to 4 per cent., may be due to various causes, but is almost always the result of embolism. The diagnosis can only be made by repeated blood cultures. The conditions which must be excluded by the appropriate tests are tuberculosis, syphilis, pernicious anaemia, and malaria. Osteotrophic changes in the extremities, such as clubbed fingers, and ecchymoses in the skin, indicate an early death and are the result of capillary thrombosis and embolism. Treatment so far has been ineffectual.

617. Preventive Vaccination for Typhus.

SINCE the complete extermination of lice is impossible, C. NICOLLE, HÉLÈNE SPARROW, and E. CONSEIL (*Arch. de l'Inst. Pasteur de Tunis*, 1927, T. xvi, p. 1) discuss two methods for producing an immunity against typhus in those who are brought into contact with the natives of those countries where typhus prevails, and who are exposed to infection by lice. The first method, based on observations during epidemics that one attack confers a lasting immunity, consists of the inoculation of the serum of convalescent patients, or of donkeys which have recovered from typhus fever; unfortunately the serums are not invariably active. Though the immunity conferred by this method is immediate it is of short duration, often lasting only a few days; yet it is useful for medical practitioners exposed to contagion. The second method, which confers a less rapid but more lasting immunity, consists of giving an emulsion of infected guinea-pig's brains, which has a higher virulence than the serum, by subcutaneous inoculation of a series of graduated increasing doses. The authors give full details of the preparation of this emulsion, the dose of which can be roughly standardized. They recommend that the first injections should be attenuated by twenty-four hours' exposure in an ice-box, and also that each series of four to six daily injections should be separated by intervals of several weeks in order to ensure that the subject receiving a new series of more virulent injections has passed the longest period for a delayed typhus attack to declare itself. Two men on whom the test was made received three series of virulent inoculations on six, four, and four consecutive days respectively, representing for each series five, nine, and twenty-four virulent doses. The series were separated by intervals of twenty-eight days, twenty-eight days, and two and a half months; after a further two and a half months had elapsed both resisted a single inoculation of twenty virulent doses.

618. Measles and Lobar Pneumonia.

M. PAILLE (*Thèse de Paris*, 1926, No. 385) states that acute lobar pneumonia is rarely seen in measles wards. According to the cases recorded in the literature and his own experience it only occurs in convalescence. In such cases, therefore, there is a succession rather than an association of two diseases. The frequency of the post-eruptive pneumonia does not appear to be greater than can be explained by a mere coincidence. Apart from herpes facialis, which is never found, it presents all the clinical symptoms of true pneumonia. Paille records three examples of lobar pneumonia which developed in convalescence and were the only examples of this sequel among 3,000 cases of measles observed in Professor Teissier's service at the Hôpital Claude Bernard.

Surgery.

619. Fracture of the Lumbar Vertebrae.

R. H. KENNEDY (*Annals of Surgery*, April, 1927, p. 519) finds that there is considerable difference of opinion about the frequency of fractures of the transverse processes of the lumbar vertebrae. The condition, which is not uncommon, results from direct violence or muscular strain, the former being the more usual. These fractures are usually multiple, and when uncomplicated by fractures of the body, all occur on the same side. The symptoms and physical signs are those of a severe strain of the back. Pain is usually sharp when the patient attempts to turn over. There may be no deformity or swelling of the soft parts. The diagnosis can only be definitely made by an *x*-ray examination. The resulting disability is due solely to the associated strain of the back, and the fracture is negligible. Owing to the frequency of traumatic neurosis it is wiser to keep the knowledge of the fracture from the patient. Bony union is definite in a number of these cases. The treatment is rest in bed with massage and radiant heat. Prolonged immobilization is not necessary. Patients were found fit and able to walk in an average of sixteen days after the injury. Disability of over six months is unusual. The majority should return to work within two months with no complaints referable to the injury.

620. Treatment of Fracture of the Neck of the Femur.

C. E. JANCKE (*Zentralbl. f. Chir.*, March 26th, 1927, p. 790) describes the results obtained by various methods of treatment of fracture of the neck of the femur. In fifteen cases treated with strapping extension, abduction, and internal rotation, and about four months in bed, satisfactory results (including functionally efficient pseudo-arthroses) were recorded in 66 per cent. Recent investigations have shown that extensive regeneration of bone may occur even in elderly patients, commencing in the upper fragment after temporary necrosis; this should, therefore, not be removed, but bony union by accurate alignment of the fragments aimed at. Nine patients, with an average age of 66, were treated by Basset's method, in which apposition of the fragments is first obtained and the centre of the head accurately marked on the skin surface under *x* rays; a screw is then introduced with specially devised instruments and the patient allowed to get up comparatively early. Several deaths occurred during the treatment, and the only case which showed a satisfactory functional result after three years and nine months was a trochanteric fracture in a woman aged 75, in which the position of the fragments immediately after the injury was such that any conservative method of treatment would probably have yielded a satisfactory result. This procedure has

therefore been abandoned by the author in favour of Whitman's method of keeping the patient recumbent, with the limb abducted and internally rotated in plaster for three months. The patient is then allowed to get about for one month on a patten before the foot is taken out of plaster; after another month the plaster is removed from the knee, and after six months' treatment the plaster is entirely discarded, the patient continuing to wear a calliper for a further six to twelve months. Nine cases of a total of seventeen were treated more than one year previously, and among these two deaths were recorded (delirium tremens and senile marasmus) and two resulted in non-union (one tabetic and one epileptic); the remaining five showed good functional results. Recently, since Kreutz and Mau have shown that the radiogram may be deceptive and the fragments tend to separate again with extreme internal rotation, moderate internal rotation only has been applied. Jancke found that elderly patients stood the prolonged plaster treatment remarkably well, and, as a result of his own observations and those reported by others, considers this the method of choice.

621. Treatment of Arterio-venous Aneurysm.

P. MOURE (*Bull. et Mém. Soc. Nat. de Chir.*, April 2nd, 1927, p. 463) discusses a case, reported by M. Picard, of a popliteal arterio-venous aneurysm arising in a miner as the result of an injury. The aneurysm was treated by resection of the vein and lateral suture of the artery, which Moure considers the ideal treatment whereby the continuity of the arterial trunk is restored. The operation in the case described was successful, and the functional result perfect. Moure states that arterio-venous aneurysms as a general rule give good results after surgical treatment, probably owing to the development of the collateral circulation and the absence of clots in the sac. In simple arterial aneurysms these clots are a source of danger since, during the operative manipulations, they may be set free and block the peripheral vessels, leading to gangrene of the affected limb. Arterio-venous aneurysms may also be treated by quadruple ligature of the vessels and extirpation of the sac. The best operation is, however, one which re-establishes the continuity of the artery. In this operation the simplest method is to incise the sac or the dilated vein longitudinally, after producing haemostasis with a tourniquet. It is then easy to recognize the opening into the artery, the edges of which are always thick and well defined; the opening is easily closed by lateral sutures. This operation is found to give most satisfactory results. During it the limb must be completely exsanguinated so that the aneurysmal sac may be freely opened and the orifices of the vessels be examined where they open into it. In this way the suturing can be performed without difficulty or interference from the oozing of blood.

622. Internal Gall-bladder Drainage.

W. A. STEEL (*Surg., Gynecol. and Obstet.*, March, 1927, p. 393) advocates internal drainage of the gall bladder (cholecystoduodenostomy or cholecystogastrostomy) as a routine operative procedure, and reports the results of 100 such operations performed between four and eight years ago under spinal stovaine anaesthesia with drainage for two days. The gall bladder, exposed by an upper right rectus incision, was freed from its liver attachment sufficiently to allow the fundus to lie against the point of anastomosis without tension or kinking. An end-to-side anastomosis with the duodenum or stomach was performed, using linen thread for the serous stitch and No. 00 chromic gut for the through-and-through buttonhole stitch; a cigarette drain was carried to the seat of anastomosis and removed within forty-eight hours. Cholecystoduodenostomy was performed in 54 cases and cholecystogastrostomy in 46. The operative mortality was *nil*, and the post-operative 2 per cent., one patient dying from epidemic influenza and the other from hypostatic pneumonia. Steel states that acute or subacute pancreatitis is a contraindication for internal drainage because of the possibility of digestion of the tissues surrounding the seat of anastomosis. The youngest patient was 18 and the oldest 72, the average age being 41; 92 were females and 8 were males. In five cases in which exploratory reopening of the abdomen was required within from eight months to five and a half years after the primary operation the adhesions were found to be slight and not comparable with the dense scar tissue found after cholecystectomy. The gall bladder had the appearance of a round tube about 3/8 inch in diameter. It resembled the intestine rather than the normal gall bladder; it remained patent as an accessory bile duct and served to resist infection from the bowel, so that there was no danger of an ascending liver infection. Steel concludes that the procedure has a lower mortality and affords less liability to cholecystitis than cholecystectomy. It accomplishes the same purpose while it eliminates common duct surgery, and therefore is the operation of choice in infected gall-bladder cases.

Therapeutics.

623. Treatment of Severe Anaemias with Liver.

W. AITOFF and G. LOEWY (*Presse Méd.*, April 30th, 1927, p. 545) discuss the treatment of severe cases of anaemia by the administration of liver as described by Whipple in 1920. Two cases treated in this way are reported. The first patient, a woman who had probably a grave pernicious anaemia, steadily became worse after prolonged treatment by intravenous and subcutaneous injections of citrated blood and of arsenic; liver was then tried. The patient was at first too ill to digest it, so the liver was pounded, strained, and given, in the water in which it had been boiled, by means of a tube as a viscous broth. No drug treatment for the anaemia was continued. In sixty-five days the red corpuscles rose from 1,560,000 per c.mm. to 4,420,000 and the haemoglobin from 27 to 66 per cent. Before taking liver the condition of the patient was serious, and hope had been almost abandoned, but the weight increased, the appetite returned, she slept well, and was able to go for walks. The second patient was a woman with severe anaemia following malaria. Drugs had been tried in vain and were stopped when the liver treatment was begun. The liver was prepared in a similar way but was taken normally by the mouth. In seven weeks the haemoglobin rose from 32 to 60 per cent. and the red corpuscles from 1.5 to 3.5 million. The improvement was dramatic as regards weight, sleep, appetite, and the general condition. The authors emphasize the importance of preparing the liver correctly. It was boiled for ten minutes in water just sufficient to cover it, then it was pounded and strained through three sieves, the last of which had a very fine mesh. The sieves were washed through with the boiled water to which was then added the fine particles of liver. Rather more than half a pound was given daily. Grilled, roasted, or seasoned liver was found to have no effect, but probably it could with advantage be given raw, chopped up, passed through a sieve, and taken in a vegetable or meat soup.

624. W. P. MURPHY, R. T. MONROE, and R. FITZ (*Journ. Amer. Med. Assoc.*, April 16th, 1927, p. 1211) report the successful treatment of ten patients with pernicious anaemia by a diet rich in cooked calves' or beef liver. Careful examination of the blood pictures indicated that this diet appeared to cause the appearance in the general circulation of new young red blood cells; there was evident also a marked reaction in the bone marrow with a decrease of bile pigment in the serum. No change was detected in the non-protein nitrogen of the plasma or in the plasma protein, though the corpuscular protein was much increased. The treatment lasted in most cases for several months and the only drug employed was dilute hydrochloric acid.

625. Treatment of Malaria by Plasmochin.

A. DUBOIS (*Bruxelles-Médical*, April 17th, 1927, p. 785), in a review of the progress of tropical medicine during 1926, discusses the treatment of malaria by plasmochin, which is a synthetic derivative of quinoline. It has been shown to be active in tertian and quartan malaria, but is less effective in tropical malaria, where it is therefore combined with quinine. It has, however, a gameticide action of great importance in prophylaxis. The dose is 0.02 gram repeated three to five times daily. A daily dose of 0.1 gram occasionally causes slight cyanosis, methaemoglobinuria, and gastric disturbance. Patients in whom quinine produces haemoglobinuria are found to tolerate plasmochin. Dubois states that the treatment should be continued for not more than five days; it may be resumed after an interval of four days, and continued with alternative periods of treatment and rest. Relapses are said to be less frequent than after quinine, and yield to further treatment by plasmochin. Dubois adds that its prophylactic utility deserves careful study.

626. Thallium Acetate in Fungus Infections.

H. KLEINMANN (*Dermatol. Woch.*, April 9th, 1927, p. 493) treated 114 cases of fungus infections of the scalp, including 38 cases of favus, with thallium acetate, and obtained very satisfactory results in 108 cases. The patients' ages ranged from 6 months to 16 years. One dose of 7 mg. per kilogram of body weight was administered to patients weighing more than 25 kilograms, the others receiving 8 mg. Total epilation generally occurred in fourteen to nineteen days; the hair began to grow again in four weeks and returned to normal in another two months. The author agrees with Urnena in ascribing the prolongation of the latent period, recorded in later cases treated, to deterioration ("fatigue" phenomena) of the thallium salt, no undesirable effects being, however, observed. Among the patients were 21 in whom patchy and incomplete epilation

had previously been produced by inadequate *x*-ray treatment; thallium acetate was administered to these, four to five months subsequently, when the hair had grown again, and the epilation results were as satisfactory as in those patients who had not been subjected to *x* rays previously. In half the cases treated the hair along the frontal margin remained unaffected, and in 17 the lateral half of the eyebrows fell out. This suggests that the frontal part of the scalp and the medial part of the eyebrows are not included in the sympathetic innervation of the rest of the scalp, and supports the hypothesis that the thallium acts through the endocrine vegetative system. Blood examinations showed lymphocytosis and eosinophilia appearing two weeks after the administration and disappearing three weeks later; temporary achlorhydria was also frequently observed. In four patients folliculitis of the scalp occurred, but soon subsided again. No urinary changes or other ill effects were detected.

Radiology.

627. **Treatment of Naevi with Radium.**

ZOE A. JOHNSTON (*Radiology*, April, 1927, p. 292) advocates the treatment of naevi with radium as affording the most thorough removal with the best cosmetic result, a large number of cases having been uniformly successful. The advantages claimed are painlessness, ease of application, absence of marked reaction and of effect on the surrounding healthy tissue, while leaving a minimum of scarring with no contracture of the skin. The disadvantages are that the treatment is slow and expensive, while telangiectasis may appear later. In dealing with port-wine marks the method recommended is to make the application to the entire mark with at least two months' interval between treatments, but should the lesion be so large as to render an entire application impossible at a sitting it should be treated in sections. Vascular naevi elevated above the skin and involving only the superficial vessels respond readily to radium, one or two applications sufficing for small lesions, though larger ones will require more. If they are definitely elevated above the skin surface, radium needles can be inserted with advantage, one such treatment taking the place of several surface applications and so considerably shortening the length of treatment. Angioma cavernosum responds to radium treatment better than to any other method, beta radiation being indicated if the growth is not too deep, and gamma rays, or burying radium in the mass, if extensive. When there is a normal skin surface the condition is very suitable for embedded radium. The author insists that treatment should commence as soon as it is safe to take the babies out of the house.

628. **Nephritis following X-ray Treatment.**

G. DOMAGK (*Med. Klinik*, March 11th, 1927, p. 345) suspected that the chronic glomerular nephritis found in some children who had died from abdominal tuberculosis was associated with the repeated *x*-ray treatment they had received some months before death. He found that in rabbits killed over a year after radiation the weight of the treated kidney was only about a tenth of the weight of the untreated hypertrophied compensating kidney. By observations of many rabbit kidneys it was shown that the chief changes occurred in the tubular epithelium, these being soon followed by round-cell infiltration of the interstitial tissue. In some cases a few days after [illegible] on were seen in the cortex. [illegible] cicatricial tissue were found [illegible] still quite healthy glomeruli. In many of these contracted kidneys the tubules were completely destroyed. There was no support of the original suggestion that the glomerular affection was dominant, or that the contracted kidney following roentgen radiation was caused by glomerular nephritis. The author considers that in some cases an acute glomerular nephritis can result from radiation, and that radiation can aggravate an already existing nephritis.

629. **Iodized Oil in Bronchography.**

J. J. SINGER (*Archives of Surgery*, January, 1927, Pt. II, p. 167) has used for mapping the lung lipiodol and iodipin, each of which contains 40 per cent. by weight of iodine. He mentions five methods of introducing the oil: (1) through a trocar needle into the trachea; (2) under direct laryngoscopic examination; (3) through the bronchoscope directly into the lung; (4) through a tracheal catheter; (5) by injection into the pharynx of 20 c.cm. of oil while the patient extrudes his tongue as far as possible. From 20 to 40 c.cm. of the oil must be introduced in order to produce suitable radiograms. Singer has employed the fifth method with excellent results and little discomfort to the patient. He states that most of the oil will be coughed up within fifteen to twenty minutes, but the remaining opacities persist for some months. The first method is recommended for children, the fourth and fifth for adults, and the second and third when bronchoscopy is performed for other purposes. Singer states that the oil can be used to map out chronic empyemic and bronchial fistulas, and in pneumothorax and bronchiectasis shows well the collapsed bronchi. He maintains that bronchography with careful physical examination is of great value, displaying excellently the bronchial tree with abnormalities present. It is said to be harmless if properly used, but should not be employed when simpler methods are possible. G. TUCKER (ibid., p. 175) states that the introduction of the oil by the bronchoscope is safer and more accurate than by blind methods; that bismuth subcarbonate insufflation gives the clearest results in outlining the trachea and larger bronchi, and in bronchiectatic dilatation, and that the oil is best in abscess cavities and the periphery of the lung. E. W. ARCHIBALD (ibid., p. 206) maintains that in tuberculous cases iodized oil should be used with caution. He finds its injection useful in old thoracoplasty cases, and in the progress of a several-stage operation for bronchiectasis or abscess of the lung.

630. **Radiological Treatment of Epithelíomata.**

H. BEAU (*Paris Méd.*, April 16th, 1927, p. 383) refers to the well known fact that when a malignant growth has been treated by *x* rays or by radium, and complete sterilization has not been obtained, the radio-sensitivity of the growth is diminished. With subsequent treatment the radio-resistance is increased and the surrounding tissues become still more sensitive, and finally the cancer becomes incurable by radiation, except when massive necrotic doses are employed. He has reported 77 per cent. of successes obtained in 344 patients with cutaneous epithelioma who had not received any radio treatment previously, but of 75 patients who previously had received one or more radio applications, cure occurred in only 40 per cent. Of the 344 cases 280 received only one application, and cure resulted in 87 per cent. If one or more failures necessitated repetition of the treatment the results were not so good; of 18 cases irradiated for the third time after a second relapse only 11 per cent. were successful. It was noted that on the second and third radiation a much stronger dose was administered, which seems to support the view of an acquired radio-resistance by the growth. Of 80 cases of cutaneous epithelioma which had relapsed after treatment by *x* rays 9 were again treated with *x* rays, but with success in only 22 per cent.; the remaining 72 patients were treated with radium, there being 43 per cent. successful results. In 58 cases of relapse after treatment with radium only 20 per cent. were cured by *x* rays, whereas 53 other patients treated with radium gave 38 per cent. successes. Beau concludes that it is better to treat relapses with radium than with *x* rays.

Obstetrics and Gynaecology.

631. **After-History of Eclamptic Patients.**

H. NEVERMANN (*Arch. f. Gynäk.*, January 31st, 1927, p. 891), from the careful investigation of sixty patients who had suffered from eclampsia from one to twenty-three years previously, concludes that inconvenient, though not disabling sequels, are not uncommon. Thirteen patients reported severe headache and twelve complained of poor memory. Nevermann thinks that these are to be correlated with the minute haemorrhages and thromboses which are found microscopically in the brain during eclampsia, and with the bushy neuroglial proliferations which are found to replace the Purkinje cells and their dendrites in patients dying of intercurrent disease shortly after an attack of eclampsia. Four patients had visual defects, and five some swelling of the legs. Eight women had high blood pressure (140 to 170 mm.). Three only had albumin and cylindrical casts in the urine, but, of these, two were cases of recurrent pregnancy toxaemia and one an instance of very slight albuminuria within one year after an eclamptic illness; no transition from eclampsia to chronic nephritis was demonstrated in the present series. It is admitted that albuminuria and the presence of casts are frequently to be found for some time after eclampsia and that a necropsy at this stage shows morbid tubal though no glomerular changes, but the albuminuria and casts tend to diminish and disappear in course of time, and erythrocytes, even in small numbers, are never found, which is in marked contrast with chronic nephritis. The sixty women examined were the only traceable ones of a series of nearly three hundred.

632. Foetal Hydronephrosis as a Cause of Dystocia.

F. VOZZA (*Ann. di Ostet. e Ginecol.*, February 28th, 1927, p. 87) has found records of about 110 cases of dystocia following obstructive conditions in the foetal urinary tract, morbid urethral being more common than morbid ureteral findings. He records the case of a woman, aged 39, in whose eighth pregnancy labour at term, with a foot presentation, advanced slowly in spite of severe pain. The foetus died during labour. Podalic extraction was found to be impossible, and 750 c.cm. of fluid were withdrawn by puncture of the foetal abdomen. Labour, nevertheless, was still obstructed by a cystic fluctuating swelling; further puncture led to escape from a hydronephrotic sac of 1,500 c.cm. of clear fluid, and spontaneous delivery followed. The male foetus weighed nearly 6 lb., the distal part of the spongy urethra was impervious, and the whole of the suprajacent portions of the urinary tract were dilated. Hydronephrosis was present to a moderate extent on the right, and on the left had been so extreme as to cause dystocia. The obstruction in the urethra consisted solely in a non-inflammatory hypertrophy of the folds of the mucous membrane.

633. Pyelography and Pyelo-nephritis of Pregnancy.

LEVY-SOLAL, MISRACHI, and SOLOMON (*Journ. de Radiol. et d'Electrol.*, March, 1927, p. 170) have investigated by pyelography the occurrence of pyelo-ureteral anomalies in connexion with the difficulties so frequently encountered in the course of routine catheterization employed in the treatment of pyelo-nephritis in pregnancy and the puerperium. The authors refer to the classic theory of ureteral compression, or rather elongation, and the possibility of a right ureteral kink being produced by the ascent of the pregnant uterus; they conclude that renal infections are due to stasis in the intestine and renal pelvis, the latter being aggravated by anatomical predisposition. They have observed three cases, using lipiodol as the pyelographic medium, since it is well tolerated, antiseptic, and opaque. The patients' confinements were normal, and two were seen fifteen days and twenty-five days respectively after delivery. The former patient, aged 38, required a nephrostomy before her condition began to improve. The second patient, who was sent to hospital for persistent fever and general ill health, was confined the next day spontaneously. Subsequently she had much pus in the urine and she did not improve until nephrostomy was performed. The third patient was cured by bilateral ureteral catheterization without nephrostomy.

634. Bilirubinaemia and Ectopic Pregnancy.

C. TENCONI (*Ann. di Ostet. e Ginecol.*, March 31st, 1927, p. 127) has estimated by the van den Bergh indirect method the percentage of bilirubin in the serum of 68 patients suffering from various gynaecological disorders, comparing it with that of 28 patients who had recently had intraperitoneal haemorrhage following rupture or abortion of ectopic tubal gestation. In common with other observers he has found a physiological bilirubinaemia in about 50 per cent. of persons with healthy circulatory and digestive systems. In the case of ectopic pregnancy with haemorrhage the bilirubin of the blood serum was by no means always increased and frequently within physiological limits; in about 25 per cent. the test was negative. He concludes, therefore, that examination of the serum for bilirubin is of little value in the differential diagnosis of ruptured tubal gestation. Fairly well marked haematogenous icterus has been described in numerous cases of pelvic haematocele, and he author reports another instance of this.

Pathology.

635. The Influence of Sodium and Calcium Salts on Glycaemia.

M. LABBÉ, F. NEPVEUX, and ROHACEK (*C. R. Soc. de Biologie*, May 6th, 1927, p. 1145) state that mineral salts act on the intra-organic metabolism, not by their molecules, but by their more or less dissociated ions; and Loeb has shown that calcium ions lessen or neutralize the action of potassium ions. The present authors have studied the evolution of glycaemia in both normal and diabetic subjects after the administration of certain salts of sodium and calcium, the blood sugar being estimated by Bang's method. Sodium lactate in large doses caused an immediate hyperglycaemia in both normal and diabetic cases. Sodium bicarbonate in large doses produced a tardy and slight hyperglycaemia, and the intravenous injection of a smaller dose of the same salt was accompanied by a marked hyperglycaemia in both classes of subjects. The administration of calcium lactate caused a glycaemic lowering, but while the hypoglycaemia was prolonged in diabetics, it was followed in normal subjects by a very slight hyperglycaemia. The authors find that the action of the salts of calcium and sodium is complex. The ion Na associated with the acid radicals, CO_3H, and lactic acid raises the glycaemia in all subjects, while associated with PO_4 it does not. In diabetics, if mono- and bimetallic phosphates are administered with glucose, a weaker hyperglycaemic reaction follows than with glucose alone. Seemingly, the preponderating action is due to the anion PO_4 rather than to the cation Na. Calcium lactate and chloride produce in diabetics a hypoglycaemia, which results from the action of the cation Ca rather than from chlorine or lactic acid. The biochemical action of these salts on glyco-regulation is unknown, and may be explained by one of three hypotheses: (1) in diabetics sodium salts diminish, while calcium salts favour, the accumulation of glycogen in the liver and tissues; (2) these salts act directly on the nerve centres controlling glyco-regulation; (3) a specific action of the salts on the insulinic hormone. The authors add that whatever the explanation may be experience has shown the hypoglycaemic action of calcium salts, and consequently their possible use in the treatment of diabetes by lessening carbohydrate metabolism.

636. Diagnosis of Brucella abortus and Brucella melitensis.

E. VALENTI (*Biochimica e Terapia Sperimentale*, March 31st, 1927, p. 77) has carried out a series of tests to enable him to distinguish between *Brucella melitensis* and *Brucella abortus* Bang. He found that if saline suspensions of agar cultures were heated to 100° C. for one hour many of the *melitensis* strains spontaneously agglutinated, while strains of Bang's bacillus never did so. Of forty-four *melitensis* strains tested twenty showed flocculation within the hour. By this means it is possible to divide the strains of *melitensis* into two groups; one group behaves like the *abortus* strains, the other group undergoes spontaneous agglutination. The next test he used was direct agglutination, using antigens that had been deprived of their lipoids. Cultures on agar, forty-eight hours old, were suspended in 12 to 14 c.cm. of saline and heated to 100° C. for an hour. This treatment caused a number of the *melitensis* strains to auto-agglutinate. The remaining strains, which remained clear, were allowed to cool, mixed with an equal quantity of sulphuric ether, shaken, and allowed to stand till the ether had separated out on top. The underlying fluid was then withdrawn and heated to 55° to 60° C. for twenty minutes to drive off any traces of ether that might be left; they were then used as antigens in the usual agglutination test. The immune serums that were chosen came either from naturally infected persons and animals or from artificially immunized rabbits. The mixtures of serum and antigen were incubated for three and a half hours at 60° C., and were then left at room temperature for about twenty hours. Readings were taken at three or four different times. Using untreated antigens he found that strains both of *abortus* and of *melitensis* were agglutinated by both anti-*abortus* and anti-*melitensis* serums. But when the antigens used had been deprived of their lipoids he found that while both organisms were agglutinated by an anti-*melitensis* serum, only the *abortus* strains were agglutinated by an anti-*abortus* serum. In other words, removal of the lipoids had rendered the *melitensis* strains inagglutinable by anti-*abortus* serum. This test, he considers, affords a method of distinguishing the two organisms. When he employed it on a number of American strains he found that all strains coming from human patients reacted as *melitensis*, even though in America some had been diagnosed as *abortus*.

637. Physico-Chemical Properties of Exudates and Transudates.

G. MELLI (*Rif. Med.*, March 21st, 1927, p. 269) corrects the generally accepted statement that there is an equal concentration of crystalloids in the blood and in the effusions. By estimating the freezing points of the liquids he finds that the cryoscopic value Δ is 0.55 to 0.56 for blood and 0.52 to 0.55 for the exudates and transudates, and concludes, therefore, that the blood has a slightly higher crystalloid content than the exudates and transudates. There is an almost identical difference in the value Δ between the ultrafiltrated blood and the ultrafiltrated effusions. Sodium, potassium, and chlorine are present in practically the same concentration in the blood, the exudates, and the transudates. The sugar content of the exudates is the same or slightly higher than that of the blood, and markedly higher in the transudates. The calcium content is higher in the blood than in the exudates and slightly higher in the transudates than in the exudates. The amount of non-diffusible calcium seems to be greater in the serum than in the effusions, and more in the exudates than in the transudates. The addition of a calcium salt to an albuminous solution induces a permanent increase of osmotic pressure in the same solution, which is verified, or only temporarily verified, by the addition of some other salt such as a salt of sodium.

EPITOME OF CURRENT MEDICAL LITERATURE.

Medicine.

638. Typhoid Infection of the Joints.

H. SCHAEFFER and R. LIÉGE (*Paris Méd.*, April 9th, 1927, p. 346) state that though joint symptoms are not common in typhoid fever they are not extremely rare, as Grenet and Fortineau noted them in 7 out of 236 cases. Three principal forms may be described. The first constitutes the arthralgic form of Bazin and Potain, which is characterized merely by transient pains in the joints. The second form consists of suppurative arthritis involving several joints, more frequently a single joint, especially the hip, ending in ankylosis or spontaneous dislocation. The third form consists of serous polyarthritis resembling acute articular rheumatism. As a rule these joint manifestations do not occur until the beginning of defervescence, but in very exceptional cases they constitute the first sign of typhoid septicæmia, so as to merit the title of arthrotyphoid suggested by Robin and Leredde. The present authors have collected nine cases of arthrotyphoid, including the following personal case. The patient was a man, aged 46, whose principal symptoms for the first fortnight of the disease were fever and pains in the joints, which were attributed to acute articular rheumatism, although they were not relieved by sodium salicylate. Some of the joints were merely painful and others were red and swollen. It was only between the fifteenth and twenty-first day that the symptoms of typhoid fever, including parotitis, developed and the Widal reaction was found to be positive; recovery followed. As three of the nine cases of arthrotyphoid were fatal, the prognosis is grave. Although the examination of the serous fluid was negative in the only case (that of Danlos and Straus) in which it was made, it is reasonable to suppose that the articular localization is due to typhoid or paratyphoid bacilli. In most cases the cause of the localization is obscure, though in one instance there was a recent trauma and in another a previous attack of acute articular rheumatism.

639. The Prophylaxis of Scarlet Fever.

J. A. TOOMEY, R. M. FULLERTON, and M. E. KISHMAN (*Amer. Journ. Dis. Child.*, March, 1927, p. 420) report the result of their attempts to establish active or passive immunity in the personnel in the contagious disease department of the Cleveland City Hospital. Active immunity was established in 632 out of 649 cases after three injections, the Dick test becoming negative in from eight to thirty-five days after the last injection; in eight a fourth injection was required, in three a second series of three injections, while in four the reaction remained positive after three complete series of injections. Out of twenty cases actively immunized, nineteen did not contract scarlet fever when subsequently exposed to infection, but in the twentieth case a fleeting erythema appeared and was diagnosed as a doubtful scarlet fever; on the other hand, thirty-five unimmunized persons all contracted the disease while working in the scarlet fever ward. The authors state that individuals with negative Dick reactions generally have negative reactions for at least eighteen months. An initial immunizing dose of 250 skin-test doses is recommended; larger doses may produce a severe local reaction or even scarlet fever in susceptible persons. The authors admit failure in their attempts at passive immunization with scarlet fever antitoxin; not only was no protection against the disease obtained, but the serum sickness that often followed, in spite of concentrated antitoxin being used, was much more severe than the disease itself.

640. Pneumococcal Peritonitis.

M. BERGAMINI (*La Pediatria*, April 15th, 1927, p. 401) reports four cases of pneumococcal peritonitis in girls. He believes that the family history as a rule has no special influence on this condition. In two of his cases the onset was slow; one patient suffered from worms, another from repeated attacks of gastro-enteritis, and in one case trauma seemed to play a part. In two cases the pneumococcus was recovered from the blood, and the author thinks that the organism is more likely to be conveyed by the blood than by the lymph. There was no evidence of infection through the genitalia. Coryza was present in two cases and herpes in three. Pneumococcal peritonitis is stated to be more often primary than secondary in origin; it usually sets in suddenly. Relapses are not uncommon, and some of the attacks may be so slight as to suggest an abortive infection. Pain, generally very acute, is common; vomiting is usually present, the stools are loose, and the temperature is high. At first the abdomen is tympanitic, but later local areas of dullness appear; towards the later phases the abdomen becomes globose, with bulging of the umbilicus and possibly some discharge of pus. There is marked wasting and the peritonitic facies is present. The urine is diminished and contains excess of carbonates, phosphates, and traces of albumin. Tubercle may coexist and cause a positive von Pirquet reaction. In the differential diagnosis tuberculosis, streptococcal peritonitis, appendicitis, and typhoid fever have to be considered. In tuberculous peritonitis a change of position more readily alters the level of the fluid dullness than in pneumococcal infection, and in the former condition the intestinal coils come up against the anterior abdominal wall. In pneumococcal peritonitis the umbilical cicatrix is flattened and red, and the onset is much more abrupt. Tuberculous peritonitis affects children under the age of 5, while pneumococcal peritonitis is more common over this age, and in females than in males; ascites occurs often in the tuberculous type. Intestinal perforation due to worms does not set up peritonitis except in intestines already softened and damaged by disease. Owing to the tendency to encystment in the pneumococcal form it is not advisable to operate very early. The prognosis in the generalized form is grave.

641. Vagus Spasm.

V. MIKULOWSKI (*Monatsschr. f. Kinderheilk.*, April, 1927, p. 303) describes a case of vagus spasm in a boy aged 13. These cases, characterized by persistent, almost daily, attacks of abdominal pain and vomiting, were regarded by Rejchmann, by whom they were first described, as a gastric neurosis. Recently, however, the existence of an internal secretion, originating in the liver, or possibly the kidneys, and antagonistic in its action to the adrenal secretion, has been postulated; if this anti-adrenaline were present in excess, as Mikulowski believes to have been the case with his patient, the sympathetic system would be weakened in action, the blood pressure would be low, the vagus would be hyperactive, and there would probably be evidence of hypertonus of the other cranial or spinal vessels. The salient features of Mikulowski's case were: (1) Persistent intractable daily attacks of abdominal pain and vomiting during six years, unrelieved by any treatment. (2) Brown pigmentation of the skin and limbs. (3) Nervous instability of a tetanic type—Chvostek's and Trousseau's signs positive; during the attacks convulsions of a tetanic character were found in arms, hands, legs, and feet, and occasionally the whole body assumed the opisthotonic position. (4) The blood pressure was 65 to 60 mm. and the pulse 60. The boy was given adrenaline, with instantaneous effect on the blood pressure and pulse rate; the convulsions ceased and the vomiting grew gradually less and finally ceased. Thyroid tablets were then substituted for the adrenaline and the patient continued to improve, nor, six months later, in spite of all treatment having been discontinued, has there been any recurrence.

642. Asthma caused by Allergic Skin Tests.

J. W. SAMSON (*Med. Klinik*, April 8th, 1927, p. 506) reports a case of the accidental production of a severe attack of "experimental" bronchial asthma in a hay fever patient who had never previously suffered from asthma or urticaria; the case also demonstrates the close relation between the various allergic phenomena, asthma, urticaria, and hay fever. A girl, aged 18, had suffered from "hay fever" during the spring and summer months for six or seven years. The cutaneous reactions to a control of decinormal sodium hydrate and to powdered animal and vegetable protein being negative the patient's sensitiveness to cutaneous and intracutaneous applications of minimal doses of fluid extracts of five different kinds of grasses was tried. In ten to twenty minutes wheals appeared at the sites of the injections, except of the control, and gradually increased in diameter up to two to three inches; general symptoms of extreme respiratory embarrassment, with expiratory stridor, dyspnœa, swelling of the nasal mucous membrane, and small rapid pulse, gradually developed. This was followed by nausea, vomiting, and generalized urticaria with severe irritation which lasted about three and a half hours. An injection of adrenaline at the onset of the dyspnœa and pulse acceleration produced severe localized pain and a sharply defined area of cutaneous anæmia lasting three hours. Five hours after the commencement the respiratory symptoms had entirely disappeared and the cutaneous were scarcely perceptible. The

blood picture before and during the attack was normal. Samson considers that ordinarily in this patient the local sensitiveness of the conjunctiva and the mucous membrane of the upper respiratory tract acted as a barrier protecting the rest of the body from the allergen specific plant proteins, and thus prevented a general or local reaction in other organs. During the cutaneous sensitivity tests this barrier was evaded and the allergens acted directly on hypersensitive cells and organs.

643. Swine Erysipelas in Man.

C. SCHAAP (*Nederl. Tijdschr. v. Geneesk.*, March 19th, 1927, p. 1447) states that swine erysipelas due to *B. rhusiopathiae suis* is a rare disease in man. It is, however, not so uncommon as is generally supposed, as he has seen three cases during the last two years. It is naturally most frequent in veterinary surgeons, butchers, farmers, and others who are brought most in contact with pigs. As a rule it runs a mild course, but occasionally fatal cases occur. The symptoms consist in a bluish-red swelling of the hands, accompanied by burning, itching, and pain. There is more or less rise of temperature and constitutional disturbance. Treatment includes local applications, such as tincture of iodine, ichthyol ointment, or compresses of Burow's solution, and the use of a specific serum. All Schaap's patients, who developed the disease after slaughtering pigs, recovered within forty-eight hours of injection of serum. He adds that usually a single dose of 20 c.cm. is sufficient.

644. Acute Polymyositis.

R. PÉROT (*Thèse de Paris*, 1926, No. 471), who records seven illustrative cases, one of which is original, in patients aged from 9 to 70, states that little is known as to the pathogenesis and etiology of polymyositis. The disease may occur at any age. The influence of sex is unimportant, but the disease appears to be commoner in males, probably because their muscular system is more active. Some writers, especially in Germany, regard acute polymyositis as an infectious disease similar to acute articular rheumatism. Two principal forms are described—namely, dermatomyositis and neuromyositis, according as the inflammation principally affects the skin or the nerve trunks in addition to the muscles. Haemorrhagic polymyositis characterized by the appearance of haemorrhages in the skin is a much rarer form. The duration ranges from a few weeks to two years, but it is more frequently fatal than the other two forms, as it is liable to be complicated by myocarditis and severe intestinal haemorrhage or nephritis. Polymyositis must be distinguished from osteomyelitis, tumours of muscles, intramuscular haematuria, gummata, hydatid cysts, and trichinosis. Treatment is the same as that of any infectious disease; balneotherapy, injections of electrargol, applications of cold compresses, and, in severe cases, fixation abscesses may be employed. When the nature of the infection has been determined by blood cultures specific treatment by vaccines or serum is indicated.

Surgery.

645. Vasectomy in Prostatic Enlargement.

A. HENRICHSEN (*Deut. Zeit. f. Chir.*, March, 1927, p. 278) discusses the treatment of the comparatively large group of patients with enlarged prostate in whom a radical operation is contraindicated because of the general condition of the patient or because of deficient renal function which does not improve with suprapubic drainage or regular catheterization. Haberer practised vasectomy in 1912 as a preliminary to prostatectomy in order to prevent the epididymitis which occasionally followed continous catheterization. He found that in 40 per cent. of his cases the original symptoms subsided to such an extent that radical operation was no longer necessary. Other workers have since confirmed these results. Henrichsen now reports four cases in which radical prostatectomy was absolutely contraindicated on account of renal inefficiency; as the only alternative was a catheter life, he exposed the vas through a short incision into the scrotum under local anaesthesia and excised a portion 1 cm. long between ligatures. In each case the prostate diminished in size and the bladder symptoms improved considerably; one patient, aged 72, who had previously been too weak to leave his bed for weeks, gained 12 lb. in weight, showed marked improvement in his general condition, and was able to work again subsequently. Henrichsen suggests that the general rejuvenescence and increased working power which follows Steinach's operation can be adequately explained along the same lines by the removal of chronic urinary intoxication from partial retention, since the impotence of the patient remains unaffected.

643. Fibroma of the Stomach.

M. SCHARAPO (*Zentralbl. f. Chir.*, April 30th, 1927, p. 1109) reports a case of the rare condition of fibroma of the stomach, and states that only five or six cases of benign gastric tumours have been recorded. A healthy woman, aged 24, after three months of indefinite abdominal pain and increasing obesity, detected a hard and smooth painless swelling in the left epigastric region. The tumour was hemispherical and as large as a child's head; the lower pole was palpable; it extended towards the right to the middle line, upwards to the epigastrium, and downwards to the umbilicus and the left flank. The genitalia were normal. A provisional diagnosis of splenic tumour was made. The patient was sent home to wean her infant, and on readmission to hospital the tumour was found to be much larger. It was most prominent below the umbilicus, and lay obliquely between the left hypochondrium and the right iliac fossa, its lower border extending to the pubic symphysis. It was dull on percussion; above it the stomach gave a tympanitic note. The tumour was quite painless, smooth, and slightly mobile. There was increasing weakness and a sense of weight in the abdomen. At a laparotomy a pedunculated tumour weighing 12 lb. was found to arise from the region of the greater curvature and the colico-gastro-splenic ligament; it was removed and the stomach wall was sutured in three layers. The growth was found to be an enormous fibroma in a very oedematous condition. In the centre of the anterior surface there was a gastric diverticulum lined with normal mucosa. Scharapo comments on the rapidity of enlargement in this case; at the patient's confinement, two months before her first admission to hospital, there was no sign of the tumour.

647. Regeneration of the Bladder.

F. DE GIRONCOLI (*Arch. Ital. di Urol.*, March, 1927, p. 325), who reports an illustrative case, remarks that cases of regeneration of the bladder after almost complete extirpation of the organ are very rare, as only eight cases have hitherto been recorded—namely, two by Nicolich, one by Velhaminoff, one by Legueu, one by Carraro, two by Delfino, and one by Ravasini. De Gironcoli's patient was a man aged 68, who was admitted to hospital for vesical tenesmus, pollakiuria, and haematuria. Cystoscopic examination showed that the whole of the mucous membrane of the bladder was occupied by a cauliflower growth in which haemorrhagic and sloughing areas were apparent. The whole of the organ except the trigone and neck of the bladder was resected. On microscopical examination the growth proved to be a papillomatous carcinoma. Gradual improvement occurred, and eight months later the patient was regarded as cured. When death followed, two months afterwards, from gangrene of the lung, no trace of any new growth could be detected, but a small newly formed bladder with a capacity of 30 c.cm., which had grown up round the trigone, was found, consisting of normal mucosa, submucosa, and muscular coat. In view of the frequency of recurrence in carcinoma of the bladder the author adds that the result in this case may be regarded as satisfactory.

648. Treatment of Osteomyelitis.

L. THORNTON (*Journ. Bone and Joint Surg.*, April, 1927, p. 294) describes a method of treating osteomyelitis of the lower third of the femur, based on simple physiological and mechanical principles, and leading to permanent healing. In the early stage of the disease drainage by incision is an emergency measure, and the more quickly this is performed the less extensive the disease and the less the prostration of the patient. After drainage a period of waiting ensues and the diseased bone undergoes a gradual process of repair. When an *x*-ray examination shows that a line of demarcation between the living and dead bone has become defined a radical operation is performed to remove all devitalized bone; by the use of a tourniquet the essential bloodless field is obtained. All sinuses must be eliminated; incomplete operations are useless. If the bone has been much weakened a plaster cast may be applied. The lower third of the femur is approached from the inner side as destruction is usually greatest on this side, and healing occurs here more readily.

649. Early Diagnosis of Cancer of the Stomach.

PUECH (*Bull. Soc. des Sci. Méd. de Montpellier*, February, 1927, p. 175) draws attention to certain symptoms which suggest commencing gastric carcinoma. Anorexia is present in 80 to 90 per cent. of cases; it is often selective in type and persists in spite of remedies. Pain is frequent but not marked. There is more often a sense of weight rather than real pain; it radiates towards the left hypochondrium and is not relieved by vomiting. The vomit may be mucous and non-acid, haemorrhagic, or alimentary, especially if the pylorus is affected; it usually occurs in the early morning (eaux du cancer). Intestinal troubles include constipation, diarrhoea,

and melaena, and there are general symptoms, such as loss of weight and strength, and pallor. During this dyspeptic phase a tumour can seldom be felt. The age of the patient and the absence of any probable cause of gastric trouble or any previous history of dyspepsia are points to be considered. If there is a previous history of chronic ulcer which has now become cancerous, it will be found that treatment which relieved the patient previously now fails. Laparotomy will not always settle the diagnosis, for enlarged glands may be present in chronic simple ulcer as well as in cancer, but in the first case they are red and inflamed, in the cancer hard and white. The neoplastic stomach is rather pale, in simple ulcer it is thicker.

650. **Periarterial Sympathectomy.**

E. BRESSOT (*Rev. de Chir.*, No. 1, 1927, p. 5) records the results obtained after operation in twenty-four cases of periarterial sympathectomy. All the patients were males and between 18 and 35 years of age. Operative treatment was only employed after other procedures had proved of no avail. The technique adopted was that described by Leriche; no difficulty was experienced in performing the operation and there were no complications. The syndrome as described by Leriche was always observed—namely, contraction of the artery at the site of decortication followed by vaso-dilatation in three to six days. The results obtained were good and persistent in cases of Raynaud's disease and in patients with blueness of the limbs, where the vascular spasm was the predominant feature. In chronic ulcers, not due to syphilis, the results were particularly satisfactory. In cases of fracture with delayed union and in patients afflicted with causalgia the operation also gave encouraging results. In one case of perforating ulcer of the sole of the foot and in some cases of varicose ulcer the operation proved to be of value.

651. **Treatment of Acute Pulmonary Abscess by Pneumothorax.**

ACCORDING to H. C. JACOBAEUS (*Acta Med. Scand.*, February 28th, 1927, p. 697) patients with pulmonary abscess are usually first treated medically, and not a few patients recover with expectant treatment consisting of rest in bed and expectorants. Salvarsan has proved of benefit in abscess caused by spirillosis. On the surgical border-line is bronchoscopic lavage, introduced by the Americans; this, however, is rather difficult to [illegible] special knowledge, taxes the patient's [illegible] and is only suitable for centrally situ[illegible] are two forms of surgical treatment: (1) thoracotomy with opening and drainage of the cavity; (2) treatment by collapse, either by induction of pneumothorax or by thoracoplasty. Treatment by pneumothorax entails the same risk as bronchoscopy—namely, rupture of the lung with subsequent fatal empyema, and it is therefore dangerous to treat superficial pulmonary abscesses by this method. Jacobaeus reports three cases of acute pulmonary abscess in which treatment by pneumothorax proved beneficial. While this number of cases is too small to permit of any general conclusions, he maintains that the patients probably regained their health by this treatment less tediously and more pleasantly than by thoracotomy, and probably more easily than by bronchoscopy. He adds that if pneumothorax treatment of acute pulmonary abscess is contemplated it should be begun early before firm adhesions form, and without attempting previous medical treatment. If clinical improvement is obtained in a very short time the pneumothorax treatment should be continued, since newly formed adhesions may yield subsequently. Should no immediate effect be obtained the pneumothorax should be aspirated as quickly as possible and some other surgical procedure adopted. A persistent pneumothorax is always an aggravating circumstance in other surgical operations.

652. **Treatment of Mammary Haemorrhage.**

F. J. KAISER (*Zentralbl. f. Chir.*, April 9th, 1927, p. 905) thinks that the occurrence of vicarious or concomitant menstrual haemorrhage from the nipple is so doubtful that it may be dismissed, and that any such haemorrhage must be regarded as due to undoubted carcinoma, polycystic degeneration, or intracanalicular cystic epithelioma. He has found records of a hundred such cases, and concludes that the condition cannot be so rare as Klose has stated. Kaiser has encountered two cases since March, 1925. One patient, aged 37, had had bleeding from the left nipple for three and a half years. Although a radical ablation with excision of both pectoral muscles, and skin, and removal of the axillary and subclavicular tissues was performed four days after she was first seen, the patient died a year later from metastases in the sixth dorsal vertebra and elsewhere. The tumour was an epithelioma. The other patient had observed bleeding from the left nipple for thirteen years; complete ablation was performed and there has been no recurrence. The tumour was a fibro-carcinoma. Kaiser believes that in every case of haemorrhage from the nipple an operation should be performed. If the disease appears to be clinically non-malignant, and the patient can be kept under observation afterwards, a conservative operation is generally advisable. If there is any clinical evidence of definite malignancy the treatment should be radical.

Therapeutics.

653. **Treatment of Cholera.**

J. W. TOMB and G. W. THOMPSON (*Trans. Roy. Soc. Trop. Med. and Hyg.*, April, 1927, p. 516) conclude from their observation of many thousands of cases of cholera that intravenous injections of hypertonic saline solutions have no specific beneficial action. With these injections the death rate was as high as when ordinary carminative cholera mixtures were exhibited—about 50 per cent. They admit that the loss of fluid and of salt, which led Rogers to employ hypertonic saline, calls for the supply of both, but claim that this is best accomplished by giving physiological salt solution. They advocate the early use of opium, and even regard its withholding as mischievous, their experience running parallel with that of Wall, who held that if the evacuations could be stopped early, the course of the disease would be arrested also, and that opium administered before the onset of collapse would often prevent it.

654. L. ROGERS (ibid., p. 522) maintains the specific advantages of hypertonic salines in cholera and quotes B. Moore as holding that the benefit is attributable to the high salt content produced in the blood causing the chlorides to combine with cholera toxins, and leading to their excretion through the kidneys. Rogers's full treatment combines the use of hypertonic salines with the alkalis and permanganate by the mouth.

655. R. C. ROBERTSON and C. C. P. ANNING (*Journ. Roy. Army Med. Corps*, May, 1927, p. 321) give an account of 309 Chinese and 47 European cases of cholera treated to a conclusion by Rogers's plan, the saline solution employed containing sodium chloride 120 grains, calcium chloride 4 grains, potassium chloride 6 grains, and water to one pint. Of the Chinese 40 died, and of the Europeans 8, giving mortality rates of 12.9 and 17.02 per cent. respectively. The Chinese cases were arbitrarily divided into groups according to severity. In the group "very severe," 57 cases had a fatality rate of 50.8 per cent.; for "severe" and "moderately severe" the rate was rather over 5 per cent., and the 59 "moderate" cases all recovered. Morphine was given to some and was found beneficial. In both series the disease was more fatal to women than to men.

656. **The Use of Ephedrine in Therapeutics.**

W. S. MIDDLETON and K. K. CHEN (*Arch. Int. Med.*, March 15th, 1927, p. 385) refer to previous investigations of the therapeutic action of eph[illegible] lak and Robertschek and of ([illegible] vol. ii, paras. 239 and 456). Th[illegible] experimentally the effects of ephedrine sulphate, or hydrochloride, after internal administration, as a mydriatic, and in the treatment of asthma. Fifty-eight observations were made on forty-one patients, the drug being given by the mouth (intramuscularly in six) in varying doses, but generally sufficient to determine tolerance by eliciting mild toxic symptoms; the therapeutic dose advocated for oral administration is 60 to 90 mg., or from 1 to 1½ grains. With few exceptions this was found to cause an average rise of systolic blood pressure of 28.5 mm. of mercury, lasting about five hours; the diastolic pressure was also raised, averaging 12.5 mm., the pulse being more frequently accelerated than slowed. Of the untoward symptoms resulting from larger doses, diaphoresis, tremor, extra-systoles, tonal arrhythmia, palpitation, weakness, nausea, vomiting, and dizziness were among the most common, with, more rarely, tachycardia, restlessness, mydriasis, headache, insomnia, dyspnoea, and drowsiness. The authors consider that the drug is contra-indicated in cases of cardio-vascular disease or deficient circulation. A 10 per cent. solution of the sulphate with 0.1 per cent. homatropine hydrobromide was found to produce rapid, almost maximum, dilatation of the pupil, with brief paresis of accommodation and disappearance of the light reflex; it was also shown to be useful as a mydriatic for routine ophthalmoscopic examinations. The effect produced by atropine solution alone was slower in onset and development, though it lasted longer than an ephedrine-atropine combination. The efficacy of the drug in the treatment of bronchial asthma was tested in twenty-five unselected cases, doses of 50 to 100 mg. being given by the mouth; the

attacks were controlled in nine cases and improved in eight, but the remainder showed negative or inconclusive results. K. K. CHEN (*Ibid.*, p. 404) reports the results of a comparative experimental study of the effects produced by ephedrine, pseudo-ephedrine, and phenyl-ethylamine. The last of these, when injected intravenously, was found to act more intensely but for a shorter time than the first. Pseudo-ephedrine was shown to be weaker than ephedrine, but its action persisted for the same length of time.

657. Ephedrine in the Treatment of Bronchial Asthma.

G. F. MUNNS and C. A. ALDRICH (*Journ. Amer. Med. Assoc.*, April 16th, 1927, p. 1233) have used ephedrine sulphate in the treatment of twenty-two children with bronchial asthma, and report that in twelve cases full relief was afforded to patients in the paroxysmal stage, or with persistent cough, usually within thirty to forty-five minutes after the first dose. In four cases the amelioration was only partial, and in six cases the drug had no apparent beneficial effect. The minimum and maximum doses of ephedrine sulphate given by the mouth were 12 and 50 mg. respectively. In some instances the drug was given regularly for four hours, in others only as indicated by the symptoms. Nausea was caused in four cases, in two of which no benefit resulted. The relief seldom lasted less than four hours and often persisted for a day. No evidence of the establishment of tolerance to the drug was obtained. The authors think that ephedrine may, therefore, be recommended as a valuable remedy, particularly in milder cases of bronchial asthma in children when it relieves the cough.

658. Therapeutical Value of Invert Sugar.

W. SCHEY (*Wien. klin. Woch.*, March 31st, 1927, p. 421) has used continuous intravenous drop infusion of a 10 per cent. solution of invert sugar known as kalorose for eighteen months in the pre-operative and post-operative treatment of moribund patients with such conditions as perforated duodenal ulcer and peritonitis, and found it of greater value than isotonic and hypertonic saline infusions, with and without adrenaline, similarly administered. Its stimulant action on the heart was effective when camphor, caffeine, strychnine, digalen, and intravenous adrenaline saline had failed. The technique employed was as follows. An ante-cubital vein was exposed and a glass cannula with two right-angled bends was tied into the vein with a silk ligature; 500 c.cm. of the solution were run in at body temperature, and the dropping apparatus was then so adjusted that the solution flowed at the rate of one drop every three or four seconds. The cannula was kept in position with gauze swabs, strapping, and a bandage, and the arm was fixed in almost complete extension on a splint. The flask was refilled from time to time, though it was not found necessary to warm such subsequent additions, and the infusion was continued thus for several days. One patient received about 800 grams of sugar in 100 hours of continuous infusion, insulin being injected meanwhile. Schey adds that the apparatus needs careful watching; it should be disconnected, without attempts at restarting, should the solution stop flowing, because of the risk of embolism from a possible thrombus in the vein.

659. Bismuth in the Treatment of Arterial Hypertension.

A. LAMA (*Il Policlinico*, Sez. Prat., May 2nd, 1927, p. 648) has collected a series of patients known formerly to be syphilitic who were suffering from marked arterial hypertension (above 250 mm. of mercury). He reports that after treatment with bismuth salts the arterial pressure indicated by the sphygmomanometer fell and remained lowered for some time, even for months. In other cases of marked arterial hypertension, in which there was no history of syphilis, and the Wassermann reaction was negative (the so-called essential arterial hypertension), and in cases of vascular sclerosis, particularly of the renal type, he tried the same treatment and obtained a marked diminution of the arterial blood pressure, which, if not permanent, was at least very persistent. He employed suspensions of the tartrate or oxide of bismuth, or solutions of the sodium potassium bismuthyl tartrate, or the oxyhydrate of bismuth. He has found benefit result in some cases from two or three courses of treatment, with a month's rest between each.

660. Serotherapy in Scarlet Fever.

V. BIE, A. LARSEN, and M. S. ANDERSEN (*Acta Med. Scand.*, April 30th, 1927, p. 238) have tried three methods of serum therapy in scarlet fever: (1) a polyvalent streptococcal serum; (2) the serum of scarlet fever convalescents; (3) a specific serum of *S. scarlatinae*. They now report in detail several cases treated by each method. In the preparation of the polyvalent serums several strains of streptococci—obtained from the throat, the pus of ear and gland infections, and the blood—were used. As regards the second method they state that the blood of the convalescents should be taken fifteen days after the temperature has become normal, and both Dick and Wassermann tests should be made on the serums. They think that the failures of this method may be due to insufficient dosage, and recommend doses of 20 to 25 c.cm. for children up to 5 years of age, 25 to 35 c.cm. between 5 and 12 years, and 40 to 60 c.cm. for older children and adults. Specific serums were prepared according to the technique of Dochez, and the one employed by the present authors contained 30,000 skin units per cubic centimetre. This serum was usually given intravenously. Each method has proved satisfactory, but the convalescent and specific serums gave the best results. The drawback to the employment of convalescent serums is the difficulty of obtaining suitable blood and the necessity of laboratory collaboration; the authors, therefore, recommend specific serums.

Ophthalmology.

661. A Scissors-Needle for Discission.

A. KOLEN (*Amer. Journ. Ophthalmol.*, March, 1927, p. 186) describes the scissors-needle for discission of thick capsular membranes which he has devised on account of the difficulty which sometimes occurs in making an aperture in a dense capsular membrane, when discission with two needles has certain obvious disadvantages. The needle is made in two halves, which closely adjoin each other in the plane in which lies the broad profile of the needle. The two blades are fastened together by a small screw, and they can be separated by a lever attached to the shaft of the handle. After finishing the cutting the lever is released, the blades come together again, and the instrument can be easily withdrawn.

662. Glaucoma in Morgagnian Cataract.

A. KNAPP (*Arch. of Ophthalmol.*, March, 1927, p. 124) describes two cases of the rather infrequent association of glaucoma with Morgagnian cataract. Gifford believes that the degenerating cortex of the lens causes toxic products which are absorbed and produce glaucoma, but Teingold thinks that the irritation of the ciliary body by the subluxated shrunken lens is the only plausible explanation. In Knapp's two cases the local condition in the Morgagnian cataract seemed to be the cause of the rise of tension as the cortex had become completely absorbed, and he thinks that mechanical irritation of the ciliary processes by the displaced nucleus is the main factor in producing the rise of tension. As regards preventive treatment he considers it wiser not to allow a cataract to become hypermature. If this has occurred and glaucoma is set up it is best to treat the glaucoma medically and then extract the lens, preferably in its capsule, when the eye is quiet.

663. Conjunctivoplasty.

JOSEPH L. MCCOOL (*Amer. Journ.* [illegible] 1927, p. 113) calls attention to the va[illegible] in progressive types of corneal ul[illegible] the case of a woman, aged 58, who had a large and progressive marginal ulceration of the left cornea. As nothing seemed to check the spread of the ulceration it was decided to perform conjunctivoplasty. A flap of conjunctiva was dissected from above the cornea and one from below. These two flaps were drawn over the cornea so as to cover it except for a small central interval. The lower flap receded to its original position; the upper one did not entirely retract, but became incorporated in the corneal scar. The effect upon the corneal ulceration was, however, very marked and seemed definitely to start the healing process.

664. Treatment of Corneal Abrasions.

E. N. HUGHES (*Brit. Journ. Ophthalmol.*, April, 1927, p. 145) has found Locke's solution useful in corneal conditions, especially those arising from trauma. This solution contains the mineral salts of the blood with the addition of dextrose, the complete formula being:

Sodium chloride	0.9 part
Sodium bicarbonate	0.05 ,,
Potassium chloride	0.042 ,,
Dextrose	0.1 ,,
Calcium chloride	0.025 ,,
Distilled water	to 100

In one rather striking case of trauma a strip of corneal tissue 3 mm. wide and 5 mm. long had been gouged from the central part of the cornea; in its deepest part the wound penetrated to half the thickness of the cornea. The strip of cornea was replaced in position, Locke's solution was applied hourly, and the eye was covered by a light pressure bandage during the intervals between bathing. In a week's time the strip had reunited and only a very slight opacity was present at the edges, the strip of cornea itself being quite clear.

Obstetrics and Gynaecology.

665. Treatment of Ovarian Pain.

J. LHERMITTE and R. DUPONT (*Gynécol. et Obstét.*, March, 1927, p. 161) describe their method of denervation of painful and tender ovaries. They accept the descriptions of Hovelacque and Segond, according to whom the sympathetic filaments innervating the ovary come from the renal plexus, and during their descent with the ovarian artery receive communications from the intermesenteric plexus. There is no communication between the nerves of the uterus and those of the ovary, which enter in the middle third of the hilus. The nerves are separated by a comparatively large space from the artery. It has seemed to Lhermitte and Dupont logical in cases of pain of ovarian origin to excise a portion of the nerve filaments at the hilus of the ovary, after incision (parallel to the long axis of the ovary) of the posterior face of the broad ligament. This denervation is regarded as preferable to division of the pre-sacral plexus or hypogastric periarterial sympathectomy, although these procedures may to some extent remove pain by severing reflex nervous connexions of the ovary. The authors recommend denervation of the ovary on both sides, and record eleven instances in which great relief of pain has followed, mostly in cases in which the ovaries were sclero-cystic and in which also uterine malposition, appendicitis, or other morbid lesions were found and treated at operation. Neuromata resembling those of operation scars have been described in the hilum of the sclero-cystic ovary by Roux and in the ovarian stroma by Lhermitte and Dupont.

666. Chorion Epithelioma of the Fallopian Tube after Ectopic Pregnancy.

P. KLEIN (*Arch. f. Gynäk.*, January 31st, 1927, p. 662) records the case of a nullipara, aged 24, who had continuous utero-vaginal haemorrhage of variable, but on the whole moderate, intensity for three and a half months; no menstrual period had been missed. Severe haemorrhage followed a vaginal examination, and recurred two days later. On admission to hospital a reddish-black bleeding tumour the size of an olive was found attached by a short thick pedicle to the anterior vaginal wall; through the posterior and right vaginal fornices a tender tumour the size of a small orange was palpable. The vaginal tumour broke off readily, and was proved by microscopic examination to be a chorion epithelioma. The right adnexa were extirpated, a tubal haematocele being removed intact; this contained old blood clot, with microscopical evidence of organization in the tissue connecting it with the tubal musculature and of a chorion epitheliomatous neoplasm. On the sixth day after operation a sharp vaginal haemorrhage occurred, and a bleeding vaginal tumour the size of a hazel nut was removed from the site of the original vaginal tumour; microscopical examination again showed chorion epithelioma. A third recurrence in the same place led to alarming haemorrhage ten days later, and after its excision an *x*-ray application was made locally. Shortly afterwards haemoptysis occurred, and *x*-ray evidence of pulmonary metastases was found. Several *x*-ray applications to the chest followed, and ten months later the patient felt well and no morbid condition could be found in the genital organs, or in the lungs by radiography. The conclusion that this case was one of chorion epithelioma following tubal pregnancy, and not of a chorion epitheliomatous metastasis in the tube after uterine pregnancy, is drawn from the history, the histological examination of the tube, and the absence of gross change in the uterus. Klein has found records of fifteen other cases of tubal chorion epithelioma following tubal pregnancy; all proved quickly fatal from recurrence or metastases. Regression of lung metastases has been occasionally reported after uterine chorion epithelioma, and it is known that other metastases sometimes regress spontaneously after removal of the primary tumour.

667. Severe Ovarian Haemorrhage in Young Girls.

A. HERRMANN (*Zentralbl. f. Chir.*, April 16th, 1927, p. 976) reports that among 530 appendicectomies in women and girls he has encountered two cases of haemorrhage from the corpus luteum resembling appendicitis. A girl, aged 17, previously healthy, had a sudden attack of pain in the right iliac fossa, with vomiting and constipation; she had menstruated three weeks previously. There was pain on pressure over McBurney's point and the temperature was 100.5° F. Laparotomy revealed 30 c.cm. of black blood in the region of the caecum and right adnexa, which had escaped from a follicle in the right ovary. The bleeding point was excised and sutured, the appendix, though healthy, was removed, and the wound was closed. Another girl, aged 16, had a sudden attack of severe cramp-like pain in the right iliac fossa with vertigo and constant vomiting. She had menstruated three weeks previously. She was collapsed and pale, and the temperature was over 101°. There was severe pain on pressure and muscle-guarding over the right iliac fossa. At operation 50 c.cm. of black fluid blood and clots was found in Douglas's pouch and the right adnexal region; this came from a follicle in the right ovary, which was excised and sutured. Herrmann has found records of eighty-nine similar cases, and states that the differential diagnosis between appendicitis, haemorrhage from an ovarian follicle, and a ruptured tubal pregnancy may be difficult. The etiology is obscure, and there is certainly more than one possible cause. There was no question of the possibility of ovarian pregnancy in Herrmann's two cases, and many writers have recorded similar cases in which this condition could be excluded. Other causes are: inflammatory changes, heavy lifting, injuries, straining at stool, coitus, hyperaemia, and tumours. Haemorrhage occurs, in the majority of cases in the third week of the intermenstrual period, in the minority at other times.

668. Complete Atresia of the Vagina.

D. FERRACCIU (*Studium*, April 20th, 1927, p. 156) records three cases of complete atresia of the vagina. In the first the condition was the result of neglected laceration of the genitals occurring in labour; in the second case it was probably due to the use of caustic fluids in antiseptic vaginal douches; and in the third it was congenital. In all three cases the closure of the vagina had produced the same result—namely, the development of haematometra and haematosalpinx with the characteristic train of symptoms inherent in such lesions. Cases of complete vaginal atresia of puerperal origin are very rare. Prophylaxis consists in paying special attention to the patient, not only during the expulsive period of labour, but also in the early stage of the puerperium. The author adds that it should also be borne in mind that too prolonged immobilization may favour the adhesion of the lacerated tissues to one another.

669. Diathermy in Gynaecology.

B. S. TEN BERGE (*Nederl. Tijdschr. v. Geneesk.*, April 16th, 1927, p. 2110) has employed coagulation by diathermy in the following gynaecological conditions: (1) For diminishing the risk of wound infection in operations for cancer of the cervix, or total hysterectomy (13 cases). (2) In inoperable cancer of the cervix (7 cases). (3) In cancer of the labia and clitoris (1 case of each). (4) For cervical biopsies. (5) For removal of polypi. (6) In the treatment of ectropion, erosions, and chronic inflammation of the cervix. The primary mortality in hysterectomy for cancer of the uterus is high, ranging from 10 to 20 per cent.; death is due to cellulitis, peritonitis, septicaemia, or pyaemia, the infection arising from ulceration of the malignant growth. Since July, 1925, Ten Berge has treated the cancer before removal by diathermy, with the result that all the patients recovered, except one who died from peritonitis.

670. Sudden Death in Eclampsia without Convulsions.

R. POHL (*Zentralbl. f. Gynäk.*, April 9th, 1927, p. 913) records the case of a 3-para, aged 40, who died immediately after admission to hospital, moribund and comatose, during the sixth month of pregnancy. She had noticed oedema of the legs two days previously, followed by headache and vomiting; the coma was of a few hours' duration at the most, and there had been no convulsions. The urine contained 18 per cent. of albumin, as well as granular and hyaline casts. The diagnosis of eclampsia rested on characteristic microscopic findings in the liver and kidneys. The brain was soft; its substance was free from haemorrhages, but the lateral and fourth ventricles were filled with blood clot.

671. Haemorrhoids in Pregnancy.

W. A. FANSLER (*Minnesota Med.*, April, 1927, p. 212) refers to the fact that the engorgement of the pelvic vessels in pregnancy is apt to aggravate if not induce rectal complications. Some of these are best treated by palliative measures, the chief of which is the regular administration of laxatives. In patients with a previous history of normal pregnancies an early operation is indicated and is free from danger. In the later months such operation, though comparatively safe, should if possible be postponed. When there is a history of previous miscarriage or of systemic disease an operation is always contraindicated; in some acute cases, however, such as parietal abscess and strangulated or necrotic haemorrhoids, an operation becomes a necessity: it *should* be performed with as little delay as possible and under local anaesthesia. In the case of internal haemorrhoids the author advises injections of quinine urea hydrochloride; he finds such to be less disturbing than an operation and usually as effective.

672. Determination of the Relation Between the Foetal Head and the Pelvic Inlet.

E. D. RESNIK (*Surg., Gynecol. and Obstet.*, April, 1927, p. 553) describes a method of estimating beforehand the likelihood of the foetal head being able to enter the pelvis at birth. After determining the position, presentation, and posture of the child, and the situation of the anterior shoulder, the obstetrician passes one finger up the rectum to the level of the ischial spines, and places the palm of his other hand on the most dependent portion of the abdomen, as nearly over the anterior shoulder of the foetus as possible. With this hand this part of the abdomen is raised rather forcibly towards the mother's head, the hand sliding over the abdomen to a point just above the umbilicus, from which strong pressure is exerted towards the mother's spine. If the foetal head is not too large it advances into the pelvic inlet, often as low as the ischial spines, thus providing reasonable assurance that it will be able to engage during labour. The mechanism of this procedure is described and illustrated by diagrams, and the author states that he has found it very useful and reliable in many cases.

Pathology.

673. The Nature of the Vasomotor Mechanism.

OBSERVATIONS of the results following their operations on the sympathetic system lead R. LERICHE and R. FONTAINE (*Presse Méd.*, April 16th, 1927, p. 481) to the deduction that the classical theories of vasomotor mechanism need revising. These operations included removal of the entire cervical chain and of various ganglia, and section of different nerves for various conditions, including angina, scleroderma, and Raynaud's disease; they were supplemented by experiments on dogs. The authors classify their findings in the following three groups. (1) Section of all the so-called vasomotor nerves of a limb never causes vasomotor failure or lasting disturbance. No operations on the sympathetic produce vaso-paralysis, but are rapidly followed by an active, though temporary, vaso-dilatation, which from the one limb affected spreads to the others. (2) Section of certain sensory nerves, freezing of mixed nerves, and extirpation of neurones cause the same phenomena of active vaso-dilatation but not of paralysis or vaso-constriction. (3) After section of the medulla, which causes paralytic dilatation, vasomotor reactions persist. The authors consider these facts incompatible with the conception of physiologists that centrifugal vasomotor nerves run from the medulla to the periphery, the one carrying vaso-constrictor, the other vaso-dilator impulses. From their operations on communicating branches and on different lateral chains they do not believe that the vaso-dilators are exhausted before reaching the periphery and their action spent in the ganglia; they suggest instead that the periphery is the site of vasomotor actions which regulate the local circulation. The existence of vasomotor centres in the arterial walls is admitted, and it is possible to suppose that between these intra-arterial and the ganglionic and medullary centres there is a sensory connexion through fibres of an ortho- and anti-dromic conduction. The authors contend that the conception of the sympathetic system being purely centrifugal is no longer tenable.

674. Vascular Reactions of the Skin to Injury.

T. LEWIS and IRIS M. HARMER (*Heart*, April 20th, 1927, p. 19) have obtained evidence that the response of the cutaneous vessels to mechanical stimulation is due to the release of minute quantities of a substance resembling histamine. This acts locally on the endothelial vessels, causing dilatation, and on the sensory nerve endings, producing an axon reflex and thereby dilating contiguous skin arterioles. This substance is present only in infinitesimal quantity, therefore its source has not been determined. Believing that the local wheal is due to the release of a histamine-like substance, it was thought that extensive stroking of the skin of susceptible persons might liberate this substance in sufficient quantity to produce a recognizable general vaso-dilatation. This was found to occur in four patients with urticaria factitia. Firm stroking of the back with a comb produced between 70 and 130 wheals. Vaso-dilatation began shortly after the stroking had ended, reached a maximum in about six minutes, and more slowly declined. The reaction generally was indistinguishable from that caused by comparable hypodermic doses of histamine. Subjects whose skins are normal do not react to stroking. These observations provided direct evidence that in factitious urticaria a histamine-like substance is released in the skin and passes gradually into the general circulation. When there was an extensive distribution of wheals over the trunk the quantity of this substance released was equivalent to about 0.1 mg. of histamine base. One-third of this quantity of histamine base given hypodermically yields a recognizable general reaction. The concentration of the released substance in wheal fluid is calculated, in terms of histamine, to be about 1 in 1,500,000; this is in close agreement with previous determinations by other methods.

675. T. LEWIS and H. M. MARVIN (ibid., p. 27) state that the vascular response of the skin to injury consists of (1) a local dilatation of the minute blood vessels; (2) an increase in the permeability of their walls, leading to the formation of skin wheals; and (3) a widespread dilatation of the neighbouring arterioles. The first two effects are due to direct action of a histamine-like substance on the vessels, the third is due to an axon reflex, following sensory nerve paths. If heat, cold, or friction be applied for a longer period the local wheal is replaced by a blister. As the result of numerous experiments, the authors state the following conclusions. When the skin reacts by local reddening, wheaing, and a widespread flare, or when blistering follows, the vascular skin reactions are the result of the local release of a histamine-like substance. Antidromic impulses passing along sensory nerves cause vaso-dilatation by releasing a vaso-dilator substance from the tissues which the sensory nerve supplies. Nervous impulses are said to be capable of influencing the size of peripheral vessels in one of two distinct ways—namely, by a more or less direct action, and by an indirect action in which a released vaso-dilator substance is the immediate cause of vaso-dilatation. Herpes zoster is attributed to antidromic impulses passing down the sensory nerves, [illegible] skin, substances of a histamine-like nat[illegible] that antidromic impulses are concern[illegible] abolic or secretory activities of tissues supplied by them and that trophic lesions are due to disturbances of this control.

676. The Etiology of Scarlet Fever.

B. L. PALANTE and V. J. KOUDRIAVTZEVA (*C. R. Soc. de Biologie*, May 13th, 1927, p. 1218) endeavoured to repeat Ramsine's work on the filterability of pathogenic streptococci. Ramsine claimed to have isolated streptococci from mice injected with culture filtrates, and to have grown streptococci on artificial media inoculated with these filtrates; he concluded that streptococcal toxin contained filterable forms of this organism. The authors' cultivation experiments with filtrates of different strains of streptococci through a Chamberland L5 candle were completely negative. When these filtrates were injected into mice, however, it was sometimes possible to recover a streptococcus from the peritoneum. This they regard as quite inadequate proof of the presence of a filterable form of streptococcus in the inoculum. They bring evidence to show that streptococci are not uncommon in the blood and tissues of normal mice; and that when some foreign substance, such as dead Friedländer bacilli, is injected, these organisms tend to accumulate at the local site; they term them "microbes de sortie." Their conclusion is, therefore, that the presence of a filterable form of streptococcus cannot be demonstrated by biological methods. S. ZLATOGOROFF, V. KOUDRIAVTZEVA, and B. PALANTE (ibid., p. 1220) bring this conclusion to bear on the etiology of scarlet fever. Since, according to them, it is possible to reproduce in monkeys and rabbits a condition closely similar to scarlet fever by the injection of streptococcal cultures and of streptococcal filtrates deprived of toxin, and since streptococci themselves are unable to pass through filters, it is evident that experimental scarlatina must be due to a filterable virus. This virus they claim to have cultivated in Tarozzi-Noguchi medium. They state that it grows in the form of minute diplococci, not exceeding 0.1 μ in diameter. Cultures of the fifth or sixth generation on inoculation into rabbits have reproduced typical experimental scarlatina. They consider these minute diplococci to be the visible form in culture of the filterable virus, and to be absolutely distinct from streptococci.

677. Duodenal Intubation in Typhoid Fever.

N. HENNING and A. LECHNER (*Münch. med. Woch.*, April 8th, 1927, p. 579) performed duodenal intubation for purposes of bacteriological diagnosis in thirty-six cases of typhoid and paratyphoid fever. In 26 per cent. typhoid or paratyphoid bacilli were found in the duodenal fluid and in 53 per cent. in the bile. In two cases the presence of typhoid or paratyphoid bacilli could only be detected by duodenal intubation. In only a relatively few cases could large quantities of bacilli be found in the duodenal fluid or bile. This fact, is not due to the bacteriological action of the duodenal fluid, as the authors found that typhoid bacilli were frequently unaffected after a prolonged contact with duodenal fluid.

EPITOME OF CURRENT MEDICAL LITERATURE.

Medicine.

678. Angina Pectoris and Dilatation of the Right Side of the Heart.

S. WASSERMANN (*Wien. Arch. f. inn. Med.*, March 15th, 1927, p. 1) reports cases to show that angina pectoris and cardiac dilatation may co-exist, or even alternate in the same patient; cardiac dilatation may follow an attack of angina pectoris after the acute pain has subsided. Many cases of typical angina pectoris are closely associated with dilatation of the right side of the heart, and consequent hepatic congestion. In arterio-sclerotic patients with the classic symptoms of angina pectoris, including dyspnœa, pain, and sense of oppression behind the sternum, and radiating pains in the left arm or in both arms, swelling of the liver is usually present and is frequently pathognomonic. Wassermann describes five non-syphilitic cases which were under observation for periods of two to three years. The ages of the patients ranged from 49 to 58, the average being 53.8 years. All had occasional anginal attacks with sensations of intrathoracic pressure and pain radiating from the left arm or down both arms. The heart sounds were quite pure, but usually weak. One patient died suddenly, fifteen months after his first admission. In every case the liver was distinctly enlarged and usually palpable. Wassermann describes two cases in which angina pectoris was associated with syphilis. A man, aged 65, suffered from syphilitic mesaortitis; the liver was much enlarged. His anginal attacks were not relieved by nitrites nor by opiates, and he suffered severe pain for some hours before death. The other patient, a man aged 50, had had syphilis nineteen years previously, but his Wassermann reaction was negative. He suffered from severe anginal attacks. In October, 1923, the left depressor nerve was divided. Following this the patient's symptoms were relieved for three years, then the anginal attacks recurred. The pains radiated down both arms, and Cheyne-Stokes respiration was present for some hours before death. The liver was much enlarged. The patient died three years after his first admission. The necropsy revealed chronic endarteritis deformans, affecting especially the coronary arteries, extensive myocardial degeneration, and thrombosis in the apical portion of the left ventricular wall. Wassermann concludes that in typical angina pectoris there is an enlargement of the liver connected with failure of the right side of the heart of the hepatic congestion type. Although these failures of the right side of the heart had homolateral clinical sequelae, the anginal attacks account for the contralateral coronary sclerosis. Failure of the right heart and angina pectoris are therefore associated in many cases. All these sequels may occur, *mutatis mutandis*, in cases of syphilitic angina pectoris. Each case of angina pectoris demands the most careful examination of the liver, including its functional efficiency.

679. Syphilis and Trauma.

G. ELIET (*Thèse de Paris*, 1926, No. 582), who records twelve illustrative cases, states that trauma of any kind may give rise to specific lesions in subjects of acquired or hereditary syphilis in any part of the body, especially the skin, bones, and joints. The following varieties of traumatic syphilis may occur: (1) Cases in which a very slight trauma imparts a special intensity and morphological character to the syphilitic lesions at the site of the trauma. These cases are chiefly seen in the secondary stage. (2) Cases in which trauma, usually of considerable violence and applied only once, gives rise to the appearance of syphilitic lesions. These cases, which are the most important in practice, are chiefly found in tertiary or hereditary syphilis. They are often of forensic interest owing to the occurrence of accidents in workmen. (3) Cases in which a slight trauma is either permanent or has been constantly repeated, as in occupational injuries, and tics. Cases may also occur in which the results of a trauma, such as a scar or callus, may serve as a localizing point for syphilitic lesions. Before deciding that there is a causal relation between a trauma and a syphilitic lesion the following points must be established: (1) the reality of the trauma, its date and situation; (2) the existence in the patient of hereditary syphilis or acquired syphilis which has reached the secondary stage at least; (3) a definite interval between the application of the trauma and the appearance of the lesions; (4) the obvious and rapid efficacy of appropriate antisyphilitic treatment. An industrial accident may give rise to the appearance of traumatic syphilis which requires antisyphilitic treatment, and in such cases the workman will receive the same benefits as if the accident alone was responsible for the lesion. The two following explanations have been offered for the lesions of traumatic syphilis. The spirochaetes circulating in the blood become arrested in the injured regions in which there is a retardation or arrest of the capillary circulation (G. Milian). Less frequently the symptoms are due to a local reactivation of dormant spirochaetal foci by the trauma (C. Simon).

680. Cardiac Asthma.

M. H. KAHN (*Amer. Heart Journ.*, April, 1927, p. 424) recognizes two essentially different types of cases of cardiac asthma: (1) those due to pulmonary stasis with right ventricular deficiency, and termed by him "pulmonary asthma"—this type also occurs in the terminal stages of left ventricular failure; (2) those depending upon left ventricle deficiency alone; here irritability of the respiratory centre produces reflex paroxysms of breathlessness, and the term "cardiac asthma" is restricted to this condition. Kahn suggests a clinical classification of the various forms of dyspnœa in heart disease, using a physiological basis. The organic conditions underlying pulmonary asthma are those marked deficiencies that develop in chronic myocardial or chronic valvular disease where the heart is progressively failing. The attacks occur after strain of any kind, and the dyspnœa is both inspiratory and expiratory, with wheezing, congested bases, and cyanosis. The condition may go on to pulmonary oedema. Cardiac asthma occurs chiefly with the aortic and coronary lesions of persons in the later decades of life. The attacks are sudden, often nocturnal, and associated with pallor, cold sweatings, and a feeling of anxiety. The patient may leap from his bed and gasp for breath. A diagnosis has to be made from coronary thrombosis. The symptoms are attributed to stimulation of the respiratory, vasomotor, and vagal centres in the brain by anoxæmia due to weak ventricular contractions. Such attacks are relieved by morphine, which depresses the centres, or by nitrites, which improve the local circulation. Pulmonary and cardiac asthma often coexist. Kahn gives short descriptions of cases of both forms of asthma and discusses the differential diagnosis.

Surgery.

681. Primary Sarcoma of the Appendix.

E. CAPECCHI (*Il Policlinico*, Sez. Chir., April 15th, 1927, p. 153) records an instance of this uncommon condition. A boy, aged 8, was admitted into hospital as a case of appendicular colic. He had suffered from gradually increasing pain in the right iliac fossa for the previous month. The temperature had not been raised until the day before admission. The father suffered from chronic appendicitis, and a brother had died at the age of 7 from sarcoma of the caecum. There was marked tenderness over McBurney's point and slight dullness. Laparotomy was performed and a little serofibrinous fluid let out; the distal third of the appendix was involved in a tumour as big as a hen's egg. The whole mass was removed and the patient left the hospital well. The growth proved to be a polymorphic-celled primary sarcoma of the appendix. The author discusses other malignant tumours of the appendix. Carcinomata are commoner than sarcomata; thus out of 120 cases of new growth of the appendix 114 were carcinomata and only six sarcomata. The first recorded case of sarcoma was published by Hastings Guildford in 1893. Nearly all the cases occur in young subjects. The prognosis is said to be fairly good if removal is done early and if the growth is not too close to the caecum.

682. Sphincter Dilatation after Laparotomy.

A. HERRMANN (*Deut. Zeit. f. Chir.*, April, 1927, p. 210) refers to the well known fact that intensive physical activity has a stimulating effect upon peristalsis, while any unaccustomed confinement to bed tends to produce constipation. During illness this tendency is aggravated, while when the patient has had laparotomy performed the condition is still worse—peristalsis is feeble or absent, flatus accumulates, producing distension, while pain in the operation wound when any attempt at straining is made prevents a successful effort to defecate or pass flatus. The patient is unable to assume a natural position, while the tympanitic distension increases pain and retards peristaltic action. Herrmann believes that retention of urine, so common after abdominal operations,

is also due to absence of intestinal movements, the patient's inability to endure any strain on the sutures in the abdominal wound, and the reflex spasm of the sphincters induced by distension. During the last eighteen months he has resorted to dilatation of the sphincter ani in over a hundred cases of operations for such conditions as peritonitis and intestinal resection. He prefers to dilate the sphincters with both index fingers, inserted for one or two minutes, rather than to use instruments, as he believes that the latter may produce permanent incontinence. He finds that shortly after the dilatation the patient usually evacuates faeces and flatus, and is then able to pass urine.

683. Tonsillectomy in Rheumatic Fever.

W. H. ROBEY and L. M. FREEDMAN (*Boston Med. and Surg. Journ.*, April 14th, 1927, p. 595) have investigated 454 cases of rheumatic fever, chorea, and rheumatic heart disease in order to ascertain whether any relation existed between them and tonsillectomy. They conclude that complete enucleation is the best preventive of rheumatic fever and heart disease, and consider that tonsillectomy should be performed when there is a history of repeated sore throats, even when the tonsils appear normal; tonsils diseased in appearance require enucleation even in the absence of sore throats. Since incomplete tonsillectomies leave the patients in as dangerous a condition as before, the operation should be regarded as a major one, only to be performed by those having experience. The fact that rheumatic heart disease may appear after tonsillectomy does not prove, the authors add, that the operation has failed as a preventive, but rather points to the fact that its delay has made the cardiac damage possible. In 60 cases of acute rheumatic fever tonsillectomy was performed during the height of the attack, after all medical measures had been tried and had failed, with prompt subsidence of fever and joint symptoms. This result encouraged the authors to resort to operation as soon as it could be shown that the tonsil was the port of entry; they believe that such treatment would diminish the possibilities of cardiac involvement. Although some advocate deferring the operation until the acute attack has subsided, the authors quote Starling as supporting their advocacy for operation early in the infection, since the longer the attack lasts the more extensive will be the results.

684. Hypernephroma.

G. NISIO (*Il Policlinico*, Sez. Chir., April 15th, 1927, p. 182) reports a case of hypernephroma and discusses the subject with special reference to diagnosis. About 86 per cent. of the malignant growths of the kidney, according to Kummel, are hypernephroma and usually occur in the fourth or fifth decade of life. They are sometimes benign in course, and sometimes diffuse rapidly, or they may first appear as a metastatic growth in a bone before there is any evidence of involvement of the kidney; these metastatic growths may pulsate. The comparatively symptomless evolution of hypernephroma makes its diagnosis difficult. Some enlargement of the kidney and haematuria may be slow to appear; if the enlargement is at the upper pole of the kidney, especially on the right side, it may not be easy to feel it. The presence of a variocele on the same side as the tumour is suggestive, but it is by no means a constant symptom, and is in any case a late one. The oval cells reported by Leotta as occurring in the urine are said to be characteristic of the disease. Functional and pyelographic examination is often very useful, and radiographic examination made after gas insufflation of the renal capsule is helpful. A haematuria coming on in an adult, without pyuria, tubercle, or vesical lesions, should suggest growth of the kidney. The greater or less delay in the appearance of colouring substances for each separate ureter is rather an uncertain test; in the author's case the coloured fluid appeared earlier on the affected than on the sound side. Of more value is the specific gravity, molecular concentration (cryoscopy), and estimation of the urea and chlorides. Prognosis after nephrectomy depends on how far the growth has extended.

685. Early Paget's Disease.

G. BARBIER (*Bull. Soc. Française de Derm. et de Syph.*, March, 1927, p. 150) describes the case of an apparently healthy woman, aged 52, who had had a slight excoriation of the right nipple for five months. When an adherent scab had been removed a small pink moist erosion was seen. Treatment by tar ointment produced only temporary healing. In spite of the small area of the lesion, its appearance and intractability under treatment suggested Paget's disease, and histological examination showed invasion of the galactophorous ducts with cystic dilatations. Barbier suggests that the disease of the nipple is secondary to the subjacent duct epithelioma.

Therapeutics.

686. Vaso-constrictor and Vaso-dilator Drugs in Therapeutics.

C. ABADIE (*Presse Méd.*, March 7th, 1927, p. 579) discusses the successful treatment, by twenty subcutaneous injections of adrenaline, of a man who suffered from repeated attacks of hemicrania associated with unilateral rhinorrhoea and watering of the eye, due probably to sudden vaso-dilatation. He emphasizes the value of drugs acting on the vasomotor system in the differential diagnosis of such conditions as chronic glaucoma and optic atrophy, and advocates the therapeutic use of atropine in cases of optic atrophy due to spasm of the retinal arterioles. He claims that injection of 1 mg. of atropine into the orbital cavity or subcutaneously will always improve the residual vision in cases of spasmodic atrophy, thereby distinguishing it from atrophy due to other causes; in proved spasmodic cases he gives a daily injection of 2 mg. of atropine. He attributes acute and chronic glaucoma to local vaso-dilatation, and gives daily three doses each of ten drops of 1 in 1,000 adrenaline, one cachet of 20 cg. of ergotine, and two tablespoonfuls of a mixture containing 6.5 per cent. of calcium chloride. He claims good results for this treatment even without the local use of eserine and pilocarpine, and suggests that it would be worth a trial in Ménière's disease, which he considers to be due to a local vaso-dilatation. He believes that the sudden visual eclipses without changes in the fundus, in subjects of hypertension, are due to constriction of cortical arterioles *par passu* with the general condition and not a sequel of it. He records the case of a man, aged 48, healthy except for increased blood pressure, who had two transient attacks of sudden blindness in the left eye; a third attack left him with complete loss of [illegible] in that eye. Ophthalmoscopic examination showed [illegible] in the calibre of the retinal arterioles [illegible] e fundus. Qualitative perception was recovered half an hour after the injection of 1 mg. of atropine into the orbit; the vision continued to improve concurrently with falling of the general blood pressure, under daily injections of 2 mg. of atropine. He attributes the eruptions of frontal herpes to excessive dilatation of arterioles in the course of the supra-orbital artery, in consequence of the action of the herpetic toxin on the sympathetic system, and thinks that the more generalized eruptions of pemphigus are comparable. *Stillmann, W.* [illegible] eated a man suffering from generalized [illegible] eruptions of the skin and mucous mem[illegible] intramuscular injections of 5 c.cm. of a 5 per cent. solution of peptone and intravenous injections of 5 c.cm. of 20 per cent. calcium chloride solution. The eruption was arrested and the patient was ready to leave hospital in eight weeks. Pautrier and Lanzenberg noted the aggravation of a similar condition in a woman, aged 31, who was given an injection of sulfarsenol, which sometimes acts as a vaso-dilator.

687. Hypertonic Salt Solution in Acute Intestinal Obstruction.

E. P. COLEMAN (*Journ. Amer. Med. Assoc.*, April 2nd, 1927, p. 1060) reports good results following the injection of hypertonic saline solution in cases of acute intestinal obstruction. Since the fall in blood chlorides in this condition is closely associated with the toxaemia which is the cause of death, the salt is of great value in combating the toxaemia as well as correcting the chloride deficiency. The 3 per cent. solution is given intravenously or subcutaneously. Coleman reports 38 cases of intestinal obstruction; in 20 of these no hypertonic solution was injected and the patients died. Although the next 18 cases were under similar conditions as regards delay in diagnosis and operative intervention the mortality fell to 11.1 per cent. One quart of saline solution was injected before the operation; the needles were left in position, and one to two quarts were given during the next few hours as clinically indicated. Coleman concludes that the free use of hypertonic salt solution is effective in neutralizing the toxaemia of acute intestinal obstruction, and enables the patient to live for one to three days in spite of the toxaemia, which would probably prove fatal otherwise, even though the obstruction had been relieved.

688. Treatment of Parkinsonism.

L. NEUBERGER (*La Vie Méd.*, April 20th, 1927, p. 593) discusses the pathological processes concerned in Parkinsonism and recommends scopolamine, hyoscine, or hyoscyamine for the treatment of the rigidity and tremors. He gives these alkaloids in coffee and believes that benefit is obtained by the addition of atropine and, possibly, morphine. In some cases belladonna has proved efficacious by itself, but the large doses necessary render its use rather dangerous. Sodium salicylate, in intravenous or intramuscular injections, is often very

valuable in treating the rigidity and painful spasms; more recently it has been given in association with glucose, the daily dose being 60 to 90 grains of the salt in a 10 per cent. solution of glucose in serum. Parathyroid extract has been used alone or in conjunction with stramonium and atropine, and Neuberger suggests that this expensive hormone may be replaced satisfactorily by the cheaper pituitary extract. Other forms of treatment which have been recommended include iodine and malarial therapy. Gardénal has been found effective for the insomnia, and ptyalism, when excessive, has been relieved by deep radiotherapy of the parotid gland. The headache sometimes yields to electrargol. For prolonged treatment Neuberger prefers iodine, either with pepsine or increasing doses of the tincture, followed by periods of smaller dosage, during which stramonium and the salicylates may be given. He emphasizes the importance of re-education by graduated gymnastic exercises.

689. **Sodium Salicylate in Ophthalmology.**

DEFOUG (*Rev. méd. de l'Est*, March 1st, 1927, p. 136) has treated twenty ophthalmological cases of different kinds by intravenous injections of sodium salicylate according to the method introduced by Darier and recently revived by Melville Black. The technique is the same as in the treatment of acute articular rheumatism, lethargic encephalitis, or varicose veins. The injections are given for from five to ten consecutive days in doses of 1 to 2 grams in a 10 to 20 per cent. solution of glucose or normal saline. No cases of subsequent induration of the veins or shock have been observed. In corneal ulcer this method has not proved superior to the ordinary treatment. In irido-cyclitis very variable results have been obtained, the method being applicable to all cases in which antisyphilitic treatment is not obviously indicated. The results were particularly good in wounds of the eyeball with symptoms of irritation, and in sympathetic ophthalmia, as was also found by numerous writers who gave very large doses of salicylate by the mouth.

Disease in Childhood.

690. **Acute Influenzal Meningitis in Infants.**

C. PELFORT (*Arch. de méd. des enf.*, March, 1927, p. 137) states that from December, 1922, to September, 1926, 1,600 children under 3 years of age were admitted to his ward at the Montevideo Children's Hospital. Of these, 26 were suffering from acute purulent meningitis, the pathogenic agent being the meningococcus in 15, Pfeiffer's bacillus in 7, and the pneumococcus in 4. A review of the literature shows that Pfeiffer's bacillus is more frequently responsible for purulent meningitis than is generally supposed, especially in infancy. This is probably the cause of the apparent failure of anti-meningococcal serum in cases regarded as meningococcal in which a careful bacteriological examination had not been made. The clinical appearances are identical with those of purulent meningitis due to other organisms, such as meningococcus, pneumococcus, or streptococcus, and the diagnosis can only be made by bacteriological examination of the cerebro-spinal fluid. The mortality is 100 per cent. Pelfort records seven illustrative cases in children aged from 5 to 19 months, all of which terminated fatally.

691. **Morbid Anatomy of Microcephaly.**

T. BRUSHFIELD and W. WYATT (*Brit. Journ. Child. Dis.*, January–March, 1927, p. 24) allude to their previous paper on microcephalic children (*Epitome*, March 5th, 1927, para. 260) and record their *post mortem* observations on ten cases. In every case there were signs of chronic inflammatory change in the meninges, and the cerebral hemispheres showed a loss of the normal convexity corresponding to the shape of the microcephalic skull. This hypoplasia involved the whole cortex, but was most pronounced in the pariétal and occipital lobes. The presence of small shrunken and misshapen convolutions known as microgyria was found in all. In seven brains there were gross lesions, such as internal hydrocephalus, porencephaly, and developmental anomalies of the corpus callosum. The cerebellum was never affected to the same degree as the cerebrum, but usually appeared comparatively large and well developed. Microscopical examination in one case revealed a remarkable increase of the Purkinje cells. The spinal cord was abnormally thin and underdeveloped, the pyramidal tracts being especially affected. Microscopically the cerebral cortex showed a definite paucity of neurones, while of those present many showed immaturity, imperfect development, or signs of degeneration and irregular arrangement. The conclusion drawn from examination of the brains was that the underlying cause was at work before birth. Whatever the lesion in the cerebral hemispheres the result was the same—namely, the destruction of the upper neurones of the pyramidal tract. The unopposed influence of impulses from the extrapyramidal tracts and probably from the cerebellum also explained the clinical features of paresis and rigidity.

692. **Acute Leukaemia in Children.**

P. JEULIN (*Thèse de Paris*, 1926, No. 572), who records sixteen cases in patients aged from 6 months to 18 years, states that acute leukaemia is a rare affection in childhood, though the most frequent form of leukaemia observed at this period of life. The symptoms of acute leukaemia in children are similar to those in the adult, except that apart from fever and anaemia the clinical picture is hardly ever complete. The presence in the blood of undifferentiated cells is the pathognomonic sign of acute leukaemia, and next in importance come diminution in the number of red cells and a leucocytosis of moderate intensity. It is sometimes very difficult to diagnose between acute leukaemia and infantile anaemia, as very subtle transitions and associations may exist between these different conditions. The etiology is still obscure and no treatment has yet been found of any avail.

693. **Injuries of the Spinal Cord in the Newborn.**

B. CROTHERS and MARIAN C. PUTNAM (*Medicine*, February, 1927, p. 41) consider that in many cases of paralysis of the arm due to lateral traction on the brachial plexus during birth signs of injury to the cord are also present. They believe that any part of the nervous system may be injured by accidents during delivery, and that rupture of tissues may follow undue stress upon any part of the foetus, resulting in a variety of physiological disturbances rather than in clearly defined syndromes. Notes of twenty-eight cases are given, together with several from the literature indicating the importance of obstetrical injury to the spinal cord as a cause of disability; the possibility of its occurrence should be considered whenever signs suggestive of a diffuse, non-selective, and fixed lesion of the cord are present. Though the authors' patients exhibited no discrete syndromes, some showed flaccid paraplegia, apparently due to almost complete destruction of the lower cord; in others there were active reflexes dependent upon the isolated part of the transected cord, and some presented disturbances due to perverted control as a result of partial destruction of afferent or efferent tracts. In nearly every case the injuries followed the application of traction during delivery, and there seemed no valid reason for concluding that asphyxia or generalized pressure was responsible for the atypical cases. The authors consider that in obstetrical teaching there is need of increased emphasis upon the methods of avoiding injury and less attention to asphyxia.

Obstetrics and Gynaecology.

695. **Induction of Labour for Foetal Post-maturity.**

K. ADLER (*Zentralbl. f. Gynäk.*, April 23rd, 1927, p. 1049) quotes as evidence of the danger to foetus and mother which accompanies protracted gestation (1) Ruge's observation that stillbirth is almost invariable after pregnancy exceeding 302 days, (2) the finding of Zangemeister and Lehn that operative delivery is twice as frequently necessary in children whose weight is over 4½ kilograms as in others, and (3) Stoeckel's report of foetal mortalities of 3.5, 10.5, and 85 per cent. in infants weighing respectively from 4 to 4½ kilograms, from 4½ to 6 kilograms, and over 6 kilograms. For the induction of labour for foetal post-maturity the following means have been proposed: (1) Introduction of small dilating bags; these are effective, but there is a certain danger, apart from that of infection, of premature rupture of the membranes or prolapse of the umbilical cord or small parts. (2) Rupture of the membranes combined with parenteral injections of quinine or pituitary extract. (3) Mechanical stimulation of the uterus by a vibration apparatus. In using any of these methods Adler states that it must be remembered that a correct judgement as to foetal maturity is often extremely difficult; they are all fraught with the disadvantage that if they are effective termination of labour is certain and irrevocable. Accordingly he prefers the method of Stein of New York, who advises oral administration of castor oil and injection of pituitary extract. In common with other observers he has found that this method, while effective in a high percentage of cases, is entirely without effect on the uterus in patients who have not reached term. Adler gives one or two tablespoonfuls of castor oil in the morning, followed when intestinal peristalsis is noted—usually after two hours—by intramuscular injections of pituitary extract; three further injections are given at half-hour intervals. In the majority of successful cases uterine pains begin in about two hours. This method of induction was successful in 61 out of 100 cases;

in 4 out of 5 of the successful cases a portion at least of the foetal head lay in the pelvis before treatment, while in two-thirds of the unsuccessful cases the head had not entered the pelvis. In the successful cases the length of the foetus was between 48 and 57 cm. and the weight from 3.12 to 4.58 kg. Premature rupture of the membranes occurred in 8.2 per cent. of the successful cases. In 10 patients castor oil and pituitary extract were not effective until a second or third injection. The author adds that the method is not likely to prove useful in cases of contracted pelvis, in which entry of the presenting part is slow.

695. Sarcomatous Degeneration of a Uterine Fibroid.

R. SCHOCKAERT (*Bruxelles Méd.*, May 22nd, 1927, p. 959) describes the case of an unmarried woman, aged 79, admitted to hospital on account of a blood-stained and slightly offensive vaginal discharge which had begun suddenly four weeks previously. Her menstrual history had been quite normal and the menopause had occurred without trouble at the age of 49. When she was 46 years of age there had been some retention of urine, probably due to pressure by a fibroid. Bimanual examination revealed a normal cervix slightly deviated to the right, and a number of uterine fibromata were felt. Total hysterectomy was performed under spinal anaesthesia, and examination of the specimen showed two pedunculated and two sessile subserous fibromas, each about the size of an orange, and between them another tumour of softer consistency which had perforated the mucous membrane of the uterus and protruded through it in the form of a polypus; histological examination showed that this last was sarcomatous. The patient passed through the operation well in spite of her age. Commenting on the advantages of spinal anaesthesia in such cases Schockaert pleads for more careful supervision, even after the menopause, of patients known to have uterine fibroids; he thinks that operative treatment might be employed more often. Surgical intervention would obviate the relatively rare risk of malignant degeneration in the tumours and also the dangers and discomfort attending simple cystic changes, which may come on with great rapidity at any age.

696. Radium Treatment of Haemorrhagic Metropathy.

C. A. CASTAÑO (*Gynécol. et Obstét.*, March, 1927, p. 196) regards it as proved that excessive uterine haemorrhage, in the absence of gross organic disease of the uterus or adnexa (metropathica haemorrhagica, ovariopathic haemorrhage), is due to the excessive production of a hormone in the ovary, whether by persistence of corpora lutea, excessive richness in lipoids, or the presence of special cells of an interstitial gland. It has been generally conceded that the success of radium application in arresting the bleeding in these cases is due chiefly to the irradiation of the ovaries; Castaño claims that by small dosage it is possible, nevertheless, to conserve the normal functioning of the Graafian follicles, and thus to avoid interference with menstruation and reproduction. He records the cases of three patients, of whom two were sterile, who had had ovariopathic haemorrhage, refractory to treatment, for eight years, two years, and eleven years respectively. One patient, two years after radium applications, gave birth at term to a living well formed healthy foetus weighing 4 kg. Another aborted at the sixth month, having become pregnant six months after radium application; this patient, who suffered from hereditary syphilis, had sclerosis of the cervix uteri, attributable to radium. A third patient, who was also syphilitic, had normal menstruation for twelve months after radium applications, when she became pregnant and gave birth to a living child at term. A second pregnancy occurred three years later, but ended in abortion after a severe biliary infection. Castaño gives two radium applications at a few weeks' interval.

Pathology.

697. Etiology of Erythraemia.

V. TRAMONTANO (*Rass. Int. Clin. Ter.*, March, 1927, p. 154) gives a detailed account of the clinical findings and complicating symptoms met with in erythraemia, which he illustrates by a typical case. He discusses the different views of its etiology and states that by most authors it is considered to be a primary hyperplasia of the erythroblastic and myeloid tissue due to some as yet unknown morbid stimulus. Another view, that it is a secondary compensating reaction, is based on the assertion that the power of oxygen fixation by the haemoglobin in these cases is markedly less than in healthy persons; this statement, however, is not always confirmed by observation. Whereas some have described the condition as an erythroblastoma or primitive hyperplasia of the erythroblastic system, by others it is regarded as an erythrocytosis due to idiopathic hyperfunctioning of the erythroblastic apparatus through stimulating agents acting directly on the bone marrow, in contrast with the erythrocytosis of high altitudes and of diseases of the heart and lungs, which are produced by indirect action on the bone marrow. *Post-mortem* findings in cases of erythraemia confirm the existence of hyperplasia of the bone marrow, and the extension of the myeloid tissue to situations where it is not usually met with in normal adults. The disease has been attributed to acute infections, to chronic infections such as malaria, syphilis, and tubercle, to intestinal intoxication, to trauma, and also to endocrine defects. Tramontano has collected some evidence to show that the condition appears in families and may be inherited; it may remain latent until, through some known or accidental cause, it is manifested as a severe progressive disease.

698. Estimation of Chlorides in Blood and Urine.

S. L. LEIBOFF (*Journ. Lab. and Clin. Med.*, April, 1927, p. 702) describes a rapid method of estimating the chloride content of blood or urine. It consists in neutralizing the chloride-containing solution with calcium carbonate and titrating it with silver nitrate; sodium chromate is used as an indicator, and a red colour appears when all the chlorine has been precipitated from the solution. For a blood test 5 c.cm. of the tungstic acid filtrate, obtained by the Folin-Wu method from half a gram of blood, is placed in a small beaker, 5 c.cm. of water in a similar beaker being used as a control. To each beaker 0.3 gram of powdered calcium carbonate is added, together with 0.5 c.cm. of the sodium chromate indicator. One drop of the standard silver nitrate solution in a burette is run into the control, after which this solution is dropped slowly into the blood filtrate until the colour is similar to that in the control. The calculation of the chloride content is simple. In testing urine 5 c.cm. of urine is used as the control. Leiboff has compared this method with others and finds it accurate.

699. The Suspension Stability in Pulmonary Tuberculosis.

O. STUB (*Norsk Mag. f. Laegevid.*, April, 1927, p. 233) examined the suspension stability of the blood in pulmonary tuberculosis according to Westergreen's method; 1,171 examinations in all were made, 550 on 383 men and 621 on 426 women. His conclusions are as follows. There is a close association between the different stages of the disease according to Turban-Gerhardt and the results of the reaction, the greatest reduction of stability being noted in the third stage and the least in the first. In the course of each of the stages feverish patients and those with bacilli in their sputum show a greater reduction of stability than the rest. The stage of the illness and the presence of bacilli are of greater influence on the reaction than a rise of temperature. The test is therefore of some value in determining the activity of the disease. As regards the result of treatment on the sedimentation rate in those who derived benefit from the employment of sanocrysin or artificial pneumothorax, the stability reaction showed a decided tendency to fall, but rose again quickly in cases complicated by pleurisy.

700. The Basal Metabolism in Diabetes.

L. HÉDON (*Paris Méd.*, May 7th, 1927, p. 446) asserts that estimation of the basal metabolism is as useful in diabetes, as regards prognosis and the control of treatment, as in thyroid troubles. Opinions differ whether in diabetes the basal metabolism is diminished, increased, or normal. These differences are probably due to varying standards of normal metabolism, which is affected also by diet and acidosis. Hédon believes that in diabetic patients who are not very emaciated, and who are living on a diet poor in carbohydrates but rich in proteins and fats, the basal metabolism is increased, sometimes by as much as 30 per cent.; he suggests that the degree of increase may be a measure of the gravity of the disease. In markedly emaciated diabetics two conditions arise: if the diet is as above basal metabolism is greatly increased, but if the patients are subjected to fasting and then to a low diet it is markedly decreased, at times as much as 40 per cent. Depancreatized dogs show an increased basal metabolism of about 30 per cent. In these dogs with this increased metabolism the administration of insulin does not at first affect the increase. After prolonged treatment and a carbohydrate diet the animals recover their health and weight, and the metabolism becomes normal. If insulin is then stopped the basal metabolism again increases by 30 per cent. and diabetes reappears. Hédon maintains that if the basal metabolism is really increased in diabetics insulin ought, as in the depancreatized dog, to restore it to normal. The increase may be due to a faulty economy of combustion. If partly or wholly compensated by the action of insulin the increase may be due to diminution or absence of the internal pancreatic secretion.

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British Medical Association.

CURRENT NOTES.

Gift to the Association of a Bust of Hippocrates.

A bust of Hippocrates, the work of Mr. Aumonier, and the gift of the publishing firm of Messrs. H. K. Lewis and Co., Ltd., of Gower Street, has been placed in the members' Common Room at the Association's House. What the features of the Father of Medicine were like is not, of course, known, but the sculptor has managed to convey the suggestion of sagacity and humanity, and the work recalls busts of the great contemporaries of Hippocrates—Aeschylus and Sophocles—in the Italian galleries. It is mounted on a suitable bracket, with a scroll quoting from the famous Oath.



The bust was unveiled by Mr. H. L. Jackson, chairman of the board of directors of Messrs. Lewis, in the presence of members of the Council and others, on December 15th. Mr. Jackson said that he wished to acknowledge the sympathetic way in which the Council had responded to the suggestion of his firm that it might be permitted to make some gesture of neighbourliness on the Association's settlement in the interesting district of Bloomsbury. The Association was twelve years older than his firm. He was not sure how soon after 1844 business relations between them began, but when he himself went to Gower Street in 1888 they were of long standing. He believed the Association counted upon its fine premises as its home for a period running into centuries; whether Lewis's would continue in Gower Street for so long a time it was not for him to say. No one could tell how methods of book production and distribution might be revolutionized. But while the present organization existed he hoped the same ideal of service would remain. Mr. Jackson added that a growing experience had impressed him with a sense of the great ideals which prevailed in the medical profession. A publisher had perhaps exceptional opportunities of seeing what was really being aimed at. Authors were often quaintly self-revealing. It was rather sad to think how many times the Thames—of the medical world—would have been set on fire had it not been for the cold obstruction of some unimaginative publisher. (Laughter.) If an author were asked to indicate a pessimist he would probably point out someone in the publishing business. It was not for him to offer in that company any remarks on the Hippocratic method, though he noticed that the great physician of Cos was said to have attached considerable importance to diet and exercise. Hippocrates, however, did not have the doubtful advantage of a daily press in which to circulate his opinions. Mr. Jackson then, amid applause, unveiled the bust.

Sir Robert Bolam expressed the Council's pleasure in accepting this fine work of art. The name of Lewis was a household word in the medical profession, and he trusted that the business connexion which had existed for so long and had always been so pleasant would continue indefinitely. He mentioned that Mr. Jackson had brought with him five colleagues who together represented something like 200 years' service with his firm. The bust would be a dignified addition to the ornamentation of the House, and he hoped the sight of it would be an inspiration, especially to the younger members of the profession, to follow in the worthy traditions of the past.

Poor Law Medical Attendance in Guernsey.

There has recently been trouble in the area of the Guernsey and Alderney Division in regard to the attendance on Poor Law cases in the island of Guernsey. It seems that the Central Poor Law Board was anxious to reorganize the service with a view to economy. This led to a proposal to cut down the districts from eight to four or five. Representatives of the Guernsey and Alderney Division met the Central Board on two occasions and laid their views before it. The Division maintained that the new arrangement would be neither economical nor efficient. The district medical officers stated that they were prepared to do the work at the rate of 7s. 6d. a visit and 2s. 6d. for consultation and medicine, or to continue for a further year under the existing scheme, in order that during that time definite figures as to the amount of work involved might be obtained. Things have now come to a head. The Central Poor Law Board has not accepted the doctors' views, but has cut down the number of districts to five, and this has entailed in some cases a reduction of the salaries which were previously paid, in other cases the salary remaining the same as before. It is hoped that the medical profession at large will support the action taken by the Division by not applying for the posts which have been rendered vacant, and that, if any practitioners have applied before seeing this note, they will withdraw their applications without delay.

PROCEEDINGS OF COUNCIL.

Wednesday and Thursday, December 15th and 16th, 1926.

A MEETING of the Council was held at the House of the Association, Tavistock Square, on Wednesday, December 15th, from 10 a.m. until 6.45 p.m., and again on the following day, from 10 a.m. until 4 p.m. Sir ROBERT BOLAM was in the chair, and the members present were:

Mr. R. G. Hogarth (President), Dr. H. B. Brackenbury (Chairman of Representative Body), Mr. N. Bishop, Dr. C. O. Hawthorne (Deputy Chairman of Council), Dr. J. Barcroft Anderson, Surgeon Rear-Adm. [illegible] Smith, Dr. H. S. Beadles, Major General Sir [illegible] Buchan, Dr. H. G. J. W. Bone, Dr. H. C. Dain, Dr. J. S. Darling, *Mr. T. P. Dunhill, Mr. W. McAdam Eccles, Dr. F. J. Gomez, Dr. D. G. Greenfield, Dr. R. Wallace Henry, Dr. G. B. Hillman, Dr. J. Hudson, Dr. I. W. Johnson, Dr. R. Langdon-Down, Dr. David Lawson, Dr. E. K. Le Fleming, Dr. R. W. Leslie, Dr. E. Lewys-Lloyd, Sir Richard Luce, M.P., Dr. A. Lyndon, *Dr. R. A. Lyster, Dr. J. G. McCutcheon, Dr. S. Morton Mackenzie, Dr. A. Manknell, Dr. O. Marriott, Dr. J. C. Matthews, *Dr. G. W. Miller, Dr. Hugh Miller, Dr. Christine Murrell, *Lieut.-Colonel F. O'Kinealy, Dr. W. Paterson, Dr. J. Dodds Price, Dr. F. Radcliffe, *Mr. H. S. Souttar, *Dr. Lockhart Stephens, Dr. John Stevens, *Dr. W. E. Thomas, Dr. G. Clark Trotter, Mr. E. B. Turner, Sir Jenner Verrall, Dr. J. F. Walker, Sir William de Courcy Wheeler.

* Not present at meeting on December 16th, 1926.

Apologies for absence were received from Dr. F. G. Thomson (Past President), Sir Robert Philip (President-Elect), Dr. G. A. Allan, Dr. T. Ridley Bailey, Dr. D. E. Finlay, Dr. J. A. Macdonald, Dr. John Mills, Mr. A. W. Nuthall, Group Captain N. J. Roche, and Dr. D. Walshe.

The Chairman mentioned that Dr. Ridley Bailey, who had sent an apology for absence, was gravely ill in a nursing home following an operation. He knew that Dr. Bailey would value a message of sympathy from the Council more than almost anything else. The Council signified its desire that such a message should be immediately sent.

The Chairman also remarked with regret the absence of Dr. J. A. Macdonald. In his case, happily, there was no serious illness, but he had been ordered to take a rest and holiday.

President of the Association, 1928-29.

Following upon a formal nomination by the Cardiff Division, the Council agreed, on the motion of the Chairman, to recommend to the Representative Body that Professor Sir Ewen J. Maclean, M.D., F.R.C.P., be elected President of the Association, 1928-29.

Special Committee on Psycho-Analysis.

The Council at its previous meeting agreed to set up a special committee to consider the whole position of psycho-analysis in medicine. Certain names were now submitted as those of persons suitable to act on such a committee. It was stated that in no case had it been ascertained whether these were willing to serve, and the Chairman remarked that some of them had been members of a committee with a similar reference appointed by another body of importance which failed to arrive at any conclusion, and possibly might not be disposed to try again.

The Council, after discussion, decided to add several names to those suggested, including one woman member, but did not agree with a proposal that it should appoint a chairman, leaving that duty to the committee itself.

Representatives of Association on Outside Bodies.

Sir Robert Bolam was reappointed representative of the Association on the court of governors of the London School of Hygiene and Tropical Medicine. Dr. Hawthorne was asked to represent the Association on a small advisory committee of clinical experts to consider the details of the proposed alterations suggested by the British Government at the forthcoming revision of the international list of causes of death, by the Health Section of the League of Nations. Mr. E. B. Turner and Dr. Garstang, who had served for some years as representatives on the Central Council for District Nursing in London, did not wish to be reappointed, and in their stead Mr. Comyns Berkeley and Dr. Howard Stratford were nominated, together with Dr. W. Paterson, who had served previously and was willing to continue. A vote of thanks was accorded to Mr. Turner and Dr. Garstang for their services. Dr. Hillman and Dr. Lyndon were reappointed representatives on the Joint Tuberculosis Council; Dr. Buchan and Dr. Johnson were asked to act as delegates at the annual congress of the Royal Sanitary Institute in July, and Dr. Buchan, Mr. Souttar, Sir Jenner Verrall, and the Deputy Medical Secretary were appointed delegates to the conference representative of all interested in the nursing profession, summoned by the Labour party for January 28th. The Royal Society is organizing a celebration in London of the Lister centenary, and the Council nominated as its delegate the President of the Association.

The Chairman reported that, in pursuance of the resolution of the Council, a certain number of shares in the Scholastic, Clerical, and Medical Association, Limited, had been purchased.

Pathological Laboratories and Private Practitioners of Pathology.

Dr. Hawthorne presented a report of the Pathological Committee which was appointed to consider the question of the exploitation, for the purposes of commercial advertisement, of routine clinical pathological work, and the publication in the JOURNAL of advertisements of laboratories in so far as these might be considered to affect the interests of the private practitioner of pathology. The report was a lengthy document; its drift may be gathered from the recommendations which the Council discussed one by one. Dr. Hawthorne read several letters from teachers of pathology in the leading medical schools expressing practically unanimous and in some cases enthusiastic support for the committee's findings. The principles underlying the report, he said, might be stated in two propositions: (1) that clinical pathology was a special expert department of medical practice and ought to enjoy the status and to be governed by the customs and regulations which applied to other specialized departments of practice; (2) that the value of clinical pathology in the individual case was heightened when the facts as found rested upon a personal guarantee. The committee had also recognized two special dangers in clinical pathology as at present existing: (1) that the practice might come to be dominated by commercial considerations, and (2) that it might be separated from the main stream of medical practice. The committee laid considerable stress upon the main body of its report, which it presented to the Council in the hope that it would prove a useful instrument for the benefit of the pathologist and of the whole profession. He then moved the first recommendation, which read:

> That the Council disapproves of the establishment by commercial firms of laboratories offering pathological examinations and reports on individual cases, and advises members of the Association to avoid any association with such enterprises; the Council also directs that advertisements of such organizations be not admitted to the BRITISH MEDICAL JOURNAL.

Dr. Hawthorne said that it was well known that certain commercial firms had established laboratories where they received specimens and issued reports on individual cases, and cheap fees were charged. If it was right and proper for a commercial firm, for its own ends, to offer cheap facilities for clinical pathology, there would seem to be no objection to the firm setting up, for example, a cheap x-ray department, or even arranging for the consultant services of physicians or surgeons.

Dr. Fothergill desired that this and the other recommendations should be submitted to the Representative Meeting. Dr. Hawthorne replied that that was for the Council to say. A point to be taken into account was that the clinical pathologists in the country were beginning to associate themselves together, and were likely soon to voice their wishes and ambitions in some collective form. Therefore he suggested that the Council should pass the recommendations as they stood, and leave it to the next meeting to decide whether they should go to the Representative Meeting, because it was just possible that in the meantime something might be heard from clinical pathologists as a corporate body which would suggest the desirability of certain modifications in the form, though not in the principle, of the recommendations.

Dr. Fothergill considered this to be an argument for adjourning the whole question, but Dr. Hawthorne hoped the matter

would proceed; this was the deliberate judgement of his committee, and owing to the pressure of other business at the previous meeting of the Council the consideration of the report had already been delayed beyond the time expected.

The Chairman said that certain parts of the recommendations were obviously matters for the Council, though the action of the Council must be conditioned by some general principles, such as the one set out at the beginning of this first recommendation.

Dr. Brackenbury was of opinion that the Council should take some definite action that day. The committee had spent a large amount of time on this matter, and had brought forward certain conclusions for the Council's endorsement. The whole subject was so important that in his opinion it certainly ought to go before the Representative Meeting, but the Council should now decide on these recommendations, even though the form of them might have to be modified. If any representative members of the profession interested in these matters held a conference that would be all to the good. Any action suggested in these recommendations would, of course, be postponed until the Representative Meeting had expressed its view.

Dr. Bone raised the question of a particular research body, which could hardly be described as a commercial firm. Did Dr. Hawthorne consider that there was any exploitation of pathologists by that body? The Chairman said that what the committee had in mind was, not the setting up of laboratories by people with a commercial intention who ran the laboratory by itself, but the running of a laboratory in association with other commercial business which it was the purpose of the laboratory to advertise. He was not at all sure that it was undesirable in some instances to enlist the support of commercial people in running laboratories under proper conditions. Dr. Hawthorne said that the organization to which Dr. Bone referred existed solely for its laboratories, the laboratories could not be described as a side-line to some other commercial enterprise, and therefore it did not come within the sphere of this recommendation. Dr. Bone thought, nevertheless, that the case of a commercial company of laymen employing the services of pathologists was one that should have the committee's attention.

It was eventually suggested that the wording of the recommendation should be altered to read, "That the Council disapproves of the establishment by trading firms of laboratories as subsidiary enterprises for the purpose of offering pathological examinations," etc., and in this form it was agreed to.

Mr. McAdam Eccles asked what would be the position of a member of the Association engaged in such a laboratory. Dr. Hawthorne said that it would be unjust to give it a retrospective effect. Nor would the status of a member who took up such a position in the future be affected unless someone brought forward a specific charge of improper conduct against him. Certainly it would not alter the status of any individual hitherto employed.

The second recommendation ran:

> That the Council directs that only those advertisements of pathological institutions and laboratories be accepted for insertion in the BRITISH MEDICAL JOURNAL which conform to the following conditions:
>
> (i) That the offer of the advertisement is accompanied by a guarantee from some responsible person that the work of the laboratory is conducted by a registered medical practitioner;
>
> (ii) that the name of this practitioner must appear with the advertisement; and
>
> (iii) that the advertisement quotes no tariff or fees, and includes no names of preparations offered for sale and no descriptions of special or particular kinds of work conducted at the laboratory.

Dr. Hawthorne said that it was at first proposed that advertisements of these institutions should be excluded, but it was recognized that there were parts of the country where the private pathologist was almost unknown and inaccessible, and therefore that it must be for the convenience of practitioners in those districts to know of organizations where they could get their reports.

Dr. Fothergill desired the Council to adjourn consideration of this recommendation until the Ethical Committee had reported on it. There was some risk that by laying down these conditions the Council should imply an approval of "covering." Dr. Manknell seconded, on a different ground, that if these institutions were allowed to advertise in the JOURNAL they did so at the expense of the private pathologist, who could not advertise. Dr. Brackenbury pointed out that the Council deliberately set up a special committee on this whole subject because it did not wish, by sending it to one of the standing committees, to give the matter a sectional bias. But the Ethical Committee, like the Medico-Political and the Journal Committees, had its representatives on this committee.

Dr. Fothergill's motion was lost, and Dr. Bone then moved to refer back the recommendation on the ground that the conditions set out were not sufficient to attain the objects which should be kept in view. An institution might fulfil every one of the conditions set out in the recommendation, and yet its pathologist might be exploited by a limited liability company of laymen making large profits from the work of scientific men.

Mr. Souttar thought the Council was in some danger of confusing the employment of medical men by laymen and the exploitation of medical men by laymen. It was quite possible, and he thought probable, that in certain bodies medical men were employed to their benefit. Surely it was a good thing that a body of laymen, under proper conditions, should employ medical men. It had been considered better that medical men themselves should not engage in the management of business concerns. In the near future large nursing institutions would be formed for private patients, corresponding to the hospitals, and considerations of this sort would enter very largely.

Dr. Brackenbury said that if conditions other than those set out in the recommendation were applied to pathological institutes there would be great difficulty in not applying them to institutions of other kinds, such as hydropathic and nursing institutions, which were also run by laymen and employed medical men.

Dr. Lawson thought the committee had got out of its depth. The future advance of medicine was in team work, which could only be effectively done in institutions having large capital; this capital must be put up by laymen, who would expect a dividend. It was no concern of the Pathological Committee or anybody else what return these people got for their invested capital, provided they paid adequate salaries to the doctors and pathologists they employed.

Dr. Hawthorne said he took it for granted that the Council would permit such advertisements, and that being the case it remained to discuss the conditions on which they should be accepted. He was not very keen personally on some of the conditions, but the name should be insisted on as a guarantee. The objection to the insertion of fees or tariff was that it might lead to the very undignified procedure of fee-cutting. As to descriptions, the type of work done in any institution would be sufficiently indicated by its title. If other descriptions were allowed such statements might appear as "Blood-sugar testing a specialty," and one institution would endeavour to outbid others.

The motion to refer back was lost. It was agreed, on the motion of Sir Jenner Verrall, seconded by Mr. Souttar, to delete the requirement that the name of the practitioner must appear with the advertisement, and to add the words "whose name shall be supplied to the office" at the end of subparagraph (i). Mr. Souttar further proposed, and Dr. Bristowe seconded, the deletion of all words after "fees" in subparagraph (iii). Dr. Hawthorne said that he could not accept this deletion. It was a very important part of the proposals that the advertisement should not include preparations for sale. Dr. Brackenbury said that the purpose of this provision was to protect the private pathologist, whose point of view must be remembered. The Chairman did not see how the institution could well be prevented from advertising such things as stock vaccines. Mr. Souttar's proposition was carried, and the recommendation as amended was then agreed to.

Dr. Hawthorne, in bringing forward the third recommendation—

> That in the opinion of the Council all institutions undertaking pathological examinations and reports should include in any intimation made to the profession the name of the registered medical practitioner in charge of the laboratory, and that each report issued from the laboratory should be guaranteed by the personal signature in writing either of this practitioner or of some other registered medical practitioner approved by him—

said that the private pathologist naturally objected to the invasion of the particular district in which he practised by advertisements from central institutions. Owing to established custom, and to the fact that there were parts of the country

where the services of a private pathologist were not available, these intimations could not be stopped altogether, but it was thought that they might be subject to the conditions laid down.

The recommendation was agreed to.

The fourth recommendation ran :

> That the Council records its disapproval of any arrangements whereby the governing body of a hospital or medical school, as such, professes to organize and to advertise a pathological institute for general service.

Dr. Douglas hoped that this would not be passed straight away. In Scotland there was a fully organized system which was almost exactly that disapproved of in the recommendation. The work of pathological examination in Scotland was done almost entirely by its medical schools and universities, and Scotland would be placed in an awkward and invidious position if this recommendation were passed. He added, in reply to Dr. Hawthorne, that there was no advertisement of these bodies, but it was a thing understood by all the local authorities and others that they would do the work. Dr. Brackenbury said that an arrangement between a public authority and a medical school would not come under the ban of the recommendation.

Dr. Radcliffe and Dr. Fothergill also deprecated the terms of the recommendation, and described the conditions obtaining in relation to general hospitals in their areas. The President said that it had been a custom for certain hospitals to appoint pathologists who, in addition to their salaried hospital work, were allowed to do pathological work for other doctors. These doctors were notified that they could send their work to the pathological laboratory at the hospital, and for this the pathologists received additional remuneration. Dr. Lyndon said that St. Bartholomew's had had a clinical research department for over twenty years, and advertised it, at least in the hospital journal.

Dr. Hawthorne pointed out that to come under the ban of this recommendation the laboratory must be organized for general service and must be advertised. The Association had always been anxious to protect private practice from the unfair competition of hospitals, and surely it should extend that protection to private practitioners of pathology. He could not say how this would affect one particular institution, but if there was no public advertisement issued from the hospital there would be no ground for quarrel.

The Chairman, speaking as a private member, said that he had had some personal experience of this class of work, and he thought the recommendation was an example of legislation framed to meet one particular case without sufficient regard to circumstances elsewhere. It was quite conceivable that in London an arrangement might be mischievous which was nevertheless a necessary arrangement in other parts of the country. In London there was a possibility for a private clinical pathologist getting a living, but in a provincial area it was unlikely that he would get enough work to support him, and having regard to this fact local authorities already had contracted for the routine work to be done in medical schools and universities or in some cases had set up their own laboratories. Thus a considerable amount of work had been allocated, and would never come back to the private pathologist, because he could not do it economically enough to hold the market. The recommendation seemed to make it illegal to do what the schools had done for many years, not only in public health, but also—at least in the northern counties—in the way of general service, furnishing a guarantee to the profession that there was a pathologist of repute available.

Dr. Hawthorne said the committee had based its finding on a sound general principle. There was no objection to any of these institutions having a properly skilled pathologist, but his committee had felt that that pathologist ought to be allowed to practise as a private pathologist in the same way as a physician or surgeon at the hospital was allowed to practise. If by some arrangement he was allowed to do private work at the institution there was no wish to interfere with that at all, but the speaker did not follow Sir Robert Bolam's argument that to attempt to practise as a private pathologist was hopeless, and that everything must be under an institutional scheme.

After some further discussion the recommendation was lost.

In moving the final recommendation—

> That in the opinion of the Council public health authorities should not furnish pathological reports on individual cases except (i) in cases which directly involve questions of public health, or (ii) where the patient is unable to pay a fee, or (iii) where provision is made for such reports by statutory right—

Dr. Hawthorne said that this was an endeavour to define the pathological work that could be properly undertaken by public bodies. It had arisen from a complaint by the South Staffordshire Division about an intimation to medical practitioners from the Staffordshire County Council that free pathological examinations over a wide field could be obtained at the council's laboratory, and this for rich and poor alike. The county laboratory, however, had issued a further circular letter to the profession defining more clearly its activities as relating only to public health matters, and this was held by the committee to meet the objections raised by the local profession.

Dr. Fothergill moved that the recommendation be referred back, on account of vague and unsatisfactory wording.

The Chairman drew attention to a case reported by the Public Health Committee of the Association. It was proposed that a municipal laboratory be installed in Plymouth, with a whole-time pathologist, and that, in the words of the medical officer of health for Plymouth, "local authorities, farmers, and others throughout Cornwall and the west of Devon would send their specimens to our laboratory, and pay to the corporation the appropriate fees for these examinations." Dr. Brackenbury said that so far as the actual medical work of this proposed laboratory was concerned, it would appear to comply with the provisions of the recommendation. But it was an up-to-date illustration of the problem with which they were faced, that it was proposed increasingly to establish laboratories on these lines, and in this case it proposed to cover a wide area of country.

Dr. Lyster opposed the recommendation. He said that some local authorities had found it impossible to make arrangements with hospitals or universities, and had been compelled to form their own pathological laboratory, which was run to the great convenience and benefit of practitioners.

The Chairman suggested that the phrase "in general" should be placed in the forefront of the proposal. Dr. Hawthorne said that if this were done all the finality would be taken out of it. If the Council thought the right course was to discourage private practitioners from becoming pathological experts, and to encourage these institutions *en masse*, it would dismiss this recommendation. But it would be a strange thing in the Association to hear that the Council believed in the encouragement of public institutions and discriminated against the private practitioner.

The recommendation was agreed to by a large majority. The Chairman remarked that there was nothing in this to prevent a pathologist employed by a local authority engaging, if the institution permitted him, in work for persons outside who would pay for such work.

On the motion for general approval of the report, Dr. Fothergill moved to amend one of the general propositions, which read : "In no circumstances should a pathological report be furnished to any person other than a qualified medical practitioner." Dr. Fothergill desired that it should read : "That a pathological report should not be given to any person other than to a registered medical practitioner unless the consent of such practitioner has been first obtained." Dr. Hawthorne expressed his willingness to modify the wording somewhat in this sense, but Dr. Brackenbury and Mr. Bishop Harman, members of the committee, objected, Dr. Brackenbury again urging the importance of preserving the relationship between the private doctor and his patient, and Dr. Hawthorne then withdrew his acceptance, and Dr. Fothergill's amendment was voted on and lost.

Dr. Fothergill also proposed a variation in another section of the report dealing with the utilization by private practitioners of the laboratories of hospitals and medical schools as a source of information. The words he proposed were :

> Whilst the pathologist by a financial arrangement with the governing authority may utilize the resources of the laboratory for personal practice it is desirable that the fees for examination made for non-hospital patients should be paid to the pathologist.

Dr. Hawthorne said that if the pathologist and the governing body of the institution came to an arrangement by which the pathologist paid an annual sum for the use of the facilities of the hospital for his private practice, the arrangement was one to which they would have no objection, but the fees for examining individual specimens ought to be the property of the

pathologist. Whatever might be the financial arrangement, the fees should go to the individual man who did the work.

The Chairman said that the arrangement which a good many hospitals and medical schools had was that a small percentage—usually only a nominal amount—was paid on every individual fee to the university or school, and in return for that arrangement the institution undertook the trouble and responsibility of collecting the fees. This arrangement, in his own experience in the north, had been quite satisfactory.

Dr. Brackenbury said that what the committee urged was that if a pathologist employed by a hospital, medical school, or public authority was allowed to do private work he ought to receive the emoluments for such work. In many areas the private pathologist, without the anchorage of an institution, would be unable to earn a living.

Dr. Dain was afraid lest the Council should do something which was "grandmotherly." Would it not be better to leave the arrangements to the pathologist and the institution?

Mr. Bishop Harman said that it amazed him to hear the representative of Birmingham, the champion of collective bargaining, pleading that every man should do what was right in his own eyes! To leave the matter at a loose end would be to let down some of the hardest worked and least recognized men in the profession.

Dr. Brackenbury suggested that to meet the point the following be made an additional recommendation:

> That where a pathologist attached to a hospital or medical school undertaking pathological work as a general service does such work for persons able to pay fees, the fees paid for such work should be the property of the pathologist, subject to such charge for the use of the laboratory as may be arranged.

He was anxious not to leave unsafeguarded the people out of whose case the reference to the committee arose.

Dr. Fothergill withdrew his amendment in favour of Dr. Brackenbury's form of words; Dr. Hawthorne also accepted it, and it was agreed to. It was also agreed that the report and recommendations should go to the Representative Body, and that no effect be given in the matter of advertisements in the BRITISH MEDICAL JOURNAL pending consideration by the Representative Body.

Medical Officers of Public Schools.

Dr. Bone (chairman, Medico-Political Committee) reported that his committee, in conjunction with representatives of medical officers of public schools, had considered the question of the duties and remuneration of whole-time and part-time medical officers of public schools, with a view to improvement and co-ordination. The committee had adopted a memorandum drawn up by the school medical officers which, it considered, would assist both the Council and the Representative Body in appreciating the difficulties peculiar to the post of medical officer to a public school, and recommended that the memorandum be adopted and included in the report of the Council.

Dr. Lyndon took exception to certain statements in the memorandum, and Dr. Brackenbury said that as this was a document which would go forward to the public as a statement of the Association's ideas on this matter, he agreed with Dr. Lyndon that some of its phrases might be more guarded. Mr. Harman and the Chairman pointed out other phrases in the report which, if the report was to be a pronouncement of the Association, certainly needed some recasting. Dr. Bone said that as to the accuracy of the statements in the memorandum, these were the statements of the school medical officers themselves, who might be expected to know something about the subject. But he agreed that it would be better to consider the memorandum further and recast it.

A further memorandum outlined what it was proposed should be adopted as the policy of the Association with regard to the remuneration and duties of whole-time medical officers of public schools. The Council discussed this memorandum paragraph by paragraph, and members pointed out certain respects in which the document called for revision. A list of duties was set out, and the memorandum laid it down that the duties of medical officers should not include bacteriological examinations, administration of general anaesthetics (except in emergency) or of anaesthetics for dental work, *x*-ray examinations, refractions, major operations, and attendance on masters outside term time, on families and servants of masters, and on school servants. Dr. Brackenbury did not think that refractions should be one of the things excluded from the duties, and the Chairman hoped that "bacteriological examinations" would not be held to exclude the simpler examinations which a school medical officer certainly ought to do. A further clause, "That satisfactory arrangements should be made in school curriculums whereby medical officers shall have full opportunities of giving instruction to the scholars on questions of health and hygiene," was also criticized as not entirely satisfactory. It was agreed to recast this provision so as to make it read that instruction on health and hygiene should be provided in the curriculum, that the medical officer should be consulted therein, and that the method of instruction to be given to individual boys should be left open. Dr. Dain called attention to the omission from the list of duties of one of the most obvious—namely, the periodical examination of the boys and the keeping of a record.

This memorandum also was taken back for revision in the light of the discussion in the Council.

On a recommendation that all public schools with 400 or more boarders should be provided with a whole-time medical officer, Dr. Dain urged the Council to hesitate before laying it down that this was necessarily a whole-time job. He was afraid there was a tendency for such offices to be filled either by recently qualified men who had had no experience of general practice, or by men who had retired from general practice and desired a quiet post. Mr. McAdam Eccles supported what Dr. Dain had said. At Winchester, a school of 480, the question of appointing a whole-time medical officer was seriously considered two or three years ago, but after paying regard to the experience of other schools the proposal was turned down, and for the reasons practically that Dr. Dain had mentioned. Dr. Buchan thought there was a function for the whole-time school doctor, but that, on account of lack of general experience, his function should not include the treatment of the sick. Mr. Bishop Harman pointed out that there was a type of mind which took kindly to the well defined work of the school medical officer, with its routine and systematic examinations, while, on the other hand, the active general practitioner was averse to this kind of work. He held, therefore, that there was a real place for the whole-time officer. The Chairman asked whether, if it were agreed that all public schools with 400 or more boarders should have a whole-time officer, the number of such officers would be much increased. Mr. Turner said that he believed there were only about thirty such schools (including boys and girls) with over 400 boarders, and that about twenty of these already had whole-time officers.

Another recommendation dealt with the appointment, duties, and method of remuneration of the part-time school medical officer. Dr. Brackenbury pointed out that there was a distinct difference between part-time and whole-time employment in the respect that the part-time officer should not be expected to do several of the things which were set out among the duties of the whole-time officer, and that it was reasonable to suppose that the part-time officer would require more specialist assistance. The feeling of the Council was against a portion of the recommendation which read: "In general the duties of a part-time medical officer should be identical with those of a whole-time medical officer." Dr. Bone promised that the whole matter should be further considered.

Midwifery and Maternity Services.

Dr. Bone said that his committee had considered the Puerperal Fever and Puerperal Pyrexia Regulations which came into operation on October 1st. The question had now been raised as to what fee, if any, the Association proposed to fix for consultants called in under these regulations. The Medico-Political Committee was of opinion that, in view of the varying circumstances in each locality as regards consulting fees, and the distances which might have to be travelled, it would be difficult to fix a fee to suit all areas, and he brought forward a recommendation that it was inadvisable to fix a uniform fee, but that the fee paid should bear some relation to the usual consultation fees in the area.

Dr. Buchan described the position in Middlesex. In Willesden the fee for consultation, fixed personally between himself as medical officer of health and the consultant, was five guineas, but in certain other districts in the county three guineas had been accepted. He wanted guidance from the Association as to the fee to be charged. Dr. Bone pointed out that the Association had to bear in mind the varying conditions of areas, such as rural districts and poor industrial

districts. Dr. Brackenbury thought that in the London and Middlesex area the body to decide was the Metropolitan Counties Branch. Dr. Fothergill moved to add to the recommendation that the matter should be one for arrangement between the representatives of the medical profession and the authority. It was not desirable for the authority to approach and bargain with the individual doctor. Dr. Hillman seconded this addendum. Dr. Buchan said that this did not get over his difficulty, because the consultants who acted in Middlesex were from Harley Street. The Medical Secretary said that there had been a good many applications to headquarters for advice, and to his "unsophisticated mind" the thing looked simple. Everyone knew what the consultant usually charged when called in to a working-class patient; the local authority could hardly be asked to pay more, and certainly should not be asked to pay less, and a Division secretary consulted on the matter should so advise. The recommendation, with Dr. Fothergill's addendum, was carried.

Among other matters in the report of the Medico-Political Committee was the question of medical practitioners engaged in municipal maternity homes, the basis of remuneration for consultative services in such homes, and the payment by local authorities for ante-natal work. The Council decided to recommend to the Representative Body that the principle of payment on a salaried basis for consultative services to municipal maternity hospitals was not unreasonable, but that the actual salary must be governed by the circumstances of each case, and should bear some relation to the remuneration laid down in a resolution of the Representative Meeting, 1926 (not less than three guineas for a consultation when called in by the practitioner in charge of the case, and not less than ten guineas for a *major operation*). *With regard to the instruction given by* the last Representative Meeting to consider the advisability of pressing for the amendment of the Midwives Act in order to secure that local authorities be made responsible for payment for ante-natal work, the Council agreed that, for certain reasons duly set out, it was not advisable to press for this amendment.

The Council had agreed previously that at a convenient time a conference be called of representatives of the Ministry of Health, the Medical Research Council, the Section of Obstetrics and Gynaecology of the Royal Society of Medicine, and the Society of Medical Officers of Health, with the members of the Association's Committee on the Causation of Puerperal Morbidity and Mortality, to consider the interim report of that committee or certain specific points therein. It now agreed to add to the bodies to be invited to send representatives the Royal Colleges of Physicians and Surgeons, the Central Midwives Board, and the Scottish Board of Health.

The Coroners (Amendment) Bill.

Dr. Bone made a statement on the position of the Coroners (Amendment) Bill (see JOURNAL, December 18th, p. 1200), and the financial amendments put forward by the Association. The Chairman expressed the thanks of the Council to Dr. F. E. Fremantle, M.P., and Sir Richard Luce, M.P., for their action in doing their best to support the interests of the profession. It was intimated from the Home Office (in offering an all-round 50 per cent. increase of medical fees) that if the Association persisted in its amendments the bill would be wrecked; the Medico-Political Committee considered that in the circumstances the Association ought not to accept the onus of wrecking the bill, but their representatives in the House had made it plain to the Standing Committee that the Association was by no means satisfied, and that in particular the fee for a *post-mortem examination* (one and a half guineas) was considered quite inadequate.

The Revision of the "British Pharmacopoeia."

Dr. Brackenbury presented a report of the Pharmacopoeia Committee which was appointed in July to watch any steps that might be taken relating to the revision of the *British Pharmacopoeia*, and to prepare evidence and nominate witnesses if a revision committee was appointed by the Lord President of the Privy Council. The Lord President had now remitted the question of the preparation of the *British Pharmacopoeia* to a committee of the Cabinet, and a subcommittee of that body had invited the Association to bring forward its views orally and in writing. The Association's committee accordingly had laid down certain propositions as to the appointment of the committee of experts in whose hands the work of revision should be placed, and it was also considered that this expert committee should be instructed to include in the *Pharmacopoeia* as far as practicable all those drugs and preparations which experience showed to be in common use by medical practitioners, provided that they had a therapeutic or diagnostic value or were pharmaceutically necessary, and that the interests of the public required with regard to these that a standard method of preparation or of strength or purity should be recognized. It was also desired that the committee of experts "should have regard to economy in the inclusion or otherwise of the preparations in the *Pharmacopoeia*, and that regard should be had in this connexion to any drug tariff issued under the National Health Insurance Acts."

Dr. Hawthorne, a member of the committee, dissented from the views of his colleagues. He considered that the direction given to the witnesses who were to appear on the Association's behalf was most unfortunate, and not likely to redound to the credit of the Association. He objected to the constitution of the proposed committee of experts which was concerned with the selection of substances to go into the *Pharmacopoeia* and the technical presentation of such substances. The first of these matters was one which ought to be dealt with only by medical practitioners, and yet among the members proposed were representatives of the Chemical, Physical, and Pharmaceutical Societies. On the other hand, the Pharmacopoeia Committee of the General Medical Council had the necessary qualifications. He also objected to the method of deciding what should be included in the *Pharmacopoeia*. The question would be raised as to what was the therapeutic test which would reduce the number of recognized substances. He was told—*he did not accept the figures—that the substances used* by doctors as medicines numbered 8,000, and if a therapeutic test were applied they would be reduced to 800! That would be tantamount to saying that of ten substances more or less customarily employed by the medical profession nine were useless. He moved:

> That the witnesses who are to appear on behalf of the Association before the Committee on the Revision of the *Pharmacopoeia* be instructed to urge (1) that the selection of the medicinal substances to be included in the *Pharmacopoeia* should be made by the Pharmacopoeia Committee of the General Medical Council, the necessary technical details of the volume being committed to the direction of trained experts; and (2) that the *Pharmacopoeia* ought to include those substances which are being more or less generally prescribed under an official definition of standard in the public interest.

Dr. Clark Trotter seconded the amendment.

Dr. Hawthorne's amendment was lost, and the report was approved.

Hospitals and their Staffs.

Mr. McAdam Eccles, in bringing forward the report of the Hospitals Committee in the absence of its chairman, Mr. Souttar, reported that, in accordance with the resolution of the Council at the last meeting, Sir Richard Luce and the Medical Secretary had visited Paris to confer with the parties interested in the situation which had arisen at the British Hertford Hospital, where the dismissal of the resident medical officer had been followed by the resignation of the medical staff. He thought that the warm thanks of the Council were due to the two emissaries for the most excellent diplomatic work they had done. As a result of their report, he moved that, subject to the approval of the British Ambassador in Paris, the Government be asked to send to Paris some competent and reliable person to consider the whole of the evidence given before the committee of inquiry, the report of that committee, and such other evidence as he might think fit, and to decide whether the Hertford Hospital Committee had done an injustice to the late officer. The important point was that both the committee of management of the hospital and the late medical staff had agreed to accept the decision of such a person. The deputation had done more than was implied in the recommendation, for they had, harmoniously with the hospital authorities, looked into the constitution of the hospital with a view to preventing such a situation arising again. The recommendation was agreed to, and the Council, on the motion of Dr. Lyndon, expressed its thanks to Sir Richard Luce and the Medical Secretary.

A dispute arising in connexion with the Middlesbrough Maternity Hospital was also considered. In this case the Cleveland Division objected to the appointment by the town

council of a consultant to the hospital. The Division held that the choice of consultant should be a matter of agreement between the patient and the medical attendant. The Divisional secretary pointed out that the consultant who had been appointed was a general practitioner doing surgery, and that there were roughly a dozen men in the town doing the same work. The post had never been advertised or thrown open to competition. A long correspondence with the Ministry of Health was read, and it was stated that the Deputy Medical Secretary had discussed the matter with Sir George Newman, who expressed himself in absolute agreement with the principle of free choice of doctor if the patient was going to pay the doctor who was called in, and that patients not in a position to pay should be treated by the appointed consultant. Sir George Newman was satisfied that the consultant who had been appointed was one of the best qualified among those available. With regard to a suggestion that a roster of doctors be formed for summons on emergency, Sir George Newman said that he was not prepared to arrange such a roster until he was satisfied that the members proposed were capable of doing the work. It was decided that the Hospitals Committee should further consider this matter after a report from the North of England Branch Council.

The Association's Premises.

Sir Robert Bolam, as chairman of the Building Committee, made a long statement, part of which was confidential, on the question of the Association's premises, and in particular on the proposed lay-out and use of the land in front of the present building, now occupied by the houses in Tavistock Square and Woburn Place, which have come, or will shortly come, into the Association's possession under the terms of the agreement with the Duke of Bedford's Trustees. He said that the new house of the Association, although apparently offering abundant space, had been found inadequate as to accommodation in some respects, though a certain amount of structural alteration and readjustment within the building might go far to meet the case. At the same time, those in charge had to look ahead for a considerable period and to lay down a policy which would not leave their successors in the position in which they themselves were left in the case of the Strand building. That building provided at first ample accommodation, but presently it came to be encroached upon by office needs, which left almost no room for members' use. The question of standing charges in relation to the premises was also a serious one. In the present headquarters the standing charges—including capitalization of the amount spent on the building, the ground rent of the building and of the land in front, and the annual rates on the existing building—greatly exceeded those of the Strand premises, and the additional cost of completion of the building, with the additional rates, would mean a further large increase. The administration costs of the new building were also higher than in the Strand—a different kind of service and convenience was, quite properly, available for members. Altogether, a heavy burden had to be faced, and, like any private individual, the Association had to determine what proportion of its income could justifiably be set aside for rental and administration. Would members feel satisfied eventually with a great development at headquarters, involving large standing expenditure, or would they call increasingly for what he might describe as devolution expenditure? The tendency in the Association was in this latter direction. There were two courses open to the Council. One was to decide that the greater part of the additional space as it became available should be absorbed for purely headquarters purposes, which would mean heavy standing charges. On the other hand, the Council might decide not to absorb space which might be advantageously let to other kindred societies or for business purposes, and thus secure a large return in rents. Sir Robert Bolam then had plans of the property distributed, and indicated certain possibilities of future development with regard to the premises fronting the main thoroughfare.

Mr. Eccles agreed that to increase the subscription was out of the question, but with its increasing membership the Association could look for an enlargement of its subscription revenue. Dr. Douglas said that only last year the Association came into possession of a very large building, and it was rather strange to hear that it was inadequate. He wanted to know wherein its deficiencies consisted. Mr. Harman said that there had been complaints with regard to inadequate committee-room accommodation, but with certain structural alterations four excellent committee rooms might be provided. The Library was at present cramped for space, but a good deal of space was wasted in certain passages, and these might be brought into the Library to add to the shelving accommodation and the provision for readers. Some superfluous space at present given up to the garages might be used for book storage. With the possible exception of some extension of the printing department, he thought that all the legitimate demands could be satisfied at the headquarters as they stood at present. He wanted the Council to pass a self-denying ordinance that, for this generation, it would not ask for further space for the Association, and that other property which came into the Association's possession should be used, except perhaps in the case of the printing department, for the purpose of earning rents. He agreed with what had been said about the possibility of devolution. Dr. Mackenzie was doubtful whether the potential membership was much more than about 35,000. Almost all the recruitable older members of the profession had been recruited, and entrants into the profession were now diminishing. Any demand for an increased subscription to be spent on lavish headquarters buildings would be resisted. With regard to accommodation for members at the house, he did not think there was any inadequacy. A comfortable Common Room was provided, together with means of getting refreshments. He believed the Association would have to face increased demands from Branches and Divisions, and especially from oversea, which would throw an increased strain on the present subscription.

A number of questions were asked and answered by the Chairman, who gave a rough estimate of the total cost of the scheme he had laid before the Council. The Council agreed unanimously that the scheme which the Chairman had brought forward should be further explored, and that before the next meeting of the Council such documents as the Building Committee could circulate, with due regard to the privacy which must attend any negotiations, should be laid before the members.

Expenses of Committee Members.

The question of the payment of travelling expenses for members of committees was discussed, but no alteration was recommended by the Finance Committee in the existing by-law whereby railway fares only are paid. It was agreed that there were hard cases when members had to attend committee meetings on consecutive days and the distance was too great for them to return home at night. Dr. Douglas pointed out that a member living away from London might be called upon to attend committee meetings twenty times a year—not an unusual number—and even though his railway fare was paid, he was considerably out of pocket. Dr. Fothergill moved an instruction to the Organization Committee to consider the question of a subsistence allowance, but it was pointed out that this must raise the question of expenses of representatives attending the Representative Meetings, as well as members of Council and committees, and would involve, if granted, a very large expenditure. The motion was lost.

The Association's Ophthalmic List.

Dr. Wallace Henry, chairman of the Ophthalmic Committee, brought forward a recommendation that before the name of any practitioner was added to the Association's ophthalmic list the Local Medical Committee of the area concerned should be given the opportunity of furnishing information as to the eligibility of the applicant if it had previously expressed a desire to be consulted. He remarked that up to now the information received from Local Medical Committees had been of very little value. The recommendation was agreed to.

It was also agreed to ask the Scottish Committee to nominate a member for the Ophthalmic Committee. Dr. Miller desired that a special subcommittee should be formed for Scotland, and reminded the Council that in Scotland they had to deal with the Scottish Board of Health, not with the English Ministry. The Chairman said that it was the wiser course to deal with Scottish applications through the Ophthalmic Committee, so that the national policy might be homogeneous, giving that committee advice on purely Scottish points, through a member to be nominated by the Scottish Committee.

The Medical Association of South Africa (British Medical Association).

On the recommendation of the Organization Committee, the Council approved a draft memorandum and articles of associa-

tion of the Medical Association of South Africa—*Die Mediese Vereniging van Suid-Afrika*—(British Medical Association), subject to certain adjustments and to the approval of the existing Branches in the Union of South Africa and the Mandated Territory of South-West Africa. The Council also agreed, subject to the acceptance by the Federal Council of the safeguards which had been incorporated by the Organization Committee in the memorandum and articles, to assist in meeting the expenses of the Federal Council in organizing the profession by a grant of £1,000 a year for two years. Dr. Morton Mackenzie reminded the Council that it had agreed in 1924 to grant a sum of £1,000 a year for three years to meet half the cost of the appointment of an organizing secretary for South Africa. There were various difficulties in the way of such an appointment at that time, and the visit of the Medical Secretary to South Africa was regarded as equivalent to the first year's contribution. The proposal which now came from South Africa was rather different. The Federal Council had resolved to purchase the *South African Medical Record*, to amalgamate therewith the *Medical Journal of South Africa*, an organ published in the Transvaal by a company which was in effect the local Branch of the Association, and thus to establish an official journal. The engagement of the present editor of the *Record*, Dr. Darley Hartley, was to be continued for one year as joint-editor, after which he would be pensioned, and the other joint-editor was to be Dr. C. L. Leipoldt, who would also act as organizing secretary. Dr. Mackenzie urged the Council to make the grant, although admittedly the new proposal was not on all fours with the previous one. Mr. Harman said that the Finance Committee took no exception. Dr. Lyndon and Dr. Bone also supported the new proposal; and the Medical Secretary said he hoped the Council would not turn the proposal down, because to do so would give a handle to the few people in South Africa who declared that there was some "catch" in the federation arrangements. He believed that this arrangement would enable Dr. Orenstein, now president of the Federal Council, to put the coping-stone on the work already done. For South Africa to have a journal of its own, as Australia had, would go far towards consolidating the movement. The proposal to make the grant was carried unanimously.

Medical Profession in India.

Sir Jenner Verrall, in presenting the report of the Dominions Committee, said that the committee had set up a subcommittee to make a preliminary investigation on the relation of the Association to the profession in India. It would begin by collecting information from and ascertaining the opinions of the Indian Branches and of individual Indian practitioners. He also mentioned that a bill to regulate medical education in India had been submitted to the Burma Branch of the Association by certain departments of the Government of Burma. On the ground that the proposed "Council of Medical Education" would establish a system whereby the names of duly qualified medical practitioners and practitioners of indigenous systems of medicine were included on the same register, the Association would feel bound to protest against this bill, but he (Sir Jenner) believed that the bill was already dead.

The Charities Trust Fund.

Dr. Walker brought forward the report of the Charities Committee, which, he said, was still doing spade work, and hoped to show larger results later on. The Financial Secretary, in reply to a question, said that more money had been collected this year than before, but there were no means of knowing as yet what proportion of money which now came through the Association had previously been subscribed direct to the individual charities. Dr. Bone suggested that Panel Committees might be asked to send their collected subscriptions through the Association, while at the same time retaining their voting power in their localities. Dr. Greenfield described some effective work which had been done in his own county. Members of the profession who had not responded after appeals from the Panel Committee and the Division would be approached personally, and he hoped eventually to have 90 per cent. of the profession contributing. The Chairman said that if he were a charities secretary in a Division he would make a card index of members, and would find out what each member had subscribed in the past for medical charities, and get him to send his money through the Association. A proportion of such money would be left to the discretion of the Charities Committee for its allocation, and another proportion would be earmarked for a particular charity, the ear-marked money being in some cases accompanied by a request for the corresponding voting power. Dr. Lyndon mentioned the appeal of Epsom College for a new sanatorium and isolation block (JOURNAL, December 18th, p. 1195), and suggested that the money now proposed to be allocated to Epsom College be sent to that special fund. This was accepted by Dr. Walker and agreed to. Dr. Walker also advocated the establishment of a branch of the Ladies' Guild of the Royal Medical Benevolent Fund in as many Divisional areas as possible in order to enlist the support of doctors' wives. He expressed appreciation, also voiced by the Chairman, of the very considerable contributions which the Medical Insurance Agency had made to the charities.

Other Business.

Many other reports of committees were approved during the two-day session. Among these were the report of the Insurance Acts Committee, which was a record of action taken; the Arrangements Committee, chiefly concerned with the appointment of officers of Sections for the Annual Meeting in Edinburgh next July; the Science Committee, which dealt with the facilities of the Library and with certain matters connected with the competitions for Association awards and prizes; the Committee on Tests for Drunkenness, which was stated to be now considering its draft report; the Office and Journal Committees, which were of a routine nature; and the conference between representatives of the Association and the Society of Medical Officers of Health, at which, among other things, it was agreed by the representatives, subject to the approval of the respective councils, that no members of the society should be advised *collectively* to apply for increases of salary, using the scale as the chief argument, until the Public Health Committee of the Association had been consulted. The Council reappointed its Lunacy Law and Administration Committee, to consider the report of the Royal Commission, and also, in accordance with a resolution of the Representative Meeting, the situation arising from the findings of the jury in the case of Harnett v. Fisher, with a view to protecting the interests of the profession.

Association Notices.

BRANCH AND DIVISION MEETINGS TO BE HELD.

BIRMINGHAM BRANCH: NUNEATON AND TAMWORTH DIVISION.—A meeting of the Nuneaton and Tamworth Division will be held at the Nuneaton General Hospital on Wednesday, January 5th, when Mr. J. B. Leather, F.R.C.S., will discuss abdominal injuries.

BIRMINGHAM BRANCH: WEST BROMWICH DIVISION.—The annual meeting of the West Bromwich Division will be held at the District Hospital, West Bromwich, on Tuesday, January 11th, at 3 p.m. Agenda: Résumé by retiring chairman of the work of the Division during 1926; election of officers for 1927; programme for 1927; alteration of Rule 12 (1)—the Executive Committee suggests that the rule be altered to read: "Ordinary meetings of the Division shall be held during the months of January, April, June, and October (three meetings in West Bromwich, one meeting in Smethwick)"; formation of local Hospitals Committee; medical charities; chairman's address.

BORDER COUNTIES BRANCH: DUMFRIES AND GALLOWAY DIVISION.—The next meeting of the Dumfries and Galloway Division will be held in the Royal Infirmary, Dumfries, on Thursday, January 13th, at 3.30 p.m., when, in addition to the routine business, an important report on the hospital accommodation of the area will be considered.

GLASGOW AND WEST OF SCOTLAND BRANCH: LANARKSHIRE DIVISION.—A meeting of the Lanarkshire Division will be held at the Masonic Hall, Hamilton, on Tuesday, January 11th, at 8.30 p.m. Dr. John Glaister will read a paper on "The medical man in the witness-box."

METROPOLITAN COUNTIES BRANCH: CITY DIVISION.—The next meeting of the City Division will be held at the Metropolitan Hospital on Tuesday, January 4th, at 9.30 p.m. Mr. Acton Davis, F.R.C.S., will read a paper on osteomyelitis. It is hoped there will be a large attendance. Coffee will be served. The next clinical meeting of the City Division will be held at the Metropolitan Hospital on Friday afternoon, January 14th, at 4.15, when Dr. Norman Hill will show cases. Tea at 4 o'clock.

METROPOLITAN COUNTIES BRANCH: FINCHLEY DIVISION.—A meeting of the Finchley Division will be held at the Finchley Memorial Hospital on Tuesday, January 11th, at 8.45 p.m., when Dr. George Riddoch will give an address on "The early diagnosis of disseminated sclerosis."

METROPOLITAN COUNTIES BRANCH: HAMPSTEAD DIVISION.—A meeting of the Hampstead Division will be held on Thursday, January 13th, at 8.30 p.m. Dr. W. J. Adie (physician to the National Hospital, Queen Square, W.C.) will speak on "Some fits and seizures."

METROPOLITAN COUNTIES BRANCH: KENSINGTON DIVISION.—A ball, arranged by the Kensington Division in aid of the Royal Medical Benevolent Fund, will be held at the Kensington Town Hall on Tuesday, January 11th, from 9 to 2 o'clock. The ball is under the patronage of H.R.H. the Princess Louise Duchess of Argyll. The Clifford Essex Band will play. The price of tickets is one guinea each or six for five guineas; they may be obtained from the Honorary Secretary, 20, Upper Phillimore Place, Kensington, or from any member of the Executive Committee.

METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.—A meeting of the Lewisham Division will be held at the Town Hall, Catford, S.E.6, on Tuesday, January 18th, at 8.45 p.m. Mr. C. A. Joll, F.R.C.S., will give an address on "The diagnosis and treatment of diseases of the gall bladder and bile ducts."

METROPOLITAN COUNTIES BRANCH: NORTH MIDDLESEX DIVISION.—At the meeting of the North Middlesex Division to be held on Wednesday, January 26th, a discussion on insulin will be opened by Dr. G. Grant Macdonald.

METROPOLITAN COUNTIES BRANCH: ST. PANCRAS DIVISION.—At the meeting of the St. Pancras Division to be held at the British Medical Association House, Tavistock Square, W.C., on Tuesday, January 11th, at 9 p.m., Dr. H. C. Cameron will give an address on "Nursery psychotherapeutics."

NORTH OF ENGLAND BRANCH.—A scientific meeting of the North of England Branch will be held at the Royal Victoria Infirmary, Newcastle-on-Tyne, on Thursday, January 20th—2.15 p.m., Sir Thomas Oliver: Heart disease and pregnancy; 2.45 p.m., Mr. J. B. McDougall: Occupational therapy as an adjunct to the treatment of pulmonary tuberculosis; 3.15 p.m., Mr. Glen Davison: The N.C.P. method of dieting the sick infant; 3.45 p.m., tea; 4 p.m., Mr. Grey Turner: Difficulty in swallowing; 4.30 p.m., Dr. Whately Davidson: X-ray diagnosis of disorders of the alimentary tract.

NORTH OF ENGLAND BRANCH: BISHOP AUCKLAND DIVISION.—At the meeting of the Bishop Auckland Division arranged for Friday, January 28th, Dr. A. T. Paterson (Durham) will lecture on "Some common ailments of the eye."

SOUTHERN BRANCH: PORTSMOUTH DIVISION.—The Executive Committee of the Portsmouth Division has arranged a *souper dansant* to be held at the Esplanade Assembly Rooms, Southsea, on Tuesday, January 11th. Dancing will be from 9 p.m. to 2 a.m., and supper will be served at any time between these hours. Tickets, 10s. each (including supper), can be obtained from members or from the honorary secretary, Dr. H. H. Warren, Devonia, Goldsmith Avenue, Southsea. Tickets are strictly limited to 300. Any profit made from the *souper dansant* will be devoted to medical charities. The next monthly meeting of the Division will be held at the Queen's Hotel, Southsea, on Thursday, January 13th, at 9.30 p.m. Supper will, as usual, be served at 9 o'clock precisely. At the conclusion of the business Dr. Thomas Beaton, O.B.E., Portsmouth Mental Hospital, will give an address on "The recognition and management of the mental patient in general practice." Members who intend to be present at supper are particularly requested to notify the honorary secretary, Dr. H. H. Warren, on or before Monday, January 10th.

SURREY BRANCH: CROYDON DIVISION.—A meeting of the Croydon Division, in conjunction with the Dental Society, will be held at the Croydon General Hospital on Tuesday, January 25th, at 8.30 p.m., when Mr. Lewin Payne will read a paper on "Dental conditions and disease."

SURREY BRANCH: GUILDFORD DIVISION.—An ordinary and clinical meeting of the Guildford Division will be held at the Royal Surrey County Hospital, Guildford, on Thursday, January 6th, at 4 p.m. (tea served at 3.45).

SURREY BRANCH: REIGATE DIVISION.—A meeting of the Reigate Division will be held at the East Surrey Hospital, Reigate, on Tuesday, January 11th, at 8.45 p.m. Dr. Stoddart will read a paper on "The certification of mental patients."

SUSSEX BRANCH: BRIGHTON DIVISION.—A meeting of the Brighton Division will be held at the Royal Sussex County Hospital, Brighton, on Wednesday, January 19th, at 3.45 p.m.

YORKSHIRE BRANCH: DEWSBURY DIVISION.—A meeting of the Dewsbury Division will be held at the Man and Saddle Restaurant, Dewsbury, on Tuesday, January 11th. Coffee served at 8.15 p.m. Dr. W. Macadam (Leeds) will read a paper on "Abdominal pain—its various types and their differentiation." Members from neighbouring Divisions will be welcome.

YORKSHIRE BRANCH: WAKEFIELD, PONTEFRACT, AND CASTLEFORD DIVISION.—A meeting of the Wakefield, Pontefract, and Castleford Division will be held at the Bull Restaurant, Westgate, Wakefield, on Thursday, January 13th, when Dr. T. W. Griffith, consulting physician, Leeds General Infirmary, will give a lecture on "The prevention of heart disease and the causes and treatment of irregular heart action." Supper at 7.45 p.m. (2s. 6d.) will precede the lecture.

Meetings of Branches and Divisions.

BIRMINGHAM BRANCH.

THE second ordinary meeting of the Birmingham Branch took place on December 16th, 1926, with the President, Dr. H. G. DAIN, in the chair. A very instructive paper was read by Mr. C. A. RAISON, F.R.C.S., on "The acuto abdomen in the child." The main plea of the paper was for early diagnosis of the abdominal emergencies in childhood, and Mr. Raison pointed out that with the present improvements in operative technique the chief prospect of reducing the mortality lay in the diagnostic acumen of the general practitioner who first saw the case. He dealt at some length with the clinical features of intussusception, acute appendicitis, pneumococcal peritonitis, and acute obstruction; and illustrated his remarks with charts bringing out the main points in the differential diagnosis, and his own operative mortality during the last four years.

A general discussion followed, and the meeting closed with a vote of thanks to Mr. Raison.

BIRMINGHAM BRANCH: NUNEATON AND TAMWORTH DIVISION.

A MEETING of the Nuneaton and Tamworth Division, postponed from November 25th, was held at the Tamworth General Hospital on December 16th, 1926.

Dr. L. G. PARSONS read a paper entitled "Some problems of nephritis in children." He described the physiology of the secretion of urine in the light of the most recent research, and then discussed the pathology of various forms of nephritis in children. He also discussed the use of renal efficiency tests and the principles underlying their employment. The lecture was illustrated by diagrams.

A discussion followed in which several members took part. Dr. Parsons subsequently replied to various questions raised during the discussion, and a vote of thanks to him for his most interesting lecture was carried unanimously.

DORSET AND WEST HANTS BRANCH: WEST DORSET DIVISION.

A MEETING of the West Dorset Division was held at the Yeovil Hospital on December 9th, 1926, when nineteen members were present.

Dr. H. A. UNWIN showed three cases: (1) A young woman suffering from Addison's disease. There was an unusual amount of pigmentation. Carbohydrate metabolism was normal, and so was the basal metabolic rate. The blood count was normal. It was proposed to make a graft of some portion of a suprerenal gland, but the patient was unwilling to submit. (2) An elderly woman suffering from myxoedema. This case had now been treated, but photographs showed the condition prior to treatment. It was noteworthy that a photograph as a young girl showed evidences of exophthalmic goitre. The patient had been treated in the United States of America for many years as a case of renal disease. (3) Case of scorbutic infantilism. Photographs were again shown of different stages of this patient's progress. Some excellent and remarkable *x*-ray photographs had been taken when the case was at its worst, and these had been published in a paper and were on view. The patient, a boy, had persistently refused to eat any vegetables or fruit, and extracts of green vegetables, etc., had had to be made and given as medicine. At one time the boy was confined to bed and both arms and legs were contracted. There were spontaneous fractures of both femurs. The boy was now able to walk and in fair health.

Dr. A. T. TODD, O.B.E., assistant physician to the Bristol Royal Infirmary, read a paper on chronic arthritis. This paper dealt first with etiology and then with treatment, and contained an interesting and stimulating account of some new work on the disease. At the close he was warmly thanked, and the hope was expressed that he would soon publish the paper, which would repay careful study. Members were afterwards entertained at tea by the staff of the hospital.

EDINBURGH BRANCH: LOTHIANS DIVISION.

A MEETING of the Lothians Division was held in Ferguson and Forrester's Restaurant, Princes Street, Edinburgh, on December 9th, 1926. The meeting was an innovation in the history of the Division. Dr. R. W. CRAIG presided, and there was a fair attendance of members from over a wide area. After supper Dr. WILLIAM FORDYCE, F.R.C.P.E., gave a short address on "Pitfalls in obstetric and gynaecological practice," which was much appreciated. Thereafter Drs. DREVER (Scottish Medical Secretary), EASTERBROOK, TORRANCE, MCLEAN, FORDYCE, and others contributed to a varied programme, and the hope was expressed that similar gatherings would be held in the future.

ESSEX BRANCH: MID-ESSEX DIVISION.

A MEETING of the Mid-Essex Division was held at the Chelmsford Hospital on December 17th, 1926, when Dr. VERCOE was in the chair.

The recommendation of the committee regarding salaries of whole-time public health officers was received and adopted unanimously. The recommendation that the Branch be advised to take similar action was carried unanimously. The secretary was instructed to inquire what action the Executive of the British Medical Association was taking to secure a standard rate of remuneration for part-time public health medical officers. The question of appointing a consultant to deal with cases of puerperal pyrexia and fever was discussed at length by Dr. Bullough

(county medical officer) and others, and the following recommendations were carried:

(a) That where necessary institutional treatment should be provided for cases of puerperal pyrexia and fever notified by practitioners.

(b) That provision should be made whereby a doctor in charge of a case of puerperal pyrexia or fever (duly notified) could call in a second opinion.

(c) That the fee for such a consultation paid to the consultant in the case of the consultant being a general practitioner be not less than £2 2s.

(d) That the services of a recognized obstetric specialist be provided at the discretion of the notification of births authority.

(e) That ambulance transport for cases of puerperal pyrexia or fever be provided at the expense of the authority concerned.

After tea a very interesting demonstration of x-ray photographs was given in the x-ray department of the Chelmsford Hospital by Dr. L. M. BILLINGHAM, radiologist to the hospital.

JAMAICA BRANCH.

A MEETING of the Jamaica Branch was held on November 18th, 1926, in the Public General Hospital, Kingston.

Dr. B. M. WILSON, Principal Medical Officer, Jamaica, opened a discussion on yaws and syphilis, and propounded the thesis that an untreated attack of yaws protected against an attack of syphilis, but that an attack of syphilis did not protect against an attack of yaws. Drs. ALLEN, STIMPSON, SMITH, VINE, JOHNSON, and Major DAWSON took part in the discussion. On the motion of Dr. C. A. H. THOMSON, seconded by Dr. ALLEN, a vote of thanks was accorded to Dr. WILSON.

LANCASHIRE AND CHESHIRE BRANCH: ST. HELENS DIVISION.

A MEETING of the St. Helens Division was held at the Fleece Hotel on December 10th, 1926.

It was unanimously decided to adopt the following resolution in connexion with the scale of minimum commencing salaries for medical officers of health, etc., under Ethical Rules:

> That in the opinion of the St. Helens Division no medical practitioner should apply for any public health appointment within the area of the Division the salary of which does not conform to the scale of minimum commencing salaries for whole-time chief medical officers of health and medical officers of other grades and/or for combined posts of those medical officers who are employed by more than one authority, as approved and adopted as the policy of the Association at the Annual Representative Meeting at Bath, 1925, or continue to hold any such appointment made after December 10th, 1926, at a lower rate of remuneration than that applicable thereto as contained in and laid down by the said scale.

The proposal had previously been adopted by the Branch. The questions of certification and of maternity fees were discussed, but no resolutions were adopted.

METROPOLITAN COUNTIES BRANCH: CITY DIVISION.

THE annual dinner of the City Division was held in the Balmoral Room, Trocadero Restaurant, on December 2nd, 1926, when eighty-two members and their guests were present, under the chairmanship of Dr. HAROLD LATHAM. A most excellent dinner was enjoyed by all, and the speeches were short and entertaining. Among those who spoke were the CHAIRMAN, Dr. G. C. ANDERSON (Deputy Medical Secretary), the Rev. A. MACLEAN (rector of South Hackney), the Rev. MOSTYN JONES, D.D., Dr. PHILIP HAMILL, Dr. G. CLARK TROTTER, and Dr. CUTHBERT DIXON. Musical entertainment which delighted everyone was provided during the evening by Mrs. Westerman and Mr. Ernest Hastings, the thanks of the Division being especially due to Mrs. Westerman for her most generous and ready help.

METROPOLITAN COUNTIES BRANCH: TOWER HAMLETS DIVISION.

A CLINICAL meeting of the Tower Hamlets Division was held on December 8th, 1926, at the Mile End Hospital, when about forty members were present.

Dr. GILL showed a series of cases of fibrosis of the lung in young children, illustrated by radiographs, and dwelt on the differences between tuberculous and non-tuberculous types. Dr. WHIGHAM showed a series of gastric cases and compared the results of medical and surgical treatment. Dr. COYLE demonstrated a number of interesting conditions, including cases of congenital club-hand, sarcoma of the mastoid, encephalitis lethargica commencing with a generalized rash, and an unusual case of disseminated sclerosis. Dr. SCURLOCK and Dr. FANNING showed several cases for diagnosis.

A discussion ensued in which members participated, and the proceedings terminated with a vote of thanks to Dr. J. J. Wilson, the medical superintendent.

NORTHERN COUNTIES OF SCOTLAND BRANCH: BANFF, MORAY, AND NAIRN DIVISION.

A LARGELY attended meeting of the Banff, Moray, and Nairn Division was held in the Gordon Arms Hotel, Elgin, on November 26th, 1926, on the occasion of the visit of Professor D. P. D. Wilkie, of the Chair of Surgery in the University of Edinburgh, to deliver a British Medical Association Lecture. The Scottish Medical Secretary was present, and several members of other Divisions of the Branch. Dr. R. DOUGLAS (medical officer of health for the counties of Moray and Nairn), chairman of the Division, presided, and in a few words introduced Professor WILKIE, who spoke for over an hour to a most appreciative audience on "Pain on the right side of the abdomen," pointing out the varieties, causes, and differential diagnosis of the various types of acute and chronic pain in that particular area. The lecture was greatly enhanced by the exhibition of about fifty lantern slides, many of actual operation specimens, and others of radiograms illustrating the most modern methods of diagnosing biliary and renal conditions. At the close of the lecture the President of the Branch, Dr. E. T. MACKENZIE (Tain), said he had come over eighty miles to hear the lecture, and had been rewarded by a rare surgical treat, and he envied the students of to-day in having such a lecturer and such wonderful teaching at their disposal. Dr. J. STEPHEN, D.S.O. (Banff), in proposing a very hearty vote of thanks to Professor Wilkie for his lecture, said it would long be remembered in the area. The motion was carried with acclamation, and was briefly acknowledged by the lecturer.

At a later hour in the evening about thirty members of the Division sat down to dinner, under the chairmanship of Dr. DOUGLAS, the guests being the lecturer of the afternoon, the Scottish Medical Secretary, the Lord Provost of Elgin, and the Sheriff Clerk of the county. In replying to the toast of his health, which had been proposed by Dr. JOHN TAYLOR, senior surgeon to Gray's Hospital, Elgin, Professor WILKIE delivered a racy reply, with reminiscences of his recent visit to Canada and the United States, and contrasted very clearly hospital methods on each side of the Atlantic. Other toasts followed, and a most enjoyable evening terminated with the singing of "Auld lang syne."

PERTH BRANCH.

AT a meeting of the Perth Branch Council held in October last it was resolved to arrange for the presentation of an illuminated address to Dr. Leigh Hunt in commemoration of his having been *in practice for more than half a century.* Dr. Hunt became a member of the British Medical Association in 1880, served as a member of the Perth Branch Council, 1894-96 and 1904-05, was vice-president of the Branch in 1894, and president thereof in 1895. It was arranged that the presentation should take place at the annual dinner of the Branch, provided that Dr. Hunt's health permitted him to be present as a guest of honour, otherwise it was agreed to send a deputation to make the presentation.

At the dinner, held on November 17th, 1926, Mr. STIRLING, who presided, referred to the sterling qualities of Dr. Hunt and to his popularity with his colleagues and the public in general. Dr. Hunt had served for twenty-five years on the staff of the Perth Royal Infirmary, was at present medical officer to the parish council, and up to a few weeks ago was attending his private and panel patients as usual. Other speakers referred in eulogistic terms to Dr. Hunt's services to the community and the profession. Dr. JOHN STEVENS (Edinburgh) spoke of the conscientious manner in which Dr. Hunt had conducted his work throughout his long career. Dr. DREVER, the Scottish Medical Secretary, gave an interesting address on the activities of the Association.

As Dr. Hunt was unable to attend the dinner a deputation, consisting of the President of the Branch (Dr. Menzies), Dr. Hume, and Dr. Parker Stewart, waited upon him on November 19th to present him, on behalf of his colleagues and friends, with an illuminated address and a wallet containing Treasury notes. Dr. Hunt was deeply touched by the gift, and desired the deputation to convey his thanks to the Branch and his colleagues for their kindness.

At a further meeting held on December 10th it was resolved to form a committee to arrange for lectures on scientific subjects, the first to take place on January 27th.

SOUTHERN BRANCH: PORTSMOUTH DIVISION.

THE usual monthly meeting of the Portsmouth Division was held at the Queen's Hostel, Southsea, on December 9th, 1926, and was preceded by supper at 9 p.m., Dr. A. MEARNS FRASER presiding.

After the business had been concluded an address was given by Dr. HERBERT FRENCH, physician to Guy's Hospital. Among the principal subjects he dealt with were: (1) A plea for the wider use of venesection by the needle and bottle method in chronic conditions such as plethora, arterio-sclerosis, and high blood pressure. (2) Illnesses simulating microbic toxaemias, but sometimes caused by gaseous poisons such as coal-gas products and other vapours. (3) The gist of insulin treatment reduced to its simplest practical terms.

Dr. French's address was greatly appreciated and was followed by a good discussion. The meeting was most successful, and on the proposal of Dr. ASTON KEY, seconded by Dr. MONTAGUE WAY, a very hearty vote of thanks was accorded to the lecturer. Ninety members attended the meeting, of whom forty-eight sat down to supper.

SUFFOLK BRANCH: WEST SUFFOLK DIVISION.

A MEETING of the West Suffolk Division was held at the West Suffolk General Hospital, Bury St. Edmunds, on December 14th, 1926, when Dr. J. R. DOBBIN was in the chair.

Dr. GRACE GRIFFITH opened a discussion with some notes on proprietary remedies. She dealt very fully with the difficulties which confronted the general practitioner in attempting to decide whether any of the remedies abundantly advertised by manufacturing chemists were useful or not. She briefly discussed the various groups of proprietary articles, such as colloidal preparations, patent foods, aperients, cod-liver oil preparations, endocrines, vaccines, and serums, and alluded to some of the substances which she had found useful. She pointed out that one of the chief difficulties encountered was lack of knowledge as to the reliability of the advertising firm, and as to whether the chemical constitution of a substance was really as stated in the advertisements.

Drs. HINNELL, BARWELL, STIFF, ALEXANDER, and BATT took part in the subsequent discussion. It was generally agreed that it was

impossible to decide which of the preparations advertised were really useful, and it was suggested that it would be better if the Medical Research Council could test preparations before they were put on the market. On the motion of the CHAIRMAN a vote of thanks was accorded to Dr. Griffith for the trouble she had taken in preparing her notes.

Dr. BATT showed a case of actinomycosis of the appendix region, apparently cured by administration of potassium iodide and stock staphylococcus vaccine.

The sum of £4 5s. was collected on behalf of the Hospital Christmas Fund and handed over to the secretary of the hospital.

YORKSHIRE BRANCH: WAKEFIELD, PONTEFRACT, AND CASTLEFORD DIVISION.

A MEETING of the Wakefield, Pontefract, and Castleford Division was held at the Great Bull Restaurant, Wakefield, on December 15th, 1926, when Dr. GIBSON was in the chair.

In the course of a very interesting and informative address Mr. H. LEE described all the acute diseases of the eye in detail with their treatment. He emphasized the need for free and early incision of lacrymal abscess. In his opinion the best treatment for all forms of conjunctivitis was a single brushing with a 1 per cent. solution of silver nitrate, and subsequent washing with saline solution. He drew attention to the fact that eyes which did not dilate readily with atropine in cases of iritis would always do so if a leech was applied over the temple. He considered that sudden loss of vision in both eyes was practically always a neurosis. Mr. Lee described a premonitory form of glaucoma which was characterized by a sensation of rainbow haloes around lights, together with transient attacks of obscuration of vision, and relieved by eserine; he did not recommend iridectomy at this early stage.

Drs. GIBSON, EARDLEY, BUTLER, THOMAS, GREAVES, RADCLIFFE, and WELLS contributed to the subsequent discussion.

National Insurance.

THE following notice, signed by the secretary of the States Insurance Authority for the island of Guernsey, has lately appeared in the *Guernsey Evening Press*: "Several workers having obtained treatment from bone-setters and other unqualified persons with disastrous results, the States Insurance Authority remind all persons concerned that certificates from legally qualified medical practitioners only are accepted at this office. *Attention* is also drawn to the law which prohibits persons from carrying on the profession of physician or surgeon *without* having been admitted by the Royal Court. In their own interests workers are again asked to obtain medical attention within twenty-four hours of the taking place of an accident."

LONDON PANEL COMMITTEE.

Medical Certification for Sickness Benefit.

AT the meeting of the London Panel Committee on December 21st, 1926, Dr. H. J. CARDALE in the chair, the Panel Service Subcommittee stated that it had had under consideration the memorandum circulated to committees by the Insurance Acts Committee, drawing attention to the increased claims for sickness benefit, and pointing out that practitioners must not be led away by their sympathy for the economic position of the insured person into giving certificates which rightly should relate only to his physical capacity. The subcommittee had decided that a letter in this sense should be sent to all insurance practitioners in the London area. The CHAIRMAN said that this matter arose out of the address by Sir Walter Kinnear at the recent Panel Conference (SUPPLEMENT, October 30th, 1926, p. 193). Sir Walter Kinnear had placed the position before the representatives in a very *convincing* way, and the representatives gave a guarantee that they would do their best to impress on insurance practitioners generally the need for care in certification. The Chairman added that cases were not unknown in which practitioners had been asked by lodges to certify their members *en bloc*, the object being that the lodges might be relieved from the necessity of giving out-of-work pay. There was no special reference to London in Sir Walter Kinnear's remarks.

Dr. V. S. PARTRIDGE thought it a matter for regret that the accusation that there had been any widespread laxity in medical certification should have been accepted without quarrel by the representatives of insurance practitioners. The CHAIRMAN said that the representatives had no help for it; they were confronted by hard figures. Dr. PARTRIDGE said that he did not controvert the figures, but only the inference based upon them. An accusation of general laxity, or what some people might more charitably call misplaced sympathy, on the part of the profession was not one which should have been taken as calmly as it had been. Every insurance practitioner knew that there were many persons on his list who managed to carry on with their work so long as work was available, although, if the practitioner were asked to certify them, he would have no hesitation in pronouncing them unfit. When employment ceased, these people came up for certification, and no practitioner could honestly refuse them. There were a larger number of people of this kind than the Ministry of Health imagined. The speaker could quite conceive an increase in the number of sickness claims by 100 per cent. or more without any imputation of dishonesty.

Dr. G. F. STEBBING thought that the communication from the Insurance Acts Committee might have been worded more carefully and less provocatively.

The CHAIRMAN said that the committee could not take up the position that there was no laxity—that would be to play the part of the ostrich. There was not the slightest doubt that influences had been brought to bear upon practitioners, and that a number had been foolish enough to yield. He did not think that the majority of practitioners were giving improper certificates, but the accusation applied to a considerable minority.

Dr. E. A. GREGG said that Dr. Partridge had taken a line for which, from one standpoint, there was much to be said, but he had failed to realize that Sir Walter Kinnear had given a very generous interpretation to points similar to those which Dr. Partridge had mentioned, and after making the most generous allowance there still remained an excessive number of claims.

Dr. H. B. MORGAN protested against any charge of laxity being brought against the profession. He did not believe that in any area any considerable body of men had been guilty of that which, if proved against them, would render them liable to be dealt with by the General Medical Council. It had been said that in certain districts where the mining dispute had been most critical whole lodges had gone to practitioners asking for their members to be certified. It was due to the profession and the public that full details of such a charge should be given, and the matter laid open for investigation. There might be individual cases in which improper certification seemed probable, though even with regard to these he would like to have the evidence submitted to the closest scrutiny. There would always, of course, be honest disagreement as to whether or not a man was fit for work, but he thought it extremely regrettable that a stigma should have been cast upon the profession.

The CHAIRMAN said that the speech made to the Conference by Sir Walter Kinnear was the fairest he had ever heard from any official of the Ministry. Dr. MORGAN said that it did not read so in the report in the BRITISH MEDICAL JOURNAL. Dr. PALMER said that not only did Sir Walter Kinnear allow for all the possibilities which could explain a legitimate increase in claims, but he seemed anxious to find an excuse for the conduct of which he complained, and it was certainly remarkable that not a single representative present rose to protest. Dr. MORGAN: The Conference was chloroformed by Sir Walter Kinnear. Dr. GREGG said that Sir Walter Kinnear had made a most moderate and restrained speech, and had framed no general accusation.

Dr. PARTRIDGE asked whether the Ministry of Health proposed to take any action against the doctors charged with this conduct. The CHAIRMAN said that in the ordinary way a complaint would go to the Medical Service Subcommittee. Dr. PARTRIDGE argued that recourse should surely be had to the General Medical Council if the facts were as stated.

The letter which it was proposed to send to London insurance practitioners, incorporating a long extract from the speech of Sir Walter Kinnear, was approved by 19 votes to 4.

Correspondence.

Panel Patients and Extra Fees.

SIR,—I hope the letter of Dr. John Wilson (December 11th, 1926, p. 250) will not be allowed to pass without some comment, and I trust also contradiction.

A panel of 700 patients, representing about £280 per annum, he describes as a nice little income, and this after at least five years' hard and continuous study and expense to our parents. At the service of the public for twenty-four hours each day and seven days a week, with all its responsibilities, for the same remuneration as a lady school teacher, and less than most male teachers!

Dr. Wilson goes on to say that usually the private practice is worth at least as much as the panel, and probably a good deal more in the vast majority of cases. I should be glad to know the experiences of some other medical men if this is really the case. In my own practice—and I have been on the panel since its inception—my private work is considerably less than one-fourth of the panel.

I enclose my card.—I am, etc.,

ANOTHER-M.B.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

Surgeon Commanders G. Nunn, O.B.E., to the *Egmont*, additional, and for Malta Dockyard; H. E. Y. White, M.V.O., O.B.E., to the *Renown*; P. B. Egan to the *Benbow*.

Surgeon Lieutenants E. E. Malone to the *Keppel*; D. Bell to the *Hollyhock*; J. G. Maguire to the *Moth*; H. Gow to the *Scarab*; V. H. Boobbyer to the *Marshal Soult*; W. C. Sloan to the *Marlborough* (appointment to the *Ormonde* cancelled); A. S. Nicol to the *Hood*.

N. A. Dickinson to be Surgeon Lieutenant.

ROYAL ARMY MEDICAL CORPS.

Major W. J. E. Bell, D.S.O., and Captain T. H. Twigg are seconded for service under the Colonial Office.

The following Captains to be Majors: G. F. Carr, M.C. (prov.), B. H. C. Lea-Wilson (prov. and remains seconded).

Captain P. L. C. Carter retires, receiving a gratuity.

INDIAN MEDICAL SERVICE.

Major-General W. H. Ogilvie has been appointed to officiate as Director of Medical Services in India during the absence on leave of Major-General O. L. Robinson.

Major J. A. Manifold has taken up duty as Assistant Director of Hygiene and Pathology at Quetta.

TERRITORIAL ARMY.

ROYAL ARMY MEDICAL CORPS.

Major O. H. Mavor (late R.A.M.C., T.A.) to be Major supernumerary for service with Medical Unit, Glasgow University, Senior Division O.T.C., with precedence as from October 19th, 1923.

Captain L. W. Matthews to be Major.

Lieutenant H. W. M. Williams resigns his commission.

Lieutenant J. R. Wheeler (late R.F.A. Spec. Res.) and J. H. Strahan to be Lieutenants supernumerary for service with Medical Unit, Belfast University, Senior Division O.T.C.

Lieutenant F. T. Birkinshaw (late R. Warwick R.) to be Lieutenant, with precedence as from August 31st, 1925.

J. S. M. Connell (late Captain, Special List) to be Lieutenant.

VACANCIES.

BIRMINGHAM AND MIDLAND HOMOEOPATHIC HOSPITAL AND DISPENSARY.—(1) Honorary Anaesthetist. (2) Honorary Consulting Ophthalmologist. (3) Honorary Dental Surgeon.

EXETER: ROYAL DEVON AND EXETER HOSPITAL.—House-Physician (male). Salary at the rate of £140 per annum.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.3.—House-Physician. Honorarium £59 for six months.

HOVE: CARBURTON MEMORIAL HOSPITAL.—Resident Medical Officer (male, unmarried). Salary £150 per annum.

HUDDERSFIELD COUNTY BOROUGH.—Resident Medical Officer at the Bradley Wood Sanatorium for Pulmonary and Surgical Tuberculosis. Salary at the rate of £500 per annum.

HYDE BOROUGH.—Assistant Medical Officer of Health (part-time). Salary £300 per annum.

LANCASHIRE ASYLUMS BOARD, Preston.—Deputy Medical Superintendent at (*a*) County Medical Hospital, Lancaster; (*b*) County Mental Hospital, Rainhill. Salary at the rate of £600 per annum, rising to £700.

LEEDS CITY.—Assistant Medical Officer of Health for Maternity and Child Welfare. Salary £800 per annum.

MANCHESTER: ANCOATS HOSPITAL.—House-Physician. Salary £100 per annum.

METROPOLITAN ASYLUMS BOARD.—Second Assistant Medical Officer in the Mental Hospitals Service. Salary £550 per annum.

NEWPORT (MON.): ROYAL GWENT HOSPITAL.—House-Surgeon (male). Salary £125 per annum.

PLAISTOW FEVER HOSPITAL.—Second Assistant Medical Officer (male). Salary £300 per annum, including bonus, at present approximately £100 per annum.

SOUTHWARK METROPOLITAN BOROUGH.—Lady Assistant Medical Officer of Health (unmarried). Salary £600 per annum.

SUDAN GOVERNMENT.—Two Medical Officers for the Sudan Medical Service (unmarried). Pay £E.720 per annum, rising to £E.1,200.

UNIVERSITY COLLEGE HOSPITAL, Gower Street, W.C.1.—Honorary Physician in the Children's Department.

WARRINGTON INFIRMARY AND DISPENSARY.—Junior House-Surgeon (male, unmarried). Salary £175 per annum, rising £25 after six months.

WEST LONDON HOSPITAL, Hammersmith Road, W.6.—(1) Honorary Surgeon to the Throat, Nose, and Ear Department. (2) Honorary Obstetric Registrar.

CERTIFYING FACTORY SURGEON.— ppointment is announced: Downham Market to the Chief Inspector of Factories, Home

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.

APPOINTMENTS.

HARTLEY, James N. J., O.B.E., M.B., Ch.B., F.R.C.S., Honorary Surgeon to the Cumberland Infirmary, Carlisle, vice C. B. Paul, F.R.C.S.Edin.

MCDONALD, Niel, M.B., Ch.B.Manch., M.R.C.S., L.R.C.P., Anaesthetist to the Hospital for Sick Children, Great Ormond Street, W.C.1.

QUEEN CHARLOTTE'S MATERNITY HOSPITAL, Marylebone Road, N.W.1.—*Senior Resident Medical Officer:* A. V. Clemmey, M.B., Ch.B., M.R.C.S., L.R.C.P. *Assistant Resident Medical Officer:* W. N. Chisholm, M.B., Ch.B.

CERTIFYING FACTORY SURGEONS.—E. H. Heaton, M.R.C.S., L.R.C.P.Lond., for the Clacton-on-Sea District, co. Essex; J. G. B. Shand, M.B.Edin., for the Woolpit District, co. Suffolk.

DIARY OF SOCIETIES AND LECTURES.

ROYAL SOCIETY OF MEDICINE.

Sections of Comparative Medicine and Tropical Diseases and Parasitology.—Wed., 5.30 p.m., Special Joint Discussion: Trypanosomiasis in Man and Animals; to be opened by Dr. W. H. Andrews, Dr. J. Gordon Thomson, Mr. A. L. Sheather, and Dr. P. Manson-Bahr.

Section of Surgery.—Wed., 8.30 p.m., Discussion: Abdominal Tubercle. Openers: Mr. H. W. Carson and Mr. V. Zachary Cope (Surgery), Dr. Maurice Cassidy (Medicine).

NORTH-EAST LONDON CLINICAL SOCIETY, Prince of Wales's General Hospital, N.15.—Wed., 4.15 p.m., Discussion: Puerperal Sepsis. Speakers: Messrs. A. E. Giles, A. Goodwin, and T. H. C. Benians, and Dr. D. Kirkhope. Tea, 4 p.m.

POST-GRADUATE COURSES AND LECTURES.

POST-GRADUATE HOSTEL, Imperial Hotel, Russell Square, W.C.1.—Tues., 9 p.m., Address on Lord Lister by "One who knew him." Thurs., 9 p.m., Imperfect Descent of the Testis.

ROYAL NORTHERN HOSPITAL, Holloway Road, N.—Tues., 3.15 p.m., Gall Stones.

WEST LONDON HOSPITAL POST-GRADUATE COLLEGE, Hammersmith, W.6.—Mon., 10 a.m. to 1 p.m., Genito-urinary Operations, Skin Department, Surgical Ward Visit, [illegible]s; 2 p.m., Surgical Wards, Gynaecologic[illegible]es, 10 a.m. to 1 p.m., Lecture on Clinical [illegible] Venereal Diseases and Chest Cases; 2 p.[illegible] Nose, and Ear Department. Wed., 10 a.m [illegible] Out-patients; Medical Wards, Demonstration in Medical Pathology; 2 p.m., Surgical Wards, Eye Department. Thurs., 10 a.m., [illegible]; 2 p.m., Eye and Genito-urinary Department [illegible] Wards. Fri., 10 a.m. to 1 p.m., Gynaecol[illegible] Dental, and Electrical Departments, Lecture on Modern Methods in Medicine; 2 p.m., Throat, Nose, a[illegible]30 a.m. to 1 p.m., Bacterial Therapy and [illegible]at, Nose, and Ear Operations. Daily at 2 [illegible] Out-patients and Operations.

British Medical Association.

OFFICES, BRITISH MEDICAL ASSOCIATION HOUSE, TAVISTOCK SQUARE, W.C.1.

Departments.

SUBSCRIPTIONS AND ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate Westcent, London).

MEDICAL SECRETARY (Telegrams: Medisecra Westcent, London).

EDITOR, *British Medical Journal* (Telegrams: Aitiology Westcent, London).

Telephone numbers of British Medical Association and British Medical Journal, Museum 9861, 9862, 9863, and 9864 (internal exchange, four lines).

SCOTTISH MEDI[illegible] Secretary: 6 Dem[illegible]sheugh Gardens, Edinburgh. (Telegrams: [illegible]l.: 4361 Central.)

IRISH MEDIC[illegible] Frederick Street, Dublin. (Telegrams: [illegible]737 Dublin.)

Diary of the Association.

JANUARY.

4 Tues. City Division: Metropolitan Hospital. Mr. Acton Davis on Osteomyelitis, 9.30 p.m.

5 Wed. London: Propaganda Subcommittee, 2.15 p.m.
Nuneaton and Tamworth Division: Nuneaton General Hospital. Mr. J. B. Leather on Abdominal Injuries.

6 Thurs. London: Charities Committee, 2.30 p.m.
Guildford Division: Clinical Meeting, Royal Surrey County Hospital, 4 p.m.

11 Tues. London: Central Ethical Committee, 2.15 p.m.
Dewsbury Division: Man and Saddle Restaurant, Dewsbury. Dr. W. Macadam on Abdominal Pain, 8.15 p.m.
Finchley Division: Finchley Memorial Hospital. Dr. George Riddoch on Early Diagnosis of Disseminated Sclerosis, 8.45 p.m.
[illegible]aid of Royal Medical Benevolent [illegible]l, 9 p.m.
[illegible]ic Hall, Hamilton. Dr. John [illegible] in the Witness-Box, 8.30 p.m. Dansant, Esplanade Assembly
Reigate Division: East Surrey Hospital, Reigate. Dr. Stoddart on the Certification of Mental Patients, 8.45 p.m.
St. Pancras Division: B.M.A. House, Tavistock Square, W.C.1. Dr. H. C. Cameron on Nursery Psychotherapeutics, 9 p.m.
West Bromwich Division: Annual Meeting, District Hospital, West Bromwich, 3 p.m.

12 Wed. London, Hospitals Committee, 2.15 p.m.

13 Thurs. London: Insurance Acts Committee, 12 noon.
Dumfries and Galloway Division: Royal Infirmary, Dumfries, 3.30 p.m.
Hampstead Division: Dr. W. J. Adie on Some Fits and Seizures, 8.30 p.m.
Portsmouth Division: Queen's Hotel, Southsea. Dr. Thomas Beaton on the Mental Patient in General Practice, 9.30 p.m. Supper, 9 o'clock.
Wakefield, Pontefract, and Castleford Division: Great Bull Restaurant, Westgate, Wakefield. Dr. T. W. Griffith on the Prevention of Heart Disease, 7.45 p.m.

14 Fri. City Division: Clinical Meeting, Metropolitan Hospital, 4.15 p.m.

18 Tues. Lewisham Division: Town Hall, Catford, S.E.6. Mr. C. A. Joll on Diseases of the Gall Bladder and Bile Ducts, 8.45 p.m.

19 Wed. Brighton Division: Royal Sussex County Hospital, 3.45 p.m.

20 Thurs. North of England Branch: Scientific Meeting, Royal Victoria Infirmar[illegible] [illegible]pital. Mr. Lewin Payne o[illegible] 8.30 p.m.

25 Tues. Croydon [illegible]

26 Wed. North Middlesex Division: Discussion on Insulin.
Oxford Division: Radcliffe Infirmary. Mr. H. Whitelocke on Impressions of American Surgery, 2.30 p.m.

28 Fri. Bishop Auckland Division: Dr. A. T. Paterson on Some Common Ailments of the Eye.

FEBRUARY.

9 Wed. London: Council, 10 a.m

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcement of Births, Marriages, and Deaths is 9s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

MARRIAGE.

BONSER—DUTHIE.—On December 22nd, 1926, at Emmanuel Church, Leeds, Kenneth John Bonser, A.R.I.B.A., to Georgiana May Duthie, M.D.Manch., 16, Grange Court, Headingley, Leeds.

DEATHS.

DOWKER.—On November 3rd, 1926, at Helmsley, Yorkshire, Elizabeth Dowker, aged 83 years, widow of the late Frederick Woodcock Dowker, surgeon.

HALL.—At the Sanatorium, Chingford, on December 26th, 1926, Helena Adelaide Hall, L.R.C.P.I., L.R.C.S.I.

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SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, JANUARY 8TH, 1927.

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British Medical Association.

CURRENT NOTES.

A Medical Visit to Jamaica.

THE members of the Edinburgh and Leith Division, on learning that their past chairman intended to visit Jamaica, asked him to convey their greetings to the Jamaica Branch. Dr. Keppie Paterson accordingly fulfilled the request by calling on Dr. Strathairn, the honorary secretary, and afterwards received a call from Dr. Gifford, the president. Both were Edinburgh graduates and much friendly conversation resulted. Dr. Paterson was most agreeably received, and the secretary invited him to accompany him on his health duties to the west of the island, where a typhoid epidemic had broken out and where many were being inoculated against it. It was a motor run of about 160 miles through lovely scenery, including difficult roads with corkscrew turnings on the sides of the mountains. Dr. Paterson obtained much interesting information about the country, the people, and their diseases. He afterwards visited the general, maternity, leper, and the Nuttall hospitals, meeting the medical men and receiving much friendly attention. When reporting to the Division on his return, he drew attention to some of the more interesting points from the medical aspect. Ankylostomiasis is very common, and the Rockefeller Commission is doing excellent work in fighting it. Rickets is unknown in the island, and accordingly there are no rachitic pelves to complicate labour, though justo minor cases are met with. There is an amazing amount of albuminuria in pregnancy: 160 cases out of 860 admitted in a year into the Maternity Hospital, and of these 8 developed eclampsia. This large incidence of albuminuria is thought to be due to the prevalence of malaria; many cases clear up in ten days. Venereal disease is very common; a careful estimate is that 50 per cent. of the population are affected, and of these 17 per cent. are syphilitic. There are many cases of bad stricture. Appendicitis is rare, possibly owing to the large amount of fruit and vegetables in the dietary and to the position adopted in defaecation. Volvulus is common. Pneumonia is rare. Exophthalmic goitre does not exist. Rheumatism is not common. At the Leper Hospital, with over a hundred cases, they have discarded the hypodermic treatment and give a preparation of chaulmoogra oil in capsule by the mouth. It was evidently a most interesting trip, medically and otherwise. The interchange of courtesies between the home Branch and this oversea Branch of the British Medical Association added greatly to the pleasure and the benefit of the traveller, and Dr. Keppie Paterson's example might well be followed by others.

Undesirable Publicity.

A Chicago publishing firm issues a book called the *Red Book of Eye, Ear, Nose and Throat Specialists*, and a periodical called the *Eye, Ear, Nose and Throat Monthly*. In an offer which is being made to some of the eye, ear, nose, and throat specialists in this country the publishers state that all those who pay seven dollars for the directory will have the privilege of seeing their names in display type and receiving a copy of the periodical for two years. It is to be hoped that practitioners in this country who may have been approached by this firm will refuse to allow their names to appear in a directory which is obviously commercial in character, and to which strong exception is taken by the American Medical Association.

Subscriptions for 1927.

Members of the British Medical Association are reminded that subscriptions fall due on January 1st in each year, and that if each member on receiving an application for his or her subscription from the Head Office will send the amount to the Financial Secretary without delay the work of the office will be very considerably lightened. Members are also reminded of the claims of charity, to which reference was made in a leading article in last week's JOURNAL. The amounts at the disposal of those who administer medical benevolence are altogether insufficient to deal adequately with the cases needing help, and the British Medical Association Charities Fund was formed in order to assist. Contributions are urgently needed, and all members are asked to add to their next payment a sum for the credit of that Fund.

Meetings of Branches and Divisions.

BOMBAY BRANCH.

A GENERAL meeting of the Bombay Branch was held on October 26th, 1926, at the Pathological Laboratory, G.M. College, Bombay, when General HOOTAN, C.I.E., I.M.S., Surgeon-General with the Government of Bombay, who had specially come from Poona on that occasion, was voted to the chair. The following officers were elected:

President, Dr. R. Row, D.Sc. *Vice-Presidents*, Colonel Mackie, M.D., I.M.S., and Mr. A. K. Dalal, F.R.C.S. *Joint Honorary Secretaries*, Dr. F. D. Bana, D.P.H., D.T.M. and H., and Dr. B. Yodh, D.T.M.

General HOOTAN then called on Dr. R. Row as the president to take his rightful place as chairman of the meeting, which the latter did amid applause. He thanked the members for doing him the honour of electing him as the president for the local Branch of the British Medical Association, and said that he had undertaken the work solely from regard for the parent Association and from his love of professional and scientific work. He proposed to ban politics and meant to promote scientific and professional harmony, and in this he invited his colleagues to participate in full by lending their help and co-operation so as to make the meetings successful; it was on them that much depended for the future well-being and progress of the Branch which he had tried to resuscitate. He next expressed regret on behalf of the Branch officially at the sad death of the late secretary, Mr. D. R. Bardi, F.R.C.S., who had worked for so many years as honorary secretary and treasurer. Dr. W. NUNAN then moved that a letter of sympathy be written to the widow and family; this was seconded by Dr. D'MONTE and carried unanimously. The PRESIDENT next called the attention of members to the circular letter from the secretary of the Bombay Committee for Combating Venereal Diseases, calling for co-operation of the Branch in welcoming Dr. Lees and Mrs. Rolfe as delegates of the British Social Hygiene Council next cold weather. A committee was appointed to deal with this matter.

Lieut.-Colonel MCCOMBIE YOUNG, I.M.S., read a paper on sandflies, demonstrating the principal phlebotomus found in Bombay,

and describing a new one found by him and Captain Chalam which might prove to be a variety so far undescribed. The lecture was very interesting and the epidiascope very instructive. A vote of thanks was accorded from the chair to the lecturer.

Major-General HOOTAN, I.M.S., *in response to the President's* suggestion, addressed a few words of advice. He said that in his time he had been responsible for inaugurating two medical societies, one in Poona and one in Khathiawar, and both were doing well in professional work. He did not therefore see any reason why the Bombay Branch of the British Medical Association should not outstay any of them and hold more frequent clinical meetings where members as well as co-opted young members should meet more often than at present to discuss scientific and professional work. As for the argument that Bombay members were fully busy in their practices, he would suggest co-option of associate members for the newly qualified practitioners, and also for those not registrable in the United Kingdom—that is, the I.M.D. and the S.A.S. class, who had done so well in the late war. In reply to this suggestion Dr. ROW said he would communicate with the headquarters of the Association in London, asking for its consent.

NORTHERN COUNTIES OF SCOTLAND BRANCH.

A MEETING of the Northern Counties of Scotland Branch was held in the Northern Infirmary, Inverness, on December 3rd, 1926, when Dr. E. K. MACKENZIE was in the chair and thirty-one members attended. The meeting took the form of a clinical demonstration given by members of the staff of the Infirmary. Dr. J. W. MACKENZIE first read a very full paper on aural and nasal discharges. Dr. ALEXANDER REID followed with the demonstration of three cases of rheumatoid arthritis and gave some account of the nature of the disease, pointing out the complete difference between this disease and osteo-arthritis, illustrating it by skiagrams of the joints of the patients he had demonstrated. He also made some remarks on the treatment of the disease. Lastly, Dr. M. MACFADYEN demonstrated a series of skiagrams of fractures seen in the electrical department of the Infirmary during the previous six months. Tea was served afterwards by the nursing staff of the Infirmary.

NORTH OF ENGLAND BRANCH: CLEVELAND DIVISION.

A VERY well attended meeting of the Cleveland Division was held at North Ormesby Hospital on the evening of December 16th, 1926. The meeting was addressed by Dr. KNYVETT GORDON of London, who chose for his subject "The diagnosis and treatment of anaemia and allied conditions." The lecture, which was illustrated with an epidiascope, was listened to with great interest and attention, and the subsequent discussion and questions were answered by the speaker. At the close a hearty vote of thanks, proposed by Dr. T. M. BODY, was accorded to Dr. GORDON. The attendance was the largest of recent years at an addressed meeting.

SOUTH MIDLAND BRANCH.

THE autumnal meeting of the South Midland Branch was held at the Northampton General Hospital on November 25th, 1926, when Dr. F. S. LLOYD, president, was in the chair.

Mr. WALTER SALISBURY, M.S., F.R.C.S. (Northampton), read a paper on "Uterine haemorrhage." He first dealt with those cases which were associated with physical signs, explaining the mechanism of the bleeding in the different types of growth and inflammation, and emphasizing various points of interest in connexion with their diagnosis and treatment. Sim's speculum might with great advantage be used more frequently than it was. He much preferred subtotal to total hysterectomy for fibroids unless the cervix was definitely unhealthy. He regretted that such a large proportion of women with carcinoma of the cervix were first seen when it was too late to do the radical operation or to do it with the hope that the cure would be permanent. Chronic metritis and its pathology were next described. There was severe and prolonged menstrual loss, usually dating from a confinement, and examination revealed a symmetrically enlarged hard uterus. Drugs and curettage were useless, but the patient could be cured by hysterectomy or often by radium. The lecturer discussed cases of uterine haemorrhage in which there were no physical signs. Several different organs were concerned. The endometrium was the source of the bleeding, the uterine muscle the tap which controlled it, the ovaries the glands which initiated and governed menstruation, and the thyroid had a stimulating effect on the ovaries. The pituitary and adrenal glands, the sympathetic nervous system, and the brain all had an influence on the menstrual function. In very rare cases the blood was at fault. *An attempt should be made to find out where the fault lay in* any particular case. Epimenorrhoea, or too frequent menstruation, was due to overactivity of the ovaries, and curettage was useless for it. Menorrhagia in young girls was sometimes due to hyperthyroidism and might be benefited by *x*-ray treatment of the thyroid. In simple functional menorrhagia general hygienic treatment was the most effective. Menopausal haemorrhage, if growth had been excluded and drugs failed, could usually be cured by *radium*. Post-menopausal haemorrhage was almost invariably due to growth, and if the cervix was healthy a diagnostic curettage should be done without delay.

The President, Dr. LLOYD, in declaring the paper open for discussion, congratulated the speaker on the very excellent paper. He agreed as to the importance of passing a speculum, especially to exclude cervical polyp. He also discussed prolonged menstruation, and instanced a case in which menstruation persisted until the age of nearly 80. Mr. HOLMAN spoke as to the ease with which one might overlook a small cervical polypus. He agreed that subtotal hysterectomy was much preferable to panhysterectomy for fibroids as a rule. He instanced two cases possibly due to overaction of the thyroid, and discussed papilloma as a cause of haemorrhage. Mr. BARNES spoke in defence of calcium lactate, which Mr. Salisbury had said was unworthy of a place in the *Pharmacopoeia*. Calcium lactate had a definite value in cases of hypersensitiveness to certain toxins, if not for haemorrhage. Dr. HENDERSON advised the administration of calcium lactate combined with parathyroid. Dr. SHAW gave details of a case of uterine haemorrhage in a young girl whose life was saved by *administration of corpus luteum*. Dr. GREENFIELD said that some cases of uterine haemorrhage were due to hypothyroidism. Young girls sometimes benefited by the administration of thyroid.

After tea had been served Mr. SALISBURY demonstrated the sparklet apparatus for inflating the Fallopian tubes in certain cases of sterility. It showed whether either or both of the tubes were patent. In many cases where they were blocked the adhesions at the fimbrial end were of a filmy nature and gave way under the pressure of the gas, for the pressure of the inflating gas suddenly fell and at the same moment the sound of the escaping gas in the abdomen could be heard with a stethoscope. The method was therefore of value in treatment, and could be repeated every three to six months. It only took a few minutes and required no anaesthetic, except perhaps the first time.

A very excellent collection of specimens, numbering seventeen in all, was then exhibited; they were shown by Mr. SALISBURY, Mr. HOLMAN, Dr. TOLPUTT, and Mr. BARNES.

Association Notices.

PROPOSED DOVER, FOLKESTONE, AND ASHFORD DIVISIONS.

NOTICE is hereby given to all concerned of the following proposals made by Kent Branch:

That the existing Dover and Folkestone Division of the Kent Branch be discontinued, and that new Divisions of the Branch, with areas as follows, be formed:

Dover Division.—The municipal boroughs of Deal, Dover, and Sandwich, the urban district of Walmer, the rural districts of Eastry and Dover.

Folkestone Division.—The municipal boroughs of Folkestone and Hythe, the urban districts of Sandgate and Cheriton, the rural district of Elham.

Ashford Division.—The municipal borough and rural district of Tenterden (to be transferred from Maidstone Division), the municipal boroughs of Lydd and New Romney, the urban district of Ashford, the rural districts of East Ashford, Romney Marsh, and West Ashford.

Written notice of the proposals has been given to all the existing bodies concerned, and the matter will be determined in due course by the Council. Any member affected by the proposed change, and objecting thereto, is requested to write, giving reasons, to the Medical Secretary, British Medical Association House, Tavistock Square, London, W.C.1, to reach him not later than February 8th, 1927.

BRANCH AND DIVISION MEETINGS TO BE HELD:

BIRMINGHAM BRANCH: WEST BROMWICH DIVISION.—The annual meeting of the West Bromwich Division will be held at the District Hospital, West Bromwich, on Tuesday, January 11th, at 3 p.m. Agenda: Résumé by retiring chairman of the work of the Division during 1926; election of officers for 1927; programme for 1927; alteration of Rule 12 (1)—the Executive Committee suggests that the rule be altered to read: "Ordinary meetings of the Division shall be held during the months of January, April, June, and October (three meetings in West Bromwich, one meeting in Smethwick)"; formation of local Hospitals Committee; medical charities; chairman's address.

BORDER COUNTIES BRANCH: DUMFRIES AND GALLOWAY DIVISION.—The next meeting of the Dumfries and Galloway Division will be held in the Royal Infirmary, Dumfries, on Thursday, January 13th, at 3.30 p.m., when, in addition to the routine business, an important report on the hospital accommodation of the area will be considered.

GLASGOW AND WEST OF SCOTLAND BRANCH: LANARKSHIRE DIVISION.—A meeting of the Lanarkshire Division will be held at the Masonic Hall, Hamilton, on Tuesday, January 11th, at 8.30 p.m. Dr. John Glaister will read a paper on "The medical man in the witness-box."

METROPOLITAN COUNTIES BRANCH: CITY DIVISION.—The next clinical meeting of the City Division will be held at the Metropolitan Hospital on Friday afternoon, January 14th, at 4.15, when Dr. Norman Hill will show cases. Tea at 4 o'clock.

METROPOLITAN COUNTIES BRANCH: FINCHLEY DIVISION.—A meeting of the Finchley Division will be held at the Finchley Memorial Hospital on Tuesday, January 11th, at 8.45 p.m. Agenda: A clinical case to be shown by Dr. ORR; address by Dr. George Riddoch on "Some sequelae of encephalitis lethargica."

METROPOLITAN COUNTIES BRANCH: HAMPSTEAD DIVISION.—A Divisional meeting will be held at Hampstead General Hospital on Thursday, January 13th, at 8.30 p.m. An address will be given by Dr. W. J. Adie on "Some fits and seizures." Coffee will be served.

METROPOLITAN COUNTIES BRANCH: KENSINGTON DIVISION.—A ball, arranged by the Kensington Division in aid of the Royal Medical Benevolent Fund, will be held at the Kensington Town Hall on Tuesday, January 11th, from 9 to 2 o'clock. The ball is under the patronage of H.R.H. the Princess Louise Duchess of Argyll. The Clifford Essex Band will play. The price of tickets is one guinea each or six for five guineas; they may be obtained from the Honorary Secretary, 20, Upper Phillimore Place, Kensington, or from any member of the Executive Committee.

METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.—A meeting of the Lewisham Division will be held at the Town Hall, Catford, S.E.6, on Tuesday, January 18th, at 8.45 p.m. Mr. C. A. Joll, F.R.C.S., will give an address on "The diagnosis and treatment of diseases of the gall bladder and bile ducts."

METROPOLITAN COUNTIES BRANCH: NORTH MIDDLESEX DIVISION.—At the meeting of the North Middlesex Division to be held on Wednesday, January 26th, a discussion on insulin will be opened by Dr. G. Grant Macdonald.

METROPOLITAN COUNTIES BRANCH: ST. PANCRAS DIVISION.—At the meeting of the St. Pancras Division to be held at the British Medical Association House, Tavistock Square, W.C., on Tuesday, January 11th, at 9 p.m., Dr. H. C. Cameron will give an address on "Nursery psychotherapeutics."

METROPOLITAN COUNTIES BRANCH: WEST MIDDLESEX DIVISION.—A meeting of the West Middlesex Division will be held on Thursday, January 13th, at 8.30 p.m., at King Edward Memorial Hospital, Mattock Lane, Ealing. Mr. Gordon Bryan has kindly consented to give an address on "Injuries of the knee." A discussion will follow.

NORTH OF ENGLAND BRANCH.—A scientific meeting of the North of England Branch will be held at the Royal Victoria Infirmary, Newcastle-on-Tyne, on Thursday, January 20th—2.15 p.m., Sir Thomas Oliver: Heart disease and pregnancy; 2.45 p.m., Mr. J. B. McDougall: Occupational therapy as an adjunct to the treatment of pulmonary tuberculosis; 3.15 p.m., Mr. Glen Davison: The N.C.P. method of dieting the sick infant; 3.45 p.m., tea; 4 p.m., Mr. Grey Turner: Difficulty in swallowing; 4.30 p.m., Dr. Whately Davidson: X-ray diagnosis of disorders of the alimentary tract.

NORTH OF ENGLAND BRANCH: BISHOP AUCKLAND DIVISION.—At the meeting of the Bishop Auckland Division arranged for Friday, January 28th, Dr. A. T. Paterson (Durham) will lecture on "Some common ailments of the eye."

NORTH OF ENGLAND BRANCH: SUNDERLAND DIVISION.—The following scientific lectures have been arranged by the Sunderland Division to be held at the Royal at 8.15 p.m. on the dates indicated: February on "Pleural effusion"; March 21st, Mr. F. C. Ayerst on "Deformities"; April 18th, Dr. E. Farquhar Murray on "Some modern aspects of midwifery and gynaecology"; May 16th, Dr. George Hall on "Encephalitis lethargica and its sequelae."

SOUTHERN BRANCH: PORTSMOUTH DIVISION.—The Executive Committee of the Portsmouth Division has arranged a *souper dansant* to be held at the Esplanade Assembly Rooms, Southsea, on Tuesday, January 11th. Dancing from 9 p.m. Tickets, 10s. each (including supper), can be obtained from the honorary secretary, Dr. H. H. Warren, Devonia, Goldsmith Avenue, Southsea. Tickets are limited to 300. Any profit will be devoted to medical charities. The next monthly meeting of the Division will be held at the Queen's Hotel, Southsea, on Thursday, January 13th, at 9.30 p.m. Supper will, as usual, be served at 9 o'clock precisely. At the conclusion of the business Dr. Thomas Beaton will give an address on "The recognition and management of the mental patient in general practice." Members who intend to be present at supper are particularly requested to notify the honorary secretary, Dr. H. H. Warren, by Monday, January 10th.

SURREY BRANCH: CROYDON DIVISION.—A meeting of the Croydon Division will be held at the Croydon General Hospital on Tuesday, January 25th, at 8.30 p.m. Sir Frank Colyer will give an address on "Dental sepsis in relation to other pathological conditions."

SURREY BRANCH: REIGATE DIVISION.—A meeting of the Reigate Division will be held at the East Surrey Hospital, Reigate, on Tuesday, January 11th, at 8.45 p.m. Dr. Stoddart will read a paper on "The certification of mental patients."

SUSSEX BRANCH: BRIGHTON DIVISION.—A meeting of the Brighton Division will be held at the Royal Sussex County Hospital, Brighton, on Wednesday, January 19th, at 3.45 p.m.

YORKSHIRE BRANCH: DEWSBURY DIVISION.—A meeting of the Dewsbury Division will be held at the Man and Saddle Restaurant, Dewsbury, on Tuesday, January 11th. Coffee served at 8.15 p.m. Dr. W. Macadam (Leeds) will read a paper on "Abdominal pain—its various types and their differentiation." Members from neighbouring Divisions will be welcome.

YORKSHIRE BRANCH: WAKEFIELD, PONTEFRACT, AND CASTLEFORD DIVISION.—A meeting of the Wakefield, Pontefract, and Castleford Division will be held at the Bull Restaurant, Westgate, Wakefield, on Thursday, January 13th, when Dr. T. W. Griffith, consulting physician, Leeds General Infirmary, will give a lecture on "The prevention of heart disease and the causes and treatment of irregular heart action." Supper at 7.45 *p.m.* (2s. 6d.) will precede the lecture.

Correspondence.

The General Practitioner and the Hospital.

SIR,—In his address to the members of the Stratford Division (SUPPLEMENT, December 25th, 1926, p. 257) Mr. H. S. Souttar, visualizing the future and acknowledging that there will be still a place in the sun for the general practitioner, advocates the large voluntary hospitals, and especially the teaching hospitals, as being most suitable for the purpose of consultation and post-graduate education, yet recommends those general practitioners who are desirous of continuing to treat their patients—removed to a hospital because of unsuitable home conditions—to use the municipal hospitals as being *the* place.

Now both groups of hospitals have resident medical staffs and visiting medical staffs. Both are equally suitable for purposes of consultation, for teaching students, and for post-graduate education, seeing that there is no exclusion from either on account of age, sex, or illness. The industrial and middle classes pay under contributory schemes in one case and through the rates and taxes in the other. Will Mr. Souttar be good enough to point out what it is exactly that renders it impossible for a large voluntary hospital or teaching hospital to provide beds for general practitioner use while the municipal hospitals are considered to be "just it"? He omitted to mention the reasons for this limitation.—I am, etc.,

Hove, Dec. 29th, 1926. E. ROWLAND FOTHERGILL.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

Surgeon Commanders A. R. Fisher to the *Britannia* for R.N. Sick Quarters, Dartmouth; B. P. Pick to the *President*, additional for three months' St.C. Colson to the *President*, additional for four course. The appointment of Surgeon Comman , O.B.E., to the *Marlborough* is cancelled.

Surgeon Lieutenant Commanders R. K. Shaw, M.B., and G. L. Ritchie, M.C., have been promoted to the rank of Surgeon Commander.

Surgeon Lieutenant Commanders F. G. Hunt to the *Vernon*; F. H. Vey to the *Pembroke*, additional for R.N. Hospital, Chatham, temporary, supernumerary; J. R. Brennan to the *Vivid* for R.N. Barracks, Devonport, temporary, supernumerary.

Surgeon Lieutenants R. W. O. Ball to the *Victory* for R.N. Barracks, Portsmouth, temporary, supernumerary; P. L. Spero to the *Victory* for R.N. Barracks, Portsmouth, temporary, supernumerary.

To be Surgeon Lieutenants: E. C. Downer and H. R. Dummett.

ROYAL NAVAL VOLUNTEER RESERVE.

Probationary Surgeon Lieutenant J. A. Kerr is confirmed in his rank, with seniority of December 12th, 1925.

ROYAL ARMY MEDICAL CORPS.

The following Captains to be Majors: H. C. Godding, M.C., T. J. L. Thompson, M.C., and W. E. K. Coles (prov.).

ROYAL AIR FORCE MEDICAL SERVICE.

Squadron Leaders H. A. Hewat to R.A.F. Officers' Hospital, Uxbridge; A. J. Brown, D.S.O., to R.A.F. Depot, Uxbridge; E. A. Lumley, M.C., to the School of Technical Training (Men), Manston; D. McLaren to R.A.F. Depot, Uxbridge, on transfer to Home Establishment.

Flight Lieutenant B. F. Haythornwaite to Basrah Combined Hospital, Irak.

Flying Officers M. D. Rawkins to Research Laboratory and Medical Officers' School of Instruction on appointment to a short-service commission; J. J. Ironmonger to R.A.F. Depot, Egypt.

INDIAN MEDICAL SERVICE.

Lieut.-Colonel J. W. Watson, C.I.E., an Agency Surgeon, on return from leave, is posted as Civil Surgeon, Ajmer, and Chief Medical Officer in Rajputana.

Captain R. M. Kharegat, an officiating Agency Surgeon, is appointed to be additional Civil Surgeon, Ajmer.

VACANCIES.

ADELAIDE UNIVERSITY.—Elder Professorship of Anatomy. Salary £1,000 per annum.

AYR: GLENGALL HOSPITAL FOR MENTAL DISEASES.—Assistant Physician (male). Salary £300 per annum.

BIRRA PARISH COUNCIL.—Medical Officer and Public Vaccinator. Emoluments combined £660.

BIRMINGHAM: QUEEN'S HOSPITAL.—(1) Medical Registrar. (2) Surgical Registrar. Honorarium £100 per annum each.

BRIGHTON: ROYAL SUSSEX COUNTY HOSPITAL.—House-Surgeon (male, unmarried). Salary £150 per annum.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE HEART AND LUNGS, Victoria Park, E.2.—House-Physician (male). Salary at the rate of £100 per annum.

CLINICAL RESEARCH ASSOCIATION, Watergate House, Adelphi, W.C.2.—Director of the Laboratories. Remuneration to commence at £700 per annum.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.3.—House-Physician. Honorarium £50 for six months.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.1.—(1) Resident Medical Superintendent. (2) Physician to Out-patients. (3) Surgical Registrar. Salary for (1) and (3) £300 per annum.

HUDDERSFIELD COUNTY BOROUGH.—Resident Medical Officer at the Bradley Wood Sanatorium for Pulmonary and Surgical Tuberculosis. Salary at the rate of £500 per annum.

LANCASHIRE ASYLUMS BOARD, Preston.—Deputy Medical Superintendent at (*a*) County Medical Hospital, Lancaster; (*b*) County Mental Hospital, Rainhill. Salary at the rate of £600 per annum, rising to £700.

LEEDS CITY.—Assistant Medical Officer of Health for Maternity and Child Welfare. Salary £600 per annum.

LONDON HOSPITAL, E.—Assistant Physician.

MANCHESTER: ANCOATS HOSPITAL.—House-Physician. Salary £100 per annum.

MANCHESTER: ST. MARY'S HOSPITALS.—(1) Two House-Surgeons for the Whitworth Street West Hospital (Maternity). (2) House-Surgeon for the Whitworth Park Hospital (Children's Department). Salaries at the rate of £50 per annum.

MUNICIPAL THROAT AND EAR INFIRMARY, 317, City Road, E.C.—Two or Three Medical Officers.

ROYAL NATIONAL ORTHOPAEDIC HOSPITAL, 234, Great Portland Street, W.1.—(1) Honorary Surgeon. (2) Honorary Physician. (3) Honorary Dental Surgeon.

RYDE: ROYAL ISLE OF WIGHT COUNTY HOSPITAL.—Resident House-Surgeon (unmarried). Salary at the rate of £180 per annum.

SHEFFIELD ROYAL INFIRMARY.—Ophthalmic House-Surgeon. Salary £80 per annum.

SOUTHWARK METROPOLITAN BOROUGH.—Lady Assistant Medical Officer of Health (unmarried). Salary £600 per annum.

STOKE-ON-TRENT: NORTH STAFFORDSHIRE ROYAL INFIRMARY.—Two House-Surgeons. Salary £150 per annum.

SUDAN GOVERNMENT.—Two Medical Officers for the Sudan Medical Service (unmarried). Pay £E.720 per annum, rising to £E.1,200.

UNIVERSITY COLLEGE HOSPITAL, Gower Street, W.C.1.—Honorary Physician in the Children's Department.

WEST LONDON HOSPITAL, Hammersmith Road, W.6.—(1) Honorary Surgeon to the Throat, Nose, and Ear Department. (2) Honorary Obstetric Registrar.

WIMBLEDON HOSPITAL.—Resident Medical Officer (male). Salary 100 guineas per annum.

YORK: COUNTY HOSPITAL.—(1) *House-Surgeon*: salary £150 per annum. (2) Assistant Honorary Medical Officer in the Electro-Therapeutic Department.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.

APPOINTMENTS.

JOHNSON, Richard A. (*Risteárd Mac Eóin*), M.B., B.Ch.N.U.I., Medical Officer to the South Indian Railway, Trichinopoly, India.

SALFORD ROYAL HOSPITAL.—*Honorary Assistant Surgeons*: A. H. Southam, M.A., M.D., M.Ch.Oxon., F.R.C.S., E. D'Arcy McCrea, M.D., M.Ch.Dub., F.R.C.S.

CERTIFYING FACTORY SURGEONS.—C. W. Badger, M.B., Ch.B.Edin., for the Penicuick District, co. Edinburgh; W. L. Blakemore, M.R.C.S., L.R.C.P., for the Cannock District, co. Stafford; W. D. Brunton, M.B., Ch.B.Edin., for the Richmond District, co. Surrey; J. Cook, M.B., Ch.B.Glas., for the East Shilton District, co. Leicester; L. N. Jackson, M.B., B.Ch.Oxon., for the Crediton District, co. Devon; N. McLeod, M.B., Ch.B.St. And., for the St. Andrews District, co. Fife; G. Nicholson, M.D.Edin., for the Tiverton District, co. Devon.

DIARY OF SOCIETIES AND LECTURES.

ROYAL SOCIETY OF MEDICINE.

Section of Psychiatry.—Tues., 4 p.m., Clinical Meeting at the Maudsley Hospital, Denmark Hill, S.E.5. Tea will be provided by the kindness of the Medical Superintendent, Dr. E. Mapother.

Section of Surgery: Subsection of Proctology.—Wed., 5 p.m., Cases. 5.30 p.m., Short Papers:—Dr. Ulysses Williams and Mr. Lionel Norbury: Normal Variability of the Action of Pituitrin on the Contractile Power of the Caecum and Colon; Mr. Norbury and Mr. C. N. Morgan: The Value of Lipiodol in Determining the Extent of Fistulae in Ano; Mr. Rodney Maingot: Gummatous Colitis; Dr. Cuthbert Dukes: Laboratory Tests for the Diagnosis of Cancer of the Rectum and Colon; Mr. W. B. Gabriel: (1) Volvulus of the Pelvic Colon and Blind Caecostomy, (2) Skin Grafts and Fistulae.

Section of Neurology.—Thurs., 8.30 p.m., Discussion: Epilepsy; to be opened by Dr. Aldren Turner.

Clinical Section.—Fri., 5 p.m., Cases.

Section of Ophthalmology.—Fri., 8 p.m., Cases. 8.30 p.m., Dr. H. Moreland McCrea: Retinal Petechiasis a Clinical Entity of Auto-intoxication.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, W.1.—Mon., 8.30 p.m., Presidential Address on Changes in the Clinical Aspects of Disease by Sir Humphry Rolleston, Bt., to be followed by a discussion.

RÖNTGEN SOCIETY, 32, Welbeck Street, W.1.—Tues., 8.15 p.m., Dr. Russell J. Reynolds: Some Experiments on the Production of Rapid Serial Skiagrams from the Screen Image by means of a Cinematograph Camera.

TUBERCULOSIS SOCIETY, 1, Wimpole Street, W.1.—Fri., 8 p.m., Dr. Agassiz: The Differential Diagnosis of Non-tuberculous Fibrosis of the Lungs.

WEST KENT MEDICO-CHIRURGICAL SOCIETY, Miller General Hospital, Greenwich, S.E.10.—Fri., 8.45 p.m., Clinical Meeting: Cases.

POST-GRADUATE COURSES AND LECTURES.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION.—*Children's Clinic and the Royal Free Hospital*: Combined Course in Diseases of Children, afternoons and some mornings. *Prince of Wales's General Hospital*, Tottenham, N.: Intensive Course in Medicine, Surgery, and the Specialties, daily, 10.30 a.m. to 5.30 p.m. Clinical and Laboratory Methods, Demonstrations, Operations, etc. Formal Lectures at 4.30 p.m., open to members of the Fellowship of Medicine. *Royal Northern Hospital*, Holloway Road, N.: January 11th, 3.15 p.m., Dr. Punch: The Modern Treatment of Pulmonary Tuberculosis. Lecture free to members of the medical profession. *Bethlem Royal Hospital*, S.E.: Tuesday and Saturday, 11 a.m., Lecture Demonstrations on Diagnosis and Symptomatology of Mental Diseases and Psychoneurosis. All information as to fees, etc., obtainable from the Secretary of the Fellowship of Medicine, 1, Wimpole Street, W.1.

CENTRAL LONDON THROAT, NOSE AND EAR HOSPITAL, Gray's Inn Road, W.C.1.—Fri., 4 p.m., The Surgical Anatomy of the Temporal Bone, with epidiascope demonstration.

LONDON SCHOOL OF DERMATOLOGY, St. John's Hospital, Leicester Square, W.C.2.—Chesterfield Lecture: Thurs., 5 p.m., The Erythemata.

POST-GRADUATE HOSTEL, Imperial Hotel, Russell Square, W.C.1.—Thurs., 9 p.m., Diverticulitis. Fri., 9 p.m., Cholecystography.

ROYAL NORTHERN HOSPITAL, Holloway Road, N.—Tues., 3.15 p.m., Modern Treatment of Pulmonary Tuberculosis.

WEST LONDON HOSPITAL POST-GRADUATE COLLEGE, Hammersmith, W.6.—Mon., 10 a.m. to 1 p.m., Genito-urinary Operations, Skin Department, Surgical Ward Visit; 2 p.m., Surgical Wards, Gynaecological and Eye Departments. Tues., 10 a.m. to 1 p.m., Lecture on Clinical Methods, Demonstrations in Venereal Diseases and Chest Cases; 2 p.m., Medical Wards, Throat, Nose, and Ear Department. Wed., 10 a.m. to 1 p.m., Children's Medical Out-patients, Medical Wards, Demonstration in Medical Pathology; 2 p.m., Surgical Wards, Eye Department. Thurs., 10 a.m. to 1 p.m., Neurological Department, Demonstration of Fractures; 2 p.m., Eye and Genito-urinary Departments; 3 p.m., Gynaecological Wards. Fri., 10 a.m. to 1 p.m., Gynaecological Operations, Skin, Dental, and Electrical Departments, Lecture on Modern Methods in Medicine; 2 p.m., Throat, Nose, and Ear Department. Sat., 10 a.m. to 1 p.m., Bacterial Therapy and Children's Medical Out-patient Departments. Daily at 2 p.m., Medical and Surgical Out-patients, Operations.

GLASGOW POST-GRADUATE MEDICAL ASSOCIATION.—At Royal Maternity and Women's Hospital; Wed., 4.15 p.m., Obstetrical Cases.

British Medical Association.

OFFICES, BRITISH MEDICAL ASSOCIATION HOUSE, TAVISTOCK SQUARE, W.C.1.

Departments.

SUBSCRIPTIONS AND ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate Westcent, London).
MEDICAL SECRETARY (Telegrams: Mediscera Westcent, London).
EDITOR, *British Medical Journal* (Telegrams: Aitiology Westcent, London).
Telephone numbers of British Medical Association and British Medical Journal, Museum 9861, 9862, 9863, and 9864 (internal exchange, four lines).

SCOTTISH [illegible] SECRETARY: 6, Drumsheugh Gardens, Edinburgh. (Telegrams: [illegible]. : 4361 Central.)
IRISH MEDICAL SECRETARY: Frederick Street, Dublin. (Telegrams: [illegible] 1737 Dublin.)

Diary of the Association.

JANUARY.

11 Tues. London: *Central Ethical Committee*, 2.15 p.m.
Dewsbury Division: Man and Saddle Restaurant, Dewsbury. Dr. W. Macadam on Abdominal Pain, 8.15 p.m.
Finchley Division: Finchley Memorial Hospital. Dr. G. Riddoch on Some Sequelae of Encephalitis Lethargica, 8.45 p.m.
Kensington Division: Ball in aid of Royal Medical Benevolent Fund, Kensington Town Hall, 9 p.m.
Lanarkshire Division: Masonic Hall, Hamilton. Dr. John Glaister on the Medical Man in the Witness-Box, 8.30 p.m.
Portsmouth Division: Souper Dansant, Esplanade Assembly Rooms, Southsea, 9 p.m.
Reigate Division: East Surrey Hospital, Reigate. Dr. Stoddart on the Certification of Mental Patients, 8.45 p.m.
St. Pancras Division: B.M.A. House, Tavistock Square, W.C.1. Dr. H. C. Cameron on Nursery Psychotherapeutics, 9 p.m.
West Bromwich Division: Annual Meeting, District Hospital, West Bromwich, 3 p.m.

12 Wed. London, Hospitals Committee, 2.15 p.m.

13 Thurs. London: Insurance Acts Committee, 12 noon.
Dumfries and Galloway Division: Royal Infirmary, Dumfries, 3.30 p.m.
Hampstead Division: Dr. W. J. Adie on Fits and Seizures, 8.30 p.m.
Portsmouth Division: Queen's Hotel, Southsea. Dr. Thomas Beaton on the Mental Patient in General Practice, 9.30 p.m. Supper, 9 o'clock.
Wakefield, Pontefract, and Castleford Division: Great Bull Restaurant, Westgate, Wakefield. Dr. T. W. Griffith on the Prevention of Heart Disease, 7.45 p.m.
West Middlesex Division: King Edward Memorial Hospital, Ealing. Mr. Gordon Bryan on Injuries of the Knee, 8.30 p.m.

14 Fri. London: Conference on Medical Defence, 2.30 p.m.
City Division: Clinical Meeting, Metropolitan Hospital, 4.15 p.m.

18 Tues. London: Organization Committee.
Lewisham Division: Town Hall, Catford, S.E.6. Mr. C. A. Joll on Diseases of the Gall Bladder and Bile Ducts, 8.45 p.m.

19 Wed. Brighton Division: Royal Sussex County Hospital, 3.45 p.m.

20 Thurs. North of England Branch: Scientific Meeting, Royal Victoria [illegible], Newcastle-on-Tyne, 2.15 p.m.

25 Tues. [illegible] General Hospital. Sir Frank Colyer on.

26 Wed. " " Discussion on Insulin.
Oxford Division: [illegible] Infirmary. Mr. H. Whitelocke on Impressions of American Surgery, 2.30 p.m.

FEBRUARY.

9 Wed. London: **Council**, 10 a.m

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcement of Births, Marriages, and Deaths is 9s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

BIRTH.

MITCHELL.—On December 28th, 1926, at 2, Vicarage Road, Rugby, to Marjorie, wife of G. Fowler Mitchell, M.D., a daughter.

DEATH.

COTTER.—On December 29th, 1926, at his residence, 57, Caledonian Road, London, Patrick Gallagher Cotter, M.D. R.I.P.

Printed and published by the British Medical Association, at their Office, Tavistock Square, in the Parish of St. Pancras, in the County of London.

SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, JANUARY 15TH, 1927.

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BRITISH MEDICAL ASSOCIATION.

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British Medical Association.

CURRENT NOTES.

Some Work of the Week.

has been suggested that members of the British Medical sociation might be interested to have a short account of ne of the medico-political and kindred work which goes from week to week at headquarters, and an attempt will made to indicate the different methods by which the erests of the profession, collective and individual, are ed for.

During the week beginning January 3rd three com-ittees or subcommittees were held. The first, on January , was a Building Committee, which is considering the elopments of the Association's premises, with particular erence to those arising from the falling in of the leases the houses leading down to the gates of the new House. is impossible from the nature of the case to do more n mention the work of a committee whose main duty it to look forward to the future and try to gauge the bable development of the housing needs of the Asso-tion. On the same afternoon the Propaganda Sub-mittee had before it much interesting information as to ways in which the attractions of the Association are put fore potential members, and the results. The sub-mittee was informed, for example, of the visits of mbers of the central staff to Divisions, etc., all over the ntry, and also similar visits of members of Council and nding Committees. Included in these visits were two dresses by the Medical Secretary to the students of aring Cross and London Hospitals, at which it is believed d work was done. The other meetings were all either vision meetings, at which special propaganda work was ne, or the not less valuable social functions at which mbers of the staff and members of central bodies come o contact with the local members of the profession. list of the Divisions which are apparently unorganized inactive was carefully considered and an attempt made find out why the members in these areas were without facilities they have a right to expect. The subcommittee ne to the conclusion that, with few exceptions, local rtia was chiefly to blame. The arrangements for the stings Lecture by Sir Berkeley Moynihan on "Cancer d how to fight it" in the Great Hall of the Association's use on the evening of January 24th were considered, and subcommittee was glad to hear that the demand for tickets was very great. The chair will be taken at 8 p.m. by the Minister of Health.

On January 6th the Charities Committee met and settled a form of appeal which is shortly to be sent out to all Divisions, calling upon them to take their part in the effort to which the Association is committed to obtain increased support for the medical charities. This committee found that in making such an appeal there were many possibilities of overlapping and misunderstanding which can probably only be cleared up after a year or two's experience.

The members of the staff have dealt with a good many applications by individual members with respect to the obtaining of professional work; queries as to the R.A.M.C. as a career, which can now be cordially recommended to young men of the right type; post-graduate work and accommodation; coaching for examinations; special qualifications in surgery and ophthalmology; practice in France and Italy; homes for patients. The last named subject is one on which much useful work is done in the head office, and a great many members now apply for advice as to the best place to send particular cases, especially those whose means are not very adequate. There have been a good many inquiries about a recently much advertised treatment for epilepsy which comes from Germany. In addition there were many questions arising as to the suitability of advertisements offered for insertion in the JOURNAL where professional questions were involved, and these were cleared up, generally after reference to the secretaries of Divisions.

The Malaya Branch.

Commencing with the first number of the present year, the *Malayan Medical Journal* becomes the official organ of the Malaya Branch of the British Medical Association, under the editorship-in-chief of Dr. G. H. Macalister, principal of the College of Medicine in Singapore, with Professor A. Neave Kingsbury as associate editor, and a number of regional editors. Under this new arrangement each member of the Malayan Branch will receive the journal quarterly. The December issue of the *Journal* gives a short history of medical journalism in Malaya, based on an account in the *Transactions* of the Malayan Branch, 1922-23, compiled by Dr. J. W. Scharff, honorary secretary of the Branch. The first periodical published appeared in 1892, under the title of the *Journal of the Straits Medical Association*, but, after the issue of five numbers, it ceased to exist in 1894, when the Straits Medical Association was affiliated with the British Medical Association. After an attempt in 1903 to revive it under the title of the *Journal of the Malaya Branch of the*

British Medical Association there was an interval until 1911, when the *Malaya Medical Journal* was established and lasted for two years. The present periodical, of which four quarterly numbers have now appeared, has been under the editorial direction of Dr. T. S. Macaulay. It is announced that the next annual meeting of the Branch will be held at the Institute of Medical Research in Kuala Lumpur, from April 15th to 17th. We wish the *Malayan Medical Journal* a long life of usefulness and prosperity under the new arrangements made for its publication.

At a meeting of the Malaya Branch Council on November 29th, 1926, the arrangements for Sir Ronald Ross's approaching visit were discussed, and it was agreed that the Branch should give 100 dollars to Sir Ronald Ross for his Institute or other scientific purposes. The treasurer stated that the Branch had contributed 226 dollars to the Royal Medical Benevolent Fund. Sir Ronald Ross arrived at Singapore on December 4th, as the guest of the Malaya Branch, by which he was entertained at dinner the same evening. The President, Dr. A. L. Hoops, took the chair, and, in welcoming Sir Ronald Ross, gave an account of the chief incidents in his career, with special reference to the benefits Malaya had gained from his discoveries about the malaria parasite. Sir Ronald Ross, in his reply, congratulated Malaya on its active work in mosquito destruction and the good results that had followed. Sir Malcolm Watson proposed the health of the other guests, including Professor Bostock Hill, who, in his reply, mentioned that he had been a member of the Association for more than fifty years. He had held office since the passing of the Public Health Act in 1875, and had seen the whole evolution of the sanitary ideal, which concerned itself at first with environment, and only became more centred on the individual at the beginning of the present century. Referring to the main purpose of his visit to the Straits Settlements—namely, to confer on the subject of social hygiene, Professor Hill said he had been given every opportunity for investigation, and had come to the conclusion that, though the problem in Singapore was very difficult, yet a very excellent start had been made, and there was every reason to believe that considerable improvement would soon follow. The health work in Malaya generally compared favourably with any he had ever known. A reception was held at the King Edward VII College of Medicine on December 7th, when Sir Ronald Ross unveiled the portrait of Dr. G. A. Finlayson, one of the first lecturers of the College, and gave an address on the history of malaria research, illustrated by lantern slides made from photographs of the original specimens collected in 1897.

Membership of the Association.

On December 23rd, 1926, the membership of the British Medical Association was 32,354, an increase of 1,825 on the total at the corresponding date in 1925.

Portsmouth Division.

In response to an appeal from its Executive Committee, the sum of £103 17s. 6d. was subscribed in a few days by members of the Portsmouth Division of the British Medical Association towards a "Remembrance Fund" organized at Christmas by the *Portsmouth Evening News* to afford relief to distressing cases amongst the men of the old Portsmouth Battalion and their families. The editor of the *Evening News* writes: "The medical contribution is most generous and we are very grateful for it."

The Half-yearly Indexes.

The usual half-yearly indexes to the JOURNAL and to the SUPPLEMENT and EPITOME have been prepared and will be published shortly; they will, however, not be issued with all copies of the JOURNAL, but only to those readers who ask for them. Any member or subscriber who desires to have one or all of the indexes can obtain what he wants, post free, by sending a post-card notifying his desire to the Financial Secretary and Business Manager, British Medical Association House, Tavistock Square, W.C.1. Those wishing to receive the indexes regularly as published should intimate this desire.

Association Notices.

SALISBURY AND SWINDON DIVISIONS.

THE following change has been made by the Council, and takes effect as from the date of publication of this notice:

That the Civil Parish of Ludgershall be transferred from the Swindon to the Salisbury Division of the Wiltshire Branch.

BRANCH AND DIVISION MEETINGS TO BE HELD.

BIRMINGHAM BRANCH.—The third ordinary meeting of the Birmingham Branch will be held at the Birmingham Medical Institute on Thursday, January 20th, at 3.30 p.m., with the President, Dr. H. G. Dain, in the chair. A paper on "Intrathoracic tumours" will be read by Dr. Douglas Stanley, and at the end of the meeting tea will be provided by the President.

METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.—A meeting of the Lewisham Division will be held at the Town Hall, Catford, S.E.6, on Tuesday, January 18th, at 8.45 p.m. Mr. C. A. Joll, F.R.C.S., will give an address on "The diagnosis and treatment of diseases of the gall bladder and bile ducts."

METROPOLITAN COUNTIES BRANCH: NORTH MIDDLESEX DIVISION.—At the meeting of the North Middlesex Division to be held on Wednesday, January 26th, a discussion on *insulin will be opened* by Dr. G. Grant Macdonald.

METROPOLITAN COUNTIES BRANCH: WILLESDEN DIVISION.—A meeting of the Willesden Division will be held at the Willesden General Hospital, Harlesden Road, on Wednesday, January 19th, at 9 p.m. Agenda: Correspondence, etc.; report of Executive Committee on letter from Willesden General Hospital; resolution of last meeting with regard to minimum fees for attendance and treatment of dependants of the insured, and the scale of fees for emergency treatments of dependants.

MIDLAND BRANCH: LEICESTER AND RUTLAND DIVISION.—At the meeting of the Leicester and Rutland Division to be held at the Medical Club, Bond Street, Leicester, on Friday, January 21st at 8.45 p.m., a British Medical Association Lecture will be given by Mr. H. S. Souttar, M.Ch., F.R.C.S., on "The clinical aspect of gastric and duodenal ulcers."

NORTH OF ENGLAND BRANCH.—*A scientific meeting of the North of England Branch will be held at the Royal Victoria Infirmary, Newcastle-upon-Tyne, on Thursday, January 20th—2.15 p.m., Sir* [illegible] sease and pregnancy; 2.45 p.m., Mr. J. F. [illegible] therapy as an adjunct to the treatment of pulmonary tuberculosis; 3.15 p.m., Mr. Glen Davison: The N.C.P. method of dieting the sick infant; 3.45 p.m., tea; 4 p.m., Mr. Grey Turner: Difficulty in swallowing; 4.30 p.m., Dr. Whatel Davidson: *X-ray diagnosis of disorders of the alimentary tract.*

NORTH OF ENGLAND BRANCH: BISHOP AUCKLAND DIVISION.—At the meeting of the Bishop Auckland Division arranged for Friday, January 28th, Dr. A. T. Paterson (Durham) will lecture on "Some common ailments of the eye."

NORTH OF ENGLAND BRANCH: SUNDERLAND DIVISION.—The following scientific lectures have been arranged at meetings of the Sunderland Division to be held at the Royal Infirmary, Sunderland, at 8.15 p.m. *on the dates indicated*: February 16th, Dr. A. Parkin on "Pleural effusion"; March 16th, Mr. F. C. Pybus on "Deformities"; April 20th, Dr. E. Farquhar Murray on "Some modern aspects of midwifery and gynaecology"; May 18th, Dr. George Hall on "Encephalitis lethargica and its sequelae."

NORTH LANCASHIRE AND SOUTH WESTMORLAND BRANCH.—A combined Branch and Divisional meeting will be held in Kendal on January 20th. Professor Fletcher Shaw will deliver an address on "Lower *abdominal* pain in women." Members wishing to attend the Divisional dinner at 7.30 p.m. are requested to notify Dr. Balsillie, Kendal.

OXFORD AND READING BRANCH: OXFORD DIVISION.—A meeting of the Oxford Division will be held at the Radcliffe Infirmary on Wednesday, January 26th, at 2.30 p.m. Mr. Hugh Whitelocke will read a paper entitled "Impressions of American surgery."

SOUTH WALES AND MONMOUTHSHIRE BRANCH: CARDIFF DIVISION.—At the meeting of the Cardiff Division to be held at the Engineers' Institute, Cardiff, on Wednesday afternoon, January 26th, Professor W. E. Dixon, M.D., F.R.S., will give a British Medical Association Lecture on "The trend of thought in modern therapy."

SOUTHERN BRANCH: JERSEY DIVISION.—The following programme has been arranged by the Jersey Division: January 20th, paper by Mr. A. S. Ferguson, F.R.C.S., on epistaxis; February 17th, paper by Lieut.-Colonel P. J. Marett on tubercle; March 17th, paper by Dr. H. Marett Tims; April 21st, paper by Mr. A. Le Sueur, M.R.C.V.S.; May 19th, paper by Mr. A. S. Blackwell, F.R.C.S., on anaesthetics; June 16th, paper by Mr. J. S. Price, L.D.S. Meetings are held at 8.30 p.m. in the Committee Room of the General Hospital. Members having cases of interest are invited to show them at any of the meetings.

SUFFOLK BRANCH: NORTH SUFFOLK DIVISION.—A meeting of the North Suffolk Division will be held at the Lowestoft Hospital on Thursday, January 27th, at 4 p.m. Dr. Alfred Cox (Medical Secretary of the Association) will give an address on "The essentials of a medical organization." Non-members are *cordially invited*.

SURREY BRANCH: CROYDON DIVISION.—A meeting of the Croydon Division will be held at the Croydon General Hospital on Tuesday, January 25th, at 8.30 p.m. Sir Frank Colyer will give an address on "Dental sepsis in relation to other pathological conditions."

SUSSEX BRANCH: BRIGHTON DIVISION.—A meeting of the Brighton Division will be held at the Royal Sussex County Hospital, Brighton, on Wednesday, January 19th, at 3.45 p.m.

Meetings of Branches and Divisions.

ASSAM BRANCH: ASSAM VALLEY DIVISION.

A TWO-DAY meeting of the Assam Valley Division was held on October 9th and 10th, 1926, at the Berry White Medical School, Dibrugarh, Dr. D. P. WILLIAMS, the President of the Assam Branch, being in the chair. Dr. F. C. MCCONNIE contributed a paper on the sanitation of tea gardens, and Dr. F. W. O'CONNOR read a paper on sanitation and lines for tea garden coolies. The PRESIDENT also addressed the meeting on the subject of line drainage.

In the discussion Lieut.-Colonel GRAHAM, I.M.S., agreed that there had been a marked improvement in the health of tea-garden coolies, which reflected credit on the medical officers. He thought oral vaccines as a preventive of cholera were worth investigation. The PRESIDENT stated that he had a garden in which endemic pneumonia was causing a mortality of approximately 30 per cent. Drainage of the affected lines was instituted, and it was observed that no cases of pneumonia occurred in nineteen brick houses, whereas the old type of house still supplied its usual quota of patients. No apparent benefit had resulted from the usual prophylaxis of pneumonia, and the President added that he had heard from Sir Spencer Lister of the Johannesburg Research Institute that the usual prophylactic measures had similarly failed in endemic pneumonia occurring in the mining districts of South Africa. The disease was eventually controlled by an autogenous vaccine in South Africa, and Dr. Williams proposed to try this method. Dr. FOSTER considered that the line system described by the President was a great improvement, but it was necessary to allocate a suitable place for the collection of refuse from the houses to avoid blocking the line drains.

Dr. F. W. O'CONNOR referred to the importance of the infantile death rate as a prime factor in determining the health of any garden, especially where malaria was endemic. He believed that wherever the malaria incidence was high the pneumonia incidence and mortality were correspondingly great.

At the business meeting on October 10th the PRESIDENT announced that a rail ambulance had now been provided, and that negotiations were in progress to obtain a motor ambulance to take patients from Gauhati to Shillong. He was endeavouring to obtain a reduction in the cost of petrol for medical officers as he considered it essential for the proper fulfilment of their professional duties. It was agreed that the meeting-place for the next annual general meeting should be Haflong. The President entertained the members to dinner during the week-end.

CAPE OF GOOD HOPE (MIDLAND) BRANCH.

THE annual general meeting of the Cape of Good Hope (Midland) Branch was held in the Provincial Hospital on December 9th, 1926, when the President, Dr. ANDREW STEWART, took the chair.

The SECRETARY, in his annual report, indicated how, as a unit, the Branch had taken its share in redressing many evils which had arisen from time to time in the medico-political field. He referred to the visit of Dr. Alfred Cox and to its very happy sequel—the great measure of solidarity which had been achieved in cementing the profession into a strongly organized medical association. The Branch had assisted in the collection of information which resulted in the meeting of the Federal Council with the administrators of the Railway Sick Fund, upon which meeting hinged much in the interests of railway medical officers throughout the Union. Dr. Jabkoritz stressed the importance of Dr. Hugh Smith's having come to Port Elizabeth to deliver the first Medical Association lecture, this being a further milestone on the path of progress. In conclusion Dr. Jabkovitz, who had given six years' continuous secretarial service to the members of the profession in the area, whose interests he had most jealously guarded, and who was now resigning from office, thanked the retiring office-bearers and members of Council for their very hearty co-operation. He assured the new secretary that with such co-operation from the members of the new Council the work would be found most pleasant.

The following office-bearers were elected for 1927:

President, Dr. J. G. Muterer (Port Elizabeth). *President-Elect*, Dr. Karl Bremer (Graaff Reinet). *Vice-President*, Dr. N. Wilson (Port Elizabeth). *Honorary Secretary and Treasurer*, Dr Gordon Robson (Port Elizabeth). *Representative on Federal Council*, Dr. R M. Leith.

DORSET AND WEST HANTS BRANCH: BOURNEMOUTH DIVISION.

A MEETING of the Bournemouth Division was held, in conjunction with the Bournemouth Legal Society, on December 3rd, 1926, in St. Peter's Large Hall, when a discussion on criminal responsibility took place. Dr. EDWARDS was in the chair, and there were present sixty members of the Division and about fifty lawyers.

Criminal Responsibility.

Dr. HYLA GREVES opened the subject with a very interesting paper; he stated that from a medical point of view responsibility was very difficult to determine, while from a legal view the question was usually beyond doubt. He further went on to say that the plea of insanity was now governed by the answers to the questions given by the judges to the Commission after the famous M'Naghten case. Each case should be decided on its own merits by mental experts. It was not sufficient to determine whether a prisoner knew what he was doing and what the consequences would be; it was important to find out what was the state of the mind when the act was committed. Insanity was not the same as a disordered mind; it was more a loss of control of mental faculty. A man who committed a crime during a period of post-epileptic automatism could not be held responsible for any act which he committed, and the same applied to a person suffering from general paralysis. Delusions as a mark of insanity were very much overrated, but a person who committed a crime through a delusion from which he suffered should not be held responsible for it in a court of law. The speaker went on to say that in many cases where a criminal was of sound mind he came from a family where epilepsy and insanity were conspicuous; in other cases the commission of a crime might mark the period in a man's life when insanity first made its appearance. He was strongly of the opinion that instead of doctors having to give evidence in the witness-box on the state of the prisoner's mind, a panel of experts should investigate each individual case and make a report, as was done in other countries.

Mr. LEFROY said that the views of lawyers and doctors on criminal responsibility differed notoriously. He stated that it must be proved that at the time of committing the act the prisoner was suffering from a disease of the mind so that he did not know the nature of the crime which he was committing and that it was wrong. After the Ronald True case a commission was appointed to see if any change in the law was necessary and, if so, what change should be made, but no one was able to formulate more satisfactory tests than the M'Naghten rulings, and so no change was made. He noted that mental experts were not always in agreement over the state of the mind of a prisoner, whereas medical prison officers were of high standing in relation to insanity, and if necessary made a report on any case, and this was frequently followed by an inquiry; furthermore, all sentences of death were carefully inquired into before execution was carried out, and therefore he was of opinion that there should be no change in the present law.

Dr. WEATHERLY said that this was a subject which he had studied for over fifty years, and it was thirty-two years ago that he had, through the British Medical Association, brought the doctors and lawyers together to discuss this very subject. He stated that the present law was based on the M'Naghten ruling; this was panic legislation and therefore bad, as the judges who gave the answers to the questions had no knowledge of disease of the mind, and he was quite sure that justice could not be done if judges adhered rigidly to the M'Naghten ruling. Dr. Weatherly then related three cases which supported this contention. He thought that there was only one way in which the law could be altered; it was no good determining whether or not a man knew that he was doing wrong when he committed a crime, as most inmates of asylums knew the difference between right and wrong. He thought that there should be at least two degrees of murder, the jury to decide in which category any case should fall, and the judge to decide the penalty.

Mr. A. H. TREVANION said that he had listened with the greatest possible interest to what Dr. Weatherly had said, but he was strongly of the opinion that inasmuch as a prisoner was innocent unless proved guilty, so a prisoner was sane unless he was proved insane. As to the Ronald True case, when the appeal was taken to the House of Lords the defending counsel contended that if through disease of the mind a man committed a crime under an uncontrollable impulse he should be acquitted of responsibility, but the judges did not uphold this contention. As to dividing murder into two or more classes and leaving the decision to the jury, he thought that there would not be uniformity of classification, and on these grounds he would be opposed to it.

Dr. SIMMONS said that as a police surgeon he had to deal chiefly with minor offences; he was of the opinion that if a person committed a crime repeatedly in spite of being punished he must be suffering from some form of moral insanity even where there was no other evidence of it.

Mr. HAROLD SALT said that the safety of society was the first consideration of legislation; it was unsafe to argue from hard cases, and therefore he upheld the M'Naghten rules.

Dr. ASTEN thought it very curious that the M'Naghten rules should have remained unchanged for eighty years. If a man was found to be insane by a panel of mental experts he should not be held responsible for crime. He liked the French code, which laid down that there was no crime where there was insanity.

Mr. TILNEY BARTON, chairman of the Bournemouth Legal Society, said what a pleasure it had been for the lawyers to have had the opportunity of meeting the doctors and discuss such an interesting and important subject; he was quite sure that it had been a profitable as well as enjoyable meeting for all.

GLOUCESTERSHIRE BRANCH.

A MEETING of the Gloucestershire Branch was held at the Royal Infirmary, Gloucester, on December 9th, 1926, under the chairmanship of Dr. J. RUPERT COLLINS.

Dr. CAIRNS TERRY showed a man, aged 33, with a mediastinal tumour diagnosed by *x*-ray examination. The Wassermann reaction was negative and the blood picture and larynx were normal. The chief symptoms were attacks like asthma and shortness of breath. In the absence of definite signs reluctance was expressed to accept a diagnosis on *x*-ray films alone. Dr. Terry also showed microscope slides from a portion of a large tuberculous mass found at operation inside the abdomen of a child during a very acute illness.

The PRESIDENT mentioned two very dramatic cases of acute onset of abdominal tubercle in children. A child was brought to his out-patient department with a history of sudden illness with abdominal pain, the child having been quite well on the previous day. Death occurred ten minutes after the child was seen. The necropsy showed huge masses of tuberculous glands in the abdomen, some of which had suppurated. A few weeks later a small sister was brought to Dr. Collins, the mother reporting that only that morning vague abdominal symptoms had been noticed, and this time she was determined not to be too late. This child was at once

admitted to hospital, and was dead within twenty-four hours, the condition being similar to the first.

Mr. ARNOLD ALCOCK demonstrated three cases of knee-joint affections. A boy, aged 9, had bilateral synovitis, both knees distended with fluid. The Wassermann reaction was positive. A woman, aged 26, was admitted to hospital in considerable pain. She felt clicking in a knee-joint, and had previously had an operation, without benefit, for a displaced cartilage. After some hesitation the speaker had laid open the joint by a vertical incision through the patella and found rheumatoid arthritis with several loose bodies, which were removed. Both semilunar cartilages were still present. The third patient was a boy, aged 12, who had complained of pain in the inner side of the left knee-joint and showed slight flattening of the gluteal fold on the same side. He was admitted with a diagnosis of early hip-joint disease. Under rest all symptoms on the left side speedily disappeared, but pain began in the right knee. The cases were discussed by various members.

Mr. H. SMURTHWAITE showed a woman with complete adhesion of the soft palate to the pharynx; the condition was probably specific. He described the operative measures he proposed to undertake and promised to show the case again. Such a condition, in his experience, was very rare.

Dr. E. N. DAVEY gave a short address on pathology in relation to general practice, and mentioned certain elementary considerations which were nevertheless occasionally overlooked. Bacterial antisepsis must be equal to surgical antisepsis. Material should be collected at suitable times, as, for example, during pyrexia in the case of a blood culture, and not before the tenth day when a Widal test was to be performed. The amount of blood taken must also be adequate. There should be as little delay as possible in getting specimens to the laboratory. Dr. Davey strongly recommended taking blood direct from a vein with an ordinary hypodermic syringe. Disinfecting the skin with iodine was popular, but the dark colour might obscure the vein. A clear fluid, such as biniode, was recommended. He mentioned the normal urea content of blood—10 to 30 mg. per 100 c.cm. If this content exceeded 30 mg. then a pathological condition was present. In nephritis three-fourths of the kidney substance must be destroyed before any change in blood urea was shown. Stress was laid on the necessity for blood urea examinations before operations on the genito-urinary tract. This applied with especial force to prostatectomy. No such operation was ever undertaken now at the Royal Infirmary without this preliminary, and he was satisfied that results had improved in consequence. He dealt with the differential diagnosis in coma of unknown origin, including uraemia, diabetic coma, and hypoglycaemia, and described the method of plotting a curve for blood sugar tolerance. In his opinion blood cultures were becoming of more value. He showed a capsule which he recommended for conveying blood. It was sent out sterilized and containing 0.5 c.cm. sodium citrate solution. Blood to the extent of 5 c.cm to 10 c.cm. was withdrawn from a vein by a hypodermic needle, transferred to the capsule, and the end closed by sealing-wax. A positive blood culture nearly always foretold a fatal issue, especially in the case of the streptococcus. Dr. Davey also dealt with examinations of cerebro-spinal fluid and urine, pointing out with regard to the latter that for bacteriological purposes all specimens must be obtained by catheter. For tuberculosis a twenty-four-hour specimen was necessary, and there was no use going on with the examination unless pus was present.

The paper was of great interest and practical value, and Dr. Davey was heartily thanked. Twenty-three members subsequently dined together at the Spread Eagle Hotel.

LANCASHIRE AND CHESHIRE BRANCH: ROCHDALE DIVISION.

A MEETING of the Rochdale Division was held in the Lyceum, Rochdale, on December 15th, 1926, when Dr. KILROE was in the chair.

Dr. ANDERSON opened a discussion on the regulations on puerperal fever recently issued by the *Ministry of Health*. He considered that to carry out the regulations hospital accommodation, trained nurses, a specialist, and a bacteriologist would be required. A building at Marland Hospital quite separate from the other buildings could be converted into a suitable place with four cubicles for patients, accommodation for nurses, laboratory for diagnostic purposes, etc. A trained bacteriologist was necessary to examine the uterine secretions and to prepare a vaccine at once; stock vaccines were of no use. He did not consider that the treatment by drugs and antiseptics was of much use, and after the results of the treatment of scarlet fever by vaccines he hoped for excellent results from that method. After discussion approval of the Marland scheme was carried unanimously.

METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.

A MEETING of the Lewisham Division was held on December 21st, 1926, at the Town Hall, Catford, S.E.6, when Lieut.-Colonel CHARLES THOMSON took the chair. Dr. R. TRAVERS SMITH delivered an address on functional nervous disorders of the heart. He said that in the neuroses and psychoneuroses the patient presented somatic symptoms. Emotional distress was shown in the heart by subjective symptoms. Fainting which had a mental origin was a cerebral ischaemia due to vagus inhibition; nervousness was the main cause. Disordered action of the heart and tachycardia were neuroses. The cardiopath might become a neuropath and the neuropath might become a cardiopath. Disordered action of the heart might complicate organic disease, might aggravate heart lesions, and was sometimes misinterpreted as angina pectoris. Pain in and around the heart might be organic or neurotic. Organic pain was (*a*) more frequent in the elderly males, (*b*) substernal, (*c*) on exertion; and neurotic (*a*) more in youths a females, (*b*) depends more on emotion.

Drs. THOMSON, BUCHAN, HALLINAN, EVANS, GRAY, BAIN, BANNOUS CHARSLEY, and BEATTIE joined in the discussion, and a vote thanks was passed to the lecturer.

METROPOLITAN COUNTIES BRANCH: WILLESDEN DIVISION.

AT the meeting of the Willesden Division, held at St. Andrew Church Hall on December 15th, 1926, Dr. F. M. HARVEY, *M.C.*, re a paper on "The uses of ultra-violet rays by a general practitioner Dr. H. D. HALDIN-DAVIS described Dr. Harvey's effort as the mo luminous scientific paper he had ever heard, and gave h experience with the rays at the school clinics. Dr. W. W. STOCK also made an interesting contribution to the subject. On the moti of Dr. C. F. T. SCOTT, seconded by Dr. HEAL, a vote of thanks w accorded to the speakers. Dr. W. LOCK'S motion with regard minimum fees was carried, with the deletion of the words "f two days" after "with medicine."

A letter was read from the secretary of the Willesden Gener Hospital, pointing out that—(1) The Division's proposal of la December, that each practitioner should treat his patients in th wards of the hospital, was considered impracticable. (2) Arrang ments had been made for future appointments to the medical sta as already approved by the Division without prejudice to th whole question. (3) Any doctor not on the staff might send h patients to the doctor of his choice on the staff. (4) The chairma and honorary secretary were offered *ex officio* seats on the Hospit Council. It was decided to refer the letter to the Executive Cor mittee and to send a copy to each member.

NORTH OF ENGLAND BRANCH: DARLINGTON DIVISION.

A CLINICAL meeting of the Darlington Division was held Greenbank Hospital, Darlington, on December 16th, 1926, whe Dr. C. J. KIRK was in the chair and there was an exceptional good attendance, which included a large number of counti members and members of the neighbouring Divisions. Th speaker of the evening was Dr. FREDERICK PRICE, whose subje was "Recent important developments in cardiology." His lectu was an essentially practical one and the subject-matter pr foundly interesting; it was listened to with the closest attentio throughout. A hearty vote of thanks to Dr. Price for his addre was proposed by Dr. CHALMERS, seconded by Dr. SINCLAIR, an carried with acclamation.

NORTH OF ENGLAND BRANCH: HARTLEPOOLS DIVISION.

A MEETING of the Hartlepools Division was held on December 9t 1926, when the chairman, Dr. W. N. RISHWORTH, *M.C.*, presided

Dr. W. H. DICKINSON (Newcastle-on-Tyne) read a paper dealin with "The diseases of the chest as studied with the help of th *x* rays." After dealing with the methods of examination of th thorax, the lecturer demonstrated the normal appearances of th heart and lungs and the scheme of mapping out the lung fields fo radiographic purposes. This was followed by a brief description various pathological conditions of the lungs, heart, and great vesse with numerous lantern slides. After emphasizing the fact tha radiological examination was only to be regarded as one of th methods to be employed in investigating a chest case, Dr. Dickinso stated that in his opinion the use of the *x* rays was indispensable no other method giving such an accurate idea of the quantitative a well as the quantitative character of the lesions in most cases Finally, he pointed out that while the value of the method wa inestimable in assisting the physician to come to a positiv diagnosis, it was also of great service by enabling him to "rul out," definitely, certain pathological states in very many case presenting suggestive symptoms, but in which the physical sign were indefinite or negative.

OXFORD AND READING BRANCH: WINDSOR DIVISION.

A MEETING of the Windsor Division was held at the King Edward VI Hospital, Windsor, on December 17th, 1926.

Dr. REGINALD MILLER, honorary secretary of the British Medica Association Committee on Rheumatic Heart Disease in Children opened a discussion on "The national problem of rheumatic hear disease in children." He pointed out that the problem could b solved only by careful research into those conditions that surround the individual case. The disease was almost unknown in publi schools, but was rife in those children attending elementary school in London, but not among the very poor. Considerable discussion followed. Dr. HATHAWAY said that in twenty-three years he had had no case in Eton, in the Imperial Service College, or in private practice. Dr. SPROTT undertook to investigate the occurrence o the disease among elementary school children in Windsor to compare this with Eton's immunity. It was realized by all how much useful research might be carried through by such a body as a local Division of the British Medical Association.

SOUTH WALES AND MONMOUTHSHIRE BRANCH: CARDIFF DIVISION.

THE annual dinner and dance of the Cardiff Division was held on December 15th, 1926, when Dr. T. W. THOMAS (Caerphilly) presided. In proposing the toast of "The British Medical Association," Sir WILLIAM DIAMOND said that the medical pro fession was not troubled with ordinary industrial troubles, and it was never out of employment. Some of the characters in the medical profession he described as the salt of the earth, inasmuch as those members had cultivated that great quality which made

life really worth while; they had no mercenary ends. Cardiff would, he knew, be proud to receive the Association when it held its annual meeting there in 1928 under the presidency of Sir Ewen Maclean. The CHAIRMAN, in acknowledging the toast, said that the duties of medical men were onerous and demanded tact and skill. The profession did not seek riches; its first consideration was to do the best possible good for the people. Dr. W. E. THOMAS also responded; he said that there was at present no time to spare for differences among the members of the medical profession. Sir EWEN MACLEAN proposed the toast of "The Guests" and extended a hearty welcome to all present, and especially to the students from the Cardiff Medical School. The LORD MAYOR, in responding, said that his respect for the medical profession knew no bounds; Sir EDWARD SEAGER also acknowledged the toast.

SOUTH WALES AND MONMOUTHSHIRE BRANCH: SWANSEA DIVISION.

A MEETING of the Swansea Division took place on December 9th, 1926, at the General Hospital, Swansea, when Dr. H. R. FREDERICK, chairman of the Division, presided. Mr. HAROLD DAVIS, Ph.C., lecturer in pharmacy, Technical College, Swansea, gave a most able address on "Incompatibles." Several prominent pharmacists of the town and district attended the meeting and were warmly welcomed. A hearty vote of thanks to the lecturer was accorded at the conclusion of the meeting.

BOOKS ADDED TO THE LIBRARY.

THE following books were received by the Library of the British Medical Association during October and November, 1926:

Abt: Pediatrics. Volume 8 and General Index. 1926.
Anderson, W. H. P. and M.: Dawn and Gleam. 1926.
Backmeister-Rickmann: Die Röntgenbehandlung der Lungen und kehlkopf-Tuberkulose. 1924.
Beaumont and Dodds: Recent Advances in Medicine. Third edition. 1926.
Bensaude, R.: Traité d'Endoscopie. Second edition. 1925.
Blacker, C. P.: Birth Control and the State. 1926.
Borst, M.: F... ...6.
Bose, Y. M.: ... ...lth and Disease. 1925.
Boyd, M. F.: ... ...nd edition 1935.
Braun, M., u ... ... parasiten des Menschen. II Teil. 1926.
Brocq, P.: Les pancréatites aigües chirurgicales. 1926.
Buschke-Gumpert: Geschlechtskrankheiten bei kindern. 1926.
Carleton, H. M.: Histological Technique. 1926.
Chapin and Royster: Diseases of Children. Fifth edition. 1925.
Coca, A. F.: Essentials of Immunology. 1925.
Coleman, F.: Materia Medica for Dentists. Sixth edition. 1926.
Orile, G.: Bipolar Theory of Living Processes. 1926.
Darwin, L.: Eugenic Reform. 1926.
Dearle, N.: The Cost of Living. 1926.
Denker, A., u. Kahler, O.: Handbuch der Hals, Nasen, Ohrenheilkunde. VI. 1926.
Dental Board of United Kingdom. Four Lectures on General Anaesthesia. 1926.
Evans, C. L.: Recent Advances in Physiology. Second edition. 1926.
Fairbairn, J. S.: Obstetrics. 1926.
Fox, C.: Educational Psychology. 1925.
Gleason, E. B.: Diseases of the Nose, Throat, and Ear. Fifth edition. 1924.
Guy's Hospital Reports. Volume 76, 3. 1926.
Hall, Walter and Eliza: Institute for Research in Pathology. Collected papers. Volume 2. 1923-25.
Harms, O.: Die Entwicklungstadien der Lungentuberkulose. 1926.
Heatherley, F.: Modern Methods in the Diagnosis and Treatment of Heart Disease. Second edition. 1926.
Hernaman-Johnson: Radiotherapy in Relation to General Medicine. 1926.
Herrick, C. J.: Brains of Rats and Men. 1926.
Hewer, Mrs. Langton: Our Baby. Eighteenth edition. 1926.
Hornibrook, F. A.: Physical Fitness and Middle Life. 1925
Hurry, J. B.: "Imhotep." The Vizier and Physician of King Zoser. 1926.
International Clinics. Thirty-sixth series. Volumes 1 and 2. 1926.
Jackson, J. S.: Goiter and Other Diseases of the Thyroid Gland. 1926.
Jarkowski, J.: "Kinésie Paradoxale" des Parkinsoniens. 1925.
Johns Hopkins Hospital Reports. Volume 22, Fasc 1. 1926.
Jordan, A. C.: Chronic Intestinal Stasis. Second edition. 1926.
Kirk, J. B.: Hints on Equipment and Health for Intending Residents in the Tropics. 1926.
Kirkpatrick, C.: Intelligence and Immigration. 1926.
Knaggs, R. L.: The Inflammatory and Toxic Diseases of Bone. 1926.
Laborde, S.: La Curiethérapie des cancers. 1925.
Laird, J.: Tuberculosis: Its Prevention and Treatment. 1925.
Leriche-Policarde: Les Problèmes de la Physiologie Normale et Pathologique de l'Os. 1926.
Lorenzini, J.: Théorie des Vitamines et ses applications. 1925.
McGowan, J. P.: Pernicious Anaemia, Leucaemia, and Aplastic Anaemia. 1926.
Mackenzie, Sir James: Principles of Diagnosis and Treatment of Heart Affections. Third edition. 1926.
Marchoux: Paludisme. 1926.
Mellor, J. W.: Comprehensive Treatise on Inorganic and Theoretical Chemistry. Volume 6. 1926.
Morse, W.: Applied Biochemistry. 1925.
Morton, D.: Invalid Diet. 1926
Mourtquand, G.: Précis de Diététique et des Maladies de la Nutrition. 1926.
Newman, R. H.: Evolution, Genetics, and Eugenics. 1926.
Nobecourt, P.: Clinique Médicale des Enfants. 1926.
Odeneal, T. H.: Non-Surgical Treatment of Diseases of the Mouth, Throat, Nose, Ear, and Eye. 1926.
Ohm, J.: Das Augenzittern als Gehirnstrahlung 1925.
Paton, D. N.: Physiology of the Continuity of Life. 1926.
Paul, K. T.: The Carrier Problem. 1926.
Pettibone, C. J. V.: Physiological Chemistry. 1926.
Pick, F.: Joh. Jessenius de Magna Jessen. 1926.
Pickett-Thomson Research Laboratory: Annals of. Volume 2, No. 2. 1926.
Robinson, L. E.: The Genus Amblyomma. Part IV, Ticks. 1926.
Rost, G. A.: Hautkrankheiten. 1926.
Rout, E.: Sex and Exercise. 1926.
Roy, T. N.: The Organon Modernized. 1926.
Saldman, J.: Les Rayons Ultra-Violets en Thérapeutique. 1925.
Saundby, R.: Medical Ethics. 1902.
Savage, G. C.: Ophthalmic Neuro-myology. 1926.
Schroder, P.: Introduction to the Histology and Histopathology of the Nervous System. 1924.
Sergent, E.: Nouvelles Etudes Cliniques et Radiologiques sur la Tuberculose. 1926
Smith, W. Johnson, and Chaplin, Arnold: A Medico-Chirurgical Help. Sixth edition. 1926.
Stewart, H. E.: Diathermy with Special Reference to Pneumonia. 1926.
Strohl, A.: La Conductibilité du Corps Humain. 1925.
Thorpe: Dictionary of Applied Chemistry. Revised edition. Volume 6. 1926.
Urbain, A.: La Réaction dans la Tuberculose. 1925
von Noorden, C., and Isaac, S.: Hausarztliche und Insulinbehandlung der Zuckerkrankheit. 1925.
Voronoff, S.: Etude sur la Vieillesse et de Rajeunissement par la Greffe. 1926.
Wallis, T. E.: Practical Pharmacognosy. 1925.
Waters, R. C.: A. Practice of Psychology. 1926.
Weber, A.: ... 1926.
Wenyon, C. ... volumes. 1926.
Wickwar, J ... Black Art. 1926.
Williams, I ...
Wilson, R. ... sician. 1926.
Wyatt, R. B. H.: Bacteriology for Dentists. 1925.

National Insurance.

ADMINISTRATION OF DENTAL BENEFIT.

ADDITIONAL details of the new arrangements for the administration of dental benefit which came into operation on October 1st, 1926, have now been published in a circular (A.S. 259) on behalf of the Ministry of Health and the Scottish Board of Health.

It is stated that the adoption of the new scale of charges by any society confers the right on the society to make use of the proposed service of regional dental officers, to adopt the model dental letter, and take advantage of the arrangements made by the Dental Benefit Joint Committee to deal with disputes. When dealing with the previous circular (SUPPLEMENT, October 9th, 1926, p. 161) we commented on the fact that dentists without a medical qualification are permitted by law to administer anaesthetics other than nitrous oxide for prolonged operations. It is now stated that a list of registered dentists who are eligible for anaesthetic fees has been approved by the Dental Benefit Joint Committee, and may be obtained by any society which has accepted the new agreed scale, though the list is not for publication in any way. It is added that, since any duly qualified medical practitioner is allowed to administer anaesthetics, the fee in his case is payable without reference to the list of anaesthetists.

A scheme for providing regional dental officers has now been approved by the Dental Benefit Joint Committee and the Consultative Council, and it will be brought into operation as soon as possible. The main features of this scheme are that seven full-time regional dental officers will be appointed in the first instance, of whom two will be stationed in London; one each in the areas centred upon Manchester, Birmingham, and Leeds; one in Cardiff; and one in Glasgow; arrangements being made for sessions at suitable places throughout these areas. The regional officers will examine estimates for dental treatment, and patients referred to them, including the consideration of quality, workmanship, or fitting of dentures. They will also make any inquiries necessary into the progress of dental treatment under the scheme. Their work will be supervised by the central departments, which will furnish reports from time to time to the Dental Benefit Joint Committee. It is further stated that a society providing dental benefit may not act arbitrarily in rejecting claims by its members, who have a right of appeal against its decision; the society may, however, discuss with the dentist the question of the necessity of any item included in a disputed estimate. Failing agreement, such a case may be referred by the society to the regional dental officer, whose opinion would ordinarily be accepted by both parties, though it will still be open for either the society or the dentist to appeal to the Dental Benefit Joint Committee. Pending the appointment of regional dental officers, any society in doubt about an estimate submitted by a dentist may refer the difficulty to a consulting dentist, or seek advice from one of the dental organizations.

Since there is a limit to the amount which any society providing dental benefit under the additional benefit scheme may spend in any year, the scheme provides for the possibility of transferring to the credit of the dental benefit account in any year a proportion of the amounts allocated to, but not required by, other treatment benefits. Moreover, such expenditure may be allowed to exceed the allocated amounts by not more than

10 per cent. in any year subject to recovery of the excess by a corresponding reduction in expenditure in the following year. In the event of difficulty with regard to such expenditure still persisting, suggestions are offered for its solution by a society obtaining sanction for amendment of its scheme or by other means.

LANCASHIRE INSURANCE COMMITTEE.

Laboratory Services.

THE following circular has been addressed to insurance practitioners on the medical list of the Insurance Committee for the county of Lancaster. As reproduced here the text has been slightly abridged.

The Lancashire Insurance Committee has formulated a scheme for assisting insurance practitioners in the scientific treatment of diseases which call for prompt pathological and bacteriological services, and for simplifying the administrative procedure where stock and autogenous vaccines are required.

An insured person is entitled, as part of medical benefit, to proper and sufficient drugs (including vaccines) requisite for the treatment of his case. This provision does not, however, extend to laboratory diagnostic services. If an autogenous vaccine is to be prepared, then, under the old procedure, the insurance practitioner selects the source of supply, obtains a collection and transmission outfit, and pays the laboratory authorities. He afterwards sends the receipted bill to the Insurance Committee, together with a *pro forma* prescription, when the cost is reimbursed to him. The large increase in the use of vaccines, and numerous inquiries received by the Committee from insurance practitioners, have emphasized the desirability for a simplification of procedure, and for relieving practitioners of much correspondence, payment of fees, and other clerical work.

The Insurance Committee has made arrangements with the Wigan Infirmary Pathological Department, presided over by Dr. W. E. Cooke, to supply stock and autogenous vaccines to the order of insurance practitioners, and to report upon material sent for examination. Insured persons, as such, are not entitled to laboratory diagnostic facilities, but it is understood that the Wigan Infirmary Board will be prepared to furnish free of cost diagnostic reports required by you for insured persons on your list. There will shortly be forwarded to you a free outfit for the collection and transmission of material, with postage prepaid, to the laboratory. Any part of the outfit used in connexion with the service will be immediately replaced. Should you require an autogenous vaccine, or report, you will send the necessary material, accompanied by brief details on the form provided, and, where an autogenous vaccine is to be prepared, a *pro forma* prescription, on the official form, giving the name of the patient, etc. Where a stock vaccine only is required all that need be sent to the Wigan Infirmary is a prescription on the official form. Payment will be made direct to the Infirmary Board by the Insurance Committee. For the purposes of this scheme, which comes into operation on January 1st, 1927, the laboratory is open day and night, and urgent examinations can be made at any time.

It should be clearly understood that the scheme as outlined above does not supersede existing arrangements for the supply of vaccines, but should be regarded as an alternative provision to be used at the option of the insurance practitioner. Practitioners are reminded that certain pathological and bacteriological services are provided free out of public funds through public health authorities, chiefly in connexion with tuberculosis, venereal diseases, diphtheria, and the typhoid group of fevers. Where practitioners have been notified of these services they should be used, and specimens sent to laboratories with which the local authority for the area has made arrangements, and the fee will be paid by the authority to the laboratory.

Correspondence.

A Public Medical Service.

SIR,—I have followed with interest the views of the sequence of contributors on the subject of panel patients and extra fees which have appeared in the SUPPLEMENT of late, and but for Dr. John Wilson's letter on December 11th, 1926 (p. 250), subscribing a "No! most emphatically" reply to the suggestion of a contributor that the Association should form a public medical service, I should not have been tempted—but for a special reason—to intervene in the discussion at this stage.

This suggestion is not new; towards the end of 1923, when practitioners were threatened with a reduction in the capitation fee, the Insurance Acts Committee strongly recommended those panel areas unprovided with an alternative service to take immediate steps to establish a public medical service, and I believe a number of Panel Committees complied. Nor is Dr. Wilson more fortunate in his equally emphatic assertion:

"I have no hesitation whatever in saying that the institution of such a thing in a practice introduces, in nine cases out of ten, the element of 'mere business' which is totally at variance with the true practice of medicine, and with its ideals as they ought to be and as some of us know them."

As the evidence of fact is much more convincing than a hypothetical deduction, the other side of the argument may be illustrated by reference to an historical example.

In 1895 the medical profession in Eastbourne, actuated by a determination to rescue four of their less favoured brethren from a pernicious alliance with the local branch of a touting "medical aid" company of lay shareholders, and conscious of their responsibility for the maintenance of professional integrity, organized their forces, by each member subscribing his declaration to wage unceasing aggressive warfare upon the enemy until the unholy thing was banished from their midst, and established their headquarters in the fastness of the newly founded "Eastbourne Provident Medical Association," a public medical service; with the result that, at the end of a fifteen months' strenuous campaign, the followers of the alien camp, numbering some hundreds, were sequestered within the precincts of the Provident Medical Association, and the alien enemy, being denuded of its "aids," was obliged to beat an ignominious retreat.

The doughty deeds of those pioneers in professional organization are enshrined in the third of a series of articles on "The Battle of the Clubs," written up at that time by the special commissioner of the *Lancet*, published in that journal, and reprinted in book form. The Eastbourne Provident Medical Association (for economy of space hereafter referred to as the "P.M.A."), with a membership wage limit, is self-supporting, and is entirely controlled and managed by the local profession. The membership is composed of women and children. In return for a weekly contribution of 3d. each, the members receive attendance and medicine. Fractures, dislocations, anaesthetics and major surgery, etc., are extras, chargeable on a fixed scale of fees. The services of an honorary consulting physician and surgeon are always available. Dental treatment, at reduced fees, is also provided. Right of "free choice" and liberty to "transfer" on the part of the member and medical officer have been in operation from the first. The staff of medical officers is open to any practitioner approved by the committee. Generally, the professional relationship between the members and medical staff is of the most cordial nature. During the thirty-one years there has not been a single complaint by a member against a medical officer, or vice versa, or dispute between members of the staff, brought to the notice of the executive of the P.M.A.

From the foregoing it will be seen that the P.M.A. very closely approximates to the ideal of what a public medical service should be, and through which the local profession might justly claim to have solved the problem of attendance on the "dependants of insured persons," in a way which secures each member's independence of State charity and guarantees the freedom of the practitioner from the injustices and inequities inherent in insurance practice.

While Dr. Wilson apparently bases his rooted objection to a public medical service on the ethical ground that the practice of medicine in England as compared with the same thing in Scotland is "simply a business, and a mercenary business at that," yet evidently he is enamoured with the method of remuneration under the National Health Insurance service, so long as each share is "sufficient for his daily bread and for moderate ease and comfort." The principle of *per capita* remuneration is common to the P.M.A. and N.H.I., except that in the former the definite contribution is paid to the practitioner, less 12 per cent. to cover the cost of working expenses; and I cannot conceive of any astute Scotsman regarding 3d. a week per member being the dominant "element of 'mere business'" in the one more than in the other.

Finally, if I may be permitted so to advise, I would recommend the insurance section of the profession to establish public medical services wherever possible, in order to forestall the contemplated inclusion of "dependants" in the national medical service suggested in the Report of the Royal Commission, and so keep the administration of this work in the hands of the profession as long as possible.—I am, etc.,

Eastbourne, Dec. 17th, 1926. WM. MUIR SMITH.

SIR,—I desire to thank "Another M.B." for his prompt and courteous reply.

While I repeat that £280 per annum, from the panel alone, is not to be scoffed at, I freely admit that it is not nearly as much as most of us would like in return for the work involved. I know all about the five years' study and the expense to the parents which is involved. What annoys me is the fact that many who have long ago paid off all such debts, and are now living in comparative affluence, are just the very men who grumble unceasingly at the remuneration they get from the panel.

I am well aware of all the panel shortcomings and deficiencies, but I do not see that it does any good for medical men to

grumble about it periodically in the correspondence columns of medical journals. I am not setting myself up as a champion of the panel system against the interests of my fellow practitioners; I am merely deprecating the attitude that certain men adopt in relation to it.

I can only repeat that, so far as I have had experience of various practices, both in Scotland and in England, the private practice was worth at least as much as the panel. I am quite prepared to admit, however, that this may be exceptional. —I am, etc.,

Glasgow, Jan. 3rd. JOHN WILSON, M.B., Ch.B.

SIR,—I think most panel doctors will thoroughly agree with what "Another M.B." writes in your issue of January 1st, p. 11. Dr. John Wilson's remarks (December 11th, 1926, p. 250) are mere platitudes, more fitting for a philanthropist, or for a doctor whose panel practice is merely a side line. The remuneration of panel doctors is not adequate for work done. But the worst feature of all is that frequently the rate of remuneration is not in strict accordance with the capitation basis (small as that is), but considerably below it. In other words, we do not even get what we agreed to accept. I can give a personal instance.

For the past quarter the number on my list was 28 more than for the previous quarter, yet instead of my cheque being greater it was less. Naturally I wrote for an explanation, but the only reason given was that the total acceptances for the county during the last quarter had increased to such an extent that the value of each unit had fallen by rather more than one halfpenny.

The Minister of Health is very particular about panel doctors fulfilling their obligations with regard to certification, keeping of records, and a hundred and one other matters. He ought to be just as particular about fulfilling his own obligations, at any rate in the matter of remuneration. If we panel doctors have agreed to accept service at the rate of 9s. 6d. per insured person on our lists then we ought to get it, and I think it is a matter for those who represent us to see that we do. —I am, etc.,

January 8th. L.R.C.P.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

Surgeon Commander E. C. Sawdy is placed on the Retired List with the rank of Surgeon Captain.

Surgeon Commanders C. T. Baxter and E. Heffernan to the *Victory* for R.N. Barracks; J. M. Gordon to the *Excellent*.

Surgeon Lieutenant Commander A. W. McRorie to the *Victory*, additional for R.N. Hospital, Haslar.

Surgeon Lieutenant L. P. Spero to the *Egmont*, additional for passage in the *Aphis* and the *Ladybird* as required, on joining, to take passage and do duty in *Cyclops* (appointment to *Victory* additional for R.N. Barracks cancelled); R. W. C. Ball to the *Ark Royal*; J. H. B. Crosbie to the *Bruce* (appointment to the *Centurion* cancelled); T. B. Lynagh, C. G. Rippin, and G. A. Miller to the *Bruce* additional; J. C. C. Boyle to the *Egmont* additional for duty in the *Wolverine* and the *Wanderer* as required, to take passage in the *Conquest*.

ROYAL NAVAL VOLUNTEER RESERVE.

D. R. Goodfellow has entered as Probationary Surgeon Lieutenant and attached to the Mersey Division.

E. C. W. Maxwell has entered as Probationary Surgeon Sublieutenant and attached to the London Division.

ROYAL ARMY MEDICAL CORPS.

Major-General O. L. Robinson, C.B., C.M.G., K.H.P., late R.A.M.C., having attained the age limit for retirement, retires on retired pay.

Lieut.-Colonel L. N. Lloyd, C.M.G., D.S.O., from R.A.M.C., to be Colonel to complete establishment.

Major A. De la Cour, O.B.E., M.C., to be Brevet Colonel.

Captain J. E. Foley retires, receiving a gratuity.

ROYAL AIR FORCE MEDICAL SERVICE.

Squadron Leader H. S. C. Starkey, O.B.E., to Headquarters, Irak.

Henry Penman is granted a short-service commission as a Flying Officer for three years on the Active List, with effect from and with seniority of October 8th, 1925, and is seconded for civil employment from October 8th, 1926, to October 7th, 1926, inclusive (substituted for notification in the *London Gazette* of October 26th, 1926).

M. D. Rawkins is granted a short-service commission as a Flying Officer for three years on the Active List.

INDIAN MEDICAL SERVICE.

The services of Major K. R. Batra are placed temporarily at the disposal of the Government of the Punjab.

The following promotion is made subject to His Majesty's approval: Major W. C. Gray to be Lieutenant-Colonel.

Colonel J. H. McDonald, K.H.P., and Lieut.-Colonel D. McCay, M.B., have retired.

REGULAR ARMY RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

Captain W. S. Dawson resigns his commission and retains the rank of Captain.

TERRITORIAL ARMY.

ROYAL ARMY MEDICAL CORPS.

Major H. F. Wilkin, M.C., T.D., to be Brevet Lieutenant-Colonel.

Captain G. H. R. Gibson, D.S.O., to be Brevet Major.

TERRITORIAL ARMY RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

Captain R. S. Morshead, M.C., from Active List, to be Captain.

COLONIAL MEDICAL SERVICES.

Dr. P. A. Clearkin appointed Director of Laboratory, Medical Department, Tanganyika. Dr. J. R. Tibbles appointed Assistant Medical Officer of Health and Assistant Port Health Officer, Mombasa, Kenya. Majors W. J. E. Bell, D.S.O., R. B. Price, D.S.O., and R. G. Martyn and Captain T. H. Twigg (all of the R.A.M.C.) appointed Medical Officer of Health, Senior Sanitary Officer, and Medical Officers respectively for Plague Duty in Nigeria. Dr. H. Gaston, M.C., has resigned his appointment of Medical Officer, Nigeria. Dr. G. R. C. Wilson transferred from Dodoma to Tanga, Tanganyika.

VACANCIES.

ADELAIDE UNIVERSITY.—Elder Professorship of Anatomy. Salary £1,100 per annum.

BIRMINGHAM: GENERAL HOSPITAL.—Medical Registrar and Resident Medical Officer. Salary £155 per annum.

HOOTLE BOROUGH HOSPITAL.—Honorary Radiologist.

BRADFORD ROYAL INFIRMARY.—House-Surgeon (male). Salary £150 per annum.

CAMBRIDGE: ADDENBROOKE'S HOSPITAL.—(1) Honorary Assistant Physician in charge of the Electrical and X-Ray Department. (2) Casualty Officer and Resident Anaesthetist (male, unmarried); salary at the rate of £130 per annum.

CARDIFF: UNIVERSITY COLLEGE OF SOUTH WALES AND MONMOUTHSHIRE.—Professor of Anatomy. Salary £1,000 per annum.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE HEART AND LUNGS, Victoria Park, E.2.—House-Physician (male). Salary at the rate of £100 per annum.

EVELINA HOSPITAL FOR CHILDREN, Southwark, S.E.1.—House-Physician (male). Salary at the rate of £120 per annum.

HASTINGS: ROYAL EAST SUSSEX HOSPITAL.—Honorary Surgeon.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.1.—(1) Resident Medical Superintendent. (2) Physician to Out-patients. (3) Surgical Registrar. Salary for (1) and (3) £300 per annum.

LEAMINGTON SPA: WARNEFORD GENERAL HOSPITAL.—Resident House-Surgeon. Salary at the rate of £150 per annum.

LIVERPOOL MATERNITY HOSPITAL.—Two House-Surgeons. Salary at the rate of £90 per annum.

LONDON HOSPITAL, E.—Assistant Physician.

LONDON LOCK HOSPITAL, 91, Dean Street, Soho, W.1.—House-Surgeon at the Male Lock Hospital. Salary at the rate of £200 per annum.

MELBOURNE UNIVERSITY.—Director of Tubercular Research. Salary £1,000 per annum.

MILDMAY MISSION HOSPITAL, Austin Street, Bethnal Green, E.2.—Junior Resident Medical Officer (male). Salary £100 per annum.

NORTHAMPTON GENERAL HOSPITAL.—Honorary Assistant Surgeon.

PONTYPRIDD URBAN DISTRICT COUNCIL.—Woman Assistant Medical Officer. Salary £600 per annum.

ROYAL CHEST HOSPITAL, City Road, E.C.—Pathologist. Salary at the rate of £300 per annum.

ROYAL NATIONAL ORTHOPAEDIC HOSPITAL, 234, Great Portland Street, W.1.—(1) Honorary Surgeon. (2) Honorary Physician. (3) Honorary Dental Surgeon.

ROYAL WESTMINSTER OPHTHALMIC HOSPITAL, King William Street, Strand, W.C.2.—Six Refraction Assistants. Salary £100 per annum each.

RYDE: ROYAL ISLE OF WIGHT COUNTY HOSPITAL.—Resident House-Surgeon (unmarried). Salary at the rate of £180 per annum.

ST. THOMAS'S HOSPITAL, S.E.1.—Surgeon in charge of Out-patients.

SHEFFIELD: ROYAL INFIRMARY.—Ophthalmic House-Surgeon. Salary £80 per annum.

STAFFORDSHIRE GENERAL INFIRMARY, Stafford.—House-Surgeon (male). Salary at the rate of £200 per annum.

SOUTH LONDON HOSPITAL FOR WOMEN, Clapham Common, S.W.—(1) Clinical Assistants for Medical and Surgical Departments. (2) Clinical Assistant to the Ophthalmic Department.

VICTORIA HOSPITAL FOR CHILDREN, Tite Street, Chelsea, S.W.3.—(1) House-Physician. (2) House-Surgeon. Salary at the rate of £100 per annum each.

WARRINGTON INFIRMARY AND DISPENSARY.—Pathologist. Honorarium £50 per annum, *plus* charge per specimen.

WELSH BOARD OF HEALTH.—Medical Officer (woman). Remuneration £600 per annum, rising to £900, and thence to £1,000, with cost of living bonus in addition.

WORTHING HOSPITAL.—Honorary Radiographer.

YORK: COUNTY HOSPITAL.—House-Surgeon. Salary £150 per annum.

CERTIFYING FACTORY SURGEON.—The following vacant appointment is announced: Killin (Perthshire). Applications to the Chief Inspector of Factories, Home Office, Whitehall, S.W.1.

MEDICAL REFEREE UNDER THE WORKMEN'S COMPENSATION ACT, 1925, for Selkirk County. Applications to the Private Secretary, Scottish Office, Whitehall, S.W.1, by February 1st.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.

APPOINTMENTS.

WESTMINSTER HOSPITAL.—*House-Physicians*: D. L. Delittle, M.B., B.S., M.R.C.S., L.R.C.P., and M. N. Oster, M.R.C.S., L.R.C.P. *House-Surgeons*: A. H. Levers, M.R.C.S., L.R.C.P., and C. M. Corbett, M.R.C.S., L.R.C.P. *Resident Obstetric Assistant*: M. P. McKelvey, M.R.C.S., L.R.C.P.

CERTIFYING FACTORY SURGEONS.—P. A. Ashcroft, M.R.C.S., L.R.C.P., for the Littleborough District, co. Lancaster; A. B. Pugh, M.R.C.S., L.R.C.P., for the Torrington District, co. Devon.

DIARY OF SOCIETIES AND LECTURES.

ROYAL SOCIETY OF MEDICINE.

Social Evening.—Mon., 8.30 p.m., Reception by the President and Lady Berry. 9.30 p.m., Address by Professor A. W. Sheen on Medicine in Ancient Greece (with illustrations).

Special General Meeting of Fellows.—Tues., 5.30 p.m., Alterations in By-laws; Ballot for Fellowship.

Section of Pathology.—Tues., 8.30 p.m., G. M. Findlay: Tar Tumours in Rats; J. A. Arkwright: The Values of Different Kinds of Antigens in T.A.B. Vaccines; P. Fildes: Tetanus; S. P. Bedson: Filtration of Herpes Virus through Collodion Membranes.

Section of History of Medicine.—Wed., 5 p.m., Dr. A. Currie: The Medical History of the First Three Wives of Henry VIII and their Offspring; Mr. W. R. Dawson: The History of Mummification.

Section of Surgery.—Wed., 8.30 p.m., Dr. J. M. T. Finney (Johns Hopkins Hospital): Pathology and Treatment of Gastric and Duodenal Ulcers.

Section of Dermatology.—Thurs., 4 p.m., Cases.

Section of Balneology and Climatology.—Fri., 4 p.m., Council Meeting. 4.30 p.m., Discussion: Climacteric Arthritis; to be opened by Dr. L. J. Llewellyn. Speakers: Drs. Barnes Burt, Warren Crowe, F. G. Thomson, R. G. Gordon, Bassett Jones, W. J. Midelton, Halls Daily, Vincent Coates, S. W. Patterson, and M. B. Ray.

Section of Obstetrics and Gynaecology.—Fri., 8 p.m., Joint Meeting of the Section with the Medico-Legal Society, with Lord Justice Atkin in the chair. Discussion: The Ethical, Legal, and Medical Aspects of Abortion. Speakers: Dr. J. S. Fairbairn, Lord Riddell, Dr. T. W. Eden, and Sir Travers Humphreys.

Section of Electro-Therapeutics.—Fri., 8.30 p.m., Discussion: Light Treatment in Surgical Tuberculosis; to be opened by Sir Henry Gauvain.

ROYAL SOCIETY OF TROPICAL MEDICINE AND HYGIENE, 11, Chandos Street, W.1.—Thurs., 7.45 p.m., Demonstration. 8.15 p.m., Professor J. W. W. Stephens, M.D., F.R.S. (Liverpool School of Tropical Medicine): The Haemoglobinurias.

CHELSEA CLINICAL SOCIETY, St. George's Hospital, S.W.—Tues., 8.30 p.m., Discussion: The Practical Results of Recent Researches in Infectious Diseases; to be opened by Dr. J. D. Rolleston, followed by Dr. R. A. O'Brien.

HUNTERIAN SOCIETY, Mansion House, E.C.—Mon., 9 p.m., Hunterian Lecture by Dr. J. M. T. Finney (Baltimore): The Influence of John Hunter on American Surgery.

MEDICO-LEGAL SOCIETY AND OBSTETRICAL SECTION OF THE ROYAL SOCIETY OF MEDICINE, 1, Wimpole Street, W.1.—Fri., 8 p.m., *Joint Discussion*: The Ethical, Legal, and Medical Aspects of Abortion. Speakers: Dr. J. S. Fairbairn, Lord Riddell, Dr. T. W. Eden, and Sir Travers Humphreys.

SOCIETY OF MEDICAL OFFICERS OF HEALTH, 1, Upper Montague Street, Russell Square, W.C.1.—Fri., 5 p.m., Discussion: The Education of the Public in regard to Modern Methods of Disease Prevention.

POST-GRADUATE COURSES AND LECTURES.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION, 1, Wimpole Street, W.1.—*Children's Clinic and the Royal Free Hospital*: Combined Course in Diseases of Children. Afternoons and some mornings. *Prince of Wales's General Hospital*, Tottenham, N.: Daily, 10.30 a.m. to 5.30 p.m. Intensive Course. *Royal Eye Hospital*, Southwark: Mon., Tues., Thurs., and Fri., Special Demonstrations at 3 p.m., free to members of the medical profession. *St. Mary's Hospital*, Paddington, W.: Wed., 2 p.m., Ward Round. Free to members of the medical profession. *Royal Northern Hospital*, Holloway Road, N.: Tues., Lecture: The Treatment of Varicose Veins by Injection. Free to members of the medical profession. *Bethlem Royal Hospital*, S.E.: Tues. and Sat., 11 a.m., Lecture Demonstrations on Psychoses. All information as to fees, etc., obtainable from the Secretary of the Fellowship of Medicine, 1, Wimpole Street, W.1.

CENTRAL LONDON THROAT, NOSE AND EAR HOSPITAL, Gray's Inn Road, W.C.1.—Fri., 4 p.m., Dysphagia.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.1.—Thurs., 4 p.m., Retropharyngeal Abscess.

LONDON SCHOOL OF DERMATOLOGY, St. John's Hospital, Leicester Square, W.C.2.—Tues., 5 p.m., Erythema Multiforme. Thurs., 5 p.m., Pathology Demonstration.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, N.15.—Morning Demonstrations, 10.30 a.m. to 1 p.m.; Hospital Clinics, 2 to 4 p.m.; Clinical Lectures, 4.30 p.m. Mon., Prophylaxis of *Diphtheria and Scarlet Fever*. Tues., Treatment of Anxiety Neuroses. Wed., Modern Treatment of Toxaemias of Pregnancy. Thurs., Spectral "Heart Disease." Fri., Etiology and Treatment of Rheumatoid Arthritis.

POST-GRADUATE HOSTEL, Imperial Hotel, Russell Square, W.C.1.—Tues., 9 p.m., Surgery of Gastric and Duodenal Ulcer. Wed., 9 p.m., Acute Glaucoma. Thurs., 9 p.m., Early Recognition of Surgical Emergencies.

ROYAL NORTHERN HOSPITAL, Holloway Road, N.—Tues., 3.15 p.m., Treatment of Varicose Veins by Injection.

WEST LONDON HOSPITAL POST-GRADUATE COLLEGE, Hammersmith, W.6.—Mon., 10 a.m. to 1 p.m., Genito-Urinary Operations, Skin Department, Surgical Ward Visit, Demonstration of Fractures; 2 p.m., Surgical Wards, Gynaecological and Eye Departments. Tues., 10 a.m. to 1 p.m., Lecture on Clinical Methods, Demonstrations in Venereal Diseases and Chest Cases; 2 p.m., Medical Wards, Throat, Nose, and Ear Departments. Wed., 10 a.m. to 1 p.m., Children's Medical Out-patients, Medical Wards. Demonstration in Medical Pathology; 2 p.m., Surgical Wards, Eye Department. Thurs., 10 a.m. to 12 noon, Neurological Department; 2 p.m., Eye and Genito-Urinary Departments; 3 p.m., Gynaecological Wards. Fri., 10 a.m. to 1 p.m., Gynaecological Operations, Dental, Skin, and Electrical Departments; 2 p.m., Throat, Nose, and Ear Department. Sat., 10 a.m. to 1 p.m., Bacterial Therapy Department, Children's Medical Out-patients. Daily: Operations, Medical and Surgical Out-patients at 2 p.m.

GLASGOW POST-GRADUATE MEDICAL ASSOCIATION.—At Western Infirmary: Wed., 4.15 p.m., Medical Cases.

JAMES MACKENZIE INSTITUTE FOR CLINICAL RESEARCH, St. Andrews.—Tues., 4 p.m., So-called Acute Rheumatic Iritis.

British Medical Association.

OFFICES, BRITISH MEDICAL ASSOCIATION HOUSE, TAVISTOCK SQUARE, W.C.1.

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SCOTTISH MEDICAL SECRETARY: 6, Drumsheugh Gardens, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.: 4361 Central.)
IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Telegrams: Bacillus, Dublin. Tel.: 4737 Dublin.)

Diary of the Association.

JANUARY.

14 Fri. London: Conference on Medical Defence, 2.30 p.m.
City Division: Clinical Meeting, Metropolitan Hospital, 4.15 p.m.

18 Tues. London: Organization Committee, 2.30 p.m.
Lewisham Division: Town Hall, Catford, S.E.6. Mr. C. A. Joll on Diseases of the Gall Bladder and Bile Ducts, 8.45 p.m.

19 Wed. London: Puerperal Morbidity and Mortality Subcommittee, 3 p.m.
Brighton Division: Royal Sussex County Hospital, 3.45 p.m.
Willesden Division: Willesden General Hospital, Harlesden Road, 9 p.m.

20 Thurs. Birmingham Branch: Birmingham Medical Institute. Dr. Douglas Stanley on Intrathoracic Tumours, 3.30 p.m.
North of England Branch: Scientific Meeting, Royal Victoria Infirmary, Newcastle-on-Tyne, 2.15 p.m.
North Lancashire and South Westmorland Branch: Kendal. Professor Fletcher Shaw on Lower Abdominal Pain in Women. Divisional Dinner, 7.30 p.m.

21 Fri. London: Maternity and Child Welfare Subcommittee, 2.30 p.m.
Leicester and Rutland Division: Medical Club, Bond Street, Leicester. B.M.A. Lecture by Mr. H. S. Souttar on the Clinical Aspects of Gastric and Duodenal Ulcers, 8.45 p.m.

25 Tues. London: Naval and Military Committee, 2.30 p.m.
Croydon Division: Croydon General Hospital. Sir Frank Colyer on Dental Sepsis, 8.30 p.m.

26 Wed. Cardiff Division: Engineers' Institute, Cardiff. B.M.A. Lecture by Professor W. E. Dixon on the Trend of Thought in Modern Therapy.
North Middlesex Division: Discussion on Insulin.
Oxford Division: Radcliffe Infirmary. Mr. H. Whitelocke on Impressions of American Surgery, 2.30 p.m.

27 Thurs. North Suffolk Division: Lowestoft Hospital. The Medical Secretary on the Essentials of a Medical Organization, 4 p.m.

28 Fri. London: Medical Students and Newly Qualified Subcommittee, 2.30 p.m.
Bishop Auckland Division: Dr. A. T. Paterson on Some Common Ailments of the Eye.

FEBRUARY.

9 Wed. London: Council, 10 a.m.

16 Wed. Sunderland Division: Royal Infirmary, Sunderland. Dr. A. Parkin on Pleural Effusion.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcement of Births, Marriages, and Deaths is 9s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

BIRTH.

MCCREADIE.—On December 26th, 1926, at 2, Park Avenue, Nelson, Lancs, Muriel Harper, wife of A. J. McCreadie, *M.C.*, M.B., F.R.C.S.E., of a son.

MARRIAGES.

BLAIR—BROWN.—On January 8th, 1927, at St. James's Church, Gerrard's Cross, by the Rev. J. M. Glubb, M.A., assisted by the Rev. A. Laws, Leslie George Blair, son of Mr. and Mrs. Charles J. Blair of Birkenhead, to Olive Stewart Brown, daughter of Mr. and Mrs. Robert Brown of Rosegarth, Gerrard's Cross.

HOLDER—BERRY.—On January 12th, 1927, at the Church of St. Andrew's, Ashley Place, S.W.1, Sidney Ernest, son of the late Dr. William Holder and of Mrs. Holder of Holderness Road, Hull, to Violet Marjorie, only daughter of Mr. and Mrs. *Edmonds A. Berry of* 219, Ashley Gardens, S.W.1.

NORMAN—RANDLE.—On January 14th, at Edgbaston Parish Church, Birmingham, Rex Pridmore Norman, M.R.C.S., L.R.C.P., only son of Mrs. and the late Mr. John Norman of Sutton Coldfield, to Freda Henson Randle, M.B., Ch.B.Birm., daughter of Mr. and Mrs. F. Randle of "Clydesdale," Bristol Road, Birmingham.

DEATHS.

DISMORR.—On January 4th, 1927, at Purton, Wilts, Henry Bertram Dismorr, M.R.C.S.Eng., L.R.C.P.Lond., aged 49, formerly of Wroughton, near Swindon.

KELLY.—On December 3rd, 1926, in Tipperary, Dr. Dan Kelly, *M.C.*, late Captain R.A.M.C., late Heath Town, Wolverhampton, husband of Eileen Pomeroy Kelly, M.B., Ch.B.

MENZIES.—At a nursing home, Edinburgh, on December 22nd, 1926, James Morris Menzies, M.D., C.M., of Hawthornbank, Selkirk.

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SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, JANUARY 22ND, 1927.

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British Medical Association.

CURRENT NOTES.

Some Work of the Week.

LAST week three of the Standing Committees held meetings—the Central Ethical, Hospitals, and Insurance Acts. The work of the Central Ethical Committee is largely of a nature which cannot be reported, because the Committee is dealing largely with disputes and complaints, and the success of its action depends much on the fact that its proceedings are strictly confidential. It had a report that a binding resolution as regards the scale of minimum commencing salaries for public health medical officers had now been adopted by 16 Branches out of 26, 2 Division-Branches out of 3, and 69 Divisions out of 152; the Medical Secretary was instructed to do all he could to stimulate the units which had not taken action. The Committee dealt with ethical rules which had been submitted by the Federal Council of the Medical Association of South Africa (British Medical Association).

The Hospitals Committee had before it a report concerning the dispute at the Hertford British Hospital, Paris, and appointed a subcommittee to deal with questions arising out of the matter. It directed the preparation of a memorandum dealing with the fundamental principles of the policy of the Association as to contributory schemes, with a view to this being circulated to the medical staffs of voluntary hospitals and some cottage hospitals. The Committee recommended to the Council that counsel's opinion should be obtained on the legal position of hospitals in regard to the recovery of money in respect of the treatment of patients, and advised upon various hospital questions submitted to it by individuals and hospital staffs.

The Insurance Acts Committee considered a report of a subcommittee on the question of possible alteration of the present unrestricted free choice of doctor in connexion with the recent heavy increase in sickness benefit claims. It agreed that so far as the professional aspect of the matter is concerned the present unfettered free choice of doctor by patient is the ideal principle in any scheme of national health insurance, and that it would not be advisable to return to the old arrangement under which insured persons could only change their doctor at definite dates, but that there are certain conditions under any national health insurance scheme as compared with private medical practice which affect the position in several ways, and may necessitate some modification of the present procedure as regards change of doctor. The Committee decided to place these points before the Ministry. The Statistics Subcommittee, appointed some time ago to deal with a motion of the Panel Conference, presented a report, and the Committee agreed that the statistical work already being done in the office sufficed for present needs, but that if the occasion arose additional staff would be appointed. The Committee had before it also a report from the deputation which waited on the Ministry of Health on November 30th last, dealing with disciplinary procedure and other points arising out of the Panel Conference; a subcommittee was appointed to consider and report on the whole of the disciplinary procedure, with recommendations as to whether, and if so in what manner, such machinery could be improved so as to obviate the many complaints now made by practitioners; it is intended that the proposals shall be discussed between the Insurance Acts Committee and the Ministry. A resolution of the Birmingham Panel Committee protesting against the proposal to abolish Insurance Committees and transfer their powers to local authorities was also considered, and it was agreed that a memorandum should be drawn up restating the policy of the Association in regard to the unification of health authorities, with particular reference to the position of Insurance Committees. Advice was given also to many Panel Committees on questions raised by them. At the close of this meeting of the Insurance Acts Committee the Trustees of the National Insurance Defence Trust met, dealt with current business, and gave instructions that as soon as possible the assessment of each Committee in raising the £250,000 which is to be aimed at should be sent to Panel Committees.

On January 14th a few representatives of the Association met representatives of the Medical Defence Union and of the London and Counties Medical Protection Society, and discussed with them in a friendly and informal way certain points arising in correspondence in the JOURNAL last year, which showed that some practitioners were not satisfied with the extent of the protection afforded to them under their insurance with these societies. The representatives of the societies promised to take into early consideration the points raised.

The Deputy Medical Secretary by invitation attended the inaugural meeting of the new British Pathologists' Association on January 7th, and advised those present as to the best ways of organizing themselves, with particular reference to liaison with the British Medical Association. On January 12th the Medical Secretary visited the Tower Hamlets Division, and met a few of its active members, though the projected Division meeting fell through.

Meetings of Branches and Divisions.

AUSTRALIA: VICTORIAN BRANCH.

The Year's Work.

THE annual report of the Victorian Branch for the year ending December 1st, 1926, illustrates various ways in which steady progress has been made. The number of members has increased from 1,256 in the preceding year to 1,311. The Council has dealt with certain ethical matters, and it has been decided that all applicants for membership of the Branch shall receive before election a copy of the "Ethical Principles," and that these Principles shall be printed also on the back of the application form for membership. The attention of the Chief Secretary of the State was drawn to the fact that there was no authority with disciplinary powers over medical practitioners such as existed in other States and in Great Britain, except in cases of conviction for felony. On several occasions where the wireless broadcasting of medical subjects had been proposed the approval of the Council had been sought and its opinion respected. The Council had arranged for a lecturer to broadcast matters relating to first aid, and resolved that it was desirable that all public pronouncements of this kind on medical subjects should be made anonymously by members approved by the Council. During the year successful subdivisional meetings had been held in different towns, the programme in each case including a clinical meeting at a hospital on the Saturday afternoon, a dinner and the reading of papers in the evening, with an excursion on the following day. The meetings had been well attended, and the programmes were of great scientific value. The Medical Agency continues to prosper, though not yet receiving the full support that is desirable. Early in 1926 an addition was made to the title of the Melbourne Post-Graduate Committee to indicate the fact that this committee was founded by the Victorian Branch in February, 1920. In addition to a fortnightly residential post-graduate course, sixteen weekly lectures were given, with an average attendance of about sixty. Lecturers had also visited country districts when invited. Professor Wood Jones gave a series of four lectures on some wider problems of the central nervous system, which proved very popular. A subcommittee has been appointed by the Council to deal with cancer propaganda. The Branch welcomed recent graduates at an evening entertainment in June, when addresses were given by members of the Council, and a good musical programme was arranged. Ten monthly meetings of the Victorian Branch, with seven clinical meetings, and eight special meetings, were held during the year. The lecturers included Dr. Malcolm MacEachern of the American College of Surgeons, Sir James Barrett, Dr. Colin Mackenzie, and Dr. Marshall Allan. The library was more freely used than in previous years, and over one hundred books were added to it.

SUSSEX BRANCH: HASTINGS DIVISION.

AT a meeting of the Hastings Division held in the Queen's Hotel on January 4th, Dr. G. T. HEBERT, physician in charge of the tuberculosis department, St. Thomas's Hospital, read a paper on "The [illegible] signs." The lecture was illustrated by a [illegible] iagrams. Dr. Hebert gave a very clear [illegible] of the commoner physical signs found [illegible] common pitfalls were discussed and useful practical hints were given as to how they were to be avoided. The lecture was listened to with great attention.

Association Notices.

BRANCH AND DIVISION MEETINGS TO BE HELD.

BIRMINGHAM BRANCH: COVENTRY DIVISION.—At the meeting of the Coventry Division, arranged for Tuesday, February 1st, Mr. Baron T. Rose will read a paper on "Surgical matters of interest to general practitioners."

BIRMINGHAM BRANCH: NUNEATON AND TAMWORTH DIVISION.—A meeting of the Nuneaton and Tamworth Division will be held at the Red Lion Hotel, Atherstone, on Wednesday, February 2nd, at 3.30 p.m. The meeting will be mainly a clinical and pathological one, and members are invited to show patients or specimens. Those who wish to do so are asked to communicate previously with Dr. Pracy, Colville House, Atherstone (telephone number, Atherstone 23), who is arranging the meeting. Patients should be in attendance from 3.30 to 3.45 p.m.

DORSET AND WEST HANTS BRANCH: WEST DORSET DIVISION.—A meeting of the West Dorset Division will be held on Thursday, January 27th, at 8 p.m., at the County Hospital, Dorchester. Cases will be shown by the medical and surgical staff; by Dr. G. G. Morrice (two cases of cutaneous eruption); and by Dr. F. L. Nash-Wortham (specimen of vesical calculi removed from a boy aged 3½, also specimens of tuberculous kidneys). Dr. E. W. Smerdon will read a paper on his experiences at a post-graduate course.

LANCASHIRE AND CHESHIRE BRANCH: MID-CHESHIRE DIVISION.—The annual general meeting of the Mid-Cheshire Division will be held on Sunday, January 23rd, at 4 p.m. in the Board Room of the Altrincham General Hospital. Tea will be served at 3.45 p.m. Agenda: Report of the Executive Committee and financial statement; election of officers for 1927; recognition of Dr. Garstang's services; any other business. The attendance of members at this meeting is earnestly requested.

METROPOLITAN COUNTIES BRANCH: HAMPSTEAD DIVISION.—At the meeting of the Hampstead Division to be held on Thursday, February 10th, at 8.30 p.m., Mr. W. H. Trethowan, orthopaedic surgeon to Guy's Hospital, will read a paper on "Pain in the back."

METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.—At a meeting of the Lewisham Division to be held at the Town Hall, Catford, S.E.6, on Tuesday, February 15th, at 8.15 p.m., Dr. Alfred Cox, the Medical Secretary, will deliver an address on "The medical profession in South Africa."

METROPOLITAN COUNTIES BRANCH: NORTH MIDDLESEX DIVISION.—At the meeting of the North Middlesex Division to be held on Wednesday, January 26th, a discussion on insulin will be opened by Dr. G. Grant Macdonald.

METROPOLITAN COUNTIES BRANCH: ST. PANCRAS DIVISION.—A meeting of the St. Pancras Division will be held at the British Medical Association House, Tavistock Square, W.C.1, on Tuesday, February 8th, at 9 p.m., when Dr. Webb-Johnson will speak on "Obesity: its causes and modern treatment."

METROPOLITAN COUNTIES BRANCH: SOUTH MIDDLESEX DIVISION.—A meeting of the South Middlesex Division will be held at St. John's Hospital, Twickenham, on February 9th.—8.15 p.m., general business; 8.30 p.m., paper by Dr. A. B. Porteous, assistant clinical bacteriologist, St. Mary's Hospital, on "Transfusion, immuno-transfusion of blood."

MIDLAND BRANCH: CHESTERFIELD DIVISION.—The following programme has been arranged for the Chesterfield Division:—Friday, January 28th: Address on "Passive immunity," by Professor J. S. C. Douglas (Sheffield). Friday, February 25th: Address on "Gynaecological diagnosis," by Professor Miles Phillips (Sheffield). Wednesday, March 9th: Annual dinner, to be attended by Dr. Alfred Cox, Medical Secretary, British Medical Association. Friday, March 25th: Address on "Hysterectomies," by Mr. A. M. Webber (Nottingham). Wednesday, April 13th: Clinical and pathological demonstrations, 3 p.m. Friday, April 29th: Address on "The diagnosis and treatment of pneumococcal infections in childhood," by Dr. L. G. Parsons (Birmingham). Wednesday, May 11th, British Medical Association Lecture on "Chronic abdominal enlargement in children," by Dr. Reginald Miller (London), 3 p.m. Friday, May 27th: Address on "Injuries met with in coal-mining and their treatment by the general practitioner," by Professor A. M. Connell (Sheffield). All the fixtures for Friday evenings will take place at 8.15 p.m. at the Maternity Hospital, Chesterfield. Tea and coffee at 8. The Wednesday afternoon meetings will take place at the Royal Hospital, Chesterfield.

NORTH OF ENGLAND BRANCH: BISHOP AUCKLAND DIVISION.—At the meeting of the Bishop Auckland Division arranged for Friday, January 28th, Dr. A. T. Paterson (Durham) will lecture on "Some common ailments of the eye."

NORTH OF ENGLAND BRANCH: SUNDERLAND DIVISION.—The annual meeting of the Sunderland Division will be held at the Royal Infirmary, Sunderland, on Tuesday, January 25th, at 8.15 p.m. Agenda: Election of officers, committees, etc.; reception of reports of elections; annual report; report of Executive Committee. A dance will be held about February or March in conjunction, it is hoped, with the West End and Bishopwearmouth East Medical Societies. Further information may be obtained from the convener of the Dance Subcommittee, Dr. N. F. Rowstron.

OXFORD AND READING BRANCH: OXFORD DIVISION.—The first meeting of the year of the Oxford Division will be held at the Radcliffe Infirmary on Wednesday, January 26th, at 2.45 p.m. Agenda: Dr. J. C. R. Freeborn will demonstrate two instruments he has found of value in practice—(1) a uterine dilator, and (2) an abdominal rubber. Mr. E. C. Bevers will show an unusual foreign body from a motor-cycle accident. Mr. Hugh Whitelocke will give his impressions of American surgery.

SOUTH MIDLAND BRANCH: BEDFORDSHIRE DIVISION.—A general meeting of the Bedfordshire Division will be held at the Bedford County Hospital on Tuesday, January 25th, at 3 p.m. Agenda: Communication from Bedfordshire Branch of British Empire Cancer Campaign Fund; medical charities; discuss proceedings of Council (see SUPPLEMENT, BRITISH MEDICAL JOURNAL for January 1st, 1927); Mr. W. G. Nash will read notes on "Some interesting abdominal cases." Tea will be provided. Twenty-two members have contributed £4 4s. towards the Badge Fund, leaving the honorary secretary £3 5s. out of pocket; he will be glad to receive further subscriptions.

SOUTH WALES AND MONMOUTHSHIRE BRANCH.—A clinical meeting of the South Wales and Monmouthshire Branch will be held at the Hotel Metropole, Swansea, on Thursday, January 27th, at 3.30 p.m. Agenda: (1) "Stillbirths and early infant deaths," by Dr. Thomas Evans (medical officer of health, Swansea); (2) "Treatment of eclampsia in general practice," by Dr. Cellan Jones; (3) a case of partial gastrectomy (specimen) by Mr. Howell W. Gabe; (4) demonstration by Dr. A. F. S. Sladden; (5) demonstration of slit-lamp by Mr. H. E. Quick; (6) skiagrams by Dr. Iwan Davies.

SOUTH WALES AND MONMOUTHSHIRE BRANCH: CARDIFF DIVISION.—At the meeting of the Cardiff Division to be held at the Engineers' Institute, Cardiff, on Wednesday afternoon, January 26th, Professor W. E. Dixon, M.D., F.R.S., will give a British Medical Association Lecture on "The trend of thought in modern therapy."

SUFFOLK BRANCH: NORTH SUFFOLK DIVISION.—A meeting of the North Suffolk Division will be held at the Lowestoft Hospital on Thursday, January 27th, at 4 p.m. Dr. Alfred Cox (Medical Secretary of the Association) will give an address on "The essentials of a medical organization." Non-members are cordially invited.

SUFFOLK BRANCH: SOUTH SUFFOLK DIVISION.—The annual meeting of the South Suffolk Division will be held at the Crown and Anchor Hotel, Ipswich, on Friday, January 28th, at 3.30 p.m. Agenda: Business arising out of minutes; representative and Flag Fund; Charities Fund; annual report and balance sheet; election of officers for 1927.

SURREY BRANCH: CROYDON DIVISION.—A meeting of the Croydon Division will be held at the Croydon General Hospital on Tuesday, January 25th, at 8.30 p.m. Sir Frank Colyer will give an address on "Dental sepsis in relation to other pathological conditions."

SURREY BRANCH: GUILDFORD DIVISION.—A meeting of the Guildford Division will be held at the Royal Surrey County Hospital, Guildford, on Thursday, February 3rd, at 4 p.m. Mr. T. P. Dunhill will discuss the diagnosis of gall stones. Tea served at 3.45 p.m.

SURREY BRANCH: REIGATE DIVISION.—At the meeting of the Reigate Division to be held at the East Surrey Hospital, Reigate, on Tuesday, February 8th, at 8.45 p.m., Sir William Willcox, C.B., C.M.G., will speak on "The etiology and treatment of fibrositis (chronic rheumatism)."

SUSSEX BRANCH: HASTINGS DIVISION.—The next meeting of the Hastings Division will be held on Tuesday, February 1st, at 8.15 p.m., at the Queen's Hotel, Hastings. Dr. F. C. Martley will read a paper on "The benefits of co-operation in insurance for the medical profession, and what has been done to supply it." Coffee will be provided at 8.15 p.m.

WILTSHIRE BRANCH: SALISBURY DIVISION.—A meeting of the Salisbury Division will be held in the Museum Lecture Theatre, St. Ann Street, Salisbury, on Wednesday, January 26th, at 8.15 p.m., when Dr. E. P. Poulton, of Guy's Hospital, will lecture on "The therapeutic value of endocrine gland products." It is hoped that all members of the Division will make an effort to be present. Dinner will be provided at the White Hart Hotel at 7.15 p.m. for all members who wish it. Members intending to be present at the dinner are requested to notify the secretary not later than Monday next.

National Insurance.

SECOND VALUATIONS OF APPROVED SOCIETIES.

THE report by the Government Actuary on the second valuations of the assets and liabilities of approved societies has just been issued.[1] It provides a general survey of the working of the scheme of National Health Insurance from December 31st, 1918, the date of the first valuations of approved societies, up to the second valuations, which were effected as a matter of convenience and economy in two groups, valued respectively as at December 31st, 1922 and 1923. The following summary has been issued by the Ministry of Health.

The report shows that at the valuation date the total membership of approved societies exceeded 15 millions, of which approximately two-thirds consisted of men. The general result of the valuation is to disclose a very strong financial position, the total surpluses exceeding £42,000,000. Out of 8,135 societies and branches separately valued, 7,998 showed surpluses, and the remainder relatively small deficiencies, amounting to less than £100,000 in the aggregate. Of the above surpluses, it has been found possible to certify that a sum of £27,000,000 is available for distribution as additional benefits in the ensuing quinquennium, the number of members entitled to participate being nearly 14¾ millions, or 97 per cent. of the total number insured.

The report supplies an analysis of the various items of profit and loss which have combined to produce the total surplus of £42,000,000, of which £26,000,000 was earned during the period under review, the remainder having been carried forward from the preceding valuation. Prominent among the factors which have contributed to the growth of surplus has been the favourable sickness experience during the intervaluation period, especially as regards men. The claims of women, though less than the sum provided for, showed a continuous increase, particularly in the case of prolonged sickness. Another factor of great importance was the high rate of interest which societies have secured on their investments. On the other hand, the prolonged industrial depression has had its inevitable effect in the shortage of contribution income. These and other features are examined in the report, and various analyses of the experience according to type of society, occupational conditions, etc., are provided, and the position of societies having men and women in common insurance is contrasted with that of societies limited to men or women members. A section is devoted to the claims for maternity benefit and the effect of the decline in the birth rate.

[1] Cmd. 2785. H.M. Stationery Office. 2s. 6d.

The valuations were made on the same basis as was prescribed when the scheme was initiated, but references are made to the effect of the recent changes in the financial basis, which came into operation after the close of the intervaluation period, the chief of which is to supplement the provision made for the sickness claims of women, the new standard being about 60 per cent. above that adopted for men, which in view of the favourable experience in the past has been reduced by one-ninth. Further, the revised basis will have due regard to changes in the earning power of money, the improved vitality in the industrial population, and the reduction in the birth rate.

It is pointed out in the report that the level of surpluses brought out on the present occasion is markedly higher than that disclosed in 1918, and that of the surplus accrued during the first eleven years of the existence of the scheme, amounting to over £50,000,000, a substantial part is the direct or indirect consequence of the war. Of this sum a considerable proportion has already been applied in the provision of additional benefits until the next valuations, and the remainder, which is carried forward, should, in the opinion of the Government Actuary, "greatly assist in the continuance of additional benefits, of which there is reasonable expectation, provided that a high standard of administration by the approved societies is maintained, that the full co-operation of the medical profession in regard to the certification of claims is ensured, and that such unfavourable visitations as that which has been encountered in the present year (1926) prove to be transient. It should be understood that after giving effect to the recent changes by which the State grant has been reduced and the charges upon the funds of the societies in regard to medical benefit have been increased, the financial basis of the scheme remains one of undoubted strength."

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

Surgeon Lieutenant Commander E. B. Kelley to the *Pembroke* for R.N. Hospital, Chatham.

Surgeon Lieutenant R. W. Mussen to the *Ganges* for R.N. Sick Quarters, Shotley.

Messrs. T. Prentice, P. H. Denny, C. R. Boland, and G. Rorison have entered as Surgeon Lieutenants and appointed to R.N. Hospital, Haslar, for course of instruction.

ROYAL NAVAL VOLUNTEER RESERVE.

Surgeon Sublieutenant H. Willoughby to the *Marlborough* for twenty-five days' training.

ROYAL ARMY MEDICAL CORPS.

The following Captains to be Majors: N. Cameron, with precedence next below R. G. Martyn, September 19th, 1926 (substituted for notification in the *London Gazette*, September 24th, 1926); W. S. Evans, with precedence next below M. Morris.

ROYAL AIR FORCE MEDICAL SERVICE.

Flight Lieutenant A. A. Townsend is granted a permanent commission in this rank.

The following Flying Officers are promoted to the rank of Flight Lieutenant: J. MacC. Kilpatrick and F. L. White.

Flying Officers M. D. Rawkins to No. 2 Flying Training School, Digby; J. E. Foran and M. O'Regan to Research Laboratory and Medical Officers' School of Instruction on appointment to short-service commissions.

INDIAN MEDICAL SERVICE.

Captains to be Majors: B. Z. Shah, A. J. D'Souza, M.C., R. H. Malone, V. N. Agate, J. P. Canteenwalla, L. S. Modi, S. N. Mukerji, B. C. Ashton, M. S. Joshi, K. B. Bharucha, E. R. Daboo, M.C., H. S. Anand, B. G. Mallya, and B. H. Kamakaka, M.C.

VACANCIES.

ADELAIDE UNIVERSITY.—Elder Professorship of Anatomy. Salary £1,100 per annum.

BANCHORY SANATORIUM.—Medical Superintendent.

BIRKENHEAD BOROUGH HOSPITAL.—(1) Honorary Surgeon. (2) Honorary Physician.

BIRMINGHAM: GENERAL HOSPITAL.—Medical Registrar and Resident Medical Officer. Salary £155 per annum.

BRISTOL MENTAL HOSPITAL.—Second Assistant Medical Officer (unmarried). Salary £400 per annum, rising to £450.

CAMBRIDGE: ADDENBROOKE'S HOSPITAL.—(1) Honorary Assistant Physician in charge of the Electrical and X-Ray Department. (2) Honorary Assistant Surgeon in charge of the Ear, Nose, and Throat Department. (3) Casualty Officer and Resident Anaesthetist (male, unmarried); salary at the rate of £130 per annum.

CENTRAL LONDON THROAT, NOSE AND EAR HOSPITAL, Gray's Inn Road, W.C.1.—Resident House-Surgeon (male). Remuneration £75 per annum.

CROYDON GENERAL HOSPITAL.—Junior Physician.

ELING BOROUGH.—Woman Assistant Medical Officer of Health. Salary £600 per annum.

EDINBURGH: ELSIE INGLIS MEMORIAL MATERNITY HOSPITAL, Abbeyhill.—(1) Senior House-Surgeon. (2) Two Junior House-Surgeons.

EDINBURGH HOSPITAL FOR WOMEN AND CHILDREN.—(1) Senior House-Surgeon. (2) Two Junior House-Surgeons. Salary at the rate of £25 per annum for (2).

EDINBURGH: ROYAL EDINBURGH HOSPITAL FOR SICK CHILDREN.—Five Honorary Resident Medical Officers.

ITALIAN HOSPITAL, Queen Square, W.C.1.—Honorary Assistant Anaesthetist.

LIVERPOOL CANCER AND SKIN HOSPITAL.—Honorary Biochemist.

LONDON HOMOEOPATHIC HOSPITAL, Great Ormond Street, W.C.1.—Assistant Physician.

LONDON HOSPITAL, E.—Assistant Physician.

LONDON JEWISH HOSPITAL, Stepney Green, E.1.—Assistant Surgeon in the Ear, Nose, and Throat Department.

LONDON LOCK HOSPITAL, 91, Dean Street, Soho, W.1.—House-Surgeon at the Male Lock Hospital. Salary at the rate of £200 per annum.

MACCLESFIELD GENERAL INFIRMARY.—Second House-Surgeon. Salary £150 per annum.

MANCHESTER: CHRISTIE HOSPITAL.—Anaesthetist. Honorarium £25 per annum for one morning a week, or £50 for two mornings.

NATIONAL HOSPITAL, Queen Square, W.C.1.—Registrar. Salary £200 per annum.

NORTHAMPTON GENERAL HOSPITAL.—(1) Honorary Assistant Surgeon. (2) Two House-Surgeons; salary £150 per annum each.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney Road, E.2.—Casualty Officer. Salary at the rate of £100 per annum.

ROYAL CHEST HOSPITAL, City Road, E.C.—Pathologist. Salary at the rate of £300 per annum.

ROYAL NATIONAL ORTHOPAEDIC HOSPITAL, 234, Great Portland Street, W.1.—(1) Honorary Surgeon. (2) Honorary Physician. (3) Honorary Dental Surgeon.

ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN, Waterloo Road, S.E.1.—Honorary Medical Registrar.

ST. THOMAS'S HOSPITAL, S.E.1.—Surgeon in charge of Out-patients.

SHROPSHIRE ORTHOPAEDIC HOSPITAL, Oswestry.—Junior House-Surgeon. Salary £150 to £250 per annum, according to experience.

UNIVERSITY COLLEGE HOSPITAL, Gower Street, W.C.1.—(1) Associate Physician. (2) Associate Surgeon.

UNIVERSITY COLLEGE HOSPITAL MEDICAL SCHOOL, W.C.1.—Demonstrator in Bacteriology (part-time). Salary £250 per annum.

WELSH BOARD OF HEALTH.—Medical Officer (woman). Remuneration £600 per annum, rising to £900, and thence to £1,000, with cost of living bonus in addition.

CERTIFYING FACTORY SURGEONS.—The following vacant appointments are announced: Cricklade ... rns (Renfrewshire), St. Columb ... applications to the Chief Inspector ..., S.W.1.

MEDICAL REFEREE UNDER THE WORKMEN'S COMPENSATION ACT, 1925, for the West Bromwich County Court District (Circuit No. 25). Applications to the Private Secretary, Home Office, Whitehall, S.W.1, by February 4th.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.

APPOINTMENTS.

FRETTS, H. E. King, F.R.C.S.Edin., Honorary Assistant Surgeon to the Weymouth and District Hospital.

ST. MARY'S HOSPITAL, Paddington, W.2.—*Physician for Mental Diseases:* G. W. B. James, M.D., D.P.M., *M.C. Medical Registrar:* W. S. C. Copeman, M.A., M.B., B.Ch.

DIARY OF SOCIETIES AND LECTURES.

ROYAL SOCIETY OF MEDICINE.

Section of Odontology.—Mon., 8 p.m., Dr. J. H. Maclean: The Bacteriology of Dental Caries; Professor H. P. Pickerill (New Zealand): Non-eruption of Teeth.

Sections of Medicine, Surgery, and Laryngology.—Tues., 5 p.m., Special Discussion: Treatment of Chronic Non-tuberculous Infection of the Lungs. Speakers: Drs. Burrell, Chandler, Geoffrey Marshall, and Douglas Wilkinson, and Messrs. Tudor Edwards, J. E. H. Roberts, H. S. Souttar, Ewart Martin, C. A. S. Ridout, and V. E. Negus.

Section of Comparative Medicine.—Wed., 5 p.m., Dr. T. W. M. Cameron: The Parasites of Animals and Human Disease.

Section of Urology.—Thurs., 8.30 p.m., Mr. Graham S. Simpson: Haemangioma of the Kidney; Mr. F. J. F. Barrington: Nerve Supply of the Bladder.

Section for the Study of Disease in Children.—Fri., 4.30 p.m., Cases.

Section of Epidemiology and State Medicine.—Fri., 8 p.m., Dr. M. Greenwood and Dr. Janet Lane-Claypon: On the Possibility of Effecting a Reduction in the Present Mortality Rate from Cancer of the Breast and of the Uterus. Fleet Surgeon W. E. Home will show a Jenner letter and a portrait in oil of Francis Home (1719-1812).

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, W.1.—Mon., 8.30 p.m., Pathological Evening.

MEDICO-LEGAL SOCIETY, 11, Chandos Street, W.1.—Thurs., 8.30 p.m., Dr. Halliday Sutherland: A Case concerning Survival in an Aeroplane Crash; to be followed by a discussion.

ST. JOHN'S HOSPITAL DERMATOLOGICAL SOCIETY (incorporating the London Dermatological Society), Leicester Square, W.C.2.—Wed., 4.15 p.m., Clinical Cases will be shown.

POST-GRADUATE COURSES AND LECTURES.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION, 1, Wimpole Street, W.—Special Lecture at the Medical Society of London, 11, Chandos Street, W., Thurs., 5 p.m., Haemoptysis. Free to members of the medical profession. *Chelsea Hospital for Women*, Arthur Street, S.W.: Tues., 2 p.m., Special Demonstration. Free to members of the medical profession. *Royal Northern Hospital*, Holloway Road, N.: Tues., 3.15 p.m., Lecture: Salpingitis. Free to members of the medical profession. *Bethlem Royal Hospital*, S.E.: Tues. and Sat., 11 a.m., Lecture Demonstrations on the Psychoses.

CENTRAL LONDON THROAT, NOSE, AND EAR HOSPITAL, Gray's Inn Road, W.C.1.—Fri., 4 p.m., Treatment of Chronic Suppurative Otitis Media.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.1.—Thurs., 4 p.m., Cataract in Infancy.

LONDON SCHOOL OF DERMATOLOGY, St. John's Hospital, Leicester Square, W.C.2.—Tues., 5 p.m., Erythrodermias. Thurs., 5 p.m., Electrotherapeutics.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.15.—Mon., 10 a.m., Surgical Clinic; 2.30 to 5 p.m., Medical, Surgical, and Gynaecological Clinics; Operations Tues., 2.30 to 5 p.m., Medical, Surgical, Throat, Nose, and Ear Clinics; Operations. Wed., 2.30 to 5 p.m., Medical Skin and Eye Clinics; Operations. Thurs., 11.30 a.m., Dental Clinics; 2.30 to 5 p.m., Medical, Surgical, and Ear, Nose, and Throat Clinics; Operations. Fri., 10.30 a.m., Throat, Nose, and Ear Clinics; 2.30 to 5 p.m., Surgical, Medical, and Children's Diseases Clinics; Operations

POST-GRADUATE HOSTEL, Imperial Hotel, Russell Square, W.C.1.—Tues., 9 p.m., Pre-Listerian Surgery. Thurs., 9 p.m., Symposium: The Thyroglossal Tract.

ROYAL NORTHERN HOSPITAL, Holloway Road, N.—Tues., 3.15 p.m., Salpingitis. Tea at 4.15 p.m.

GLASGOW POST-GRADUATE MEDICAL ASSOCIATION.—At Eye Infirmary: Wed., 4.15 p.m., Eye Cases.

JAMES MACKENZIE INSTITUTE FOR CLINICAL RESEARCH, St. Andrews.—Tues., 4.15 p.m., Physiological Aspects of Blood Pressure.

SHEFFIELD UNIVERSITY POST-GRADUATE CLINICS.—At Royal Hospital: Fri., 3.30 p.m., Clinical Cases.

British Medical Association.

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Diary of the Association.

JANUARY.

21 Fri. London: Joint Subcommittee on Combined Research by Insurance Practitioners, 2.30 p.m.
London: Maternity and Child Welfare Subcommittee, 2.30 p.m.
Leicester and Rutland Division: Medical Club, Bond Street, Leicester. B.M.A. Lecture by Mr. H. S. Souttar on the Clinical Aspects of Gastric and Duodenal Ulcers, 8.45 p.m.
23 Sun. Mid-Cheshire Division: Annual Meeting, Altrincham General ...
25 Tues. ... ry Committee, 2.30 p.m.
... dford County Hospital, 3 p.m.
... General Hospital. Sir Frank Colyer ... m.
Sunderland Division: Annual Meeting, Royal Infirmary, Sunderland, 8.15 p.m.
26 Wed. London: Journal Committee, 2.30 p.m.
Cardiff Division: Engineers' Institute, Cardiff. B.M.A. Lecture by Professor W. E. Dixon on the Trend of Thought in Modern Therapy.
North Middlesex Division: Discussion on Insulin.
Oxford Division: Radcliffe Infirmary, 2.45 p.m.
Salisbury Division: Museum Lecture Theatre, St. Ann Street, Salisbury. Dr. E. P. Poulton on the Therapeutic Value of Endocrine Gland Products, 8.15 p.m.
27 Thurs. North Suffolk Division: Lowestoft Hospital. The Medical Secretary on the Essentials of a Medical Organization, 4 p.m.
South Wales and Monmouthshire Branch: Clinical Meeting, Hotel Metropole, 3.30 p.m.
West Dorset Division: County Hospital, Dorchester, 8 p.m.
28 Fri. London: Medical Students and Newly Qualified Subcommittee, 2.30 p.m.
Bishop Auckland Division: Dr. A. T. Paterson on Some Common Ailments of the Eye.
Chesterfield Division: Maternity Hospital, Chesterfield. Professor J. S. C. Douglas on Passive Immunity, 8.15 p.m.
South Suffolk Division: Annual Meeting, Crown and Anchor Hotel, Ipswich, 3.30 p.m
31 Mon. London: Ophthalmic Committee, 3 p.m.

FEBRUARY.

1 Tues. London: Standing Ethical Subcommittee, 2.15 p.m.
Coventry Division: Mr. Baron T. Rose on Surgical Matters of Interest to General Practitioners.
Hastings Division: Queen's Hotel. Dr. F. C. Martley on Co-operation in Insurance for the Medical Profession, 8.15 p.m.
2 Wed. Nuneaton and Tamworth Division: Red Lion Hotel, Atherstone, 3.30 p.m.
3 Thurs. Guildford Division: Royal Surrey County Hospital, Guildford. Mr. T. P. Dunhill on the Diagnosis of Gall Stones, 3.45 p.m.
8 Tues. Reigate Division: East Surrey Hospital, Reigate. Sir W. Willcox on Fibrositis, 8.45 p.m.
St. Pancras Division: British Medical Association House, Tavistock Square, W.C.1., 9 p.m.
9 Wed. London: **Council**, 10 a.m.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcement of Births, Marriages, and Deaths is 9s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

DEATHS.

LARKIN.—On January 13th, at his residence, Craven House, Grove Park, Kent, Frederick George Larkin, F.R.C.S.Eng. (Honorary), in his 80th year.

RIGDEN.—On January 15th, at his residence, Ingleside, Newnham-on-Severn, Glos, Brian Rigden, M.R.C.S., aged 70 years.

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SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, JANUARY 29TH, 1927.

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The Hastings Popular Lecture
ON
CANCER AND HOW TO FIGHT IT.

DELIVERED IN THE GREAT HALL OF THE BRITISH MEDICAL ASSOCIATION ON JANUARY 24TH

BY

SIR BERKELEY MOYNIHAN, BT.,
PRESIDENT OF THE ROYAL COLLEGE OF SURGEONS OF ENGLAND.

If the law of averages holds good, one hundred people in this room will die of cancer. Statistics, I was once courageous enough to claim, will prove anything, even the truth. The truth is that in this country one person in every seven, over the age of 30, dies of cancer, that 50,000 people die yearly in England and Wales, and that according to Hoffman 500,000 lives are annually lost in the civilized countries of the world from this disease. But the law of averages appears to be changing against us, for there is little doubt that cancer is definitely on the increase, especially in certain organs. Cancer is an ancient and a heartless foe. Examples of its lethal power are found in bones taken from the tombs near the pyramids of Egypt, dating from 3,500 years before Christ. It was known and described over twenty centuries ago by Hippocrates, the Father of Medicine, and it has never since ceased for one single day to take toll of precious lives.

A survey of the progress of medicine during this century shows that we are, little by little, but very surely, obtaining control over certain diseases which were formerly the plagues of mankind. In comparison with them cancer not only shows no decrease; it is actually gaining ground. Cancer is now the most dreaded, the most inexorable, the most menacing of all the physical infirmities of our race. It is the "Captain of the men of death." Let us give figures.

In the last twenty years—
The general death rate has fallen 32 per cent.
The infant death rate has fallen 45 per cent.
The tuberculosis death rate has fallen 38 per cent.
The cancer death rate has increased 20 per cent.

In the last seventy years the mortality from cancer has increased fivefold.

Attempts have been made to explain this increase in the death rate of cancer:

(*a*) By consideration of the fact that, the average expectation of life having increased, a larger number of people live to the cancer age, which is the period of life beyond 40 years. To some extent this is true; but the average duration of life is longer chiefly because of the lower infant mortality. Dr. Leonard Hill says:

"The expectation of life has gone up for infancy but not for the period of late middle age. There is no problem of what we are to do with our grandfathers, they are living scarcely any longer than they did fifty years ago."

(*b*) By ascribing it to increased accuracy of diagnosis. In this, too, there is truth. But if we pay regard to those cases in which diagnosis can never have been difficult, because the disease was near the surface and easily seen or felt, we find this argument is not sustained. For example, in cancer of the tongue there has been an increase of 39 per cent., and in cancer of the breast of 28 per cent., in the last twenty years. But it must also be remembered that some few diseases called cancerous in other days are now known to be simple. This is true of diseases of the stomach and of the large intestine.

This increased mortality from cancer, chiefly in the alimentary canal, has occurred despite the fact that more people than ever are being cured of cancer. It surprises many to hear that cancer can be cured; that the patient can be relieved for ever from his disease. But it is true. To-day operations of wide extent and of low mortality are more often followed by a permanent freedom from recurrence than they were twenty years ago. The operations practised to-day are more frequent, of greater extent, of greater safety, and attended by a larger measure of permanent relief from the disease than was the case twenty years ago. We are apt to hear of the failures of surgery as well as of its successes. Montaigne thought the doctor among the most fortunate of beings, because the sun shone upon his successes, while his failures were buried in the tomb. But this is not altogether true. We hear of deaths from operations, of recurrence from cancer after its removal; we hear little, even from the rescued, of their freedom from this disease. Cancer is rarely mentioned by those who have suffered from it; they appear to regard it as a sort of moral blemish, as something that is better not discussed, as something equivalent to idiocy or epilepsy in the family.

If it is true, as it is indubitably true, that permanent relief from cancer is being secured by our present methods in large numbers of cases, the question naturally arises as to why this is not more often possible. We are all a little to blame. Medical men are sometimes, though I am glad to think not very often, inclined to watch the earlier phases of this disease, especially when attacking internal organs, until it is certain that the condition is malignant. The certainty of diagnosis is often the certainty of death. If we wait until we know, we wait until we cannot cure. We must "look and see, know and act," and not "wait and see."

And the public is in part to blame; for among them there is great ignorance of the possibilities and the achievements of surgery, and ignorance is the parent of unbelief. What is the attitude of a patient who discovers a lump on the body, say a tumour in the breast? She says, "There is something wrong here; it may be cancer; if it is cancer I must undergo an operation; if I do I may die; if I survive, the disease may come back; if it returns I must submit once again to operation with all its risks; even then the disease may recur. It is a hopeless and

depressing prospect; I had better not mention the fact of the lump." And so time passes: the tumour grows and grows through every moment of every hour of every day, and at last the patient submits to a rescue operation, which the surgeon is reluctantly compelled to perform, knowing that he must do his best in adverse circumstances when precious time has been wasted, when the chances now are all against him. Unhappily, it is not very infrequent for the delay to be encouraged by the wasteful trial of other methods. The "cancer curer" is still a curse in the land, and the most pathetic credulity as to his claims is shown by people who should know better.

Cancer never yet was cured by the quack; but infinite harm has come to patients from the delay which foolish, impotent, and pernicious practices have involved—a delay which has allowed a small local disease to increase and to be strewn about the body. The desire for methods other than those which authority advises is as old as the days of Naaman, captain of the hosts of the King of Syria. When Elisha advised him to wash seven times in Jordan and so be cleansed of his leprosy, his wounded chauvinism made him cry out, "Are not Abana and Pharpar, rivers of Damascus, better than all the waters of Israel?" The sufferers from cancer are still beguiled by ignorant and pretentious quacks, and encouraged in their beliefs by irresponsible busybodies distinguished only by their complete ignorance of scientific method and their complete absence of scientific temper. Their statements are disputable in fact, doubtful in logic, and tend to betray the people whose lives must pay the penalty of their folly.

Who are the victims of cancer? A man's life has three stages: a stage of growth, of preparation for manhood and all its manifold activities; a stage of accomplishment, when all that he has learnt is applied to the purposes of his daily life; a stage of decline, when his vigour slowly wanes, his work is fulfilled. Cancer seizes a man, as a rule, in the later half of this second period, when his trained mind or hand is at its best; when his judgement has ripened; when his worth to his family and to the community is at its highest; when the service he can offer to the world is of greatest value; when knowledge grows to wisdom. This is the time for a man to live; the time to die is when work is done, when joy in labour has gone, when faculties are dimmed and enthusiasms quenched, when a man is no longer an asset to the world and has perhaps become an encumbrance even to himself. Cancer seizes a man when he is most needed by his family, who still ask a father's counsel and help, and is needed by the community for the service he can then best render.

Is it not, therefore, time for us to bestir ourselves, and to seek new sources of strength to fight this eager and relentless foe? To overcome an adversary we must make a study of his methods, inquire as to his origin, his designs, his power. If we have already encountered him we must discover both the circumstances in which we have been able to win a victory against him and the conditions under which we have suffered defeat.

What, then, do we know of cancer?

Cases of cancer may conveniently and for purposes of brief description be divided into two groups: First, those in which the growth is lying either on or near the surface of the body, or is attacking organs, or parts of organs, which can with no great difficulty or danger be removed. Secondly, those in which the growth is relatively inaccessible, lies out of sight, cannot be felt, and only reveals its presence by symptoms, or after examination by x rays. In these cases an operation may be difficult, impracticable, or even impossible.

How, then, can we expect to conquer or control this disease? It is obvious that two methods of attack must be followed.

In the first place we must so instruct the public and educate ourselves that those cases of cancer in which complete eradication of the disease is surgically possible shall be recognized and treated at the earliest moment. The operations now practised are reaching their limits, not only in extent and in the safety with which they can be performed by expert surgeons, but also in respect of the pain or discomfort they inflict. We cannot reasonably hope for any considerable change in any of these directions if the material upon which we work remain unchanged. We do, however, know that operations performed in the earliest stages of the disease are safer than those in the latest stages, when the patient's health seriously undermined by the disease, which may have spread insidiously beyond the farthest reach of the surgeon. We can make surgery safe, and even more successful, not so much by strengthening the arm of the surgeon as by enlisting the help of the patient; by encouraging him with the knowledge that accessible growths are capable of complete removal, with small risk, and with permanent freedom from recurrence, if only they can be reached in time.

And, in the second place, we must carry out all manner of research to disclose the secrets, the most baffling and elusive secrets, of the cause and the prevention of cancer, so that inaccessible cancer shall also be treated with success, or even prevented. We may even dare to hope that we are not far distant from the day when these mysteries will at last be revealed; when what is perhaps the heaviest burden ever laid upon mankind shall at last be lifted.

With regard to the education of the public there are certain disadvantages, some fanciful, some real. It is said that if we "talk cancer" we shall make people "think cancer." We hope that is true. We do not wish the public to "forget cancer." For cancer is an unforgiving enemy and once he has settled upon his victim, he never for one single moment ceases to grow, and the sooner you confront your foe the better for you and the worse for him.

It is said that we shall increase fear. That I firmly believe is impossible. The fear of cancer is so great in the minds of many people, if not in all, that it is impossible to add to it. Cancer is the King of Terrors. If we can help the public to learn that it is not cancer, but ignorance with regard to cancer that is in part responsible for their horror of it; and if we can assure them that cancer under certain conditions and when attacking certain organs is capable of complete removal with permanent freedom from a return of the disease, shall we not be able to diminish or even to banish fear? There is no evidence to show that cancer is bred by fear; that those who are fearful of its onset are especially liable to become its victims. Ignorance here, as elsewhere, is a part of fear; but fear does not contribute to the incidence of cancer. Fear should be the fear of delay, the fear lest a simple disease may become cancerous; the fear lest a local, and therefore curable, cancer should increase until it becomes generalized and incurable. Knowledge will bring freedom from fear. May I quote with warm approval a sentence from Mr. Hastings Gilford's book *Tumours and Cancers* (p. 601)?

> "A common impression is that it is not good for the public to concern itself about cancer. It is suggested that in this matter ignorance is better than knowledge—that it is better for people to remain in the dark than to let in the light. As a matter of fact we all know, when we think about it, that this attitude must be wrong. Cancer in reality is bad enough, but this bogie-hole way of treating the subject causes it to assume forms in the imagination more terrifying than they actually are."

Those of us who have been responsible for the Yorkshire Branch of the British Empire Cancer Campaign have realized the necessity of the education of the public. If surgery has almost reached the limit of its powers in removing disease, and if it is true that the earlier the disease the more effective is the operation in eradicating it, it is obvious that the recognition of an early stage of the disease cannot be made, and action thereon taken, until two consecutive events are secured—the awakening in the patient's mind of a need to consult the doctor, and action by the doctor, who in turn seeks aid from the surgeon. Unless, therefore, a patient knows something of the antecedent conditions of cancer, of its early manifestations, of the importance of early treatment, how is he to realize that a medical man should be consulted without the delay of one single day? Surgeons can hardly extend the limits of their work; but they may truthfully claim that if they are given a chance their present methods are capable, and that no other methods are capable, of effecting a permanent eradication of the growth in every case of accessible cancer. In Yorkshire I have "the happiness to command a band of brothers." The Medical and Scientific Com

mittee of the Yorkshire Council of the British Empire Cancer Campaign, over which I preside, has appointed a Propaganda Subcommittee, under the chairmanship of Dr. Hillman. This subcommittee will endeavour to instruct the public in such matters as it is essential for them to know if they are to help us, and will teach them to realize that the only hope of amelioration or of cure in cases of accessible cancer rests upon early diagnosis, and skilled surgical treatment.

Dr. Hillman writes to me:

"The Committee is to issue leaflets. Its members and others will give addresses to various local bodies; and will organize 'Exhibitions,' where microscope slides, graphic statistical charts, skiagrams, leaflets, striking 'posters,' and ingeniously described models will be shown. These Exhibitions are to be placed in charge of a qualified woman doctor who will give information to visitors and will answer any questions they may put to her. An hour each day will be devoted to 'women only,' and instruction is to be given in matters concerning tumours of the breast, irregular discharges, and so forth.

"Each 'Exhibition' is to be held in a vacant shop, centrally situated, and will last for one week; the arrangements for it are made in co-operation with local committees and with local medical officers of health. The demonstrations are purely educational and are not intended to raise funds.

"The subcommittee is now engaged upon a programme for taking these Exhibitions to the principal towns and villages in the county. If they prove successful, as they have already proved to be in two towns, it is intended to take a travelling exhibition on a motor lorry to the scattered villages.

"By these means it is intended to take a message of Hope to all who care to listen, and the subcommittee believes that a material lessening in the number of 'inoperable' cases will follow. It is a striking fact that at the first two Health Exhibitions held in Hull and Rotherham no less than 73,000 persons attended.

"The outstanding impression conveyed to the organizers was the keen and earnest desire for correct information manifested by those attending.

"Each Exhibition is to be opened by the local mayor, or other prominent citizen, and its existence is made known by leaflets distributed by boy scouts, clinic officials, and others), by illustrated slides at cinemas, and by pulpit references at all the places of worship.

"Interest has been stimulated by the demonstration of various electrical and other appliances, generously loaned by a surgical instrument firm, but all advice as to treatment has been studiously avoided. The only advice offered has been: 'Don't delay; don't conceal; be medically examined if you have the least suspicion that *anything* is wrong with you.'"

What are the lessons we can teach the public in connexion with this disease? The following are some of the truths it is important for them to know:

1. *Cancer a Local Disease at First.*

Cancer is always at first a local disease. This is an extremely important truth. For many years (and even to-day in the popular mind at least) the belief that cancer is a "blood disease" having local outbreaks is firmly held. In typhoid fever the general disease has its local manifestations. It is often supposed that the events in cancer are similar, that the blood is contaminated, and that the local evidence of this is the nodule or the ulcer, recognized as cancerous. All knowledge we possess refutes this view. Cancer begins locally; it remains local for periods that vary in length according to circumstances; it may even prove fatal while still local, and therefore, if accessible, still removable. There is no single exception to the truth that cancer in its beginning is a local disease.

2. *Diseased rather than Healthy Organs Attacked.*

Cancer chooses to attack a diseased rather than a healthy organ. It has been said that cancer never attacks a healthy organ, but that is to set the standard of health rather high. It is, however, quite certain that any organ, or the skin, when affected by some chronic disorder, is more apt to be attacked by cancer. This involves the necessity for us all, patients and doctors alike, to pay attention to health and to do all we can to keep fit. The majority of people, it may be said, commit suicide. If we consider the effect of alcohol, syphilis, tubercle; of the conditions which are set going by the rush for wealth, with all its attendant sacrifices of caution and prudence with regard to health from day to day, the statement, though shocking, appears to be true. St. Paul advises us to "keep innocence." We wish he had said "keep health," for sin is not seldom a synonym for disease.

3. *Cancer Influenced by Antecedent Conditions.*

The occurrence of cancer is influenced by antecedent conditions. The corollary to this is that cancer in certain instances may be regarded as a preventable disease. Sir Jonathan Hutchinson, many years ago, described what he called "precancerous conditions"—conditions which, *though not yet cancerous, would become cancerous*, or tend to become cancerous, if neglected. These are best seen upon the tongue. Cancer almost never develops upon a healthy tongue. The tongue affected is one which has suffered for many months or years from chronic superficial inflammation, due to syphilis, or smoking, or both; from cracks or fissures, or ulcers; or from denudation of its papillae by one cause or another. Chronic irritation is a definite precursor of cancer. This is seen especially upon exposed surfaces. Mule-spinner's cancer appears upon the lower parts of the abdominal wall in consequence of the protracted irritation of lubricating oil, and of repeated small injuries by the loom. Cancer was common in former days in chimney-sweeps; and "kangri cancer" in those living on the hills in Kashmir is caused by the wearing of a basket of burning fuel beneath the clothes. In those who work in aniline dyes cancer of the bladder appears far more frequently than in others.

4. *Cancer Uninfluenced by Certain Factors.*

The occurrence of cancer, so far as we know, is uninfluenced by certain factors, sometimes regarded as "causes."

(*a*) There does not appear to be any hereditary predisposition to cancer. The fact that one person in seven over the age of 30 dies from cancer must in this connexion be remembered. It implies that within the limits of slight variation from this normal the incidence in any family may appear to be unduly heavy. Probably few families of ordinary size escape cancer in three consecutive generations. Striking instances of the frequency of cancer in one or two generations of a family, and equally remarkable examples of its absence, come under observation from time to time. The work of Miss Maud Slye upon mice appears to show that a tendency to the development of cancer can be engendered by special breeding; but I cannot recognize any similar liability in man. The example of Napoleon and his relatives is often quoted in support of the contention that this disease "runs in families." But it is, we think, now generally admitted by those most competent to form an opinion, after an examination of his abdominal viscera, that Napoleon did not die of cancer.

(*b*) Cancer, so far as we know, is not caused by any special food or foods, nor by any absence of special foods. It is true that excessive indulgence in food when little or no exercise is taken will steadily and insidiously depreciate the general health; and that in such circumstances of lessened resistance a person may more easily fall a victim to cancer as to other diseases. Various articles of diet have been impugned—tomatoes, fresh meat, salt, and many others; but there is no evidence that would satisfy a scientific mind that these or any other articles of diet, in excess or in abstinence, play any specific part in causing this disease. The question of the effect of diet in cases of cancer has been much discussed; and a rather embittered controversy between the layman and a few medical stragglers on the one side, and the majority of the profession on the other, has not languished in recent years. It is true that a general supervision of a man's dietary when he is in health, or in illness, will often produce a sense of well-being and bring back a degree of vigour long forgotten. But, so far as we know, no change in the natural history of a malignant growth has ever been observed by competent authorities to result from such dietetic control in an indisputable case of carcinoma.

The Memorandum on Cancer issued by the Ministry of Health states (p. 3) that "it cannot be asserted with scientific authority that the use of any particular article of food increases the liability to cancer or prevents it from appearing." There appears to be no truth in the claim that restriction in diet or temporary starvation effects any real change in the disease; nor has any evidence that could satisfy a critically scientific judgement

been adduced to show that the cure of cancer, or its demonstrable subsidence or relief, is in the smallest degree dependent upon special systems of dietary. The Yorkshire Council of the British Empire Cancer Campaign are financing a new research upon this subject of diet in relation to cancer. Professor Mellanby of Sheffield has, with the consent of the University, undertaken this work, which could not be in more competent hands.

(c) There is at present no sufficient proof that "cancer houses" or "cancer districts" exist, though here again striking examples of individual exceptions to this statement may be observed. Further inquiry may well be conducted to resolve this question, and we are proposing to undertake a new survey of this matter in Yorkshire.

5. *Cancer neither Infectious nor Contagious.*

The disease is neither infectious nor contagious. Very few surgeons have ever seen any case in which transmission of the disease by contact could conceivably explain the development or localization of the disease.

6. *Spread by Direct Extension.*

The disease spreads from the spot originally affected by direct extension; by the invasion of lymphatic vessels, which then convey cancer cells to neighbouring glands and thence to distant parts; and rarely by invasion of the blood vessels and the transmission of cancer cells in the blood stream. The reverse procedure never occurs. That is to say, the disease never begins as a generalized systemic disease—as a "blood disease" having, in a later stage, a local manifestation.

7. *Pain Rare in the Early Stages.*

In the early stages cancer rarely causes pain. This is a truth which it seems very difficult for a patient to realize. One of the commonest incidents of practice is to hear a patient protest that a growth cannot be of a serious nature because no pain results from it. Perhaps few things surprise the surgeon more than the discovery of an advanced state of carcinomatous ulceration of the tongue. It seems impossible that a patient could tolerate the presence in the mouth of so repulsive a condition, one affected by every word of speech, by every movement of mastication and of deglutition; one capable of easy recognition by the patient, who has only to open his mouth in front of a mirror to realize the horror of the growth. Yet pain in the tongue, even when it is chafed and fretted by a jagged tooth, seems absent or inconsiderable; and when pain is present it is the ear, rather than the mouth, of which complaint is made. In tumours of the breast no pain, as a rule, is caused until the skin is involved; the lump is discovered by accident, and little regard is paid to it because it causes no inconvenience or discomfort. The truth that in women over 35 years of age a lump in the breast is malignant in three cases out of four needs all the repetition and emphasis that can be given to it. The silence of some forms of growth in the stomach and the rectum is notorious. In the alimentary canal it is often obstruction rather than discomfort that first attracts attention.

In cases of cancer ill health, anaemia, lassitude, distaste for food, and loss of weight are often regarded as the symptoms without which a diagnosis may hardly be made. In the earlier stages they are rarely present and are never conspicuous. The existence of carcinoma is compatible with perfect health, and in a few cases there may even be a gain in weight and a remarkable feeling of vigour and strength. "I never felt better in my life" is a statement often made by an incredulous patient who has just heard that he suffers from cancer. The symptoms now mentioned are significant, but they are apt to indicate a state of the disease which should be anticipated, if possible, by the discovery and eradication of the growth before they have time to appear.

8. *Cancer Curable when Local and Growth Accessible.*

While the disease is local and when the growth is accessible cancer is curable. This is a necessary and logical extension of the truth that cancer is invariably local in origin, and that it spreads from the point first attacked. While the disease is local the complete eradication, not only of the parts immediately involved, but of all the adjacent parts which are most likely to be first implicated in its extension, would also cure the disease. It is true that the patient might then live long enough to develop another type of cancer elsewhere; but the instances in which this has occurred are so rare as to be surgical curiosities, and of no importance in stating the truths of a general problem. There are, however, a large number of cases of carcinoma where the growths are not accessible to the surgeon, or lend themselves only to the most dangerous and least successful forms of attack.

The Control and Treatment of Cancer.

Our main reliance in the treatment of cases of cancer to-day is upon surgery. If a growth is accessible, and local, no other method than that of operation should be considered. The difficulty is to discover whether the disease, at the time the removal of the growth is contemplated, remains localized, or whether it has already extended to the primary glands, or perhaps has even spread beyond them. In many cases it is unhappily impossible to tell. Nothing could more clearly show the advantages of early operation, and the tragedy of neglect, than the statistics collected from the Leeds cases by Miss Gretta Wardle under the auspices of the Leeds Cancer Committee and published by the Ministry of Health. Here are the figures. The report deals with a series of 357 cases operated on in the General Infirmary and in the Hospital for Women and Children, Leeds, during the two periods 1910 to 1913 and 1919 to 1921. In every case the tumour has been submitted to microscopic examination. The cases have been analysed by Dr. Janet Lane-Claypon and classified on the following basis:

Class I.—Cases in which, so far as could be ascertained, the growth was entirely confined to the breast, the axillary glands not being involved.

Class II.—Cases in which the axillary glands were already invaded, but in which there was no evidence of involvement of any other neighbouring or distant organ or tissue.

Class III.—Cases in which either the adjacent or distant organs or tissues were involved—for example, the pectoral muscles, the skin when ulcerated, the cervical glands, the opposite breast, etc.

Excluding cases unclassified on account of insufficient clinical and pathological data, the following are the results of operation after three, five, and ten years respectively:

	Percentage Alive at		
	Three Years.	Five Years.	Ten Years.
Class I	89.6	85.1	71.4
Class II	36.3	18.5	5.2
Class III	28.0	13.5	5.6

If, however, the cases which died from the operation and those which died from other causes than recurrence of cancer be excluded the after-results are as under:

	Percentage Alive at		
	Three Years.	Five Years.	Ten Years.
Class I	94.0	91.3	87.5
Class II	38.1	20.0	5.8
Class III	31.1	15.1	5.5

The results for the complete operation of removal of the breast, pectoral muscles, and axillary contents (Rodman's or Halsted's operation) may be shown thus:

Class I.—Growth still local; 90.1 per cent. *alive* at ten years after operation.

Class II.—Axillary glands involved; 91.3 per cent. *dead* within ten years of operation.

Class III.—More advanced cases; 94.4 per cent. *dead* within ten years of operation.

For cases in Class I the number of survivors is within 14 per cent. of that shown in the general population table. They prove that cancer can be completely eradicated if the local growth is early and widely extirpated. They show that the degree of success depends upon the stage of the disease attacked by the operation. They are eloquent as to the need for haste, and as to the follies of delay.

The methods of surgery, however, are not always available. If the growth is inaccessible, or if a growth at one time accessible has by delay become disseminated, then no operation can eradicate the disease, and recourse must be had to other methods. Of these, by far the most valuable is the therapy of the deep x rays. From their skilled application the most remarkable results are occasionally observed. The retrogression of the disease, or even its disappearance for two or three years, does not justify the use of the word "cure." Though I have seen the most striking results—results which five years ago could not have been believed possible—I have never seen a patient "cured" by this treatment. The best testimony to the truth of this view of x-ray work is shown by the refusal or reluctance of the skilful radiologist to undertake treatment in any case in which surgical measures are possible. This means that only the cases in which surgery can do nothing are undertaken by the radiologist; and yet it is in these very advanced and otherwise hopeless cases that results are obtained which show the efficacy of the method.

In certain cases radium has its uses, and very remarkable temporary results are obtained. It is only, however, in cases of rodent ulcer, and by no means always even in them, that permanent freedom from recurrence has been observed. Cases of cancer of the tongue may show great improvement, and healing of a large and chronic ulcer may occur. Of the lead treatment of Blair Bell we cannot speak with certainty. But we know that a devoted and most earnest worker, with a scientific mind, and a scrupulous regard for sincerity and truth, is devoting his great talents, with an almost reckless disregard of his own time and his health, to the pursuit of what he believes to be a serious contribution to this grave problem. We must remember that his only chance of success is with the case in which everyone else has failed; with this category of the outcasts he has certainly done better than any man.

The points upon which we should at this moment concentrate our attention in our fight against cancer are, therefore, two:

1. To make the very utmost of our present methods, which are applicable to all cases of accessible growths.
2. To undertake research so that we may discover the cause or causes of cancer, and so be enabled to do something for the prevention of the disease, or for its cure by methods other than those of surgery.

We do not make the most of our present methods, and in my judgement we are not likely to make the most until the public is instructed in some of the matters essential for them to know if they are to seek help in that stage of the disease which is capable of cure. There are many medical men who regard with dismay or disapproval the suggestion that the public should be educated in matters concerning cancer. It is said we shall "frighten them to death." I prefer to think that we are frightening them to life. I do not believe we can increase the dread of cancer. I am sure we may easily diminish it by carefully worded instruction. The problem of cancer is so simple and straightforward that any intelligent person may understand it, and by understanding it learn to dread, not cancer, but neglect of cancer. And we must undertake research. We have learnt more of cancer during this century than in all the centuries that have gone before. It is perhaps hardly too much to say that the conquest of cancer is a question of money. Research, ceaseless research, by trained skilful workers; research of the widest kind into all aspects and relationships of the disease will surely capture the most elusive secret of its causation. In Yorkshire our appeals to the public for help have resulted in the collection of nearly £130,000 in twelve months. A research institute has been opened, and happily is associated with the University, under the direction of Dr. M. J. Stewart, professor of pathology, and of Dr. Passey, professor of experimental pathology and director of cancer research. All the scientific knowledge of the day is therefore accessible to our research workers. During the next decade I should like to see the most active and the most populous department of any research institute devoted to the study of the subject of cancer. Research in connexion with other diseases has within the last half-century saved millions of lives, released mankind from terrible sufferings, added immensely to human happiness and comfort, and helped to prolong the span of human life.

Research by Pasteur and Lister made possible the almost incredible advances of modern surgery, which have already saved more lives than all the wars of all the ages have thrown away. Research by Patrick Manson and Ronald Ross has given us the whole secret of malaria, and has shown how this disease, which has slain its millions, may be banished for ever from the earth.

Research has disclosed the mystery of yellow fever, and so made possible the building of the Panama Canal, converting a whole district that was a death-trap into a health resort.

Research has revealed the origin and mode of transmission of plague, the very name of which is still heard with horror. Plague is conveyed by the fleas which infest the rat. And so to-day we realize why in Babylon the snake and in Egypt the cat were sacred, were deified, and were worshipped. They devour rats and mice, and so keep away the plague.

Research has made us familiar with the cause of tuberculosis, and has enabled us to reduce the number of cases, the severity, and the mortality of enteric fever.

Research has done much to inform us of the mysteries of cancer. Dr. Gye, whose authority is indisputable, has said that "during the past twenty-five years, that is to say during the period of experimental research into this disease, there has been greater progress in the study of cancer than in the study of any other single serious malady that attacks human beings." We hope that research may discover the cause or causes of cancer and enable us perhaps even to prevent it, or to rescue its victims by some other method than that of operation. Cancer is the most formidable calamity afflicting mankind to-day. The enemy grows yearly in strength, and though we are defeating him in some of his strongholds, he is gaining on us elsewhere. The time has come for a great national uprising against him. And there are plain evidences that we are in deadly earnest in our efforts to subdue and destroy him.

For many minds, with many thoughts and many aims, are now uniting with a common watchword against a common foe. Victory will not come through the gates of dream. It will be won from a stubborn and relentless enemy by an army of ardent spirits who think no toil too heavy if spent in the service of humanity.

[An account of the Minister of Health's speech and of the discussion that followed the Hastings Lecture will be found in the body of the JOURNAL at page 207.]

British Medical Association.

CURRENT NOTES.

Some Work of the Week.

DURING the week ending January 22nd the following committees and subcommittees met: the Organization Committee on the 18th, the Building Committee on the 19th, the Office Committee on the 20th, and the Maternity and Child Welfare Subcommittee and a joint subcommittee dealing with the question of collective scientific research on the 21st.

The Organization Committee dealt with the usual routine business in connexion with central regulations, Division and Branch rules and boundaries, etc.; gave special consideration to the report of its Propaganda Subcommittee as to the position of some dormant Divisions; received a report that the agreement between the Association and the Medical Association of South Africa (British Medical Association) had been finally completed and that the first instalment of £1,000 had been sent as a contribution from the

home authorities towards the better organization of the Association in South Africa; dealt in a preliminary way with a resolution of the Representative Body directing an inquiry as to what extent and under what conditions financial and other assistance could be given to Branches and Divisions in the United Kingdom which might desire to invite societies formed for the promotion of the medical and allied sciences to hold conferences within the respective Association areas; and considered a proposed new method of dealing with certain sections of the membership of the Association which find difficulties in putting their views forward through the ordinary Association machinery.

The Building Committee spent the morning of January 19th in consideration of many important points that arise in connexion with the extension of the Association premises consequent upon the falling in of the leases of houses attached to the property. The Office Committee, on January 20th, dealt with many matters connected with the premises and with interdepartmental working arrangements, and also with proposed new arrangements with the press in regard to reporting the Annual Meeting Sections.

The Maternity and Child Welfare Subcommittee had before it strong representations from the Central Association for Mental Welfare, urging that the Government should be pressed to bring in and pass the Mental Deficiency Bill which was dropped, through lack of time and threatened opposition in the final stages, at the end of 1926; the subcommittee resolved to make representations to the Council in favour of such a course being taken by the Association. It considered the important questions raised by the growth of orthopaedic clinics throughout the country, and resolved to make representations thereon to the parent (Medico-Political) Committee; gave advice on several questions relating to maternity and child welfare clinics and school medical officer appointments referred to it; and had a report that, as a result of the action of the North Staffordshire Division, the four school medical officers of the Stoke-on-Trent county borough had received increases in their salaries, and that the school medical officer of the Plymouth county borough had also had an increase as a result of representations made by the Medical Women's Federation.

The Joint Subcommittee on Collective Medical Research is composed of representatives of the Insurance Acts Committee and of the Science Committee, and it had before it very interesting proposals suggesting the organization of collective medical research among general practitioners, in co-operation with the Ministry of Health. It arrived at certain provisional conclusions and decided to ask representatives of the Ministry of Health to meet it.

During the week the members of the central staff have dealt with many applications for advice on all sorts of professional questions. These applications extend over the whole range of medical practice, and are dealt with, as seems most appropriate, by the editorial, the financial, and medical departments. A feature that is growing is the frequency with which visiting oversea members ask for advice.

Death Certification: New Instruction to Registrars.

The Registrar-General has issued instructions to registrars that where they receive a death certificate in respect of a person who has not been seen by a doctor within fourteen days of death, they are to refer the fact to the coroner. This does not necessarily mean that an inquest will take place, because the coroner will doubtless generally be satisfied by his inquiries that there is no need for an inquest. It should be clearly understood that doctors are not under any obligation to see the body after death. When the public becomes acquainted with the new requirement doubtless they will frequently ask the doctor to make a special visit so that he may be in a position to certify that he has seen the dead body. If they do so, the doctor will, of course, be justified in charging a fee. It is to be expected that as a result of the new procedure there will be an increase in the number of certificates of the fact of death as observed by the doctor, a development which has always been favoured by the British Medical Association.

Association Notices.

BRANCH AND DIVISION MEETINGS TO BE HELD.

BIRMINGHAM BRANCH: COVENTRY DIVISION.—At the meeting of the Coventry Division, arranged for Tuesday, February 1st, Mr. Baron T. Rose will read a paper on "Surgical matters of interest to general practitioners."

BIRMINGHAM BRANCH: NUNEATON AND TAMWORTH DIVISION.—A meeting of the Nuneaton and Tamworth Division will be held at the Red Lion Hotel, Atherstone, on Wednesday, February 2nd, at 3.30 p.m. The meeting will be mainly a clinical and pathological one, and members are invited to show patients or specimens. Those who wish to do so are asked to communicate previously with Dr. Pracy, Colville House, Atherstone (telephone number, Atherstone 23), who is arranging the meeting. Patients should be in attendance from 3.30 to 3.45 p.m.

GLASGOW AND WEST OF SCOTLAND BRANCH: GLASGOW NORTH-WESTERN DIVISION.—A symposium on "Atmospheric pollution and its effect on health and environment" will be held in the Burgh Hall, Hillhead, on Wednesday, February 9th, at 8 p.m. Speakers: Mr. F. W. Harris, F.I.C., "Its intensity and methods of measurement"; Dr. W. G. Clark, "The influence of atmospheric pollution in the causation of acute and chronic lung affections"; Dr. Alex. Smith, "The therapeutic aspects of light"; Professor J. R. Currie, "Some other effects"; Baillie W. Brownhill Smith, "Preventive measures." A number of illustrative lantern slides will be shown.

METROPOLITAN COUNTIES BRANCH.—A meeting, to which are invited all fourth and fifth year students and recently qualified practitioners, will be held by the Metropolitan Counties Branch on Thursday, February 24th, at the British Medical Association House, Tavistock Square, London, W.C., when an address will be given by Mr. E. B. Turner, F.R.C.S., on "Practice and types of patients." Tea and coffee at 5 p.m.; address at 5.30.

METROPOLITAN COUNTIES BRANCH: CITY DIVISION.—The next meeting of the City Division will be held at the Metropolitan Hospital on Tuesday, February 1st, at 9.30 p.m., when Dr. Anthony Feiling will read a paper on "The clinical aspects of neuro-syphilis." A clinical meeting will be held at the same place on Friday, February 11th, at 4.30 p.m., when Mr. Peter Daniel, F.R.C.S., will speak. A Divisional fancy dress dance will take place on Thursday, March 24th, at the British Medical Association headquarters, Tavistock Square, W.C.

METROPOLITAN COUNTIES BRANCH: HAMPSTEAD DIVISION.—At the meeting of the Hampstead Division to be held on Thursday, February 10th, at 8.30 p.m., Mr. W. H. Trethowan, orthopaedic surgeon to Guy's Hospital, will read a paper on "Pain in the back."

METROPOLITAN COUNTIES BRANCH: HENDON DIVISION.—The next clinical meeting of the Hendon Division will take place at Hendon Cottage Hospital to-day (Friday, January 28th), at 8.30 p.m., when Professor R. T. Leiper, F.R.S., will deliver an address on "Some recent advances in parasitology."

METROPOLITAN COUNTIES BRANCH: KENSINGTON DIVISION.—A meeting of the Kensington Division will be held at the Kensington Palace Mansions Hotel, De Vere Gardens, W.8, on Wednesday, February 9th, at 8.45 p.m. Professor Leonard Hill, F.R.S., will read a paper entitled "Ultra-violet rays and their therapeutic value."

METROPOLITAN COUNTIES BRANCH: ST. PANCRAS DIVISION.—A meeting of the St. Pancras Division will be held at the British Medical Association House, Tavistock Square, W.C.1, on Tuesday, February 8th, at 9 p.m., when Dr. Webb-Johnson will speak on "Obesity: its causes and modern treatment."

METROPOLITAN COUNTIES BRANCH: SOUTH MIDDLESEX DIVISION.—A meeting of the South Middlesex Division will be held at St. John's Hospital, Twickenham, on February 9th.—8.15 p.m., general business; 8.30 p.m., paper by Dr. A. B. Porteous, assistant clinical bacteriologist, St. Mary's Hospital, on "Transfusion, immuno-transfusion of blood."

NORTH OF ENGLAND BRANCH.—The next scientific meeting of the North of England Branch will be held at the Royal Victoria Infirmary, Newcastle-on-Tyne, on Thursday, February 17th: 2.15 p.m., Mr. John Gilmour: "The problem of the spastic child"; 2.45 p.m., Dr. Wells Patterson: "Clinical evidence of subthyroidism"; 3.15 p.m., Mr. W. E. M. Wardill: "Some common conditions about the rectum and anus"; 3.45 p.m., tea; 4 p.m., Sir Robert Bolam: Dermatological cases; 4.30 p.m., Dr. Alex. McRae: "Sudden loss of sight."

NORTH OF ENGLAND BRANCH: SUNDERLAND DIVISION.—A meeting of the Sunderland Division will be held at the Royal Infirmary, Sunderland, on Wednesday, February 16th, at 8.15 p.m. Dr. A. Parkin will give an address on "Pleural effusion."

SOUTHERN BRANCH: PORTSMOUTH DIVISION.—*The next meeting* of the Portsmouth Division will be held at the Queen's Hotel, Southsea, on Thursday, February 10th, at 9.30 p.m., when Dr. James Collier, F.R.C.P. (London), will give an address on "Infantile paralysis." Supper, as usual, will be at 9 p.m. sharp; members intending to be present are requested to notify the honorary secretary, Dr. H. H. Warren, on or before Monday, February 7th.

SOUTH-WESTERN BRANCH: EXETER DIVISION.—The next meeting of the Exeter Division will be held in the Library of the Royal Devon and Exeter Hospital on Friday, February 4th, at 3.30 p.m. Lecture by Dr. R. V. Solly on "Some uses of the blood count in diagnosis and prognosis." Tea at 4.30. Business meeting at 5 p.m. Agenda: Report of Executive Committee as to the

scale of minimum commencing salaries for public health medical officers, and recommendation of executive to adopt resolution under Ethical Rules.

STAFFORDSHIRE BRANCH: SOUTH STAFFORDSHIRE DIVISION.—The second meeting of the session 1926-27 of the South Staffordshire Division will be held at the Victoria Hotel, Wolverhampton, on Tuesday, February 1st, at 8.15 for 8.30 p.m. Supper (tickets 3s. 6d. each, exclusive of wines) will be served at 8.30 prompt. Agenda: Lord Dawson of Penn, G.C.V.O., M.D., will deliver a lecture on "Some varieties of headache." Members of other Divisions will be welcome. Members who intend to be present at supper should notify the secretary forthwith.

SURREY BRANCH: GUILDFORD DIVISION.—A meeting of the Guildford Division will be held at the Royal Surrey County Hospital, Guildford, on Thursday, February 3rd, at 4 p.m. Agenda: Election of representatives and deputy representatives. Address by Mr. T. P. Dunhill on "The diagnosis of gall stones." Tea served at 3.45 p.m.

SURREY BRANCH: REIGATE DIVISION.—At the meeting of the Reigate Division to be held at the East Surrey Hospital, Reigate, on Tuesday, February 8th, at 8.45 p.m., Sir William Willcox, C.B., C.M.G., will speak on "The etiology and treatment of fibrositis (chronic rheumatism)."

SUSSEX BRANCH: BRIGHTON DIVISION.—The next meeting of the Brighton Division will take place at the Brighton Borough Sanatorium on Thursday, February 17th, at 3.45 p.m.

SUSSEX BRANCH: HASTINGS DIVISION.—The next meeting of the Hastings Division will be held at the Queen's Hotel, Hastings, on Tuesday, February 1st, at 8.15 p.m. Dr. F. C. Martley will read a paper on "The benefits of co-operation in insurance for the medical profession, and what has been done to supply it." The annual dinner will take place at the Royal Victoria Hotel, St. Leonards, on Friday, February 11th, at 7.30 for 7.45 p.m. (tickets 10s. 6d. each). Members are requested to notify the honorary secretary as soon as possible as to the number of tickets they will require for themselves and their guests.

YORKSHIRE BRANCH: DEWSBURY DIVISION.—A meeting of the Dewsbury Division will be held in the Man and Saddle Restaurant, Dewsbury, on Tuesday, February 1st, when Mr. E. R. Flint, F.R.C.S. (Leeds), will give an address on "The acute stomach." Coffee will be served at 8.15 p.m. Members from neighbouring Divisions will be welcome.

YORKSHIRE BRANCH: WAKEFIELD, PONTEFRACT, AND CASTLEFORD DIVISION.—A meeting of the Wakefield, Pontefract, and Castleford Division will be held at the Bull Restaurant, Westgate, Wakefield, on Thursday, February 10th. Dr. A. E. Barnes, senior honorary physician, Sheffield Royal Infirmary, will give an address on diet.

Meetings of Branches and Divisions.

BIRMINGHAM BRANCH: NUNEATON AND TAMWORTH DIVISION.

A MEETING of the Nuneaton and Tamworth Division was held on January 5th at the Nuneaton General Hospital. Mr. J. B. LEATHER, F.R.C.S., read a very interesting paper on "Abdominal injuries." He discussed the various factors that play a part in the causation of visceral injuries, and described the pathology and treatment of surgical shock in the light of the most recent research. He also entered into the question of diagnosis and treatment and the indications for operative intervention. His remarks were illustrated by records of actual cases. A discussion followed, and Mr. Leather replied to the various questions raised during the discussion. A vote of thanks to Mr. Leather was carried unanimously.

EDINBURGH BRANCH: SOUTH-EASTERN COUNTIES DIVISION.

AN ordinary meeting of the South-Eastern Counties Division of the British Medical Association was held on January 12th in the Railway Hotel, Newtown St. Boswells. Before the meeting was constituted the members remained standing while Dr. GEORGESON, chairman of the Division, intimated the death of their previous chairman, Dr. James M. Menzies of Selkirk. Dr. Georgeson said they all received a shock when they learned that Dr. Menzies, after an operation, had passed away on December 22nd last. He had been out on his rounds as usual two days before, visiting patients. Dr. Menzies was a beloved physician, his kindness and his faithfulness winning the respect of all who came into contact with him, and they in the South-Eastern Counties Division would miss his cheery face and his kind manner.

It was unanimously agreed that the Right Hon. the Earl of Home, Sheriff McAulay Smith, the Rev. Dr. M'Connachie, Sir Robert Philip, Dr. Drever, and Dr. Stevens should be invited to the annual dinner as the guests of the Division.

Dr. J. EASON gave a short address on the treatment of diabetes mellitus, which was listened to with great interest. At its conclusion Dr. Eason was thanked for his address.

SUSSEX BRANCH: BRIGHTON DIVISION.

A CLINICAL meeting of the Division was held at the Poor Law Institution, Brighton, on December 16th, 1926, when Dr. DONALD HALL was in the chair. Dr. H. J. MCCURRICH, medical officer to the institution, showed a most interesting series of cases, of which clinical notes in tabular form had been prepared for the use of members. This was followed by a discussion, and afterwards, on the suggestion of Dr. L. A. PARRY, a hearty vote of thanks to Mr. MCCURRICH and to all those who had assisted in carrying out the arrangements was carried with acclamation.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

Surgeon Captains R. W. G. Stewart, O.B.E., and T. W. Myles, C.B.E., to the *Victory* for R.N. Hospital, Haslar.

Surgeon Commanders M. Barton to the *Excellent*; G. G. Vickery, O.B.E., and G. Carlisle to the *Victory* for the R.N. Hospital, Haslar; C. F. Lynch to the *Ormonde* on recommissioning.

Surgeon Commanders G. B. Scott and J. C. Bringan, O.B.E., are placed on the retired list with the rank of Surgeon Captain.

Surgeon Lieutenant Commander H. C. A. Tandy-Cannon is placed on the emergency list, with original seniority of October 3rd, 1919.

Surgeon Lieutenant Commander E. B. Kelley to the *Champion*.

Surgeon Lieutenants J. H. Laydon to the *Princess Margaret*; R. W. Higgins and J. G. Holmes to the *Egmont* for the *Maine*; G. Phillips to the *Victory* for R.M. Infirmary, Portsmouth; H. M. Levy to the *Pembroke* for R.M. Infirmary, Chatham, temporary.

ROYAL ARMY MEDICAL CORPS.

The following Captains to be Majors: W. C. Hartgill, M.C., with precedence next below H. S. Milne, M.C.; J. H. Baird (prov.); F. Harris, M.C. (prov.).

ROYAL AIR FORCE MEDICAL SERVICE.

Squadron Leaders A. F. Rook to Headquarters, Irak; F. E. Johnson to Palestine General Hospital; R. S. Overton to the Basrah Combined Hospital, Irak; H. S. C. Starkey, O.B.E., to R.A.F. British Hospital, Irak.

Flight Lieutenants E. G. Howell to Palestine General Hospital; C. P. Barber to R.A.F. British Hospital, Irak.

Flying Officers W. O. McKeown to No. 203 Squadron, Egypt; E. J. Jenkins to No. 216 Squadron, Egypt.

The following are granted short-service commissions as Flying Officers for three years on active list: J. E. Foran, M. O'Regan.

REGULAR ARMY RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonels J. Matthews, D.S.O., and J. H. Campbell, C.B.E., D.S.O., having attained the age limit of liability to recall, cease to belong to the Reserve of Officers.

TERRITORIAL ARMY.

ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel J. W. Kemp, T.D., to be Brevet Colonel.

Captains to be Majors: R. W. Swayne, O.B.E., R. D. Cran, and R. A. Lennie.

To be Lieutenants: Second Lieutenant W. L. Kinnear, late 4/5th Battalion, Black Watch, with precedence as from May 4th, 1926; Lieutenant J. F. Fraser from General List, T.A., with precedence as from December 30th, 1925, and to be supernumerary for service with the Medical Unit, Aberdeen University Contingent, Senior Division, O.T.C.; R. A. M. Scott.

The announcement regarding Douglas Gordon Robinson which appeared in the *London Gazette* of November 26th, 1926, is cancelled.

VACANCIES.

ADELAIDE UNIVERSITY.—Elder Professorship of Anatomy. Salary £1,100 per annum.

BANCHORY SANATORIUM.—Medical Superintendent.

BERRINGTON HOSPITAL, near Shrewsbury.—Assistant Resident Medical Officer. Salary £200 per annum.

BIRMINGHAM AND MIDLAND EAR AND THROAT HOSPITAL.—Third House-Surgeon (non-resident). Salary £200 per annum.

BRADFORD MUNICIPAL GENERAL HOSPITAL.—House-Physicians and House-Surgeons. Salary £200 per annum each.

BRADFORD: ROYAL EYE AND EAR HOSPITAL.—Male House-Surgeon. Salary £120.

BRISTOL DISPENSARY.—Medical Officer (non-resident).

CAIRO UNIVERSITY.—Professor of Bacteriology. Salary £E.1,500 per annum.

CAMBRIDGE: ADDENBROOKE'S HOSPITAL.—Honorary Assistant Physician in charge of the Electrical and X-Ray Department.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE HEART AND LUNGS, Victoria Park, E.2.—Assistant Surgeon.

COVENTRY CITY.—Assistant School Medical Officer (male). Salary £600 per annum, increasing to £700.

DERBYSHIRE EDUCATION COMMITTEE.—School Dentist. Salary £500 to £550 per annum.

EDINBURGH: ELSIE INGLIS MEMORIAL MATERNITY HOSPITAL, Abbeyhill.—(1) Senior House-Surgeon. (2) Two Junior House-Surgeons.

EDINBURGH HOSPITAL FOR WOMEN AND CHILDREN.—(1) Senior House-Surgeon. (2) Two Junior House-Surgeons. Salary at the rate of £25 per annum for (2).

EDINBURGH: ROYAL EDINBURGH HOSPITAL FOR SICK CHILDREN.—Five Honorary Resident Medical Officers.

ELIZABETH GARRETT ANDERSON HOSPITAL, 144, Euston Road, N.W.1.—Children's Physician.

ESSEX COUNTY HOSPITAL, Colchester.—(1) House-Physician. (2) Assistant House-Surgeon and Registrar. Males. Salary £150 and £120 per annum respectively.

GLOUCESTERSHIRE ROYAL INFIRMARY AND EYE INSTITUTION, Gloucester.—(1) House-Physician. (2) Assistant House-Surgeons. Males. Salary £150 and £120 per annum respectively.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.1.—Casualty Officer. Salary £400 per annum.

INVERNESS: NORTHERN INFIRMARY.—Senior House-Surgeon (male). Salary £120 per annum.

LIVERPOOL COUNTY BOROUGH.—Junior Assistant School Medical Officer. Salary £600 per annum.

LONDON JEWISH HOSPITAL, Stepney Green, E.1.—Assistant Surgeon in the Ear, Nose, and Throat Department.

NATIONAL HOSPITAL, Queen Square, W.C.1.—Registrar. Salary £200 per annum.

NEW ZEALAND GOVERNMENT.—Senior Assistant Medical Officers in the Mental Hospitals Department. Salary £640 (single men), £775 (*married*).

NORTHAMPTON GENERAL HOSPITAL.—Two House-Surgeons. Salary £150 per annum each.

OLDHAM ROYAL INFIRMARY.—House-Surgeon to Male Wards. Salary at the rate of £200 per annum.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney Road, E.2.—Casualty Officer. Salary at the rate of £100 per annum.

ST. THOMAS'S HOSPITAL, S.E.1.—Surgeon in charge of Out-patients.

SHREWSBURY: ROYAL SALOP INFIRMARY.—(1) House-Surgeon. (2) House-Physician. Salary £250 and £160 per annum respectively.

SHROPSHIRE ORTHOPAEDIC HOSPITAL, Oswestry.—Junior House-Surgeon. Salary £150 to £250 per annum, according to experience.

SOUTH SHIELDS: INGHAM INFIRMARY.—Junior House-Surgeon (male). Salary £150 per annum.

SOUTHAMPTON: ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—Honorary Assistant Physician.

STAFFORDSHIRE GENERAL INFIRMARY, Stafford.—House-Physician (male). Salary at the rate of £150 per annum.

UNIVERSITY COLLEGE HOSPITAL.—Registrar at the Royal Ear Hospital, Huntley Street, W.C. Honorarium, £50 per annum.

UNIVERSITY COLLEGE HOSPITAL MEDICAL SCHOOL, W.C.1.—Demonstrator in Bacteriology (part-time). Salary £250 per annum.

WALTHAMSTOW URBAN DISTRICT COUNCIL.—Resident Medical Officer at the Hospital for Infectious Diseases, Chingford. Salary £300 per annum.

CERTIFYING FACTORY SURGEONS.—The following vacant appointments are announced: Walsall (Staffs), Portsoy (Banffshire), Rhynie (Aberdeenshire), Fenny Stratford (Bucks), Dumbarton (Dumbartonshire). Applications to the Chief Inspector of Factories, Home Office, Whitehall, S.W.1.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.

APPOINTMENTS.

BENNETT, James, M.R.C.S., L.R.C.P.Lond., D.P.H., Medical Officer of Health, Lymm Urban District Council.

BROCKLEHURST, George L., M.B., B.S.Lond., D.P.H.Liverp., Medical Officer of Health and School Medical Officer, City of Canterbury.

STEEL, John P., M.B., Ch.B.Edin., Assistant Medical Officer and Deputy Superintendent, Cleveland Mental Hospital, Middlesbrough.

ROYAL WEST SUSSEX HOSPITAL, Chichester.—*Honorary Assistant Surgeons:* R. Brooke, M.B., B.S.Lond., F.R.C.S.Eng., and I. H. H. Gough, M.A.Cantab., M.R.C.S.Eng., L.R.C.P.Lond.

VICTORIA HOSPITAL, Burnley.—*Honorary Surgeons:* A. Callam, M.D.Aberd., and J. A. Mackenzie, Ch.M.Aberd.

DIARY OF SOCIETIES AND LECTURES.

ROYAL SOCIETY OF MEDICINE.

Section of Orthopaedics.—Tues., 5 p.m., Cases. 5.30 p.m., Clinical Meeting.
Section of p.m., Laboratory Meeting at the National W.C.1. Drs. D. McClean and E. O'Flynn: st to the Cerebro-spinal Fluid; Dr. E. Westor Hepatic Cirrhosis by Manganese; Dr. J. G. Greenfield: Haemofuscin in Nerve Cells; Dr. E. A. Carmichael: Types of Cerebral Glioma; Dr. J. G. Greenfield: Hortega Cells and their Pathological Alterations. Specimens of tuberous sclerosis and diffuse sclerosis will also be shown.
Sections of Tropical Diseases, Dermatology, and Therapeutics.—Wed., 5.30 p.m., Special Discussion on the Treatment of Leprosy. Speakers: Drs. J. M. H. MacLeod, J. H. Sequeira, Graham Little, G. Pernet, T. A. Hendry, E. Muir, H. W. Wade, C. B. Lara, Sir Leonard Rogers, and others.
Section of Laryngology.—Fri., 4 p.m., Cases.
Section of Anaesthetics.—Fri., 8.30 p.m., Mr. S. R. Wilson: Physiological Bases of Hypnosis and Suggestion, with special reference to anaesthesia.
Section of Otology.—Sat., 9.45 a.m., Cases. 10.30 a.m., Papers:—Dr. C. P. Symonds: Cerebral Abscess—Some Points in Diagnosis and Localization; Dr. Farquhar Buzzard: The Treatment of Traumatic Facial Paralysis.

HARVEIAN SOCIETY OF LONDON.—Clinical Meeting at Paddington Green Children's Hospital, Paddington Green, Thurs., 4.30 p.m.

RÖNTGEN SOCIETY, 32, Welbeck Street, W.1.—Thurs., 8.15 p.m., Dr. J. M. Woodburn Morison: The New Radiological Department of the Royal Infirmary, Edinburgh; Mr. H. D. Griffith: The Physics of Carbon Arc Therapy.

POST-GRADUATE COURSES AND LECTURES.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION, 1, Wimpole Street, W.1.—Special Lecture at the Medical Society, 11, Chandos Street, W.1, Thurs., 5 p.m., Complications of Gall Stones.* *London Temperance Hospital*, Hampstead Road, N.W.1: Special Clinical Surgery Demonstration, Mon., 2 p.m.* *Royal Westminster Ophthalmic Hospital*, Charing Cross, W.C.2: Special Clinical Ophthalmic Demonstration, Thurs., 5 p.m., Non-paralytic Squint and its Treatment.* *Royal Northern Hospital*, Holloway Road, E.: Tues., 3.15 p.m., Lecture and Demonstration on Laboratory Methods in Clinical Medicine.* *Bethlem Royal Hospital*, S.E.: Tues. and Sat., 11 a.m., Lecture Demonstrations on Psychological Medicine. *St. John's Hospital*, Leicester Square, W.C.2: Special Course in Dermatology. Instruction daily in the Out-patient Department at 2 and 6 p.m. Lecture on Tues., Alopecia, and on Thurs., Xanthoma, Herpes. *National Hospital*, Queen Square, W.C.1: Special Course in Neurology. Daily instruction, and special lectures. All information as to fees, etc., obtainable from the Fellowship of Medicine. Lectures marked * are open to all members of the medical profession without fee.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.1.—Thurs., 4 p.m., Demonstration of Surgical Cases.

LONDON SCHOOL OF DERMATOLOGY, St. John's Hospital, Leicester Square, W.C.2.—Tues., 5 p.m., Alopecia. Thurs., 5 p.m., Xanthoma, Herpes.

NATIONAL HOSPITAL, Queen Square, W.C.1.—Mon., Tues., Thurs., Fri., 2 p.m., Out-patient Clinics. Mon., 12 noon, Pathology of the Nervous System; 3.30 p.m., Some Effects of Head Injuries. Tues., 3.30 p.m., Syphilis as it affects the Nervous System. Thurs., 3.30 p.m., Polyneuritis. Fri., 12 noon, Anatomy and Physiology of the Nervous System; 3.30 p.m., Demonstration of Re-education Methods. Operations: Tues. and Fri., 9 a.m.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.15.—Mon., 10 a.m., Surgical Clinic; 2.30 to 5 p.m., Medical, Surgical, nics; Operations. Tues., 2.30 to 5 p.m., Medica and Ear Clinics; Operations. Wed., 2.30 to 5 ; e Clinics; Operations. Thurs., 11.30 a.m., 5 p.m., Medical, Surgical, and Ear, Nose, and Throat, Nose, and Ear Clinics; 2.30 to 5 p.m., Surgical, Medical, and Children's Diseases Clinics; Operations. Fri., 10.30 a.m., Throat, Nose, and Ear Clinics; 2.30 to 5 p.m., Surgical, Medical, and Children's Diseases Clinics; Operations.

POST-GRADUATE HOSTEL, Imperial Hotel, Russell Square, W.C.1.—Mon., 6.30 p.m., General Meeting of Vice-Presidents and those interested in Post-graduate Work; 9 p.m., Our Duty to Colonial Visitors. Wed., 9 p.m., Parenteric Infections.

ROYAL NORTHERN HOSPITAL, Holloway Road, N.—Tues., 3.15 p.m., Demonstration of Laboratory Methods in Clinical Medicine.

WEST LONDON HOSPITAL POST-GRADUATE COLLEGE, Hammersmith, W.6.—Mon., 10 a.m. to 1 p.m., Genito-urinary Operations, Skin Department, Demonstration of Fractures; 2, p.m., Surgical Wards, Gynaecological and Eye Departments. Tues., 10 a.m. to 1 p.m., Lecture on Clinical Methods, Demonstrations in Venereal Diseases and Chest Cases; 2 p.m., Medical Wards, Throat, Nose, and Ear Department. Wed., 10 a.m. to 1 p.m., Children's Medical Out-patients, Medical Wards, Demonstration in Medical Pathology; 2 p.m., Surgical Wards, Eye Department. Thurs., 10 a.m. to 12 n [illegible] ; 2 p.m., Eye and Genito-urinary Depart Fri., 10 a.m. to 1 p.m., Gynaecological 1 Electrical Departments; 2 p.m., Throat, Sat., 10 a.m. to 1 p.m., Bacterial Thera lical Department. Daily: Operations, Med at 2 p.m.

GLASGOW POST-GRADUATE MEDICAL ASSOCIATION.—At Royal Hospital for Sick Children: Wed., 4.15 p.m., Surgical Cases.

JAMES MACKENZIE INSTITUTE FOR CLINICAL RESEARCH, St. Andrews.—Tues., 4 p.m. Heart-block.

SHEFFIELD UNIVERSITY POST-GRADUATE CLINICS.—At Royal Hospital: Fri., 3.30 p.m., Surgical Cases.

British Medical Association.

OFFICES, BRITISH MEDICAL ASSOCIATION HOUSE, TAVISTOCK SQUARE, W.C.1.

Departments.

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IRISH ME Frederick Street, Dublin. (Telegrams: 1737 Dublin.)

Diary of the Association.

JANUARY.

28 Fri. London: Medical Students and Newly Qualified Subcommittee, 2.30 p.m. [illegible] A. T. Paterson on Some [illegible] y Hospital, Chesterfield. [illegible]assive Immunity, 8.15 p.m. [illegible] Hospital. Professor R. T. Leiper on Some Recent Advances in Parasitology, 8.30 p.m. South Suffolk Division: Annual Meeting, Crown and Anchor Hotel, Ipswich, 3.30 p.m.

FEBRUARY.

1 Tues. London: Standing Ethical Subcommittee, 2.15 p.m. City Division: Metropolitan Hospital. Dr. A. Feiling on Clinical Aspects of Neuro-syphilis, 9.30 p.m. Coventry Division: Mr Baron T. Rose on Surgical Matters of Interest to General Practitioners. Dewsbury Division: Man and Saddle Restaurant, Dewsbury. Mr. Flint on the Acute Stomach, 8.15 p.m. Hastings Division: Queen's Hotel. Dr. F. C. Martley on Co-operation in Insurance for the Medical Profession, 8.15 p.m. South Staffordshire Division: Victoria Hotel, Wolverhampton. Lord Dawson of Penn on Some Varieties of Headache. Supper, 8.30 p.m.
2 Wed. Nuneaton and Tamworth Division: Red Lion Hotel, Atherstone, 3.30 p.m.
3 Thurs. London: Public Education in Health Subcommittee, 2.30 p.m. Guildford Division: Royal Surrey County Hospital, Guildford. Mr. T. P. Dunhill on the Diagnosis of Gall Stones, 3.45 p.m.
4 Fri. Exeter Division: Royal Devon and Exeter Hospital. Dr. R. V. Solly on Some Uses of the Blood Count in Diagnosis and Prognosis, 3.30 p.m. Business Meeting, 5 p.m.
8 Tues. Reigate Division: East Surrey Hospital, Reigate. Sir W. Willcox on Fibrositis, 8.45 p.m. St. Pancras Division: British Medical Association House, Tavistock Square, W.C.1., 9 p.m.
9 Wed. London: **Council**, 10 a.m.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcement of Births, Marriages, and Deaths is 9s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

BIRTHS.

WELLS.—On January 19th, at 153, High Street, Chorlton-on-Medlock, Manchester, to Nesta H. (*née* Perry), M.B., Ch.B., wife of Lionel W. Wells, A.C.G.I., a daughter.

WILSON.—On January 21st, at Farnborough, to Vera, wife of Major J. A. L. Wilson, R.A.M.C., a son.

MARRIAGES.

ARMSTRONG—FERGUSON.—On January 18th, 1927, at Fortwilliam Presbyterian Church, Belfast, by Rev. W. A. Watson, M.A., B.D., assisted by Rev. J. Humphreys, B.A. (uncle of the bride), Edward Armstrong, M.D., B.Sc., elder son of Mr. and Mrs. M. J. Armstrong, The Roddens, Larne, to Olive Ferguson, M.B., B.Ch., elder daughter of the late J. C. Ferguson, M.D., and Mrs. Ferguson, Lynford, Osborne Park, Belfast.

BEVAN—COMBE.—On January 22nd, at St. Peter's, Brockley, Frank Arthur Bevan, M.B., B.S., of Hadleigh, Essex, to Mary Combe of Brockley, London, S.E.

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TO THE
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THE VOLUNTARY HOSPITAL AND ITS FUTURE.*

BY

R. G. HOGARTH, C.B.E., F.R.C.S.,

SENIOR SURGEON, GENERAL HOSPITAL, NOTTINGHAM; PRESIDENT OF THE BRITISH MEDICAL ASSOCIATION.

WHEN I was asked to deliver the Hospital Sunday address, I accepted the invitation with the greater pleasure because of the compliment implied both to the British Medical Association, of which I have the honour to be President, and to the profession to which I belong.

The very name of Hospital Sunday reaffirms the intimate connexion between religion and medicine, which is almost as old as history itself. The common link is faith. Religion without faith is unthinkable; medicine without faith loses half its healing power.

Faith, therefore, is no new thing in medicine. It was once said, "He cures most in whom most have faith." The sufferer who casts his cares upon his doctor rids himself of a grievous handicap. Instead of obstructing the healing influence by his doubts and fears, he becomes submissive to it and may even quicken its work.

Hope vanishes when faith is checked. But faith in what? The choice is wide. It may be faith in the bottle of medicine. It may be faith in the little pill. It may be faith in the healing efficiency of water, hot or cold. It may be faith in the well advertised virtues of a patent medicine. It may be faith in a saint, or faith in a system, or faith in a book, or faith in a revelation. It may be faith in a master to whose message the ears of thousands are attuned while millions hear it not. Or it may be—such are the wonders of faith—faith in some plain humble doctor in a poor neighbourhood, who for a generation has gone about his business—and the Master's—of healing, unknown beyond the short radius of his daily activities, but within it respected, trusted, loved. Or, lastly, it may be that faith in faith itself, best understood in the Churches where the injunction "Only believe" has exercised on quiet receptive minds a soothing influence of healing, which passes the surface comprehension of the cynic but not the deeper understanding of the wise.

And now, lest you should think that I am leading you down rather misty paths, I will ask you as earnestly as I can for your active, positive faith in something which happily combines in itself many of the objects towards which faith is directed. I mean, of course, that great composite and complex institution the general hospital.

If you must have personality in which to believe, you will find it there on the hospital and nursing staffs. If you crave the strengthening atmosphere of place, which on the religious side you expect in shrine or temple, where is it better found than in the hospital from whose doors so many have gone forth healed and rejoicing? We do not hang our trophies on our walls, for trophies harbour dust, and dust is forbidden by the modern laws of health; but the records stand and are known, and the healed give us good report among their fellows. And if you desire—as who does not?—the comfort of hope to steady the shrinking of fear, from whose lips does it better proceed than from those of the doctor, who, subject himself to human infirmities, knows too much of pain to be niggardly of reasoned assurance and the salutary stimulus of a measured encouragement not to despair of returning health.

Perhaps you may think it strange if I go back four hundred years for a definition of the ideal hospital. Yet where is there a better than Sir Thomas More's, who in his Utopia conceived the hospital of his ideal city state to be so well appointed that "though no man is sent thither against his will, there is no sick person in all the city that had not rather lie in the hospital than at home in his own house"?

Consider what the hospitals were like when those words were written. They were the refuge of the destitute and the plague-stricken. At best they provided little more than a roof over the sick man's head and a mattress on which he might lie. Nursing there was none, and the medical art of the time was as often a hindrance as a help to recovery. Horrible contagions throve in the dark and reeking corners of the wards. The idea, therefore, of a hospital worthy of its name as a guest house where God's sick and poor are healed, so garnished and equipped that even the rich would rather lie there than at home, may well have seemed preposterous to More's contemporaries. Even to-day it requires something of an effort to break away from current conceptions, still far too circumscribed, of the function and scope of a general hospital.

So I invite you to conceive of your own General Hospital, here in Nottingham, as the hospital of the whole community in the wide area which it serves. Conceive it as the hospital, not of the poor alone, nor yet of the poor and the

* Delivered in the Albert Hall, Nottingham, on Sunday, January 30th, 1927.

wide range of the middle classes, but of all classes who are sick—all who care to use it, with no distinction of rich and poor. That is a new interpretation of the term "general hospital," and with your permission I will develop the idea.

But first I must guard against a *dangerous misconception*. I am not proposing to rob the poor of the least part of the birthright bequeathed to them by a long line of *magnanimous benefactors*. I say emphatically that, while you open the hospital door much wider to other classes, you must not close it one inch in the faces of the poor. The full freedom of the general hospital to the sick poor is the very origin and foundation of the voluntary system. For the poor the healing given by the hospital must still be without money and without price. But why, if nothing but the best is good enough for the poor, should less than the best be offered to others? Thus, while still maintaining the most generous definition of the poor and their poverty, I would ask all the rest to contribute to the hospital in proportion to their means with payments graded, not merely according to the total figure of the family income, but to the figure of its necessary expenditure, which, as you know, *is usually a totally different thing*.

No new principle is involved here. Payment for hospital treatment is already much more widespread than is commonly supposed. A recent official report has shown that 171 provincial hospitals, of which 27 are large institutions, make some provision to meet what is well described as the insistent demand for paying beds. The methods adopted vary widely. In some the payment is still disguised under the form of a thank-offering. Patients are told exactly what the cost of their maintenance has been, and then they are invited to give as generously as they can. I will only observe that no Chancellor of the Exchequer would dream of applying such a system to the income tax unless he was prepared for a gigantic deficit. In the hospitals it produces a useful, but quite inadequate, amount.

You will remember the poignant question in the New Testament, when, after the healing of the ten lepers, only one returned to give thanks—"But where are the nine?" I will not say that gratitude in the hospitals is expressed in the same unsatisfactory proportion. But you can well understand what happens. A patient who would cheerfully pay £100 to be cured when the pain is sharp upon him begins to think, as soon as the pain is gone, that perhaps he never was quite as bad as he feared; that Nature unaided might have healed him had he but left the cure to her; that £100 is a lot of money; that others are much better able to pay than he; that hospitals, *after all*, were designed to be free, and that if only they were run on business lines the expenses could certainly be cut down. And the result of all this hard thinking (*and there is* plenty of time to think in a hospital bed) is that if he gives £5 it is really all that he can afford. The plain moral, I take it, is that there should be a *definite contract* between hospital and patient as to what the patient shall pay.

Let us see how they arrange these matters in some of the American hospitals. Take that of Detroit, Michigan, where Mr. Henry Ford has his famous motor works. You will not be surprised to hear that Mr. Ford and his family have built and equipped a magnificent hospital with a school of nursing and hygiene attached. The hospital has 600 beds, and an out-patient department with a daily average of 300 patients. It is on a similar scale, in other words, to the Nottingham General Hospital. The Ford family have spent 10 million dollars on the land, buildings, and equipment, and they met the deficit on each year's working till the institution was complete. They have shown, as you will agree, a princely spirit of generosity. Now, waiving all claim to interest, they expect the patients who receive treatment to pay sufficient to cover current expenses. The room charges for board and nursing service vary from 4½ to 8 dollars a day, according to whether the patient shares a room with others or has a private room with bath. In addition he pays from 21 to 70 dollars a week for the professional services of physician or surgeon, according to the nature of his case, and there are other charges for *x*-ray or radium treatment and for special nursing if required. Even the out-patient department makes a first visit charge of 5 dollars for the routine physical examination and 5 dollars for the routine laboratory examination, and other charges are made at subsequent visits, according to treatment.

So it is clear that the Ford Hospital at Detroit is *specially designed for the patient who can pay*, and if the charges seem to us rather high, allowance must be made for the high wages and salaries of the United States, while if interest had to be paid on capital expenditure the charges would be much higher still. Half the beds—300 out of 600—are of the more expensive kind, with baths attached, at 8 dollars (or 32 shillings) a day, with a minimum professional charge of £4 and a maximum charge of £12 a week.

We have no hospitals like that in this country. Yet what a boon they would be to the middle classes, as offering a much needed alternative to the nursing home, which is an indispensable institution in our present system, but one which will, in my belief, eventually disappear when the transitional period is over and the paying hospital system is fully developed. For even the best of nursing homes are subject to the grave disability that they are run for profit. The city of Detroit, of course, has a *general hospital* as well where free treatment is offered to the poor; but the distinguishing feature of the Ford Hospital is that it is a *full-size hospital, equipped on the very latest lines*, advertising its attractions to the sick public just as a first-class hotel might, the crucial difference being that it is expected to return no other dividend than the improving health of its guests. The Bishop of Durham some time ago complained of the modern millionaire's lack of cultural imagination, even when obeying his benevolent impulses. This Ford Hospital is an effective answer to that charge, and I hope it may find many imitators.

If you do not altogether like the idea of a hospital run for paying patients only, though not run for profit, consider the scores of other hospitals in the United States, in Canada, and in this country too, where free and paying patients are found together under the same roof. The Liverpool Royal Infirmary has had five paying single-bed wards since 1887. There's the right principle; but fancy five paying beds for the whole of Liverpool! At Brighton there are fourteen private rooms, at Colchester twelve, and so on. The scale is utterly and grotesquely inadequate. In America the hospital exists as much for the paying as for the free patient. There you find part-paying patients and whole-payment patients, who pay for extra comforts and extra privacy according to a fixed tariff; nor is the fact concealed that such profit as is made on the paying patients is utilized for meeting the deficit on the free wards. The richer patients help to carry the poorer, which surely is just as it should be. They share all the incomparable advantages of a great hospital, which money cannot buy outside; and they are glad to help the poorer sufferers in the adjoining wards. Such a system is conceived in the true spirit of human fellowship in suffering; and, believe me, differences of class count for very little amid the stark realities of the operating table or in the hospital ward.

In my view we are ripe in this country for a rapid development of this system of mixed hospitals with paying and non-paying words, or, if it is preferred, for a system of twin hospitals, the one for free and the other for paying patients. The choice may often be determined by the possibilities of structural alterations on the existing hospital sites. Moreover, hospital experts now favour the view that a maximum of 600 beds is quite enough—or more than enough—for any general hospital, and that the model hospital of the future may be a large central building for urgent cases, with a ring of branch pavilions on the outskirts of the city to which cases may be cleared as soon as they can be moved. The motor car has made changes possible which twenty years ago would have been quite out of the question.

You will say, "What about finance?" I reply that such hospitals as I have described can be financed as our existing hospitals are financed—namely, by the voluntary subscriber. But he must be organized as never before. It must be brought home to every man and woman that if it is their misfortune to become hospital cases their place is in the hospital. When once people realize that when they are gravely ill their chance of making rapid recovery

is immeasurably greater in the hospital ward, they will not withhold their support. Given a liberal supply of paying wards, their subscriptions when in health will be sure, and in time of trouble they will gladly pay the tariff charged. We have to make the hospital to that extent a business proposition, just as at present the nursing home is a business proposition. But it will not be run for private profit—and that, I repeat, makes the all-essential difference.

May I remind you, in connexion with this problem of finance, that the provincial hospitals, as was shown by the last report of the Joint Council of the Order of St. John and the British Red Cross Society, are now doing remarkably well; 75 per cent. of 750 hospitals had a credit balance on their maintenance accounts for 1925, and their invested funds showed an increase of 6 millions in the last five years.

It is not a failing or a decaying system which can produce results like those. Remember, too, that 90 per cent. of the current expenditure is subscribed voluntarily, and only 10 per cent. is derived from public funds in return for services which the State or the public authorities could not render half so cheaply, even if they could do it as well. Let us get rid of the erroneous idea that the provincial hospitals live from hand to mouth under the threat of an ever-impending bankruptcy. It is not true. They were, indeed, in a parlous financial state after four years of war, during which they had most brilliantly justified their title to popular confidence and support. But that nightmare has passed away, and whenever you have a capable board of management you find the local general hospital facing the future with cheerful serenity. The problem of the great London hospitals, which have special difficulties of their own, must not be confounded with the problem in the provinces.

And what is the secret of this happy transformation? It is due mainly to the development of various contributory schemes, into which, unfortunately, I have no time to enter, to the better organization of workmen's contributions through their voluntary levies, and to the Hospital Savings Association and to the spread of the popular Hospital Saturday and Hospital Sunday movements. Not many years ago the bequests of the rich philanthropist and the annual subscriptions of the charitable were the mainstay of the hospitals. They are so no longer. It is not that rich benefactors give less, but that thousands of workmen now contribute their weekly pence. We have had many superb individual gifts in Nottingham, but the penny beats the pound every time when it rolls in by the million, and in the large provincial hospitals the income derived from the various kinds of contributory schemes is now double that of any of the four principal items of income. In our own county, for example, the contributions of the miners alone amounted in 1925 to £9,530. Last year's returns will show, I fear, a serious falling off, owing to the long stoppage in the industry, but I am confident that the Nottingham Hospital has no permanent source of income more assured and stable than that of the miners' levy.

Believe me, the key-word of the future is still "Voluntary contribution," which to my ear has a nobler and more humane sound than either tax or rate. It involves, I know, continuous effort on the part of a large band of voluntary workers. But though hospital workers may grumble at times, and wonder why they go on when others selfishly do nothing, they have their reward, which they deeply treasure in their hearts, though they may not often speak of it aloud. In a rather disillusioned world unselfish enthusiasm may become increasingly difficult to kindle. But the voluntary hospital, always advancing, sure of its goal, producing immediate as well as distant results, cheerful amidst suffering, mending the broken, restoring the rhythm of life to the sick, helpful always and invariably sympathetic, has never lacked good and loyal friends to champion its cause. Nor will it lack them in the days to come.

It is not unlikely that the friends of the voluntary hospitals have an anxious time before them in the near future in connexion with the approaching reform of the Poor Laws and the substitution of new public health committees of town and county councils for the existing boards of guardians. It looks as though the voluntary hospitals may be invited—happily there is no suggestion of compulsion—to place themselves under the direction of these public health committees, which would naturally take over control of the Poor Law infirmaries, and to receive in return additional grants of public money. Until the actual scheme is produced it would ill become me to pass judgement, but I am bound to say that the implications are a little alarming, so far as the independence of the voluntary hospitals is concerned, and the utmost vigilance and caution will be required. The freedom of the hospitals is their very life; from their freedom springs the joyous spirit which pervades them and the enthusiasm their cause inspires.

Just one more point as to the future of our Nottingham hospital. It lacks, to my mind, one thing above all for its completion, and that is a medical school and teaching staff. We have, as you know, an infant university, whose buildings are rising grandly above the old meadows of the Trent. We have still to kindle among our people a proper civic and intellectual pride in that inspiriting foundation. I look forward to the day when Nottingham University will possess amid its other faculties a Faculty of Medicine, and then it will need a medical school at the General Hospital. Do not, I beg you, consider this a matter of academic interest only. It is not so. Every large general hospital should have its medical school attached. No hospital fulfils its largest purpose unless it teaches as well as heals. Nothing contributes more powerfully towards keeping the resident and consultant staff of a hospital up to the highest mark of efficiency than the critical eyes of a band of eager students, quick to observe the failures as well as the successes of their instructors, and for ever comparing, contrasting, and asking the why and the wherefore. Doctors, like other people, give their best when most on their mettle. I must not enlarge on this theme on the present occasion, but I beg of you to consider it as a problem of real importance alike to Nottingham University and to the Nottingham General Hospital.

I ask you to believe, and to believe whole-heartedly, in the future of your General Hospital. Have faith in it, for it deserves your trust. There is no one on its staff, in whatever capacity, who does not give the best that he or she has to give. I ask you to work for its steady development along the safe, sure lines which have carried it to its present eminence, and to widen its sphere so that it may become a centre for the diffusion of medical and surgical science as well as a temple of healing. Above all, let us be content with nothing but the very best for the welfare of all our people and for the fame of the city and the county to which we are proud to belong.

British Medical Association.

CURRENT NOTES.

The Journal of the Medical Association of South Africa.

We welcome the first number of the *Journal of the Medical Association of South Africa* (British Medical Association), which, emerging from the fusion of two leading journals, the *South African Medical Record* and the *Medical Journal of South Africa*, signifies the union of two great organizations, and is a promise of the further progress of the medical profession in South Africa. The new journal is controlled by a committee consisting of the members of the Federal Council from the Cape (Western) Branch, and Mr. C. L. Leipoldt, F.R.C.S., and Dr. W. Darley-Hartley are the joint editors. In a foreword to the first number, which is dated January 8th, 1927, it is stated that, since the *Journal* is an official organ, its policy will be that of the controlling Association, and thus it will have behind it the weight of an assured authority. It is added that editorial responsibility is not excluded, nor will initiative be restrained, but both these qualities are likely to gain in strength from the close co-operation between the *Journal* staff and the officials of the Association. The essential importance of the help of the general practitioner is recognized, and an appeal is made for clinical notes, which may be written in English or in Afrikaans, since the new *Journal* is to be bilingual. Members of the Medical Association of South Africa will receive the paper

by virtue of their membership of the local Branches. The relatively small size of the early issues will probably be only a temporary feature, and we confidently predict a successful and useful career for the "J.M.A.S.A."

Some Work of the Week.

The special work of the week under review began on January 24th with Sir Berkeley Moynihan's Hastings Lecture on "Cancer and how to fight it"; an extension of the traditional policy of the Association with regard to public lectures rendered possible by the facilities afforded by the new premises. The lecture and discussion were fully reported in last week's BRITISH MEDICAL JOURNAL and SUPPLEMENT. The very wide publicity accorded to it by the lay press must have considerably enhanced its general utility. We feel, however, that the lecturer will share with other members of the Association our surprise at learning from one of our lay contemporaries that "there could have been no more severe reproof to the policy of 'Hush! Hush!' favoured by the British Medical Association than the lecture of Sir Berkeley Moynihan." This was not quite the impression most readers will have formed.

The committee work which is the basis of the report to be considered by the Council on February 9th was completed during the week by meetings of the Journal Committee and the Naval and Military Committee. The former was concerned mainly with points of detail, and more particularly with a number of those questions connected with advertisements which must always bulk largely in its work. Consideration of the number and variety of the interests covered by the advertisements in any one issue, and the points at which those interests touch the work of the profession and the Association, will be sufficient to show the complexity of the questions that arise. The Naval and Military Committee had before it a number of representations as to conditions in the medical services of the armed forces. The complaints came from several services and from widely different quarters, and the expediency of bringing such matters of personal hardship to the notice of the department concerned, in the interests alike of the individual and of his service, is by no means an easy matter to decide. The facts before the Committee on this occasion emphasized the increasing degree of co-ordination of the work of the several services. While medical officers subject to differing service regulations are called on to co-operate in the same or in similar pieces of work it is clear that many causes of complaint must arise, and equally clear that remedies will often be difficult to find. The Committee received a deputation from the League of Ex-Service Pharmacists, to whom it was able to extend its cordial support in their effort to secure that, at least in the larger military hospitals, qualified pharmacists shall in future be employed by the military authorities. In the past fifteen months the League has brought this matter before Parliament by means of questions.

In addition to the work of the two standing committees already mentioned a meeting of the Medical Students and Newly Qualified Practitioners Subcommittee has to be recorded. A general review of the work of Divisions and Branches in this connexion indicated the possibilities of the Council's scheme for covering this particular field, the outstanding fact being that in the case of two medical schools no less than 96 per cent. of the students who qualified and registered between October, 1924, and September, 1926, had been enrolled as members of the British Medical Association through the efforts of the Branch (Glasgow and West of Scotland) and Division (Newcastle-on-Tyne) concerned. The lowest return of enrolments, 23 per cent., came from an area where the Council's scheme has not yet been taken up locally. The difference between these two figures is a fair index to the value of efficiently organized local propaganda. Apart from this general review the attention of the Subcommittee was concentrated upon the essay competitions for final-year medical students, instituted in 1922. During the five years the average entry of essays has been twenty-six to twenty-seven; the number for the present year is twenty-five. For the purposes of the competition the medical schools are divided into fourteen groups, a prize of £10 being available for each group, and the Committee had to consider the reason for an entry as disappointing in quantity as it has been encouraging in quality. The two main faults found with the scheme have been that the subjects set have been unpopular and that the time allowed between the announcement of a competition and its closing date has been too short. As regards the first criticism, it may be pointed out that the five subjects selected have been various, and that any authoritative indication of a popular subject is yet to seek, the specific suggestions received up to date from the several medical schools showing little agreement as to the most suitable topics. As regards the second criticism, next year's entry will determine its validity, since the subject for competition for 1927-28—"What are the evidences of heart failure: describe signs and symptoms of any three cases you have personally examined"— was published last July. The full particulars of the competition for 1927-28 will be announced in the SUPPLEMENT very shortly. Mr. T. P. Dunhill, C.M.G., Dr. T. R. Elliott, C.B.E., D.S.O., F.R.S., Professor G. R. Murray, M.D., and Mr. G. Grey Turner, M.S., have kindly consented to act as examiners of the essays on "Three types of cases of thyroid enlargement with their treatment," submitted in the 1926-27 competition, the results of which will shortly be announced. It is hoped that the prizes for the six London groups of medical schools may be presented at a meeting for senior students and newly qualified practitioners on February 24th in the Great Hall of the Association's House. At this meeting Mr. E. B. Turner, F.R.C.S., will give an address on "Practice and types of patients." Arrangements for the 1928-29 competition are well advanced, and the subject will be declared shortly.

During the week the Medical Secretary addressed a very successful meeting of the North Suffolk Division at Lowestoft, speaking on the "Essentials of medical organization." The meeting was followed by a dinner.

A conference of no small interest to the profession as well as to the public was convened by the Labour party on January 28th, to discuss the problems of the nursing profession. The representatives nominated by the Council in connexion with this conference were Sir T. Jenner Verrall, Mr. H. S. Souttar, Dr. G. F. Buchan, and the Deputy Medical Secretary. A report appears in the JOURNAL this week at page 253.

Association Notices.

BRANCH AND DIVISION MEETINGS TO BE HELD.

CAMBRIDGE AND HUNTINGDON BRANCH.—A meeting of the Cambridge and Huntingdon Branch will be held at Addenbrooke's Hospital to-day (Friday, February 4th), at 2.30 p.m. Dr. J. Alden Wright will show a case of malignant endocarditis, and Mr. W. H. Bowen will read a paper on "Tuberculous glands in the neck," to be followed by a discussion.

DORSET AND WEST HANTS BRANCH: BOURNEMOUTH DIVISION.—The annual dinner of the Bournemouth Division will be held at the Royal Bath Hotel, on Thursday, March 3rd, and not as previously stated. It is hoped that members will keep this date free and will bring guests, including ladies.

ESSEX BRANCH: SOUTH ESSEX DIVISION.—A meeting of the South Essex Division will take place at the Palace Hotel, Southend, on Tuesday, February 8th, at 8.30 p.m., when Mr. B. Whitchurch Howell will deliver an address on "Orthopaedics of the lower limb, with special reference to fractures and splints." Dr. C. Grant Pugh, medical officer of health for the county borough of Southend, will address a meeting of the Division at the Palace Hotel, Southend, on Tuesday, March 8th, at 8.30 p.m.

GLASGOW AND WEST OF SCOTLAND BRANCH: GLASGOW NORTH-WESTERN DIVISION.—A symposium on "Atmospheric pollution and its effect on health and environment" will be held in the Burgh Hall, Hillhead, on Wednesday, February 9th, at 8 p.m. Speakers: Mr. F. W. Harris, F.I.C., "Its intensity and methods of measurement"; Dr. W. G. Clark, "The influence of atmospheric pollution in the causation of acute and chronic lung affections"; Dr. Alex. Smith, "The therapeutic aspects of light"; Professor J. R. Currie, "Some other effects"; Baillie W. Brownhill Smith, "Preventive measures." A number of illustrative lantern-slides will be shown.

GLASGOW AND WEST OF SCOTLAND BRANCH: LANARKSHIRE DIVISION.—A meeting of the Lanarkshire Division will be held at the County Hospital, Motherwell, on Tuesday, February 22nd, at 8.30 p.m., when Dr. John Reid will read a paper entitled "The fever hospital and the practitioner."

GLOUCESTERSHIRE BRANCH.—The February meeting of the Gloucestershire Branch will be held at the Royal Infirmary, Gloucester, on Thursday, February 10th, at 6 p.m. Preliminary Agenda: Report of Branch Council as to the scale of minimum commencing salaries for public health medical officers, and recommenda-

tion to adopt resolution under Ethical Rules. Supper at the Spread Eagle Hotel will take place after the meeting (5s. each, exclusive of wine). Members intending to be present at the supper are asked to notify Dr. W. Arnott Dickson, honorary secretary.

KENT BRANCH: ROCHESTER, CHATHAM, AND GILLINGHAM DIVISION.—The annual general meeting of the Rochester, Chatham, and Gillingham Division will take place at the Bull Hotel, Rochester, on Friday next, February 11th. Dinner, at 7.30 p.m., will precede the meeting. The agenda includes election of officers. In place of the usual paper several members will give brief accounts of cases of interest (limited to five minutes), and will invite discussion on them. The price of dinner will be 10s. 6d., exclusive of wine. Dinner jackets will be worn. Members may invite guests. Those intending to be present are asked to write to the honorary secretary, Dr. Myles Tonks, Manor House, Old Brompton, Chatham, before Wednesday, February 9th.

LANCASHIRE AND CHESHIRE BRANCH: HYDE DIVISION.—At the meeting of the Hyde Division to be held in the Stalybridge Town Hall on Thursday, February 24th, at 8.30 p.m., an address will be delivered by Dr. F. Craven Moore of Manchester.

LANCASHIRE AND CHESHIRE BRANCH: MANCHESTER DIVISION.—A meeting of the Manchester Division will be held to-day (Friday, February 4th), at 8 for 8.30 p.m., at the Out-patient Department of the Royal Manchester Children's Hospital, Gartside Street (off Quay Street), Manchester. Refreshments will be served at 8 p.m. The medical and surgical staff of the hospital have arranged the following programme: (1) The artificial sunlight department will be on view and demonstrations given. (2) The massage and orthopaedic department will be shown. (3) Demonstration of the urea concentration test for nephritis. (4) Pathological specimens of interest. (5) Radiograms. (6) Two short papers: (9.30 p.m.) "Treatment of hare-lip"; (9.50 p.m.) "Infections of the urinary tract in children." It is hoped that every member will make a special effort to be present.

METROPOLITAN COUNTIES BRANCH.—A meeting, to which are invited all fourth and fifth year students and recently qualified practitioners, will be held by the Metropolitan Counties Branch on Thursday, February 24th, at the British Medical Association House, Tavistock Square, London, W.C., when an address will be given by Mr. E. B. Turner, F.R.C.S., on "Practice and types of patients." Tea and coffee at 5 p.m.; address at 5.30.

METROPOLITAN COUNTIES BRANCH: CITY DIVISION.—A clinical meeting of the City Division will be held at the Metropolitan Hospital on Friday, February 11th, at 4.15 p.m., when Mr. Peter Daniel, F.R.C.S., will speak. A Divisional fancy dress dance will take place on Thursday, March 24th, from 8.30 p.m. to 1.30 a.m., at the British Medical Association headquarters, Tavistock Square, W.C. Tickets 8s.

METROPOLITAN COUNTIES BRANCH: HAMPSTEAD DIVISION.—At the meeting of the Hampstead Division to be held at the Hampstead General Hospital on Thursday, February 10th, at 8.30 p.m., Mr. W. H. Trethowan, orthopaedic surgeon to Guy's Hospital, will read a paper on "Pain in the back."

METROPOLITAN COUNTIES BRANCH: KENSINGTON DIVISION.—A meeting of the Kensington Division will be held at the Kensington Palace Mansions Hotel, De Vere Gardens, W.8, on Wednesday, February 9th, at 8.45 p.m. Professor Leonard Hill, F.R.S., will read a paper entitled "Ultra-violet rays and their therapeutic value."

METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.—At a meeting of the Lewisham Division to be held at the Town Hall, Catford, S.E.6, on Tuesday, February 15th, at 8.15 p.m., Dr. Alfred Cox, the Medical Secretary, will deliver an address on "The medical profession in South Africa."

METROPOLITAN COUNTIES BRANCH: NORTH MIDDLESEX DIVISION.—At the meeting of the North Middlesex Division to be held on Wednesday, February 23rd, Mr. Reginald C. Holmes, M.R.C.V.S., will read a paper on "Some diseases of interest to both medical and veterinary professions."

METROPOLITAN COUNTIES BRANCH: ST. PANCRAS DIVISION.—A meeting of the St. Pancras Division will be held at the British Medical Association House, Tavistock Square, W.C.1, on Tuesday, February 8th, at 9 p.m., when Dr. Webb-Johnson will speak on "Obesity: its causes and modern treatment."

METROPOLITAN COUNTIES BRANCH: SOUTH MIDDLESEX DIVISION.—A meeting of the South Middlesex Division will be held at St. John's Hospital, Twickenham, on February 9th.—8.15 p.m., general business; 8.30 p.m., paper by Dr. A. B. Porteous, assistant clinical bacteriologist, St. Mary's Hospital, on "Transfusion, immunotransfusion of blood."

METROPOLITAN COUNTIES BRANCH: WILLESDEN DIVISION.—A meeting of the Willesden Division will be held at the Willesden General Hospital, Harlesden Road, N.W.10, on Wednesday, February 16th, at 9 p.m. Mr. D. C. L. Fitzwilliams will read a paper on the tongue.

MIDLAND BRANCH: CHESTERFIELD DIVISION.—A meeting of the Chesterfield Division will be held at the Maternity Hospital, Chesterfield, on Friday, February 25th, at 8.15 p.m. Dr. Miles Phillips, professor of midwifery, University of Sheffield, will give an address on "Gynaecological diagnosis."

NORTH OF ENGLAND BRANCH.—The next scientific meeting of the North of England Branch will be held at the Royal Victoria Infirmary, Newcastle-on-Tyne, on Thursday, February 17th: 2.15 p.m., Mr. John Gilmour: "The problem of the spastic child"; 2.45 p.m., Dr. Wells Patterson: "Clinical evidence of subthyroidism"; 3.15 p.m., Mr. W. E. M. Wardill: "Some common conditions about the rectum and anus"; 3.45 p.m., tea; 4 p.m., Sir Robert Bolam: Dermatological cases; 4.30 p.m., Dr. Alex. McRae: "Sudden loss of sight."

NORTH OF ENGLAND BRANCH: BISHOP AUCKLAND DIVISION.—At the meeting of the Bishop Auckland Division to be held on Friday, February 25th, Dr. Farquhar Murray (Newcastle-on-Tyne) will read a paper on "Some modern aspects of midwifery and gynaecology."

NORTH OF ENGLAND BRANCH: SUNDERLAND DIVISION.—A meeting of the Sunderland Division will be held at the Royal Infirmary, Sunderland, on Wednesday, February 16th, at 8.15 p.m. Dr. A. Parkin will give an address on "Pleural effusion."

NORTH OF ENGLAND BRANCH: NORTH NORTHUMBERLAND DIVISION.—A meeting of the North Northumberland Division will be held in the Alnwick Infirmary on Tuesday, February 8th, at 2.30 p.m. Agenda: Annual report of Division; election of representative. After the meeting an address, illustrated with lantern slides, will be given by Mr. Norman Hodgson, entitled "Injuries to the hand and their treatment." Tea will be provided.

NORTHERN COUNTIES OF SCOTLAND BRANCH.—A clinical meeting arranged by the Northern Counties of Scotland Branch will be held at Gray's Hospital, Elgin, on Friday, February 18th, at 3 p.m.; tea at 4.30.

SOUTH WALES AND MONMOUTHSHIRE BRANCH: SWANSEA DIVISION.—The following programme has been arranged by the Swansea Division:—February 24th: British Medical Association Lecture by Dr. Robert Hutchison, followed by a supper; March 10th: Short papers; March 24th. General clinical meeting; April 7th: Discussion on appendicitis, to be opened by Dr. Daniel E. Evans (medical), Mr. Howell W. Gabe (surgical), Dr. A. F. S. Sladden (pathological), and Major W. P. Gould Williams (radiological), each opener limited to fifteen minutes; June 30th (provisionally): Annual meeting. The meetings will be held at the General Hospital, Swansea, at 8.15 p.m., except the British Medical Association Lecture on February 24th. Members desirous of reading papers or of showing cases and specimens are requested to communicate with the honorary secretaries not later than seven days before the date of next meeting.

SOUTHERN BRANCH: PORTSMOUTH DIVISION.—The next meeting of the Portsmouth Division will be held at the Queen's Hotel, Southsea, on Thursday, February 10th, at 9.30 p.m., when Dr. James Collier, F.R.C.P. (London), will give an address on "Infantile paralysis." Supper, as usual, will be at 9 p.m. sharp. members intending to be present are requested to notify the honorary secretary, Dr. H. H. Warren, on or before Monday, February 7th.

SURREY BRANCH: CROYDON DIVISION.—A meeting of the Croydon Division will be held at the Croydon General Hospital on Tuesday, February 22nd, at 8.30 p.m., when Professor Leonard Hill, F.R.S., will discuss "Sunshine and open air."

SURREY BRANCH. REIGATE DIVISION.—At the meeting of the Reigate Division to be held at the East Surrey Hospital, Reigate, on Tuesday, February 8th, at 8.45 p.m., Sir William Willcox will speak on "The etiology and treatment of fibrositis (chronic rheumatism)."

SUSSEX BRANCH: BRIGHTON DIVISION.—The next meeting of the Brighton Division will take place at the Brighton Borough Sanatorium on Thursday, February 17th, at 3.45 p.m.

SUSSEX BRANCH: HASTINGS DIVISION.—The annual dinner of the Division will take place at the Royal Victoria Hotel, St. Leonards, on Friday, February 11th, at 7.30 for 7.45 p.m. (tickets 10s. 6d. each). Members are requested to notify the honorary secretary as soon as possible as to the number of tickets they will require for themselves and their guests.

YORKSHIRE BRANCH: BRADFORD DIVISION.—On Wednesday, February 23rd, Mr. N. Bishop Harman will deliver a British Medical Association Lecture to the Bradford Division entitled "The recognition of common eye disorders in general practice." The lecture will be given at the Royal Infirmary at 8.30 p.m.

YORKSHIRE BRANCH: WAKEFIELD, PONTEFRACT, AND CASTLEFORD DIVISION.—A meeting of the Wakefield, Pontefract, and Castleford Division will be held at the Bull Restaurant, Westgate, Wakefield, on Thursday, February 10th. Dr. A. E. Barnes, senior honorary physician, Sheffield Royal Infirmary, will give an address on diet.

Meetings of Branches and Divisions.

BIRMINGHAM BRANCH: WEST BROMWICH DIVISION.

THE annual meeting of the West Bromwich Division was held on January 11th, when the retiring CHAIRMAN gave a summary of the work of the Division during 1926.

The following officers were elected for the current year:

Chairman, Dr. J. P. McVey. *Vice-Chairman*, Dr. A. B. Hamilton. *Honorary Secretary*, Dr. J. M. Mitchell. *Representative in Representative Body*, Dr. J. M. Mitchell. *Deputy Representative in Representative Body*, Dr. J. H. Hartland.

The programme for 1927 was approved, as follows: In April Dr. Lewis Graham of Birmingham will read a paper on "Some points in the conduct of midwifery in private practice." In June a clinical meeting will be held at the District Hospital, West Bromwich, when members will be entitled to show cases, and, if desirous of doing so, should arrange with one of the honorary surgeons. In October Dr. W. A. Potts of Birmingham will read a paper on "Psycho-analysis" at Smethwick. The proposal that Rule 12 (1) should be altered to read "ordinary meetings of the Division shall be held during the months of January, April, June, and October (three meetings in West Bromwich, one meeting in Smethwick)" was carried unanimously.

It was reported that the formation of a local hospitals committee was now nearly complete. Dr. L. A. Dingley and Dr. A. L. Bodley had been appointed to represent the District Hospital,

West Bromwich, and Dr. Hamilton to represent the Fever Hospital; the two representatives for Hallam Hospital would be appointed shortly.

The need for increased support for the medical charities was impressed on the members. In view of the fact that a memorandum on the subject would shortly be issued from headquarters, the matter was left over till the April meeting, when a definite policy for the Division would be brought forward.

An interesting paper on "The vagaries of the Health Insurance Act" was read by the CHAIRMAN.

CEYLON BRANCH.

A MEETING of the Ceylon Branch was held in the Colonial Medical Library on October 13th, 1926. Dr. G. COOKE showed three interesting cases—(*a*) ventral hernia, (*b*) ventral hernia complicating second pregnancy, (c) large ovarian cyst following an operation performed two years previously. Dr. S. CHELLIAH read a paper on "Rabies and hydrophobia." Votes of thanks were accorded to the readers of the papers and to the chairman.

A further meeting of the Branch was held in the Colonial Medical Library on November 10th, when Dr. A. RAJASINGHAM read a paper on the views of a new French school on dietetics and therapeutics, and communicated notes regarding the treatment of mumps. Dr. H. O. GUNEWARDENE read notes on a case of so-called hepatic intermittent fever, and Dr. G. S. SINNETAMBY on a case of ainhum. The meeting terminated with a vote of thanks to the chairman and to the readers of the papers.

The annual general meeting of the Ceylon Branch took place in the Colonial Medical Library on December 15th. The report of the Council for the year 1926 was read and adopted, and the audited statement of accounts was submitted and approved.

The following officers were elected for 1927:

President, The Hon. Dr. J. F. E. Bridger. *President-Elect for 1928*, Dr. V. Van Langenberg. *Vice-Presidents*, Drs. A. Rajasingham and S. Muttiah. *Honorary Secretary and Treasurer*, Dr. H. O. Gunewardene.

A programme of monthly meetings of the Branch was approved, and votes of thanks were accorded to the retiring officers.

NORTH OF ENGLAND BRANCH: DARLINGTON DIVISION.

A CLINICAL meeting of the Darlington Division was held at Greenbank Hospital, Darlington, on January 13th. Dr. H. C. PEARSON presided, and there was a fair attendance. The speaker of the evening was Dr. J. LE FLEMING BURROW, who chose for his subject "Recent advances in diagnostic methods." He dealt principally, and in a most convincing manner, with the urea concentration test, fractional test meal examinations, blood sugar tests, and x-ray examination of the stomach. A discussion followed, after which a very hearty vote of thanks was accorded to Dr. Burrow for his excellent address.

SOUTHERN BRANCH: PORTSMOUTH DIVISION.

THE *souper dansant* arranged by the Portsmouth Division, and held at the Esplanade Assembly Rooms, Southsea, on January 11th, proved an unqualified social success. Over 350 guests attended, the dancing floor and band were excellent, the novelties amusing, and as the all-pervading spirit from start to finish was one of jollity and good humour the result was one of the most enjoyable social functions of the season. The arrangements, which were in the hands of the honorary secretary, Dr. H. H. Warren, gave unusual satisfaction. After paying all expenses there remained a balance of £30 for medical charities.

SUFFOLK BRANCH: NORTH SUFFOLK DIVISION.

A MEETING of the North Suffolk Division was held at the Lowestoft Hospital on January 27th, when Dr. CANE presided. There was a good attendance, including members from the Norwich and East Norfolk Divisions.

Dr. ALFRED COX (Medical Secretary of the Association) gave a very interesting and valuable address, entitled "The essentials of a medical organization." Tracing the development of trade unions, Dr. Cox showed how the members of the medical profession were becoming increasingly under the control of the Government or of some public authority, and proceeded to contrast the fundamental differences between the trade union of the working man and the organization necessary for a body of professional men. He urged the need for organization because of the contractual relations of an increasing number of medical men with public bodies, and he detailed the principles of such an organization. Dr. Cox foreshadowed big problems ahead of the profession, and referred at some length to the coming changes in the Poor Law system.

A keen discussion followed the address, in which Drs. CANE, TAYLOR, BULMAN, WOODROFFE, and BOSWELL took part, special reference being made to the increasing inroads on private practice by the development of various health services under the control of local authorities. Dr. Cox having replied to the questions submitted, a very hearty vote of thanks was accorded to him on the proposal of Dr. EVANS, seconded by Dr. WOODROFFE. Dr. Cox briefly acknowledged the vote of thanks, saying that the discussion had been full of interest.

SURREY BRANCH: CROYDON DIVISION.

AN ordinary meeting of the Croydon Division was held at the Croydon General Hospital on January 25th, when Mr. E. M. COWELL, D.S.O., F.R.C.S., was in the chair. The Croydon section of the British Dental Association having received an invitation to attend, nineteen members of the dental profession were present.

A vote of condolence with the widow and family of the late Dr. Pasmore was passed, and the honorary secretary was instructed to convey it to Mrs. Pasmore.

Mr. E. M. Cowell and Dr. C. G. C. Scudamore were appointed the representatives in the Representative Body, and Dr. P. W. Hammond deputy representative.

Sir F. E. COLYER, K.B.E., gave an address on "Dental sepsis in relation to other pathological conditions," illustrated with lantern slides. In the subsequent discussion members of both Associations took part. Mr. A. B. ODDIE, chairman of the Dental Association, proposed a cordial vote of thanks to Sir Frank Colyer, which was carried with enthusiasm.

TANGANYIKA TERRITORY BRANCH.

A SCIENTIFIC meeting of the Tanganyika Territory Branch was held in the European Hospital, Dar-es-Salaam, on August 28th, 1926, when the President, Dr. PUGH, was in the chair.

Dr. C. F. SHELTON presented a memorandum relating to the revised scales of salaries recently introduced for the East African Medical Service, and pointed out that medical officers hereafter joining it were relatively worse off than officers of other departments. He added that to invite medical men to start on a lower scale was a retrograde move, and while admitting that medical officers already in the service had been generously treated, he thought that the newly joining medical officer was not being considered so well as he should be.

Dr. P. A. CLEARKIN agreed that medical officers had not received the same consideration as other officers. The young medical practitioner had had a long and expensive training; he entered the service later in life than most other officers, and had greater responsibilities at an earlier age; he was also likely to marry sooner. His expenses were no less than those of others, and yet administrative officers joining younger had greater chances of promotion, and proportionately a greater benefit from revised salaries. He mentioned that this was intended as a comment and not as a complaint; he agreed with Dr. Shelton that those already in the service had no grounds for complaint.

Dr. A. MCKENZIE had calculated the average age of entry into the various departments; the medical officers were the oldest in starting, their average age being 29.9 years, as compared with 24, which was the average age for cadets. He considered that the profession was being "cheapened."

Dr. J. PUGH (President) suggested that, before taking any other action, the Branch should invite the opinions of the other East African Branches, and this proposal was approved.

Dr. MCKENZIE read a paper entitled "An examination of the question of quinine prophylaxis," which gave excellent scope for discussion. A long debate followed in which all members took part.

Dr. BURKE-GAFFNEY (honorary secretary and treasurer) proposed that a full account of this and of all subsequent meetings should be forwarded to the *Kenya Medical Journal*. They were all anxious to see a united East African Medical Service, and the surest way of achieving it was to have some medium through which the various units of the service could combine. The *Kenya Medical Journal* was the only medical journal in East Africa, and provided an ideal medium for their purpose. He would like to see every member become, not only a regular subscriber, but also a regular contributor to it, and he hoped that in the future, through it, they would obtain an *East African Medical Journal* and a completely unified service. He urged every member to enrol at once as a subscriber to the *Journal*.

This proposal having been passed, the meeting adjourned.

A further scientific meeting of the Branch was held in the European Hospital, Dar-es-Salaam, on October 22nd, 1926, when the President, Dr. PUGH, was in the chair.

The President read extracts from a memorandum which had been recently received from the Uganda Branch, relating to the revised scales of salaries for the East African Medical Service. After some discussion it was resolved that a small subcommittee be appointed to go into the figures of the Uganda report, comparing them with the parallel figures in this territory, and that they make a report on their findings to the Branch Council. The procedure to be adopted with regard to the salaries question was left to the discretion of the Branch Council.

A subcommittee, consisting of Drs. Shelton and McKenzie, was accordingly appointed.

Dr. C. F. SHELTON, in a paper on "Amoebic abscess of the liver," discussed the subject of diagnosis and treatment from a practical standpoint. He illustrated his points with accounts of cases which had come within his own experience. A discussion followed in which all members took part, after which the PRESIDENT announced that the annual general meeting would be held on December 3rd, and the proceedings terminated.

YORKSHIRE BRANCH: WAKEFIELD, PONTEFRACT, AND CASTLEFORD DIVISION.

AT the meeting of the Wakefield, Pontefract, and Castleford Division held at Wakefield on January 13th, when the chairman, Dr. T. GIBSON, and twenty-one members were present, Dr. T. WARDROP GRIFFITH gave an extremely interesting lecture, which was much appreciated. He gave an account of irregular action of the heart from the general practitioner's point of view, and explained how the work of the pioneers of "instrumental" cardiac research had enabled the diagnosis of such conditions as auricular fibrillation to be made with reasonable accuracy without the aid of tracings. The following took part in the subsequent discussion: Drs. T. GIBSON, W. STEVEN, G. W. THOMAS, J. A. FULLERTON, T. E. LISTER, and N. S. TWIST.

British Medical Association.

NINETY-FIFTH ANNUAL MEETING, EDINBURGH, JULY, 1927.

Patron: HIS MAJESTY THE KING.

President: R. G. HOGARTH, C.B.E., F.R.C.S., Senior Surgeon, General Hospital, Nottingham.

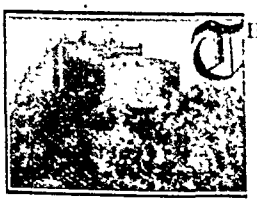
President-Elect: SIR ROBERT W. PHILIP, M.D., LL.D., F.R.C.P.Ed., Consulting Physician, Royal Infirmary, Edinburgh.

Chairman of Representative Body: H. B. BRACKENBURY, M.R.C.S., L.R.C.P.

Chairman of Council: SIR ROBERT BOLAM, M.D., LL.D., F.R.C.P.

Treasurer: N. BISHOP HARMAN, M.B., F.R.C.S.

PROVISIONAL PROGRAMME.



Edinburgh Castle.

THE incoming President, Sir ROBERT PHILIP, will deliver his Address to the Association on Tuesday, July 19th, at 8 p.m.

The ANNUAL REPRESENTATIVE MEETING will begin on Friday, July 15th, at 10 a.m., and be continued on the three following week-days. The Representatives' Dinner will take place at the University Union on Friday evening, July 15th, at 7.30 p.m.

The statutory ANNUAL GENERAL MEETING will be held on Tuesday, July 19th, at 2 p.m., and the adjourned general meeting at 8 p.m.

The Annual Dinner of the Association will take place on Thursday, July 21st.

The Conference of Honorary Secretaries will be held at 2.30 p.m. on Wednesday, July 20th, and the Secretaries' Dinner at 6.30 the same evening.

The official Religious Service will be held in St. Giles's Cathedral on Tuesday, July 19th, at 4.30 p.m.

The Annual Exhibition of surgical appliances, foods, drugs, and books will be open for inspection on Monday, July 18th, from 2 till 6 p.m.; the formal opening by the President will take place on July 19th at 9.30 a.m. The exhibition will remain open on July 20th, 21st, and 22nd from 9 a.m. to 6 p.m.

A Centenary Celebration commemorative of the birth of Lord Lister, presided over by the Earl of Balfour, K.G., will take place on the evening of Wednesday, July 20th.

Saturday, July 23rd, will be given to excursions to places of interest in the neighbourhood.

THE SECTIONS.

The Scientific Sections will meet from 10 a.m. to 1 p.m. for papers and discussions on Wednesday, Thursday, and Friday, July 20th, 21st, and 22nd.

The following Sections will meet on Three Days.

MEDICINE.

President: Professor G. LOVELL GULLAND, C.M.G., M.D., F.R.C.P.Ed. (Edinburgh).

Vice-Presidents: J. HILL ABRAM, M.D., F.R.C.P. (Liverpool); R. A. FLEMING, M.D., F.R.C.P.Ed. (Edinburgh); H. MORLEY FLETCHER, M.D., F.R.C.P. (London); W. T. RITCHIE, O.B.E., M.D., F.R.C.P.Ed. (Edinburgh).

Honorary Secretaries: GEORGE GRAHAM, M.D., F.R.C.P., 1, Devonshire Place, London, W.1; G. D. MATHEWSON, M.B., F.R.C.P.Ed., 28A, Moray Place, Edinburgh.

SURGERY.

President: Professor D. P. D. WILKIE, O.B.E., M.D., Ch.M., F.R.C.S. (Edinburgh).

Vice-Presidents: J. W. DOWDEN, C.M., F.R.C.S.Ed. (Edinburgh); F. J. STEWARD, M.S., F.R.C.S. (London); J. W. STRUTHERS, F.R.C.S.Ed. (Edinburgh); H. WADE, C.M.G., D.S.O., F.R.C.S.Ed. (Edinburgh); A. M. WEBBER, M.S., F.R.C.S. (Nottingham).

Honorary Secretaries: J. M. GRAHAM, Ch.M., F.R.C.S.Ed., 8, Manor Place, Edinburgh; E. C. HUGHES, O.B.E., M.Ch., F.R.C.S., 17, Wimpole Street, London, W.1.

OBSTETRICS AND GYNAECOLOGY.

President: JAMES HAIG FERGUSON, M.D, C.M., F.R.C.P.Ed., F.R.C.S.Ed. (Edinburgh).

Vice-Presidents: T. WATTS EDEN, M.D., F.R.C.P., F.R.C.S.Ed. (London); GIBBON FITZGIBBON, M.D., F.R.C.P.I. (Dublin); WILLIAM FORDYCE, M.D., F.R.C.P.Ed. (Edinburgh); Professor R. W. JOHNSTONE, C.B.E., M.D., F.R.C.S.Ed. (Edinburgh); Mrs. ETHEL VAUGHAN-SAWYER, M.D. (London).

Honoraries Secretaries: DANIEL DOUGAL, *M.C.*, M.D., 11, St. John Street, Manchester; W. F. T. HAULTAIN, O.B.E., *M.C.*, M.B., Ch.B., F.R.C.S.Ed., 6, Walker Street, Edinburgh.

PATHOLOGY AND BACTERIOLOGY.

President: Professor J. LORRAIN SMITH, M.D., F.R.S., F.R.C.P.Ed. (Edinburgh).

Vice-Presidents: J. W. DAWSON, M.D., D.Sc., F.R.C.P.Ed. (Edinburgh); W. R. LOGAN, M.D., F.R.C.P.Ed. (Edinburgh); Professor T. J. MACKIE, M.D., D.P.H. (Edinburgh); H. D. WRIGHT, M.D., M.R.C.P.Ed. (London).

Honorary Secretaries: JAMES DAVIDSON, M.B., Ch.B., Pathological Department, University of Edinburgh; H. J. PARISH, M.D., D.P.H., Wellcome Physiological Research Laboratories, Langley Court, Beckenham, Kent.

THERAPEUTICS AND PHARMACOLOGY.

President: Professor J. A. GUNN, M.D., D.Sc. (Oxford).

Vice-Presidents: Professor A. J. CLARK, *M.C.*, M.D., F.R.C.P. (Edinburgh); Professor FRANCIS R. FRASER, M.D., F.R.C.P. (London); E. P. POULTON, M.D., F.R.C.P. (London).

Honorary Secretaries: E. G. HOLMES, M.B., B.Chir., Pharmacological Laboratory, Cambridge; C. G. LAMBIE, *M.C.*, M.B., F.R.C.P.Ed., 31, Drumsheugh Gardens, Edinburgh.

DISEASES OF CHILDREN.

President: Professor JOHN FRASER, *M.C.*, M.D., Ch.M., F.R.C.S.Ed. (Edinburgh).

Vice-Presidents: H. CHARLES CAMERON, M.D., F.R.C.P. (London); ALEXANDER DINGWALL FORDYCE, M.D., F.R.C.P.Ed. (Liverpool); CHARLES MCNEIL, M.D., F.R.C.P.Ed. (Edinburgh).

Honorary Secretaries: Miss HELEN M. M. MACKAY, M.D., 28, John Street, Bedford Row, London, W.C.1; LEWIS THATCHER, M.D., F.R.C.P.Ed., 8, Melville Crescent, Edinburgh.

MENTAL DISEASES.

President: Professor GEORGE M. ROBERTSON, M.D., F.R.C.P.Ed. (Edinburgh).

Vice-Presidents: BERNARD HART, M.D., F.R.C.P. (London); JOHN KEAY, C.B.E., M.D., F.R.C.P.Ed. (Bangour); J. R. LORD, C.B.E., M.D., F.R.C.P.Ed. (Epsom); H. C. MARR, M.D., F.R.F.P.S.Glas. (Edinburgh).

Honorary Secretaries: R. D. GILLESPIE, M.D., 152, Harley Street, London, W.1; W. M. MCALISTER, M.B., Ch.B., M.R.C.P.Ed., 151, Morningside Drive, Edinburgh.

The following Sections will meet on Two Days.

NEUROLOGY.

President: Professor EDWIN BRAMWELL, M.D., F.R.C.P. (Edinburgh).

Vice-Presidents: ALEX. NINIAN BRUCE, M.D., D.Sc., F.R.C.P.Ed. (Edinburgh); J. GODWIN GREENFIELD, M.D., F.R.C.P. (London); F. M. R. WALSHE, O.B.E., M.D., D.Sc., F.R.C.P. (London).

Honorary Secretaries: E. A. CARMICHAEL, M.B., Ch.B., F.R.C.P.Ed., National Hospital, Queen Square, London, W.C.1; NORMAN M. DOTT, M.B., F.R.C.S.Ed., 8, Grosvenor Crescent, Edinburgh.

OPHTHALMOLOGY.

President: A. H. H. SINCLAIR, M.D., F.R.C.S.Ed. (Edinburgh).

Vice-Presidents: WILFRED ALLPORT, M.B., F.R.C.S.Ed. (Birmingham); Sir ARNOLD LAWSON, K.B.E., F.R.C.S. (London); H. M. TRAQUAIR, M.D., F.R.C.S.Ed. (Edinburgh).

Honorary Secretaries: R. E. BICKERTON, D.S.O., M.B., Ch.B., 33, Portland Place, London, W.1; E. H. CAMERON, M.B., Ch.B., F.R.C.S.Ed., 7, Darnaway Street, Edinburgh.

LARYNGOLOGY AND OTOLOGY.

President: A. LOGAN TURNER, M.D., F.R.C.S.Ed. (Edinburgh).

Vice-Presidents: J. S. FRASER, M.B., F.R.C.S.Ed. (Edinburgh); W. M. MOLLISON, C.B.E., M.Chir., F.R.C.S. (London); DONALD R. PATERSON, M.D.Ed., F.R.C.P. (Cardiff).

Honorary Secretaries: A. R. DINGLEY, F.R.C.S., 47, Queen Anne Street, London, W.1; W. T. GARDINER, *M.C.*, M.B., Ch.B., F.R.C.S.Ed., 18, Chester Street, Edinburgh.

PREVENTIVE MEDICINE.

President: Professor P. S. LELEAN, C.B., C.M.G., F.R.C.S., D.P.H. (Edinburgh).

Vice-Presidents: G. F. BUCHAN, M.D., D.P.H. (London); Miss HARRIETTE CHICK, D.Sc. (London); A. M. HEWAT, M.D., D.P.H. (London); G. R. LEIGHTON, O.B.E., M.D., D.Sc. (Edinburgh).

Honorary Secretaries: W. T. BENSON, B.Sc., M.D., D.P.H., M.R.C.P.Ed., City Hospital, Comiston Road, Edinburgh; C. W. HUTT, M.D., D.P.H., Council Offices, 197, High Holborn, London, W.C.

PHYSIOLOGY AND BIOCHEMISTRY.

President: Professor Sir EDWARD SHARPEY-SCHAFER, M.D., LL.D., D.Sc., F.R.S. (Edinburgh).

Vice-Presidents: P. T. HERRING, M.D., F.R.C.P.Ed. (St. Andrews); Professor D. MURRAY LYON, M.D., D.Sc., F.R.C.P.Ed. (Edinburgh); Professor JOHN MELLANBY, M.D. (London); Professor T. H. MILROY, M.D. (Belfast); Professor JOHN TAIT, M.D., D.Sc. (Montreal).

Honorary Secretaries: Professor B. A. MCSWINEY, M.B., B.Ch., School of Medicine, Leeds; Miss MAY LAURIE WALKER, B.Sc., M.B., Ch.B., Department of Physiology, University of Edinburgh.

COMPARATIVE MEDICINE.

President: Principal O. C. BRADLEY, M.D., D.Sc., F.R.C.V.S. (Edinburgh).

Vice-Presidents: Professor J. B. BUXTON, M.A., F.R.C.V.S. (Cambridge); F. E. CREW, M.B., Ch.B. (Edinburgh); Major G. W. DUNKIN, M.R.C.V.S. (London).

Honorary Secretaries: T. W. M. CAMERON, Ph.D., B.Sc., M.R.C.V.S., London School of Hygiene and Tropical Medicine, 23, Endsleigh Gardens, London, W.C.1.; J. RUSSELL GREIG, M.R.C.V.S., Royal (Dick) Veterinary College, Edinburgh.

The following Sections will meet on One Day.

DERMATOLOGY.

President: ROBERT CRANSTON LOW, M.D., F.R.C.P.Ed. (Edinburgh).

Vice-Presidents: W. HERBERT BROWN, M.D. (Glasgow); H. D. HALDIN-DAVIS, M.D., F.R.C.S. (London).

Honorary Secretaries: ROBERT AITKEN, M.D., F.R.C.P.Ed., 8, Palmerston Place, Edinburgh; F. D. HOWITT, M.D., 87, Harley Street, London, W.1.

TROPICAL DISEASES.

President: ANDREW BALFOUR, C.B., C.M.G., M.D., F.R.C.P.Ed., D.P.H. (London).

Vice-Presidents: Lieut.-Colonel E. D. W. GREIG, C.I.E., M.D., D.Sc. [illegible] Colonel W. F. HARVEY, C.I.E., M.D., C.M., Lieut.-Colonel W. GLEN LISTON, C.I.E., M.D., D.P.H. (Edinburgh); Lieut.-Colonel W. P. MACARTHUR, D.S.O., O.B.E., M.D., F.R.C.P.I., D.P.H. (London).

Honorary Secretaries: A. R. D. ADAMS, M.B., Ch.B., D.T.M., School of Tropical Medicine, University of Liverpool; J. F. C. HASLAM, *M.C.*, M.B., D.P.H., Bureau of Hygiene and Tropical Diseases, 23, Endsleigh Gardens, London, W.C.1.

FORENSIC MEDICINE.

President: Professor H. HARVEY LITTLEJOHN, M.B., F.R.C.S.Ed. (Edinburgh).

Vice-Presidents: The Right Hon. Earl RUSSELL (London); Sir WALTER SCHRODER, K.B.E. (London); Professor SYDNEY A. SMITH, M.D., D.P.H. (Cairo).

Honorary Secretaries: D. J. A. KERR, M.B., Ch.B., D.P.H., M.R.C.P.Ed., Forensic Medicine Department, University, Teviot Place, Edinburgh; Professor J. E. W. MCFALL, M.D., D.P.H., 15, Green Lane, Stoneycroft, Liverpool.

TUBERCULOSIS.

President: Professor S. LYLE CUMMINS, C.B., C.M.G., M.D. LL.D. (Cardiff).

Vice-Presidents: WILLIAM BRAND, M.B., C.M. (London); S. VERE PEARSON, M.D. (Mundesley); ERNEST WATT, M.D., D.Sc., M.R.C.P.Ed. (Edinburgh).

Honorary Secretaries: J. C. SIMPSON, *M.C.*, M.B., Ch.B., D.P.H., Gracemount Farm, Liberton, Edinburgh; R. R. TRAIL, *M.C.*, M.D., King Edward VII Sanatorium, Midhurst.

VENEREAL DISEASES.

President: DAVID LEES, D.S.O., M.B., F.R.C.S.Ed. (Edinburgh).

Vice-Presidents: ARCHIBALD CAMBELL, M.B., Ch.B. (Portsmouth); Mrs. MARGARET ROBKE, M.B., Ch.B. (London); R. STOPFORD TAYLOR, D.S.O., M.B., F.R.C.S.Ed. (Liverpool).

Honorary Secretaries: F. C. DOBLE, M.R.C.S., L.R.C.P., 93A, Harley Street, London, W.1; Miss MARY FORBES LISTON, M.B., Ch.B., 33, Comely Bank, Edinburgh.

RADIOLOGY.

President: J. M. WOODBURN MORISON, M.D., C.M., D.M.R.E. (Edinburgh).

Vice-Presidents: M. R. J. HAYES, F.R.C.S.I. (Dublin); F. SHILLINGTON SCALES, M.D. (Cambridge).

Honorary Secretaries: W. CRICHTON FOTHERGILL, M.B., Ch.B., D.M.R.E., 5, Hermitage Drive, Edinburgh; JOHN MUIR, O.B.E., M.B., B.Ch., British Institute of Radiology, 32, Welbeck Street, London, W.1.

HISTORY OF MEDICINE.

President: JOHN D. COMRIE, M.D., F.R.C.P.Ed. (Edinburgh).

Vice-Presidents: ARNOLD CHAPLIN, M.D., F.R.C.P. (London); CHARLES SINGER, M.D., D.Litt., F.R.C.P. (London); R. W. INNES SMITH, M.D. (Sheffield); HENRY S. WELLCOME (Beckenham).

Honorary Secretaries: WALTER J. DILLING, M.B., Ch.B., Faculty of Medicine, University of Liverpool; ADAM CAIRNS WHITE, M.B., Ch.B.Ed., Pharmacological Department, University of Edinburgh.

MEDICAL SOCIOLOGY.

President: F. N. KAY MENZIES, M.D., F.R.C.P.Ed., D.P.H. (London).

Vice-Presidents: L. D. CRUICKSHANK, M.D., M.R.C.P.Ed., D.P.H. (Edinburgh); Sir HENRY S. KEITH, J.P. (Hamilton); the Hon. Lord MACKENZIE, LL.D. (Edinburgh); the Hon. Sir ARTHUR STANLEY, G.B.E., C.B., LL.D., Hon. F.R.C.P.Ed. (London); Sir NORMAN WALKER, M.D., LL.D., F.R.C.P.Ed. (Edinburgh).

Honorary Secretaries: T. YULE FINLAY, M.D., M.R.C.P.Ed., 9, Hermitage Gardens, Edinburgh; B. S. SIMMONDS, M.S., F.R.C.S., 124, Harley Street, London, W.1.

The Honorary Local General Secretary of the Annual Meeting is A. FERGUS HEWAT, M.D., F.R.C.P.Ed., 14, Chester Street, Edinburgh.

National Insurance.

DENTAL BENEFIT.

THE Ministry of Health, in a communication dated January 31*st*, states that approved societies under the National Health Insurance scheme are now spending a sum of over £2,000,000 a year on the provision of dental treatment as an additional benefit. In order to enable societies to obtain a second opinion as to the need for such treatment and to check estimates of cost received from dentists, and the standard of work and materials supplied, a service of regional dental officers is being set up by the Ministry. There are to be six full-time regional dental officers in England and Wales, who will be stationed at London (2), Birmingham, Manchester, Leeds, and Cardiff.

The following appointments have been made by the Minister of Health on the recommendation of a committee which has considered all applications received for the posts: Mr. H. A. Mahony (principal regional dental officer) and Mr. Arthur Taylor in London; Mr. J. Woodford-Williams in Cardiff; and Messrs. H. G. H. Cowell and T. Dilks Page. One other appointment has yet to be made. The cost of the service is to be met out of the funds of the approved societies providing dental benefit under the new arrangements which have been agreed upon between representatives of the societies and the dental profession.

LOCAL MEDICAL AND PANEL COMMITTEES.

NEWCASTLE-ON-TYNE.

Dinner to Dr. Brackenbury.

DR. H. B. BRACKENBURY, Chairman of the Representative Body, British Medical Association, was the guest of the Panel Committee of Newcastle-on-Tyne at dinner at the Station Hotel, Newcastle, on January 28th. Dr. G. ROY FORTUNE (Chairman of the Committee) presided over a large and influential gathering, which included Sir Thomas Oliver (President of the University of Durham College of Medicine), Sir Robert Bolam (Chairman of Council, British Medical Association), Mr. Charles Irwin, Councillor W. A. Allan, Dr. Farquhar Murray, Dr. Evers, Dr. Forbes (Secretary of the Gateshead Panel Committee), Dr. Harold Kerr (Medical Officer of Health for Newcastle), Mr. Samuel Phillips, Mr. John *Bell*, Dr. *Dickie* (Morpeth), and Mr. Stanley Worthington (Secretary).

After the loyal toast had been honoured, the CHAIRMAN gave "Our Guest." He said they were under many debts of *obligation* to Dr. Brackenbury. Apart from being a brilliant member of their profession, he had done a great work municipally and educationally. He was a man of vision, which was proved by the fact that while the profession was harping and carping about the Insurance Act he was making a study of it, and saw the great benefits which would accrue to the nation by the *adoption* of the Act. He believed in paying that tribute to Dr. Brackenbury, for very often people did not give honour where honour was due, and only when a man had gone to his rest did he get any praise. But "A word spoken when the hearts are broken is very poor comfort at best." The work he had done on behalf of the profession they greatly appreciated, and it was from a wish to help him on his way to further achievement that they were entertaining him that night.

Dr. Brackenbury's Speech.

The toast was given musical honours, and in the course of his reply Dr. BRACKENBURY thanked Dr. Fortune for the warmth and cordiality of his welcome. He assumed that the reason for the

invitation to him to be their guest was that he might be able to tell them something about one or two points which were important with regard to the administration of the National Insurance Act. It was a fact that there were certain medical practitioners who were very loath to learn the elementary facts about the Regulations and conditions under which they practised, and they still had letters in the BRITISH MEDICAL JOURNAL showing the complete ignorance of the most elementary facts about the insurance service, and he was tired of telling people over and over again those elementary facts. He did not propose to go over that ground again, because they were all well up in the matter, but there were two or three things which seemed to him to be important at the present time. The first thing was that, as members of a Panel Committee, they were charged primarily with the duty of looking after the peculiar interests of insurance practitioners in relation to that department of the Ministry of Health which administered the service at the centre. But he hoped they would never forget, and always act up to the remembrance of the fact, that they could not deal with one section of the profession in any way without more or less directly affecting the interests of the profession as a whole. The unity of the interests of the profession was becoming more and more evident. They could not raise the question of the remuneration of medical practitioners or medical officers without immediately affecting in some degree, perhaps in a great degree, the interests of other sections of the profession. That was true not only in regard to remuneration, but also in regard to conditions of service. It was astonishing to find how many people saw immediately how a certain thing was going to benefit a particular group without looking to see how adversely the establishment of such a practice would affect the interests of the profession when regarded as a whole. So that, in their work as members of a Panel Committee, it was of great importance, in making their arrangements with the Government department concerned and the Insurance Committees, to bear in mind how those particular arrangements were going to affect, not merely themselves and their colleagues in the immediate future, but also how they must establish principles which, as the service extended, would hold and be difficult to remove. They must always bear in mind that other people would have to serve under conditions which they, with their tendency to a narrower outlook, were instrumental in shaping.

Two things (Dr. Brackenbury continued) were exercising the minds of the Insurance Acts Committee and the Ministry of Health, and they were of very great importance. One was the extraordinary situation which had arisen with regard to sickness benefit during the past eight months—a situation which must have been of very great concern to a place like Newcastle and the north-east coast, where the effect of the coal strike and unemployment had been so great. That situation raised the question of the relation of doctors under the Insurance Act to the enormous increase in the claims for sickness benefit. The increase in some societies and in some places had been as much as 300 per cent., while at the same time, in some areas very indirectly affected by strike conditions, the claims had in fact diminished. It did not follow from that that there was any increase of wickedness on the part of the certifying doctor, but it did indicate a very natural attitude on the part of the profession, which, when looked at from a different point of view, did not seem to be quite the right thing. Of course, they as doctors had by training and tradition been brought into the attitude that when they had a patient before them they thought of doing nothing but the best they could for the patient; and anything they could do for the patient, whether it was strictly medical or not, they were anxious to do. They were apt to forget what he was bound to say they had to remember, even though it was against their traditional attitude, and that was that when they were dealing with insured persons they had to put themselves into the position of a lawyer, which was on the whole antagonistic to the medical man's attitude. They must say, "This is a definite insurance scheme. Certain premiums are being extracted from these persons, and what they are entitled to as a result of the premium is a certain specified and specific limited benefit." It might be that the State would have been wiser to have extracted larger premiums and given greater benefits, or less premiums and lesser benefits. But the lawyer's point of view was, "Here is a scheme for which a limited premium is being paid, and the benefits are limited—the benefits do not include everything that would benefit the patient. For that premium there is only bought this specific and limited sickness benefit which is defined in an Act of Parliament, and explained in Regulations and Memoranda of the Government department." The seriousness of the situation was this—that if it became evident that insurance practitioners as a whole were unable temperamentally, by tradition and training, to take themselves out of the natural medical attitude, which was to give the patients everything that could be given, not by any unworthy motive but in order to improve their well-being, then there might be all sorts of serious alternatives put up to them by administration and legislation which they would not like, and which would take out of their hands the function of certifying, and put that function into the hands of an independent and whole-time body of medical men, who would inevitably have larger and larger functions imposed upon them. They must remember that all that the insured person was entitled to was a certain specific benefit, otherwise very serious difficulties would arise. The accusation that this increase of sickness benefit had come about by lax and false certifying was not true. There was no evidence of it, but he could quite see how it might innocently and even in a praiseworthy fashion have arisen because of the natural attitude of a medical man to the patient he had before him. The other point about which they were concerned at the moment might be called the judicial procedure of the Ministry of Health—that was to say, the procedure in connexion with complaints that were made from time to time against medical men by approved societies or by dissatisfied patients, who, under the Insurance Act, had the statutory right to put forward their complaints in a particular way. For a long time they had been profoundly dissatisfied with some of the methods by which the inquiry into the complaints was being conducted, and there was also growing dissatisfaction about the encroachment of the Ministry of Health into the purely professional sphere, and by that he meant the actual relations of doctor and patient when once those relations had been established. What the State had given to the insured person was the right to secure for himself a doctor who would be in the relation of family doctor or private practitioner towards him, and when once the State had established that relationship the State had a very doubtful right to further control or interference. That was to say, that in their relations with their patients they did not easily tolerate the interference of a third party. They wanted that interference reduced to a minimum, and they also wanted, more than anything else, some knowledge of what went on when the complaint was passed from the Insurance Committee to the Ministry of Health, and before the Minister announced his decision upon the facts. If they were successful in securing a full knowledge of what happened, and also secured a small representative, independent, professional committee, who would consider and report before any decision was given, it would go a long way to satisfy them. In the absence of knowledge they were apt to be suspicious about some of the extraordinary decisions which had been given in recent years. He was hoping that both the matters upon which he had dwelt would soon be settled to their satisfaction. At all events, they were doing their best to see that they were taken up in a reasonable spirit.

What were the chances of the extension of the Insurance Act so as to provide a consultant and specialist service actually maturing? They all knew that that was a recommendation of the Royal Commission, and the profession was demanding that if there were to be any extensions that that should be the first extension which was entered upon. There were two very great difficulties in the way. In the first place, the Government had to persuade approved societies to agree to the pooling to a certain extent of the moneys which passed through their hands and were entered upon their books, and which they persistently claimed as being their money. As the law stood it required either highly controversial legislation, or agreement as the result of argument and persuasion, to get the approved societies to consent to a relatively small proportion of that money being pooled for this particular purpose. That was the first hedge that had to be got over, and it was not an easy task which the Government had to face. After that consent had been obtained, if it could be obtained, there would have to be legislation, and in these crowded sessions of Parliament it was not easy for a Ministry of Health, already occupying a great part of parliamentary time, to introduce even uncontroversial legislation for which there was no popular outcry. But that it would be secured in the not very distant future he thought there could be no doubt, and it might be that in two years or so they might find they had established for the benefit of the insured persons, and under conditions of advantage to the consultants themselves, that extension of the Insurance Act.

Dr. JAMES HUDSON proposed the toast of "The University of Durham College of Medicine," to which Sir THOMAS OLIVER responded.

The health of the Chairman was proposed by Sir ROBERT BOLAM, and it was given musical honours.

LONDON PANEL COMMITTEE.

A MEETING of the London Panel Committee was held on January 25th, Dr. H. J. CARDALE presiding. Dr. J. M. Bailey, Dr. L. G. Glover, and Dr. A. G. Newell were appointed members of the committee to fill vacancies.

Claims for Payment for Anaesthetist.—The CHAIRMAN stated that a deputation from the committee had recently approached the Ministry of Health to suggest certain amendments in the procedure concerning claims for payment for the services of an anaesthetist. The Ministry was unable to accept the alteration suggested by the committee, but pointed out that the object could be effected under the present distribution scheme inasmuch as it was open to the committee to disallow a claim for a guinea for the administration of chloroform or ether if, after due investigation of the facts of the case, the committee was satisfied that the operation was of such a nature that it could properly have

been performed under nitrous oxide gas. Such disallowances had in fact been made by other Panel Committees. The Chairman said that this suggestion of the Ministry must be interpreted to mean that the committee was at liberty to disallow a claim for a guinea in such cases and to allow a fee of half a guinea. It was agreed to take no further action on the proposed amendment, but that the committee should exercise its discretion under this clause in dealing with claims for the payment of a fee for the services of a second practitioner in administering a general anaesthetic.

The Medical Service Subcommittee.—It was agreed to ask the medical representatives upon the Medical Service Subcommittee to furnish the reasons advanced by that subcommittee when exercising its discretion in hearing cases of complaint against practitioners where the period of six weeks allowed by the regulations for the lodging of complaints had expired. It was stated that the subcommittee had even proposed to hear one complaint although two and a half years had elapsed since the incident occurred. This, however, had fallen through owing to withdrawal by the complainant.

Public Medical Service.—A meeting of the Central Committee of Management of the Public Medical Service for London followed the meeting of the Panel Committee. It was stated that this would be the last meeting of the temporary committee, which would give place to a permanent committee at the first annual meeting of the Service shortly to be held. The number of subscribers was now 5,361. In response to a vote of thanks, Dr. E. A. GREGG said that he thought the institution of the Public Medical Service was one of the most useful things which had ever been done in conjunction with the work of the Panel Committee. His only regret was that the profession in general had been so apathetic in backing those who had blazed the trail. The Service was shaping well, but its strength ought to be about double what it was. There were some practitioners who apparently expected that the Service would do their business for them, simply handing them a long list of patients and a handsome cheque every month. Probably when the venture had proved an assured success they would wake up to its advantages.

BIRMINGHAM.

AT a meeting of the Birmingham Panel Committee on December 21st, 1926, Dr. H. G. DAIN, who took the chair, gave an account of the Conference of Local Medical and Panel Committees in October. The matters with which the Conference was chiefly concerned were the alteration of the disciplinary machinery and the great increase in sickness benefit claims, both of which were referred to the Insurance Acts Committee for consideration and discussion with the Ministry. Dr. W. J. GARRUTT reported his success in interviewing doctors who had claimed emergency fees for seeing their neighbours' patients, and in getting the claims withdrawn. This seemed to be a move in the right direction, and would promote more friendliness.

Prolonged discussion followed a resolution, moved by Dr. BURGES, that the Panel Committee disapproved of the recommendation of the Royal Commission that Insurance Committees should be abolished and their duties placed upon county or county borough councils. It was pointed out that the doctors had now an established position with Insurance Committees, and were working harmoniously with them; that it might, and probably would, be difficult to establish similar relations with the local authorities; and that the unification of National Health Insurance with other health services under the control of the medical officer of health might prove to be a step in the direction of a whole-time service. The resolution was carried unanimously, and the Secretary was instructed to send it to the Ministry of Health, the Insurance Acts Committee, and the Birmingham Insurance Committee.

A letter was read from the Insurance Acts Committee with regard to the increase in sickness benefit claims, and it was decided that it be sent to every panel doctor in the area. Ward secretaries were asked to bring the matter up for discussion in their wards.

A development in the health lecture scheme was considered (and, with one dissentient, the Panel Committee agreed for a trial to be made) that where a doctor did not wish to lecture to his own patients, but was willing that some colleague from another part of the city, and of his own choice, should speak to his patients, such lectures might be arranged. The doctor would take the chair or otherwise associate himself with the lecture and lecturer. Considerable divergence of opinion on this question was expressed, but the feeling prevailed that it was in everybody's interest—patient, doctor, and Insurance Committee—that the panel doctor should be increasingly concerned in the prevention of illness, and that this suggestion should have a trial.

WARWICKSHIRE.

THE Warwickshire Local Medical and Panel Committee's bi-monthly meeting was held at Leamington on January 27th, Dr. HERBERT MALINS (Warwick) presiding.

Difficulties in the matter of tendering suitable advice as to economy in prescribing arose upon questions involving the use of radium derivatives and of organotherapy. In one case the propriety of an insurance practitioner's ordering of radium derivatives in his treatment of rodent ulcer was considered. It was generally understood that appropriate doses for administration would fall within the category of vaccines and form a legitimate charge on the Drug Fund; the practitioner being allowed to procure the material and submit a quarterly account in accordance with the local distribution scheme. On the other hand, the Committee held that the direct use of radium would not come within the scope of medical benefit, and that no question as to the cost of hiring radium should be entertained. Dealing with an inquiry as to an expensive proprietary pluriglandular extract which, while apparently proving highly beneficial, seemed to entail an indefinitely continuous charge on the Drug Fund, the feeling of members as expressed was that the practitioner would be required to prove that alternative glandular preparations, and combinations of them, at considerably less cost were not efficacious in a particular case.

Extended consideration was given to the recent circular from the Medical Secretary on the subject of excessive sickness benefit claims. The views of several practitioners from mining areas such as Nuneaton, Atherstone, and Coventry districts were unanimous in praise of the attitude of the miners in relation to "going on the box." Suggestions that, so far as concerned the Warwickshire area, there had been [illegible] respectively by practitioners and workers were strongly repudiated; more than one specifically that in numbers of cases under his personal observation miners had refused to consider requesting medical certificates where such requests might reasonably have been made, advancing the view that their mates would hold them in contempt for such a proceeding. Unnecessary visitation during the "strike" had not been evidenced. At the same time there was a great deal of underfeeding. The Committee adopted the view that whilst there might have been a large increase in certification during the industrial dispute of last year, no data were forthcoming—only that relating to a South Wales area having apparently been adduced. The chairman said that it was useless for any side to proceed by innuendo, and upon definite charges of slackness being raised they in Warwickshire would know what to do. At the same time every representative would continue to impress upon his constituents the need for strictest observance of the spirit of the certification rules.

LONDON INSURANCE COMMITTEE.

Disciplinary Cases and the Ministry of Health.

AT the meeting of the London Insurance Committee on January 27th a long and animated discussion took place on a suggestion by the Ministry of Health that a fine be inflicted on a practitioner with regard to whom the Medical Service Subcommittee had recommended only that he be cautioned.

Mr. H. H. MILLS, chairman of the subcommittee, said that this was a case in which the complaint against the practitioner was that he had refused to attend and provide treatment for an insured person since deceased. The case was considered at great length by the subcommittee last summer, and the unanimous conclusion, subsequently endorsed by the full committee, was that in the circumstances it was sufficient if the practitioner be cautioned. The Ministry had now written to say that, following upon an inquiry by its officers, it appeared that this was a case in which a fine ought to be imposed, and to ask the committee for any observations. Mr. Mills pointed out that on the finding of the committee, which contained only a caution, the practitioner had not appealed, but obviously he might have done so had the report recommended a monetary penalty; as it was he had allowed his right of appeal to go by. Mr. Mills urged that the matter be left where it was, and that the Ministry take the responsibility for any further steps. If it had not been for the energy of the subcommittee in pursuing the matter to a hearing it would have been dropped by the complainant, and he thought the careful attention which the subcommittee had given to the matter was entitled to respect.

It was proposed that the committee pass a resolution adhering to its original decision, but Mr. H. LESSER thought that something should be added to the effect that "having regard to its usual practice the committee requests that the question of withholding a part of the grant be determined by the Ministry of Health"—an addendum which led Dr. CARDALE to exclaim, "Willing to wound, and yet afraid to strike." Mr. SKINNER urged that after the time the committee had given to this case it was late in the day to ask it to revise its decision, especially in the direction of imposing a penalty.

Eventually a resolution by Mr. MILLS was agreed to, twenty voting in favour and none against, "That the committee adhere to its former decision and does not deem it equitable or just to make any recommendation as to the withholding of any portion of the grant."

In another case the Medical Service Subcommittee reported that on an appeal made by the practitioner against the decision of the committee it transpired that that decision had been founded on an inaccurate statement made by the witness who appeared on behalf of the insured person. The appeal was therefore allowed, and the Minister ordered the committee to pay a sum of five guineas towards the costs of the practitioner. A further letter had now been received from the Ministry stating that the Minister had had under consideration representations made to him by the Insurance Acts Committee that, having regard to the circumstances of the case, the practitioner was entitled to be reimbursed the whole of the costs incurred by him in pursuing his appeal. The Minister, therefore, had decided that the practitioner should be allowed his taxed costs, which amounted to 25 guineas, and requested the committee to pay to the practitioner, in addition to the 5 guineas already paid, a further sum of 20 guineas. The Ministry added that a grant of a corresponding amount would be made to the committee under the provisions of the appropriate article of the regulations.

In a case in which the committee had decided to censure a practitioner severely for negligence in failing to respond with reasonable promptness to a request made for his services, and had drawn the attention of the Minister to the case with a view

to a fine, which it suggested should be substantial, it was reported that the Minister, after taking into consideration the representations made by the practitioner to an officer of the Ministry, had decided to withhold the sum of £25 owing to the failure of the practitioner to comply with the terms of service.

During 1926 the practitioners' fund for London (amounting to £754,615) was debited by the Ministry with £197, representing sums withheld by the Minister from the money available for defraying the cost of medical benefit which would otherwise have been payable to the committee, owing to the default of certain practitioners. The drug fund for 1926 (amounting to £220,000) was similarly debited with £20, representing sums withheld owing to the default of certain chemists.

ANOTHER instance of a medical man being chosen by his medical and lay colleagues as chairman of an Insurance Committee is furnished by Dr. Thomas A. B. Soden, J.P., who was unanimously elected chairman of the Coventry Insurance Committee early last year.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

Surgeon Commanders L. O. Hunt and A. I. Sheldon are placed on the retired list with the rank of Surgeon Captain.

Surgeon Commanders H. R. B. Hull and T. J. D. Twigg to the *Egmont* for the *Maine*; F. G. Hitch to the *Victory* for Haslar Hospital; W. J. Morris to the *Marshal Soult*; G. Carlisle appointment to the *Victory* for Haslar Hospital cancelled.

Surgeon Lieutenant Commanders H. Hurst and E. B. Kelley to the *Tamar* additional and for R.N. Hospital, Hong-Kong.

Surgeon Lieutenants E. J. K. Weeks to the *Columbine* for Port Edgar Base; J. J. Mason to the *Argus*.

ROYAL NAVAL VOLUNTEER RESERVE.

Surgeon Commander J. H. G. Howe is placed on the retired list with the rank of Surgeon Captain.

Surgeon Lieutenant W. F. W. Bateson promoted to Surgeon Lieutenant Commander.

Surgeon Sublieutenants promoted to Surgeon Lieutenants: R. R. Dodd, R. Russell, and H. O'Connor.

Mr. H. P. Widdup has entered as Probationary Surgeon Lieutenant and attached to the London Division.

ROYAL ARMY MEDICAL CORPS.

The following Majors retire on retired pay: F. H. M. Chapman; J. L. Wood, O.B.E., and is granted the rank of Lieutenant-Colonel; J. H. Gurley, O.B.E.; H. W. Farebrother, and is granted the rank of Lieutenant-Colonel.

The following Captains to be Majors: H. C. Sandiford, M.C., W. D. Anderton, M.C., C. M. Foster (prov.), H. R. Sheppard (prov.), and D. W. Beamish, M.C. (prov.).

Captain D. W. M. Mackenzie is restored to the establishment.

Captain A. Rodd is placed on the half-pay list on account of ill health.

Captain M. St.C. Hamilton, half-pay list, late R.A.M.C., retires on account of ill health, receiving a gratuity.

ROYAL AIR FORCE MEDICAL SERVICE.

Flight Lieutenants J. A. Perdrau to Station Headquarters, Spittlegate; (Honorary Squadron Leader) C. A. Meaden to R.A.F. Station, Duxford; B. L. C. Fisher to Station Headquarters, Kenley; F. W. G. Smith to Headquarters, Air Defence of Great Britain, Uxbridge.

The following Flying Officers are promoted to the rank of Flight Lieutenant: C. G. J. Nicolls and B. Pollard.

Flying Officers E. J. Jenkins to No. 47 Squadron, Egypt; P. H. Perkins to R.A.F. Station, Worthy Down.

The seniority of Flying Officer E. Thompson as a Flying Officer is antedated to November 22nd, 1925.

INDIAN MEDICAL SERVICE.

Colonel A. A. Gibbs, K.H.P., to be Major-General, vice Major-General W. H. Ogilvie, C.B., C.M.G., K.H.P., appointed Director of Medical Services in India.

Lieut.-Colonel T. C. McCombie Young is placed on foreign service under the Indian Research Fund Association.

Lieut.-Colonel G. Tate, V.H.S., to be Colonel, vice Colonel A. W. R. Cochrane.

Lieut.-Colonel H. M. Brown has retired.

Captains to be Majors: B. Prasad, J. M. Mitchell, O.B.E., C. M. Ganapathy, M.C., and N. J. Gai.

Captain L. K. Ledger, an officiating Agency Surgeon, is posted as Medical Officer and ex-officio Vice-Consul, Sistan.

The promotion of Major F. Griffith is antedated from September 8th, 1926, to March 8th, 1926.

REGULAR ARMY RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

Major T. A. Stephens, D.S.O., having attained the age limit of liability to recall, ceases to belong to the Reserve of Officers.

TERRITORIAL ARMY.

ROYAL ARMY MEDICAL CORPS

Lieut.-Colonel H. G. L. Haynes, from T.A. Reserve of Officers, to be Captain, with precedence as from October 25th, 1917, and relinquishes the rank of Lieutenant-Colonel.

A. H. Whyte to be Lieutenant.

TERRITORIAL ARMY RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

Captain E. Coplans, from the active list; to be Captain.

COLONIAL MEDICAL SERVICES.

Dr. W. J. Hutchinson appointed Medical Officer, Kenya. Dr. G. J. Pirie appointed Deputy Director of Sanitary Service, Nigeria (retransferred from Gold Coast). Dr. F. McKernan appointed Medical Officer, Medical Department, Gold Coast. Dr. P. D. Oakley promoted Senior Medical Officer, Medical Department, Gold Coast. Dr. H. C. Hopkinson, Medical Officer, Nigeria, has resigned his appointment. Dr. W. M. Wade, Senior Medical Officer, Medical Department, Gold Coast, has retired on pension. Dr. C. L. Ievers, Senior Medical Officer, Tanganyika, transferred from Tanga to Dar-es-Salaam.

VACANCIES.

BIRMINGHAM AND MIDLAND EAR AND THROAT HOSPITAL.—Third House-Surgeon (non-resident). Salary £200 per annum.

BRISTOL EYE HOSPITAL.—House-Surgeon. Salary £150 per annum.

BURY AND DISTRICT JOINT HOSPITAL BOARD.—Resident Assistant to the Medical Superintendent. Salary £400 per annum, rising to £450.

CENTRAL LONDON THROAT, NOSE AND EAR HOSPITAL, Gray's Inn Road, W.C.1.—Resident House-Surgeon (male). Remuneration at the rate of £75 per annum.

DERBYSHIRE EDUCATION COMMITTEE.—School Dentist. Salary £500 to £550 per annum.

EAST LONDON HOSPITAL FOR CHILDREN, Shadwell, E.1.—(1) Surgeon. (2) Assistant Surgeon to see Out-patients.

GLOUCESTERSHIRE ROYAL INFIRMARY AND EYE INSTITUTION, Gloucester.—(1) House-Physician. (2) Assistant House-Surgeons. Males. Salary £150 and £120 per annum respectively.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.1.—Casualty Officer. Salary £400 per annum.

KENSINGTON, FULHAM, AND CHELSEA GENERAL HOSPITAL, Richmond Road, Earl's Court, S.W.5.—Senior and Junior Resident Medical Officers. Salary at the rate of £125 and £100 per annum respectively.

KING'S COLLEGE HOSPITAL, Denmark Hill, S.E.5.—Junior Physician for Diseases of the Skin.

MANCHESTER: ANCOATS HOSPITAL.—Assistant Surgical Registrar. Salary at the rate of £40 per annum.

MANCHESTER: ST. MARY'S HOSPITALS.—Resident Surgical Officer for the Whitworth Park Hospital. Salary £200 per annum.

NEW ZEALAND GOVERNMENT.—Senior Assistant Medical Officers in the Mental Hospitals Department. Salary £640 (single men), £775 (married).

ORKNEY, ISLAND OF SANDAY.—Medical Officer and Public Vaccinator. Salary £150.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney Road, E.2.—(1) House-Physician and House-Surgeon; salary at the rate of £100 per annum. (2) Resident Medical Officer; salary, inclusive of panel fees, £200 per annum.

ROYAL FREE HOSPITAL, Gray's Inn Road, W.C.1.—(1) Assistant Physician. (2) Second Assistant in the Female Venereal Diseases Department; remuneration £1 1s. per session.

ROYAL LIVERPOOL CHILDREN'S HOSPITAL.—(1) Two Resident House-Physicians and two Resident House-Surgeons at the City Branch; salary at the rate of £60 per annum each. (2) Resident Medical Officer at the Heswall Branch; salary at the rate of £150 per annum.

ROYAL NORTHERN HOSPITAL, Holloway, N.—(1) Resident Medical Officer; salary £200 per annum, *plus* allowance for work in connexion with National Insurance Act. (2) House-Surgeon; salary at the rate of £70 per annum.

RYDE: CHILDREN'S HOSPITAL AND MATERNITY HOME.—Resident Medical Officer (unmarried). Salary at the rate of £100 per annum.

SCOTTISH BOARD OF HEALTH.—District Medical Officer. Remuneration £1,000 per annum, rising to £1,200.

SHEFFIELD ROYAL HOSPITAL.—Aural Surgeon.

STOKE-ON-TRENT: NORTH STAFFORDSHIRE ROYAL INFIRMARY.—Radiologist. Salary £500 per annum.

SUDAN GOVERNMENT: WELLCOME TROPICAL RESEARCH LABORATORIES, Khartoum.—Assistant Bacteriologist (unmarried). Salary £550 or £720, according to age and qualification, rising to £1,080, and thence to £1,200.

TYRONE COUNTY HOSPITAL, Omagh.—Lady Radiologist. Salary £75 per annum.

UNIVERSITY COLLEGE HOSPITAL, Gower Street, W.C.1.—(1) Associate Physician and Associate Surgeon on the Honorary Staff. (2) Registrar at the Royal Ear Hospital, Huntley Street, W.C.; honorarium, £50 per annum.

WHITEHAVEN AND WEST CUMBERLAND HOSPITAL.—Junior House-Surgeon (male). Salary £100 per annum.

WILLESDEN URBAN DISTRICT COUNCIL.—Assistant Medical Officer (male). Salary £600 per annum, rising to £750.

CERTIFYING FACTORY SURGEONS.—The following vacant appointments are announced: Stewarton (Ayr), Bilston (Stafford), Godalming (Surrey), Presteign (Radnor), Silsden (Yorkshire), Williton (Somerset). Applications to the Chief Inspector of Factories, Home Office, Whitehall, S.W.1.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.

APPOINTMENTS.

BROCKBANK, William, M.A., B.Chir.Camb., M.R.C.P., Resident Medical Officer, Manchester Royal Infirmary.

BURT-WHITE, Harold, F.R.C.S., Honorary Obstetric Surgeon to the London Female Lock Hospital, Harrow Road, London, W.9.

GILMOUR, Charles, M.B., Ch.B.Glas., Resident Medical Officer, Grampian Sanatorium, Kingussie, N.B.

HEWER, C. Langton, M.B., B.S.Lond., a member of the Honorary Medical Staff, Queen's Hospital for Children, Hackney Road, E.2.

MACPIE, James D., M.B., Ch.B.Glas., Senior Resident Medical Officer, Winsley Sanatorium, near Bath.

VLASTO, M., M.B., F.R.C.S., Surgeon to the Ear, Nose, and Throat Department of the West London Hospital.

CERTIFYING FACTORY SURGEONS.—E. H. Milner, M.B., Ch.B.Leeds, for the Driffield District, Yorkshire; J. M. Wrangham, M.B., B.Chir.Camb., for the Ripponden District, Yorkshire.

DIARY OF SOCIETIES AND LECTURES.

ROYAL SOCIETY OF MEDICINE.

Section of [illegible] Pharmacology.—Tues., 5 p.m., Dr. J. W. Trevan [illegible] and Pharmacological Action. Other papers [illegible]

Section of Psychiatry.—Tues., 8.30 p.m., Drs. T. A. Ross and R. D. Gillespie: Progression and Regress[illegible]

Section of Surgery: Subsection of P[illegible]: [illegible] Gordon-Watson, Dr. Bertram Shires. The [illegible] by Dr. T. de Martel (Paris) and others.

Section of Neurology.—Thurs., 8.30 p.m., Dr. Arnold Carmichael: Optic Nystagmus.

Clinical Section.—Frl., 5 p.m., Cases.

Sections of Ophthalmology and Neurology.—Frl., 8.30 p.m., Special Discussion: The Value of Recent Methods of Treatment in the Late Stages of Ocular Syphilis; to be opened by Mr. J. H. Fisher and Dr. J. P. Martin, followed by Sir Arnold Lawson, Dr. A. Felling, and Mr. S. H. Browning.

BIOCHEMICAL SOCIETY.—At the Lister Institute of Preventive Medicine, Chelsea Bridge Road, S.W.1: Mon., 5 p.m., Communications:—(i) C. Dorée and E. C. Barton-Wright: A New Type of Alkali Lignin; (ii) F. Dickens, E. C. Dodds, W. Lawson, and N. F. Maclagan: Purification and Properties of Insulin; (iii) P. and M. G. Eggleton: Phosphoric Acid in Muscular Contraction; (iv) I. S. MacLean and C. G. Daubney: Lipins of Yeast; (v) W. T. J. Morgan: Methylated Derivatives of Hexosephosphoric Acids; (vi) A. Harden: Meyerhof's Theory of Alcoholic Fermentation; (vii) L. F. Hewitt: Proteins of the Cerebro-spinal Fluid; (viii) M. H. Roscoe: Nitrogen Metabolism Technique; (ix) H. W. Southgate: Gas Scrubber; (x) O. Rosenheim and T. A. Webster: Provitamin D; (xi) J. R. Marrack: Osmotic Pressure of Serum Proteins. Exhibits will be shown from 3.30 to 4.30 p.m.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, W.1.—Mon., 8.30 p.m., Discussion: Poliomyelitis; to be introduced by Dr. F. M. R. Walshe and Professor J. McIntosh, followed by Sir Thomas Horder.

WEST KENT MEDICO-CHIRURGICAL SOCIETY, Miller General Hospital, Greenwich, S.E.10.—Fri., 8.45 p.m., Address by Mr. Zachary Cope: Surgical Emergencies in General Practice.

POST-GRADUATE COURSES AND LECTURES.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION, 1, Wimpole Street, W.1.—Special Lecture at the Medical Society, 11, Chandos Street, W., Thurs., 5 p.m., Exanthemata, with Special Reference to Smallpox. Open to all members of the medical profession without fee. *Royal National Orthopaedic Hospital*, Great Portland Street, W.: Special Demonstration on Thurs., 3 p.m., open to all members of the medical profession without fee. *Paddington Green Hospital* and *Victoria Hospital*: Combined Course in Children's Diseases. All-day course. *St. John's Hospital*, Leicester Square, W.C.2: Special Course in Dermatology. Daily instruction in Out-patient Department. Lectures twice weekly. *London Lock Hospital*, Dean Street, W.: Special Course in Venereal Diseases. Afternoon and evening clinics daily with formal lectures. *National Hospital*, Queen Square, W.C.: Special Course in Neurology. Daily instruction and special lectures. All information as to fees, etc., obtainable from the Fellowship of Medicine, 1, Wimpole Street, W.1.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.1.—Thurs., 4 p.m., Care and Feeding of the Premature Infant.

LONDON SCHOOL OF DERMATOLOGY, St. John's Hospital, Leicester Square, W.C.2.—Tues., 5 p.m., Lichen Planus. Thurs., 5 p.m., Lupus Erythematosus.

NATIONAL HOSPITAL, Queen Square, W.C.1.—Mon., Tues., Thurs., Fri., 2 p.m., Out-patient Clinics. Mon., 12 noon, Pathology of the Nervous System; 3.30 p.m., Mental Sequelae of Encephalitis Lethargica. Tues., 3.30 p.m., Syphilis as it Affects the Nervous System. Thurs., 3.30 p.m., Poliomyelitis. Fri., 12 noon, Anatomy and Physiology of the Nervous System; 3.30 p.m., Demonstration of Re-education Methods.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.15.—Mon., 10 a.m., Surgical Clinic; 2.30 to 5 p.m., Medical, Surgical, a[illegible]ics; Operations. Tues., 2.30 to 5 p.m., Medical, [illegible]nd Ear Clinics; Operations. Wed., 2.30 to 5 p.m. [illegible] Clinics; Operations. Thurs., 11.30 a.m., Dental Clinics; 2.30 to 5 p.m., Medical, Surgical, and Ear, Nose, and Throat Clinics; Operations. Fri., 10.30 a.m., Throat, Nose, and Ear Clinics; 2.30 to 5 p.m., Surgical, Medical, and Children's Diseases Clinics; Operations.

POST-GRADUATE HOSTEL, Imperial Hotel, Russell Square, W.C.1.—Mon., 9 p.m., Prostatic Disease. Thurs., 9 p.m., The Medical Witness in Relation to Crime.

ROYAL NORTHERN HOSPITAL, Holloway Road, N.—Tues., 3.15 p.m., Lecture Demonstration on Fractures.

TAVISTOCK CLINIC FOR FUNCTIONAL NERVE CASES, 51, Tavistock Square, W.C.1.—Mon. and Tues., 4.15 p.m., The Endocrines. Mon., Tues., and Wed., 5.15 p.m., Freud, Jung, and Adler from the Standpoint of Interrelation. Wed., 4.45 p.m., Psychotherapy. Thurs., 4.45 p.m., Treatment; 5.45 p.m., Adaptation. Fri., 4.45 p.m., Laboratory Tests for Disordered Function; 5.45 pm., Emotional Development.

WEST LONDON HOSPITAL POST-GRADUATE COLLEGE, Hammersmith, W.6.—Mon., 10 a.m. to 1 p.m., Genito-urinary Operations, Skin Department, Demonstration of Fractures; 2 p.m., Surgical Wards, Gynaecological and Eye Departments. Tues., 10 a.m. to 1 p.m., Lecture on Clinical Methods, Demonstrations in Venereal Diseases and Chest Cases; 2 p.m., Medical Wards, Throat, Nose, and Ear Department. Wed., 10 a.m. to 1 p.m., Children's Medical Out-patients, Medical Wards, Demonstration in Medical Pathology; 2 p.m., Surgical Wards, Eye Department. Thurs., 10 a.m. to 12 noon, Neurological Department; 2 p.m., Eye and Genito-urinary Departments, Gynaecological Ward. Fri., 10 a.m. to 1 p.m., Gynaecological Operations, Dental, Skin, and Electrical Departments; 2 p.m., Throat, Nose, and Ear Department. Sat., 10 a.m. to 1 p.m., Bacterial Therapy Department, Children's Medical Department. Daily: Operations, Medical and Surgical Out-patients at 2 p.m.

GLASGOW POST-GRADUATE MEDICAL ASSOCIATION.—At Royal Maternity and Women's Hospital. Wed., 4.15 p.m., Obstetrical Cases.

JAMES MACKENZIE INSTITUTE FOR CLINICAL RESEARCH, St. Andrews.—Tues., 4 p.m., Spitting of Blood.

SHEFFIELD UNIVERSITY POST-GRADUATE CLINICS.—At Royal Hospital: Fri., 3.30 p.m., Clinical Cases.

British Medical Association.

OFFICES, BRITISH MEDICAL ASSOCIATION HOUSE, TAVISTOCK SQUARE, W.C.1.

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IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Telegrams: Bacillus, Dublin. Tel.: 4737 Dublin.)

Diary of the Association.

FEBRUARY.

4 Frl. Cambridge and Huntingdon Branch: Addenbrooke's Hospital 2.30 p.m.
Exeter Division: Royal Devon and Exeter Hospital. Dr. R. V. Solly on the Blood Count in Diagnosis and Prognosis 3.30 p.m. Business Meeting, 5 p.m.
Manchester Division: Royal Manchester Children's Hospital Gartside Street, Manchester, 8 p.m.

8 Tues. North Northumberland Division: Alnwick Infirmary. Mr Norman Hodgson on Injuries to the Hand, 2.30 p.m.
Reigate Division: East Surrey Hospital, Reigate. Sir W Willcox on Fibrositis, 8.45 p.m.
St. Pancras Division: British Medical Association House Tavistock Square, W.C.1., 9 p.m.
South Essex Division: Palace Hotel, Southend. Mr. B. Whitchurch Howell on Orthopaedics of the Lower Limb, 8.30 p.m.

9 Wed. London: **Council**, 10 a.m.
Glasgow North-Western Division: Burgh Hall, Hillhead. Symposium on Atmospheric Pollution, 8 p.m.
Kensington Division: Kensington Palace Mansions Hotel De Vere Gardens, W.8. Professor Leonard Hill on Ultra-violet Rays and their Therapeutic Value, 8.45 p.m.
South Middlesex Division: St. John's Hospital, Twickenham. Dr. A. B. Porteus on Transfusion, Immuno-transfusion of Blood, 8.15 p.m.

10 Thurs. Gloucestershire Branch: Royal Infirmary, Gloucester, 6 p.m. Supper, Spread Eagle Hotel, after the meeting.
Hampstead Division: Mr. W. H. Trethowan on Pain in the Back, 8.30 p.m.
Portsmouth Division: Queen's Hotel, Southsea. Dr. James Collier on Infantile Paralysis, 8.30 p.m. Supper, 9 p.m.
Wakefield, Pontefract, and Castleford Division: Bull Restaurant, Westgate. Dr. A. E. Barnes on Diet.

11 Frl. London: Puerperal Morbidity and Mortality Subcommittee, 3 p.m.
City Division: Clinical Meeting, Metropolitan Hospital, 4.15 p.m.
Hastings Division: Annual Dinner, Royal Victoria Hotel, St. Leonards, 7.45 p.m.
Rochester, Chatham, and Gillingham Division: Annual Meeting, Bull Hotel, Rochester. Dinner, 7.30 p.m.; Meeting afterwards.

15 Tues. Lewisham Division: Town Hall, Catford, S.E.6. The Medical Secretary on the Medical Profession in South Africa, 8.15 p.m.

16 Wed. Sunderland Division: Royal Infirmary, Sunderland. Dr. A. Parkin on Pleural Effusion.
Willesden Division: Willesden General Hospital, Harlesden Road, N.W.10. Mr. D. C. L. Fitzwilliams on the Tongue, 9 p.m.

17 Thurs. Brighton Division: Brighton Borough Sanatorium. 3.45 p.m.
North of England Branch: Scientific Meeting, Royal Victoria Infirmary, Newcastle-on-Tyne, 2.15 p.m.

18 Frl. Northern Counties of Scotland Branch: Clinical Meeting, Gray's Hospital, Elgin, 3 p.m.

22 Tues. Croydon Division: Croydon General Hospital. Professor Leonard Hill on Sunshine and Open Air, 8.30 p.m.
Lanarkshire Division: County Hospital, Motherwell. Dr. John Reed on the Fever Hospital and the Practitioner, 8.30 p.m.

23 Wed. Bradford Division: Royal Infirmary. B.M.A. Lecture by Mr. N. Bishop Harman on the Recognition of Common Eye Disorders in General Practice, 8.30 p.m.
North Middlesex Division: Mr. Reginald Holmes on Diseases of Medical and Veterinary Interest.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcement of Births, Marriages, and Deaths is 9s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

BIRTHS.

CORKILL.—At Wellington, New Zealand, on January 27th, to Ella Hislop Corkill, M.B. (*née* Allan), wife of Harold Keith Corkill, M.B., F.R.C.S.E., a daughter.

COX.—On January 27th, 1927, to Dr. and Mrs. Chave Cox of Stanley Lodge, Hornsey Lane, N., a son.

HUDDY.—On January 27th, in London, to Margaret (*née* Corner), wife of G. P. B. Huddy, M.S., F.R.C.S., a son.

MARRIAGES.

GILLAN—SIKES.—At the Friends' Meeting [illegible]ingham on January 29th, Robert Urquhart Gillan, M.A., [illegible] Robert Gillan, Buckie, Banffshire, to Gera[illegible], eldest daughter of Mr. and Mrs. R. C. Sikes, [illegible].

KENNEDY—HART.—On January 26th, at St. Laurence Church, Measham, Leicestershire, George Rollo Kennedy, M.B., Ch.B.Edin., of Claverley, Salop, to Mary Hampton, only daughter of the late Dr. G. S. Hart and Mrs. Hart, and grand-daughter of the late Dr. J. W. Mulligan of Abersychan, Mon.

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SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, FEBRUARY 12TH. 1927.

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British Medical Association.

CURRENT NOTES.

Edinburgh Meeting: Section of Medical Sociology.

THE names of the officers of this Section were given in the list which appeared in the SUPPLEMENT last week. The personnel has, it will be noted, a strong bearing on the subject chosen for discussion: "The future relationship of the municipalities to the voluntary hospitals of this country." It is believed that the subject is particularly topical in view of the proposed reform of the Poor Law system, and those who wish to take part in the discussion should communicate with one of the Secretaries of the Section.

The Royal Army Medical Corps

There appears still to be in the minds of some a misconception as to the attitude of the British Medical Association in regard to the Royal Army Medical Corps, and this may be preventing suitable candidates from applying for commissions in that corps. It should be clearly understood that any differences of opinion there were between the Association and the War Office as regards the terms of service in the R.A.M.C. have been cleared up; that the Association is of opinion that the corps now offers a good career to suitable men; and that the Association is pledged to do whatever it can to induce young medical men of the right type to apply for commissions. Candidates should apply either to the dean of their medical school or direct to the Director-General, Army Medical Service, at the War Office, Whitehall, London, S.W.1.

Some Work of the Week.

The committee work of the week ending on February 5th illustrates the manner in which the British Medical Association seeks to meet the increasing demands upon its machinery and to extend its range of service both to the profession and to the public. The Standing Subcommittee of the Ethical Committee had under consideration on February 1st questions raised by the Federal Committee of the Association in Australia as regards the provision for confidential communications to members in connexion with ethical cases and some points in connexion with certain classes of advertisement in the JOURNAL which seem to call for a fresh definition of policy by the Council of the Association. It also embarked on a review of the central machinery for dealing with professional disputes, a topic referred to the Central Ethical and Medico-Political Committees by the Council in December, on consideration of a motion from the Metropolitan Counties Branch calling for a report on the subject to be presented to the Annual Representative Meeting. The Joint Subcommittee of the Science Committee and the Insurance Acts Committee on Collective Medical Research, whose first meeting was recorded in this column a fortnight ago, met again on February 2nd and continued to explore its field of reference. In formulating its proposals the subcommittee is making full use of the wide experience of the Association in the conduct of such research, in which notable pioneer work was done under the auspices of the Collective Investigation Committee of the Association between 1880 and 1890. A meeting with representatives of the Ministry of Health took place as arranged, the object being to secure such support in this work as may be rendered to the Association by the standing organization of the Ministry. Progress has been made with a scheme of no small potential value to the profession, and more particularly to general practitioners. A special subcommittee of the Public Health Committee, the fruit of a resolution of the Representative Body at Nottingham instructing the Council to consider and report on how Branches and Divisions of the Association, as voluntary bodies, can make a contribution towards public education in health as advocated in Sir George Newman's memorandum, held its second meeting; its reference had been extended by the Council to a consideration of "How the British Medical Association, either centrally or locally, can contribute towards public education in health." Several methods of developing the Association's activities in this connexion were discussed and recommendations were provisionally formulated for submission to the Public Health Committee.

During the week the Medical Secretary attended two meetings of considerable interest: on January 31st a meeting of the Executive, followed by a general meeting of the Post-Graduate Hostel, and on Thursday, February 3rd, a meeting of the Guthrie Society of the Westminster Hospital. At the first of these it was reluctantly decided to wind up the Hostel on account of want of support. The necessity for this decision is the more unfortunate in view of the growing need for such post-graduate facilities as the Hostel had hoped to supply—a need to which the correspondence in the Medical Department bears daily and increasing witness. At the meeting of the Guthrie Society the Medical Secretary spoke on the problems of medical practice. There was a good attendance of students, who showed keen interest in all that was said. On the afternoon of February 5th the Deputy Medical Secretary attended a meeting of the council of the British Pathologists' Association. This body, whose inaugural meeting was noted in the SUPPLEMENT of January 22nd, is approaching the British Medical Association with a view to full discussion of the probable extension of the National Health Insurance Acts to include the provision of pathological services, and the development of the schemes already being established throughout the country in this connexion. It is hoped that a plan applicable to the Insurance Committee areas throughout the country may be formulated. Among the items of interest dealt with in the course of routine correspondence in the Medical Department one merits individual reference. It is a point which has arisen in Durham, where a local lodge of the Miners' Association has expressed a wish to meet the local doctors with a view to reduction in the present contract rates for medical attendance, and has stated that payment will be in abeyance until such a meeting has been arranged. Local practitioners have been advised to resist any such reduction, and the lodge has been informed from headquarters that in doing so the local profession will have the full support of the Association.

Association Notices.

BRANCH AND DIVISION MEETINGS TO BE HELD.

BIRMINGHAM BRANCH: COVENTRY DIVISION.—At the meeting of the Coventry Division to be held on Tuesday, March 1st, Dr. A. T. W. Forrester will read a paper on "The diagnosis and treatment of early mental cases."

BIRMINGHAM BRANCH: NUNEATON AND TAMWORTH DIVISION.—A meeting of the Nuneaton and Tamworth Division will be held at the Tamworth General Hospital on Thursday, March 3rd, when Mr. A. B. Danby, F.R.C.S., will read a paper on obstetrics.

EAST YORK AND NORTH LINCOLN BRANCH: EAST YORK DIVISION.—At a meeting of the East York Division to be held at Powolny's Restaurant, Hull, on Friday, February 18th, Dr. H. Letheby Tidy will deliver a British Medical Association Lecture on "Glandular fever" at 9 p.m. The lecture will be preceded by an informal dinner for members of the Association.

EDINBURGH BRANCH.—The winter clinical meeting of the Edinburgh Branch will be held in the Royal Infirmary, Edinburgh, on Friday, February 25th. All members of the profession are cordially invited. Senior medical students desirous of attending will be admitted by card, obtainable from Mr. F. E. Jardine. The museum will be open from 10 a.m. to 6 p.m. Arrangements will be made for holding special clinics during the day. The clinical meeting will be held at 3.30. Those who have patients, specimens, etc., to show are requested to communicate with Mr. F. E. Jardine, F.R.C.S., 65, Northumberland Street, not later than February 17th. Dinner at 6.30 in the Scottish House of the Association, 6, Drumsheugh Gardens; morning dress; dinner ticket 10s. 6d. Members of the Branch are asked to notify the honorary secretaries not later than February 22nd whether or not they intend to be present.

GLASGOW AND WEST OF SCOTLAND BRANCH: LANARKSHIRE DIVISION.—A meeting of the Lanarkshire Division will be held at the County Hospital, Motherwell, on Tuesday, February 22nd, at 8.30 p.m., when Dr. John Reid will read a paper entitled "The fever hospital and the practitioner."

METROPOLITAN COUNTIES BRANCH: [illegible] are invited all fourth and fifth year stude[illegible] lified practitioners, will be held by the [illegible] Branch on Thursday, February 24th, at the [illegible] ation House, Tavistock Square, London, W.C., when an address will be given by Mr. E. B. Turner, F.R.C.S., on "Practice and types of patients." Tea and coffee at 5 p.m.; address at 5.30.

METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.—At a meeting of the Lewisham Division to be held at the Town Hall, Catford, S.E.6, on Tuesday, February 15th, at 8.15 p.m., Dr. Alfred Cox, the Medical Secretary, will deliver an address on "The medical profession in South Africa."

METROPOLITAN COUNTIES BRANCH: SOUTH-WEST ESSEX DIVISION.—A meeting of the South-West Essex Division will be held at Whipps Cross Hospital, Leytonstone, on Tuesday, March 1st, at 3.30 p.m., when Dr. J. C. Muir, medical superintendent of the hospital, will give a clinical demonstration.

METROPOLITAN COUNTIES BRANCH: WESTMINSTER AND HOLBORN DIVISION.—A meeting of the Westminster and Holborn Division will be held on Thursday, February 24th, at 8.45 p.m., at Romano's Restaurant, Strand. Dr. A. Abrahams, Dr. J. Benjafield, Dr. P. Doyne, Major M. Leahy, Mr. H. D. Gillies, Dr. M. Thompson, and other well known medical sportsmen have been invited to take part in a discussion on "Sport, its use and abuse." The meeting will be preceded by dinner at 7.30; the price will be 5s., payable at the table to the honorary secretary, to whom should be sent the names of those intending to be present.

METROPOLITAN COUNTIES BRANCH: WILLESDEN DIVISION.—A meeting of the Willesden Division will be held at the Willesden General Hospital, Harlesden Road, N.W.10, on Wednesday, February 16th, at 9 p.m. Mr. D. C. L. Fitzwilliams will read a paper on the tongue.

NORTH OF ENGLAND BRANCH.—The next scientific meeting of the North of England Branch will be held at the Royal Victoria Infirmary, Newcastle-on-Tyne, on Thursday, February 17th: 2.15 p.m., Mr. John Gilmour: "The problem of the spastic child"; 2.45 p.m., Dr. Wells Patterson: "Clinical evidence of subthyroidism"; 3.15 p.m., Mr. W. E. M. Wardill: "Some common conditions about the rectum and anus"; 3.45 p.m., tea; 4 p.m., Sir Robert Bolam: Dermatological cases; 4.30 p.m., Dr. Alex. McRae: "Sudden loss of sight."

NORTH OF ENGLAND BRANCH: SUNDERLAND DIVISION.—A meeting of the Sunderland Division will be held at the Royal Infirmary, Sunderland, on Wednesday, February 16th, at 8.15 p.m. Dr. A. Parkin will give an address on "Pleural effusion."

NORTH LANCASHIRE AND SOUTH WESTMORLAND BRANCH: LANCASTER DIVISION.—A meeting of the Division will be held on Wednesday, February 16th, at 8.30 p.m., somewhere in Lancaster. Members are requested to notify the secretary if they can attend on that date, and also if they will contribute to the programme by giving a short account of any interesting case they have had recently under their care.

NORTHERN COUNTIES OF SCOTLAND BRANCH.—A clinical meeting arranged by the Northern Counties of Scotland Branch will be held at Gray's Hospital, Elgin, on Friday, February 18th, at 3 p.m.; tea at 4.30.

OXFORD AND READING BRANCH: WINDSOR DIVISION.—A meeting of the Windsor Division will be held in the Board Room of the King Edward VII Hospital, Windsor, on Friday, February 18th, at 4.15 p.m. Dr. J. J. Paterson, medical officer of health, East Berks United Sanitary Districts, will read a paper on "Poaching, or relationship of the public health service to private practice." [illegible] at 4 p.m.

SURREY BRANCH: GUILDFORD DIVISION.—At the meeting of Guildford Division to be held at the Royal Surrey County Hospi Guildford, on Thursday, March 3rd, at 4 p.m., there will be demonstration of cases.

SUSSEX BRANCH: BRIGHTON DIVISION.—The next meeting of Brighton Division will take place at the Brighton Borough Sa torium on Thursday, February 17th, at 3.45 p.m.

SUSSEX BRANCH: CHICHESTER AND WORTHING DIVISION.—A meet of the Chichester and Worthing Division will be held at Hospital, Worthing, on Wednesday, February 16th. Tea at 5 p Agenda: Clinical demonstration; paper by Dr. F. Hinds on "Rec lections of forty years' practice." Dinner at the Burlington Ho at 7 p.m. Tickets 7s. 6d. each (including waiters, but exclud wines), to be paid at the hotel. Members are requested to not the honorary secretary before February 14th if they intend to present at the dinner.

WORCESTER AND HEREFORD BRANCH: HEREFORD DIVISION.—T following programme has been arranged for the year 1927:—Ma 21st: Ordinary meeting. May 2nd: Annual meeting. July 11t Meeting to instruct representative. Social meeting in the summ on a date to be arranged. October 3rd: Ordinary meeti December 5th: Ordinary meeting. It is hoped to arrange course of post-graduate lectures in the autumn to take the place a clinical meeting.

YORKSHIRE BRANCH: BRADFORD DIVISION.—On Wednesd February 23rd, Mr. N. Bishop Harman will deliver a Brit Medical Association Lecture to the Bradford Division entitl "The recognition of common eye disorders in general practice The lecture will be given at the Royal Infirmary at 8.30 p.m.

Meetings of Branches and Divisions.

NORTH OF ENGLAND BRANCH: HARTLEPOOLS DIVISION.

A MEETING of the Hartlepools Division was held in the Camer Hospital, West Hartlepool, on January 13th, when the chairma Dr. W. N. RISHWORTH, *M.C.*, presided.

Dr. GEORGE HALL, C.M.G. (Newcastle-on-Tyne), gave a lecture encephalitis lethargica. In the course of the lecture some historic facts were first touched upon, and then statistics given showing t incidence of the disease and its seasonal variation. The morb histology was discussed and illustrated, after which a series of cas was described, each showing the predominance of some speci symptom, while the sequelae in these and other cases were note Lantern slides illustrated many of the points touched upon. T lecture was followed by a discussion.

SOUTHERN BRANCH: PORTSMOUTH DIVISION.

A MEETING of the Portsmouth Division was held at the Queen Hotel, Southsea, on January 13th, when Dr. MEARNS FRASER w in the chair. On the proposition of the CHAIRMAN, supported many other members, hearty congratulations were conveyed the honorary secretary, Dr. H. H. Warren, upon the successf arrangements which had been made for the medical *souper dansa* which was held on January 11th.

Dr. THOMAS BEATON, O.B.E., medical superintendent of t Portsmouth Mental Hospital, gave an address on "The recognitio and management of mental patients." Dr. Beaton's addres which was most interesting, lucid, instructive, and of great pra tical value, was listened to with the closest attention. It w followed by a well sustained discussion which was taken part i amongst others, by Drs. JEANS, BOSWORTH WRIGHT, FORDE, LOC HART STEPHENS, GITTINGS, MCASKIE, MCELDOWNEY, and ASTON KE A hearty vote of thanks to the lecturer, proposed by Dr. GITTING seconded by Dr. MCASKIE, and enthusiastically carried, brought t a close one of the most successful and enjoyable meetings of th Division.

The total attendance numbered about fifty-five, of whom fort sat down to the supper preceding the meeting.

SUFFOLK BRANCH: SOUTH SUFFOLK DIVISION.

A MEETING of the South Suffolk Division was held at the Crow and Anchor Hotel, Ipswich, on December 3rd, 1926, with Dr H. N. BARON in the chair. After the transaction of Divisiona business a most helpful and interesting lecture on "Diseases an feeding of the new-born infant" was given by Dr. DONALL PATERSON, physican to out-patients, Hospital for Sick Children Great Ormond Street. A very hearty vote of thanks was accorde to Dr. Paterson for his address, and also to Dr. Baron for kindl providing tea.

SUSSEX BRANCH: BRIGHTON DIVISION.

A CLINICAL meeting of the Brighton Division was held at the Roya Sussex County Hospital on January 19th, Dr. DONALD HALL, the president, in the chair.

Dr. W. BROADBENT showed two cases illustrating the malaria treatment of general paralysis of the insane. Twelve malarial rigors had been allowed to occur, and the patients were then given quinine in daily doses of 10 grains. Both patients were much better after treatment.

Dr. DONALD HALL showed a case of congenital heart disease in a child, aged 3. The electro-cardiogram demonstrated a large Q.R.S. deflection and right-sided preponderance. The red blood cell count was 9,000,000 per c.mm. He also showed a man, aged 62, with generalized subcutaneous nodules. A section of a nodule indicated

that the condition was not carcinomatous, nor that of von Recklinghausen's disease. There was a slight suggestion of epithelioma, but no resemblance to any definite type of new growth. The patient had had pleurisy a year previously; he had been brought with a view to obtaining suggestions as to diagnosis, and Dr. Davis suggested the exclusion of the condition being secondary to myeloid tumour by radiographical examination of the small bones of the hands and elsewhere.

Mr. H. N. FLETCHER showed a case of pyonephrosis in a woman, which had commenced during her third pregnancy. After drainage by the ureteric catheter the temperature fell to normal and rigors ceased. When the catheter was removed the symptoms recurred, relief again following catheterization. Complete recovery ensued. He also presented three cases of exophthalmic goitre. In the first the condition was mild, but there was little or no improvement with medical treatment for two years. The pulse was 120 to 130, and there was marked tremor. Slight improvement followed tonsillectomy, but rapid benefit was produced by removal of the whole of one lobe and two-thirds of the other lobe of the thyroid gland. Only a trace of exophthalmos persisted; the patient was still excitable, but the tremor had disappeared. The two other cases were not very severe, but there had been marked exophthalmos, tachycardia, and tremor. A discussion followed on the technique of thyroidectomy, the anaesthetic employed, and the relative values of operation, *x* rays, and medical treatment; in this Dr. Donald Hall and Mr. F. E. Fielden took part.

Mr. J. R. H. TURTON showed a case of partial gastrectomy for carcinoma. The patient had progressed very well for twenty months after the operation, and had gained 2 st. in weight, but relapse and recurrence of the symptoms had followed Christmas fare. *X* rays showed no signs of new ulceration. He also showed a case of gastric ulcer, which had perforated twice: on the first occasion into the greater sac, and on the second into the lesser sac. Simple gastro-enterostomy was the only feasible operative treatment owing to the adhesions which were present.

Mr. FITZMAURICE-KELLY showed a case of tuberculous infection of the tonsil, and another of subspinous dislocation of the humerus. A single *x*-ray photograph showed the head of the humerus in an apparently normal position, while stereoscopic pictures revealed the true state of affairs.

Dr. DAVIS showed two cases of non-specific dermatitis herpetiformis. Rapid healing had followed one intravenous injection of novarsenobillon tried empirically.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

Surgeon Commander W. H. Hastings has been placed on the retired list at his own request, with the rank of Surgeon Captain.

Surgeon Commander J. P. Shorten, D.S.C., to the *Princess Margaret* on relief; B. S. Robson to the *Sandhurst*, temporary, additional; J. C. Souter to the *Princess Margaret*, temporary; W. W. D. Chilcott to the *President*, additional for R.N. Recruiting Headquarters, temporary, supernumerary.

Surgeon Lieutenant J. H. B. Crosbie promoted to the rank of Surgeon Lieutenant Commander.

Surgeon Lieutenants G. B. Tarring to the *Pembroke* for R.M. Infirmary, Chatham, temporary; H. M. Levy to the *Cricket*, additional; G. Phillips to the *Iron Duke* on arrival in home waters; J. A. Cusack to the *Victory* for R.M. Infirmary, Portsmouth, temporary.

ROYAL ARMY MEDICAL CORPS.

Colonel J. W. H. Houghton, D.S.O., late R.A.M.C., retires on retired pay.

Major W. E. C. Lunn, M.C., retires on retired pay, and is granted the rank of Lieutenant-Colonel.

The following Lieutenants to be Captains: W. B. F. Orr, F. J. O'Meara, T. W. Davidson (and remains seconded).

ROYAL AIR FORCE MEDICAL SERVICE.

Group Captain H. V. Wells, C.B.E., to Headquarters, Coastal Area, for duty as Principal Medical Officer.

Squadron Leader P. H. Young to Hospital Orderlies' Training Depot, Halton.

Flight Lieutenant G. R. Nodwell is transferred to the Reserve, Class D.1.

Flight Lieutenants W. G. L. Wambeck and E. C. K. H. Foreman to Hospital Orderlies' Training Depot, Halton; C. V. D. Rose to No. 216 Squadron, Egypt.

Flying Officers P. D. Barling to No. 4 Flying Training School, Egypt; G. E. Church to Research Laboratory and Medical Officers' School of Instruction.

REGULAR ARMY RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel A. A. Seeds, having attained the age limit of liability to recall, ceases to belong to the Reserve of Officers.

Lieutenant A. Robertson, M.C., to be Captain.

TERRITORIAL ARMY.

ROYAL ARMY MEDICAL CORPS.

Lieutenant W. J. Roche to be Captain.

Hygiene Companies.—Major J. H. P. Fraser, D.S.O., M.C., resigns his commission, and is granted the rank of Lieutenant-Colonel, with permission to wear the prescribed uniform.

TERRITORIAL ARMY RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel J. F. Dixon, having attained the age limit, relinquishes his commission and retains his rank.

General Hospitals.—Colonel E. F. Buzzard, having attained the age limit, relinquishes his commission and retains his rank.

COLONIAL MEDICAL SERVICES.

Dr. W. Fletcher appointed Director of Government Laboratories, Federated Malay States. Hon. T. I. Craig, Senior Medical Officer, the Gambia, promoted Assistant Director of Medical Service, Nigeria.

VACANCIES.

BIRMINGHAM UNIVERSITY.—Professorship of Physiology. Stipend £1,000 per annum.

BRIGHTON AND HOVE PROVIDENT DENTAL HOSPITAL, 27, Queen's Road, Brighton.—Honorary Anaesthetist.

BRIGHTON: ROYAL SUSSEX COUNTY HOSPITAL.—Honorary Clinical Assistant to the Ear, Nose, and Throat Department.

BRISTOL MENTAL HOSPITAL.—Second Assistant Medical Officer (unmarried). Salary £400 per annum, rising to £450.

BURY AND DISTRICT JOINT HOSPITAL BOARD.—Resident Assistant to the Medical Superintendent. Salary £400 per annum, rising to £450.

CARLISLE: CUMBERLAND INFIRMARY.—(1) Resident Medical Officer to act as House-Physician and House-Surgeon for six months each; salary £155 and £175 per annum respectively. (2) Resident Medical Officer as Junior House-Surgeon; salary at the rate of £135 per annum.

CARNARVONSHIRE AND ANGLESEY INFIRMARY, Bangor.—House-Surgeon (male). Salary £200 per annum.

CITY OF LONDON MATERNITY HOSPITAL, City Road, E.C.1.—Assistant Resident Medical Officer (male). Salary at the rate of £80 per annum, rising to £100 on appointment as Senior after three months.

COUNTY MENTAL HOSPITAL, Winwick.—Assistant Medical Officer (male). Salary £250 per annum, rising to £450.

DEVONPORT: ROYAL ALBERT HOSPITAL.—Assistant House-Surgeon.

DURHAM COUNTY COUNCIL.—Assistant Welfare Medical Officer (woman). Salary £600 per annum, rising to £650.

EAST LONDON HOSPITAL FOR CHILDREN, Shadwell, E.1.—Assistant Surgeon.

ELIZABETH GARRETT ANDERSON HOSPITAL, Euston Road, N.W.—(1) Assistant Pathologist (part-time); salary at the rate of £150 per annum; (2) Assistant Physician, Mechano-therapeutic Department; honorarium £100 per annum.

EVELINA HOSPITAL FOR SICK CHILDREN, Southwark, S.E.1.—House-Physician (male). Salary at the rate of £120 per annum.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.1.—Casualty Officer. Salary £400 per annum.

HULL ROYAL INFIRMARY.—Casualty House-Surgeon. Salary £130 per annum.

KENSINGTON, FULHAM, AND CHELSEA GENERAL HOSPITAL, Richmond Road, S.W.5.—Senior and Junior Resident Medical Officers. Salary at the rate of £125 and £100 per annum respectively.

KING'S LYNN: WEST NORFOLK AND LYNN HOSPITAL.—Assistant Resident Medical Officer. Salary £100 per annum.

LANCASHIRE COUNTY COUNCIL.—Assistant County Medical Officers. Salary £800 per annum, rising to £1,000.

LEAMINGTON SPA: WARNEFORD GENERAL HOSPITAL.—Resident House-Physician (male, unmarried). Salary £150 per annum.

LEEDS TUBERCULOSIS SANATORIUM, Killingbeck.—Assistant Resident Medical Officer (unmarried). Salary £250 per annum.

LIVERPOOL OPEN-AIR HOSPITAL FOR CHILDREN, Leasowe.—Junior Medical Officer. Salary £200 per annum.

LIVERPOOL STANLEY HOSPITAL.—(1) House-Physician. (2) House-Surgeon. Males. Salary £100 per annum.

LONDON HOSPITAL, E.—First Assistant and Registrar to one of the Medical Firms. Salary £300 per annum.

MANCHESTER: ANCOATS HOSPITAL.—Assistant Surgical Registrar. Salary at the rate of £40 per annum.

MANCHESTER ROYAL EYE HOSPITAL.—Junior House-Surgeon. Salary £120.

MANCHESTER: ST. MARY'S HOSPITALS.—Resident Surgical Officer for the Whitworth Park Hospital. Salary £200 per annum.

NOTTINGHAM GENERAL HOSPITAL.—Resident Casualty Officer. Salary at the rate of £200 per annum.

ORKNEY, ISLAND OF SANDAY.—Medical Officer and Public Vaccinator. Salary £150.

QUEEN CHARLOTTE'S MATERNITY HOSPITAL, Marylebone Road, N.W.1.—(1) Assistant Resident Medical Officer; salary at the rate of £80 per annum, rising to £100 on appointment as Senior. (2) District Resident Medical Officer; salary at the rate of £80 per annum.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney Road, E.2.—(1) House-Physician and House-Surgeon; salary at the rate of £100 per annum. (2) Resident Medical Officer; salary, inclusive of panel fees, £200 per annum.

ROYAL FREE HOSPITAL, Gray's Inn Road, W.C.1.—Assistant Physician.

ROYAL LONDON OPHTHALMIC HOSPITAL, City Road, E.C.1.—Senior House-Surgeon. Salary at the rate of £150 a year.

ROYAL NORTHERN HOSPITAL, Holloway, N.—Resident Medical Officer. Salary £200 per annum, *plus* allowance for work in connexion with National Insurance Act.

RYDE: CHILDREN'S HOSPITAL AND MATERNITY HOME.—Resident Medical Officer (unmarried). Salary at the rate of £100 per annum.

SOUTH SHIELDS COUNTY BOROUGH.—Clinical Venereal Diseases Medical Officer. Salary £750 per annum.

TOTTENHAM MATERNITY AND CHILD WELFARE COMMITTEE.—Assistant Medical Officer at the Ante- and Post-Natal Clinics.

VICTORIA HOSPITAL FOR CHILDREN, Tite Street, Chelsea, S.W.—Honorary Anaesthetist.

WATFORD: PEACE MEMORIAL HOSPITAL.—Resident Medical Officer. Salary at the rate of £150 per annum.

WEST SUFFOLK COUNTY COUNCIL.—Assistant County Medical Officer and Assistant School Medical Officer. Salary £600 per annum.

CERTIFYING FACTORY SURGEON.—The appointment at Clwt y Bont (Caernarvonshire) is vacant. Applications to the Chief Inspector of Factories, Home Office, Whitehall, S.W.1.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.

APPOINTMENTS.

ABERNETHY, D. A., B.M., B.Ch., Honorary Assistant Surgeon to the Radcliffe Infirmary and County Hospital, Oxford.

DOUGLAS, T. H. J., F.R.F.P.S.G., L.D.S., Dental Officer (Dental Referee) to the Scottish Board of Health.

ST. THOMAS'S HOSPITAL.—*Casualty Officers and Resident Anaesthetists:* C. H. Harper, M.R.C.S., L.R.C.P., G. P. Thorold, M.B., B.Ch., R. W. B. Ellis, M.B., B.Chir., A. B. Connell, M.R.C.S., L.R.C.P., J. G. Wigley, M.B., B.Chir., R. H. Metcalfe, M.B., B.Chir., E. Yule, M.R.C.S., L.R.C.P., L. A. Richardson, M.B., B.Chir. *Resident House-Physicians:* R. D. Milford, M.B., B.Chir., C. R. Amies, M.B., B.S., T. M. Ling, M.B., B.Ch.,

D. O. Williams, M.B., B.Ch. ... *Children*): W. E. Chiesman, M.B., B.Ch ... B. Blaxill, M.R.C.S., L.R.C.P., E. L. F ... Croft, M.B., B.Ch., A. Byrne-Quinn, M.B., ... *ne-Surgeon*: G. O. Tippett, M.B., B.S. *Re* ... A. Screech, M.B., B.S.; (Throat) A. G. ... M.R.C.S., L.R.C.P.; *Obstetric* ... r) W. N. Mascall, M.R.C.S., L.R.C.P.; (Junior) ... R.C.S. *Ophthalmic House-Surgeons*: (Senior) ... L.R.C.P.; (Junior) M. Dykes Bower, M.B., ... *and Clinical Assistants*: (Ophthalmic) C. W. ... L. A. F. Wiles, M.R.C.S., L.R.C.P.; (Dental) ... Lloyd Williams, M.R.C.S., L.D.S. (Chief Assistant); (Ear) H. J. Marriner, F.R.C.S.Ed. (Chief Assistant), H. T. Cox, M.R.C.S., L.R.C.P., A. P. Farmer, M.R.C.S., L.R.C.P.; (Throat) D. F. A. Neilson, F.R.C.S. (Chief Assistant), W. P. Purvis, M.R.C.S., L.R.C.P.; (Skin) H. T. Barron, M.D. (Chief Assistant), E. C. Archer, M.B., B.S., G. M. Addison, M.R.C.S., L.R.C.P.; (Children's Medical) G. C. Babington, M.R.C.S., L.R.C.P., H. W. Bowen, M.R.C.S., L.R.C.P., J. C. D. Carothers, M.R.C.S., L.R.C.P., H. K. Goadby, M.R.C.S., L.R.C.P.; (X-Ray Department) B. Shires, M.B., B.Ch. (Chief Assistant), C. W. Hope-Gill, M.B., B.Ch.; (Mental Diseases) J. Rickman, M.D. (Chief Assistant), G. K. Cooper, M.B., B.Chir.; (Tuberculosis Department) J. D. George, M.R.C.S., L.R.C.P.; R. A. Phillips, M.R.C.S., L.R.C.P.; (Physico-therapy) L. H. F. Walton, M.R.C.S., L.R.C.P.; (Orthopaedic) E. P. Brockman, M.B., M.Chir., F.R.C.S. (Chief Assistant), J. Morris, M.B., B.Chir., F. W. F. Purcell, M.R.C.S., L.R.C.P., C. I. Tuckett, M.R.C.S., L.R.C.P.; (Electro-cardiograph) G. R. N. Henry, M.R.C.S., L.R.C.P., A. K. Miller, M.R.C.S., L.R.C.P.; (Ante-Natal) G. E. Rowan, M.R.C.S., L.R.C.P., G. M. Fitzgibbon, M.R.C.S., L.R.C.P.; (Venereal Department) R. M. B. MacKenna, M.R.C.S., L.R.C.P., H. D. Tonking, M.R.C.S., L.R.C.P., S. M. Burrows, M.R.C.S., L.R.C.P., J. M. Ashton, M.R.C.S., L.R.C.P.; (Neurological Department) L. H. F. Walton, M.R.C.S., L.R.C.P., E. M. Wright, M.B., B.Ch. Several other gentlemen have received an extension of their appointments.

CERTIFYING FACTORY SURGEONS.—A. M. Mackay, M.B., Ch.B.Edin., for the Lym District (Chester), J. M. Robertson, M.B.Toronto, for the Stock District (Essex).

DIARY OF SOCIETIES AND LECTURES.

ROYAL SOCIETY OF MEDICINE.

War Section.—Mon., 5 p.m., Squadron Leader P. M. Keane: Service Architecture and the Requirements of Accommodation in Tropical and Subtropical Countries, with Special Reference to Egypt and Palestine.

General Meeting of Fellows.—Tues., 5.30 p.m., Ballot for Election to ... H. J. Parish: Unusual Forms of the Smith: Recent Work on the Virus Diseases of Plants. Demonstration:—S. C. Dyke: Papilloma of the Oesophagus.

Section of History of Medicine.—Wed., 5 p.m., Professor J. F. Dobson: Erasistratus; Mr. W. R. Dawson: Contribution to the History of ... ample of the Egyptian God Bes ...

... Cases. ... Fri., 8 p.m., Dr. Arthur Crook: Necrosis of Kidney Cortex after Labour (specimens).

Section of Electro-Therapeutics.—Fri., 8.30 p.m., Professor Franz Groedel (Bad Nauheim): Cardio-vascular Syphilis—an *X*-Ray Study.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.—Mon., 4 p.m., Hunterian Oration by the President, Sir Berkeley Moynihan, Bt., K.C.M.G., C.B. Lectures:—Wed., 5 p.m., Professor E. M. Cowell: Recent Advances in the Surgery of Hernia. Fri., 5 p.m., Professor A. H. Southam: Pathology and Treatment of Retained Testis in Childhood.

ROYAL SOCIETY OF TROPICAL MEDICINE, 11, Chandos Street, W.1.—Thurs., 7.45 p.m., Demonstration. 8.15 p.m., Lieut.-Colonel W. P. MacArthur: Old-time Typhus in Britain.

CHELSEA CLINICAL SOCIETY, Rembrandt Hotel, Thurloe Place, S.W.7.—Tues., 8.30 p.m., Discussion: The Acute Abdomen. Speakers: Sir John Broadbent, Mr. Duncan Fitzwilliams, and Mr. Zachary Cope. Preceded by dinner at 7.30.

POST-GRADUATE COURSES AND LECTURES.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION.—Special Lecture at Medical Society, 11, Chandos Street, W.1: Thurs., 5 p.m., Trigeminal Neuralgia. Open to all members of the medical profession without fee. *Central London Throat, Nose and Ear Hospital*, Gray's Inn Road, W.C.: Special Clinical Surgery Demonstration, Mon., 2 p.m. Open to all members of the medical profession without fee, but those wishing to attend are asked to notify the hospital secretary. *Royal Westminster Ophthalmic Hospital*, Charing Cross, W.C.2: Special Clinical Ophthalmic Demonstration, Fri., 5 p.m., Ocular Palsies. *London Lock Hospital*, Dean Street, W.1: Special Course in Venereal Diseases. Clinical work daily and special lectures. *Paddington Green Hospital* and *Victoria Hospital for Children*: Combined Course in Children's Diseases. All-day Course, consisting of lectures and demonstrations. *St. John's Hospital*, Leicester Square, W.C.2: Special Courses in Diseases of the Skin. Instruction in the Out-patient Department every afternoon. Special Lectures, Tues. and Thurs. *National Hospital*, Queen Square, W.C.1: Special Course in Neurology. Daily instruction and special lectures. All information as to fees, etc., obtainable from the Fellowship of ... Wimpole Street, W.1.

HOSPITAL FOR ... Ormond Street, W.C.1.—Thurs., 4 p.m., Some ... of Alimentary Diseases.

LONDON SCHOOL ... n's Hospital, Leicester Square, W.C.2.—Tues., ... Infections. Thurs., 5 p.m., Pathology Demonstration.

NATIONAL HOSPITAL, Queen Square, W.C.1.—Mon., Tues., Thurs., and Fri., 2 p.m., Out-patient Clinics. Mon., 12 noon, Pathology of the Nervous System; 3.30 p.m., Lesions of the Trigeminal Nerve affecting the Eye. Tues., 3.30 p.m., Cerebro-spinal Fluid in Meningitis. Thurs., 3.30 p.m., Cerebellar Disease. Fri., 12 noon, Anatomy and Physiology of the Nervous System; 3.30 p.m., Injuries to Peripheral Nerves.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.15.—Mon., 10 a.m., Surgical Clinic; 2.30 to 5 p.m., Medical, Surgical, and Gynaecological Clinics; Operations. Tues., 2.30 p.m., Special Demonstration of Ear, Nose, and Throat Cases; 2.30 to 5 p.m., Medical, Surgical, Throat, Nose, and Ear Clinics; Operations. Wed., 2.30 to 5 p.m., Medical Skin and Eye Clinics; Operations. Thurs., 11.30 a.m., Dental Clinics; 2.30 p.m., Special Demonstration of Surgical Cases; 2.30 to 5 p.m., Medical, Surgical, and Ear, Nose, and Throat Clinics; Operations. Fri., 10.30 a.m., Throat, Nose, and Ear Clinics; 2.30 to 5 p.m., Surgical, Medical, and Children's Diseases Clinics; Operations.

POST-GRADUATE HOSTEL, Imperial Hotel, Russell Square, W.C.1.—Wed., 9 p.m., Fractures of the Upper Third of the Femur. Thurs., 9 p.m., Ophthalmic Emergencies.

ROYAL NORTHERN HOSPITAL, Holloway Road, N.—Tues., 3.15 p.m., Vomiting in Children.

TAVISTOCK CLINIC FOR FUNCTIONAL NERVE CASES, 51, Tavistock Square, W.C.1.—Mon. and Tues., 4.45 p.m., The Endocrines. Mon., Tues., and Wed., 5.45 p.m., Freud, Jung, and Adler from the Standpoint of Interrelation. Wed., 4.45 p.m., Psychotherapy. Thurs., 4.45 p.m., Treatment; 5.45 p.m., Adaptation. Fri., 4.45 p.m., Laboratory Tests for Disordered Function; 5.45 p.m., Emotional Development.

WEST LONDON HOSPITAL POST-GRADUATE COLLEGE, Hammersmith, W.6.—Mon., 10 a.m. to 1 p.m., Genito-urinary Operations, Skin Department, Surgical Wards; 2 p.m., Surgical Wards, Gynaecological and Eye Departments. Tues., 10 a.m. to 1 p.m., Lecture on Clinical Methods, Demonstrations in Venereal Diseases and Chest Cases; 2 p.m., Medical Wards, Throat, Nose, and Ear Department. Wed., 10 a.m. to 1 p.m., Children's Medical Out-patients, Medical Wards, Demonstration in Medical Pathology; 2 p.m., Surgical Wards, Eye Department. Thurs., 10 a.m. to 1 p.m., Neurological Department, Demonstration of Fractures; 2 p.m., Eye and Genito-urinary Departments, Gynaecological Ward. Fri., 10 a.m. to 1 p.m., Gynaecological Operations, Dental, Skin, and Electrical Departments; 2 p.m., Throat, Nose, and Ear Department. Sat., 10 a.m. to 1 p.m., Bacterial Therapy Department, Children's Medical Department. Daily: Operations, Medical and Surgical Out-patients at 2 p.m.

GLASGOW POST-GRADUATE MEDICAL ASSOCIATION.—At Ear, Nose and Throat Hospital: Wed., 4.15 p.m., Cases.

JAMES MACKENZIE INSTITUTE FOR CLINICAL RESEARCH, St. Andrews.—Tues., 4 p.m., Abdominal Pain.

SHEFFIELD UNIVERSITY POST-GRADUATE CLINICS.—At Royal Hospital, Fri., 3.30 p.m., Herniae and other Complications.

British Medical Association.

OFFICES, BRITISH MEDICAL ASSOCIATION HOUSE, TAVISTOCK SQUARE, W.C.1.

Departments.

SUBSCRIPTIONS AND ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate Westcent, London).

MEDICAL SECRETARY (Telegrams: Mediseera Westcent, London).

EDITOR, *British Medical Journal* (Telegrams: Aitiology Westcent, London).

Telephone numbers of British Medical Association and British Medical Journal, Museum 9861, 9862, 9863, and 9864 (internal exchange, four lines).

SCOTTISH ... 6, Drumsheugh Gardens, Edinburgh. (Telegrams: ... 4361 Central.)

IRISH ME ... rederick Street, Dublin. (Telegrams: ... Dublin.)

Diary of the Association.

FEBRUARY.

11 Fri. London: Puerperal Morbidity and Mortality Subcommittee, 3 p.m.
City Division: Clinical Meeting, Metropolitan Hospital, 4.15 p.m.
Hastings Division: Annual Dinner, Royal Victoria Hotel, St. Leonards, 7.45 p.m.
Rochester, Chatham, and Gillingham Division: Annual Meeting, Bull Hotel, Rochester. Dinner, 7.30 p.m.; Meeting afterwards.

15 Tues. Lewisham Division: Town Hall, Catford, S.E.6. The Medical Secretary on the Medical Profession in South Africa, 8.15 p.m.

16 Wed. London: Public Education in Health Subcommittee, 2.30 p.m.
Chichester and Worthing Division: Hospital, Worthing, 5 p.m. Dinner, Burlington Hotel, 7 p.m.
Lancaster Division: Lancaster, 8.30 p.m.
Sunderland Division: Royal Infirmary, Sunderland. Dr. A. Parkin on Pleural Effusion.
Willesden Division: Willesden General Hospital, Harlesden Road, N.W.10. Mr. D. C. L. Fitzwilliams on the Tongue, 9 p.m.

17 Thurs. Brighton Division: Brighton Borough Sanatorium, 3.45 p.m.
North of England Branch: Scientific Meeting, Royal Victoria Infirmary, Newcastle-on-Tyne, 2.15 p.m.

18 Fri. London: Ophthalmic Committee, 2.15 p.m.
East York Division: Powolny's Restaurant, Hull. B.M.A. Lecture by Dr. H. Letheby Tidy on Glandular Fever, 9 p.m.
Northern Counties of Scotland Branch: Clinical Meeting, Gray's Hospital, Elgin, 3 p.m.
Windsor Division: King Edward VII Hospital, Windsor. Dr. J. J. Paterson on Relationship of the Public Health Service to Private Practice, 4.15 p.m.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcement of Births, Marriages, and Deaths is 9s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

BIRTHS.

KEARNEY.—On February 3rd, to Dr and Mrs. Kearney, Eppingdale, Leytonstone Road, Stratford, a daughter.

STEPHENS.—On February 2nd, 1927, at Withington Hall, Withington, Manchester, Mary Melland, the wife of James R. W. Stephens, M.R.C.S.Eng., L.R.C.P.Lond., 2, Palatine Road, Withington, Manchester, of a daughter.

MARRIAGES.

BRADNACK—KIRK.—On February 3rd, 1927, at St. Andrew's, Newcastle-on-Tyne, Gerald A. A. Bradnack, M.R.C.S., L.R.C.P., of Barton-on-Humber, Lincs, to Nora Winifred Kirk, M.B., B.S.Durh., of 34, Eldon Place, Newcastle-on-Tyne.

NORCOTT—COOK.—On February 3rd, 1927, at Wesleyan Church, Wallington, William Boyle Norcott, M.R.C.S.Eng., L.R.C.P.Lond., son of William Boyle Norcott, M.R.C.S.Eng., L.R.C.P.Lond., Ruskin House, Carshalton, to Margaret, youngest daughter of the late Mr. and Mrs. W. T. Cook, Cranley House, Wallington.

DEATHS.

HEDLEY.—On February 4th, 1927, in Lo ... of heart failure, John Hedley, J.P., M.D., of Cleveland ... ed 84.

SIMPSON.—Suddenly, on February 2nd, F ... ?., M.D., Medical Superintendent, East Riding ... beloved husband of Alice Archer.

SMITH.—On February 5th, at Redcroft, Port Talbot, D. Lloyd Smith, M.B.Lond., of Llandrindod Wells, aged 55.

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SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, FEBRUARY 19TH, 1927.

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TESTS FOR DRUNKENNESS.

REPORT OF BRITISH MEDICAL ASSOCIATION'S COMMITTEE.

In October, 1925, the Council of the British Medical Association resolved to appoint a special committee to report and make recommendations on tests for drunkenness, and in the following December the personnel of the committee was completed. The Association was fortunate in securing the services of a number of persons of special experience and knowledge to aid in these deliberations. During 1926 the committee, under the chairmanship of Major-General Sir William Macpherson, held many sessions, and completed its terms of reference soon after the close of the year. The Council, at its meeting on February 9th, 1927, received the committee's report, of which the full text appears below, and gave authority for it to be published and put on sale without delay.

Introductory Note.

The Committee was appointed by the Council of the British Medical Association on 21st October, 1925, with the following reference:—

"To consider and report on the present tests for 'drunkenness' with recommendations as to their modification or improvement."

The Committee was constituted as follows and included representatives of general practitioners, police surgeons, magistrates, scientists and the Services:—

Sir Robert Bolam, F.R.C.P., LL.D. (Chairman of Council of the British Medical Association).
J. W. Bone, M.B. (Luton).
H. B. Brackenbury, M.R.C.S., L.R.C.P. (Chairman of Representative Body of the British Medical Association).
E. Farquhar Buzzard, F.R.C.P., M.D. (London).
J. A. R. Cairns (Metropolitan Magistrate).
E. Rowland Fothergill, M.B. (Hove).
R. F. Graham-Campbell, LL.M. (Metropolitan Magistrate).
N. Bishop Harman, F.R.C.S. (Treasurer of the British Medical Association).
R. Wallace Henry, M.D. (Leicester).
R. G. Hogarth, C.B.E., F.R.C.S. (President of the British Medical Association).
W. J. C. Keats, M.R.C.S., L.R.C.P., D.P.H. (Divisional Surgeon, Metropolitan Police).
Major-General Sir William Macpherson, K.C.M.G., C.B., LL.D., A.M.S. (ret.) (London).
A. R. Moore, M.B. (Divisional Surgeon, Metropolitan Police).
J. T. J. Morrison, F.R.C.S. (Consulting Surgeon, Birmingham Police).
T. Rose, M.R.C.S., L.R.C.P. (Divisional Surgeon, Metropolitan Police).
P. B. Spurgin, M.R.C.S., L.R.C.P. (Divisional Surgeon, Metropolitan Police).
E. B. Turner, F.R.C.S. (London).
Sir William Willcox, K.C.I.E., C.B., C.M.G., F.R.C.P. (London).

The Committee appointed as its Chairman Sir William Macpherson.

Origin of the Enquiry.

In the latter part of the year 1925 the attention of the Council of the British Medical Association was drawn to the wide publicity given in the lay press to cases of conviction in the Courts of persons charged with "drunkenness," especially in connection with motor car cases. The public, having its own idea of the significance of the word "drunk," was perplexed at the decisions given in certain cases and became confused by the varying standards of the tests applied.

Motorists in particular had a feeling of apprehension that they might at any time find themselves charged with a serious offence and that there was no certainty that the tests applied were of such a nature as to give them a fair chance of vindicating their personal reputation.

The Council had been informed that the Association of Metropolitan Police Surgeons had addressed itself to a revision of the tests, but had come to the conclusion that it would be better if the matter could be investigated and findings promulgated by a body such as the British Medical Association which is representative of all shades of professional opinion. The Council accordingly appointed this Committee.

General Considerations.

In approaching its work the Committee was fully aware that the subject was an exceedingly difficult one and that it was quite possible that no very definite and universally accepted results might accrue from its labours, but it was felt that good could not fail to emerge if the tests were revised by eliminating those which were the least reliable and by introducing new ones if possible, and, particularly, if a standard method of procedure could be drawn up which could be put into universal practice.

The Committee throughout its deliberations has kept prominently before it the fact that, though the immediate cause of its appointment was the prominence that has been given in the press to charges which have become more and more frequent with the increased use by the public of motor cars, —viz., "drunk in charge of a motor car"—these particular charges are a small proportion only of the charges involving "drunkenness" that come before the Courts. Moreover, only a proportion of the cases brought before police surgeons are certified as "drunk," and the number of cases upset on appeal

is small in comparison to the number which is convicted by the magistrates.

In any charge involving "drunkenness," the magistrate bases his decision on all relevant evidence, including that of any medical witnesses who may have been called. Occasionally an appeal is lodged, counsel being engaged, and one, or possibly more, eminent medical men called in who have had no opportunity of seeing the accused till some hours or even days after the alleged offence. A conflict of medical opinion frequently follows and the magistrate's decision may be upset. The Committee feels that such a state of affairs may lead to misconception.

Alcohol is not the only substance capable of producing symptoms of, or simulating, "drunkenness" as generally understood by the public, but the Committee decided to confine its deliberations to the investigation of tests for "drunkenness" caused by alcohol.

DEFINITION OF THE TERMS "DRUNK" AND "DRUNKENNESS."

Very careful consideration has been given to the question of a definition of these words. The definitions already laid down in standard works have been reviewed and the efforts of other bodies and individuals to arrive at a satisfactory expression have been considered.*

The words "drunk" and "drunkenness" have acquired a certain significance in the eyes of the law. This is unfortunate because of the absence of a statutory definition of these terms. In the first place, the effects of the ingestion of alcoholic beverages vary within very wide limits, not only in different individuals, but in the individual himself under differing conditions. Secondly, "drunkenness" cannot yet be measured by any definite standard, though the Committee is aware that scientific investigations, which are referred to later in this Report, are being carried out with a view to arriving at a standard of measurement. If it could be said without possibility of dispute that a man is "drunk" or "not drunk" in the same way that it can be said that a man is dead or not dead, the present difficulties would not have arisen.

This being so the Committee is of opinion that the word "drunk" should always be taken to mean that the person concerned was *so much under the influence of alcohol as to have lost control of his faculties to such an extent as to render him unable to execute safely the occupation on which he was engaged at the material time.* The adoption of this as a definition would clear away some of the difficulties in certain classes of case.

POLICE PROCEDURE.

The Committee has had under review the existing procedure in this and other countries in cases in which a charge of "drunkenness" is involved. (See Appendix I.)

Appendix II. shows the various offences in which "drunkenness" plays a part and the Acts under which offenders may be proceeded against. The Committee is indebted to Mr. Graham-Campbell for this information.

CLASSIFICATION OF TESTS.

The Committee having carefully considered the tests at present in use for establishing the fact that an individual is under the influence of alcohol, also those brought to notice by recent scientific research, has come to the conclusion that tests should be applied with a view to determining the following facts:—

A. Whether the person concerned has recently consumed alcohol.

B. Whether the person concerned is so much under the influence of alcohol as to have lost control of his faculties to such an extent as to render him unable to execute safely the occupation on which he was engaged at the material time.

C. Whether his state is due, wholly or partially, to a pathological condition which causes symptoms similar to those of alcoholic intoxication, irrespective of the amount of alcohol consumed.

The tests were consequently considered under each of these headings and conclusions arrived at as follows:—

1. Tests to Prove that a Person has Recently Consumed Alcohol.

(i.) For the purpose of determining whether or not a person has consumed alcoholic liquor there is no test of such ready application and practical value as "smell."

(ii.) The smell of alcoholic liquor in the breath or in vomited matter (if any) is a sign of the consumption of alcohol.

(iii.) A factor which must be borne in mind in regard to the smell of alcoholic liquor in the breath is that the intensity of the smell varies according to the nature of the liquor that has been consumed and to the time that has elapsed since its consumption.

(iv.) If there is no smell of alcoholic liquor in the breath of a person seen within a reasonable time after his arrest, it is improbable that he has recently consumed alcohol, and search should be made for some other cause of the condition concerning which an accusation has been made against him.

(v.) Keenness of the sense of smell varies in different individuals who may be applying this test. This fact must be taken into consideration, and also the fact that the smell of alcoholic liquor in the breath may be disguised by various substances.

2. Tests to Determine Impairment of Control of Faculties.

(i.) There are no tests universally applicable for determining the amount of alcohol which would render a person incapable of carrying on his occupation in a proper manner, as the effect of alcohol varies within wide limits in different individuals and in the same individual under differing conditions. Fine shades of self-control might be lost without any apparent signs of alcoholic intoxication.

(ii.) The first effect of alcohol is on the higher centres and is subjective, and even if no objective symptoms occur the subjective effect of alcohol may be sufficient to make it unsafe for an individual to be in a responsible position—for example, in charge of a mechanically propelled vehicle.

(iii.) There is NO SINGLE TEST TAKEN BY ITSELF which would justify a medical practitioner in deciding that the amount of alcohol consumed had caused a person to lose control of his faculties to such an extent as to render him unable to execute safely the occupation on which he was engaged at the material time. A correct conclusion can only be arrived at by the consideration of a combination of several tests and observations such as: General demeanour; state of the clothing; appearance of conjunctivae; state of the tongue; smell of the breath; character of the speech; manner of walking, turning sharply, sitting down and rising, picking up a pencil or coin from the floor; memory of incidents within the previous few hours, and estimation of their time intervals; reaction of the pupils; character of the breathing, especially in regard to hiccup.

(iv.) The following are tests upon which, taken by themselves, little stress should be laid in deciding whether or not a person is under the influence of alcohol: Presence of tachycardia (rapid pulse); repetition of set words or phrases; character of handwriting; walking along a straight line; failure of convergence of the eyes.

3. Tests for Pathological Conditions Simulating Alcoholic Intoxication.

(i.) The pathological conditions which may cause symptoms resembling those of alcoholic intoxication, irrespective of whether or not any alcoholic liquor has been consumed, come under certain of the following groups or diseases:—

Severe fevers.
Acute inflammatory lesions of the brain or the cerebral meninges.
Other less acute lesions of the central nervous system.
Mental and nervous disorders.
Diseases in which general metabolism is probably at fault.
The results of head injury.
Vascular lesions of the brain.
The acute effects of drugs.
The chronic effects of chemicals.
The effects of extremes of temperature.
Excessive loss of blood.
Stokes-Adams disease.
Sudden nervous shock.
Hysterical trance.
Auto-intoxication.
Acidosis.

(ii.) *Diagnosis* would have to be decided (a) by a clinical examination of the urine, including tests for pathological and toxicological abnormalities, and of the vomit (if any); (b) by an examination of the knee jerks and other reflexes, the pupils, retinæ, heart and organs of respiration; and (c) by an examination for signs of kidney disease and for signs of intra-cranial disease, such as retraction of the head and hemiplegia or any paralysis of the cranial nerves.

(iii.) THERE IS NO SINGLE SYMPTOM DUE TO THE CONSUMPTION OF ALCOHOLIC LIQUOR WHICH MAY NOT ALSO BE A SIGN OF SOME OTHER PATHOLOGICAL CONDITION.

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* The Committee has noted that the Central Midwives Board in dealing with alleged "drunkenness" in midwives had difficulty in proving that a given person was "drunk." On the suggestion of the Chairman, Sir Francis Champneys, Bart., M.D., F.R.C.P., the phrase "the worse for drink" was substituted in framing charges, and he states that all difficulties have since disappeared.

The Committee learns that an effort to get rid of the word "drunk" when the Criminal Justice Bill was in Committee in the House of Commons failed because no really effective expression was put forward to take its place.

The Committee's attention has been drawn to the fact that the term "under the influence of drink" appears in the Children Act, 1908, and in the Inebriates Act, 1898.

4.—Tests based on Examination of the Blood, Urine, and Cerebro-spinal Fluid.

The Committee has reviewed the recent work that has been carried out with a view to detecting the presence of alcohol in the blood, urine and cerebro-spinal fluid. It has given careful consideration to the valuable research work carried out by Drs. Southgate and Carter,* with a view to estimating the amount of alcohol in the system by quantitative analysis of the urine.

The Committee is of opinion that, while this work is of great value from a scientific point of view, tests depending on examination of the blood, urine or cerebro-spinal fluid, are not practicable for the purpose now under consideration owing to the conditions limiting their application.

SUMMARY OF CONCLUSIONS AND RECOMMENDATIONS.

The Committee has arrived at the following general conclusions and recommendations in regard to persons accused of being "drunk":—

I. That the word "drunk" should always be taken to mean that the person concerned was so much under the influence of alcohol as to have lost control of his faculties to such an extent as to render him unable to execute safely the occupation on which he was engaged at the material time.

II. That it is desirable that a medical practitioner should base his opinion on the following considerations:—

(a) Whether the person concerned has recently consumed alcohol.

(b) Whether the person concerned is so much under the influence of alcohol as to have lost control of his faculties to such an extent as to render him unable to execute safely the occupation on which he was engaged at the material time.

(c) Whether his state is due, wholly or partially, to a pathological condition which causes symptoms similar to those of alcoholic intoxication, irrespective of the amount of alcohol consumed.

III. That in the absence of any pathological conditions a person is definitely under the influence of alcohol if there is a smell of alcoholic liquor in the breath and or in the vomited matter (if any) provided there is a combination of all or most of the following groups of signs or symptoms:—

(i.) A dry furred tongue, or conversely, excessive salivation.

(ii.) Irregularities in behaviour, such as insolence, abusive language, loquacity, excitement or sullenness, and disorder of dress.

(iii.) Suffusion of the conjunctivæ and reaction of pupils. The pupils may vary from a state of extreme dilatation to extreme contraction, and may be equal or unequal.†

(iv.) Loss or confusion of memory, particularly as regards recent events and appreciation of time.

(v.) Hesitancy and thickness in speech and impaired articulation.

(vi.) Tremors and errors of co-ordination and orientation.

IV. That there is no single test by itself which would justify a medical practitioner in deciding that the amount of alcohol consumed had caused a person to lose control of his faculties to such an extent as to render him unable to execute safely the occupation on which he was engaged at the material time. A correct conclusion can only be arrived at by the result of the consideration of a combination of several tests or observations such as:—

General demeanour;
State of the clothing;
Appearance of conjunctivæ;
State of the tongue;
Smell of the breath;
Character of the speech;
Manner of walking, turning sharply, sitting down and rising, picking up a pencil or coin from the floor;
Memory of incidents within the previous few hours, and estimation of their time intervals;
Reaction of the pupils;
Character of the breathing, especially in regard to hiccup.

V. That the following are tests upon which, taken by themselves, little stress should be laid in deciding whether or not a person is under the influence of alcohol:—

Presence of tachycardia (rapid pulse);
Repetition of set words or phrases;
Character of handwriting;
Walking along a straight line;
Failure of convergence of the eyes.

VI. That in ordinary circumstances any person accused of "drunkenness" should be able to rely upon being seen by a doctor, if he so desires, within half an hour of the time at which he is charged.

VII. That analyses of the blood, urine and cerebro-spinal fluid for estimating the amount of alcohol consumed are not practicable in connection with the examination of persons charged with "drunkenness" owing to the conditions limiting their application.

VIII. That with a view to uniformity in the method of testing for "drunkenness" some such form of certificate as that drawn up by the Danish Medico-Legal Society might well be adopted for general use in this country. (See Appendix I.)

APPENDIX I.

MEMORANDUM ON PROCEDURE USUALLY ADOPTED IN DEALING WITH CASES OF ALLEGED "DRUNKENNESS."

I.—POLICE PROCEDURE IN GREAT BRITAIN.

The following procedure has been submitted to the Committee as fairly typical of what happens in London and most of the larger towns:—

In cases of "drunkenness" apart from those cases in which the accused person is in charge of a vehicle, the charge is made by the station officer. If the accused person disputes the charge, the divisional surgeon is sent for. The accused is informed that this has been done and that he has the right to call another doctor, of his own selection, on the definite understanding that the police will not be responsible for any fee incurred for such attendance. In the Metropolitan Police area the divisional surgeon is not sent for as a matter of routine. The divisional surgeon, or his deputy, will in all cases be present when an accused person is examined by another doctor. The latter, after his examination, is asked to write his opinion beneath that previously made by the divisional surgeon in the surgeon's book. A copy of this report is written on a special form by the station officer and attached to the charge sheet.

In all cases of "drunkenness" where the driver of any vehicle is concerned, the divisional surgeon is sent for, whether the condition is disputed or not. The divisional surgeon informs the accused person of the result of his examination. The accused person or his representative has the right to call another doctor, under the conditions mentioned above.

The tests usually employed may be divided into two main groups:—

(a) Data tending to establish the fact that alcohol has been taken.

1. Smell of alcohol in the breath.
2. Suffusion of the conjunctivae—in simple language, watering and redness of the whites of the eyes.
3. Flushed face.
4. Tachycardia (rapidity of the pulse).
5. Admission of having taken alcohol.
6. Certain abnormal conditions of tongue and lips.
7. Certain abnormal conditions of the pupils.
8. Presence of tremors.

(b) Tests designed to determine whether or not the amount taken has disturbed the normal behaviour of the accused.

1. Memory tests—accused is asked simple questions such as date and time of day; where he lives, what he was doing prior to arrest, and where he now is.
2. Visual tests.
3. Speech test—accused is induced to talk and his manner of talking is noted. Some police surgeons ask him to spell words or to say catch phrases such as "truly rural" or "fish sauce shop."
4. Co-ordination tests (ability to perform combined movements). These include approaching and picking up a small object from the floor or table; selecting a chair and sitting upon it and getting up again; ability to stand steady with heels together and eyes shut; walking away and returning; walking along a chalk line.
5. Writing tests.

These tests are also designed to eliminate physical illness or disability. The presence of artificial eyes, limbs or teeth,

* BRITISH MEDICAL JOURNAL, March 13th, 1926, p. 463.

† In the opinion of many police surgeons when alcohol in toxic quantity has been consumed, the pupil reflex to *ordinary light* is absent, whereas the pupil will contract in a *bright light* and remain contracted for an abnormally long time, indicating delayed reaction of the pupil.

the presence of any of which may cause a person's behaviour to vary from the normal, are also noted. The general appearance and deportment are observed, particularly with regard to disorder of clothing.

If the police surgeon is satisfied that the accused is "drunk" and gives a certificate to that effect the case comes before the magistrate. Should a conviction result there is a right of appeal.

If however the police surgeon has any doubt as to whether the accused is "drunk" the accused invariably gets the benefit of the doubt and is discharged at once unless some further charge is preferred at the same time.

In London and in nearly all large provincial towns there are duly appointed police surgeons, and proximity of residence to the police station is often a determining factor in their appointment.

The average time that elapses before the accused is seen by the police surgeon is approximately thirty minutes after the charge is preferred.

In those places where there is no appointed surgeon and where the accused's own doctor is sent for, or failing him, the nearest doctor, much depends on the distance to be covered. Any doctor so summoned would, if available, attend at once and the average time would probably approximate to that mentioned above.

II.—Procedure in the Royal Navy.

The following information is extracted from the *Journal of the Royal Naval Medical Service*, October, 1926 :—

"*Drunkenness—Medical Examination of Persons suspected of. (N.L. 2173/26.—24.9.1926.)*

1. Though the decision in the first instance in cases of alleged drunkenness whether a person is in a fit state to perform his duty rests with the commanding officer, the medical officer may be required to give his opinion on the question if he has been called in to examine the accused. If so called in the medical officer must also determine whether the condition of the accused can be accounted for wholly or in part by disease or injury. The accused may be suffering from some disease of which he is unaware and serious results may follow if he is not kept under medical supervision. On the other hand, a plea of sickness, injury, or nervous disturbance may be brought forward at a court-martial, and the medical officer may be asked whether any such condition was actually present when he examined the accused. For these reasons the medical officer when called in to examine any person accused of drunkenness should perform a complete and comprehensive examination at once, whether the accused complains of any disability or not. He should take a detailed history of the case, observe every feature of the person's demeanour and behaviour, and examine every system of the body. Complete notes should be made in writing at the time.

2. The medical officer should endeavour to formulate answers to the following questions upon any of which he may be required to give an opinion which can be maintained during a searching cross-examination :—

(1) Is the condition and behaviour of the accused normal or abnormal?
(2) Is he fit to perform his duty?
(3) If his condition or behaviour is abnormal, is the abnormality wholly due to consumption of alcohol?
(4) Is the abnormality partly due to consumption of alcohol?
(5) Is the abnormality wholly due to disease or injury?
(6) Is the abnormality partly due to disease or injury?
(7) If the abnormality is partly due to consumption of alcohol and partly to disease or injury, what is the relative importance of these factors?
(8) Is the accused drunk as defined for naval purposes in K.R. and A.I. Article 462a?*

3. If a court-martial follow, the medical officer should be able to give a definite answer to each of these questions and to support his opinion by facts observed by himself at the time. Courts-martial are recommended to put to the medical officer any such questions which have not been answered in examination or cross-examination, and to require him to state the facts upon which he bases his opinion in each case."

III.—Procedure in the Army.

King's Regulations. Para. 534:—"A private soldier who is drunk is to be placed in close arrest, alone, if possible, in a guard detention room. He may be deprived of his boots except when the weather is cold and he is likely to suffer in consequence. He is to be visited and his condition ascertained at least every two hours by a N.C.O. of the guard and escort. Should any symptoms of serious illness be observed, a medical officer is forthwith to be sent for. A soldier suspected of being drunk is not to be put throu any drill or tested for the purpose of ascertaining his con tion. A soldier charged with drunkenness is not to be broug before an officer for investigation of the charge until he properly sober. For this purpose twenty-four hours shou usually be allowed to elapse before the investigation."

IV.—Procedure in the Royal Air Force.

King's Regulations. Para. 1076(n) and Air Council Instru tions for the R.A.F.:—"An airman suspected of being dru will not be put through any drill or tested for the purpo of ascertaining his condition."

V.—Procedure in other Countries.

Denmark.

The Danish Medico-Legal Society has designed an order classification of tests which, when methodically carried ou take the police surgeon about forty-five minutes per ca including the making of written notes, and at the reque of the Copenhagen police has drawn up a form of medic certificate based on a number of the generally used clinic examination methods with which every medical practition should be acquainted. This certificate was promptly adopt by other jurisdictions in the country and in 1925 was ma an order by the Ministry of Justice.

In co-operation with the police the Danish Medico-Leg Society has decided that it would be impracticable to car out tests based on examination of urine or blood.

In Copenhagen, the police employ an expert medical m who is available for this work at any hour of the day night and who is able to investigate a given case immediatel All cases involving a charge of "drunkenness in charge a motor-car" are submitted to this expert.

Medical Certificate adopted by the Ministry of Justice of Denmark.

The wording of the form drawn up by the Danish Medic Legal Council and adopted by the Ministry of Justice Denmark is as follows :—

Name, address, occupation, and age of the person examine
Place of examination and exact time.
1. What is the appearance of the person under examinatio (Dozy, heavy eyelids, flaccid features, congestion of face a the conjunctiva of the eyes, perspiration, slobbering, hiccu vomiting, clothes disarranged, signs of vomiting on clothes, etc.
2. How is his manner? (Noisy, elated, arrogant, doltish, hig spirits, garrulous, unsteady, indolent, etc.)
3. Does he know where he is and what time it is? (If in th affirmative, to be answered by "yes"; otherwise the remark made to be inserted.)
4. (a) How is the memory? (Particularly with respect t doings during the last few hours. Try whether he can impri on his mind a couple of street addresses.)
(b) [illegible] (The person examined to be asked t [illegible] at the accident, or perhaps to describ [illegible] paper shown him.)
(c) Calculation tests.
5. How is the speech? (Thick, snuffling, lisping, stammering faltering. The person under examination is asked to repea difficult words, read a small notice from a newspaper or the like.
6. How is the gait? (Lurching, shuffling, straddling, o characterised by ataxy. Romberg's test may be tried, turnin round and the like.)
7. (a) Steadiness of gestures with the hand. (Finger-to-finge test, picking up of objects from the floor, and the like.)
(b) Handwriting. (The party under examination to write hi name, age, occupation, and residence.)
8. Pulse (regularity, frequency). Pupils (size, reaction agains light). Susceptibility to pain (numbness).
9. Does the party under examination smell of liquor?
10. Are there any signs of illness (epilepsy, apoplexy, traumatism, shock, etc.) or great emotion, weariness, etc.?
11. Other observations (including the remarks of the persor charged respecting his consumption of liquor during the last twenty-four hours).

Conclusion.

(a) Have symptoms appeared during the examination tending to indicate that the condition of the person examined is not normal?
(b) Must it be assumed that the symptoms displayed are a consequence of the consumption of alcohol?
(c) Would you describe the condition of the person examined as "intoxicated"?

Signature.....

New Zealand.

In all convictions for offences connected with "drunkenness" an appeal is allowed provided that a fine in excess of £5 has been inflicted, or in motor car cases, if the licence has been suspended or the defendant disqualified from obtaining the licence. An appeal may also be allowed on a point of law. It is understood that appeals are extremely rare.

* K.R. and A.I. Article 462a is as follows: The proper meaning to be attributed to the word "drunk" is "that through the intoxicating effect of liquor the accused was unfit to be entrusted with his duty."

Procedure in connection with persons arrested on charges involving "drunkenness" is much the same as in the United Kingdom. If the accused wishes to see a doctor he may on demand see his own doctor provided he is able to pay the fee or else be seen by the police surgeon. Failing a demand on the part of the accused to see a doctor it is the police inspector who decides whether a doctor should be called in or not. The police are very carefully instructed as to how to deal with persons when a question of "drunkenness" arises and are always expected to give the accused the benefit of any doubt.

France.

The French law does not provide for cases of slight drunkenness on the part of persons driving motor cars, and the point has never been raised in any decision of the Courts. So long, therefore, as the driver of the car is not manifestly drunk he cannot be prosecuted for this fact alone, and if prosecuted on another count, it cannot constitute legally an aggravating circumstance.

Consequently, if whilst slightly under the influence of drink the driver of a car meets with an accident or exceeds the speed limit, he will only be prosecuted in respect of the latter offence. If the judge is satisfied that without being manifestly, he was slightly, drunk, he will probably inflict upon him the highest penalty provided for the offence in respect of which he was indicted, although it is a matter entirely left to his discretion.

So far as the method of detecting cases of "drunkenness" is concerned, nothing has ever been prescribed either by law or by custom, and such cases can only therefore be proved by the mere oral evidence of eye-witnesses.

United States of America.

The following is a copy of the official form used by surgeons of the police department of New York in examining a member of the Force who is alleged to be suffering from over-indulgence in some intoxicating agent or agents:—

Police Department, City of New York.—Report of Examination of Member of the Force alleged to be suffering from over-indulgence in some intoxicating agent or agents.

New York..... ..... 19 .

Surgeon.....District.
The Police Commissioner.
(Through official channels.)
Name..... Rank..... Shield No..... Pct .. ..
Place of Examination..... ....
(pct.) (date). (time called) (time of examination).

Oral Examination.

Q. Is there anything the matter with you? A..... ....
Q. Have } . . . .
Q. Have } . . . .

General Examination.

Reading..... Tongue..... Face..... Odour of breath . . ..
erature..... Speech..... .. ..
..... Mentality. . .. .
injury..... .... Pulse ....
Police Duty.
.....Deputy Police Commissioner notified, entry made in blotter.....
Remarks.....
.....
I assume responsibility for the accuracy of this report.
.....Surgeon. ..... District.

United States Navy.—The Department of the United States Navy has under consideration the question of providing definite instructions for its medical officers with reference to determining the nature of the mental and physical condition of those suspected of being under the influence of an intoxicant. The guiding principle at present in force in the United States Navy is whether or not the intoxication is "sufficient sensibly to impair the rational and full exercise of the mental and physical faculties."

APPENDIX II.

MEMORANDUM ON OFFENCES IN WHICH "DRUNKENNESS" PLAYS A PART.

The object of this memorandum is to present a list of those offences in respect of which a doctor might be asked to express an opinion as to the sobriety (I.) of a defendant; (II.) of some other person than the defendant; and under (III.) and (IV.) in certain other cases where, although no actual offence has been committed, a similar question might arise.

The following expressions are used in the sections referred to:—"drunk," "drunken," "drunkenness," "under the influence of drink," "in a state of intoxication," "of intemperate habits."

The definition of "habitual drunkard" in the Inebriates Act, 1879, indicates that in law the word "drunk" connotes the "drinking of intoxicating liquor."

I. OFFENCES COMMITTED BY A DRUNKEN PERSON.

(a) That may be committed by any person.

(1) Licensing Act, 1872 (35 and 36 Vict., c. 94, s. 12).

Found drunk in any highway or other public place, whether a building or not, or on any licensed premises.

Being guilty while drunk in any highway or other public place of riotous or disorderly behaviour.

Being drunk while in charge on any public highway or other public place of any carriage, horse, cattle, steam engine.

Being drunk while in possession of any loaded firearms.

(2) Metropolitan Police Act, 1839 (2 & 3 Vict., c. 47, s. 58).

Person found drunk in any street or public thoroughfare within the Metropolitan Police District who while drunk is guilty of any riotous or indecent behaviour.

(3) Town Police Clauses Act, 1847 (10 & 11 Vict., c. 89, s 29).

Person drunk in any street and guilty of any riotous or indecent behaviour therein.

(4) Licensing Act, 1902 (2 Edwd. VII, c. 28, s. 2).

Found drunk in any highway, other public place whether a building or not, or any licensed premises, while having the charge of a child under the age of 7 years.

(5) Criminal Justice Act, 1925 (15 & 16 Geo. V, c. 86, s. 40).

From June 1st, 1926: Person drunk while in charge on any highway or other public place of any mechanically propelled vehicle.

(6) Licensing (Consolidation) Act, 1910 (10 Edwd. VII, & 1 Geo. V, c. 24, s. 80).

Drunken person refusing or failing to quit licensed premises upon being requested to do so by the holder of the license or his agent or servant.

(7) Refreshment Houses Act, 1860 (23 & 24 Vict., c. 27, s. 41).

Being drunk in any shop house premises or place licensed for refreshments and entertainment under the provisions of the Act, and refusing to quit such shop premises or place upon being requested so to do by the manager or the occupier or his agent or servant or by any constable.

(8) Merchant Shipping Act, 1894 (57 & 58 Vict., c. 60, s. 287).

Drunk and disorderly person who has been refused admittance to a passenger steamer and persists in attempting to enter that steamer.

Person drunk and disorderly in a steamer refusing to leave the steamer at any place in the United Kingdom where he can conveniently do so when requested by the owner or any person in his employment.

(9) Children Act, 1908 (8 Edwd. VII, c. 67, s. 13).

Where death of infant under 3 years of age was caused by suffocation (not caused by disease or a foreign body) whilst in bed with some person over 16 years of age and that person at the time of going to bed was under the influence of drink, such person deemed to have neglected the infant in a manner likely to cause injury to its health (under s. 12).

(10) Tramways Act, 1870 (33 & 34 Vict., c. 78).

Power to make By-laws (s. 46) and to impose penalty for breach (s. 47).

Many authorities have By-law against drunken person entering.

L.C.C. (under their own Acts) have By-law: "Any person who is in a state of intoxication . . . shall not enter or mount upon any car." Must leave upon request.

(11) See under (III.) Habitual Drunkenness.

(b) Offences that can be committed only by persons in a specified capacity.

(1) Air Force Act, 1917 (7 & 8 Geo. V, c. 51, s. 12).

Provisions of Army Act are applied to Air Force (see Army Act below).

(2) Army Act, 1881 (44 & 45 Vict., c. 58) (as amended.)

S. 19. Any person subject to Military Law who is drunk, whether on duty or off duty, commits an offence.

S. 44. (7) Aggravated offence of drunkenness defined: (a) committed on the march or otherwise on duty; (b) after being warned for duty; (c) if after being warned for duty is unfit for duty.

(3) London Hackney Carriage Act, 1843 (6 & 7 Vict., c. 86).

S. 28. Being drunk during employment as a driver of hackney carriages or as a driver or conductor of a stage carriage in the Metropolitan Police District.

(4) London Hackney Carriage Act, 1831 (1 & 2 William IV, c. 22).

S. 56. Proprietor or driver or any other person having care of hackney carriage who shall by intoxication . . . injure or endanger any person in his life, limbs, or property.

(5) Town Police Clauses Act, 1847 (10 & 11 Vict., c. 89, s. 61).

The driver or person having the care of any carriage being intoxicated while driving.

(6) Merchant Shipping Act, 1894 (57 & 58 Vict., c. 60).

S. 220. Master, seaman or apprentice belonging to a British ship . . . by reason of drunkenness (a) *doing any act tending* to loss, etc., of ship, or to endanger life or limb of a person belonging to or on board ship; (b) refusing or omitting to do any lawful act . . . for preserving the ship . . . or any person . . . from danger.

S. 607. Pilot when in charge of a ship . . . by reason of drunkenness (a) doing, or (b) refusing (as in s. 220).

S. 407 (1) (b) "Court of Enquiry" as to conduct of a master, mate, or engineer, if they find he has been guilty of any . . . gross act . . . of drunkenness . . . may cancel or suspend certificate.

(7) Naval Discipline Act, 1866 (29 & 30 Vict., c. 109, s. 27).

Every person subject to Act . . . guilty of drunkenness commits an offence.

(8) Poor Relief Act, 1814-15 (55 Geo. III, c. 137, s. 51).

Any person maintained in any workhouse guilty of drunkenness.

(9) Post Office Act, 1908 (8 Edwd. VII, c. 48, s. 57 (b)).

Any person employed to convey or deliver a mail bag, or a postal packet in course of transmission by post . . . guilty of any act of drunkenness whilst so employed.

(10) Railway Regulation Act, 1840 (3 & 4 Vict., c. 97, s. 13).

Any engine driver, guard, porter, or other servant in the employ of any Railway Company found drunk while in the employ of the Railway Company.

(II.) OFFENCES COMMITTED IN RESPECT OF A DRUNKEN PERSON.

(1) Licensing Act, 1902 (2 Edwd. VII, c. 18, s. 7).

Any person who being on any premises licensed for the sale of any intoxicating liquor . . . procures or attempts to procure any intoxicating liquor for consumption by any drunken person.

Aiding and abetting any drunken person in obtaining or consuming any intoxicating liquor on any premises so licensed as aforesaid.

(2) Licensing (Consolidation) Act, 1910 (10 Edwd. VII, & 1 Geo. V, c. 24, s. 75).

The holder of a Justices licence shall not permit drunkenness to take place on his premises, or sell any intoxicating liquor to a drunken person.

(3) Refreshment Houses Act, 1860 (23 & 24 Vict., c. 27, s. 32).

Person licensed to keep refreshment house who shall knowingly suffer drunken persons to assemble or continue in or upon his premises.

(4) Firearms Act, 1920 (10 & 11 Geo. V, c. 43, s. 4).

A person shall not sell a firearm or ammunition to or repair, prove, or test a firearm or ammunition for, any person whom he knows, or has reasonable ground for believing, to be drunk . . .

(5) Pawnbrokers Act, 1872 (35 & 36 Vict., c. 93, s. 32).

Pawnbroker taking article in pawn from any person appearing to be intoxicated.

(III.) HABITUAL DRUNKENNESS.

(1) Inebriates Act, 1879 (42 & 43 Vict., c. 19, s. 3).

Defines "Habitual Drunkard" as a "person who not being amendable to any jurisdiction in lunacy is notwithstanding by reason of habitual intemperate drinking of intoxicating liquor at times dangerous to himself or herself or to others, or incapable of managing himself or herself, and his or her affairs."

(2) Inebriates Act, 1898 (61 & 62 Vict., c. 60, s. 1).

Any person convicted on indictment of an offence punishable with imprisonment or penal servitude, if offence committed under influence of drink, or drunkenness a contributory cause, and offender is an habitual drunkard—may be detained in inebriates reformatory.

S. 2. Any person committing an offence of drunkenness after three previous convictions of any similar offence—and who is an habitual drunkard—may be sent to inebriates reformatory.

(3) Children Act, 1908 (8 Edwd. VII, c. 67, s. 26).

Where a person convicted of offence of cruelty or of any offence under Schedule I is an habitual drunkard, Court may order him to be detained in inebriates reformatory for not exceeding two years.

(4) Summary Jurisdiction (Married Women) Acts, 1895 to 1925.

A married woman may obtain order or orders on ground of habitual drunkenness of husband and vice versa.

(IV.) OTHER ACTS.

(1) Firearms Act, 1920 (10 & 11 Geo. V, c. 43, s. 1 (2) (

A firearm certificate is not to be granted to a person wl the Chief Officer of Police has reason to believe to be of intemperate habits.

(2) Licensing (Consolidation) Act, 1910 (10 Edwd. VII, c. s. 95 (c)).

A club may be struck off the register or ground that t is "frequent drunkenness" on the premises.

APPENDIX III.

PUBLICATIONS CONSIDERED BY THE COMMITT

Among the documents considered by the Committee, w *the following:—*

(1) Address by Sir James Purves-Stewart, K.C.M.G., C.B., M.D., F.R.C on March 1st, 1925, before the Society for the Study of Inebriety, enti "Acute drunkenness: Its medico-legal aspects, symptoms, and tests."

(2) Article by H. W. Southgate, M.B., B.Sc., and Godfrey Carter, M D.P.H., entitled "Excretion of alcohol in the urine as a guide to alcoh intoxication." (BRITISH MEDICAL JOURNAL, March 13th, 1926, pp. 453-

(3) Pamphlet issued by the True Temperance Scientific Commi entitled "The problem of the intoxicated motor driver."

(4) Extract from "French's Differential Diagnosis in Coma," on pathological conditions which cause symptoms similar to those of alcoh intoxication, irrespective of whether any alcohol has been consumed or

(5) *Encyclopaedia Britannica*, 11th edition: "Law of Inebriety."

(6) "Signs of Intoxication by small doses of alcohol." Published H.M. Stationery Office.

British Medical Association.

CURRENT NOTES.

Annual Meeting of the American Medical Association.

THE seventy-eighth annual session of the American Medi Association will be held in Washington from May 1 to 20th inclusive, and the Council of the Brit Medical Association has been invited to appoint offic delegates. The Medical Secretary will be glad to know any member of the Association who is likely to be visiti the United States at that time.

Some Work of the Week.

The chief event of the week beginning on February 7 was the Council meeting, which occupied the whole Wednesday. The customary report of the discussions this meeting, which ended at about 7 o'clock, will appe in next week's SUPPLEMENT. The Committee on Puerpe Morbidity and Mortality met on February 11th, and co tinued its examination of the information supplied institutions and individuals throughout the country. T impossibility of securing uniform reports makes the wo of collation and evaluation difficult. The day before t meeting of Council the Medical Secretary attended meeting of the Welsh Contract Practice Subcommittee Cardiff. The subcommittee was considering the desirabili of approaching the miners of South Wales in the matter the arrears in the doctors' remuneration caused by the lo strike. There was a good discussion, and it was resolv to call a meeting of colliery and works doctors in Sou Wales on Saturday, March 12th. In pursuit of the Ass ciation's general policy of keeping in touch with the medic schools, the Medical Secretary spoke on the problems medical practice at a meeting of the St. Thomas's Hospit Medical and Physical Society on Thursday evening. The was a good attendance, and the audience showed gre interest in Dr. Cox's description of the various kinds o medical practice and the ordinary everyday problem affecting each. Dr. M. A. Cassidy was in the chair. O February 11th the Deputy Medical Secretary, Dr. Anderso attended the annual dinner of the Hastings Division at th Royal Victoria Hotel, St. Leonards, and responded to th toast of the British Medical Association. It is the custo of the Hastings Division to invite to this dinner all th more prominent people in the area, and on this occasio the numerous guests included the Chairman of the Publi Health Committee, the Bishop of Lewes (who is honorar chaplain to the Division), the Chief Constable, Mr. F Britten Austin, author and playwright, and the secretar of the local section of the British Dental Association. Th dinner was, as usual, very successful.

The headquarters correspondence during this and th last few weeks has shown a significant increase in th

number of inquiries touching upon different aspects of the hospital policy of the Association. These inquiries show that the profession is becoming alive to the dangers involved in the present position, and more especially to the progressive effect upon hospital and private practice of the numerous contributory schemes now in force. The majority of the points raised are covered by the published policy of the Association, the general adoption of which would solve many of the problems now exercising the minds of hospital staffs throughout the country.

A typical example of the value to an individual of advice from the central office is supplied by correspondence with a member who is medical officer to a workhouse infirmary. He informed the Medical Secretary that on two occasions the coroner had refused to pay his salaried partner for giving evidence at inquests in respect of accident cases sent to the infirmary by the latter. Payment was refused on the ground that the principal was medical officer to the infirmary. The doctor concerned having acted independently and not for his chief, he was advised that he was entitled to and should press for payment. He thereupon took the case up with the county council, and now reports that the fees have been paid.

The Association's Annual Handbook.

Copies of the *Annual Handbook of the British Medical Association* for 1926-27 are available for members and others. Primarily intended as a book of reference for honorary secretaries and other workers of the Association, the *Handbook* is also of interest and assistance to all members. The new edition has been completely revised. It contains the decisions of the Representative Body of the Association on matters of policy: information as to the constitution of the Association; particulars of the new London and Scottish Houses of the Association; information as to the BRITISH MEDICAL JOURNAL, the circulation of which is now over 35,000 copies weekly, and other publications of the Association; and lists of the Council, central committees, officers, and officials of the Association. It also contains a great deal of general information as to the work of, and facilities offered by, the Association. Copies of the *Handbook* can be had by members, *gratis* and post free, on application to the Medical Secretary, British Medical Association House, Tavistock Square, London, W.C.1. To non-members the book is on sale at 3s. 6d. (post free 3s. 9½d.).

Association Notices.

VACANCY IN COUNCIL, 1926-27.

A VACANCY occurs in the membership of the Council owing to the death of Dr. T. Ridley Bailey, of Bilston, Staffs, who was elected one of the "24" Members of Council by the members of the Birmingham and Staffordshire Branches, the term of office lapsing July, 1927.

Nominations in respect of the vacancy are required to be either (*a*) by a Division comprised in the above-mentioned Branches or (*b*) by not less than three members of those Branches. Forms of nomination will be forwarded on application to the Medical Secretary, B.M.A. House, Tavistock Square, London, W.C.1, and must be returned so as to reach him not later than the first post on Monday, March 7th, 1927. In the event of more than one candidate being nominated for the vacancy, voting papers will be issued to the electors not later than Saturday, March 12th, 1927, and must be returned so as to reach the Medical Secretary not later than the first post on Friday, March 18th, 1927.

The result of the voting, if any, will be published in the SUPPLEMENT of March 26th.

SOUTH WALES AND MONMOUTHSHIRE, AND WORCESTERSHIRE AND HEREFORDSHIRE BRANCHES.

HEREFORD AND MONMOUTHSHIRE DIVISIONS.

THE following change has been made by the Council of the Association and takes effect as from the date of publication of this notice:

That the civil parish of Skenfrith be transferred from the Monmouthshire Division of the South Wales and Monmouthshire Branch to the Hereford Division of the Worcestershire and Herefordshire Branch.

February 19th, 1927. ALFRED COX, *Medical Secretary.*

BRANCH AND DIVISION MEETINGS TO BE HELD.

BATH AND BRISTOL BRANCH.—A meeting of the Bath and Bristol Branch will be held at the Red House, Bath, on Wednesday, February 23rd, at 8.15 p.m. Dr. Robert Hutchison will deliver an address on dyspepsia, which will be followed by a discussion.

BIRMINGHAM BRANCH: COVENTRY DIVISION.—At the meeting of the Coventry Division to be held on Tuesday, March 1st, Dr. A. T. W. Forrester will read a paper on "The diagnosis and treatment of early mental cases."

BIRMINGHAM BRANCH: NUNEATON AND TAMWORTH DIVISION.—A meeting of the Nuneaton and Tamworth Division will be held at the Tamworth General Hospital on Thursday, March 3rd, when Mr. A. B. Danby, F.R.C.S., will read a paper on obstetrics.

DORSET AND WEST HANTS BRANCH: BOURNEMOUTH DIVISION.—The annual dinner of the Bournemouth Division will be held at the Royal Bath Hotel, on Thursday, March 3rd, and not as previously stated. It is hoped that members will keep this date free and will bring guests, including ladies.

DORSET AND WEST HANTS BRANCH: WEST DORSET DIVISION.—A meeting of the West Dorset Division will be held at the Parish Room, Blandford, on Tuesday, February 22nd, at 2.30 p.m. Professor G. E. Gask, C.M.G., D.S.O., director of the surgical professorial unit of St. Bartholomew's Hospital, will deliver a British Medical Association Lecture entitled "The therapeutic value of operations for gastric ulcer," illustrated by lantern slides. Cases will be shown by the staff of the Blandford Cottage Hospital. Tea will be served afterwards by the courtesy of Dr. Kenneth Wilson. Members are requested to note the date and make a special effort to be present.

EAST YORK AND NORTH LINCOLN BRANCH: EAST YORK DIVISION.—At a meeting of the East York Division to be held at Powolny's Restaurant, Hull, to-day (Friday, February 18th), Dr. H. Letheby Tidy will deliver a British Medical Association Lecture on "Glandular fever" at 9 p.m. The lecture will be preceded by an informal dinner for members of the Association.

EDINBURGH BRANCH.—The winter clinical meeting of the Edinburgh Branch will be held in the Royal Infirmary, Edinburgh, on Friday, February 25th. All members of the profession are cordially invited. Senior medical students desirous of attending will be admitted by card, obtainable from Mr. F. E. Jardine. The museum will be open from 10 a.m. to 6 p.m. Arrangements will be made for holding special clinics during the day. The clinical meeting will be held at 3.30. Dinner at 6.30 in the Scottish House of the Association, 6, Drumsheugh Gardens; morning dress; dinner ticket 10s. 6d. Members of the Branch are asked to notify the honorary secretaries not later than February 22nd whether or not they intend to be present.

GLASGOW AND WEST OF SCOTLAND BRANCH: LANARKSHIRE DIVISION.—A meeting of the Lanarkshire Division will be held at the County Hospital, Motherwell, on Tuesday, February 22nd, at 8.30 p.m., when Dr. John Reid will read a paper entitled "The fever hospital and the practitioner."

LANCASHIRE AND CHESHIRE BRANCH: HYDE DIVISION.—At the meeting of the Hyde Division to be held in the Stalybridge Town Hall on Thursday, February 24th, at 8.30 p.m., an address will be delivered by Dr. F. Craven Moore of Manchester on "The early diagnosis of cancer of the stomach." The Executive Committee hope that all members will attend and bring their medical friends.

METROPOLITAN COUNTIES BRANCH.—A meeting, to which are invited all fourth and fifth year students and recently qualified practitioners, will be held by the Metropolitan Counties Branch on Thursday, February 24th, at the British Medical Association House, Tavistock Square, London, W.C., when an address will be given by Mr. E. B. Turner, F.R.C.S., on "Practice and types of patients." Tea and coffee at 5 p.m.; address at 5.30.

METROPOLITAN COUNTIES BRANCH: CITY DIVISION.—A meeting of the City Division will be held at the Metropolitan Hospital, Kingsland Road, on Tuesday, March 1st, at 9.30 p.m., when there will be a discussion on headache, in which the following will take part: Dr. H. C. Cuthbert Dixon, Dr. Kendall, Mr. Capps, and Dr. Philip Hamill.

METROPOLITAN COUNTIES BRANCH: NORTH MIDDLESEX DIVISION.—At the meeting of the North Middlesex Division to be held on Wednesday, February 23rd, Mr. Reginald C. Holmes, M.R.C.V.S., will read a paper on "Some diseases of interest to both medical and veterinary professions."

METROPOLITAN COUNTIES BRANCH: SOUTH-WEST ESSEX DIVISION.—A meeting of the South-West Essex Division will be held at Whipps Cross Hospital, Leytonstone, on Tuesday, March 1st, at 3.30 p.m., when Dr. J. C. Muir, medical superintendent of the hospital, will give a clinical demonstration.

METROPOLITAN COUNTIES BRANCH: WESTMINSTER AND HOLBORN DIVISION.—A meeting of the Westminster and Holborn Division will be held on Thursday, February 24th, at 8.45 p.m., at Romano's Restaurant, Strand. Dr. A. Abrahams, Dr. J. Benjafield, Dr. P. Doyne, Major M. Leahy, Mr. H. D. Gillies, Dr. M. Thompson, and other well known medical sportsmen have been invited to take part in a discussion on "Sport, its use and abuse." The meeting will be preceded by dinner at 7.30; the price will be 5s., payable at the table to the honorary secretary, to whom should be sent the names of those intending to be present.

MIDLAND BRANCH: CHESTERFIELD DIVISION.—A meeting of the Chesterfield Division will be held at the Maternity Hospital, Chesterfield, on Friday, February 25th, at 8.15 p.m. Dr. Miles Phillips, professor of midwifery, University of Sheffield, will give an address on "Gynaecological diagnosis."

NORTH OF ENGLAND BRANCH: BISHOP AUCKLAND DIVISION.—A special meeting of the Bishop Auckland Division will be held in the Cottage Hospital, Bishop Auckland, to-day (Friday, February 18th), at 8 p.m. Business: (1) To receive reports from various districts concerning the success or otherwise of collecting arrears accrued during the last coal stoppage; (2) to make arrangements for the annual dinner. The next ordinary monthly meeting will be held in the Cottage Hospital, Bishop Auckland, on Friday, February 25th, at 8 p.m., when Dr. E. Farquhar Murray will give a lecture on "Some modern aspects of obstetrics and gynaecology."

NORTH OF ENGLAND BRANCH: NEWCASTLE-ON-TYNE DIVISION.—Mr. H. S. Elphick, M.R.C.V.S., will give a lecture on March 10th, at 8.30 p.m., in the Library of the Royal Victoria Infirmary, on "Pregnancy and parturition in veterinary practice." The Division is holding a reception and dance with cabaret about the end of March or beginning of April. The arrangements are in the hands of a subcommittee and details will be announced shortly.

NORTH OF ENGLAND BRANCH: SUNDERLAND DIVISION.—A dance in aid of the British Medical Association Charities Fund will be held in Meng's Rooms, Sunderland, on Thursday, March 3rd. Reception by Dr. L. M. H. Ross, chairman of the Sunderland Divison, and Mrs. Ross. Reception, 8 p.m.; dancing, 8.30. Tickets 10s. 6d. Carriages, 1 a.m. Application for tickets should be made to Dr. MacMurray, North Grange, Stockton Road, Sunderland.

OXFORD AND READING BRANCH: WINDSOR DIVISION.—A meeting of the Windsor Division will be held in the Board Room of the King Edward VII Hospital, Windsor, to-day (Friday, February 18th), at 4.15 p.m. Dr. J. J. Paterson, medical officer of health, East Berks United Sanitary Districts, will read a paper on "Poaching, or the relationship of the public health service to private practice." Tea at 4 p.m.

SOUTH WALES AND MONMOUTHSHIRE BRANCH: SWANSEA DIVISION.—A meeting of the Swansea Division will be held at the Hotel Metropole, Swansea, on Thursday, February 24th, at 7 p.m. At 7.15 p.m. Dr. Robert Hutchison will deliver a British Medical Association Lecture entitled "Asthma in childhood." The lecture will be followed by a supper at 8.45 (charge for supper, exclusive of wines, 5s. per head, payable at the table). Members intending to be present are asked to notify one of the honorary secretaries (Dr. H. R. Tighe, 36, Lion Street, Swansea, or Dr. Joseph Lloyd, 66, Walter Road, Swansea) not later than Monday morning, February 21st. Members of other Divisions and their guests will be welcome, provided notification is received by that date. Morning dress. Cars may be left at the Auto Garage Company, Fisher Street.

SURREY BRANCH: CROYDON DIVISION.—A meeting of the Croydon Division will be held at the Croydon General Hospital on Tuesday, February 22nd, at 8.30 p.m., when Professor Leonard Hill, F.R.S., will discuss "Sunshine and open air."

SURREY BRANCH: GUILDFORD DIVISION.—At the meeting of the Guildford Division to be held at the Royal Surrey County Hospital, Guildford, on Thursday, March 3rd, at 4 p.m., there will be a demonstration of cases.

WORCESTER AND HEREFORD BRANCH: HEREFORD DIVISION.—The following programme has been arranged for the year 1927:—March 21st: Ordinary meeting. May 2nd: Annual meeting. July 11th: Meeting to instruct representative. Social meeting in the summer on a date to be arranged. October 3rd: Ordinary meeting. December 5th: Ordinary meeting. It is hoped to arrange a course of post-graduate lectures in the autumn to take the place of a clinical meeting.

YORKSHIRE BRANCH: BRADFORD DIVISION.—On Wednesday, February 23rd, Mr. N. Bishop Harman will deliver a British Medical Association Lecture to the Bradford Division entitled "The recognition of common eye disorders in general practice." The lecture will be given at the Royal Infirmary at 8.30 p.m.

MEDICAL ASSOCIATION OF SOUTH AFRICA (BRITISH MEDICAL ASSOCIATION).

Federal Council.

A MEETING of the Federal Council was held at the British Medical Association Rooms, Wale Street, Capetown, on December 17th and 18th, 1926, with the President, Dr. A. J. ORENSTEIN, in the chair. The attendance numbered fifteen. The following is a brief record of some of the business transacted.

The draft of the Memorandum and Articles of Association, and the agreement with the British Medical Association, were confirmed, and a number of resolutions relating to procedure were adopted.

Among other decisions relating to the newly founded *Journal of the Medical Association of South Africa*, the first issue of which was noticed in the SUPPLEMENT of February 5th, it was resolved that the members of the Federal Council from the Cape (Western) Branch should constitute the Journal Committee, and that the powers of the Federal Council in respect of the *Journal* should be delegated to that committee.

The engagement of Mr. C. L. Leipoldt, F.R.C.S., as Organizing Secretary was confirmed.

The question of acquainting the medical profession of South Africa with the status of health insurance in the principal countries where it is in operation was considered, and it was resolved to inform the Commission on Health Insurance that should it be decided to send a commission to Europe to study this subject, as recommended in the evidence of the Federal Council, the Council considers it essential that this commission shall include one medical man who has had experience in general practice, and also a medical man who has had extensive experience in medical administration. The resolution added that the Federal Council would be very glad to assist in the selection of the general practitioner for this purpose. It was further decided to ask the editors of the *Journal* to devote as much space as possible in forthcoming issues to the exposition of National Health Insurance problems in co-operation with Dr. Charles Porter.

The Council recorded its approval of the principle officially adopted by the British Medical Association in Great Britain, that when any sum is paid by patients, or on their behalf, as hospital fees, a certain proportion of that payment is due to the medical staff which gives the attendance, and the executive was asked to take any steps it thinks fit to promote this view.

In regard to the Medical, Dental, and Pharmacy Bill it was resolved, on the proposal of Sir Edward Thornton, seconded by Dr. Napier, that the Dental Society be invited to appoint two members to the Association's Parliamentary Committee at Capetown, and authority was given for a joint deputation of the medical and dental professions to interview Ministers or other persons to ascertain their views on the advisability of proceeding with the bill.

After full discussion, it was moved by Dr. CHARLES PORTER, seconded by Dr. PEARSON, and agreed, that the Council should express approval of health lectures to the public by whole-time health officers, medical practitioners not in private practice, and also practitioners nominated by Branch councils. It was further agreed that the Executive Committee should consider the provision of lectures to practitioners and to the public by specially appointed lecturers, on the lines of the Canadian scheme.

On the subject of professional charities it was agreed to recommend to Branches that all Branch benevolent funds should be transferred to the Central Benevolent Fund, administered by the Federal Council, and that all balances of Congress funds should be transferred to the Central Benevolent Fund.

Dr. A. WATT brought forward the matter of clinical societies already formed, and in process of formation, in various areas, and it was resolved that the matter be referred to the Executive Committee for consideration and action at an early date.

Meetings of Branches and Divisions.

BIRMINGHAM BRANCH.

THE third ordinary meeting of the Birmingham Branch was held at the Medical Institute, Birmingham, on January 20th, when the president, Dr. H. G. DAIN, was in the chair. Mr. ECCLES SMITH, F.R.C.S., showed three pathological specimens, a volvulus of the caecum and ascending colon, a case of gastric tumour which had been diagnosed by three pathologists variously as linitis plastica, colloid cancer, and polyposis, and thirdly, a specimen showing six gastric ulcers within a small area of the same stomach wall. Dr. DOUGLAS STANLEY read a paper on intrathoracic tumours. He said that the condition was becoming more frequent, and that out of the last 400 odd autopsies at the Queen's Hospital, Birmingham, in 17 pulmonary tumours had been found, and a large number of these were primary growths. He showed specimens and related cases from his own experience to illustrate the various points in the diagnosis and symptomatology of the condition, and he stressed especially the difficulty of diagnosis between acute tuberculosis and malignant disease. A discussion followed, and the meeting closed with a vote of thanks to the lecturer.

BIRMINGHAM BRANCH: NUNEATON AND TAMWORTH DIVISION.

A MEETING of the Nuneaton and Tamworth Division was held at Atherstone on February 2nd. The meeting was arranged by Dr. PRACY, who showed the following cases, skiagrams, and specimens: (1) Patients—(*a*) compound dislocation of the left wrist, with a skiagram, and the bone (scaphoid) which had been removed; (*b*) compound supracondylar fracture of the left humerus, with a skiagram; (*c*) fracture of the tibia only; (*d*) fracture of the radius through the insertion of the pronator radii teres muscle and of the ulna at the same level, with a skiagram; (*e*) unusual foreign body in the tendons of the wrist—the body in question was a piece of glass, which was shown. (2) Two skiagrams were shown of a case of gall stones with carcinoma of the liver, and one of an abscess in the right antrum of Highmore. (3) Slides were displayed of (*a*) tumour from the anus, and (*b*) chronic mastitis with cysts. Dr. Pracy demonstrated the cases and replied to various questions raised during the discussion. A vote of thanks to him for the great trouble he had taken in arranging the meeting and for showing so many interesting cases was carried by acclamation.

DORSET AND WEST HANTS BRANCH: BOURNEMOUTH DIVISION.

A MEETING of the Bournemouth Division was held on February 3rd. In presenting the annual report for the last year the HONORARY SECRETARY said that there had been a net increase of membership of 17, which brought the strength of the Division up to 201. There were seven meetings held during the year, and the average attendance was higher than that of other years.

A motion regarding the adjudication of the General Medical Council in disciplinary cases was discussed and referred to a sub-committee for further consideration and report to a general meeting of the Division at a later date.

DORSET AND WEST HANTS BRANCH: WEST DORSET DIVISION.

A MEETING of the West Dorset Division was held at the County Hospital, Dorchester, on January 27th, at 8 p.m. The attendance was good considering the prevailing epidemic. In the absence

of the chairman, Dr. O. Rees, through ill health, Dr. G. G. MORRICE presided. He showed three cases: (1) Grouped nodular syphilide in a man suffering from acute myelitis. (2) Psoriasiform syphilide in a woman. (3) Dermatitis of foot and leg possibly due to coccal infection. Dr. H. L. NASH-WORTHAM showed specimens of vesical calculi removed from a boy aged 3½, and also a specimen of tuberculous kidneys. Dr. W. RUSSELL read notes on a case on which appendicectomy had been performed and afterwards developed acute dilatation of the stomach; the patient eventually recovered.

Dr. E. W. SMERDON read a paper on "Points in the diagnosis of the acute abdomen." The speaker held his audience throughout this most interesting and valuable paper, which was remarkable both for the amount of matter condensed and the dialectical skill in its rendering.

After a short interval for refreshments the paper and the cases were discussed. Dr. Smerdon was warmly thanked, those present being aware of the fact that Dr. Smerdon had had a most strenuous and fatiguing day.

The honorary secretary was instructed to write to Sir Henry Head, a member of the Division, congratulating him on his recent honour.

LANCASHIRE AND CHESHIRE BRANCH.

Spahlinger Treatment.

At a meeting of the Branch Council of the Lancashire and Cheshire Branch of the British Medical Association, held in Manchester on February 3rd, the following resolutions were passed with regard to the Spahlinger treatment of tuberculosis:

(1) That the Branch Council reaffirms the decision of March 24th, 1925, that a case has been made out for a full investigation of the Spahlinger treatment in England under complete medical supervision.

(2) That under no circumstances does this Branch of the British Medical Association lend its name or reputation to the support of a public appeal for funds in relation to the Spahlinger treatment until such investigation has taken place in England with a successful issue.

NORTH LANCASHIRE AND SOUTH WESTMORLAND BRANCH.

THE annual meeting of the North Lancashire and South Westmorland Branch was held at the Fleece Inn, Kendal, on January 20th, in combination with a Kendal Divisional meeting. Dr. SOMERVELL showed a case of framboesia tropica or yaws. As it was the first case seen at the Branch meeting a good deal of interest was taken in it. The patient was a sea captain; the granuloma was situated in the dorsal region and looked like a mass of granulation tissue; the diagnosis had been verified by the finding of the spirochaete. Professor FLETCHER SHAW (Manchester) delivered an address entitled "Lower abdominal pain in women."

NORTH OF ENGLAND BRANCH: SUNDERLAND DIVISION.

THE annual meeting of the Sunderland Division was held at the Royal Infirmary, Sunderland, on January 25th.

The following officers were elected for the ensuing session:

Chairman, Dr. Z. M. H. Ross. *Vice-Chairman*, Dr. W. B. Milbanke. *Honorary Secretary*, Dr. R. H. Dix. *Representative in Representative Body*, Dr. J. Chalmers. *Charities Secretary*, Dr. J. Chalmers.

A dance will be held in February or March in conjunction, it is hoped, with the West End and Bishopwearmouth East Medical Societies. Further information can be obtained from the convenor of the Dance Subcommittee, Dr. N. F. Rowstron.

The annual report for 1926 was received and approved. It recorded an increase of five in membership, and stated that three business and eight scientific meetings had been held during the year with an average attendance of 26.5 and 24.5 respectively. Thirteen members attended a post-graduate course of lectures on pre-maternity work held in the spring; an attempt to hold a post-graduate course in medicine in the autumn failed for lack of support. The report gave particulars of action taken in connexion with a considerable number of local matters affecting the medical profession.

OXFORD AND READING BRANCH: OXFORD DIVISION.

THE first meeting of the year of the Oxford Division was held at the Radcliffe Infirmary on January 26th, when Dr. WILLIAM COLLIER, sen., was in the chair. Owing to the influenza epidemic the attendance (thirty) was considerably below the average.

Chairman's Speech.

Dr. Collier thanked the Council and members of the Division for the very special honour conferred on him by his election for the second time as its chairman. He expressed his thanks for the support he had received from the members of the Oxford Branch and Oxford Division, extending over a period of forty years. Though the British Medical Association had held three annual meetings at Oxford previous to 1885, it was, he said, only in that year that a Branch was formed, and he took part in the meeting held at the Radcliffe Infirmary in April, 1885, for the purpose. On the resignation in 1897 of Mr. L. Morgan as secretary of the Branch the Council elected him (Dr. Collier) to fill the office. On the reorganization of the Association in 1903 the Oxford Branch was formed into a Division and, with Reading, constituted the Oxford and Reading Branch. The Oxford Division decided to invite the Association to hold its Annual Meeting at Oxford in 1904, and when it was found that the then regius professor of medicine, Sir John Burdon-Sanderson, could not allow himself to be nominated as President on the grounds of health, the Division nominated him (Dr. Collier), and he became President of the Association in 1904. In 1906 he became chairman of the Division. His election to the same office twenty years later made him feel that over a long period of years he had been able to gain and retain the friendship and goodwill of a large number of fellow practitioners, and this he considered a matter of supreme satisfaction.

Clinical Proceedings.

Mr. E. C. BEVERS described an unusual case of a young man who was riding a motor cycle on a country road at dusk and going at a fast rate. The driver of a horse and trap saw him approaching with his head down and shouted to warn him, but in spite of this the cyclist crashed into the trap. He was picked up and was found to be bleeding profusely from a severe wound of the face; although badly shaken he was able shortly to walk a distance of twenty-five yards to a car and was driven to the nearest cottage hospital, whence he was sent on to the Radcliffe Infirmary, Oxford, a distance of some twenty-six miles. On arrival at the hospital he was fully conscious and was supporting his fractured upper jaw with his right hand; there was a severe wound of the face between the eyes, from which blood was running freely; the bones of the nose and both superior maxillae appeared to be comminuted, and a portion of the upper jaw containing eight teeth was separated from the rest. In addition to external bleeding, a good deal of blood appeared to be running down his throat, and from his laboured respiration it was obvious that some had entered the lungs. Within a short time of his admission his breathing became more difficult and stopped; a rapid laryngotomy was done by the house-surgeon, but all efforts to restore respiration failed. Before death it was noticed that there was a projection in his back between the scapulae; this was examined more carefully afterwards and was found to be smooth and rounded and to project beneath the skin to the left of the spine and rather below the spine of the scapula; it was found that on catching hold of this projection and depressing it it was possible to lift up the head, so it was clear that a foreign body had entered the pharynx and had penetrated as far as the skin of the back. At the *post-mortem* examination a large triradiate wound was found over the bridge of the nose; the wound opened into the nasal cavities and both frontal sinuses. The upper jaw was fractured in two places and lay loose underneath the upper lip and lower part of the nose; this portion had eight teeth attached to it. The eyes were unaffected, but the orbital wall on either side was damaged, and in the pharynx was a cylindrical hard body slightly to the left side. Opposite the spine of the left scapula was a bruised portion of skin with a hard knob underneath. On making an incision over this knob there was revealed a brass rounded head which it was only possible to dislodge by hammering and delivering through the facial wound. The track of this foreign body was through the pharynx on the left side, to the left of the spinal column, and about the middle of the cervical region; avoiding the pleura and the big vessels of the neck, it had passed through the muscles of the back to the point above mentioned. The foreign body proved to be the end of the shaft of a trap, 11 inches long and 1½ inches in diameter; it was tipped with brass and had a leather sheath. The accident was an extraordinary one; the rider must have been going at tremendous speed and the impact must have been terrific to drive the blunt end of the shaft through his face, pharynx, and the muscles of his back; also he must have been bending low over his handlebars, as only in this position could the shaft have taken the course it did. It was an interesting fact that the true nature of the injury was not suspected at the time, and the police hunted for the missing end of the shaft without success. It was also remarkable that the cyclist, after such a severe injury, should have been able to walk twenty-five yards and travel a distance of over twenty miles in a car to Oxford sitting upright, as it was impossible for him to lie down, and should have survived the injury over three hours, remaining fully conscious up to the end, which was brought about by aspiration of blood into the lungs.

Dr. J. C. R. FREEBORN showed a form of abdominal rubber and uterine dilator which he had found useful in practice.

Hospital Organization in America.

Mr. HUGH WHITELOCKE gave an account of a recent visit to Canada and the United States, when he observed the present régime in the general hospitals at Montreal, Toronto, Chicago, the Mayo Clinic at Rochester, Cleveland, Baltimore, and Boston. The up-to-date equipment and buildings were everywhere noticeable, especially in the case of private pavilions attached to general hospitals, and of new private hospitals of from 100 to 200 beds, noticeably at Cleveland and Baltimore, where the new Union Memorial Hospital appeared to be the last word in perfection. The vast quantity of material at the Mayo Clinic called for very high degrees of specialization and team work, so that a maximum of work could be observed in a minimum of time. Nevertheless, it was only possible to investigate all departments fully by an intensive inspection lasting nearly three weeks. The surgeons first served as general surgeons, and then each had a specialty. The marked freedom of consultations between surgeons, physicians, and pathologists on all cases was most noticeable, and the clinic largely owed its fame and success to two facts: that no patient was ever allowed to leave with any feeling of dissatisfaction, and that all visitors were shown the utmost courtesy, and every inquiry received the fullest possible explanation and elucidation on all points. Some special features of thyroid, lung, brain, and genito-urinary surgery were briefly detailed.

SIERRA LEONE BRANCH.

THE annual meeting of the Sierra Leone Branch was held on December 30th, 1926. The President, Dr. INNESS, vacated the chair to the President-Elect, Professor BLACKLOCK, who expressed sorrow at the loss of Dr. W. Campbell, a valued member of the Branch, who had died during the year, and the secretary was directed to send a message of condolence to the family. A vote of thanks to the

outgoing officers, especially to the Past-President, Dr. Inness, proposed by the PRESIDENT, was accorded with acclamation. The following officers were elected for the ensuing year:

Vice-President, Dr. Pratt. *President-Elect*, Dr. Peacock. *Honorary Secretary and Treasurer*, Dr. Wright. *Representative in Representative Body, 1927-28*, Dr. Inness. *Deputy Representative*, Dr. Peacock.

The SECRETARY read the financial statement of the Branch, which showed a credit balance of £40 10s. It was resolved that a certain amount of the funds be spent in procuring and printing stationery, and the secretary was asked to prepare and submit forms for the approval of the next meeting. The question of publicity of the Branch was raised by Dr. PEACOCK, who referred especially to the publication of reports of meetings. The question of keeping up-country members informed of the work of the Branch having been considered, it was arranged that after the minutes of future meetings had been provisionally approved by those present at the meeting, a copy should be sent to each member of the Branch.

SOUTH WALES AND MONMOUTHSHIRE BRANCH: SOUTH-WEST WALES DIVISION.

A VERY successful meeting of the South-West Wales Division was held on January 19th at the Carmarthenshire Infirmary, when, despite the pressure due to the influenza epidemic, about twenty members were present to hear a most interesting and instructive address from Mr. T. E. HAMMOND, F.R.C.S. (Cardiff), on "Enlargement of the prostate: its pathology, symptoms, and treatment." Mr. Hammond dealt most lucidly with the various forms of treatment, and gave a lecture which was thoroughly appreciated by all present. Owing to the unavoidable absence of the chairman of the Division, Sir John Lynn-Thomas, Dr. LEWIS WILLIAMS, Ferryside, took the chair, and at the end of the lecture proposed a most hearty vote of thanks to Mr. Hammond for his excellent address. After the meeting all members had tea at the Infirmary.

ULSTER BRANCH: TYRONE DIVISION.

THE inaugural meeting of the Tyrone Division of the British Medical Association was held in the Royal Arms Hotel, Omagh, on January 26th, and an account of the proceedings appeared in the JOURNAL of February 5th (p. 258). Dr. T. HENNESSY, the Irish Medical Secretary, took the chair by invitation and opened the meeting, and after the election of officers Dr. EDWARD THOMPSON, the first chairman of the Division, presided.

On the proposal of Dr. LYLE, seconded by Dr. MCALLISTER, the Model Rules of Organization and revised Ethical Rules governing ethical matters were adopted unanimously. The SECRETARY read a letter from Dr. Malcolm, honorary secretary of the Ulster Branch, regarding the proposal of the Ministry of Labour, Northern Ireland, to appoint part-time referees. As the members present were not convinced that this system did prevail in England and Scotland, and, moreover, understood that the British Medical Association was opposed to part-time referees, the Divisional secretary, Dr. Bradley, was instructed to refer this matter back to the Branch secretary and emphasize the objections expressed. The meeting terminated with a luncheon, the expenses of which were to be borne by the Tyrone Medical Committee.

YORKSHIRE BRANCH: BRADFORD DIVISION.

THE annual dance and supper of the Bradford Division was held at the Midland Hotel, Bradford, on January 27th, at 8 p.m. The chairman, Dr. J. F. Allan, and Mrs. Allan received the guests as they arrived. The room was beautifully decorated with electric lights having various coloured shades, and the effects produced were very pretty. Over one hundred sat down to supper, after which favours were distributed, and these gave an added air of festivity to the scene. Altogether a very enjoyable evening was spent, and the dancers voted the occasion to have been an unqualified success.

BOOKS ADDED TO THE LIBRARY.

THE following books were received by the Library of the Association through the BRITISH MEDICAL JOURNAL during the months of December, 1926, and January, 1927:

Achard, C.: Troubles des Echanges Nutritifs. Two volumes. 1926.
Annals of Medical History. Volume 3, No. 3. September, 1926.
Association for Research in Nervous and Mental Disease. The Human Cerebro-spinal Fluid. 1926.
Belfrage, S. H.: *What's Best to Eat?* 1926.
Berg, L. S.: Nomogenesis or Evolution determined by Law. 1926.
Bombay University Calendar. 1925-27.
Cathcart, G.: Treatment of Chronic Deafness. 1926.
Chandler, A. C.: Animal Parasites. Third edition. 1926.
Chevallier, C. H. [illegible] du Cancer. 1926.
Conybeare, J. J. [illegible]. 1925.
Crowe, H. W.: [illegible]thritis and Rheumatism. 1926.
Elliott, C., and [illegible] without Smoke. 1926.
Elmslie, R. C.: *[illegible] valid and Crippled Children in Schools.* 1926.
Elwin, H.: Nephritis. 1926.
Far Eastern Association for Tropical Medicine. Transactions Sixth Congress. 1925, Volume I.
Ferguson, J. B.: Quartz Mercury Vapour Lamp. 1926.
Finlayson's Clinical Manual. Fourth edition. 1926.
Fuller, Sir B.: The Law Within. 1926.
Ghosh, J. H.: Technical Education. 1926.
Goodall-Copestake, B. M.: Theory and Practice of Massage. *Fourth edition.* 1926.
Greil, A.: Das Krebsproblem. 1925.
Guy's Hospital Reports. Volume 76, Part 4. 1926.
Hall-Edwards: Cancer Control and Prevention. 1926.
Hinks, E. M.: Disability in Reading and its Relation to Personality. 1926.
Humphris, T. H.: *Artificial Sunlight.* Third edition. 1926.
Hutchison, J.: Elements of Medical Treatment. 1926.
Huxley, J.: Essays in Popular Science. 1926.
Ireland: Calendar of the National University. 1926.
Jacobi: Atlas of Dermochromes. Two volumes. Fourth edition. By H. McCormac. 1926.
Jameson and Marchant: Synopsis of Hygiene. Second edition. 1927.
Kerr, James: Fundamentals of School Health. 1926.
King, J. J.: Local Anesthesia. 1926
Kneise, O.: Handatlas der Cystoskopie. 1926.
Laubry, Ch.: Les Syndromes d'Aortite postérieure. 1925.
Lawrence, R. D.: The Diabetic Life. Second edition. 1926.
Levaditi, C.: Herpès et le Zona. 1926.
Lewin, L.: Phantastica: die Betäubenden und Erregenden Genussmittel. 1927.
Lloyd, Jordon: Chemistry of the Proteins. 1926.
Loughnane, F. G.: A Handbook of Renal Surgery. 1926.
McLeod, J. J. R.: Physiology and Biochemistry in Modern Medicine. Fifth edition. 1926.
Nagelschmidt: Loss of Hair. 1926.
Ophthalmic Year Book. 1926.
Politzer: Diseases of the Ear by Ballin. Sixth edition. 1926.
Pototsky, C.: Konzentrationsgymnastik. 1926.
Read, J. J.: Textbook of Organic Chemistry. 1926.
Remington: The Practice of Pharmacy. Seventh edition. 1926.
Riddell (Lord): Daime Louisa Aldrich-Blake. 1926.
Ridcal, E. K.: Surface Chemistry. 1926.
Rieux, J.: La Tuberculose Pulmonaire latente. 1926.
Rows, R. G., and Bond, W. E.: Epilepsy. 1926.
St. Andrews (James Mackenzie) Institute Report. Volume 3. 1926.
St. Bartholomew's Hospital Reports. Volume 59. 1926.
Sanderson, W., and Rayner, G. B. A.: Introduction to the Laws and Traditions of Medical Practice. 1926.
Semon, Sir Felix. Autobiography of. Edited by H. C. Semon and T. A. McIntyre. 1926.
Sequeira, J. H.: Diseases of the Skin. *Fourth edition.* 1927.
Simon, E. D.: A City Council from Within. 1926.
United States Army Medical Department in the World War. Volume 8. Field Operations. 1926.
van Calcar, R. P.: Die Ursache des Carcinoms. 1926.
Wallace, J. Sim: Variations in the Form of the Jaws. 1927.
Warburg, O.: Uber den Stoffwechsel der Tumoren. 1926.
Watson, J. K.: Handbook for Nurses. Seventh edition. 1926.
Whiting, M. H.: Ophthalmic Nursing. 1926.
Wigg, H.: Sunlight and Artificial Light. 1926.
Yorke and Maplestone: The Nematode Parasites of Vertebrates. 1926.

Correspondence.

The State and the Public Health.

SIR,—You have several times allowed me to argue that the national phthisis mortality depends on the rate of wages (using "wages" to mean "real" wages); that its rise in 1915 was the necessary sequel of a long fall in that rate, beginning from *1896 and coincident with a series of measures* in restraint of production and wages, culminating with the Insurance Act in 1912; that, the respite due to the high wages of the war and immediate post-war period having expired, a rise will follow again within three years, a fact of which the increase of notifications is omen. Will you allow me to point to a strong confirmation of my position which seems to have escaped notice?

In the Registrar-General's Statistical Review we find that at the end of the second decade of this century, except for babies under 1 year, the only age groups which show an increase of vitality are those dating at least from 1895. There is no other decade in our records where improvement in the elder groups is at the expense of the younger. As with consumption, the war when well established checked the retrogression until the epidemic year 1918; and the high wage period immediately following shows a resumption of progress for the time. But there is every sign that at the end of the last quinquennium the processes of 1913 and 1914 are beginning again; and Sir George Newman may well call it a "disappointing and foreboding" fact that the percentage of children entering the schools in class "good" has fallen from 32 in 1915 to about 20 in 1925. Five years is too short a time for dogmatic statement; but it may be suggestive that the further we go from last century the later the age group which shows emphatic progress: in 1920 it was 25; in 1925 it was 35. (The figures for age group 30 are not given.) There is obvious reason why the young should suffer like the consumptive. Both must, so to speak, "sink all their capital in their business," the one of growing, the other of fighting disease, and no large reserve can be accumulated.

Is it not time to recognize a relation between public health and public economy, when coincident with a multiplication by nearly seventeen of the "wretched" State outlay of 1895 is the evidence that it is become a handicap to be born in this century, at any rate in poverty? The dominant policy of the last was concentration on real wages, with ceaseless warning of the costliness to the poor of State gifts, and the inculcation of self-reliance. To the men who have changed all that were bequeathed the highest wage rate on record, a better stock of parents for the race, a number of children's diseases diminished in virulence or range of incidence, a female population of immensely improved vitality, science of treatment and pre-

vention of disease beyond belief advanced. In a quarter of a century they are reimposing on the poor that taint from which the nineteenth century had painfully freed them—a taint which had been imposed by the same meddlesome disregard of economics, if applied from a different angle.

It is more than ever to be regretted that before the Royal Commission on National Health Insurance the British Medical Association did not insist on the discussion of the fundamental principle of the Act, which it shares with so many others. There is the less excuse that it began with the damaging confession that it is "not even probably the best" way to secure national health. Instead of insisting on that best it deliberately spent days and days on tinkering up an instrument whose imperfection of principle it admitted.—I am, etc.,

Bath. B. G. M. BASKETT.

In response to our request for the names of medical men elected to the chairmanship of Insurance Committees a correspondent informs us that on January 28th last, at the annual meeting of the Nottingham Insurance Committee, Dr. J. Holmes Thompson was unanimously elected chairman for the third year in succession.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

Surgeon Lieutenant Commanders F. H. Vey to the *Alecto*; J. D. Murphy to the *Pembroke* for Chatham Dockyard; F. C. Hunot, W. E. Heath, J. C. Brown, and A. W. McRorie to the *President*, additional for five months' post-graduate course.

Surgeon Lieutenant J. W. Tighe has been promoted to the rank of Surgeon Lieutenant Commander.

Surgeon Lieutenants J. F. Henderson to the *Bee*, additional, and for duty in the *Aphis* and the *Ladybird*; W. G. C. Fitzpatrick to the *Pembroke* for R.N. Hospital, Chatham, temporary.

ROYAL AUSTRALIAN NAVY.

Surgeon Commander W. E. Roberts to the *President*, additional for five months' post-graduate course.

ROYAL ARMY MEDICAL CORPS.

Lieutenant (on probation) A. K. J. Finch is confirmed in his rank.

To be Lieutenants on probation: F. McL. Richardson; G. Anderton; E. H. Hall; R. T. P. Tweedy, A. Sachs; temporary Lieutenant G. A. Walmsley, and relinquishes the temporary rank of Lieutenant; temporary Lieutenant R. A. M. Humphrey, and relinquishes the temporary rank of Lieutenant; Lieutenant J. W. Eames, from R.A.M.C., T.A.; T. E. Moles; W. R. C. Spicer.

The following Lieutenants are seconded under the provisions of Art. 205, Royal Warrant for Pay and Promotion, 1926: F. McL. Richardson, J. W. Eames, W. R. C. Spicer.

ROYAL AIR FORCE MEDICAL SERVICE.

Wing Commander J. McIntyre, M.C., to R.A.F. Depot, Uxbridge, on transfer to Home Establishment to Headquarters, Halton, supernumerary pending posting as Principal Medical Officer.

Squadron Leaders R. A. G. Elliott, E. N. H. Gray, and A. J. O. Wigmore to R.A.F. Depot, Uxbridge, on transfer to Home Establishment.

Flight Lieutenants T. McClurkin, C. A. Lindup, and W. J. G. Walker to R.A.F. Depot, Uxbridge, on transfer to Home

Flying Officer G. J. Griffiths is promoted to the

Flying Officer H. Penman to the Electric Flowerdown.

INDIAN MEDICAL SERVICE.

Major-General W. H. Ogilvie, C.B., C.M.G., K.H.P., is appointed Director of Medical Services in India, vice Major-General O. L. Robinson, C.B., C.M.G., K.H.P. The appointment is dated January 3rd, 1927.

Colonel K. V. Kukday, C.I.E., Inspector-General of Civil Hospitals, Central Provinces, is granted eight months' leave, preparatory to retirement.

The services of Lieut.-Colonel W. W. Jeudwine, C.M.G., are replaced at the disposal of the Government of the Punjab.

Lieut.-Colonel N. M. Wilson, O.B.E., Officiating Civil Surgeon, Simla West, is confirmed in that appointment.

Lieut.-Colonel D. W. Sutherland, C.I.E., and E. F. G. Tucker have retired from the service.

Lieutenants to be Captains: G. S. Gill, G. M. Irvine, G. J. Joyce, M. K. Kelavkar, M.B.E., Ranjit Sen, and J. S. Riddle.

TERRITORIAL ARMY RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

Captain H. Wilson, M.C., to be Major.

Lieutenant K. J. Franklin resigns his commission.

Lieutenant G. E. Lindsay, M.C., to be Captain.

Lieutenant G. C. Kelly, from General List, T.A. (Aberdeen University Contingent, Infantry Unit, Senior Division, O.T.C.), to be Lieutenant.

General Hospitals.—Lieut.-Colonel A. G. Hay, T.D., and Major G. A. C. Shipman, having attained the age limit, are retired and retain their rank with permission to wear the prescribed uniform.

VACANCIES.

BIRMINGHAM AND MIDLAND HOSPITAL FOR WOMEN.—House-Surgeon. Salary at the rate of £75 per annum.

BIRMINGHAM UNIVERSITY.—Professorship of Physiology. Stipend £1,000 per annum.

BRISTOL MENTAL HOSPITAL.—Second Assistant *Medical Officer (unmarried).* Salary £300 per annum, rising to £450.

BRISTOL ROYAL INFIRMARY.—(1) Two House-Physicians. (2) Four House-Surgeons. (3) House-Surgeon to the Ear, Nose, and Throat Department. (4) House-Surgeon to the Gynaecological, Ophthalmic, and Dermatological Departments. (5) Obstetric House-Physician. (6) Casualty House-Surgeon. (7) Dental House-Surgeon. Salary for (1) to (6) £80 per annum, or £100 if candidate has previously held resident appointment in the Infirmary, and for (7) £80 per annum if resident, or £116 per annum non-resident.

BROMLEY BOROUGH.—Assistant Medical Officer of Health. Salary £600 per annum.

COUNTY MENTAL HOSPITAL, Winwick.—Assistant Medical Officer (male). Salary £250 per annum, rising to £450.

DURHAM COUNTY COUNCIL.—Assistant Welfare Medical Officer (woman). Salary £600 per annum, rising to £650.

EAST RIDING MENTAL HOSPITAL, Beverley.—Medical Superintendent. Salary £900 per annum, increasing to £1,000.

ELIZABETH GARRETT ANDERSON HOSPITAL, Euston Road, N.W.—(1) Assistant Pathologist (part-time); salary at the rate of £150 per annum; (2) Assistant Physician, Mechano-therapeutic Department; honorarium £100 per annum. (3) Honorary Physician to the Children's Department.

GLASGOW EYE INFIRMARY.—Resident Assistant House-Surgeon (male). Salary at the rate of £75 per annum.

HULL EDUCATION COMMITTEE.—Assistant School Medical Officer. Salary £600 per annum.

JOHANNESBURG: UNIVERSITY OF WITWATERSRAND.—Senior Lecturer in Anatomy. Salary £516 per annum, rising to £726.

KING'S LYNN: WEST NORFOLK AND LYNN HOSPITAL.—Assistant Resident Medical Officer. Salary £100 per annum.

LANCASHIRE COUNTY COUNCIL.—Assistant County Medical Officers. Salary £800 per annum, rising to £1,000.

LEEDS TUBERCULOSIS SANATORIUM, Killingbeck.—Assistant Resident Medical Officer (unmarried). Salary £250 per annum.

LEICESTERSHIRE COUNTY COUNCIL.—Assistant County Medical Officer (male). Salary £750 per annum.

LEICESTERSHIRE ROYAL INFIRMARY.—(1) House-Physician. (2) House-Surgeons. Salary for (1) at the rate of £120 per annum, and for (2) £125 per annum.

LIVERPOOL OPEN-AIR HOSPITAL FOR CHILDREN, Leasowe.—Junior Medical Officer. Salary £200 per annum.

LONDON HOSPITAL, E.—First Assistant and Registrar to one of the Medical Firms. Salary £300 per annum.

MANCHESTER: ANCOATS HOSPITAL.—Honorary Physician.

MIDDLESBROUGH: NORTH RIDING INFIRMARY.—Junior House-Surgeon (male). Salary at the rate of £150 per annum.

NATIONAL HOSPITAL, Queen Square, W.C.1.—Resident Medical Officer. Salary £200 per annum.

NEWCASTLE-ON-TYNE: NORTHUMBERLAND, DURHAM, AND NEWCASTLE EYE INFIRMARY.—Honorary Surgeon.

NORTHUMBERLAND COUNTY COUNCIL.—Assistant Medical Officer at the Wooley Sanatorium (unmarried). Salary £350 per annum.

NORWICH: JENNY LIND HOSPITAL FOR CHILDREN.—Resident Medical Officer (male). Salary £120 per annum.

NOTTINGHAM: GENERAL HOSPITAL.—House-Physician. Salary at the rate of £150 a year.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney Road, E.2.—Resident Medical Officer. Salary, inclusive of panel fees, £200 per annum.

ROYAL FREE HOSPITAL, Gray's Inn Road, W.C.1.—House-Physician to the Children's Department (woman).

ROYAL NATIONAL ORTHOPAEDIC HOSPITAL, 234, Great Portland Street, W.1.—House-Surgeon. Salary £150 per annum.

RUGBY: HOSPITAL OF ST. CROSS.—Senior and Junior Resident Medical Officers (males). Salary £150 and £100 per annum respectively.

SMETHWICK COUNTY BOROUGH.—Lady Assistant Medical Officer. Salary £600 per annum.

SOUTH SHIELDS COUNTY BOROUGH.—Clinical Venereal Diseases Medical Officer. Salary £750 per annum.

STOKE-ON-TRENT CITY AND COUNTY BOROUGH.—Medical Officer of Health. Salary £1,400 per annum.

SWANSEA COUNTY BOROUGH.—Lady Medical Officer. Commencing salary £600 per annum.

UNIVERSITY COLLEGE HOSPITAL, Gower Street, W.C.1.—Harker Smith Registrar. Salary £250 per annum.

VICTORIA HOSPITAL FOR CHILDREN, Tite Street, Chelsea, S.W.—Honorary Anaesthetist.

WATFORD: PEACE MEMORIAL HOSPITAL.—Resident Medical Officer. Salary at the rate of £150 per annum.

WEST LONDON HOSPITAL, Hammersmith Road, W.6.—(1) House-Physician. (2) Two House-Surgeons Males. Salary at the rate of £100 per annum.

WESTMINSTER HOSPITAL, S.W.1.—Second Assistant Medical Officer of the X-Ray and Electrical Department.

WESTMINSTER HOSPITAL SCHOOL OF MEDICINE.—Lecturer in Public Health, honorary.

CERTIFYING FACTORY SURGEON.—The appointment at Allendale (Northumberland) is vacant. Applications to the Chief Inspector of Factories, Home Office, Whitehall, S.W.1.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.

APPOINTMENTS.

FERGUSON, J. B., M.D.Edin., D.P.H., Medical Superintendent of the Tuberculosis Division of the Government of Victoria, Australia.

REED HILL, Kenneth, M.D.Lond., D.O.M.S., Honorary Ophthalmic Surgeon to the Kent County Ophthalmic Hospital, Maidstone.

RODGER, K. M., M.B., Ch.B.Glas., Senior Assistant Medical Officer, Salop Mental Hospital, Shrewsbury.

STEVENSON, W., M.B., Certifying Factory Surgeon for the Killin District, co. Perth.

VERRALL, P. Jenner, *F.R.C.S.*, Orthopaedic Surgeon to the Royal Free Hospital, London.

DIARY OF SOCIETIES AND LECTURES.

ROYAL SOCIETY OF MEDICINE.

Social Evening.—Mon., 8.30 p.m., Reception by the President and Lady Berry. 9.30 p.m., Address by Mr. Percy Flemming: Topographical and Medical Notes on "Harley Street" (with illustrations).

Section of Medicine.—Tues., 5 p.m., Discussion: Migraine. Opener: Dr. C. P. Symonds.

Section of Comparative Medicine.—Wed., 5 p.m., Mr. G. P. Male: Disease other than Tuberculosis conveyable to Man by Milk.

Section of Urology.—Thurs., 8.30 p.m., Mr. Henry Wade: Treatment of Malignant Disease of the Bladder.

Sections for the Study of Disease in Children and Medicine.—Fri., 8.30 p.m., Special Joint Discussion: Antitoxin Treatment of Scarlet Fever. Openers: Drs. E. W. Goodall, R. A. O'Brien, and F. Foord Caiger.

Section of Epidemiology and State Medicine.—Fri., 8 p.m., Dr. N. Howard Mummery: Organization of an Industrial Clinic.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.—Lectures:—Mon., 5 p.m., Professor B. W. Williams: Importance of Toxaemia due to Anaerobic Organisms in Intestinal Obstruction and Peritonitis. Wed., 5 p.m., Professor J. Howell Evans: Testicular Tumours of Congenital Origin. Fri., 5 p.m., Professor J. E. H. Roberts: Diagnosis and Treatment of Intrathoracic Tumours.

MEDICO-LEGAL SOCIETY, 11, Chandos Street, W.1.—Thurs., 8.30 p.m., Dr. F. J. McCann: Some Cases of Medico-legal Interest in the Practice of Gynaecology; followed by a discussion.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, W.1.—Mon., 9 p.m., First Lettsomian Lecture by Mr. Donald J. Armour: The Surgery of the Spinal Cord and its Membranes.

ST. JOHN'S HOSPITAL DERMATOLOGICAL SOCIETY (incorporating the London Dermatological Society), 49, Leicester Square, W.C.2.—Wed., 4.15 p.m., Dr. Nicoll: Parasitic Worms in Affections of the Skin. Clinical cases. Photographs taken at Leysin will be shown.

POST-GRADUATE COURSES AND LECTURES.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION.—Special Lecture at the Medical Society, 11, Chandos Street, W., Thurs., 5 p.m.: *Fits and Faints. Open to all members of the medical profession* without fee. *Central London Throat, Nose and Ear Hospital*, Gray's Inn Road, W.C.1: Special Clinical Surgery Demonstration, Thurs., 2 p.m. Open to all members of the medical profession without fee, but those wishing to attend are asked to notify the Hospital Secretary (Museum 1539). *Royal Westminster Ophthalmic Hospital*, Charing Cross, W.C.2: Special Lecture, Wed., 5 p.m.: Affections of the Cornea. *London Lock Hospital*, Dean Street, W.1: Special Course in Venereal Diseases. Clinical work daily and special lectures. *St. John's Hospital*, Leicester Square, W.C.2: Special Course in Diseases of the Skin. Instruction in the Out-patient Department and Lectures, Tues. and Thurs. *National Hospital*, Queen Square, W.C.1: Special Course in Neurology. Daily instruction and special lectures. All information as to fees, etc., obtainable from the Fellowship of Medicine, 1, Wimpole Street, W.1.

CENTRAL LONDON THROAT, NOSE, AND EAR HOSPITAL, Gray's Inn Road, W.C.1.—Fri., 4 p.m., Bronchoscopy and Oesophagoscopy.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.1.—Thurs., 4 p.m., X-Ray Diagnosis.

LONDON SCHOOL OF DERMATOLOGY, St. John's Hospital, Leicester Square, W.C.2.—Tues., 5 p.m., Seborrhoea, Seborrhoeic Dermatitis. Thurs., 5 p.m., Pruritus, Prurigo, Lichenification.

NATIONAL HOSPITAL, Queen Square, W.C.1.—Mon., Tues., Thurs., and Fri., 2 p.m., Out-patient Clinics. Mon., 12 noon, Pathology of the Nervous System; 3.30 p.m., Lesions of the Trigeminal Nerve affecting the Eye. Tues., 3.30 p.m., Electrical Reactions of Muscles. Thurs., 3.30 p.m., *Cerebellar Disease.* Fri., 12 noon, *Anatomy and Physiology of the* Nervous System; 3.30 p.m., Surgical Treatment of Spastic Diplegia. Operations: Tues. and Fri., 9 a.m.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.15.—Mon., 10 a.m., Surgical Clinic; 2.30 p.m., [illegible] of Medical Cases; 2.30 to 5 p.m., Medical, Surgical, Operations. Tues., 2.30 to 5 p.m., Medical, Ear Clinics; Operations. Wed., 2.30 p.m., Nose Cases; 2.30 to 5 p.m., Medical Skin and Throat Clinics; 2.30 to 5 p.m., Dental Clinics; 2.30 to 5 p.m., Medical, Surgical, and Ear, Nose, and Throat Clinics; Operations. Fri., 10.30 a.m., Throat, Nose, and Ear Clinics; 2.30 to 5 p.m., Surgical, Medical, and Children's Diseases Clinics; Operations.

POST-GRADUATE HOSTEL, Imperial Hotel, Russell Square, W.C.1.—Wed., 9 p.m., *Diagnosis and Treatment of Ulcers of the Lesser Curvature.* Thurs., 9 p.m., Symposium; Ulcers over the Tibia.

ROYAL NORTHERN HOSPITAL, Holloway Road, N.—Mon., 2.15 p.m., Treatment of the Anxiety Neuroses; 3.15 p.m., Prostatic Obstruction. Tues., 2.15 p.m., Some Diseases of the Biliary Tract; 3.15 p.m., Carcinoma of the Larynx. Wed., 2.15 p.m., Diagnosis of Skin Diseases; 3.15 p.m., Surgery of the Chest. Thurs., 2.15 p.m., Drugs in Disease of the Heart; 3.15 p.m., Obstructed Labour. Fri., 2.15 p.m., Cancer of Rectum; 3.15 p.m., Points of General Interest in Eye Diseases.

TAVISTOCK CLINIC FOR FUNCTIONAL NERVE CASES, 51, Tavistock Square, W.C.1.—Mon., 4.45 p.m., *The Nervous System*; 5.45 p.m., *Hysteria.* Tues., 4.45 p.m., Psychoneuroses; 5.45 p.m., Neurasthenia. Wed., 4.45 p.m., Treatment; 5.45 p.m., Anxiety States. Thurs., 4.45 p.m., Treatment; 5.45 p.m., Dementia Praecox and Manic Depression. Fri., 4.45 p.m., Toxaemia; 5.45 p.m., Insomnia.

WEST LONDON HOSPITAL POST-GRADUATE COLLEGE, Hammersmith, W.6.—Mon., 10 a.m. to 1 p.m., Genito-urinary Operations, Skin Department, Surgical Wards; 2 p.m., Surgical Wards, Gynaecological and Eye Departments. Tues., 10 a.m. to 1 p.m., Lecture on Clinical Methods, Demonstrations in Venereal Diseases and Chest Cases; 2 p.m., Medical Wards, Throat, Nose, and Ear Department. Wed., 10 a.m. to 1 p.m., Children's Medical Out-patients, Medical Wards, Demonstration in Medical Pathology; 2 p.m., Surgical Wards, Eye Department. Thurs., 10 a.m. to 1 p.m., Neurological Department, Demonstration of Fractures; 2 p.m., Eye and Genito-urinary Departments, Gynaecological Ward. Fri., 10 a.m. to 1 p.m., Gynaecological Operations, Dental, Skin, and Electrical Departments; 2 p.m., Throat, Nose, and Ear Department. Sat., 10 a.m. to 1 p.m., Bacterial Therapy Department, Children's Medical Department. Daily: Operations, Medical and Surgical Out-patients at 2 p.m.

GLASGOW POST-GRADUATE MEDICAL ASSOCIATION.—*At the Western Infirmary:* Wed., 4.15 p.m., Surgical Cases.

JAMES MACKENZIE INSTITUTE FOR CLINICAL RESEARCH, St. Andrews.—Tues., 4 p.m., *Oxaluria in Children.*

MANCHESTER: ST. MARY'S HOSPITALS (Whitworth Street West Branch).—Fri., 4.30 p.m., Poliomyelitis (Polio-encephalitis) in Children.

SHEFFIELD UNIVERSITY POST-GRADUATE CLINICS.—At the Royal Hospital: Fri., 3.30 p.m., Ophthalmic Clinic.

British Medical Association.

OFFICES, BRITISH MEDICAL ASSOCIATION HOUSE, TAVISTOCK SQUARE, W.C.1.

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Diary of the Association.

FEBRUARY.

18 Fri. London: Ophthalmic Committee, 2.15 p.m.
Bishop Auckland Division: Cottage Hospital, Bishop Auckland, 8 p.m.
East York Division: Powolny's Restaurant, Hull. B.M.A. Lecture by Dr. H. Letheby Tidy on Glandular Fever, 9 p.m.
Northern Counties of Scotland Branch: Clinical Meeting, Gray's [illegible].
Windsor [illegible]: [illegible] VII Hospital, Windsor. Dr. J. J. [illegible] of the Public Health Service to Private Practice, 4.15 p.m.

22 Tues. Croydon Division: Croydon General Hospital. Professor Leonard Hill on Sunshine and Open Air, 8.30 p.m.
Lanarkshire Division: County Hospital, Motherwell. Dr. John Reed on the Fever Hospital and the Practitioner, 8.30 p.m.
West Dorset Division: Parish Room, Blandford. B.M.A. Lecture by Professor G. E. Gask on the Therapeutic Value of Operations for Gastric Ulcer, 2.30 p.m.

23 Wed. London: Contract Practice Subcommittee, 2.30 p.m.
Bath and Bristol Branch: Red House, Bath. Dr. Robert Hutchison on Dyspepsia, 8.15 p.m.
Bradford Division: Royal Infirmary. B.M.A. Lecture by Mr. N. Bishop Harman on the Recognition of Common Eye Disorders in General Practice, 8.30 p.m.
North Middlesex Division: Mr. Reginald Holmes on Diseases of Medical and Veterinary Interest.

24 Thurs. London: Joint Science and Insurance Acts Committee, Research Subcommittee, 2.30 p.m.
Bournemouth Division: Annual Dinner, Royal Bath Hotel.
Hyde Division: Stalybridge Town Hall. Address by Dr. F. Craven Moore on the Early Diagnosis of Cancer of the Stomach, 8.30 p.m.
[illegible] ranch: B.M.A. House, Tavistock to Senior Students and Recently Mr. E. B. Turner on Practice and [illegible] p.m.
[illegible] etropole, Swansea. B.M.A. Lecture by Dr. Robert Hutchison on Asthma in Childhood, 7.15 p.m. Supper, 8.45.
Westminster and Holborn Division: Romano's Restaurant, Strand. Discussion on Sport. Meeting preceded by dinner, 7.30 p.m.

25 Fri. Bishop Auckland Division: Cottage Hospital, Bishop Auckland. Dr. Farquhar Murray on Modern Aspects of Midwifery and Gynaecology, 8 p.m.
Chesterfield Division: Maternity Hospital. Professor Miles Phillips on Gynaecological Diagnosis, 8.15 p.m.
Edinburgh Branch: Clinical Meeting, Royal Infirmary, Edinburgh, 3.30 p.m. Dinner, Scottish House of the Association, 6, Drumsheugh Gardens, 6.30.

MARCH.

1 Tues. London: Pathological Committee, 2.30 p.m.
2 Wed. London: Medical Officers of Public Schools Subcommittee, 2.30 p.m.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcement of Births, Marriages, and Deaths is 9s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

MARRIAGES.

HODGSON—ROUND.—On February 9th, at Old Edgbaston Church (by the Rev. J. J. Bell, assisted by Canon Blofeld), Alfred Birkbeck, M.B., M.R.C.P.Lond., younger son of the late Canon Hodgson of Aston and Mrs. Hodgson of 85, Trinity Road, Birchfields, to Margaret Anne, elder daughter of Mr. and Mrs. Harold Round of "Hill Crest," St. James Road, Edgbaston. At Home "Glencoe," Maney, Sutton Coldfield, March 25th, 26th, and 27th.

JONES—DAVIES.—*On Tuesday*, February 15th, by the Revs. R. Clayton and S. G. Caulton, at St. Dunstan's, William Frederic Jones, M.B., *Ch.B.*, son of Mr. and Mrs. William Jones of Sefton Park, Liverpool, to Mary Elizabeth (late Sister, Bristol Royal Infirmary), daughter of Mr. and Mrs. Davies of Claughton, Cheshire.

WARREN—ARDELL.—On January 1st, at St. Peter's, Kabale, Kigezi, Uganda Protectorate, the Rev. John East Lanfear Warren, *M.C.*, to Kathleen Ardell, M.B., B.S.

DEATHS.

ARCHIBALD.—On January 30th, 1927, suddenly, Robert Richmond Archibald, M.A., M.B., Ch.B., B.Sc., of Woodlands, Denby Dale, Huddersfield, in his 40th year.

DOUGLAS-CRAWFORD.—On February 7th, 1927, very suddenly, Douglas Douglas-Crawford, M.B., C.M.Edin., F.R.C.S.Eng., of 75, Rodney Street, Liverpool.

FEGAN.—On February 9th, in London, Richard [illegible]gan, M.D.St. And., F.R.C.P.I., late of Blackheath and Old Charl[illegible], Kent, and late ex-President, Irish Medical Society, *in his 88th year.* [Funeral, Charlton Cemetery, Friday, February 11th, 2 p.m.]

MITCHELL.—On February 9th, at "Claremont," Chest[illegible]-Street after a long illness, John R. Mitchell, M.B., aged 51 years, late Captain R.A.M.C., formerly of Walker, Newcastle-on-Tyne.

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SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, FEBRUARY 26TH, 1927.

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Remarks
ON
PRACTICE AND SOME TYPES OF PATIENTS.*

BY
E. B. TURNER, F.R.C.S.,
PAST CHAIRMAN, REPRESENTATIVE BODY, BRITISH MEDICAL ASSOCIATION.

BEFORE proceeding to my subject I shall mention two things which I think are absolutely necessary for you to do—by those of you who are already qualified, now, at once; by those of you who will be taking your first degree in the near future, as soon as you have achieved that honour.

The first of these is that you should at once join one of the medical protection societies. Of late there have been many more actions brought against practitioners for malpractice or neglect than used to be the case. The law courts are open to everybody, and any disgruntled person can bring an action against a doctor whenever he chooses. If you have noticed the results of these recent actions you will have seen that the medical practitioner has generally won his case, but though that may be so, if he were not insured in one of the defence societies his pecuniary loss would have been very heavy, because in many cases the plaintiff is a man of straw and the action speculative, and it is impossible when the case is won to get any costs from him. Moreover, in cases in which some part of the costs may be forthcoming, there is always the balance which has to be paid by the litigant himself—the part of the costs known as that between solicitor and client. If, however, the doctor be a member of one of these societies this liability is taken from his shoulders.

The second is that, as soon as you are registered, you should at once join the British Medical Association. By so doing you will become a member of a great and world-wide association of medical practitioners. You will have opportunities for meeting and coming across most of those of your profession who live in the same district as yourself, and for pulling your weight in whatever movements, political or otherwise, the Association may undertake. You will also receive each week the *British Medical Journal*, which alone is a great asset, and be able to participate in various other material benefits open only to members of the Association. Those who join as soon as they are registered will be admitted at half the usual subscription for a period of years.

*An address (abridged for publication) delivered at a meeting held by the Metropolitan Counties Branch on February 24th for recently qualified practitioners and fourth and fifth year students of medicine.

Final Preparation for Practice.

I am to-day to speak to you on the practice of your profession in whatsoever branch of it you may elect to work, and I think it would be right and proper that I should first say something as to your final preparation for that work in the outside world. To do well in practice a very sound knowledge of your profession, though by far the most important, is by no means the only factor which makes for success. Personality, presence, tact, sympathy, understanding, and a profound knowledge of human nature are indispensable. You cannot begin to cultivate these essentials too early. To do well you must become a "man of parts" in all senses of the word, and all things to all men, and especially all women, for in my own experience I have treated twenty women for every man for whom I have prescribed. Therefore, I urge all of you to have some interests outside your actual profession—cultivate some hobby. I do not care much what it may be so long as it brings you into contact with your fellow men, well away from the bedside, and, if it be possible, into the open air. To some this may not be advisable: your inclinations may lead you to vary your work by taking up another line of scientific research—well and good, "'twill serve," but those of you to whom sport in any form is a real recreation and allurement, "grapple it to your soul with hooks of steel." Do not confine your efforts to one branch of sport only; take up several. Play the strenuous games so long as you may be able, and in later years carry on with those which do not exact so much physical exertion. A sporting reputation will often be of service to you in quite unexpected ways. Do not, however, think I am putting amusement and hobbies in front of real and serious preparation for your future career. A wise student can combine the two. Another thing I wish to impress upon you is this: from now to the end of your professional existence, keep up your anatomy and physiology. These are the twin rocks upon which the whole edifice of your work is founded and built. What is surgery? Even surgery *in excelsis* is but anatomy and common sense, while medicine in addition takes to herself rather more physiology.

I most strongly advise every student to set his face towards house appointments, either in a large teaching hospital, or, if that be not possible, in some other institution. He will be infinitely better qualified for practice if he works as house-physician or house-surgeon with the help and under the supervision of the staff of some hospital. Not only will the experience gained from his cases and the responsibilities he will have to face be invaluable, but if, as I hope it is still the custom, he teaches in the wards as he goes round, that teaching will increase his knowledge and accuracy fourfold.

Special Branches of Practice.

Those of you who have become qualified have reached the culminating point of the first stage of your career as a student of medicine. Students of medicine you are and students of medicine you and every one of us will remain until we cease to function. You will therefore give thought to your future and consider in which branch of the profession you can best employ your talents and abilities. Those who have taken honours, won scholarships and prizes, will naturally turn towards the higher examinations for the M.D. or Fellowship, with a view to an appointment on the staff of a hospital. If you are well qualified and able to give the time and work necessary to obtain and succeed in such a post, you can hardly do better. Some may intend to specialize in some branch of medicine or surgery. If so, be sure that you know your professional work from Alpha to Omega before you confine yourself to study one department only. To be a really competent specialist a man should have a comprehensive knowledge both of medicine and surgery, and if possible should practise some years before starting on his own particular line of work.

We cannot get on without specialists. Some portions of our economy should practically be sacred to them, but when, as has often happened, I have been asked what I know of some eminent gentleman who is supposed to be a specialist for some organ or disease which is so intimately an integral part of medicine and surgery as a whole that every practitioner must have a complete and exhaustive knowledge of it if he is to do any effective work whatever, then it gives me pause to think and wonder.

Some of you may decide to take a commission in the Navy, Army, Air Force, or Indian Medical Service. The authorities of the War Office, working with the British Medical Association, have lately so improved the conditions of service for officers in the R.A.M.C. that anyone will do well to take up that branch of practice should his inclinations lie in that direction.

The Public Health Medical Service and appointments under various Government departments will attract a certain proportion of you. The D.P.H. is now, under the new regulations, more of an honours degree than a mere appendage of letters, and will distinguish those men who intend to devote their life to that which I prefer to call "administrative" medicine. Many attempts have been made to draw a line between clinical and preventive medicine—how far the medical officer of health should go in the treatment of illness, and what should be the duties and the attitude of the clinical practitioner towards the prevention of disease. I am firmly of the opinion that, during the many years I have been giving advice how to avoid illness and how to treat it, I was in fact combining clinical with preventive medicine. Therefore I consider that the terms "clinical" and "administrative" best define the scope of the work of the practising and public health branches of the profession.

In these progressive times there is a magnificent future for the medical officer of health. Though he will often be expected to prevent the unpreventable and remove the irremovable, his opportunities to improve the physical conditions of the people will be abundant, and his influence for good on the health of the community enormous. Every one of you who takes up this particular branch of work on every possible occasion should strive to work hand in glove with the practitioners in your district. Your work will then be far easier of accomplishment and more satisfactory than if a state of armed neutrality or open warfare exist between you and them. One drawback, however, there is to service either under the State or a municipal body. To parody the poet—

"Red Tape is too much with us,
Signing and certifying we lay waste our powers."

Minutes and reports are doubtless necessary to the supervising departments, but I often wonder if equal efficiency could not be secured with half the expenditure of ink, paper, and valuable time, which last, on the part of the doctor, might be so much better employed.

The Work of the General Practitioner.

The greater number of you, however, will go out into the world and start work as general practitioners—in other words, you will take up your position in the front line of defence against the continuous attacks of disease. In London and in the great industrial centres you will be the first to see and appreciate the beginnings and the earliest symptoms of mischief, which in many cases may be of little moment, but in others of the gravest importance. In the sparsely populated rural districts you will be even more responsible. It is hardly possible to overstate the importance of such work, be it undertaken in country or town. In either case your motto must ever be "Principiis obsta," and the early exercise of your intelligence and acumen will save many a life and put a term to years of unnecessary invalidism. However much you may be tempted, never palliate symptoms only—get right down, try to discover the cause of the trouble, and, if possible, remove it. You will have the advantage of seeing your cases when it is possible to benefit them. Your supports, the heavy guns, the consultant and the specialist, often have no chance of doing much good, as they frequently arrive on the scene too late. Therefore, during your preparation for your future practice cultivate without ceasing the ability to make an early and accurate diagnosis, coupled with a sound prognosis, in every case you may see, however commonplace and trivial at the first glance it may appear. You can then take whatever action may be necessary, and when required call up your reserves, and in time.

You are asked to visit a sick person. You will soon find on many occasions that a very urgent summons is dictated by discomfort rather than by danger, while the quiet little note or message—"If you are in this part of the world come and see me some day, I am not feeling very well"—may have behind it a grumbling appendix, the little malignant lump calling out for immediate attention, or the beginnings of some definite disorder. Again, very early in the course of your work you may, you probably will, be confronted with a situation such as you have never had to face during all the years of your training. You may visit a person whom you may never have seen before; apparently on the surface there is very little wrong, but after careful examination you find such unsuspected conditions of disease—hepatic carcinoma, for instance—that a fatal termination is only a matter of a short time. What are you to do, what are you to say? The task is indeed difficult. To combine consideration and mercy to your patient, with justice to his relations and yourself, will call for the exercise of the greatest tact, the most profound sympathy.

You will not see in private practice the same sort of cases that you meet with in hospital. By this I do not mean that pneumonia in a private house differs from pneumonia in a hospital ward; the illness *qua* illness and pathological change is the same; the sufferers may differ, but that is another story. In a great hospital you have gathered together persons afflicted with severe and pronounced disease, the victims of serious accidents and cases which from their very nature and environment are beyond the possibility of proper treatment by the outside practitioner. Therefore you will not see so many grave cases wherever your work may lie. In industrial districts they are more frequent, as the British workman is slow to seek advice unless his ailment is painful or keeps him from work; he seeks aid when his condition approximates to that of the hospital patient. In mining areas you will have to deal frequently with many serious accidents. But if your lot should be to look after the well-fed, well clothed, well housed sections of the community you will be surprised at the small proportion of cases of really serious illness you

will be called upon to attend. I should astonish you if I were to tell you how few cases of tuberculosis of the lungs have been under my care during the last forty-five years. Since I was house-physician at St. George's I have only seen three cases of enteric fever and one of glaucoma.

Some Hints on Private Practice.

Being familiar with all the grave manifestations of disease which you meet in the wards you are able to go with confidence into a house with a sure faith that whatever you may there find cannot be worse than that which you have seen habitually treated in hospital. When seeing a patient always believe in yourself. Do not have an exaggerated self-confidence, but be confident. If you have not confidence in yourself how can you expect a sick person to have confidence in you? Patients are very quick indeed to notice whether a practitioner thinks he is going to do them good or not, and they appreciate confidence almost as much as any other quality in the physician. Again I repeat that house office is invaluable.

Never forget to carry with you into your private practice that habit—the most important of any you may acquire in hospital—of always examining and noting the condition of every organ in every case. You will find that a very large proportion of the mistakes other people make are not due to any lack of knowledge or skill, but to the fact that one or more important organs have not been carefully passed under review.

The work in hospital is done with the aid of every possible appliance—chemical, mechanical, optical, and electrical. Above all things never become slaves to your instruments. Cultivate at all costs that which, wanting a better term, may be called your "*clinical instincts.*" Make the diagnosis with your brains, your eyes, your fingers, and your ears, and then bring in your machinery to confirm or disprove your findings. Of late years I have noticed that many men of the younger generations are very chary of expressing an opinion, even on an obvious case, until they have had the way made plain before them by a laboratory test and instrumental assistance. To use the invaluable methods of modern-day scientific research to this purpose is to degrade them to the function of crutches, the constant use of which will enfeeble your intellectual muscles and doom your independent perceptions to atrophy. Let them rather take the place of a walking-stick that will support your steps in rough places without paralysing your limbs. Times without number you will find the eye, the finger, and the stethoscope, used with a trained clinical intelligence, beat the test tube, the *x* ray, and the swab. Acting on the knowledge thus obtained, you frequently can save much valuable time, to the great benefit of your patient. Use to the very fullest extent, but do not abuse, the assistance given to you by science.

If when you visit a sick person you are fit and well, and (to use a slang expression) "full of beans," you may be certain you will do that individual much more good than if you yourself were feeling depressed and below par. Some persons call this the "gift of healing." Patients are quick indeed to notice your manner and derive confidence and hope, or the reverse, from your demeanour. If you are by nature merry and bright, optimistic and high-spirited, be thankful that you are so constituted, and exercise these powers to the fullest extent. If you are not, assume a cheerfulness though you have it not.

While holding the most exalted ideals of personal and professional honour so far as is possible be all things to all men. A hyperaesthetic enjoying bad health and a bread-winner striving and fretting to get back to his work require quite different management if you are to do your very best for both. To accomplish this requires tact and adaptability. Much good can be done to a patient merely by bringing the life, motion, and fresh air of the outer world into the confined atmosphere of the sick-room. At all times and in all seasons be very gentle with your patient. Take great pains to make an invalid as contented and as comfortable as possible. Let the yoke of your restrictions be as easy and the burden of your directions as light as the exigencies of the case will allow. The bed of sickness is not the bed of Procrustes. You must fit the bed to your patient, not your patient to the bed. Be very explicit in your directions to the patient and his attendants. You would be surprised to hear what I have often found administered as "light simple sort of food." Dot your i's and cross your t's. You will daily have to set out dietary schemes for your patients. Do not fall into the error so common among food reformers and argue from the individual to the mass. It is a certainty that brown bread and vegetables, or beef and beer, will never suit everyone. Study to find out what is best for each particular patient, and "let the punishment fit the crime." The early success of homoeopathy was, in the first instance, a revolt against too much calomel, colocynth, and senna. The drastic drugs which may be the salvation of a navvy are anathema to a thin-skinned, fair-haired, blue-eyed girl. Never prescribe for a person until you have shaken hands with him and thus assured yourself of the texture of his skin and mucous membrane.

Every general practitioner should be prepared to accept and face his own responsibilities. I do not mean by this that an untamed enthusiast should rush in to operate where an expert might well fear to tread, or that a man should be so obsessed by his own opinion of his own skill and importance as to be offended at the idea of a consultation, however difficult and obscure the case may be, but that he should treat, and continue to treat until its conclusion, every illness which comes within his powers. There are always practising men whose repute is greater with the public than with their own profession, who never by any chance take any responsibility whatever if they can avoid it. Should they be confronted with an ordinary conjunctivitis or simple inflamed throat they at once invoke the aid of Sir Adenoid Tonsil or Mr. Cataract Lens and stand by while, under the aegis of these great names, Nature recovers the patient. Such methods, though probably sound enough as regards these particular practitioners, do not conduce either to the good of the patient or to the repute of the profession.

A good physician never treats the illness, but always the patient. Some fifty years ago I attempted to give a strong full-blooded robust country squire in Dorsetshire, suffering from *pneumonia*, the same treatment which I had seen succeed with the poor half-starved denizens of the Embankment and the parks who were admitted into hospital. I was saved from the consequences of my want of experience by an old-fashioned unqualified assistant, and have been ever grateful to him since. Be very friendly with Nature: she is ever striving to heal, and though in her efforts to do so she frequently destroys the individual she means well. Do not rudely obstruct her path—guide, lead, direct her.

Cures, Charlatans, and Cults.

You will but seldom be able to claim that you have cured a person. I am not now speaking of surgical cases: a gangrenous appendix successfully removed is a "cure" and there are even a few specifics in medicine. We aid "recovery," we but seldom "cure."

You will, however, during the whole of your professional life hear of numberless wonderful cures attributed to or accomplished by quacks, herbalists, osteopaths, bonesetters —"Ambubaiarum Collegia, Pharmacopolae hoc genus omne"—unqualified as a rule, though sometimes, I am ashamed to say, a charlatan disgraces a medical degree. You will *hear* of these cures. You will *see* the other side of the picture. When an individual considers himself so far superior to the common herd that the orthodox is not good enough for him, and when either by grace of Nature or in some cases due to the skill and technical competence of the charlatan a good result is obtained, then everyone must hear of it. At all times and in all places he spreads the good tidings, considering his happy fortune a tribute to his own intelligence; and he is ably seconded by the quack, especially if he be a person in the public eye. Like Mr. Vincent Crummles, you may wonder how these things get into the papers, but there they appear, and the whole matter flares up into that glare of publicity and blazon of advertisement which is the very life-blood of the quack but unbecoming conduct on the part of a member of a learned profession. Such are the cases of which you will *hear*. You will *see* the failures. No publicity here; no credit here to quack or quacked. It will be your task to attempt to

repair the damaged joints, to palliate the sufferings, soothe the downward path and sign the death certificates for those who come under your care "cured" of "tuberculosis," or suffering from malignant disease allowed to increase until an operation is neither advisable nor possible. But few hear of these disasters; they sink into oblivion—the oblivion of the sacred confidence between doctor and patient. Be very tolerant in all your dealings with such cases. Even in the present day when insulin, appendicitis, and sterilization of the unfit are discussed at every dinner table, the general public is very unknowing of things medical. "Populus vult decipi et decipiatur."

Very often you will come into contact with the votaries of those cults—religious, semi-religious, psychic, and imaginative—which profess to remove all ills by suggestion and other means of influencing the nervous system. As with quackery, so with these scarcely less harmful fantasies, you will hear only of their virtues. You will experience their vices. But in your haste do not write them all down as pure humbug. Though an abomination to your intellect and intelligence, still, as the small boy said of the lie, you may some time find them a very present help in time of trouble, especially in those very difficult and unsatisfactory cases in which there is nothing whatever the matter with the patient. I mean by this, when he has no organic lesion or definite disease. Great success occasionally attends an attack along these lines in cases of purely functional disorder.

Year by year you will see the rise and follow the decline and fall of many new diseases, of many loudly vaunted methods of treatment, and will regret the premature discussion in public of matters of real scientific interest while yet in the experimental stage. It will be your lot to watch an endless procession of fetishes, each one surviving until pushed out of the limelight by its successor. In the morning they flourish like a green bay tree; in the evening they are cut down dried up and withered.

Relations with Colleagues.

In the course of your future work you are bound to come in contact with your fellow practitioners in many ways and on many occasions. You will hear a great deal about medical etiquette. I want you at once thoroughly to understand that all the rules of medical etiquette have been set forth and are carried out with the one idea and expectation of promoting smooth sympathetic working between practitioners, and thus conducing to the good of the patient. The benefit of the patient in these matters is a supreme law, and when you read and hear about ethical rules you will find that they are always designed to lead up to this good effect. In our profession we are extremely individualistic, and it is certain that there will be occasional friction between us, sometimes even leading to a quarrel. This is always unfortunate and generally unnecessary. If you make a rule to put yourself in the other man's place and act as you think he should act towards you, fighting will be at a discount and ethical rules not required.

There are various canons of behaviour laid down for the members of a learned profession, one of the principal of which is that no improper public advertisement of a particular person should be allowed. The advertisers have always been and always will be with us. A certain number of men do not think that the success to which they themselves consider they are entitled comes to them quickly enough, or having attained a certain notoriety wish to remain in the limelight, and so they take these methods to hurry that success which should come as a result of constant and patient work. This practically means reducing a learned profession to the level of an advertising trade. Doubtless "the jingle of the guinea helps the hurt that honour feels."

You will frequently have to deal with consultants and the ethics of consultation. There are three ways in which most general practitioners regard this subject—two quite wrong, the other right. There is the man I have already mentioned, who is so lacking in confidence that he calls in a consultant to aid him, though in many cases it is quite unnecessary. On the other hand, there is the man who considers that his dignity is affronted and that he is the victim of a deadly insult if the friends and relations of a sick person express a wish for a second opinion. Both attitudes are entirely wrong. The friends and relations of sick people are perfectly entitled, and are often very wise both for the good of the patient and for their own position with the rest of the family, to ask for a second opinion. For my part I am always a little inclined to think that when a man objects very strongly to the aid of any consultant being invoked in his cases that he is really not very sure about his own diagnosis and methods of treatment. The right course is to use the consultant wisely and well. Call him in when you want his advice yourself either to aid you in a difficulty or to share with you the responsibility of a serious case. Call him in at once if you have the slightest reason to think that either your patient or his friends wish it, and as a rule generally be the first to suggest "a second opinion." If possible always adapt your consultant to your patient: it is better for both. One sometimes hears a general practitioner object to consultants because he says they do not strictly regard the rules of medical etiquette, and (to use a slang expression) "pinch" the patients they are asked to see. It is possible that some such cases do occur. Speaking for myself, I have come across perhaps one or two such instances in the last fifty years, and I think that in many cases they are not nearly so blameworthy as they are considered to be. Here I may remark that should you ever hear from a lay person that a doctor has given some extraordinary opinion or stated some impossible fact don't believe it.

The Doctor in Public Life.

If a medical practitioner can find time he should interest himself, and if possible take part, in the public work of his town or district. As members of the Public Health Committee of any municipality two or three unofficial doctors will often be the little leaven which leavens the lump, and their timely influence may turn well meannig but ill informed City Fathers from some action which may gravely affect the health of the community. Every competent practitioner should do whatever in him may lie to educate the public in health matters. Every year health weeks are held all over the country, and films are shown and lectures given under the auspices of the medical officer of health. The doctors of the district should co-operate, and speak to the man and woman in the street, teaching them those things of which they are so ignorant, and which are of such importance. Let me give one hint to those who may do this: be sure your audience can hear you, and then understand you.

What I have said to-day applies to any form of practice in which you may engage; whether it be the practice which has from the beginning been declared by the British Medical Association to be the best and most ideal, that in which you work for the good of your patient, subject only to the common law of the land and the ethics of your own profession, unregulated, uninspected, uncontrolled; or whether, as in the case of many here, it will be your lot to carry on your work on contract or insurance lines. Every word applies both in the letter and spirit to your relations with your patients.

You will not be able to give so much time to each individual case in industrial work as in private general practice, but you can always remember what is due to your patient, and do your work in the highest possible spirit. Aim at the very highest. At the present time the reputation of the medical profession, with the ignorant and unthinking of the public and part of the lay press, does not stand as high as it did some thirteen or fourteen years ago. For this there are various reasons, but it is up to you to do your utmost to restore it to its former prestige among those of the public who are educated and capable of judging.

In whichever branch of your profession you may finally practise you will make lifelong friendships. You will acquire merit when you deserve blame and blame when worthy of praise. These things all come into the day's work, and a philosopher regards them with equanimity.

Ave atque vale.

PROCEEDINGS OF COUNCIL.

Wednesday, February 9th, 1927.

A MEETING of the Council of the Association was held at the Association's House, Tavistock Square, London, on Wednesday, February 9th, 1927. Sir ROBERT BOLAM (Chairman of Council) presided, and the following were the members present:

Mr. R. G. Hogarth (President), Dr. H. B. Brackenbury (Chairman of Representative Body), Mr. N. Bishop Harman (Treasurer), Sir Robert Philip (President-Elect), Dr. C. O. Hawthorne (Deputy Chairman of Representative Body), Dr. G. A. Allan, Dr. J. Barcroft Anderson, Surgeon Rear-Admiral Sir Percy Bassett-Smith, Dr. H. S. Beadles, Sir Alfred Blenkinsop, Dr. J. W. Bone, Dr. H. C. Bristowe, Dr. G. F. Buchan, Dr. J. S. Darling, Dr. C. E. Douglas, Mr. T. P. Dunhill, Mr. W. McAdam Eccles, Dr. D. E. Finlay, Dr. E. R. Fothergill, Dr. D. G. Greenfield, Dr. R. Wallace Henry, Dr. G. B. Hillman, Dr. J. Hudson, Dr. I. W. Johnson, Dr. R. Langdon-Down, Dr. David Lawson, Dr. E. Lewys-Lloyd, Dr. A. Lyndon, Dr. R. A. Lyster, Dr. J. G. McCutcheon, Dr. S. Morton Mackenzie, Dr. A. Manknell, Dr. O. Marriott, Dr. J. C. Matthews, Dr. G. W. Miller, Dr. Hugh Miller, Dr. Christine Murrell, Mr. A. W. Nuthall, Dr. W. Paterson, Dr. J. Dodds Price, Dr. F. Radcliffe, Dr. Lockhart Stephens, Dr. John Stevens, Dr. W. E. Thomas, Dr. G. Clark Trotter, Sir Jenner Verrall, and Dr. J. F. Walker.

Apologies for absence were received from Dr. F. G. Thomson, Dr. H. G. Dain, Dr. F. J. Gomez, Dr. E. K. Le Fleming, Dr. R. W. Leslie, Sir Richard Luce, M.P., Dr. J. A. Macdonald, Dr. John Mills, Lieut.-Colonel F. O'Kinealy, Group Captain N. J. Roche, Mr. H. S. Souttar, Mr. E. B. Turner, Dr. D. Walshe, and Sir William de Courcy Wheeler.

Personal.

The Chairman said that the members would have learned with much sorrow that since the last meeting of the Council Dr. Ridley Bailey had passed away. They knew that he was comforted in his last and severe illness by the sympathy he received, conveyed by letters and visits, from his colleagues in the work of the Association. The profession had lost a most admirable leader in the Staffordshire district, and the Council and its committees an assiduous member, and one whose personality was greatly appreciated. Three former members of Council had also passed away—namely, Dr. T. R. Bradshaw (1905-9), Sir Isambard Owen (1899-1900), and Dr. F. O. Stedman (1904-6 and 1920-22). The Council stood for a few moments in silence.

The congratulations of the Council were conveyed to Sir Henry Head and Sir Thomas Houston, members of the Association, on the honour of knighthood recently conferred upon them; also to Lieut.-General Sir John Goodwin upon his appointment as Governor of Queensland. It was reported that the President had sent a cable conveying the good wishes of the Association to the Australasian Medical Congress which was meeting at Dunedin, also a telegram of congratulation to Dr. J. Moore Swain, Long Clawson, Melton Mowbray, on the attainment of his hundredth birthday in January; Dr. Swain was a member of the Association for nearly forty years.

Other Preliminary Business.

It was agreed to accede to a request from the Council of the Poor Law Medical Officers' Association that that body should be allowed to nominate a representative upon the special committee appointed by the Council to consider the report of the Royal Commission on National Health Insurance in regard to extension of the scope of medical benefit. It was also resolved for the present year to continue the appointment of Dr. Brackenbury as the representative of the Association upon the Council of the Faculty of Insurance.

The Ministry of Health had been informed, on behalf of the Association, that it was desirable that the Mental Deficiency Bill, which passed through the House of Lords in 1926, and was carried through various stages in the House of Commons, but eventually dropped by the Government, should be re-introduced at an early stage of the present session.

It was reported that at a meeting of the directors of the Scholastic, Clerical, and Medical Association, Ltd., Sir Robert Bolam, Mr. Bishop Harman, and Dr. Morton Mackenzie had been elected to fill the three existing vacancies on the board of directors.

Pharmacists in the Army.

Sir Percy Bassett-Smith (in the absence of Sir Richard Luce owing to illness), in submitting the report of the Naval and Military Committee, drew attention to the question of the employment of qualified pharmacists in the army. A deputation from the League of Ex-service Pharmacists in connexion with the Pharmaceutical Society had been received by the committee, and had asked for support for its efforts to secure the employment of qualified pharmacists by the military authorities. At present the dispensing of medicines, even those containing dangerous drugs and poisons, in military hospitals was carried out by non-commissioned officers and men of the R.A.M.C. who did not possess a pharmacist's qualifications, whereas in the large naval hospitals pharmacists were employed. Sir Percy said that the committee had come to the conclusion that the request was a reasonable one, and it brought forward accordingly a recommendation that the Council should express itself in favour of the efforts of the league in question to secure that qualified pharmacists should be employed in the larger military hospitals. Dr. Bone thought that the recommendation required rather more careful framing in view of the evidence to be given by the Association to the Committee on the Poisons and Pharmacy Acts, which would come before the Council at a later stage that day, and which dealt in specific terms with the qualifications of dispensers in hospitals generally. The recommendation, however, was agreed to as it stood.

Scale of Salaries of Medical Officers in Scotland.

Dr. Hugh Miller, chairman of the Scottish Committee, reported that negotiations were proceeding with the Scottish Board of Health regarding the proposed modifications of the scale of salaries for medical officers employed by local authorities. There were one or two outstanding points not yet satisfactorily disposed of, but in the main an agreement had been reached, and he hoped it would be possible to report to the next meeting of the Council that the Board of Health had accepted the proposed scale as modified.

Spa Treatment for Insured Persons.

Dr. Brackenbury (in the absence of Dr. Dain, chairman of the committee, owing to illness) brought forward the report of the Insurance Acts Committee, and drew attention particularly to the question of spa treatment for insured persons, on which he thought it would be necessary for the Council to take some action. Negotiations had been going on between the spa authorities and other bodies interested in the question and certain approved societies with a view to the provision of spa treatment as an additional benefit. The Insurance Acts Committee decided that if a request were made it would send representatives to a conference which, it was understood, was likely to be called to consider a scheme. Since then, however, the British Committee on Rheumatism had accepted an offer which appeared to have been informally made to it by Dr. Fothergill, who represented the Insurance Acts Committee on that body, that the Association itself should summon a conference on the subject. Those who were aware of what was going on in relation to this matter would feel that it was extremely desirable that such a conference should be called under the auspices of the Insurance Acts Committee or of the Council.

Dr. Fothergill said that he was placed on the British committee of this international body to represent the Insurance Acts Committee, and at the first meeting he was rather alarmed at the way in which approved societies and others concerned with insurance organization were drafting schemes and coming to conclusions with regard to insured persons without consulting those who knew anything about the medical side of national

insurance. A scheme for spa treatment affecting insured persons in London was proposed, and he thereupon suggested that a conference on the subject should be called, and that the Association was the appropriate body to call it. This offer was supported by the medical men on the committee, and eventually was accepted. He thought the Council would do well to call the conference and allow it to elaborate its proposals, such proposals to be sent to the Council and to the other bodies concerned.

The Medical Secretary said that, owing to the useful intervention of Dr. Fothergill, an official request had been received from the British Committee on Rheumatism, which was a very influential body, that the Association should summon this conference. The conference would consist of representatives of spa doctors, of mineral water hospitals, of spas, approved societies, and insurance practitioners. Three representatives of the Insurance Acts Committee had already been nominated before it was known that the conference would be summoned by the Association, but he thought there should be representatives of the general interests of practitioners. This was a real opportunity to assert the authority, influence, and usefulness of the Association.

Dr. Brackenbury said that the suggested reference was the provision of spa treatment for insured rheumatic patients, with special reference to the relationship between spa practitioners and insurance practitioners. He moved that such a conference be called by the Association, and this was agreed to.

At a later stage it was resolved that the following bodies be invited to send representatives: The Spa Practitioners' Association, the lay authorities of the mineral water hospitals, the approved societies, the British Spa Federation, and the British Committee on Rheumatism; and that the following be appointed to represent the British Medical Association (the latter three of whom had already been nominated by the Insurance Acts Committee): Dr. F. G. Thomson, Dr. A. Manknell, Dr. C. O. Hawthorne, Dr. H. G. Dain, Dr. E. R. Fothergill, and Mr. Lewis Lilley. Power was given to the British Medical Association representatives to issue invitations to other bodies should they consider it necessary.

Charities.

Dr. Walker, in submitting the report of the Charities Committee, reported that during 1926 the subscriptions and donations collected amounted to £3,259, a substantial increase on the previous year, though he was not able to say what proportion of this sum represented new money. The amount had been distributed as follows:

	£
Royal Medical Benevolent Fund	1,641
Royal Medical Foundation of Epsom College ...	1,241
Royal Medical Benevolent Fund Society of Ireland	85
Sir Charles Hastings Fund	142
Royal Medical Benevolent Fund Guild	150

In each case, except the last, the amount included certain ear-marked contributions, as well as an allocation from the Association Charities Fund. Dr. Walker also submitted a draft letter on the objects and uses of the Charities Trust Fund, which was being sent out to the chairmen, secretaries, and charities secretaries of Divisions.

Jenner's House.

The Chairman stated that an interesting offer had been made to the Association by Lord Berkeley to present Phipps Cottage at Berkeley, where Dr. Edward Jenner vaccinated the historic patient Phipps, to the Association, for the purpose of establishing a Jenner memorial museum. The difficulty was, however, that the Wellcome Historical Medical Museum already had an extensive collection of Jenner relics, and that a second collection of any real worth would be almost impossible to establish. The authorities of the Wellcome Museum did not see their way to fall in with the suggestion to transfer the whole or part of their collection to Phipps Cottage, and in these circumstances he thought it would be unwise for the Association to take the responsibility of establishing such a museum. He had himself gone down to Berkeley and seen the cottage, and had interviewed the agent, as well as representatives of the Wellcome Museum; the contention of the latter was that the Jenner relics should be in a central situation such as their museum offered.

The Council expressed its cordial thanks to Lord Berkeley for his offer, and its regret that, for the reasons just stated, the offer should have to be declined.

A Legal Actions Committee.

A good deal of time was taken, on the report of the Office Committee, in discussing the question of office procedure in the case of possible legal actions commenced by or against the Association. The Office Committee proposed that a committee should be set up which could be consulted promptly by the officials in the event of any threatened action or of possible necessity for the Association itself to institute action. This committee would also be available for consultation at any time on the conduct of a case. It was proposed that it should consist of the principal officers of the Association, the chairmen of the Journal and Ethical Committees, with the Editor, Medical Secretary, and Financial Secretary.

Dr. Fothergill raised the question as to whether the committee could rightly be authorized to commence an action or to act otherwise than in emergency without consultation with the Council. Dr. Douglas also deprecated power being given to any committee to take the initiative without such consultation. Dr. Langdon-Down pointed out, however, that even in actions which the Association itself brought, everything depended upon promptness, and if, for example, a statement thought to be libellous was published against the Association and the Association awaited a meeting of Council before taking action, it would be held that the force of the indignation must have spent itself, and that the Association was not serious when it was so tardy in taking action. The Chairman said that somebody in such cases had to take the responsibility of instructing the Solicitor. It was impracticable to await a meeting of Council and take its decision, but the responsibility should be thrust upon the largest practicable body which could be rapidly summoned, and which would have the authority of the Council to take emergency action.

After further discussion it was agreed that the Legal Actions Committee be appointed, and that the question of the admission of officials of the Association as voting members or simply as advisers be further considered and brought up at the next meeting.

The Autumn Dinner.

The Council discussed the question of holding another Autumn Dinner in the Great Hall. The last dinner was not well attended, though in other respects it was most successful; the cost of catering in the Great Hall was very much greater than in an hotel. Dr. Morton Mackenzie pointed out the value to the Association of giving such a dinner in its own beautiful house; it was a very pleasant variant from the ordinary hotel dinner to which Ministers and other prominent guests were accustomed. Dr. Fothergill suggested following the example of the Literary Fund Dinner and making it an occasion to assist the Charities Fund of the Association. Another suggestion was that a conversazione be substituted. It was agreed, with three dissentients, that the Autumn Dinner be held in 1927, but that it take place in an hotel and not in the Great Hall.

The Association's Building.

The Council devoted almost two hours to a discussion of a private report by the Building Committee on the development of the space in front of the present building when possession is obtained of certain of the houses whose leases are falling in. The Chairman made a long statement on the position, and in the ensuing discussion the following took part: Sir Jenner Verrall, Dr. Johnson, Dr. Lawson, Dr. Douglas, Dr. Fothergill, Dr. Radcliffe, Dr. Barcroft Anderson, Mr. Bishop Harman, Dr. Beadles, Dr. Morton Mackenzie, Dr. Clark Trotter, Dr. Stevens, Dr. McCutcheon, and Dr. Brackenbury. The Chairman then replied to various questions raised. It was agreed that an architect be asked to prepare such rough sketch plans and elevations as would enable the Council to envisage the extension of the building, and upon which a builder could estimate the approximate cost. A further motion was agreed to empowering the Building Committee, should the figures so obtained be satisfactory, to proceed with certain negotiations with the Bedford Estate Trust.

Tests for Drunkenness.

Dr. Wallace Henry, on behalf of the Committee on Tests for Drunkenness, submitted the report which appeared in last

week's SUPPLEMENT (pp. 53-58). He regretted that Sir William Macpherson, the chairman of the committee, was not now a member of the Council and able to present the report in person. It was only due to Sir William's great patience that anything like order had at last been produced out of chaos. Members would recollect the origin of this committee. Some two or three years ago there was a good deal of anxiety on the part of the public in view of the different procedures followed in dealing with charges of drunkenness brought before the courts, and the question arose whether the tests commonly employed were adequate. The metropolitan police surgeons proposed to hold an inquiry, but afterwards approached the Council with a view to setting on foot a more extended and complete investigation. With regard to the committee's definition of "drunk"—"that the person concerned was so much under the influence of alcohol as to have lost control of his faculties to such an extent as to render him unable to execute safely the occupation on which he was engaged at the material time"—it was noteworthy that only three or four weeks ago, before this report was available, one of H.M. judges had used almost those very words in dealing with a case in which the question of drunkenness arose. Dr. Henry summarized the classification of the tests, emphasizing the finding that no single test, taken by itself, would justify a practitioner in deciding that the amount of alcohol consumed had caused a person to lose control of his faculties; the decision must be based on a combination of tests. The report was the result of general agreement on the part of the committee, and every member signed it. He moved that it be submitted by the Council to the Annual Representative Meeting as the report of a committee of the Association on a matter of public interest. He pointed out that this did not bind the Council to agreement with every word of the report.

Dr. Douglas asked whether the Council was bound by this report to regard the definition of drunkenness therein contained as the best possible one. If so, he was bound to criticize it. Dr. Henry said that the definition was only arrived at after about four meetings of the committee. There was at first an intense divergence of opinion as to how drunkenness should be defined, and he thought it would be very undesirable now to alter the careful wording, which was really a compromise.

Mr. Bishop Harman recalled that at the meeting of the Marylebone Division held two years ago to consider tests for drunkenness the failure of convergence of the eyes was proclaimed by a police surgeon as a decisive test. He was glad to have it now described as one of those tests on which, taken by itself, little stress should be laid.

The recommendation was agreed to, and it was also agreed to authorize the report to be published and put on sale without delay. The thanks of the Council were conveyed to Sir William Macpherson and his colleagues for the labours they had expended upon this subject.

Constitution of the Association.

On the report of the Organization Committee a discussion arose as to the conditions under which resolutions of the Representative Body became the policy of the Association. The Committee's view was that any proposal for enunciation of policy upon which the Representative Body had not previously expressed an opinion must require two months' notice. The article and by-law dealing with this matter, however, were not as clear as they should be, and the Organization Committee had noted their phraseology for revision when changes in the articles were contemplated. Dr. Fothergill hoped the Council would forthwith take up the question of interpretation. He urged that if the Representative Body met to discuss a problem and two-thirds of those present decided in a particular way such a decision constituted a valid enunciation of policy irrespective of the length of notice given. Dr. Brackenbury pointed out that there were three phrases in common use—"the policy of the Association," "a decision of the Association," and "a resolution of the Representative Body"—and they all meant different things. The "policy of the Association," when these words were used in the by-laws, meant the whole body of doctrine which the Association had set forth in certain resolutions, and any addition was an alteration of policy, and should require not only the two-thirds majority but the two months' notice.

The revision of the phraseology was left for subsequent consideration.

Dr. Morton Mackenzie had the pleasure of reporting that the Federal Council of the Medical Association of South Africa (British Medical Association) had accepted the home Council's amendments to the draft memorandum and articles of association, and everything had gone through in the most harmonious and satisfactory manner.

A memorandum by the Medical Secretary was submitted suggesting how the machinery of the Association might be adapted to secure that certain comparatively small and widely scattered sections of members, such as pathologists, engaged in special spheres of professional work, had their views represented and their interests protected. Dr. Mackenzie hoped to submit to the next meeting of Council a draft scheme giving effect to the suggestions.

Dr. Lyndon, as chairman of the Ethical Committee, brought forward a proposal that Divisions be advised, when discussing any important point of policy, to preface resolutions with the words, "That it be recommended to the Council"—or to the Representative Body, as the case might be. The matter arose in connexion with the resolution on education of the public in health, taken at a recent meeting of the St. Pancras Division addressed by Sir Thomas Horder, which resolution was regarded by the lay press as the considered policy of the Association. Dr. Beadles pointed out that the resolution in question was not one passed at a Divisional meeting, but at a meeting to which members of the profession in general were invited. The question was taken back for further consideration.

Charges against Members.

The Ethical Committee also brought forward the question of the position of the Association in the case of a member against whom a criminal offence or a charge of infamous conduct in a professional respect was alleged. This arose on a communication from the New South Wales Branch, which had sought the opinion of counsel (Sir E. M. Mitchell, K.C.). Counsel's opinion was that the Branch council was entitled, in a case of criminal conduct by a member coming within its knowledge, to report to the Crown law authorities, or, in the case of infamous conduct in a professional respect, to the Medical Board—the equivalent of the General Medical Council. On the Branch inquiring as to the views of the home Council, the Ethical Committee also sought the opinion of counsel (Mr. Stuart Bevan, K.C.), which was to the effect that in a case of criminal conduct the Council was within its legal rights in reporting to the authorities, and that it was its duty so to report. In a case of infamous conduct in a professional respect, short of a crime, the Council was also within its strict legal rights in communicating with the General Medical Council, but as the Council of the Association was itself invested with wide powers of inquiry it seemed to counsel that what might be called the public or moral or social duty in this instance would be fully discharged by the Council itself; if the result of the inquiry was the expulsion of the member, the Council of the Association could then communicate with the General Medical Council. It seemed to him that besides the duty which it owed to the public, the Council of the Association had its duty to the members, including the member complained of, to institute the inquiry to which by the terms of membership the members had agreed to submit.

Dr. Lyndon said the Council had always set itself against acting as detective, and had not instituted proceedings against a member before the General Medical Council, believing that the Association might be restrained by injunction from employing funds, to which the member had contributed, against himself, and also that in going before the General Medical Council the Association would be in the anomalous position of having taken no steps to remove from its own membership one who by implication was held to be deserving of removal from the *Medical Register*.

Dr. Beadles said that, in view of what he understood to be the opinion of a solicitor in a recent case, he was distinctly pleased to have the opinion of Mr. Bevan that it would be the duty of the Association first to expel a member before prosecuting him before the General Medical Council.

Hospital Policy.

Mr. McAdam Eccles (in the absence through illness of Mr. Souttar, chairman of the Hospitals Committee) brought forward

a report the principal matter in which was the position of the voluntary hospitals with regard to the recovery of money from patients, particularly in the case of persons brought into hospital after street accidents. The Hospitals Committee thought it advisable to obtain counsel's opinion as to the legal position of hospitals in this respect, and the Council agreed.

The proposal was also brought forward from the Hospitals Committee that certain paragraphs in the Hospital Policy (34 and 36), having served their purpose in introducing the recognition of the services of visiting medical staffs of hospitals, should be deleted, and a new paragraph inserted as follows:

> The visiting medical staffs of hospitals should seek to secure arrangements with boards of hospitals for the satisfactory recognition of their services in accordance with the preceding paragraphs of this section in regard to patients by whom or for whom payments are made to the hospital. Any laxity in securing such recognition is detrimental to medical work of all kinds and ultimately to the general public.

After a brief discussion this recommendation was taken back for further consideration; meanwhile the Council agreed to the deletion of the existing paragraphs.

Mr. Eccles reported, with regard to the matter of the British Hertford Hospital, Paris, that he understood that the Government was prepared to act in the manner suggested by the Association and appoint an independent and impartial arbitrator (not a medical man) to consider the whole of the evidence and decide whether the committee of the hospital had done the late resident medical officer an injustice in dismissing him. The Hospitals Committee had appointed a subcommittee to negotiate as to the terms of reference to the arbitrator.

Exemption of Dogs from Experimental Research.

Dr. Hawthorne proposed the following resolution:

> That in the event of any active parliamentary or extra-parliamentary agitation in favour of a bill to exempt dogs from the provisions of the Vivisection Act, the Science Committee be authorized to take such steps as may seem to be advisable to organize medical opposition to a proposal which, by interfering with the advance of scientific knowledge, must, if adopted, be prejudicial to the public welfare.

He said that this was a motion which arose out of a new controversy on vivisection. It was common knowledge that there were members of the community who objected altogether to experiments on animals, and there were others who limited their objection to the use of dogs for this purpose. Bills had been introduced on former occasions in one or other House of Parliament for the exemption of dogs, but had not been successful. During the present session there was likely to be a special effort made to carry a Dogs Protection Bill, and a new fact which might lend force to the proposal was that, while hitherto the Society for the Prevention of Cruelty to Animals had maintained a neutral position, a resolution in support of such a bill had recently been carried in its council. As a matter of fact, the contingency which was contemplated when this motion was drafted had arrived, and a vigorous effort was being made throughout the country to get a petition signed on an extensive scale and presented to Parliament in support of a bill. The Association had on previous occasions taken the steps he now proposed, and had prepared memorandums on the subject. Recently the Science Committee, under the guidance of two of its members, had prepared a memorandum, which was published in the BRITISH MEDICAL JOURNAL, on the need for the use of dogs in physiological and therapeutic experiments (December 4th, 1926, p. 1073). They had been urged to take action from two different sources—on the one hand from experts who were engaged in these researches, and who stated that their work would be paralysed if the Dogs Bill became law, and on the other hand from the Research Defence Society. Certain members of Parliament could be counted on to put up opposition to such a bill, but they had to be provided with ammunition, and, as far as possible, with the moral support which came from a united profession. Dr. Hawthorne added that there existed already on the statute book a Dogs Act, which must be carefully distinguished from the proposed legislation. The Dogs Act dealt with what were technically called stray dogs. Such dogs were taken charge of by the police and an endeavour made to discover their owners. If the owner was not forthcoming within a certain number of days the dog had to be sold or destroyed, and every year in the metropolis 50,000 dogs were destroyed in accordance with this measure. They could not be used for the purpose of experiment.

The motion was carried.

The Poisons and Pharmacy Acts.

A précis of the evidence to be given by the witnesses for the Association (Dr. Bone, Dr. Lewis Lilley, and the Medical Secretary) before the Committee on the Poisons and Pharmacy Acts was submitted.

Dr. Hawthorne took exception to certain points in the evidence. He noticed that although it was recommended that the name of the poison should be stated on the label, nothing was said about putting thereon the word "Poison" itself. He thought also that some proposal should be made with regard to containers, otherwise the poison might be sold in vessels similar to those employed in the sale of foods and drinks. But his chief exception was to a statement with regard to the qualifications of dispensers in hospitals. The evidence appeared to suggest that the qualification granted by the Pharmaceutical Society and the assistant's certificate for dispensing granted by the Apothecaries' Hall were equivalent. He pointed out various respects in which the two qualifications differed. The qualification of the Pharmaceutical Society was only given after various stringent conditions as to training had been fulfilled, and it conferred the legal right to keep open an establishment for the sale and dispensing of poisons; whereas the assistant's diploma for dispensing of the Apothecaries' Hall was really only intended to permit of dispensing by its holder under the supervision of some competent person.

Dr. Bone quite agreed that the word "Poison" should be placed on the label as well as the name of the poison, also as to the form of the container. With regard to the qualifications of dispensers, it had to be remembered that at present a good deal of institutional dispensing was done by those who had no qualifications at all, and it was thought to be rather "stiff" to require all institutions, no matter how small, to have a qualified pharmacist. The institutions in view would include quite small hospitals and sanatoriums, where the dispenser was practically only a bottler. In the case of the larger hospitals he agreed with Dr. Hawthorne's contention.

The Chairman said that he thought Dr. Bone had gathered the sense of the Council, and would be able to amplify the written by oral evidence making clear the exact position.

The Council concluded, at 7 p.m., a session which had lasted from 10 a.m.

British Medical Association.

CURRENT NOTES.

The Edinburgh Meeting: Hotel Accommodation.

THE Hotels and Lodgings Committee has practically completed its arrangements for coping with the large numbers who are expected to visit Edinburgh in July. In order to secure the accommodation which is believed to be necessary, the Committee has definitely engaged all the available rooms in the city, and will allocate these to applicants in rotation. The Scottish Medical Secretary (Dr. Drever) has undertaken to do this work for the Committee, and applications for rooms should be sent to him at 6, Drumsheugh Gardens. A form for the purpose has been prepared for the convenience of members and will be found on advertisement page 6 of this issue; it will be repeated in subsequent issues. The accommodation is grouped in three classes—namely:

1. Hotels, whose tariff for bed and breakfast ranges between 8s. 6d. and 14s. The number who can be accommodated in these is comparatively limited.

2. Private hotels and boarding houses, at prices from 5s. 6d. to 8s. 6d. for bed and breakfast. Of these there is a large number, all of them comfortable.

3. Hostels where the tariff is 8s. for bed and breakfast. Not many of these are available, but those that are can be recommended.

Garage accommodation has also been secured, and lodgings for chauffeurs.

It will facilitate other arrangements if members who

intend to be present at the Annual Meeting will notify their intention whether they have already secured rooms or not. Early application for rooms is earnestly desired.

Subscriptions for 1927.

The application for payment of subscriptions for 1927 met with an overwhelming response in the first two or three days of this year. More than 10,000 cheques (representing about one-third of the members of the Association) were received within the first week, and for this response the Finance Department desires to express sincere thanks; but there are still many members of the Association who have not yet forwarded their subscription for the current year, and the additional cost of preparing and posting reminders to those whose subscriptions are still outstanding involves each year a large sum which could be better employed in the Association's interest. An earnest appeal is therefore made to those who have not already remitted, to send their subscription for 1927 before the end of this month, adding thereto such sums for the charities or the other funds mentioned on the application form as their instincts prompt and their means will allow.

Association Notices.

ELECTION OF MEMBERS OF COUNCIL BY BRANCHES OUTSIDE THE UNITED KINGDOM.

THE following being the only nominations received for the election of the Council for 1927-28 (or the longer periods indicated) by Branches outside the United Kingdom, the practitioners in question are hereby declared duly elected Members of the Council for the periods mentioned:

Mr. T. P. DUNHILL, C.M.G. (*for the year 1927-28*), New South Wales and Queensland Branches.

Sir JENNER VERRALL, LL.D. (*for the year 1927-28*), South Australian, Tasmanian, Victorian, and West Australian Branches.

Dr. F. J. GOMEZ (*for the three years 1927-30*), Barbados, Bermuda, British Guiana, Grenada, Jamaica, Leeward Islands, St. Lucia, and Trinidad and Tobago Branches.

Lieut.-Colonel ASHTON STREET, F.R.C.S., I.M.S.(ret.) (*for the three years 1927-30*), Assam, Baluchistan, Bombay, Burma, Ceylon, Hyderabad, Mesopotamia, Northern Bengal, Punjab, and South Indian and Madras Branches.

Dr. O. MARRIOTT (*for the year 1927-28*), Hong-Kong and China, and Malaya Branches.

The following is the position as regards the other Groups of Branches outside the United Kingdom:

Dr. J. BARCROFT ANDERSON (*was elected for the three years 1925-28*), African Group of Branches.

Dr. G. CLARK TROTTER (*for 1926-28*), New Zealand and Fiji Branches.

RUGBY DIVISION.

NOTICE is hereby given to all concerned of the formation by the Council of the Association of a Rugby Division of the Birmingham Branch, of area as follows:

The urban district of Rugby;

The rural districts of Rugby and Monk's Kirby;

the new Division to come into existence as from the date of publication of this Notice, and the area of the Warwick and Leamington Division being modified accordingly.

February 26th, 1927. ALFRED COX, *Medical Secretary.*

BRANCH AND DIVISION MEETINGS TO BE HELD.

BIRMINGHAM BRANCH: COVENTRY DIVISION.—At the meeting of the Coventry Division to be held on Tuesday, March 1st, Dr. A. T. W. Forrester will read a paper on "The diagnosis and treatment of early mental cases."

BIRMINGHAM BRANCH: NUNEATON AND TAMWORTH DIVISION.—A meeting of the Nuneaton and Tamworth Division will be held at the Tamworth General Hospital on Thursday, March 3rd, at 3.30 p.m., when Mr. A. B. Danby, F.R.C.S., will read a paper entitled "The role of prevention in obstetrics."

DORSET AND WEST HANTS BRANCH: BOURNEMOUTH DIVISION.—The annual dinner of the Bournemouth Division will be held on Thursday, March 3rd, at the Royal Bath Hotel, at 7.30 p.m. for 7.45. It is hoped that as many members as possible will come and bring guests, including ladies, with them. Tickets, 8s. 6d. each (exclusive of wine). Application for tickets, together with remittance, must be made by Monday, February 28th.

GLASGOW AND WEST OF SCOTLAND BRANCH: DUMBARTONSHIRE DIVISION.—A dinner of members of the Dumbartonshire Division will be held in the North British Station Hotel, Queen Street, Glasgow, on Wednesday, March 9th, at 7.30 p.m., when Dr. W. B. Armstrong (Lenzie) will take the chair. Tickets 15s., payable in advance or at the dinner. Members are asked to notify the honorary secretary, Dr. T. Miller, Netherton, Dumbarton, before March 2nd, if they intend to be present and if they are bringing a medical guest.

METROPOLITAN COUNTIES BRANCH: CITY DIVISION.—A meeting of the City Division will be held at the Metropolitan Hospital, Kingsland Road, on Tuesday, March 1st, at 9.30 p.m., when there will be a discussion on headache, in which the following will take part: Dr. H. C. Cuthbert Dixon, Dr. Kendall, Mr. Capps, and Dr. Philip Hamill. The annual fancy dress dance will be held on Thursday, March 24th, in the Great Hall of the British Medical Association Headquarters, Tavistock Square. It is hoped that members will make up parties. First class band, and refreshments by Gunters, Ltd. Dancing, 8.30 p.m. to 1.30 a.m. Ticket, inclusive price 8s. Cars may be garaged in the Association garage. Tickets may be obtained from Dr. Harold Latham, 2, Hemingford Road, Barnsbury; Dr. G. Clark Trotter, 2, Tyndale Place, Upper Street, Islington; and from the honorary secretary, Dr. Worley, 43, De Beauvoir Road, N.1.

METROPOLITAN COUNTIES BRANCH: ST. PANCRAS DIVISION.—A meeting of the St. Pancras Division will be held in the British Medical Association House, Tavistock Square, W.C.1, on Tuesday, March 8th, at 9 p.m. Mr. A. G. Timbrell Fisher, *M.C.*, will deliver a lecture on "Manipulative surgery."

METROPOLITAN COUNTIES BRANCH: SOUTH MIDDLESEX DIVISION.—A meeting of the South Middlesex Division will be held at St. John's Hospital, Twickenham, on Wednesday, March 9th, 8.15 p.m., General business. 8.30 p.m., Discussion: "Treatment of cancer by non-operative means," to be opened by Dr. J. B. Cook, medical superintendent, West Middlesex Hospital.

METROPOLITAN COUNTIES BRANCH: SOUTH-WEST ESSEX DIVISION.—A meeting of the South-West Essex Division will be held at Whipps Cross Hospital, Leytonstone, on Tuesday, March 1st, at 3.30 p.m., when Dr. J. C. Muir, medical superintendent of the hospital, will give a clinical demonstration.

MIDLAND BRANCH: CHESTERFIELD DIVISION.—A meeting of the Chesterfield Division will be held at the Maternity Hospital, Chesterfield, to-day (Friday, February 25th), at 8.15 p.m. Dr. Miles Phillips, professor [illegible] of Sheffield, will give an address on "[illegible]."

NORTH OF ENGLAND BRANCH: BISHOP AUCKLAND DIVISION.—A meeting of the Bishop Auckland Division will be held in the Cottage Hospital, Bishop Auckland, to-day (Friday, February 25th), at 8 p.m., when Dr. E. Farquhar Murray will give a lecture on "Some modern aspects of obstetrics and gynaecology."

NORTH OF ENGLAND BRANCH: NEWCASTLE-ON-TYNE DIVISION.—Mr. H. S. Elphick, M.R.C.V.S., will give a lecture on March 10th, at 8.30 p.m., in the Library of the Royal Victoria Infirmary, on "Pregnancy and parturition in veterinary practice." The Division is holding a reception and dance with cabaret about the end of March or beginning of April. The arrangements are in the hands of a subcommittee, and details will be announced shortly.

NORTH OF ENGLAND BRANCH: SUNDERLAND DIVISION.—A dance in aid of the British Medical Association Charities Fund will be held in Meng's Rooms, Sunderland, on Thursday, March 3rd. Reception by Dr. L. M. H. Ross, chairman of the Sunderland Division, and Mrs Ross. Reception, 8 p.m.; dancing, 8.30. Tickets 10s. 6d. Carriages, 1 a.m. Application for tickets should be made to Dr. MacMurray, North Grange, Stockton Road, Sunderland. A scientific meeting of the Division will be held at the Royal Infirmary, Sunderland, on Wednesday, March 16th, at 8.15 p.m. Mr. F. C. Pybus, M.S., F.R.C.S., will give an address on deformities. All members of the Division are invited to be present.

NORTHERN COUNTIES OF SCOTLAND BRANCH.—A clinical meeting of the Northern Counties of Scotland Branch will be held at the District Asylum, Inverness, on Friday, March 11th, at 3 p.m.

SURREY BRANCH: GUILDFORD DIVISION.—At the meeting of the Guildford Division to be held at the Royal Surrey County Hospital, Guildford, on Thursday, March 3rd, at 4 p.m., there will be a demonstration of cases. Tea served at 3.45 p.m.

SURREY BRANCH: REIGATE DIVISION.—A meeting of the Reigate Division will be held at the East Surrey Hospital, Reigate, on Tuesday, March 8th, at 8.45 p.m. Dr. Stanley Dodd will give an address on gynaecology.

SUSSEX BRANCH: HASTINGS DIVISION.—The next meeting of the Hastings Division will be held at the Queen's Hotel, Hastings, on Tuesday, March 1st, at 8.15 p.m. Dr. G. J. Langley, M.B.E., will give a lecture on "Auricular fibrillation: its nature and treatment," which will be illustrated by lantern slides. Coffee will be served at 8.15 p.m.

YORKSHIRE BRANCH: DEWSBURY DIVISION.—A meeting of the Dewsbury Division will be held, by invitation of the medical staff, at the Dewsbury Infirmary on Tuesday, March 1st.

YORKSHIRE BRANCH: HUDDERSFIELD DIVISION.—A British Medical Association Lecture will be given at the Huddersfield Royal Infirmary on Wednesday, March 9th, at 8 p.m., by Professor Miles Phillips of Sheffield on "Some obstetrical emergencies." Members of other Divisions are invited to attend, and light refreshments will be provided after the lecture.

YORKSHIRE BRANCH: WAKEFIELD, PONTEFRACT, AND CASTLEFORD DIVISION.—A meeting of the Wakefield, Pontefract, and Castleford Division will be held at the Bull Restaurant, Westgate, Wakefield, on Thursday, March 10th. Dr. G. W. Watson, physician to the Leeds General Infirmary, will lecture on the early signs of phthisis. Supper at 7.45 p.m. (2s. 6d.) will precede the lecture.

Meetings of Branches and Divisions.

ULSTER BRANCH.

THE winter meeting of the Ulster Branch was held in the Medical Institute, Belfast, on January 20th, with the President, Dr. JOHN MORROW, in the chair. On the proposal of the President, the congratulations of the Branch were tendered with acclamation to Sir Thomas Houston on the honour bestowed on him by the King.

Sir THOMAS HOUSTON gave a brief history of the enterococcus, from its detection in 1899 in cases of mucous membranous enteritis. It was proved to be identical with the *Streptococcus faecalis*, a normal denizen of the alimentary canal, and devoid of pathogenicity. It had been found to attain very variable degrees of virulence in certain inflammatory conditions; it occurred in epidemics, and frequently coincided with influenza. French pathologists had written much about it, and connected it with appendicular abscess, biliary cirrhosis, laryngitis, pleurisy, a form of septicaemia, and "rheumatism," in which it assumed the anaerobic form. The fermentation of sugars by this organism was next dealt with, and reference made to its resistance to heat, first described by Houston and McElroy, and confirmed independently in 1921. The conditions in France seemed to favour the non-mannite fermenting form of enterococcus. Sir Thomas Houston then briefly reviewed the evidence that this coccus was the cause of chronic ulcerative colitis. It appeared that this non-mannite fermenting enterococcus could be invariably isolated from cases of ulcerative colitis, and sometimes from cases that were not ulcerative colitis. The results of agglutinative tests, of inoculations into rabbits, and of vaccine therapy supported the theory. Details were given of many cases.

Dr. W. CALWELL gave a short account of a case of tabes dorsalis, where the Argyll Robertson pupil was the earliest symptom.

Professor ANDREW FULLERTON, P.R.C.S.I., described a case of removal of the colon for multiple papillomata, and showed the specimens. An unmarried woman, aged 28, of poor mental development, had complained for two to three years of irregularity of the bowels and passage of blood. The operation was described in detail; healing followed by first intention. A portion of one of the tumours proved on examination to be a papillomatous adenoma. He reported a case of diverticulum of the bladder in a man, aged 55 years, who had had long-standing frequency of micturition, with pus cells and bladder epithelium in the urine. Details were given of the cystoscopical examination, and the stages of the operation for the removal of the cyst were described. Complete recovery of the patient had followed, and a cystogram taken a month later showed a normal bladder. Professor Fullerton also read notes of a case of solitary cyst of the kidney in a married woman, aged 45. An unexpected swelling in the right lumbar region was found not long after her last child was born. Differential ureteral catheter specimens showed a difference of specific gravity. The right kidney was found to contain one large cyst and some small ones; it was removed. Details were given of the examination of the specimen, and of the operation, and the question of unilateral diuresis was discussed.

Dr. H. C. C. DEANE (Armagh) reported a case of ruptured uterus during labour in a young woman with unreduced shoulder presentation; a successful Caesarean section was performed five hours later. He also read notes of a successful case of Caesarean section in a woman, aged 44, who had been married fifteen years, and of whom this was the only pregnancy; he removed the uterus.

Professor LOWRY and Dr. DARLING (Lurgan) congratulated Dr. Deane on his results, and observed that if ante-natal care had been taken, and the patient had come to Dr. Deane during pregnancy, instead of five hours after rupture, the condition would have been rectified.

METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.

A MEETING of the Lewisham Division was held on January 18th at the Town Hall, Catford, when Mr. C. A. JOLL gave an address on "The diagnosis and treatment of diseases of the gall bladder and bile ducts." Mr. Joll said that the gall bladder might cause long-standing dyspepsia or gastritis, and that infection might reach it from the duodenum or through the portal system from the alimentary canal. Stones were of two types—the aseptic, composed of cholesterin, and the septic. The former were single, large, smooth or slightly nodular, light in colour, and crystalline. Septic stones were multiple, smaller, and composed of bilirubin with calcium carbonate. Symptoms of gall stones were not always colic and acute inflammation, but might be dyspepsia and flatulence after food, nausea, sudden vomiting, and chills in the evening. Stones of longer duration caused symptoms similar to duodenal ulcer, and if inflammation was present, anorexia, pyrexia, vomiting, and tenderness over the right abdomen resulted. Radiological examination was valuable if dyes were given by the mouth or intravenously; nearly 90 per cent. successful diagnoses could be so obtained. Barium meals were of less value, and test meals were unreliable, but the Einhorn tube was useful, and it could be shown that magnesium sulphate solution, yolk of egg, cream, or oleic acid produced a rush of bile. Medical treatment might be tried for three months; if it was not successful surgical measures were required. Urotropine in doses of 50 to 100 grains t.d.s. might be given by mouth. The formalin in the urine might cause frequency and pain, so large doses of alkali were given to neutralize the formalin. Considerable quantities of fluid, magnesium sulphate, yolk of egg, and cream were administered. Patients were kept in bed a few days before an operation, and glucose and saline were given before it, especially if jaundice was present and calcium chloride was injected intravenously. Blood transfusion was sometimes useful. Anaesthesia was a critical factor in successful operating; nerve blocking, and gas and oxygen were used. Cholecystectomy was safe and satisfactory; in 150 cases there had been no death.

Drs. THOMSON, PRATT, BEATTIE, CHARSLEY, and BUCHAN joined in the discussion. A vote of thanks was accorded to the lecturer.

SOUTHERN BRANCH: PORTSMOUTH DIVISION.

A MEETING of the Portsmouth Division was held at the Queen's Hotel, Southsea, on February 10th, with Dr. MEARNS FRASER in the chair. At the conclusion of supper, and after the ordinary business had been concluded, a very instructive address on poliomyelitis was given by Dr. JAMES COLLIER (London), who dealt with the epidemiological, clinical, and pathological aspects of the disease, and referred to the recent outbreaks at Uppingham and Broadstairs. The address was followed by an interesting discussion in which the following, among others, took part: Drs. BEATON, VALENTINE, MUNRO FORDE, KEY, ORD, DEWEY, JEANS, LYTLE, DOROTHEA TAYLOR, and FARNCOMBE. A very hearty vote of thanks, proposed by Dr. STEPHEN GREEN and seconded by Dr. MCCARTER, was accorded to Dr. Collier. The total attendance at the meeting numbered seventy-five, of whom thirty-one sat down to supper.

SUSSEX BRANCH: HASTINGS DIVISION.

Annual Dinner.

THE Hastings Division held its sixth annual dinner at the Royal Victoria Hotel, St. Leonards, on February 11th. One hundred members and guests sat down and enjoyed the excellent meal.

The chairman of the Division, Dr. E. C. MACKAY, presided, others present including the Bishop of Lewes, Dr. G. C. Anderson (Deputy Medical Secretary, British Medical Association), Mr. Britten-Austin, Councillor A. D. Thorpe, J.P., Professor C. Lloyd-Morgan, LL.D., F.R.S., Councillor A. Blackman, and Dr. T. Reed (honorary secretary, Hastings Division).

After the loyal toast had been drunk to musical honours, the CHAIRMAN proposed the toast of "The British Medical Association." After pointing out some of its earlier struggles and difficulties, he mentioned that its membership was now almost 90 per cent. of the total registered medical population of the Empire. At the present time it was the first body consulted when the Government wished to know what was the contribution of medical thought to the solution of great national problems. Dr. Mackay showed how the Association had been instrumental in moulding such reforms as the Factory Acts, Poor Law, prisons, and public health services. Dr. Mackay regretted the poor support which the profession gave to medical charities, and made an urgent appeal to the Division to remove this slur.

Dr. G. C. ANDERSON replied to the toast and referred especially to the attitude of the newspaper press towards the profession, and especially the Association. He also referred to the Dogs Protection Bill which was likely to be soon introduced to the House of Commons. The British Medical Association was considering the advisability of drawing up a counter-petition, to be signed by medical men against this bill, which would be to the detriment of the public.

Dr. CONWAY MORGAN proposed the toast of "The Allied Professions" in a witty speech, which was responded to by the BISHOP OF LEWES (honorary chaplain), Mr. A. D THORPE, and Mr. W. E. MEADS for the British Dental Association. Mr. Thorpe claimed that the law belonged to the healing profession, for nothing was so healing as a long course of expensive litigation! Dr. CHARNOCK SMITH proposed "The Guests," to which Mr. BRITTEN-AUSTIN responded. He observed that the chairman had been a little grieved that the public had referred to the British Medical Association as a trade union. He seemed unaware of the honour done the Association, when one considered that trade unions were mightier than the press, more vigorous in discipline than the Church, above the law. It was with a thrilling pride that he found himself the guest of the greatest trade union in the world.

It was the only trade union which primarily existed, not for the protection of its own members, but for the protection of the public. Professor LLOYD MORGAN also replied for the guests. Dr. HOWE proposed the toast of "The Chairman," to which Dr. MACKAY briefly responded. A humorous entertainment was provided by Leslie Weston.

YORKSHIRE BRANCH: WAKEFIELD, PONTEFRACT, AND CASTLEFORD DIVISION.

A MEETING of the Wakefield, Pontefract, and Castleford Division was held at the Great Bull Restaurant, Wakefield, on February 10th, when Dr. GIBSON was in the chair.

Dr. BARNES gave an interesting address on diet. In some general considerations he emphasized the fact that the general population get their energy from the wheaten loaf and that the most "strengthening" food after all was bread-and-butter and milk. The best proportion of protein in the dietary was not settled, but the position was still best described by Bayliss's aphorism, "Take care of the calories and the proteins will take care of themselves." In this country there was no need for a slogan "Eat more meat."

In discussing vitamins attention was drawn to the fact that scurvy could be overlooked, and after an extensive experience with scurvy the speaker was of opinion that probably a subscorbutic state was not at all uncommon. The cheapest sources of vitamins were fish, especially herrings, oranges, and salads, and perhaps marmite.

In referring to diet in disease, rickets and diabetes were excluded. In pyrexia the value of carbohydrates and the limitations of proteins were referred to. In diseases of the vascular system systematic undernutrition was advocated for heart diseases, whilst in arterio-sclerosis the patient rather than the disease should be treated. Attention was drawn to the fact that in overweight diabetics the blood pressure often fell when the weight and hyperglycaemia were reduced. In renal diseases the presence of haematuria indicated a glomerular lesion such as finally led to uraemia, and here carbohydrates should be pushed at the expense of the fats, and particularly carbohydrates. The presence of marked œdema, on the other hand, indicated limitation of fats, whilst proteins or even urea might be given.

Obesity was worthy of much attention now that its important relationship to high blood pressure and diabetes was realized. A very strict limitation of diet was urged. In alimentary diseases one of the chief points emphasized was the futility of dieting for "flatulent dyspepsia" as if it were due to fermentation; attention was drawn to the fact that practically no alimentary diseases were due to difficulty of digestion of an ordinary diet, and that great harm might be done by suggesting to a patient that his food caused the abdominal pain. In cases of peptic ulcer the diet during the remissions and after operation must be controlled. The general principle seemed to be that the diet must be devoid of appetizing properties. In enteritis treatment by carbohydrates, fluids, and restriction of proteins was advocated. In the dietetic treatment of constipation continual attention must be paid to the psychological issue, and the speaker ended by suggesting that the soapy residue from milk fats was, at body temperature, a better and more natural lubricant than liquid paraffin.

In the subsequent discussion Drs. GIBSON, STEVEN, THOMAS, RADCLIFFE, HILLMAN, and SCHOLEFIELD took part.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

Surgeon Commander W. R. Harrison, O.B.E., is placed on the retired t with the rank of Surgeon Captain.
The appointment of Surgeon Commander B. S. Robson to the *Iphurst* is cancelled.

ROYAL NAVAL VOLUNTEER RESERVE.

Probationary Surgeon Sublieutenants to be Surgeon Sublieutenants: G. Ungley and D. S. Buchanan.

ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel P. G. Easton, C.B.E., D.S.O., retires on retired pay.
Major J. J. H. Beckton, half-pay list, late R.A.M.C., retires on retired y.
The following Captains to be Majors: D. S. Martin, with precedence xt below B. H. C. Lea-Wilson; W. L. E. Reynolds, M.C. (prov.), W. K. mpbell, D.S.O., M.B.E., M.C. (prov.), C. G. G. Keane, O.B.E.
Temporary Captain S. E. Ilphick relinquishes his commission on count of ill health and retains the rank of Captain.
Lieutenant (on probation) R. V. Franklin, from the seconded list, is stored to the establishment.
The following Lieutenants (on probation) are confirmed in their rank: P. M. Anderson, J. D. Borham, P. F. Palmer, D. Bluett, C. E. Eccles, M. Collins, and J. A. Chapel.

MILITIA.

ROYAL ARMY MEDICAL CORPS.

Majors T. Hampson, M.C., and F. Jefferson relinquish their commissions d retain the rank of Major.

TERRITORIAL ARMY.

ROYAL ARMY MEDICAL CORPS.

Captain S. J. C. Holden to be Major.
Captain A. H. Fullerton to be Major (prov.).
Captain A. J. Bado, R.A.M.C., to be Divisional Adjutant 43rd (Wessex) ivision, vice Captain A. Rodd to half-pay.
To be Captains (prov.): Lieutenants W. Simpson, R. N. Craig, and . S. Creed.

COLONIAL MEDICAL SERVICES.

Dr. L. H. Booth promoted Senior Medical Officer, Nigeria. Dr. J. C. ranklin, Medical Officer, Nigeria, has been invalided from the Service.

VACANCIES.

BARRY URBAN DISTRICT COUNCIL.—Surgeon to the Accident and Surgical Hospital. Salary at the rate of £750 per annum, rising to £900.

BRISTOL ROYAL INFIRMARY.—(1) Two House-Physicians. (2) Four House-Surgeons. (3) House-Surgeon to the Ear, Nose, and Throat Department. (4) House-Surgeon to the Gynaecological, Ophthalmic, and Dermatological Departments. (5) Obstetric House-Physician. (6) Casualty House-Surgeon. (7) Dental House-Surgeon. Salary for (1) to (6) £80 per annum, or £100 if candidate has previously held resident appointment in the Infirmary, and for (7) £80 per annum if resident, or £116 per annum non-resident.

BROMLEY BOROUGH.—Assistant Medical Officer of Health. Salary £600 per annum.

CHESTERFIELD AND NORTH DERBYSHIRE ROYAL HOSPITAL.—Fifth House-Surgeon. Salary at the rate of £160 per annum.

EAST RIDING MENTAL HOSPITAL, Beverley.—Medical Superintendent. Salary £900 per annum, increasing to £1,000.

EAST SUFFOLK ADMINISTRATIVE COUNTY.—Assistant County Medical Officer of Health and Medical Officer of Health for Rural District of Hoxne. Salary £625 per annum.

FEDERATED MALAY STATES: CENTRAL MENTAL HOSPITAL.—Second Assistant Medical Superintendent. Salary £700—£35—£1,120 per annum, with temporary allowance of 10 and 20 per cent. to unmarried and married officers respectively.

GREAT YARMOUTH COUNTY BOROUGH.—Assistant Medical Officer of Health and Assistant Tuberculosis Officer. Salary £600 per annum.

HOLLAND (LINCS) COUNTY COUNCIL.—Assistant Medical Officer of Health (male). Salary £600 per annum.

HULL EDUCATION COMMITTEE.—Assistant School Medical Officer. Salary £600 per annum.

LEICESTER ROYAL INFIRMARY.—(1) House-Physician. (2) House-Surgeons. Salary at the rate of £120 and £125 per annum respectively.

LEICESTERSHIRE COUNTY COUNCIL.—Assistant County Medical Officer (male). Salary £750 per annum.

LONDON FEMALE LOCK HOSPITAL, 283, Harrow Road, W.—Surgical Registrar. Honorarium £100 per annum.

LONDON JEWISH HOSPITAL, Stepney Green, E.1.—(1) Medical Registrar and Out-patient Assistant. (2) Surgical Registrar. Honorarium at the rate of £50 per annum each.

LONDON LOCK HOSPITAL, 91, Dean Street, W.—Surgical Registrar. Honorarium £100 per annum.

MANCHESTER: ANCOATS HOSPITAL.—Honorary Physician.

MANCHESTER CITY.—Assistant Medical Officer to Public Health Department (Baguley Sanatorium), unmarried. Salary £350 per annum.

MANCHESTER: ROYAL MANCHESTER CHILDREN'S HOSPITAL.—(1) Resident Surgical Officer at Pendlebury; salary at the rate of £80 per annum, and eligible after six months for reappointment as Resident Medical Officer, salary at the rate of £120. (2) Assistant Medical Officer (Out-patients' Department), non-resident; salary at the rate of £150 per annum, and eligible after six months for appointment as Medical Officer, salary at the rate of £200 per annum.

NATIONAL HOSPITAL, Queen Square, W.C.1.—Resident Medical Officer. Salary £200 per annum

NOTTINGHAM: CITY MENTAL HOSPITAL.—Junior Assistant Medical Officer (male). Salary £350 per annum, rising to £400, with additional £50 for D.P.M., and £10 for M.P.C. per annum.

NOTTINGHAM: GENERAL HOSPITAL.—House-Physician. Salary at the rate of £150 a year.

OXFORD: RADCLIFFE INFIRMARY AND COUNTY HOSPITAL.—(1) House-Physician. (2) Casualty House-Surgeon. Salary at the rate of £120 per annum each.

PLAISTOW: ST. MARY'S HOSPITAL FOR WOMEN.—Honorary Assistant Surgeon.

ROYAL FREE HOSPITAL, Gray's Inn Road, W.C.1.—House-Physician to the Children's Department (woman).

ROYAL NATIONAL ORTHOPAEDIC HOSPITAL, 234, Great Portland Street, W.1.—House-Surgeon. Salary £150 per annum.

ST. MARY ISLINGTON INFIRMARY, Highgate Hill, N.19.—Assistant Medical Officer (male). Salary £350 per annum.

ST. MARYLEBONE HOSPITAL, Ladbroke Grove, W.10.—Third Assistant Medical Officer (male). Salary £300 per annum.

ST. THOMAS'S HOSPITAL, S.E.—(1) Resident Assistant Physician. (2) Medical Registrar.

SEAMEN'S HOSPITAL SOCIETY: HOSPITAL FOR TROPICAL DISEASES, Endsleigh Gardens, W.C.1.—Medical Superintendent. Salary £250 per annum.

SHEFFIELD UNIVERSITY.—Senior Laboratory Assistant for the Bacteriological Laboratories. Wages £5.

SOUTHAMPTON: ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—Junior House-Surgeon (male, unmarried). Salary at the rate of £150 per annum.

SOUTHEND-ON-SEA COUNTY BOROUGH.—Assistant Medical Officer of Health and Assistant School Medical Officer (male). Salary £600 per annum, rising to £700.

STOKE-ON-TRENT CITY AND COUNTY BOROUGH.—Medical Officer of Health. Salary £1,400 per annum.

WEST BROMWICH COUNTY BOROUGH.—Assistant Medical Officer of Health. Salary £600 per annum.

WEST LONDON HOSPITAL, Hammersmith Road, W.6.—(1) Honorary Medical Registrar; honorarium £100. (2) House-Physician. (3) Two House-Surgeons. Salary at the rate of £100 per annum for (2) and (3).

WESTERN OPHTHALMIC HOSPITAL, Marylebone Road, N.W.1.—Senior and Junior Non-Resident House-Surgeons. Salary £150 and £100 per annum respectively.

WHITEHAVEN AND WEST CUMBERLAND HOSPITAL.—Junior House-Surgeon (male). Salary £100 per annum.

WILLESDEN MUNICIPAL HOSPITAL.—Resident Medical Officer. Salary £150 per annum.

WOLVERHAMPTON COUNTY BOROUGH.—Assistant Medical Officer for Maternity and Child Welfare Work. Salary £600 per annum.

WORTHING HOSPITAL.—House-Surgeon. Salary at the rate of £150 per annum.

CERTIFYING FACTORY SURGEONS.—The following vacant appointments are announced: Audley (Staffs), Calvert (Bucks). Applications to the Chief Inspector of Factories, Home Office, Whitehall, S.W.1.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.

APPOINTMENTS.

RIGGALL, Robert M., L.R.C.P.Lond., M.R.C.S.Eng., L.R.C.S.Ed., a Member of the Honorary Clinical Psychological Staff of the West End Hospital for Nervous Diseases.

THOMSON, M. Sydney, M.A., M.D., M.R.C.P., Junior Physician to the Skin Department at King's College Hospital.

WILSON, D. E., M.B., Ch.B.Aberd., Certifying Factory Surgeon for the Rhynie District, co. Aberdeen.

ROYAL EAST SUSSEX HOSPITAL, Hastings.—*Surgeon:* H. S. Gabb, M.B., B.Ch.Cantab. *Assistant Surgeon:* G. H. Caiger, M.B.Cantab, F.R.C.S.

DIARY OF SOCIETIES AND LECTURES.

ROYAL SOCIETY OF MEDICINE.

Section of Odontology.—Mon., 8 p.m., Dr. H. W. Barber: Relationship of Diseases of the Skin to Dental Infection; Mr. E. C. Sprawson: [illegible] be shown.

[illegible] 8.30 p.m., Discussion: Treatment of Pes [illegible] Rocyn Jones, followed by Mr. Naughton Dunn and others.

Section of Pathology.—Tues., 8.30 p.m., Laboratory Meeting at the Lister Institute, Chelsea Gardens, S.W.1. Papers—M. Robertson: Werbitzki Phenomenon in a Free-living Flagellate; P. Bruce White: Reactions of Alcohol-solu[illegible]lt and Serum; M. C. Maitland: [illegible]s from Virulent Types of *B. diphthiæ* [illegible] " and "Smoothness" in Relation to [illegible] Schütze: "Augmentor" Effects in Growth of *B. pestis*; H. B. Maitland: Antigenic Properties of Foot-and-Mouth Virus in Relation to Prophylaxis; T. Lumsden: *In vitro* Experiments on Immunity to Cancer.

Section of Tropical Diseases and Parasitology.—Wed., 5.30 p.m., Dr. P. Manson-Bahr: Plasmochin in Malaria; Dr. Dyce Sharp: Onchocerciasis; Professor R. T. Leiper: Geographical Distribution of *Physaloptera caucasica* v. Linstow in Africa.

Section of Surgery.—Wed., 8.30 p.m., Discussion: Surgical Treatment of Chronic Non-tuberculous Arthritis; to be opened by Mr. C. Max Page, followed by Dr. Beddard and Mr. R. C. Elmslie.

Section of Balneology and Climatology.—Thurs., 4.30 p.m., Discussion: The Breakdowns of Middle Life; to be opened by Dr. Campbell McClure, Dr. Wybauw (Spa), and Dr. Fortescue Fox.

Section of Laryngology.—Fri., 4 p.m., Cases. 5 p.m., Dr. Irwin Moore: Pathology of Oesophagectasia (dilatation of oesophagus without anatomic stenosis at the cardiac orifice). Cases and Specimens.

Sections of Anaesthetics and Odontology.—Fri., 8.30 p.m., Special Joint Discussion on Anaesthetics in Dental Operations. Openers: Dr. Bellamy Gardner (Anaesthetics) and Mr. Ivan Spain (Odontology).

Section of Otology.—Sat., 9.30 a.m., Cases.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W.1.—Tues. and Thurs., 5 p.m., Milroy Lectures by Dr. W. F. Dearden: Health Hazards in the Cotton Industry.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.—Mon., 5 p.m., Professor V. Zachary Cope: Shock and Collapse, with Special Reference to Acute Abdominal Disease. Wed. and Fri., 5 p.m., Sir Arthur Keith: Recent Researches carried out in the Museum.

HUNTERIAN SOCIETY, Cutlers' Hall, Warwick Lane, E.C.—Mon., 9 p.m., Hunterian Oration by Mr. W. Girling Ball: The Value of Modern Methods of Investigation in the Diagnosis and Treatment of Haematuria.

POST-GRADUATE COURSES AND LECTURES.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION.—Special Lecture at the Medical Society, 11, Chandos Street, W.1., Thurs., 5 p.m., The Differential Diagnosis of Some Acute Rashes. Open to all members of the medical profession, without fee. *London Lock Hospital*, Dean Street, W.1: Special Course in Venereal Diseases. Clinical work daily and special lectures. *National Hospital*, Queen Square, W.C.1: Special Course in Neurology. Instruction daily in the Out-patient Department and special lectures and demonstrations. All information as to fees, etc., obtainable from the Fellowship of Medicine, 1, Wimpole Street, W.1.

CENTRAL LONDON THROAT, NOSE AND EAR HOSPITAL, Gray's Inn Road, W.C.1.—Fri., 4 p.m.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.1.—Thurs., 4 p.m., Ringworm.

LONDON SCHOOL OF DERMATOLOGY, St. John's Hospital, Leicester Square, W.C.2.—Tues. and Thurs., 5 p.m., Cutaneous Syphilis.

NATIONAL HOSPITAL, Queen Square, W.C.1.—Mon., Tues., Thurs., and Fri., 2 p.m., Out-patient Clinics. Mon., 12 noon, Pathology of the Nervous System; 3.30 p.m., Borderland of Epilepsy. Tues., 3.30 p.m., Mental Dissociation and Double Personality. Thurs., 3.30 p.m., Vertigo. Fri., 12 noon, Anatomy and Physiology of the Nervous System; 3.30 p.m., Migraine. Operations: Tues. and Fri., 9 a.m.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General [illegible] Mon., 10 a.m., Surgical Clinic; 2.30 p.m., [illegible] lical Cases; 2.30 to 5 p.m., Medical, Surgical, Operations. Tues., 2.30 p.m., Special Demon- 2.30 to 5 p.m., Medical, Surgical, Throat, ations. Wed., 2.30 to 5 p.m., Medical Skin Thurs., 11.30 a.m., Dental Clinics; 2.30 to d Ear, Nose, and Throat Clinics; Operations. , and Ear Clinics; 2.30 to 5 p.m., Surgical, ases Clinics; Operations.

POST-GRADUATE HOSTEL, Imperial Hotel, Russell Square, W.C.1.—Mon., 9 p.m., Ladies' Night: The History of Bloomsbury.

ROYAL NORTHERN HOSPITAL, Holloway Road, N.—Tues., 3.15 p.m., Safety in Anaesthesia.

WEST LONDON HOSPITAL POST-GRADUATE COLLEGE, Hammersmith, W.6.—Mon., 10 a.m. to 1 p.m., [illegible]artment, Surgical Wards; 2 p.m., S[illegible]ye Departments. Tues., 10 a.m. to 1 [illegible] Demonstrations in Venereal Diseases [illegible] Wards, Throat, Nose, and Ear D[illegible]m. to 1 p.m., Children's Medical [illegible] [illegible]ration in Medical Pathology; [illegible] [illegible]nt. Thurs., 10 a.m. to 1 p.m., N[illegible] [illegible] of Fractures; 2 p.m., Eye and [illegible] [illegible]gical Ward. Fri., 10 a.m. to 1 p.m., Gynaecological Operations, Dental, Skin, and Electrical Departments; 2 p.m., Throat, Nose, and Ear Department. Sat., 10 a.m. to 1 p.m., Bacterial Therapy Department, Children's Medical Department. Daily: Operations, Medical and Surgical Out-patients at 2 p.m.

GLASGOW POST-GRADUATE MEDICAL ASSOCIATION.—At the Lock Hospital: Wed., 4.15 p.m., Female Venereal Diseases.

JAMES MACKENZIE INSTITUTE FOR CLINICAL RESEARCH, St. Andrews.—Tues., 4 p.m., Unresolved Pneumonia.

MANCHESTER ROYAL INFIRMARY.—Tues., 4.15 p.m., Graves's Disease from the Surgical Standpoint. Fri., 4.15 p.m., Demonstration of Surgical Cases.

MANCHESTER: St. Mary's Hospitals (Whitworth Street West Branch).—Fri., 4.30 p.m., A Visit to the Wards.

SHEFFIELD UNIVERSITY POST-GRADUATE CLINICS.—At Royal Hospital: Fri., 3.30 p.m., Neurological Cases.

British Medical Association.

OFFICES, BRITISH MEDICAL ASSOCIATION HOUSE, TAVISTOCK SQUARE, W.C.1.

Departments.

SUBSCRIPTIONS AND ADVERTISEMENTS (Financial Secretary and Busine[illegible]
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SCOTTISH MEDICAL SECRETARY: 6, Drumsheugh Gardens, Edinburgh. (Tel grams: Associate, Edinburgh. Tel.: 4361 Central.)
IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Tel grams: Bacillus, Dublin. Tel.: 4737 Dublin.)

Diary of the Association.

MARCH.

1 Tues. London: Pathological Committee, 2.30 p.m.
City Division: Metropolitan Hospital, Kingsland Road. Di cussion on Headache, 9.30 p.m.
Coventry Division: Dr. A. T. W. Forrester on Early Ment Cases.
Dewsbury Division: Dewsbury Infirmary.
Hastings Division: Queen's Hotel, Hastings. Dr. G. J. Langle on Auricular Fibrillation, 8.15 p.m.
South-West Essex Division: Whipps Cross Hospital, Leyto stone. Clinical Demonstration by Dr. J. C. Muir, 3.30 p.m.
2 Wed. London: Medical Officers of Public Schools Subcommittee 2.30 p.m.
3 Thurs. London: Disciplinary Subcommittee of Insurance Acts Com mittee, 2.30 p.m.
Bournemouth Division: Annual Dinner, Royal Bath Hote 7.30 p.m.
Guildford Division: Royal Surrey County Hospital, 4 p.m.
Nuneaton and Tamworth Division: Tamworth General Hospita Mr. A. B. Danby on Prevention in Obstetrics, 3.30 p.m.
Sunderland Division: Dance, Meng's Rooms, Sunderland, 8 p.m
4 Fri. London: Conference *re* Spa Treatment for Insured Persons 10 a.m.
London: Science Committee, 2.30 p.m.
8 Tues. Reigate Division: East Surrey Hospital, Reigate. Dr. Stanle Dodd on Gynaecology, 8.45 p.m.
St. Pancras Division: B.M.A. House, Tavistock Square, W.C.1 Mr. A. G. Timbrell Fisher on Manipulative Surgery, 9 p.m.
South Essex Division: Palace Hotel, Southend. Dr. C. Gran Pugh will give an address, 8.30 p.m.
9 Wed. London: Hospitals Committee, 2.15 p.m.
Dumbartonshire Division: Dinner, North British Statio Hotel, Queen Street, Glasgow, 7.30 p.m.
Huddersfield Division: Huddersfield Royal Infirmary. B.M.A Lecture by Professor Miles Phillips on Some Obstetrica [illegible]
[illegible] John's Hospital, Twickenham.
[illegible] operative Treatment of Cancer.
10 Thurs. [illegible] Royal Victoria Infirmary. Mr. and Parturition in Veterinary [illegible]
[illegible] d Division: Bull Restaurant, [illegible]n Early Signs of Phthisis, [illegible] lecture.
[illegible] [illegible]l, Swansea, 8.15 p.m.
11 Fri. [illegible] 2.30 p.m.
[illegible] Branch: District Asylum, Inverness, 3 p.m.
15 Tues. [illegible] p.m.
16 Wed. [illegible] Sunderland. Mr. F. C. [illegible]
18 Fri. [illegible]ance, B.M.A. House, [illegible]
24 Thurs. [illegible] [illegible] ral Hospital, Swansea, 8.15 p.m.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcement of Births, Marriages, and Deaths is 9s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

BIRTHS.

BARCLAY.—On February 20th, at 2, Greenhead Road, Huddersfield, the wife of William Barclay, M.B., F.R.C.S.Ed., a son.

BORHAM.—On February 14th, 1927, at 27, Marsham Street, Westminster, S.W., to Esmé, wife of John Douglas Borham, M.R.C.S., L.R.C.P., of the Royal Army Medical Corps, a son.

CUFF.—On January 30th, 1927, at Nicosia, Cyprus, to Anna, wife of Cyril H. Cuff, M.B., B.S., F.R.C.S.E., a son.

DEATHS.

GARBUTT.—On February 21st, Meggie Watson, the beloved wife of William J. Garbutt, M.B., C.M., 1, Bournbrook Road, Selly Park, Birmingham.

PHILLIPS.—On February 18th, 1927, at Hardwick Lodge, Streetly, George Arthur Phillips, J.P., M.R.C.S., in his 78th year.

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EPITOME OF CURRENT MEDICAL LITERATURE.

Medicine.

247. Epidemic Meningitis.

J. B. NEAL, H. W. JACKSON, and E. APPELBAUM (*Journ. Amer. Med. Assoc.*, December 11th, 1926, p. 1992), whose paper is based on a study of 654 cases, state that epidemic meningitis is a disease to which most persons have a natural immunity, as is shown by the fact that there were only fourteen instances of a second case in the same family, although most of the patients lived in crowded districts. As regards the seasonal incidence, 34.6 per cent. of the cases occurred in the first quarter of the year, 33.5 per cent. in the second quarter, 13.9 per cent. in the third, and 18 per cent. in the fourth. Of the total cases, 57.5 per cent. were males and 42.5 per cent. females. More cases occurred in the first year of life (166) than in any other year. The mortality for 627 cases was nearly 30 per cent. This high figure was due to: (1) the large percentage of children under 1 year of age; (2) the late stage of the disease when treatment was started; and (3) the high incidence of pneumonia or some complication not directly connected with the meningitis. Of 337 patients who were followed up, 276 (81.9 per cent.) made a complete recovery, while 61 (18.1 per cent.) showed sequelae. The most important and frequent sequela was deafness, which was usually bilateral, complete, and permanent. Visual defects occurred in 7 cases—in the form of irido-choroiditis in 6, leading to panophthalmitis in 5, and bilateral defective vision following hydrocephalus in one. In only 8 instances was there any indication of residual disturbances in mentality or intelligence, but 11 patients showed some form of paralysis of the cranial nerves or limbs, 2 developed sphincteric disturbances, and one complete transverse myelitis.

248. Focal Infection and Diabetes Mellitus.

D. COHEN and A. E. COHEN (*Urol. and Cutan. Rev.*, November, 1926, p. 650) remark that it is commonly observed in diabetes mellitus that *carbohydrate tolerance is greatly diminished* by acute infectious processes and that the patient's general condition often improves after the removal of some chronic focal infection. It is uncertain whether the removal of such foci exerts its beneficial influence through a general systemic effect or through an actual curative influence upon the disease itself. The nature of the injurious influence upon the pancreas is not known. Much emphasis has been laid upon obesity as an etiological factor. Various other factors have been incriminated, such as diet, heredity, nervous strain, arterio-sclerosis, syphilis, gout, gall-bladder disease, pregnancy, thyroid cysts, fibroid uteri, brain tumours, and infection. Foci of infection in the teeth, tousils, and gastro-intestinal tract are regarded as causes of diabetes through toxic absorption or entry of living organisms into the circulation. The authors report a case of diabetes in a man aged 60 who showed marked improvement in carbohydrate tolerance after removal of an enlarged infected prostate.

249. Tularaemia.

B. C. FARRAND (*Amer. Journ. Med. Sci.*, December, 1926, p. 853), who reports eleven illustrative cases, defines tularaemia as an acute infectious disease caused by the *Bacterium tularense*. It is divided into two types—the glandular and the typhoid. It is transmitted by blood-sucking insects that bite man and animals, and is characterized by marked prostration. The incubation period is from two to five days. It was first described by McCoy in 1911 as a "plague-like disease of rodents," and by Pearse in the same year as "deer-fly fever." It has also been called "rabbit fever" and "glandular type of tick fever." The name "tularaemia" was suggested by Edward Francis in 1921, since the disease was caused by the organism isolated by McCoy and Chapman in 1911 from squirrels in Tulare, County California. The disease has now been reported from twenty-three of the United States and in the district of Columbia. Transmission usually takes place by the wood-tick, which also transmits Rocky Mountain spotted fever. Infection may also be caused by briers and burs which have been in contact with infected material. Laboratory workers have been infected by the urine and faeces of rabbits. The glandular type is characterized by fever and prostration and the small reddened area at the point of infection, with inflammation and often suppuration of the corresponding lymphatic glands. In the typhoid type fever of varying degree lasts a considerable time. Treatment is symptomatic.

250. Conjugal Herpes Zoster.

H. BERNADOU (*Gaz. hebd. des Sci. Med. de Bordeaux*, December 5th, 1926, p. 774) states that the infectious nature of herpes zoster was first recognized in 1883 by Landouzy, who had observed some small epidemics of it, and later by Erb. Idiopathic zoster may be recorded as a specific infectious disease allied to the eruptive fevers. The causal organism is unknown. It is probably a filterable virus with a predilection for the spinal ganglia, and especially those most closely related to the visceral sympathetic—namely, the third and fourth cervical, the last nine dorsal, and the first two lumbar nerves. The disease has numerous resemblances to herpes febrilis, but whereas the vesical fluid in herpes febrilis is inoculable, especially on to the eye of a rabbit, the contents of the vesicles of herpes zoster always remain sterile. Bernadou reports the case of a woman, aged 35, who, after pain in the left side of the thorax for a week, developed herpes zoster in the tenth and eleventh left intercostal spaces. Three weeks later her husband, aged 40, had severe pain in the left scapular region, which gradually spread to the upper part of the thorax and was accompanied by fever and insomnia. Sixteen days after the onset two patches of herpes zoster appeared in the fourth and fifth left intercostal spaces. Neither the husband nor wife had any history or evidence of syphilis, or any other taint, nervous or otherwise, nor had they been exposed to any other case of herpes zoster, herpes febrilis, or varicella.

251. Infantile Myxoedema in Norway.

T. SKAAR (*Norsk Mag. f. Laegevid.*, October, 1926, p. 863) reviews the literature and records thirty-five personal cases of infantile myxoedema in Norwegian children. None of the cases were found north of Levanger, a town slightly to the north of Drontheim. In those districts where goitre was endemic only sporadic cases of myxoedema were found, so that Skaar concludes that the two diseases bear no relation to each other as regards their distribution in Norway. With the exception of one which developed after measles, all the cases were congenital. As regards the etiology of the disease, in no instance was there any question of blood relationship in the parents. On the other hand, in four cases, or in 11.4 per cent., the mother had goitre, and in one case the maternal grandmother also. Skaar points out that the value of this series of cases is that most of the patients had been kept under observation for several years so that their mental and somatic development could be estimated. It was found that even when treatment was commenced late—that is, between 10 and 15 years of age—*rapid improvement occurred*. The prognosis, therefore, is good even when treatment is delayed, but is better still when treatment is started early. It appears, however, that the patients rarely attain a height exceeding 150 cm., even under early treatment.

Surgery.

252. Liver Abscesses complicating Appendicitis.

I. V. REÖK (*Zentralbl. f. Chir.*, January 22nd, 1927, p. 196) states that the transient form of toxic jaundice which sometimes precedes an acute attack of appendicitis in young persons has a good prognosis, and almost invariably disappears after removal of the appendix. Liver abscesses, on the other hand, though of rare occurrence, have a high mortality; they are generally multiple, and may occur at the beginning or during the course of an acute or chronic attack, with or without operation, immediately after appendicectomy or after an interval. Emboli from the thrombosed vessels of the inflamed appendix are carried by the ileo-colic, mesenteric, and portal veins to the liver, where the bacteria, emboli, and toxins may produce an almost symptomless functional hepatic disturbance or multiple liver abscesses, according to the virulence of the organisms and the defensive powers of the body. The symptoms of liver involvement, which may entirely mask those of appendicitis, are tenderness in the upper abdomen, pain radiating to the shoulder, enlargement of the liver, and jaundice frequently simulating acute cholecystitis. The appendix should therefore be watched whenever these symptoms occur, especially in young persons. Treatment is only possible when a single accessible abscess, formed by the confluence of several, is present. Prophylaxis is therefore of great importance; this includes early removal of the diseased appendix, and tying off the ileo-colic vein as closely as possible to its junction.

with the mesenteric and resecting it (a procedure advocated by Braun as presenting no great technical difficulties) in all cases in which there is evidence of septic thrombi being carried to the liver, since any involvement of the liver which arises from appendicitis always passes along the direct blood stream.

253. Pyloro-duodenitis.

L. BOUCHUT and P. P. RAVAULT (*Lyon Méd.*, December 26th, 1926, p. 742) maintain that late gastric pains should not always be diagnosed as due to ulcer of the stomach, an opinion which is borne out by the numerous negative findings in operations for gastric ulcer. The symptomatic syndrome of pyloro-duodenitis shows all the classical characteristics of ulcerous dyspepsia—*such as pain after food, which is relieved* by the ingestion of hot water or an alkali, occasionally vomiting, and sometimes pyrosis with regurgitation of a hot acid fluid. The hydrochloric and total acidity are markedly increased. These attacks develop slowly and there are periods of remission. Besides gastric ulcer, conditions to be distinguished are appendicitis and vesiculitis. When these can be excluded the authors claim that the primary cause of the symptoms is a pyloro-duodenitis. They cite two cases with typical histories of chronic gastric and duodenal ulcers, in which operations were performed, and in neither was an ulcer found. The mucous membrane of the pylorus and duodenum appeared red and slightly granular with small superficial ulcerations, and microscopically showed an intense parenchymatous and interstitial inflammation. The treatment of this condition is that of chronic ulcer, but surgical intervention, such as gastro-entero-anastomosis, is not advised. According to the authors, cases of this type are remarkably amenable to the medical and dietetic treatment of ulcer.

254. Treatment of Epulis.

L. KUMER and H. WOLF (*Wien. klin. Woch.*, January 13th, 1927, p. 57) state that an epulis is to-day regarded by most authorities not as a true blastoma but as a chronic granuloma. Two types of it are distinguished—the so-called giant-cell epulis and the fibrous epulis. The treatment of both these forms has hitherto consisted in radical removal of the growth, together with the surrounding tissue, owing to great tendency to recurrence, which is equally pronounced in both forms. The disadvantages of a radical purely operative procedure are the more or less extensive resection of healthy neighbouring bones, the removal of teeth, the opening of the antrum of Highmore, the exposure of the mandibular canal, and, in extreme cases, partial resection of the upper or lower jaw. To obviate these great disadvantages systematic radium treatment of epulis has been tried at the First Surgical Clinic of the University and the radium department of the General Hospital at Vienna during the last four years, with the result that 8 out of 10 patients with epulis treated exclusively with radium were permanently cured. One of these patients was a girl suffering from multiple epulis fibrosa, who would have had to sacrifice all her teeth if the radical operation had been performed. In spite of these successes it was found that the epulis tissue was not particularly sensitive to radium, and in some cases the growths could not be destroyed entirely, even with very large doses of radium. In such cases the growth was excised and radium treatment applied to the area from which it had been removed. The authors add that although it is perhaps too early to speak of a permanent cure, 34 cases so treated present normal appearances now, and in 11 of the cases the treatment had been applied from two to four years previously. Only one patient showed a recurrence, which rapidly yielded to a fresh application of radium.

255. Local Immunity in Surgery.

PICARD (*Zentralbl. f. Chir.*, January 1st, 1927, p. 28) at a meeting of the Berlin Surgical Society alluded to the investigations by Wassermann and Besredka of local and general immunization, and described his clinical observations and experiments carried out in collaboration with Professor Citron. Filtrates of old cultures of streptococci or staphylococci were used, 150 cases in all being treated. In recent inflammatory processes the focus was opened and filled with a plug soaked in the vaccine. The cases treated included boils, carbuncles, abscesses of sweat glands, staphylomycoses in infants, whitlows, mammary abscesses, cellulitis, and acute osteomyelitis. In 80 per cent. satisfactory results were obtained, and only chronic processes, such as osteomyelitis and fistulae of the bones and soft parts, proved refractory to treatment. The best results were obtained in erysipelas. Five out of twelve cases were treated merely by application of strips of gauze soaked in the vaccine, while in the other seven the skin was scarified before the dressing was applied. In all the cases the temperature became normal in forty-eight hours. Experiments on animals confirmed the results of clinical observation. Picard therefore maintained that local immunization was in many cases preferable to chemical antiseptics, as it acted simultaneously on the cells and the bacteria, but so far from doing any harm to the cells, as was done by antiseptics, it increased their resistance. In the subsequent discussion Wolfsohn, Bier, and Martens expressed doubts as to how far the treatment was responsible for the good results obtained, especially in the case of erysipelas, in which recovery often took place within three days, even without treatment.

Therapeutics.

256. Xanthine Diuretics in Heart Failure.

H. M. MARVIN (*Journ. Amer. Med. Assoc.*, December 18th, 1926, p. 2043) has employed xanthine derivatives in the treatment of 77 adult patients with advanced congestive heart failure and much oedema. Many had ascites or hydrothorax, or both, in addition to anasarca. Moribund patients and those suffering from nephritis were excluded. Of the 77 patients 27 had rheumatic heart disease and 50 had arterio-sclerotic or hypertensive heart disease. In 36 cases digitalis alone caused oedema to disappear. Of the remaining 41, 13 patients were entirely relieved of oedema by one or more of these diuretics, 5 had good diuresis with great reduction of oedema, and 5 more were benefited moderately. Theobromine sodium salicylate, in doses of from 2.6 to 5.3 grams daily for five or six days, relieved only 2 patients out of a group of 8, although the remainder of this group responded well to theobromine or theophylline. Theobromine in doses of 0.6 gram thrice daily for two days was partially or entirely satisfactory in 7 out of 17 patients. Of the remaining 10 patients, 5 obtained excellent diuresis from theophylline. Theophylline was much the most powerful of the three diuretics, and relieved a number of patients who had failed to respond to the other two drugs. Its usefulness is limited somewhat by the nausea and vomiting it produces. Marvin considers it certain that a considerable proportion of cardiac patients can be relieved by these drugs after digitalis in full doses has failed. There is evidence that the xanthine diuretics are more effective in the arterio-sclerotic hypertensive heart disease group than in the rheumatic heart disease group.

257. A Contraindication to the Administration of Digitalis.

L. GALLAVARDIN (*Presse Méd.*, December 29th, 1926, p. 1637) refers to the uncertainty about the action of digitalis in diseases of the heart, sudden death having followed its ill-timed administration. These fatalities do not depend solely on the size of the dose or its method of administration, but are related to the condition of the heart. While even very large doses do not affect the healthy heart, the smallest dose will sometimes cause grave trouble in cardiac disease. Gallavardin states that sudden death after digitalis administration is caused by ventricular fibrillation. Auricular fibrillation is common and is well borne, but ventricular fibrillation inevitably leads to cardiac syncope or sudden death, and the author believes that a rhythmic syndrome, termed by him the "syndrome of alarm," exists which can be considered an expression of a prefibrillatory state of the ventricle. This syndrome, which can be easily detected by careful examination, is aggravated by even very small doses of digitalis. It consists of three marked symptoms—double rhythm, extra-systolic salvos, and attacks of tachycardia. The presence of these signs, Gallavardin maintains, should make physicians extremely prudent in the use of digitalis.

258. Tuberculin Treatment of Asthma.

C. R. ÖSTERGAARD (*Ugeskrift for Laeger*, January 13th, 1927, p. 24) supplements an earlier paper, in which he recorded observations on the treatment of eleven cases of asthma with tuberculin, with a second record, in which he gives a detailed account of twenty-eight cases thus treated. In his earlier publication he assumed that the success of this treatment depended on protein shock, but he also believed that a specific bacterial protein, such as tuberculin, was much more effective than the various polyvalent protein preparations on the market. In his hospital practice he has given subcutaneous injections of one of these preparations (cibalbumin), and has always observed the usual reaction—headache, pain, and redness at the site of injection. In spite of this reaction there was no improvement in the asthmatic state. But in most cases great improvement was effected when he gave Hoechst's albumose-free tuberculin. The initial dose was 0.0001 gram, and the final dose was 0.10 gram. Tuberculins made from bacilli of the bovine and avian types proved to be inert. The author also used Hoechst's tuberculin T.O.A.—the preparation with which Storm van Leeuwen has achieved

his successful results in asthma—he recommends it in those cases in which a markedly positive Pirquet reaction suggests that the patient is unusually sensitive to tuberculin. As tuberculin does not keep well after dilution, each dilution was made at the time of the injection or only a few days before it. The tabulated and detailed records of the twenty-eight cases show that, if a period of three months' freedom from attacks be regarded as evidence of improvement, nineteen of the patients, or 68 per cent., showed improvement. The remaining 32 per cent. were unaffected by the treatment. The author points out that these results coincide fairly closely with Storm van Leeuwen's results in about 300 cases of asthma treated with tuberculin, of which 78 per cent. showed recovery or marked improvement, whereas 22 per cent. showed no change.

259. Sanocrysin in Surgical Tuberculosis.

P. COKKALIS (*Med. Klinik*, January 7th, 1927, p. 17) remarks that sanocrysin has hitherto been used almost excessively in pulmonary tuberculosis. Chlevitz and Ulrici made trial of it in surgical tuberculosis, but their results were not encouraging, and only Achelis has seen good effects from sanocrysin in cases of this kind. Cokkalis employed sanocrysin in 11 male cases of surgical tuberculosis, a total dosage of 4.5 to 5.5 grams being injected intravenously in the course of five to six weeks. The dose at first was usually 0.05 gram and was gradually raised to 1 gram. The interval between each injection varied with the severity of the reaction. Fever, which was usually of short duration, was noticed during the treatment in almost every case. In two cases there was a *morbilliform* eruption. The greatest risk in sanocrysin treatment is that of damage to the kidneys, death due to uraemia being frequent according to Jansen. In 2 cases alarming symptoms of cardiac weakness followed by diarrhoea and sweating compelled Cokkalis to discontinue the treatment. Of the 11 patients 2 had to be dismissed from consideration as, though no change was observed, they had been under treatment only a short time; 3 were unaffected, 3 showed considerable aggravation of their condition, and the remaining 3 clinical improvement. The author adds that these results are not encouraging, and do not justify a belief in the curative action of sanocrysin in surgical tuberculosis.

Disease in Childhood.

260. Microcephalic Children.

T. BRUSHFIELD and W. WYATT (*Brit. Journ. Child. Dis.*, October-December, 1926, p. 265), as the result of observations at the Fountain Mental Hospital, report that the characteristic features of the true microcephalic skull are (1) marked recession of the frontal and parietal regions, (2) flattening of the occipital region, (3) a prominent nose and receding chin, causing a bird-like appearance, and (4) two marked angles, one at the centre of the face and the other at the top of the head. In infancy the head is not so small in relation to the body, but during the first six months of life there is no rapid growth, and the microcephaly, which was at first not evident, soon becomes obvious. All grades of mental defect occur, but most of the authors' cases belonged to the low grade imbecile or idiot groups. The following data were compiled from cases where histories were obtained. In 53 families 8 were only children, 23 were first-born, and 3 was the average number in the family. In 52 cases the average age of the father was 43.5 and of the mother 36.5. Of 70 patients 9 were blind, 20 were subject to convulsions, and the majority showed some definite loss of power in the lower extremities, while 30 died from various causes, the average age at death for males being 3, and for females 4.7 years.

261. Tuberculous Empyema in Young Children.

P. LAMOTHE and H. BERNARDOU (*Gaz. hebd. des Sci. Méd. de Bordeaux*, November 14th, 1926, p. 1727) report a case in a male infant, aged 22 months, following measles, in whom the disease at first assumed the form of a protracted pneumonia until thoracocentesis was performed and a sero-fibrinous exudation evacuated. After transient improvement the temperature rose again and severe gastric and respiratory symptoms developed. The pleural effusion was then found to be purulent. At the present time, although the child appears to be in good health, the remote prognosis is unfavourable, owing to the persistence of an incurable tuberculous lesion of the pleura. The rarity of empyema in pulmonary tuberculosis in the child is illustrated by the fact that Sainton was able to collect only three undoubted examples in his thesis. Tuberculous empyema may be primary, or secondary to an active pulmonary tuberculosis or a spontaneous or artificial pneumothorax. In the present case the pleurisy was primary.

262. Renal Tuberculosis in Children.

ARMAND-DELILLE (*Journ. de Méd. de Paris*, November 22nd, 1926, p. 971) states that the kidney may be the only localization of tuberculosis in children, or may be associated with multiple tuberculous lesions elsewhere. There is usually a long latent period at first, in which an exact diagnosis cannot be established unless a systematic examination is made. The first symptom is often a sudden haematuria, which may be profuse, constituting a "renal haemoptysis," or so slight as only to be discovered on microscopical examination. In other cases the onset is characterized by simple albuminuria, which is either continuous or intermittent. More rarely vesical symptoms are observed in the form of pain in the bladder, pollakiuria, and pain on micturition. A symptom peculiar to children is reflex incontinence of urine, which, in a hitherto clean child, should always suggest the possibility of renal tuberculosis. If treatment is not employed at the onset the renal pelvis becomes invaded, and the dominating symptom is then pyuria accompanied by pollakiuria and pain on micturition. In the absence of treatment death always ensues, either from cachexia with signs of amyloid degeneration or from tuberculous meningitis. As regards the diagnosis, it will often be necessary to resort to cystoscopy and separation of the urine from each kidney to see if there is a renal lesion. Injection of lipiodol into the renal pelvis, followed by *x*-ray examination, may be of service. Treatment need not always be surgical, especially if the diagnosis has been made early. In such cases physiotherapy, especially heliotherapy, in association with the ordinary hygienic, climatic, and drug treatment, will very often be sufficient to bring about a cure. In late cases with advanced but unilateral lesions nephrectomy must be performed.

263. Dietetic Treatment of Diabetes in Childhood.

W. M. BARTLETT (*Amer. Journ. Dis. Child.*, November, 1926, p. 641) records the result of his investigation to determine the actual minimum protein requirement in children. He defines this as that amount of protein which will establish a positive nitrogen balance, prove adequate for growth in stature, promote natural development, and allow the child to gain weight at a normal rate. Six diabetic children, ranging from 4 to 14 years in age, were studied with this view, four being treated without insulin, while in two cases the condition was so severe that insulin was necessary to ensure complete utilization of maintenance diets. The author finds that the protein requirement of children varies inversely with the age and is directly proportional to the rate of growth. It also varies inversely with the caloric intake. Provided that their caloric requirement is fulfilled, and that the diet is adequately chosen from foods rich in vitamins, children aged from 4 to 14 require 1 to 0.6 gram of protein per kilogram of body weight, but evidence of protein starvation may be absent in diets even lower in protein. These figures are considerably below those estimated by Holt—namely, 4 grams of protein per kilogram of body weight in infancy and childhood to 2 grams in adolescence. The author also observes that the protein requirement of children bears no relation to the fatty acid glucose ratio, provided it is compatible with a persistent absence of ketosis.

Obstetrics and Gynaecology.

264. Foetal Injury due to X-ray Treatment.

W. FLASKAMP (*Zentralbl. f. Gynäk.*, January 1st, 1927, p. 14) defines two grades of *x*-ray treatment of the ovaries; in the first, "temporary sterilization," the dose given is strong enough to produce amenorrhoea and sterility for some time; in the second, "weak ovarian radiation," amenorrhoea is not produced. Ovarian function is not arrested by the latter method; ripe ova may be severely damaged, and, as conception is possible, there is risk of damaged offspring. Flaskamp states that although this view is generally accepted, nevertheless weak radiation is frequently recommended for inflammatory conditions and sterility, and he advises strongly against it. Opinions differ as to temporary sterilization; the first conception after the amenorrhoea frequently ends in abortion. This may be caused by the condition necessitating *x* rays, as in the case of myoma, or by direct injury being inflicted on the uterine muscle by the treatment, or by atrophic changes occurring during the amenorrhoea. Abortion is commonest when conception follows quickly on the amenorrhoea; subsequent pregnancies are usually normal. As regards the children conceived after temporary amenorrhoea, about 200 pregnancies have been observed, and in all these the children were healthy or not damaged by the treatment. This is considered to afford evidence that the ovary completely regains its function after the period of amenorrhoea. Some cases of disease or abnormality have been ascribed to

such treatment, and the author thinks it is regrettable that more details of such cases and their histories have not been published so that other causes and coincidences might be eliminated. Wintz holds that the ovary regains its full function after the period of amenorrhœa. The Erlanger clinic found a fundamental difference between the effect of radiation on the ripe and on the primordial follicle which has still to develop. The technique of temporary sterilization is difficult and should be performed only by an expert. The author uses it in carefully selected cases of severe inflammation of the adnexa when menstruation is retarding recovery, but not as a general panacea or contraceptive. He adds that conception should be avoided in the period between radiation and onset of amenorrhœa, and that any pregnancy that occurs should be terminated, for it is in such cases that a damaged ovum may be fertilized.

255. Etiology of Dysmenorrhœa.

H. BECKWITH WHITEHOUSE (*Journ. Obstet. and Gynaecol. Brit. Empire*, Winter No., 1926, p. 607) reports the results of [illegible] pathology and causation of dys- [illegible] during the past two years. The [illegible] details in patients were recorded over a series of several consecutive periods, examinations of the lochia were made in cases with and without pain, and the clinical symptoms were correlated with physical pelvic signs, especially with regard to the severity of the pains. Non-conceptional dysmenorrhœa is regarded as a clinical and pathological entity in contradistinction to menorrhagia, which merely implies painful menstruation as a clinical concomitant of a variety of lesions. It was found that the expulsion of tissue in the shape of flakes, plaques, or casts was always associated with the condition, the severity of the pain being dependent upon and proportionate to the degree of denudation of the endometrium and to the size of the fragments expelled. Only in a secondary sense was the pain found to be dependent upon the uterine conformation or the nervous control of the individual. Examination of the lochia showed that the tissue expelled consisted usually of hyperplasic decidua with or without fibrin, the proportion of each constituent varying in different cases and being one of degree only. The author states that the so-called membranous dysmenorrhœa, or exfoliative endometritis, is merely an extreme degree of a comparatively common pathological condition of the menstrual decidua. He considers hyperplasic decidua as being a reflection of excessive luteum activity or high vitality of the ovum, and that non-conceptional dysmenorrhœa is an exaggeration of the positive menstrual phase; it is due to precocity in decidual development and appears to imply a hypertonic sex impulse, which tends in due course to become exhausted. Treatment should aim at initiating an early negative phase by inducing degeneration of the corpus luteum, uterine operations being only palliative for the relief of the associated pain. Theoretically inhibition of the positive menstrual phase might be achieved by inhibition of ovarian activity with *x* rays or radium, or degeneration of the corpus luteum might be produced by extracts of the early developing ovum.

256. Salpingitis Following Ozoena.

H.-E. SCHEYER (*Zentralbl. f. Gynäk.*, December 11th, 1926, p. 3186) records a case of bilateral pyosalpinx in which Friedländer's bacillus was found in pure culture. The patient, a woman aged 62, had suffered for twenty years from atrophic rhinitis, and the nasal secretion contained similar micro-organisms. Besides the pyosalpinx on each side, a pyometra and an abscess in the parametrium contained Friedländer's bacillus in pure culture. All the abscesses were chronic, but acute peritoneal symptoms occurred shortly before death, which followed a secondary streptococcal infection with general peritonitis.

Pathology.

257. Haemolysis of Bacterial Origin.

L. MULLER (*C. R. Soc. de Biologie*, January 28th, 1927, p. 189) finds that if staphylococci are grown on a medium rich in blood each colony becomes encircled by a clear zone, the margin of which follows accurately that of the colony. If only 5 to 7 per cent. of blood is added to the agar the appearance is different. Instead of a symmetrical zone of decolorization there are numerous clear spots situated around and extending for a distance of 10 to 12 mm. from the colonies. Beneath the colony the haemolysis is not uniform; the blood is riddled with little clear circles of decolorization. The number of these clear spots varies with the sample of blood; with that from normal persons about 250 to 300 are visible on a plate 15 cm. in diameter containing 60 c.cm. of medium. If the blood is centrifuged and the corpuscles and serum added separately to the agar the same result is obtained; but if the washed corpuscles alone are used, then these spots no longer appear. If the serum is heated to 55° C. before being added to the corpuscles in the agar, either no spots appear or, if a larger quantity is added, a certain number appear. If the whole blood is heated to 54° C. the number of spots decreases till after heating for thirty-five minutes, or sometimes for one hour, they completely fail to appear. If to this inactivated blood some fresh serum is added the spots again make their appearance. Filtration of the serum through a new Chamberland L2 candle has no effect, but if an old and less permeable candle is used the amount of serum necessary for the phenomenon to occur is increased. The serum can be inactivated by ether. No spots appear on a blood plate which has been incubated at room temperature, even though a good growth of staphylococci occurs. This phenomenon has been observed in 80 out of 86 specimens of human blood taken from normal persons or from patients with various diseases. Without venturing on a premature explanation the author thinks that there must be present in human blood a thermolabile filterable principle of which the development—or, better, the haemolytic activity—is conditioned by the presence of a staphylococcus.

263. The Pathogenesis of Biliary Calculi.

S. H. MENTZER (*Archives of Surgery*, January, 1927, p. 14) considers that the study of the formation of gall stones may forward the investigation of metabolic diseases, being concerned with much the same processes. He believes there are probably two types and two sources of gall-stone formation: (1) the bilirubin calcium stone containing little or no cholesterol and arising within the intrahepatic ducts, and (2) the cholesterol stone containing varying degrees of cholesterol and arising within the gall-bladder cavity. Disturbance of cholesterol metabolism of the body generally, or of the gall-bladder wall locally, with a resultant increase in the cholesterol content of bile, is probably a primary factor in the formation of gall stones. Stasis of the bile and infection of the gall bladder are not essential to stone formation, but both are usually present. Nuclei of some sort are invariably found, and are possibly essential to stone formation; in the absence of a nucleus it is possible that the ingredients of stones pass out of the gall bladder. Portions of cholesterol-laden mucous membrane lying free in the cavity of the bladder probably form the nuclei for a large portion of cholesterol stones. These conditions—namely, an increase in the cholesterol content of the gall-bladder bile, the presence of a nucleus, and a change in the *p*H value of the bile, particularly towards alkalinity—are probably the essential features of cholesterin stone formation in the gall bladder.

259. The Bromsulphalein Test of Liver Function.

E. BULMER (*Quart. Journ. Med.*, January, 1927, p. 101) records the results of a clinical study of the bromsulphalein test of liver function in 66 cases. The dose was calculated on a basis of 2 mg. of the dye per kilo of body weight, and the latter in pounds divided by 55 gives the quantity in cubic centimetres of a 5 per cent. solution to be injected into an arm vein, the process of injection occupying one minute. Thirty minutes later 4.5 c.cm. of blood were withdrawn from the vein in the other arm, but in early liver disease a sample may have to be taken after five minutes. The clear serum after centrifugalization of the coagulum was pipetted into two small test tubes, to one of which were added one to two drops of a 10 per cent. solution of sodium hydroxide to bring out the colour of the dye, and to the other a drop of 5 per cent. hydrochloric acid to clear the serum of any haemolysis. The amount of dye was then estimated by comparison with a series of standards. No local reaction followed, and in most cases no discomfort was experienced other than purgation for a few days in some very heavy persons who had received a large amount of the dye. In 20 per cent. of the cases the results were not representative of the degree of liver efficiency, and in obstructive jaundice the test appears to be one of biliary permeability and not of liver efficiency. Ten of the patients were normal healthy adults, and these varied from 5 to 45 per cent. without any obvious cause being discovered for the variation. Fourteen were not hepatic cases, ten had blood diseases, two were nephritics, five were cardiac cases, two were cases of pregnancy toxaemia, and there were three cases of obstructive jaundice, six of acute hepatitis or catarrhal jaundice, six of cirrhosis and one of doubtful cirrhosis, one of cholecystitis, one suppurative pylephlebitis, two doubtful cases of Hanot's cirrhosis, and one each of amyloid disease, haemochromatosis, and suprarenal carcinoma. Bulmer concludes that the test is simple and innocuous, but is objectionable because it depends upon colorimetry. Although every precaution was taken to exclude errors by a careful standardization of each step in the technique, the findings were variable.

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British Medical Association.

CURRENT NOTES.

Some Recent Work at Headquarters.

E inclusion in last week's SUPPLEMENT of the report the proceedings of Council for February 9th displaced e usual note on some work of the week, and accordingly e present note covers a fortnight's activities at head-arters. Between February 14th and 26th four com-ttees and subcommittees met: on February 16th the lucation in Public Health Subcommittee, on February th the Ophthalmic Committee, and on February 23rd and th the Contract Practice and the Collective Research bcommittees respectively. The meeting of the Contract actice Subcommittee is dealt with in detail below. The lucation in Public Health Subcommittee was mainly occu-ed in settling the form of its report to the Public Health mmittee, while the Joint Subcommittee on Collective search was engaged in elaborating the details of a heme whose underlying principles had been decided at an rlier session. The scheme, which is of more than ordinary terest to the profession, will, it is hoped, be made public the near future. Certain points in the very heavy enda dealt with by the Ophthalmic Committee call for ecial mention here. The committee had before it a port of considerable general importance, to the effect at the Government was about to set up a departmental mmittee to consider the whole question of the desirability State registration of opticians. The committee informed e Ministry of Health that it favoured this suggestion, id appointed a special subcommittee to draw up the idence to be tendered by the Association to the proposed mmittee. A number of applications have been received cently from practitioners on the Association's list of phthalmic surgeons who wish to insert on that list the ldresses of certain hospitals at which they may be seen r insured persons. While the committee was satisfied that ch an arrangement would be extremely undesirable and id rejected all such applications, it considered it per-issible for those on the list to see insured persons at ospitals under the ophthalmic benefit scheme if it suits eir convenience to do so, provided that only the private ddress of the practitioner is inserted in the ophthalmic st. The committee also had under review the question of e propriety of reporting to approved societies upon the ondition of patients seen under the ophthalmic benefit heme. In the opinion of the committee it is undesirable at the ophthalmologist should report direct to the approved ciety on the condition of his patient. It is considered, owever, that a practitioner may add to his statement of account a footnote to the effect either that glasses have been prescribed or that the details of any treatment required have been sent to the patient's doctor.

During the fortnight under review four visits were paid to the Divisions—three by the Medical Secretary and one by the Deputy Medical Secretary. On the evening of February 15th the Medical Secretary spoke on the medical profession in South Africa at a meeting of the Lewisham Division. The meeting seemed to enjoy the somewhat informal way in which he dealt with the customs and personalities he had met with in South Africa, as a contrast to the usual medico-political address. On the evening of Saturday, February 19th, the Medical Secretary met the members of the Rugby Medical Society to discuss the desirability of constituting a Division of the British Medical Association for Rugby. There was a certain amount of hesitation, due to a fear on the part of some of those present that the Division might damage the Rugby Medical Society, which, during its short existence, had already been of real help to the local profession in bringing men together for professional and social purposes. Dr. Cox succeeded in persuading the meeting that there were many things that a Division could do that a local society could not do, and that there was no reason why the society and the Division should not work together harmoniously. Finally, it was unanimously agreed to set up a Division, the inauguration of which was formally announced in last week's SUPPLEMENT. On February 24th the Medical Secretary attended a meeting of the Horsham Division, followed by a dinner. The wide area covered by the Division and the manner in which the profession is scattered in this part of the country prevented a large attendance, but the Medical Secretary had a warm welcome from the members present, and the pleasure of meeting one or two very old friends whose official positions now preclude them from taking the active part they once did in the work of the Association. Dr. H. J. Milbank-Smith, Dr. D. Mackintosh of Worthing, and the Chairman of the Urban District Council were also guests of the Division. On the morning of February 24th an emergency request for assistance was received from the medical staff of the Dorset County Hospital, who were in a position of great difficulty owing to the action of the committee of management of the hospital in altering certain rules affecting professional matters, without prior consultation with the medical staff. The Deputy Medical Secretary went to Dorchester the same evening, and discussed the matter with representatives of the medical staff. As a result of this discussion, when the altered rules came before the governors of the hospital at the annual meeting held next day a motion was brought forward to postpone the consideration of the proposed alterations until the Medical Committee should have had an opportunity of conferring with the committee of management.

This motion having been adopted, it may be hoped that the point at issue will be satisfactorily decided in due course.

Contract Practice Subcommittee.

The Contract Practice Subcommittee of the Medico-Political Committee met on February 23rd for the first time for nearly two years, and it had before it a memorandum explaining why there had been no meeting for so long. The chief reasons are that all Welsh contract practice questions are now dealt with by the subcommittee of the Welsh Committee, and Scottish questions by the Scottish Committee, thereby greatly reducing the central work. Further, the number of contract practice appointments has been greatly reduced since the National Health Insurance scheme came into force, and the policy of the Association as regards contract practice is now so clearly defined that questions which cannot be dealt with on general lines seldom arise, and, when they do, are seldom of such urgency that they cannot await the meeting of the parent committee. The members of the subcommittee agreed that while they had no desire to be called upon unless there was sufficient business to justify busy men being brought to London, they considered that the subcommittee should continue in existence so as to be prepared to deal with any emergency business that may arise.

Prizes for Essays by Medical Students, 1928.

The Council of the British Medical Association proposes to award in March, 1928, prizes of £10 each for the best essays by final-year medical students on "What are the evidences of heart failure? Describe signs and symptoms of any three cases personally examined." One prize will be given in each of the following groups of medical schools:

GROUP 1.—University of Aberdeen; University of St. Andrews (University College, Dundee).

GROUP 2.—Queen's University of Belfast; University of Dublin (Trinity College); National University of Ireland (University College, Cork; University College, Dublin; University College, Galway); Royal College of Surgeons in Ireland (Schools of Surgery).

GROUP 3.—University of Birmingham; University of Bristol; University of Wales.

GROUP 4.—University of Durham; University of Leeds; University of Sheffield.

GROUP 5.—University of Edinburgh; School of Medicine of the Royal Colleges.

GROUP 6.—University of Glasgow; Anderson College of Medicine; Queen Margaret College School of Medicine for Women; St. Mungo's College.

GROUP 7.—University of Liverpool; Victoria University of Manchester.

GROUP 8.—London: Charing Cross Hospital Medical School; King's College Hospital Medical School.

GROUP 9.—London: Guy's Hospital Medical School; London Hospital Medical College.

GROUP 10.—London: London (Royal Free Hospital) School of Medicine for Women; University College Hospital Medical School.

GROUP 11.—London: Middlesex Hospital Medical School; St. Mary's Hospital Medical School.

GROUP 12.—London: St. Bartholomew's Hospital Medical College; St. George's Hospital Medical School.

GROUP 13.—London: St. Thomas's Hospital Medical School; Westminster Hospital Medical School.

GROUP 14.—Medical Schools in the British Empire outside the United Kingdom.

The prizes will be awarded to the authors of the essays deemed to be the best sent in from the respective groups, but if no essay received from a group is considered deserving of a prize no prize will be awarded in respect of that group. The essay, which must not exceed 5,000 words, should be clinical in nature, and must include concise notes of three cases personally observed by the student. Essays should be plainly written or typed on foolscap paper (one side only), and must reach the Medical Secretary, British Medical Association House, Tavistock Square, W.C.1, not later than January 14th, 1928. Each essay must be signed by a pseudonym only, and be accompanied by a signed and dated statement that the essay has been the bona-fide work of the competitor and that he or she has not yet passed the final professional examination, together with particulars of his or her full name, pseudonym, address, and medical school. The essays received will be adjudicated on by examiners appointed by the Council from among members of the Association not resident in the area of the particular group. The decision of the Council will be final.

Notices as to the competition have been sent to the deans of the medical schools with a request for their exhibition on the notice boards, as well as to those hospitals concerned with the education of medical students, and to the honorary secretaries of the Divisions and Branches of the Association in whose areas the respective schools are situated.

Subject for Essay, 1929.

The subject for the essay for similar prizes to be awarded in March, 1929 (essays to be received by mid-January, 1929), will be: "The symptoms and sequelae of encephalitis lethargica, with their appropriate treatment." Further particulars of the 1929 competition will be announced in due course.

The Association's Annual Handbook.

Copies of the *Annual Handbook of the British Medical Association* for 1926-27 are available for members and others. Primarily intended as a book of reference for honorary secretaries and other workers of the Association, the *Handbook* is also of interest and assistance to all members. The new edition has been completely revised. It contains the decisions of the Representative Body of the Association on matters of policy; information as to the constitution of the Association; particulars of the new London and Scottish Houses of the Association; information as to the BRITISH MEDICAL JOURNAL, the circulation of which is now over 36,000 copies weekly, and other publications of the Association; and lists of the Council, central committees, officers, and officials of the Association. It also contains a great deal of general information as to the work of, and facilities offered by, the Association. Copies of the *Handbook* can be had by members, *gratis* and post free, on application to the Medical Secretary, British Medical Association House, Tavistock Square, London, W.C.1. To non-members the book is on sale at 3s. 6d. (post free 3s. 9½d.).

Meetings of Branches and Divisions.

EDINBURGH BRANCH.

Winter Clinical Meeting.

THE winter clinical meeting of the Edinburgh Branch, with other Scottish Branches, was held in the Royal Infirmary, Edinburgh, on February 25th, on the same lines as in former years, and attracted a good attendance.

Museum demonstrations were arranged in the pathological department of the Royal Infirmary, and included remedial exercises; illustrations of treatment by diathermy; endoscopy; external diseases of the eye; and apparatus for treatment by ultra-violet rays. Pathological specimens displayed included tumours of the kidney; simple and malignant gastric lesions; intestinal tuberculosis; x-ray photographs illustrating resolution in chronic pneumonia and empyema in childhood; obstetrical and gynæcological conditions. In the afternoon clinical demonstrations were given. Dr. COMRIE described the treatment of general paralysis by artificial malaria, and Mr. BATCHELOR showed a case of keratodermia blennorrhagica in a man, aged 30, and the extensive deformities produced by congenital syphilis in a boy, aged 11. Two cases of fracture of the carpal scaphoid were shown by Mr. PATERSON BROWN, and Miss HERZFELD showed a case of interscapulo thoracic amputation for osteo-sarcoma of the humerus in a boy, aged 8, and a supracondylar fracture of the humerus in a boy, aged 7. Dr. MCNEIL demonstrated the treatment of empyema by repeated aspiration, and Mr. COCHRANE illustrated the orthopaedic correction of multiple deformities of the spine and limbs in chronic arthritis. Mr. J. J. M. SHAW presented a case of muscle transposition in complete one-sided facial paralysis, and Mr. NORMAN DOTT demonstrated the results in two cases of the trans-sphenoidal operation for pituitary adenoma, and two cases of complete irreducible intussusception.

Branch Dinner.

Sir ROBERT PHILIP, president of the Branch and President-Elect of the British Medical Association, presided over the dinner in the evening at the Scottish House of the Association. The attendance was particularly good in view of the prevailing epidemic of influenza, and a very pleasant evening was spent. The toast of "The British Medical Association" was proposed by Baillie NASMYTH, and Dr. J. R. DREVER, Scottish Medical Secretary, replied. Dr. WOODBURN MORISON proposed the health of "The Guests," and replies were made by Dr. G. CLARK TROTTER, who had been attending the first annual meeting of the Industrial Health Education Society, of which he has been appointed honorary secretary; by Dr. HUGH MILLER, chairman of the Scottish Committee of the British Medical Association; and by Dr. J. E. MONRO, president of the Royal Medical Society of Edinburgh.

WESTMINSTER AND HOLBORN DIVISION.

Discussion on Sport: Its Use and Abuse.

A DISCURSIVE and sometimes amusing debate on sport took place at a dinner meeting of the Westminster and Holborn Division of the British Medical Association on February 24th. The claims of boxing, fencing, golf, motor-racing, and yachting were warmly advocated by speakers who excelled in these various directions, and who were called upon strictly in the alphabetical order. But the sympathies of the whole gathering went out to one member, who, by an unfortunate mistake, had prepared a careful contribution on a different subject, which had to go undelivered; in the notice sent to him the first letter in the title of the subject under discussion had been dropped!

Mr. A. L. W. WHITEHOUSE, the Chairman of the Division, in opening, regretted that medical men, in giving advice to their patients, should so frequently put them off their sports. A man might follow a sport which it was injudicious for him to continue, but in that case an endeavour should be made to put him on to some other sport which could be enjoyed without aggravating his condition.

Dr. ADOLPHE ABRAHAMS said that at first sight it seemed as if the heart must necessarily suffer from the violent exercise which athletics entailed. Yet cardiologists were unanimous in affirming that a healthy heart could not be damaged by any exercise of which a human being was capable. It was curious that the heart during violent exercise actually contracted rather than dilated. The alleged heart-strain which boys—oftener boys than men—suffered subsequently from diseases of the chest, but it was to they were nearly always boys with an unstable vasomotor system, and the condition from which they suffered was that of being "run out." As for the lungs, it was affirmed that a good many men who had engaged in violent exercises suffered afterwards from pulmonary tuberculosis, or, if they were attacked by lobar pneumonia, had it more severely than ordinary people. It might appear from statistics that a large preponderance of rowing men suffered subsequently from diseases of the chest, but it was to be remembered that the vast majority of rowing men were very tall, and tall men were much more susceptible to diseases of the lungs than men of compact build. He did not believe that athletes in comparison with other tall men suffered unduly. It had also to be remembered that often the tuberculous subject had a flair for athletics. It had been asserted that rowing men in particular, after a very severe training, exhibited albuminuria and sometimes casts in the urine. His own observations had been on Olympic runners, among whom he had found albuminuria remarkably inconspicuous even after the most severe efforts. He suspected that the vasomotor question was again at the bottom of the trouble. In boys or very young men the vasomotor system was often comparatively unstable, and the albuminuria found was akin to the postural albuminuria with which they were familiar in other circumstances in athletics. There was no evidence that athletics, at any rate, had any permanent effect upon the kidneys. Such albuminuria as there might be was the result of temporary congestion. Athletics had also been accused of ill effects upon digestion, but athletes frequently had the most fantastic ideas about dietetics, and a good deal of their digestive disturbance resulted, not from their athletics, but from the following out of these ridiculous notions. A good many runners did suffer from indigestion, but he thought the great majority of digestive disturbances which had been assigned to organic disease were nothing more than manifestations of nervous dyspepsia. Finally, the production of a neurasthenic condition was sometimes laid to the account of athletics, but the athlete was apt to be a neurotic person worried about his physical condition in relation to exercise, and it was possibly just a misconception of that neurotic attitude which had earned for athletes a reputation for neurasthenia. Accidents were concomitants of any sport, but, apart from these, sport could not be assailed on account of any health impairment, certainly not of heart impairment, either immediate or remote.

Mr. IVOR BACK, who was asked to speak as one who had advised the Cambridge crew, divided sport into two categories—the sport of the young man, which was simply an expression of his enthusiasm and energy, and the sport of the elderly, which was chiefly a corrective for the liver. Rowing certainly could not be impeached for permanent impairment of health. If the after-history of the men who had got their blue for rowing were investigated it would be found that many of them had died in deaneries at the age of 91, or had continued to dispense justice from the bench to a very advanced age. There was, of course, some effect upon the abduction muscles caused by rowing, but the average rowing man, at first glance, would not be taken for an athlete at all. He had spindle legs, no thigh muscles, tremendous muscles in his back, a good thorax, and hands like those of a coal-heaver! Whether the rowing produced the type or the type produced the rowing he had never been able to decide. He thought that of all the sports he knew rowing did less harm than any.

Dr. J. D. BENJAFIELD put in a word for motor-racing, though he admitted that a doctor who indulged in this sport might be supposed to live a Jekyll and Hyde existence. Motorists might be divided into three classes: those who used the car as a necessary evil; those who combined an appreciation of its utility with an interest in the well-being and performance of their car, and to whom an occasional burst of speed brought a real thrill and enjoyment; and, finally, those who took their car at all times as fast as they could take it, regardless of their own safety or that of other people—in a word, the "road-hogs." Medical men very generally belonged to the second class, and found it a good thing to alternate spells of work with a brisk drive, which gave their minds a chance to recover. Sometimes, however, the road would not furnish all that the motorist wanted, and then there was real enjoyment, exhilaration, and a new perspective to be gained by resorting to the racing track.

Mr. P. G. DOYNE advanced the claim of fencing, a sport which could be pursued vigorously or gently, and in which efficiency could be kept up until old age. It was a sport also in which women could excel, almost, not quite, as much as men. He knew of no disability which would rule out fencing. Even excellent eyesight was not necessary. What was most important in any sport from the point of view of vision was not actual acuity, but good balance of the two eyes. So little necessary was acute sight in all these rapidly co-ordinated acts that it was amazing what people with poor eyesight could achieve.

Dr. PETER FOWLIE acclaimed the "royal and antient game," which could be continued even into old age, and which had all the uses of a sport, and not one abuse, though he rather thought that abuse was likely to be manufactured as a result of organized club competitions and "pot hunting." There was no disease for which golf was not good. He had seen a man with one of the worst forms of valvular disease, not merely come to no harm on the links, but actually kept alive on account of his interest in the game and of the fresh air into which it brought him.

Major M. P. LEAHY, speaking of boxing, said that even in middle age sparring offered great help to invalids, given, of course, a partner who understood his opponent. For neurasthenia there was nothing like "a good sweat and the swapping of a few punches."

Dr. E. MERVYN THOMSON said that, after all, the greatest change of environment was afforded by yachting, though it was not advisable for any man not sound of heart and lung, because there arose in yachting at any moment emergencies which taxed the strength to the utmost. He denied that it was an expensive sport—at least for the cruising yachtsman, owner of a 5-tonner or a 10-tonner, which he worked himself. Yachting was also advocated by another speaker, Dr. T. H. HILLIARD, who said that some thought there was risk of exposure in sea sailing, but for his own part he had been in Southampton Water often in a gale and had never caught cold, whereas he had done so on fresh water.

In the course of further discussion, Dr. R. E. STUART-WEBB put in a word for football as inculcating the team spirit, which was one of the greatest qualities sport could foster. But for women he deprecated football, as also boxing and long-distance running. Dr. G. E. ORME said that often it was recommended that boys, on account of some supposed cardiac weakness, should not be allowed to take part in games at school. He thought that in 90 per cent. of such cases the boys might be allowed to play games, to their great benefit. Dr. M. A. CASSIDY said that the only people he had seen injured by athletics were the very young and the elderly. He protested against the fetish that athletics to be successful must result in a violent perspiration.

WEST DORSET DIVISION.

AT a meeting of the West Dorset Division, held on February 22nd at Blandford, Professor G. E. GASK, C.M.G., D.S.O., F.R.C.S., director of the Surgical Professorial Unit at St. Bartholomew's Hospital, delivered a most interesting and informative British Medical Association Lecture, entitled "The therapeutic value of operations for gastric ulcer." The lecture was illustrated with lantern slides. At the close Professor Gask was warmly thanked and many members asked questions, to which he replied.

The meeting then adjourned to Dr. Kenneth Wilson's house, where Dr. WILSON showed a young woman with dislocation of the distal end of the left clavicle. Afterwards an excellent tea was provided by Dr. and Mrs. Wilson.

CHICHESTER AND WORTHING DIVISION.

A MEETING of the Chichester and Worthing Division was held at the Hospital, Worthing, on February 16th, when Dr. H. J. M. MILBANK-SMITH presided.

After tea, which was served in the Board Room at 5 p.m., the meeting proceeded to the out-patient department, where a number of clinical cases was demonstrated by Dr. GIBSON. The cases were mostly the result of injury, and included two cases of fracture of the lower jaw, Pott's fracture, ankylosis of left shoulder-joint, acquired faulty articulation of the jaw, and an incisional hernia of the abdominal wall repaired by catgut sutures. An interesting

discussion followed. Thereafter Dr. F. HINDS read a most interesting paper on "Recollections of forty years' practice."

The thanks of the meeting to Dr. Gibson and Dr. Hinds were voiced by Dr. MORRIS and Dr. LEEDS HARRISON, and a vote of thanks was passed to the board of directors for the use of the hospital and to the matron for preparing the tea.

The meeting then adjourned to the Burlington Hotel, where twenty-three members sat down to dinner. A short toast list was gone through.

Association Notices.

BRANCH AND DIVISION MEETINGS TO BE HELD.

CAMBRIDGE AND HUNTINGDON BRANCH.—A meeting of the Cambridge and Huntingdon Branch will be held at Addenbrooke's Hospital, Cambridge, to-day (Friday, March 4th), at 2.30 p.m. Agenda: Nomination of representative on the committee for the County Midwives Acts; specimens by Dr. J. R. C. Canney: (1) interstitial pregnancy, (2) malignant hydatidiform mole, (3) multiple echinococcal cysts of pelvis, etc., (4) special vaginal forceps; by Mr. H. B. Roderick: Perirenal abscess; by Dr. G. M. Tanner: The influence of castor oil on the course of acute appendicitis—a statistical survey.

GLASGOW AND WEST OF SCOTLAND BRANCH: DUMBARTONSHIRE DIVISION.—A dinner of members of the Dumbartonshire Division will be held in the North British Station Hotel, Queen Street, Glasgow, on Wednesday, March 9th, at 7.30 p.m., when Dr. W. B. Armstrong (Lenzie) will take the chair. Tickets 15s., payable in advance or at the dinner.

GLASGOW AND WEST OF SCOTLAND BRANCH: LANARKSHIRE DIVISION.—A meeting of the Lanarkshire Division will be held at the Masonic Hall, Hamilton, on Tuesday, March 8th, at 8.30 p.m., when a lecture arranged by the Monklands Medical Society will be given by Dr. J. Hume Patterson, county medical officer of health, on "Provisions for a pure milk supply."

GLOUCESTERSHIRE BRANCH.—A meeting of the Gloucestershire Branch will be held at the General Hospital, Cheltenham, on Thursday, March 10th, at 6 p.m.; supper at the Cadena Café after the meeting. Members desiring to be present at the supper are asked to notify the honorary secretary. Agenda: (1) Adjourned discussion on carcinoma of the stomach; (2) Dr. J. B. Davey: "Some interesting blood pictures"; (3) Mr. Norman H. Pike: "The significance of optic neuritis."

KENT BRANCH.—The quarterly meeting of the Kent Branch will be held at the Saracen's Head Hotel, Ashford, on Friday, March 11th, at 3 p.m. The President (Dr. H. M. Raven, Broadstairs) will open a discussion on poliomyelitis, to be followed by Dr. A. M. Watts (medical officer of health, Broadstairs). Dr. Reginald Miller (St. Mary's and Great Ormond Street Hospitals) will also be present and take part. Luncheon has been arranged at the hotel, at 2 p.m., for 3s. 6d. each. Members intending to be present are asked to send a postcard to the management by Wednesday, March 9th.

LANCASHIRE AND CHESHIRE BRANCH: HYDE DIVISION.—At the meeting of the Hyde Division to be held in the Dukinfield Town Hall on Thursday, March 17th, at 8.30 p.m., Dr. Robertson will deliver his presidential address.

METROPOLITAN COUNTIES BRANCH: CITY DIVISION.—The annual fancy dress dance of the City Division will be held on Thursday, March 24th, in the Great Hall of the British Medical Association Headquarters, Tavistock Square. It is hoped that members will make up parties. First class band, and refreshments by Gunters, Ltd. Dancing, 8.30 p.m. to 1.30 a.m. Ticket, inclusive price 8s. Cars may be garaged in the Association garage. Tickets may be obtained from Dr. Harold Latham, 2, Hemingford Road, Barnsbury; Dr. G. Clark Trotter, 2, Tyndale Place, Upper Street, Islington; and from the honorary secretary, Dr. Worley, 43, De Beauvoir Road, N.1.

METROPOLITAN COUNTIES BRANCH: HAMPSTEAD DIVISION.—At the meeting of the Hampstead Division, to be held on Thursday, March 10th, at 8.30 p.m., Dr. W. J. Pearson, physician to the Hospital for Sick Children, will give an address on "Chronic respiratory infections in childhood."

METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.—A clinical evening will be held by the Lewisham Division at the South Eastern Children's Hospital, Sydenham, on Tuesday, March 15th.

METROPOLITAN COUNTIES BRANCH: ST. PANCRAS DIVISION.—A meeting of the St. Pancras Division will be held in the British Medical Association House, Tavistock Square, W.C.1, on Tuesday, March 8th, at 9 p.m., when Mr. A. G. Timbrell Fisher, *M.C.*, will deliver a lecture on "Manipulative surgery."

METROPOLITAN COUNTIES BRANCH: SOUTH MIDDLESEX DIVISION.—A meeting of the South Middlesex Division will be held at St. John's Hospital, Twickenham, on Wednesday, March 9th, 8.15 p.m., General business. 8.30 p.m., Discussion: "Treatment of cancer by non-operative means," to be opened by Dr. J. B. Cook, medical superintendent, West Middlesex Hospital.

METROPOLITAN COUNTIES BRANCH: WILLESDEN DIVISION.—A meeting of the Willesden Division will be held at the Willesden General Hospital, Harlesden Road, on Wednesday, March 16th, at 9 p.m. Agenda: Correspondence, etc.; Dr. A. Hope Gosse (St. Mary's Hospital) will give an address on "Clinical disorders of the heart"; election of representative and deputy representative for Annual Representative Meeting at Edinburgh.

NORFOLK BRANCH.—A meeting of the Norfolk Branch will be held at the Norfolk and Norwich Hospital on Wednesday, March 16th, at 3.30 p.m., when the President, Dr. W. M. Fisher, will take the chair. Dr. Sydney H. Long will give a demonstration, with cinematograph films, on "Manifestations of syphilis and gonorrhoea." Tea will be served at 4.45.

NORTH OF ENGLAND BRANCH.—A scientific meeting of the North of England Branch will be held at Greenbank Hospital, Darlington, on Thursday, March 17th:—2.30 p.m., Mr. A. Thacker Neville: Laryngology and ophthalmology in relation to general practice; 3 p.m., Mr. R. J. Willan: Some common but obscure cases of acute abdominal pain; 3.30 p.m., Dr. George Hall: Minor endocrine defects; 4 p.m., tea; 4.15 p.m., Mr. H. C. Pearson: Modern electro-therapeutics; 4.45 p.m., Mr. D. S. Falconer: Food disorders in infancy. The annual dinner of the Branch will be held at the Central Station Hotel, Newcastle-on-Tyne, on Thursday, March 17th, at 7 for 7.30 p.m.; the President of the Branch, Mr. W. S. Dickie, F.R.C.S., will take the chair. Tickets 10s. 6d. Applications for seats should be made to Mr. Norman Hodgson, honorary secretary, 7, Windsor Terrace, Newcastle-on-Tyne, before March 14th.

NORTH OF ENGLAND BRANCH: NEWCASTLE-ON-TYNE DIVISION.—*Mr. H. S. Elphick, M.R.C.V.S., will give a lecture on March 10th, at* 8.30 p.m., in the Library of the Royal Victoria Infirmary, on "Pregnancy and parturition in veterinary practice." The Division is holding a reception and dance with cabaret about the end of March or beginning of April. The arrangements are in the hands of a subcommittee, and details will be announced shortly.

NORTH OF ENGLAND BRANCH: SUNDERLAND DIVISION.—A scientific meeting of the Sunderland Division will be held at the Royal Infirmary Sunderland, on Wednesday, March 16th, at 8.15 p.m. *Mr. F. C. Pybus, M.S., F.R.C.S., will give an address on* deformities. All members of the Division are invited to be present.

NORTHERN COUNTIES OF SCOTLAND BRANCH.—A clinical meeting of the Northern Counties of Scotland Branch will be held at the District Asylum, Inverness, on Friday, March 11th, at 3 p.m.

SOUTHERN BRANCH: PORTSMOUTH DIVISION.—The next meeting of the Portsmouth Division will be held at the Queen's Hotel, Southsea, on Thursday, March 10th, at 9.30 p.m., when Sir John Collie, C.M.G., M.D. vice-president of the Medico-Legal Society, *will give* an address on "Where law and medicine meet." Members are invited to bring as guests legal friends. Supper will be served at 9 p.m., and members are asked to notify the secretary as early as possible of their intention to be present, and also the names of any guests.

SURREY BRANCH; GUILDFORD DIVISION.—A special general meeting of the Guildford Division will be held on May 19th, when Professor Frederick Hobday, C.M.G., F.R.C.V.S., will open a discussion on milk. Members of the Royal Counties Veterinary Medical Association and Southern Counties Veterinary Medical Association have been invited to take part in the discussion.

SURREY BRANCH: REIGATE DIVISION.—A meeting of the Reigate Division will be held at the East Surrey Hospital, Reigate, on Tuesday, March 8th, at 8.45 p.m. Dr. Stanley Dodd will give an address on gynaecology.

YORKSHIRE BRANCH: HUDDERSFIELD DIVISION.—A British Medical Association Lecture will be given at the Huddersfield Royal Infirmary on Wednesday, March 9th, at 8 p.m., by Professor Miles Phillips of Sheffield on "Some obstetrical emergencies." Members of other Divisions are invited to attend, and light refreshments will be provided after the lecture.

YORKSHIRE BRANCH: WAKEFIELD, PONTEFRACT, AND CASTLEFORD DIVISION.—A meeting of the Wakefield, Pontefract, and Castleford Division will be held at the Bull Restaurant, Westgate, Wakefield, on Thursday, March 10th. Dr. G. W. Watson, physician to the Leeds General Infirmary, will lecture on the early signs of phthisis. Supper at 7.45 p.m. (2s. 6d.) will precede the lecture.

FABIAN MEDICINE.

IT is sometimes useful to know to what length animosity, ill-informed and unbridled, can carry the more narrow-minded of controversialists. The following is a condensed report of a recent meeting of the Fabian Society. The biased bitterness of some of the contributions may have been equalled, but can hardly have been surpassed, by the more violent theological and political controversialists of the past.

A lecture, under the auspices of the Fabian Society, was delivered by Dr. Stella Churchill at Essex Hall, Strand, on February 25th. A large audience was present, and the lecture was followed by some keen discussion. Dr. Churchill laid stress on the gaps in the present system of medical or health services, particularly the non-inclusion of dependants in the national insurance scheme, itself not very efficient, and the haphazard character of institutional provision. Various heroic attempts had been made of recent years to grapple with the situation, notably the very elaborate scheme set forth in the interim report of the Consultative Council in 1920, the not very thrilling proposals of the National Health Insurance Commission, and the Memorandum published last year by the British Medical Association, which last, she said, was a claim on behalf of the general practitioner to a share in these services. When salaried officials were first appointed the general practitioner was inclined to say that any such thing as preventive medicine was absurd, but now, when the infant death rate had been halved, and other results were apparent, he turned round and said, "These are good things. Why am I not doing *them?*" Dr. Churchill thought the claim advanced on behalf of the general

practitioner, that admission to hospital must be through his agency, a dangerous interference with the liberty of the subject. The British Medical Association, which had a way of "not arguing, but telling you," upheld the voluntary system, but from its own report many arguments against the system appeared to be obvious, notably overcrowding, understaffing, and long waiting lists. Her plea was that hospitals should be maintained as part of the organized public health service, and, with the Poor Law infirmaries, should be administered by the public authorities. As the ideal socialist state was not immediately forthcoming, she approved of paying wards, though she thought that nothing should be accepted from patients with an income of less than £200. There should be free treatment from State-aided services at clinics and in-patient institutions, and the clinic doctors, she thought, would tend more and more to follow up the supervision of children and adults in their homes. Doctors in private practice would work increasingly in teams, and, indeed, she looked forward to the day when one-man practices would not be allowed. No doctor should be expected to work day and night. What was the value of any attendance by a doctor who had not been "out of his clothes" for thirty-six hours? She would have, say, a team of four doctors working together, with proper arrangements for night duty. She admitted certain drawbacks to making medicine a civil service, notably the multiplication of forms to be filled up, but this was not a necessary concomitant, and she was sanguine enough to look forward to State subsidies without State control. Yet in reply to a question immediately asked as to what guarantee there would be for an efficient standard of service in the event of obstructive and backward local authorities, she said that the Ministry of Health must impose a system of inspection, and must act in default of any local authority, just as the London County Council acted in default of a metropolitan borough council.

Mr. F. Lawson Dodd, M.R.C.S., L.D.S., who presided, spoke of a declining popular faith in regular medical practice, not entirely to be explained by the increase in quackery or cults. The socialist explanation was that this was due to the acquisitive commercial system, based upon intense individualism and competitiveness, which had invaded medical practice. The cause of disease and its treatment went out far beyond the individual sufferer, into heredity and social environment, and a statesmanlike outlook and wide observation were needed, quite beyond the possibilities of an army of forty thousand doctors working along individualistic lines with obsolete methods. It was transparently a wrong system whereby the patient suffering from disease was the person who paid the doctor. It meant that the doctor was remunerated according to the plentifulness of disease in the community—that was to say, he had a vested interest in disease. He was paid, too, according to the amount of his operative interference, whereas payment should rather be for the slowness of such interference. It was like the scale of fees laid down by the Poor Law authorities for amputations—so much for an amputation of the finger, so much more for an amputation at the elbow; at this rate the highest fee of all would be paid for killing the patient. The present system tended to draw doctors to the resorts of wealth and fashion—Bournemouth was crowded with practitioners of the highest possible skill and qualifications—to the impoverishment of poor areas. Insurance practice had reproduced a rather inferior individualist medical system, worse almost than the system it replaced. Another argument for community medical service was the growing expensiveness of treatment, which tended to prevent people seeking it, and, when they had sought it, interfered with their recovery by the worry over expenditure which they could ill afford. He praised the Swindon system of co-operative medical service, in which 16,000 persons had the advantage of a highly skilled medical staff at a cost of £31,000 a year. There was no need for a rigid State medical service from Whitehall. What was wanted was the encouragement of local experiments of the character of Swindon.

The subsequent discussion was noteworthy for a violent attack on the British Medical Association by Mr. W. A. Robson, a member of the executive committee of the Fabian Society and the editor of one of its periodicals. He described the British Medical Association as incredibly selfish and lacking in public spirit, as witness its evidence before the Royal Commission on National Health Insurance. "Whenever you see a statement on public policy by the British Medical Association you always know that they are considering the private pockets of the doctors who are their members, and are never in the slightest degree interested in the public welfare. I do not think that there is a single exception where for a quarter or half a second the British Medical Association has ever put aside the pecuniary interests of its members for the sake of an improvement in public health." He added that this showed what would come of giving the professional men a free hand so long as their professional organization was untouched.

THE DENTAL BOARD.

Warning Notice to Dentists.

AT the recent session of the Dental Board, on February 8th, Sir Francis Dyke Acland presiding, the Board made certain amendments to bring the wording of its Warning Notice into conformity with that of the General Medical Council. The notice is of an omnibus character, and calls attention to the fact that convictions for felony or misdemeanour, also certain forms of professional misconduct, including the employment of unregistered assistants and covering, the contravention of the Dangerous Drugs Acts and the regulations made thereunder, advertising and canvassing, and the use of titles and descriptions suggesting status and qualifications not in fact possessed, render dentists liable, on proof of the facts, to have their names erased from the *Dentists Register*. In an "important notice" the Board states that the publication of any announcement for the purpose of informing a dentist's patients of his change of address, or the days of his visits to a town or place, may be regarded as an advertisement if it includes the word "dentist" or any other description or engraving indicating his profession or practice. This covers the insertion of all paragraphs and notices in the press, and also the announcement of names in the trading lists of co-operative and other societies, clothing clubs, and the like, and the display of announcements at places of public entertainment. The Board only contemplates as possibly permissible the announcement of a change of address or of the days when a periodical visit is made to a locality in which there is no resident dentist through whom advice can be obtained in an emergency. It also considers that such notices as "Panel patients received here" may be held to constitute an advertisement.

Grants to Dental Schools.

The Board agreed to make a grant not exceeding £300 for the equipment of a dental museum and demonstration room at Queen's University, Belfast, and a grant of £1,500 towards the cost of movable equipment for the new dental school at Leeds, the grant in each case being accompanied by certain conditions. A report on the subject of bursaries and the method of their award is to be prepared and submitted to the Board at the May session.

National Insurance.

LONDON INSURANCE COMMITTEE.

AT the meeting of the London Insurance Committee on February 24th it was agreed to resume the work of clearing the medical register in order to eliminate therefrom the names of all persons found not to be entitled to medical benefit. It was stated that this work would take three years to accomplish, and would cost £4,500.

Ophthalmic Benefit and the B.M.A. List.

A report was presented by the Joint Consultative Committee—which consists of an equal number of representatives of the Insurance and Panel Committees—on a question raised at the previous meeting—namely, why the names of certain practitioners who had notified that they had accepted fees for ophthalmic services rendered to insured persons were not included in the British Medical Association list. The report stated that the Insurance Committee had no power to require a practitioner to take steps to have his name put on the list, and that to enable the committee to do so it would be necessary to have the regulations amended. During 1926 the number of ophthalmic cases notified to the committee was 55; fifteen practitioners were concerned, and of this number only four had not secured the inclusion of their names in the list of the Association. The number of practitioners whose names were not included in this list was therefore very small, and the general tendency was for practitioners to have their names included. The Joint Committee, after considering the matter very carefully, came to the conclusion that it could make no recommendation; at best it could only express the opinion that it was desirable that practitioners undertaking special ophthalmic services for insured persons should apply to have their names included in the list of the British Medical Association or in any other list which might be recognized by the authorities concerned. This opinion was shared by the Panel Committee, which, while not passing any formal resolution, had advised practitioners from time to time to apply for the inclusion of their names in the Association's list. The reason why another list was referred to was because the point had been put to the Joint Committee that there might be some practitioners who, for personal reasons, would not apply to the British Medical Association, and it was suggested that the Local Medical Committee might prepare a list of approved practitioners. At the same time, the Local Medical Committee could take no cognizance of the fees charged for such services.

Certification of Incapacity: Minister's Decision.

A case of some interest was reported by the Medical Service Subcommittee. An approved society had raised a question with regard to the certification by an insurance practitioner of one of its members suffering from an injury to the hand. The practitioner issued an initial certificate of incapacity, three intermediate

certificates, and a final certificate. Shortly after the initial certificate he issued a private certificate to the insured person's employer stating that she was at present unable to do scrubbing, but could do some light housework. The society complained of this action, and, on the committee holding that the practitioner had complied with the certification rules, appealed to the Minister on the point whether a practitioner might rightly certify to the approved society "incapacity for work," in the narrow and restricted sense applicable in cases where incapacity was likely to be short, and at the same time issue certificates to the employer of capacity for light work, thereby preventing the insured person from successfully prosecuting a claim for compensation, and ultimately saddling the society with a liability which normally it would not be called upon to bear. In conveying his decision, the Minister pointed out that the certificate issued to the employer was the only evidence produced in support of any allegation that the insured person was not incapable of work during the period covered by the official certificate. "The term 'incapable of work'" (the Minister's letter proceeded) "is not easy to define, but the Minister is satisfied that in the circumstances of the present case the proper criterion for the practitioner to apply was whether the patient, in view of the nature of her injury, was capable of undertaking her ordinary work, and whether it would be unreasonable to expect her to undertake any other form of work. On the facts of the case it is clear that the practitioner *bona fide* formed the opinion that the insured person was incapable of work in that sense, and there is nothing inconsistent with that opinion in the terms of the private certificate. In these circumstances I am to inform you that the Minister . . . dismisses the appeal and makes no order as to costs."

LOCAL MEDICAL AND PANEL COMMITTEES.

LONDON.

AT the meeting of the London Panel Committee on February 22nd, Dr. H. J. CARDALE presiding, Dr. George Jones was elected a member to represent non-insurance practitioners resident south of the Thames.

Claims for Payment for Anaesthetist.

The committee had before it forty claims for payment for the services of a second practitioner in administering a general anaesthetic. In six cases it was recommended that the account for the fee of one guinea be struck out, and a fee of half a guinea only be allowed, on the ground that the case was such as only to require a local anaesthetic. One of the practitioners concerned appealed against this recommendation, and appeared in person before the committee to support the appeal. He said that the case was one of cellulitis of the arm, which was incised, opened, and drained, and a second practitioner was employed to give chloroform and ether. Asked why he did not give nitrous oxide gas, he said that it was because he had not got a gas apparatus, he could offer no other reason. Dr. H. B. MORGAN moved that this practitioner be paid the full fee of one guinea. He made this amendment on the ground that the practitioner in charge of the case was the best judge of whether a general anaesthetic was needed or not. As to the length of time the operation took, he did not know that that was material. What was in every respect a major operation might be performed in a matter of seconds. Dr. NEWELL said that as a new member of the committee he was astonished to find that it could take upon itself to reduce the fee after the practitioner had given a general anaesthetic. The amendment to allow the full fee of one guinea was defeated, and this practitioner, as well as the five others who had not appealed, had to submit to the reduction. Another claim "for the services of a second practitioner in administering a general anaesthetic" was disallowed on the ground that the practitioner administered the anaesthetic himself.

Range of Medical Service.

The Local Medical Committee had before it a recommendation in respect to a case in which Form G.P.45 had been received, that excision of ganglion on wrist, necessitated by the size and painfulness of the ganglion, was a service "which did not fall within the category of services involving the application of special skill and experience of a degree and kind which general practitioners as a class cannot reasonably be expected to possess." Dr. GREGG asked why this was not allowed; he had a feeling that, taken with a good many cases of the kind which had been before the committee, it might well have been passed. Dr. G. F. STEBBING said that, on the whole, excision of a ganglion must be regarded as a very minor operation. He agreed that minor operations might be done badly, or might have complications and become difficult, but if this kind of thing was to be allowed to come under Form G.P.45 with regard to the range of medical service, it would mean that the patient would be robbed of practically all his surgical benefit. The recommendation of the subcommittee that the case be not allowed was agreed to.

Investigation of Prescribing.

A communication from the Ministry of Health was reported setting out the procedure which it has been decided to adopt in interviewing practitioners whose prescribing is in question. The practitioner is to be informed, when notified of the proposed interview, that the Panel Committee has arranged that one of its members will be prepared to attend if he desires. This procedure has been put in operation in London notwithstanding the resolution of the committee that it desired a representative to be present at every interview, the committee, however, agreed not to take any action at present, but to ask the secretary to observe the results of the procedure.

BIRMINGHAM.

A MEETING of the Birmingham Panel and Local Medical Committee was held at 151, Great Charles Street, Birmingham, on February 15th. There was a good attendance of members. In the absence of the chairman (Dr. Dain) through illness the chair was taken by Dr. BURGES. Expressions of sympathy with Dr. Dain were recorded, and also a hope for his speedy recovery. Several other members were ill and unable to attend, and the secretary was instructed to convey similar mesages to them. Notices of resignation were received from two members, and steps were taken to fill the vacancies.

Accounts for administration of anaesthetics and provision of emergency treatment were passed. In the latter case it was noteworthy that not a single claim was made upon a neighbouring practitioner. A long discussion followed with regard to the appointment by societies of private medical referees. In the end it was decided to point out to those complaining that societies were at liberty to have their own medical referees, and that if the patient's doctor disagreed with the decision he was at liberty to refer the patient to the regional medical officer.

Dr. Dain was reappointed to represent the Panel Committee on the Local Hospitals Council. A notification with regard to the increased fee payable to practitioners who supply drugs, etc., to their panel patients was received from the Insurance Committee, and approved.

Several members of the Panel Committee were appointed to be at the service of general practitioners who desired their presence at any interview with the regional medical officer on the subject of excessive prescribing. A list was sent to the Ministry of Health and to the Clerk to the Birmingham Insurance Committee. A letter from the British Medical Association headquarters referred to the establishment of a list of local ophthalmic specialists; the committee decided that it would like the name of any local applicant to be submitted to it before inclusion in the list.

It was decided to notify members that should they at any time find that chemists omitted to add "in water" to the instructions on the label when required to do so they be requested to communicate with the Secretary of the Panel Committee and bring forward concrete cases.

Correspondence.

A New Class of Panel Patient.

SIR,—I am writing on this threadbare subject hoping it may catch the eye of some of those in close touch who have to do with the working of it. For the past year I have been much concerned with the rapidly increasing numbers of the sons and daughters (particularly the latter) of well-to-do people coming on the panel.

Up to a few years ago it was usual for the daughters to remain at home and help their mothers in social and domestic duties. Now there is hardly a young lady in this neighbourhood, as soon as she reaches the age of 18 years, but must be off and doing.

In the past few weeks I have been called to attend over a dozen cases of young men and girls in not a single house with a rental of less than £100 a year, and in some considerably more. Only to-day I fixed up an operation for one of them for 50 guineas.

It seems utterly unfair that these young people, with free food and housing, should be put on the same basis as the clerk earning his four or five pounds a week with a wife and children to support. What with ante-natal, baby, and school clinics, and this latest encroachment on private practice, I am afraid the general practitioner of the future is going to have a very thin time of it if some action is not taken.—I am, etc.,

H. J. HILDIGE, M.D.

Pinner, Middlesex, Feb. 24th.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

Surgeon Captain P. T. Nicholls to the *Victory* for R.N. Barracks.

Surgeon Commanders F. C. Wright to the *Curacoa* and as Squadron Medical Officer; A. J. Tozer to the *Ramillies* on recommissioning.

Surgeon Lieutenant Commanders W. J. Colborne to the *Sandhurst*; J. E. Clark to the *Cambrian*.

Surgeon Lieutenants J. G. Currie to the *Beaufort*; E. C. Downer to the *Flinders*; S. G. Rainsford to the *Ramillies* on recommissioning.

Surgeon Lieutenant F. B. Quinn transferred to the permanent list.

ROYAL NAVAL VOLUNTEER RESERVE.

Surgeon Lieutenant J. B. Hutchinson to the *Victory*, additional for R.N. Hospital, Haslar, for twenty-eight days' training.

Probationary Surgeon Lieutenant E. A. Gerrard to the *Ark Royal* for twenty-eight days' training.

ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel E. P. Connolly, from R.A.M.C., to be Colonel, vice Colonel J. W. H. Houghton, D.S.O., to retired pay.

The following Lieutenant-Colonels, Regular Army Reserve of Officers, R.A.M.C., to be *Majors whilst* re-employed under Article 507 (*b*), Royal Warrant for Pay and Promotion, 1926, and relinquish the *rank of* Lieutenant-Colonel: J. L. Wood, O.B.E., and W. E. C. Lunn, M.C.

The following Captains to be Majors: H. A. Rowell, M.C., C. F. Anthonisz, and S. O. Dolan.

Temporary Lieutenant R. L. J. Le Clezio relinquishes his commission.

ROYAL AIR FORCE MEDICAL SERVICE.

Wing Commanders A. V. J. Richardson, O.B.E., to Headquarters, India, for duty as Principal Medical Officer; A. E. Panter to Air Ministry, Directorate of Medical Services, for medical staff duties; P. C. Cowtan to Headquarters, Irak; H. B. Porteous to Basrah Combined Hospital, Irak; P. D. Barling to Aden Flight.

Flight Lieutenant (Honorary Squadron Leader) F. R. Humphreys relinquishes his temporary commission on completion of service.

Flight Lieutenants (Honorary Squadron Leader) J. Valerie, O.B.E., to Inspector of Recruiting; F. W. G. Smith to No. 56 Squadron, Biggin Hill; A. Harvey to No. 14 Squadron, Palestine.

Flying Officers L. C. Palmer-Jones and T. W. Wilson are promoted to the rank of Flight Lieutenant.

Flying Officer H. C. Patterson relinquishes his short-service commission on account of ill health.

Flying Officers E. J. Mockler to No. 5 Squadron, India; M. J. Marren to R.A.F. Depot, Uxbridge; R. J. I. Bell to R.A.F. Station, Upavon; T. W. Wilson to R.A.F. British Hospital, Irak; F. B. C. L. B. Crawford to Headquarters, Irak.

The short-service commission of Flying Officer G. E. Church is antedated to February 1st, 1926, and he ceases to be seconded to the Royal Infirmary, Wigan.

INDIAN MEDICAL SERVICE.

Major-General F. H. G. Hutchinson, C.I.E., to be Honorary Surgeon to the King, vice Major-General Sir R. C. Macwatt, K.C.I.E. (retired).

The following officers are appointed substantively to be Agency Surgeons under the Government of India in the Foreign and Political Department: Majors W. J. Simpson, F. Stevenson, C. H. Smith, O.B.E., and L. H. L. Mackenzie.

Lieut.-Colonel M. N. Chaudhuri and Captain M. F. D. Graham have retired from the service.

Lieut.-Colonel D. Heron, C.I.E., an Agency Surgeon, on return from leave, is posted as Residency Surgeon, Mewar.

The services of Lieut.-Colonel J. Morison, Assistant Director, Haffkine Institute, Bombay, are placed temporarily at the disposal of the Government of Burma for appointment as Officiating Director of the Pasteur Institute, Rangoon.

Lieut.-Colonel W. O'S. Murphy to be Colonel, vice Colonel J. H. McDonald, K.H.P., retired.

The services of Major H. S. Anand are placed temporarily at the disposal of the Government of Burma.

Captains H. Aung Khin and M. A. Singh to be Majors.

The services of the following officers are placed permanently at the disposal of the Government of Bombay: Majors E. S. Phipson and A. H. Harty and Captain J. M. Shah.

The following officers have been regraded with seniority as stated against their names in substitution for all previous notifications:—Captains: R. W. H. Miller (April 10th, 1923) and G. J. Smith (April 7th, 1924). Lieutenants: T. J. Davidson (June 6th, 1923), E. G. Michelson (September 9th, 1923), D. MacD. Fraser (February 25th, 1924), and S. C. H. Worseldine (April 14th, 1924).

REGULAR ARMY RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel W. B. Winkfield, having attained the age limit of liability to recall, ceases to belong to the Reserve of Officers.

SUPPLEMENTARY RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

Lieutenant G. O. F. Roe to be Captain.

TERRITORIAL ARMY.

ROYAL ARMY MEDICAL CORPS.

Captain L. P. Marshall, M.C., late West Yorks Regiment, to be Lieutenant, and relinquishes the rank of Captain.

COLONIAL MEDICAL SERVICES.

Dr. V. J. G. Macgregor appointed Medical Officer, Medical Department, Gold Coast. Dr. J. G. S. Turner appointed Medical Officer, Nigeria. Dr. N. S. Turnbull promoted Medical Officer of Health, Sanitary Department, Nigeria. Dr. G. C. M. Davies, Senior Sanitary Officer, Gold Coast, transferred to Nigeria. Dr. J. H. McDonald transferred from Lindi to Dar-es-Salaam, Tanganyika.

VACANCIES.

ASHTON-UNDER-LYNE DISTRICT INFIRMARY.—(1) Resident Surgical Officer (male). (2) House-Surgeon. Salary at the rate of £200 and £150 per annum respectively.

BURNET: WELLHOUSE HOSPITAL.—Assistant Resident Medical Officer (male). Salary £200 per annum, rising to £250.

BARNSTAPLE: NORTH DEVON INFIRMARY.—House-Surgeon (male). Salary at the rate of £150 per annum.

BATH: ROYAL UNITED HOSPITAL.—House-Physician (male, unmarried). Salary £120 per annum.

BURNLEY UNION.—Resident Medical Officer at Primrose Bank Institution (male). Salary £200 per annum and fees for certifying mental cases.

COSSHAM MEMORIAL HOSPITAL, Kingswood, Bristol.—Resident Medical Officer (male). Salary £150 per annum.

COUNTESS OF DUFFERIN'S FUND.—Professor of Physiology for the Lady Hardinge Medical College, Delhi (female). Emolument Rs.750 a month, rising.

COVENTRY AND WARWICKSHIRE HOSPITAL.—Resident House-Physician (male). Salary £125 per annum.

CROYDON COUNTY BOROUGH.—Senior and Junior Assistant Medical Officers at the Croydon Mental Hospital, Upper Warlingham. Salary at the rate of £650 and £350 per annum respectively.

DURHAM COUNTY HOSPITAL.—Junior House-Surgeon (male). Salary £120 per annum.

EAST SUFFOLK ADMINISTRATIVE COUNTY.—Assistant County Medical Officer of Health and Medical Officer of Health for Rural District of Hoxne. Salary £625 per annum.

ENFIELD URBAN DISTRICT COUNCIL.—Medical Officer of Health, School Medical Officer and Supervisor, etc., of Maternity and Child Welfare Centres. Salary £900 per annum, rising to £1,035.

FEDERATED MALAY STATES: CENTRAL MENTAL HOSPITAL.—Second Assistant Medical Superintendent. Salary £700—£35—£1,120 per annum, with temporary allowance of 10 and 20 per cent. to unmarried and married officers respectively.

GLASGOW UNIVERSITY.—Muirhead Chair of Obstetrics and Gynaecology.

GREAT YARMOUTH COUNTY BOROUGH.—Assistant Medical Officer of Health and Assistant Tuberculosis Officer. Salary £600 per annum.

HOSPITAL FOR EPILEPSY AND PARALYSIS, Maida Vale, W.9.—Honorary Medical Officer in charge of X Ray and Electro-therapeutics.

HOSPITAL OF ST. JOHN AND ST. ELIZABETH, 40, Grove End Road, N.W.8.—Assistant Physician.

KING'S LYNN: WEST NORFOLK HOSPITAL.—Junior House-Surgeon. Salary £100 per annum.

LEEDS PUBLIC DISPENSARY.—Junior Resident Medical Officer. Salary £150 per annum.

LEICESTERSHIRE COUNTY COUNCIL.—Assistant County Medical Officer (male). Salary £750 per annum.

LIVERPOOL STANLEY HOSPITAL.—(1) House-Surgeon. (2) House-Physician. Males. Salary £100 per annum.

LONDON FEMALE LOCK HOSPITAL, 283, Harrow Road, W.—Surgical Registrar. Honorarium £100 per annum.

LONDON HOMOEOPATHIC HOSPITAL, Great Ormond Street, W.C.1.—Third Anaesthetist. Honorarium £50 per annum.

LONDON HOSPITAL, E.—Two Medical First Assistants. Salary £300 per annum.

LONDON JEWISH HOSPITAL, Stepney Green, E.1.—Medical Registrar and Out-patient Assistant. (2) Surgical Registrar. Honorarium at the rate of £50 per annum.

LONDON LOCK HOSPITAL, 91, Dean Street, W.—Surgical Registrar. Honorarium £100 per annum.

MANCHESTER: ANCOATS HOSPITAL.—House-Surgeon. Salary at the rate of £100 per annum.

MANCHESTER CITY.—Assistant Medical Officer to Public Health Department (Baguley Sanatorium), unmarried. Salary £250 per annum.

MIDDLESEX HOSPITAL, Mortimer Street, W.1.—Assistant Radiologist (Diagnostic). Salary £100 per annum.

NEWCASTLE-ON-TYNE: HOSPITAL FOR SICK CHILDREN.—Senior and Junior Resident Medical Officers. Salary at the rate of £120 and £100 per annum respectively.

NOTTINGHAM: CITY MENTAL HOSPITAL.—Junior Assistant Medical Officer (male). Salary £350 per annum, rising to £400, with additional £50 for D.P.M., and £10 for M.P.C. per annum.

OXFORD: RADCLIFFE INFIRMARY AND COUNTY HOSPITAL.—(1) House-Physician. (2) Casualty House-Surgeon. Salary at the rate of £120 per annum each.

PLYMOUTH: SOUTH DEVON AND EAST CORNWALL HOSPITAL.—(1) Resident Surgical Officer. (2) House-Surgeon. (3) House-Physician. (4) Casualty House-Surgeon (unpaid). Salary at the rate of £100 per annum for (1) and £50 per annum for (2) and (3).

PRINCE OF WALES'S GENERAL HOSPITAL, Tottenham, N.15.—(1) House-Surgeon. (2) Special [illegible] (3) [illegible]-Physician. (4) Junior House-Surgeon. (5) [illegible] Salary for (1), (2), and (3) £120 per annum, [illegible] per annum.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney Road, E.2.—House-Physician. Salary at the rate of £100 per annum.

ROYAL FREE HOSPITAL, Gray's Inn Road, W.C.1 (Children's Department).—First Assistant for Out-patient and Infant Welfare Work.

ROYAL NATIONAL ORTHOPAEDIC HOSPITAL, 234, Great Portland Street, W.1.—House-Surgeon. Salary £150 per annum.

ST. JOHN'S HOSPITAL, Morden Hill, Lewisham, S.E.13.—Resident Male Casualty Officer. Salary £100 per annum.

ST. MARY'S HOSPITAL, Institute of Pathology and Research, Paddington, W.2.—Research Student. Honorarium at the rate of £200 per annum.

ST. PETER'S HOSPITAL FOR STONE, etc., Henrietta Street, W.C.2.—House-Surgeon. Salary at the rate of £75 per annum.

SALFORD ROYAL HOSPITAL.—(1) House-Surgeon attached to Orthopaedic Department. (2) House-Surgeon. Salary at the rate of £125 per annum each.

SAMARITAN HOSPITAL FOR WOMEN, Marylebone Road, N.W.1.—House-Surgeon. Salary at the rate of £100 per annum.

SEAMEN'S HOSPITAL SOCIETY, Greenwich.—House-Physician and House-Surgeon at the Dreadnought Hospital. Salary at the rate of £110 per annum, and a proportion of fees.

SHEFFIELD CITY.—Resident Medical Officer at the Winter Street Hospital for Tuberculosis (unmarried). Salary £350 per annum, rising to £450.

SOUTHAMPTON: ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—Junior House-Surgeon (male, unmarried). Salary at the rate of £150 per annum.

STOCKTON AND THORNABY HOSPITAL, Stockton-on-Tees.—(1) Senior Resident Medical Officer (Surgeon). (2) Second Resident Medical Officer (Physician). (3) Junior Resident Medical Officer. Salary £175, £150, and £125 per annum respectively.

SURREY COUNTY COUNCIL.—Assistant Medical Officer of Health (male). Salary £600 per annum, rising to £700.

SYDNEY UNIVERSITY.—Director of Cancer Research. Salary £2,000 per annum.

WAKEFIELD: CLAYTON HOSPITAL.—House-Surgeon (male). Salary at the rate of £150 per annum for first six months, rising to £175.

WEST LONDON HOSPITAL, Hammersmith Road, W.6.—(1) Honorary Medical Registrar; honorarium £100. (2) House-Physician. (3) Two House-Surgeons. Salary at the rate of £100 per annum for (2) and (3).

WINCHESTER: ROYAL HAMPSHIRE COUNTY HOSPITAL.—Honorary Surgeon in Ordinary.

WOLVERHAMPTON COUNTY BOROUGH.—Assistant Medical Officer for Maternity and Child Welfare Work. Salary £600 per annum.

WORCESTER GENERAL INFIRMARY.—Junior Resident Medical Officer. Salary £120 per annum.

CERTIFYING FACTORY SURGEONS.—Th[illegible] announced: Aylsham (Norfolk), [illegible] its are bridgeshire). Applications to the [illegible] (Cam-Office, Whitehall, S.W.1. [illegible], Home

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.

APPOINTMENTS.

DENNING, George F., M.R.C.S., L.R.C.P., Deputy Medical Officer, County Mental Hospital, Rainhill.

FURNISS, Ada, F.R.C.S.Edin., D.P.H.Manch., Assistant Medical Officer, Withington Hospitals and Institution, Nell Lane, West Didsbury, Manchester.

GOLDSMITH, William Noel, M.A., B.Chir.Camb., M.R.C.P.Lond., Physician for Skin Cases to the West End Hospital for Nervous Diseases, London.

HESLOP, A. H., D.S.O., O.B.E., M.B., B.S.Durh., F.R.C.S.Eng., Honorary Local Consulting Surgeon, King Edward VII's Convalescent Home for Officers, Osborne, Isle of Wight.

HOWELL, B. Whitchurch, F.R.C.S., Orthopaedic Surgeon to the Essex County Council.

SILVERSTON, Joseph D., M.B., B.S.Durh., Deputy Medical Officer, County Mental Hospital, Lancaster.

DIARY OF SOCIETIES AND LECTURES.

ROYAL SOCIETY OF MEDICINE.

Section of Therapeutics and Pharmacology.—Tues., 5 p.m., Dr. A. F. Hurst and Dr. F. A. Knott: Treatment of Biliary Infection with Hexamine; Dr. J. W. Trevan and Miss H. W. Bainbridge: Standardization of Cod-liver Oil.

Section [illegible], Clinical Meeting at the National Hospit[illegible]

Clinical [illegible]

Section of Ophthalmology.—Fri., 5 p.m., Clinical Meeting at St. Bartholomew's Hospital, E.C., in the Ophthalmic Out-patient Department.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W.1.—Tues., 6 p.m., Third Milroy Lecture by Dr. W. F. Dearden: Health Hazards in the Cotton Industry. Thurs., 5 p.m., Goulstonian Lecture by Professor F. R. Fraser: Cardiac Dyspnoea.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.—Mon., Wed., and Fri., 5 p.m., Sir Arthur Keith: The Peoples of the East: Past and Present.

HARVEIAN SOCIETY, Paddington Town Hall, W.—Thurs., 8.30 p.m., Harveian Lecture by Sir Berkeley Moynihan, Bt., K.C.M.G., F.R.C.S.: Diverticula of the Alimentary Canal.

WEST [illegible] SOCIETY, Miller General Hospital, Gree[illegible]., Dr. J. L. Bailey: Some Problems in the [illegible]

POST-GRADUATE COURSES AND LECTURES.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION.—Special Lecture at the Medical Society, 11, Chandos Street, W.1: Thurs., 5 p.m., Suppression and Retention of Urine. Open to all members of the medical profession, without fee. *St. Mark's Hospital*, City Road, E.C.: Special Clinical Surgery Demonstration, Tues., 4.30 p.m. Open to all members of the medical profession, without fee. *Hospital for Consumption and Diseases of the Chest*, Brompton, S.W.3: Special Course in Diseases of the Chest. Demonstrations and Lecture Demonstrations, daily, mornings and afternoons. *London Lock Hospital*, Dean Street, W.1: Special Course in Venereal Diseases. Clinical work daily and special lectures. *National Hospital*, Queen Square, W.C.1: Special Course in Neurology; instruction daily in the Out-patient Department and special lectures and demonstrations. All information as to fees, etc., obtainable from the Fellowship of Medicine, 1, Wimpole Street, W.1.

CENTRAL LONDON THROAT, NOSE AND EAR HOSPITAL, Gray's Inn Road, W.C.1.—Fri., 4 p.m., Demonstration of Museum Specimens.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.1.—Thurs., 4 p.m., Poliomyelitis and Polio-encephalitis.

LONDON SCHOOL OF DERMATOLOGY, St. John's Hospital, Leicester Square, W.C.2.—Tues., 5 p.m., Leukaemia Cutis, Mycosis Fungoides. Thurs., 5 p.m., Pemphigus and Allied Eruptions.

NATIONAL HOSPITAL, Queen Square, W.C.1.—Mon., Tues., Thurs., and Fri., 2 p.m., Out-patient Clinics. Mon., 12 noon, Pathology of the Nervous System; 3.30 p.m., Borderland of Epilepsy. Tues., 3.30 p.m., Mental Dissociation and Double Personality. Thurs., 3.30 p.m., Methods of Testing the Eighth Nerve. Fri., 12 noon, Anatomy and Physiology of the Nervous System; 3.30 p.m., Cerebral Vascular Disease. Operations: Tues. and Fri., 9 a.m.

NORTH-EAST LONDON [illegible] of Wales's General Hospital, Tottenham [illegible] Clinic; 2.30 p.m., Special Demonstrati[illegible] to 5 p.m., Medical, Surgical, and Gyna[illegible]ues., 2.30 to 5 p.m., Medical, Surgical, [illegible] Operations. Wed., 2.30 p.m., Special [illegible] to 5 p.m., Medical Skin and Eye Clinics; Operations. Thurs., 11.30 a.m., Dental Clinics; 2.30 to 5 p.m., Medical, Surgical, and Ear, Nose, and Throat Clinics; 2.30 to Operations. Fri., 10.30 a.m., Throat, Nose, and Ear Clinics; 2.30 to 5 p.m., Surgical, Medical, and Children's Diseases Clinics; Operations; 4.30 p.m., Special Demonstration on Selected Cases of Nerve Diseases.

ROYAL NORTHERN HOSPITAL, Holloway Road, N.—Tues., 3.15 p.m., Practical Points of Interest in X-Ray Work.

WEST LONDON HOSPITAL POST-GRADUATE COLLEGE, Hammersmith, W.6.—Mon., 10 a.m. to 1 p.m., Genito-urinary Operations, Skin Department, Surgical Wards; 2 p.m., Surgical Wards [illegible] Tues., 10 a.m. to 1 p.m., Lecture [illegible] Venereal Diseases and Chest C[illegible] Nose, and Ear Department. Wed[illegible] Out-patients, Medical Wards, [illegible] 2 p.m., Surgical Wards, Eye De[illegible] Neurological Department, Demonstration of Fractures; 2 p.m., Eye and Genito-urinary Departments, Gynaecological Ward. Fri., 10 a.m. to 1 p.m., Gynaecological Operations, Dental, Skin, and Electrical Departments; 2 p.m., Throat, Nose, and Ear Department. Sat., 10 a.m. to 1 p.m., Bacterial Therapy Department, Children's Medical Department. Daily: Operations, Medical and Surgical Out-patients at 2 p.m.

GLASGOW POST-GRADUATE MEDICAL ASSOCIATION.—At Western Infirmary: Wed., 4.15 p.m., Male Venereal Diseases.

JAMES MACKENZIE INSTITUTE FOR CLINICAL RESEARCH, St. Andrews.—Tues., 4 p.m., Variations in Pulse and Temperature Consistent with Health.

MANCHESTER ROYAL INFIRMARY.—Tues., 4.15 p.m., The Differential Diagnosis of Spinal Disease. Fri., 4.15 p.m., Demonstration of Eye Cases.

MANCHESTER: ST. MARY'S HOSPITALS (Whitworth Street West Branch).—Fri., 4.30 p.m., Demonstration of Ante-Natal Cases.

SHEFFIELD UNIVERSITY POST-GRADUATE CLINICS.—At Royal Hospital, Fri., 3.30 p.m., Surgical Cases.

British Medical Association.

OFFICES, BRITISH MEDICAL ASSOCIATION HOUSE, TAVISTOCK SQUARE, W.C.1.

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Diary of the Association.

MARCH.

4 Fri. London: Conference on Spa Treatment for Insured Persons 10 a.m.
London: Science Committee, 2.30 p.m.
Cambridge and Huntingdon Branch: Addenbrooke's Hospital 2.30 p.m.

8 Tues. Lanarkshire Division: Masonic Hall, Hamilton. Dr. J. Hume Patterson on Provisions for a Pure Milk Supply, 8.30 p.m.
Reigate Division: East Surrey Hospital, Reigate. Dr. Stanley Dodd on Gynaecology, 8.45 p.m.
St. Pancras Division: B.M.A. House, Tavistock Square, W.C.1. Mr. A. G. Timbrell Fisher on Manipulative Surgery, 9 p.m.
South Essex Division: Palace Hotel, Southend. Address by Dr. O. Grant Pugh, 8.30 p.m.

9 Wed. London: Hospitals Committee, 2.15 p.m.
Dumbartonshire Division: Dinner, North British Station Hotel, Queen Street, Glasgow, 7.30 p.m.
Huddersfield Division: Huddersfield Royal Infirmary. B.M.A. Lecture by Professor Miles Phillips on Some Obstetrical Emergencies, 8 p.m.
South Middlesex Division: St. John's Hospital, Twickenham, 8.15 p.m. Discussion on Non-operative Treatment of Cancer.

10 Thurs. Gloucestershire Branch: General Hospital, Cheltenham. Adjourned Discussion on Carcinoma of Stomach, 6 p.m. Supper, Cadena Café, after meeting.
Hampstead Division: Dr. W. J. Pearson on Chronic Respiratory Infections in Childhood, 8.30 p.m.
Newcastle-on-Tyne Division: Royal Victoria Infirmary. Mr. H. S. Elphick on Pregnancy and Parturition in Veterinary Practice, 8.30 p.m.
Portsmouth Division: Queen's Hotel, Southsea. Sir John Collie on Where Law and Medicine Meet, 9.30 p.m. Supper, 9 p.m.
[illegible] Castleford Division: Bull Restaurant, Watson on Early Signs of Phthisis, precede lecture.
Swansea Division: General Hospital, Swansea, 8.15 p.m.

11 Fri. London: Public Health Committee, 2.30 p.m.
Kent Branch: Saracen's Head Hotel, Ashford. Discussion on Poliomyelitis, 3 p.m.
Northern Counties of Scotland Branch: District Asylum, Inverness, 3 p.m.

15 Tues. London: Organization Committee.
Lewisham Division: South Eastern Children's Hospital, Sydenham.

16 Wed. London: Medico-Political Committee, 2.30 p.m.
Norfolk Branch: Norfolk and Norwich Hospital. Dr. Sydney H. Long on Manifestations of Syphilis and Gonorrhoea, 3.30 p.m.
Sunderland Division: Royal Infirmary, Sunderland. Mr. F. C. Pybus on Deformities, 8.15 p.m.
Willesden Division: Willesden General Hospital, Harlesden Road. Dr. A. Hope Gosse on Clinical Disorders of the Heart, 9 p.m.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcement of Births, Marriages, and Deaths is 9s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

BIRTHS.

CHESTER.—On March 2nd, at 27, Welbeck Street, W.1, to Aileen M. Chester, M.B., Ch.B., wife of Edgar S. Sibun, a son.

GALLOWAY.—On February 24th, to Margaret, the wife of Robert Menzies Galloway, M.D., D.P.H., of 237, Wigan Road, Bolton, a daughter.

SCHOFIELD.—At Fort Portal, Uganda, on January 24th, 1927, to Georgiana (*née* Armitage), the wife of A. T. Schofield, M.A., M.R.C.S., etc., of the Church Missionary Society, Toro Hospital, Fort Portal, Uganda, a daughter.

MARRIAGES.

[illegible] On February 17th, at the Register Office of St. Giles, [illegible]el McDonald, M.B., Ch.B.Vict., M.R.C.S.Eng., to Gladys May Bright, B.A., A.R.C.M.

MAGAN—STANTON.—On February 19th, at University Church, St. Stephen's Green, Dublin, by the Rev. T. A. Finlay, S.J., assisted by the Very Rev. Canon Donohoe, P.P., V.G., Francis J. Magan, Solicitor, Granard, co. Longford, to Sybil Stanton, M.B., B.Ch., B.A.O., daughter of Mrs. Stanton and the late John Stanton, Alexandra Place, Cork.

DEATHS.

FLETCHER PORTER.—On February 17th, after a long and painful illness, John Fletcher Porter, C.B.E., J.P., M.B.Lond., at 206, Upper Clapton Road, London, E.5.

HILLIER.—On February 22nd, at 396, Ecclesall Road, Sheffield, Robert John Hillier, M.R.C.S., L.R.C.P., aged 68.

PHILLIPS.—On February 18th, 1927, at Hardwick Lodge, Streetly, George Arthur Phillips, M.R.C.S., J.P., in his 78th year.

VAUGHAN GRIFFITH.—On February 23rd, 1927, at Bryn Darland, Coedpoeth, near Wrexham, North Wales, William Vaughan Griffith, L.R.C.S.E., L.R.C.P.E., L.F.P.S.G., aged 65 years.

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A TREATMENT FOR INSURED PERSONS.

Conference Summoned by the British Medical Association.

CONFERENCE on spa treatment for insured persons, summoned by the British Medical Association, was held in the Council Chamber of the Association's House in Tavistock Square on March 4th. Dr. H. Guy Dain (Chairman of the Insurance Acts Committee) presided, and representatives attended from the British Spa Federation, the British Committee on Rheumatism (which is a committee of the International Society of Medical Hydrology), the Spa Practitioners' Association, the Mineral Water Hospitals, the Federation of Medical and Allied Services, and the British Medical Association. The representatives of the last named, in addition to Dr. Dain, were Dr. E. R. Hethergill, Dr. C. O. Hawthorne, Mr. E. Lewis Lilley, and Dr. F. G. Thomson (Past-President). There were also present five representatives of approved societies—namely, Mr. W. A. Appleton (General Federation of Trade Unions), Mr. C. G. Izard (Prudential Approved Societies), Mr. G. L. Ingstrom (National Conference of Friendly Societies), and Mr. J. A. Newrick and Mr. S. Sanderson (National Association of Trade Union Approved Societies). The point of view of each organization or group of organizations was first stated in brief speeches.

Mr. John Hatton (British Spa Federation) stated that the beginning of any active movement to make spa treatment available for insured persons dated from the publication of the report of the Ministry of Health in 1924 on "The incidence of rheumatic diseases."[1] This report brought to a head a feeling of concern among many of the approved societies as to the number of their members drawing medical benefit on account of rheumatism without, apparently, anything very definite in the way of treatment. In July, 1924, a deputation of members of the United Patriots Friendly Society was received by the then Minister of Health (Mr. Wheatley), who undertook to notify the Royal Commission on National Health Insurance that the society desired to be heard on this subject. The society thereupon conferred with the British Spa Federation, and a scheme was drafted and presented to the Royal Commission, whose report, however, was curiously vague on all points of this kind, though it did suggest the possibility of including physiotherapy as an additional benefit. His federation understood that what the Ministry of Health would require before it could move officially would be a request from the approved societies that spa treatment should be made available as an additional benefit, and a general approval had already been given by various approved societies and groups. Mr. Hatton then gave an outline of the scheme suggested by the British Spa Federation. The scheme would be applicable to all insured persons suffering from "rheumatic diseases," according to the Ministry's classification of those conditions. A patient would be recommended for spa treatment by his insurance practitioner, and a report on his case prepared by the practitioner would be sent for the consideration of a medical board to be set up at the spa, which would decide whether the case was suitable. As far as possible patients would be sent to the spa nearest their own homes. To secure the full success of the scheme the best medical advice must be available for these persons at the spa. The help of the mineral water hospitals also was essential to the success of the scheme. The facilities they offered for x-ray examination and laboratory service would, of course, be paid for on a fair basis, and their physicians might form the spa medical board just mentioned, or the nucleus of it. These hospitals, which often had long waiting lists, could not deal with great numbers of insured persons as in-patients, but the majority of these cases would not require beds. Those that did so might be taken in at a certain charge so far as the accommodation of the hospital would admit, and if there was still room in hospital a certain number of cases which required special observation might be taken. Otherwise the patients on arrival at the spa would go to a consultation centre, and during their stay would attend there as often as required by the doctor in charge. They would be assigned for treatment at the bathing establishment. A capitation fee to cover all treatment and administration costs would be more satisfactory than any system of charging for individual treatments. He drew attention to the possibilities for research offered by this large amount of fresh clinical material coming to the spas, and the addition to the present spa hospitals of what was practically an elastic out-patient department. At each spa there should be set up a local committee of control, with representatives of the corporation or spa authority, the medical board, the spa hospitals, the approved societies, and the local insurance committee. A supervisory committee of members appointed by the local approved societies would attend to accommodation and impose discipline, but all medical matters would be dealt with by the medical board. He pointed out the difficulties attending the establishment of hostels at the spas, chiefly the great capital expense to the approved societies, and urged that at every spa there were cheaper boarding-houses where patients could be lodged and dieted under the directions laid down. The estimated cost of treatment and administration at the spa was 18s. a week, and of board and lodging 35s.

Mr. W. A. Appleton (General Federation of Trade Unions) said that the discussion from the approved societies' point of view was a little premature. Nothing could be done before the next valuation in 1928, and at that valuation it was by no means certain that there would be any surplus available. But the approved societies were interested, having observed that well-to-do people who frequented spas were generally benefited. They also desired some more systematic treatment of rheumatic disorder, not confined to spa treatment. They were prepared to make this an additional benefit if it could be done effectively and economically, but they could not commit themselves to large capital expenditures.

Sir Thomas Horder, Bt. (Federation of Medical and Allied Services), said that there was a broader aspect of the question than spa treatment. Sir George Newman had outlined—not so much for the Ministry's consideration as for the consideration of the medical profession, employers of labour, and representatives of approved societies—a comprehensive scheme, the first element in which would be the setting up of a clearing-house in large centres, where patients suffering from rheumatism could be examined and classified into early cases, able to work while under treatment, cases still curable but more tedious, and cases only partially curable. Cases belonging to the first of these classes would be treated at a clinic attached to the clearing-house, and in the main by physical methods; cases belonging to the second class would mostly be referred for spa treatment; and those in the third class would, as far as means were available, be treated in special hospitals. The second part of the scheme related to the establishment of an arthritic unit, and the third to an extension of the work at the spas, which would be brought into closer touch with the treatment of rheumatic persons in general. Sir Thomas Horder thought that the first thing to be done was to set up a combination of clearing-house and treatment centre in a situation easy of access for workers suffering from rheumatism. He was inclined to put

[1] British Medical Journal, March 1st, 1924, p. 395.

the expansion of work at the spas in the second place, rather than in the third, where Sir George Newman put it, and to reserve until last the establishment of an arthritic unit, which would be the most difficult part of the administration, for the reason that it could hardly be conceived of without beds, whereas the clearing-house and treatment centre, and to a large extent the spa work, would be of an out-patient character.

Dr. KERR PRINGLE (Spa Practitioners' Association) gave a definition of spa treatment—"treatment at a place possessing a supply of natural mineral waters of known therapeutic value, and facilities for their application." This, he said, implied the existence of suitable buildings, apparatus, and trained personnel for work in bath-houses and for physiotherapeutic departments. The treatment was a régime in which diet and exercise played an important part, and, while most forms of physiotherapy were employed, water-drinking and bathing were the principal therapeutic agents. The best economic results of spa treatment were obtained by the co-ordinated work of several departments in medicine. He was anxious for the reputation of the spas, which was not improved by the war, when the wrong persons were sent, and no control was exercised over them. The medical administration of the scheme should be carried out by the provision of out-patient departments at the special hospitals already existing in different spas, and the patients should be in hostels, because in boarding-houses it was difficult to arrange dietaries and to ensure compliance with regulations. The idea of his association was that there should be enlarged out-patient departments in connexion with the spa hospitals, the patients being seen on a certificate signed by an insurance practitioner. The medical staffs, of course, would have to be enlarged, and rosters formed.

Mr. C. A. RHODES, representing the mineral water hospitals of Bath, Harrogate, and Buxton, said that the hospitals were prepared to treat insured patients, at such a charge as would be adequate to meet expenses, and so far as the demands on their beds allowed. Most of the insured patients, however, would be out-patients, and those for whom he spoke held the view that they should be housed in hostels, established and maintained by the approved societies. No adequate treatment could be given unless the patients were [illegible] and under supervision. Speaking for his ow[illegible] he said that the first claim on its beds [illegible] patients sent by subscribers. The actual cost of maintenance and treatment was four guineas for a fortnight, but, of course, in the case of insured patients, who were not charity patients, and did not wish to be, the medical men would expect payment, and there would be other charges.

Dr. R. FORTESCUE FOX (British Committee on Rheumatism) said that his committee was favourably situated for preparing some preliminary policy on this matter, as through its parent body, the International Society of Medical Hydrology, it was in touch with medical men in most of the European countries where rheumatism was being systematically treated by Government organizations. The treatment centre or clinic was the primary part of the scheme, and research also was very important. In Germany it was recognized that the spas held such an important place in the national treatment of rheumatism that one spa had been deliberately selected as a centre for research in this subject. The provision of a research centre in this country at one or more spas should certainly be considered.

Dr. DAIN said that the British Medical Association was interested in this question on two sides—namely, on the scientific side, and in connexion with the organization of medical services. This was a proposal to extend a medical service to a particular class of the community, and the Association was interested to ensure that the organization should fit in with other services and have useful results. As an insurance practitioner, if he were asked what he wanted most, he would say that he wanted facilities for discovering the cause of the rheumatism in the individual case. Until that had been elicited, he had no special use for spa treatment, for he had no means of knowing whether he was sending a patient to a spa at a time and in a condition when he would get the full value of the treatment provided. He fully appreciated the regard which speakers on behalf of the spas had had for the reputation of the spas. It was not advantageous from the point of view of the spas' reputation, nor was it economically sound, to send patients to spas before their cases had been properly investigated, and before it was discovered whether spa treatment was really wanted. Associated with any organization for the treatment of rheumatism there must be some machinery by which the insurance practitioner might obtain facilities for completing his diagnosis. It was obvious from the history of the spas that a great many patients did receive very important benefit.

In the course of some general discussion, Mr. J. A. NEWRICK (National Association of Trade Union Approved Societies) said that he was satisfied that in his own industry (iron and steel) a great deal of rheumatism could be prevented simply by the dissemination of information. Mr. G. L. LINGSTROM, another approved societies' representative, said that the committee of the National Conference of Friendly Societies was about to approach the Ministry on the question of cost.

Dr. F. G. THOMSON (British Medical Association) was doubtful as to the practicability of setting up diagnostic and treatment units in the various centres to deal with chronic rheumatism. The out-patient departments of hospitals could surely be trusted to select the cases with a view to particular forms of treatment, and as for research, ordinary clinical research could be carried out at all local hospitals, while special advanced research into the different types of rheumatic disorder was being carried out at the present time at the different spas. Dr. J. B. BURT (Spa Practitioners' Association) said that the spas made no claim of competence to deal with the whole question of rheumatism, but they could do a great deal, and he thought that without any large provision of capital they could accommodate themselves to treat 20 or 30 per cent. more cases than they did at present. Mr. HATTON, dealing with the question of hostels, said that while such provision was ideal, it involved capital expenditure which made it not a practicable proposition at the moment, and he also quoted German experience to show that patients objected to being labelled in this way, and that on that ground, as well as on the ground of expense, some German authorities had found it necessary to use existing hotel accommodation.

Appointment of Drafting Committee.

Dr. D. A. COLES (Federation of Medical and Allied Services) urged the immediate necessity of getting to work, and accordingly moved:

> That a centre be initiated at once for research, education, and treatment relating to rheumatism, and that this centre be located, to begin with, in London, working in collaboration with all provincial centres, whether spa or otherwise.

Dr. M. B. RAY seconded this resolution.

Dr. J. B. BURT (Spa Practitioners' Association) also brought forward a resolution, which it was agreed should be taken first:

> That a small committee be elected, with a representative from each body taking part in this Conference, who, together with the Chairman of the Conference, are requested to draft and submit to a further meeting (in May or June) a scheme under which steps should be taken to provide as soon as possible increased facilities for diagnosis and treatment of the insured rheumatic population.

This was seconded by Mr. HATTON, and supported by Dr. E. R. FOTHERGILL (British Medical Association), who said that what general practitioners wanted was to have at their disposal more efficient means of diagnosis and consultation. Dr. G. E. SAWDON and Dr. G. HOLMES (Spa Practitioners' Association) also spoke to the resolution. Mr. LEWIS LILLEY (British Medical Association) thought that the arrangements might have two parts—a consultation centre which would take the responsibility of ordering spa treatment, and the management of that treatment which would be carried out under contract with the authorities of the spa.

Sir WILLIAM WILLCOX (British Committee on Rheumatism) said that chronic rheumatism was not a disease; it was a manifestation of some chronic toxaemia. One-sixth of the existing invalidity was due to rheumatism. He thought it would be disastrous if this matter were pigeon-holed in spas, or indeed in any section of medical practice. The need was to organize and combine existing facilities. At the same time, the spas did offer one admirable means of treating rheumatism, and he would on no account belittle it. There was also a need in London and large towns for clinics where physical methods could be provided. Very few of the hospitals in London had departments which were adequate to deal with chronic rheumatism cases. It was also well to remember that chronic rheumatism was, almost more than any other disease, preventable, and its investigation would result in great gain from the point of view of prevention as well as that of treatment of existing sufferers.

Mr. APPLETON said that if the approved societies' representatives did not vote on the resolution before the Conference it was not because they were unsympathetic, but because they could not commit their constituents. If this committee were agreed to they would certainly place the matter before their respective bodies, and do their best to secure the co-operation of the approved societies in the work of the committee.

The CHAIRMAN said that in that case the procedure would be for the committee not to start its work until an intimation was received that the approved societies were prepared to come in.

Some discussion then took place on the constitution of the proposed committee. Mr. NEWRICK thought it hardly fair to have seven or eight representatives of what might be called the "producers" side, and only one representative of the "consumers." The CHAIRMAN said that that was reasonable, and he suggested, the mover of the resolution concurring, that the number of approved societies' representatives on the committee should be left over until the societies themselves were able to make a proposition. He resisted, however, a request that

the British Spa Federation should have more than one member, pointing out that, after all, this was only to be a small committee to draft a scheme which would be submitted to another conference.

On this understanding Dr. Burt's resolution was carried without dissent, the approved societies' representatives not voting, for the reason stated by Mr. Appleton, and the resolution moved by Dr. Coles was, with his consent, held over to be referred to the committee when in being.

On the motion of Alderman COOPER (British Spa Federation) a hearty vote of thanks was accorded to the British Medical Association for calling the Conference, and to Dr. Dain for presiding.

Association Notices.

BRANCH AND DIVISION MEETINGS TO BE HELD.

BIRMINGHAM BRANCH.—The fifth ordinary meeting of the Birmingham Branch will be held at the Medical Institute, Birmingham, on March 17th, at 3.30 p.m., when the President, Dr. H. G. Dain, will take the chair. Mr. Naughton Dunn will read a paper upon "Modern principles in the treatment of common disabilities of bones and joints."

LANCASHIRE AND CHESHIRE BRANCH: HYDE DIVISION.—At the meeting of the Hyde Division to be held in the Dukinfield Town Hall on Thursday, March 17th, at 8.30 p.m., Dr. Robertson will deliver his presidential address.

METROPOLITAN COUNTIES BRANCH: CITY DIVISION.—The clinical meeting arranged for to-day (Friday, March 11th) has been postponed to Friday, March 18th. The Divisional fancy dress dance will be held in the Great Hall of the British Medical Association House, Tavistock Square, W., on Thursday, March 24th, at 8.30 p.m. to 1.30 a.m. Le Saire's Band. Refreshments by Gunters, Ltd. Fancy dress optional; four prizes. A demonstration by professional dancers will be given during the evening. Tickets (8s. inclusive) can be obtained from Dr. G. Clark Trotter, 2, Tyndale Place, Islington; Dr. Harold Latham, 2, Hemingford Road, Barnsbury, and from the secretary, Dr. Worley, 45, De Beauvoir Road, N. Early application is requested.

METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.—A clinical evening will be held by the Lewisham Division at the South Eastern Children's Hospital, Sydenham, on Tuesday, March 15th.

METROPOLITAN COUNTIES BRANCH: NORTH MIDDLESEX DIVISION.—At the meeting of the North Middlesex Division on March 30th Dr. G. W. H. French will read a paper on "Differential diagnosis of the acute abdomen."

METROPOLITAN COUNTIES BRANCH: SOUTH-WEST ESSEX DIVISION.—A meeting of the South-West Essex Division will be held at the Walthamstow Hospital on Tuesday, March 29th, at 3.30 p.m. Dr. G. F. Still will give an address on "*Vomiting in childhood.*"

METROPOLITAN COUNTIES BRANCH: WILLESDEN DIVISION.—A meeting of the Willesden Division will be held at the Willesden General Hospital, Harlesden Road, on Wednesday, March 16th, at 9 p.m. Agenda: Correspondence, etc.; Dr. A. Hope Gosse (St. Mary's Hospital) will give an address on "Clinical disorders of the heart"; election of representative and deputy representative for Annual Representative Meeting at Edinburgh.

MIDLAND BRANCH: CHESTERFIELD DIVISION.—A meeting of the Chesterfield Division will be held at the Maternity Hospital, Chesterfield, on Friday, March 25th, at 8.15 p.m. Mr. A. M. Webber, F.R.C.S., surgeon to the Nottingham Hospital, will give an address on "Observations on hysterectomies." Tea and coffee served at 8 p.m.

NORFOLK BRANCH.—A meeting of the Norfolk Branch will be held at the Norfolk and Norwich Hospital on Wednesday, March 16th, at 3.30 p.m., when the President, Dr. W. M. Fisher, will take the chair. Dr. Sydney H. Long will give a demonstration, with cinematograph films, on "Manifestations of syphilis and gonorrhœa." Tea will be served at 4.45.

NORTH OF ENGLAND BRANCH.—A scientific meeting of the North of England Branch will be held at Greenbank Hospital, Darlington, on Thursday, March 17th. 2.30 p.m., Mr. A. Thacker *Neville*: Laryngology and ophthalmology in relation to general practice; 3 p.m., Mr. R. J. Willan: Some common but obscure cases of acute abdominal pain; 3.30 p.m., Dr. George Hall: Minor endocrine defects; 4 p.m., tea; 4.15 p.m., Mr. H. C. Pearson: Modern electro-therapeutics; 4.45 p.m., Mr. D. S. Falconer: Food disorders in infancy. The annual dinner of the Branch will be held at the Central Station Hotel, Newcastle-on-Tyne, on the same evening at 7 for 7.30 o'clock; the President of the Branch, Mr. W. S. Dickie, F.R.C.S., will take the chair. Tickets 10s. 6d. *Applications* for seats should be made to Mr. Norman Hodgson, honorary secretary, 7, Windsor Terrace, Newcastle-on-Tyne, before March 14th.

NORTH OF ENGLAND BRANCH: NEWCASTLE-ON-TYNE DIVISION.—A reception and dance will be held by the Newcastle-on-Tyne Division at the College of Medicine, Newcastle-on-Tyne, on Thursday, March 31st, at 8.30 p.m. to 1 a.m. Dr. and Mrs. A. Livingston will receive the guests. During the evening a cabaret show will be given by the College of Medicine Concert Party, and [illegible] will be made for those desiring [illegible] will be available. Cars may be [illegible] east of the College of Medicine [illegible] each. Members are asked to m[illegible]

NORTH OF ENGLAND BRANCH: [illegible] meeting of the Sunderland Di[illegible] will be held at the Royal Infirmary Sunderland, on Wednesday, March 16th, at 8.15 p.m. Mr. F. C. Pybus, M.S., F.R.C.S., will give an address on deformities. All members of the Division are invited to be present.

SOUTH WALES AND MONMOUTHSHIRE BRANCH: NORTH GLAMORGAN AND BRECKNOCK DIVISION.—A meeting of the North Glamorgan and Brecknock Division will be held on Thursday, March 24th, when Dr. T. F. Cotton will deliver a British Medical Association Lecture on "*Prognosis and treatment of heart disease.*"

STAFFORDSHIRE BRANCH: SOUTH STAFFORDSHIRE DIVISION.—At the meeting of the South Staffordshire Division to be held on Tuesday, March 29th, Dr. T. Watts Eden, F.R.C.P., will give a British Medical Association Lecture on "Prevention and treatment of eclampsia."

SURREY BRANCH: CROYDON DIVISION.—A meeting of the Croydon Division will be held at the Croydon General Hospital on Tuesday, March 22nd, at 8.30 p.m. Professor Verney will read a paper on "Pharmacology and practice."

SUSSEX BRANCH: BRIGHTON DIVISION.—A clinical meeting of the Brighton Division will be held at the Children's Hospital on Wednesday, March 16th, at 3.45 p.m.

VACANCIES.

BELGRAVE HOSPITAL FOR CHILDREN, Clapham Road, S.W.9.—(1) House-Surgeon. (2) Assistant House-Physician. Males. Salary at the rate of £100 *per annum each.*

CAMBRIDGE: ADDENBROOKE'S HOSPITAL.—(1) House-Physician. (2) House-Surgeon. (Males, unmarried.) Salary at the rate of £130 per annum each.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Judd Street, W.C.1.—Senior and Junior House-Surgeons. Salary £100 and £50 per annum respectively.

CHARING CROSS HOSPITAL, W.C.2.—Assistant Obstetric Physician.

CHESTER ROYAL INFIRMARY.—Honorary Assistant Anæsthetist.

COSSHAM MEMORIAL HOSPITAL, Kingswood, Bristol.—Resident Medical Officer (male). Salary £150 per annum.

DORSET COUNTY HOSPITAL, Dorchester.—Second Honorary Physician.

DUBLIN UNIVERSITY MISSION HOSPITAL, Chota Nagpur, India.—Female Doctor.

DURHAM COUNTY HOSPITAL.—Junior House-Surgeon (male). Salary £120 per annum.

EDMONTON UNION.—Medical Officer for the Waltham Abbey District of the Edmonton Union. Salary £135 per annum.

ELIZABETH GARRETT ANDERSON HOSPITAL, Euston Road, N.W.1.—Physician in charge of the Children's Department.

ESSEX COUNTY COUNCIL.—Assistant County Medical Officer of Health. Salary £700 per annum.

GLASGOW UNIVERSITY.—Muirhead Chair of Obstetrics and Gynæcology.

GORDON HOSPITAL FOR RECTAL DISEASES, Vauxhall Bridge Road, S.W.—Resident House-Surgeon. Salary £75 per annum.

HALIFAX: ROYAL HALIFAX INFIRMARY.—Third House-Surgeon (male). Salary at the rate of £100 per annum.

HARROGATE INFIRMARY.—House-Surgeon (male).

HEREFORDSHIRE COUNTY AND CITY MENTAL HOSPITAL.—Second Assistant Medical Officer (male, unmarried). Salary £350 per annum.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.3.—Assistant Surgeon to the Throat, Nose and Ear Department.

HOSPITAL FOR EPILEPSY AND PARALYSIS, Maida Vale, W.9.—Honorary Medical Officer in charge of X Ray and Electro-therapeutics.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.1.—(1) House-Surgeon. (2) House-Physician and Assistant Casualty Officer. Salary £50 for six months each.

HOSPITAL OF ST. JOHN AND ST. ELIZABETH, 40, Grove End Road, N.W.8.—Assistant Physician.

IPSWICH: EAST SUFFOLK AND IPSWICH HOSPITAL.—(1) Two House-Surgeons. (2) House-Physician. Salary at the rate of £100 per annum each.

KETTERING AND DISTRICT GENERAL HOSPITAL.—Resident Medical Officer. Salary at the rate of £175 per annum.

KING'S LYNN: WEST NORFOLK HOSPITAL.—Junior House-Surgeon. Salary £100 per annum.

LEICESTER ROYAL INFIRMARY.—Two Surgical Dressers. Honorarium 10s. 6d. per week.

LONDON FEMALE LOCK HOSPITAL, 283, Harrow Road, W.—Surgical Registrar. Honorarium £100 per annum.

LONDON LOCK HOSPITAL, 91, Dean Street, W.—Surgical Registrar. Honorarium £100 per annum.

MANCHESTER: ANCOATS HOSPITAL.—House-Surgeon. Salary at the rate of £100 per annum.

MANCHESTER BABIES' HOSPITAL.—(1) Resident Medical Officer. (2) Junior Resident Medical Officer. Salary *at the rate of £125 and £50 per annum* respectively.

MANCHESTER EAR HOSPITAL.—House-Surgeon (non-resident). Salary at the rate of £150 per annum.

MANCHESTER: ST. M[illegible] o House-Surgeons for Whitworth Street We[illegible] (2) Two House-Surgeons for Whitworth Park [illegible] Salaries at the rate of £50 per annum.

MANCHESTER VICTORIA MEMORIAL JEWISH HOSPITAL.—(1) Resident Medical Officer (male); salary £250 for first year, rising to £300 for second year. (2) Honorary Surgeon.

MILLER GENERAL HOSPITAL, Greenwich Road, S.E.10.—House-Physician (male, unmarried). Salary £125 per annum.

NATIONAL HOSPITAL FOR DISEASES OF THE HEART, Westmoreland Street, W.1.—(1) Resident Medical Officer. (2) Out-patient Medical Officer (non-resident). Salary at the rate of £150 and £125 per annum respectively.

PLYMOUTH: HOMŒOPATHIC AND GENERAL HOSPITAL.—House-Surgeon. Salary at the rate of £100 per annum.

PLYMOUTH: SOUTH DEVON AND EAST CORNWALL HOSPITAL.—(1) Resident Surgical Officer. (2) House-Surgeon. (3) House-Physician. (4) Casualty House-Surgeon (unpaid). Salary at the rate of £100 per annum for (1) and £50 per annum for (2) and (3).

PRESTON AND COUNTY OF LANCASTER ROYAL INFIRMARY.—House-Surgeon (male, unmarried). Salary £150 per annum.

PRINCE OF WALES'S GENERAL HOSPITAL, Tottenham, N.15.—(1) House-Surgeon. (2) Special [illegible] ise-Physician. (4) Junior House-Surgeon. (5) [illegible] Salary for (1), (2), and (3) £120 per annum, [illegible] per annum.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney Road, E.2.—House-Physician. Salary at the rate of £100 per annum.

ROYAL FREE HOSPITAL, Gray's Inn Road, W.C.1 (Children's Department).—First Assistant for Out-patient and Infant *Welfare Work.*

ROYAL NATIONAL ORTHOPÆDIC HOSPITAL, 234, Great Portland Street, W.1.—House-Surgeon. Salary £150 per annum.

R[illegible]) House-Physician. (2)
R[illegible] £70 per annum each.
[illegible], Waterloo Road, S.E.1.—
S[illegible] Orthopædic Surgeon.
[illegible] ached to the Orthopædic
Department. (2) House-Surgeon. Salary at rate of £125 per annum each.

SAMARITAN FREE HOSPITAL FOR WOMEN, Marylebone Road, N.W.1.—(1) House-Surgeon; salary at the rate of £100 per annum. (2) *Honorary Surgeon to Out-patients.*

SEAMEN'S HOSPITAL SOCIETY, Greenwich.—House-Physician and House-Surgeon at the Dreadnought Hospital. Salary at the rate of £110 per annum, and a proportion of fees.

SHEFFIELD CITY.—Resident Medical Officer at the Winter Street Hospital for Tuberculosis (unmarried). Salary £350 per annum, rising to £450.

SOUTH LONDON HOSPITAL FOR WOMEN, Clapham Common, S.W.4.—(1) House-Physician. (2) Three House-Surgeons. Females. Salary at the rate of £50 per annum.

SOUTHAMPTON COUNTY BOROUGH.—Resident Medical Officer at the Borough Isolation Hospital. Salary £360 per annum.

SUNDERLAND ROYAL INFIRMARY.—House-Physician (male). Salary £140 per annum.

SURREY COUNTY COUNCIL.—Assistant Medical Officer of Health (male). Salary £600 per annum, rising to £700.

WEST HARTLEPOOL: CAMERON HOSPITAL.—*House-Surgeon (male).* Salary at the rate of £150 per annum.

WEST LONDON HOSPITAL, Hammersmith Road, W.6.—Honorary Medical Registrar. Honorarium £100.

CERTIFYING FACTORY SURGEON.—The following vacant appointment is announced: Leiston (Suffolk). Applications to the Chief Inspector of Factories, Home Office, Whitehall, S.W.1.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.

DIARY OF SOCIETIES AND LECTURES.

ROYAL SOCIETY OF MEDICINE.

War Section.—Mon., 5 p.m., Surgeon Commander C. H. Dawe: Diet and Disease in the Navy.

General Meeting of Fellows, Tues., 5.30 p.m.

Section of Pathology.—Tues., 8.30 p.m., Annual General Meeting. Professor H. T. Deelman: Injury and Repair in the Development of Cancer, and the Growing of Experimental Cancers; Dr. Oliver Heath: The Defence Process in the Body in Typhoid Fever; Professor McIntosh: Experiments on Immunity with the Rous Sarcoma.

Section of Comparative Medicine.—Wed., 6 p.m., Professor Moellgaard y, with Special Reference to Heavy Metals. e.—Wed., 5 p.m., Sir D'Arcy Power: The Surgeons as Literature; Professor Morpurgo at the University of Padua in the Collegio r. C. Singer: An Example of the Egyptian God Bes exhibiting Symptoms of Spina Bifida; Dr. Herbert Spencer: (1571), with Notes on Two MS. Copies. m., Cases and Demonstration. 5 p.m.,

Section of Obstetrics and Gynaecology.—Fri., 8 p.m., *Specimens.* Paper—Mr. Aleck Bourne and Dr. J. H. Burn: The Dosage and Action of Pituitary Extract and of the Ergot Alkaloids on the Uterus in Labour, with a Note on the Action of Adrenaline.

Section of Electro-Therapeutics.—Fri., 8.30 p.m., Discussion: Cholecystography. Opener: Dr. N. S. Finzi.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W.—Tues. and Thurs., 5 p.m., Goulstonian Lectures by Professor F. R. Fraser: Cardiac Dyspnoea.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.—Mon., 5 p.m., Sir Arthur Keith: The Peoples of the East—Past and Present. Wed., 5 p.m., Dr. H. Carlill: Simulation of Surgical Affections by Hysteria. Fri., 5 p.m., Mr. R. St. Leger Brockman: Toxaemia and Acute Intestinal Obstruction.

ROYAL SOCIETY OF TROPICAL MEDICINE AND HYGIENE.—A Laboratory Meeting at Royal Army Medical College, Thurs., 8.15 p.m. Demonstrations by Drs. S. Adler and A. Balfour, Major J. S. K. Boyd, Major C. R. Chadwick, Mr. C. MacHattie, Mr. C. A. Hoare, Drs. Saiki, E. C. Smith, H. H. Scott, A. C. Stevenson, C. M. Wenyon, Professor Warrington Yorke, and Dr. A. R. D. Adams.

BIOCHEMICAL SOCIETY, Department of Physiology and Biochemistry, University College, W.C.—Fri., 3 p.m., F. M. Haines: Propelling Air round Small Circuits; P. and M. G. Eggleton: Chemistry of Phosphagen; R. K. Cannan and B. C. Knight: Pyocyanine. 4.30 p.m., B. and E. Holmes: Carbohydrate Metabolism of Brains in Normal and Diabetic Animals; P. and M. G. Eggleton: Phosphagen; C. Rimington and H. D. R. K. Cannan and B. C. J. G. Knight: L. C. Baker and G. F. Marrian: Baker, G. F. Marrian, and J. C. Drummond: The Adrenals of Rats and Vitamin B; S. Kon and J. C. Drummond: Vitamin B Deficiency and Inanition; A. Hassan and J. C. Drummond: Dietary Factors in Yeast; H. J. Channon and A. C. Chibnall: Calcium Salts of Glyceridephosphoric Acids in Cabbage Leaf Cytoplasm; O. Rosenheim: Sterol Colour Reactions and Vitamin A; M. H. Roscoe: The Dual Nature of Vitamin B; R. V. Stanford: (1) Automatic Apparatus for Removal of Ammonia from Solutions; (2) A Device for Preventing "Bumping" in Boiling Liquids.

CHELSEA CLINICAL SOCIETY, Rembrandt Hotel, Thurloe Place, S.W.7.—Tues., 7.30 p.m., Dinner. 8.30 p.m., Discussion: Professional Regrets; to be opened by Dr. Russell Andrews.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, W.1.—Mon., 8.30 p.m., Demonstration on Lipiodol Injections by Dr. Jacques Forestier.

POST-GRADUATE COURSES AND LECTURES.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION, 1, Wimpole Street, W.1.—Special Lecture at the Medical Society, 11, Chandos Street, W.1, Thurs., 5 p.m.: Common Mistakes in the Diagnosis and Treatment of Acute Abscess.* *Samaritan Hospital,* Marylebone Road, N.W.: Demonstration in Gynaecology, Fri., at 2 p.m., by Mr. Bourne.* *Central London Ophthalmic Hospital,* Judd Street, W.C.: Wed., at 4 p.m., Demonstration in Ophthalmology by Mr. Davenport.* (* Open to members of the medical profession, without fee.) *Chelsea Hospital for Women,* Arthur Street, S.W.: Special Course in Gynaecology, mornings and/or afternoons. Fee £5 5s. for two weeks' course.

CENTRAL LONDON THROAT, NOSE AND EAR HOSPITAL, Gray's Inn Road, W.C.1.—Fri., 4 p.m., Acute Mastoiditis: its Diagnosis and Treatment.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, *W.C.1.—Thurs., 4 p.m.,* Acute

LONDON lin's Hospital, Leicester Square, W.C.2. p.m., Pathology Demonstration.

NATIONAL —Mon., Tues., Thurs., and Fri., 2 p.m. noon, Pathology of the Nervous System; 3.30 p.m., Progressive Muscular Wasting. Tues., 3.30 p.m., Tumours of the Spinal Cord. Thurs., 3.30 p.m., Paraplegia. Fri., 12 noon, Anatomy and Physiology of the Nervous System; 3.30 p.m., Pituitary Tumours. Operations: Tues. and Fri., 9 a.m.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.15.—Mon., 10 a.m., Surgical Clinic; 2.30 to 5 p.m., Medical, Surgical, and Gynaecological Clinics; Operations. Tues., 2.30 to 5 p.m., Medical, Surgical, Throat, Nose, and Ear Clinics; Operations. Wed., 2.30 p.m., Demonstration of Dermatological Cases; 2.30 to 5 p.m., Medical Skin and Eye Clinics; Operations. Thurs., 11.30 a.m., Dental Clinics; 2.30 to 5 p.m., Medical, Surgical, and Ear, Nose, and Throat Clinics; Operations. Fri., 10.30 a.m., Throat, Nose, and Ear Clinics; 2.30 p.m., Demonstration of Surgical Cases; 2.30 to 5 p.m., Surgical, Medical, and Children's Diseases Clinics; Operations: 4.30 p.m., Demonstration on Selected Cases of Nerve Diseases.

ROYAL NORTHERN HOSPITAL, Holloway Road, N.—Tues., 3.15 p.m., *Demonstration of Pathological Specimens.*

WEST LONDON HOSPITAL POST-GRADUATE COLLEGE, Hammersmith, W.6.—Mon., 10 a.m. to 1 p.m., Genito-urinary Operations, Skin Department, Surgical Wards; 2 p.m., Surgical Wards, Tues., 10 a.m. to 1 p.m., Lecture o Venereal Diseases and Chest Ca Nose, and Ear Department. Wed. Out-patients, Medical Wards, D 2 p.m., Surgical Wards, Eye Department. Thurs., 10 a.m. to 1 p.m., Neurological Department, Demonstration of Fractures; 2 p.m., Eye and Genito-urinary Departments, Gynaecological Wards. Fri., 10 a.m. to 1 p.m., Gynaecological Operations, Dental, Skin, and Electrical Departments; 2 p.m., Throat, Nose, a -10 a.m. to 1 p.m., Bacterial Therapy Depart Department. Daily: Operations, Medical and S p.m.

GLASGOW POST-GRADUATE MEDICAL Infirmary: Wed., 4.15 p.m., Medical Cases.

JAMES MACKENZIE INSTITUTE FOR CLINICAL RESEARCH, St. Andrews.—Tues., 4 p.m., Herpes.

MANCHESTER ROYAL INFIRMARY.—Tues., 4.15 p.m., *Meckel's Diverticulum.* Fri., 4.15 p.m., Demonstration of Medical Cases.

MANCHESTER: ST. MARY'S HOSPITALS (Whitworth Street West Branch).—Fri., 4.30 p.m., Forceps.

SHEFFIELD UNIVERSITY POST-GRADUATE CLINICS.—At Royal Hospital: Fri., 3.30 p.m., Surgical Cases.

British Medical Association.

OFFICES, BRITISH MEDICAL ASSOCIATION HOUSE, TAVISTOCK SQUARE, W.C.1.

Departments.

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SCOTTISH MEDICAL SECRETARY: 6 Drumsheugh Gardens, Edinburgh. (Telegrams: l.: 4361 Central.)

IRISH MEDICAL Frederick Street, Dublin. (Telegrams: 737 Dublin.)

Diary of the Association.

MARCH.

15 Tues. London: Organization Committee.
Lewisham Division: South Eastern Children's Hospital, Sydenham.

16 Wed. London: m.
Brighton: Dr. Sydney H.
Norfolk Br rrhoea, 3.30 p.m.
Long on rland. Mr. F. C.
Sunderlan
Pybus o Harlesden Road.
Wilfesden e Heart, 9 p.m.
Dr. A. H
17 Thurs. London: Lunacy Law and Administration Committee, 2.30 p.m.
Birmingham Branch: Medical Institute, Birmingham. Mr. Naughton Dunn on Common Disabilities of Bones and Joints, 3.30 p.m. President's Address by Dr. Robertson, 8.30.
Hyde Division: Dukinfield Town Hall, 8.30 p.m.
North of England Branch: Scientific Meeting: Greenbank Hospital, Darlington, 2.30 p.m.

18 Fri. London: Dominions Committee, 2.30 p.m.
City Division: Clinical Meeting.

APRIL.

6 Wed. **Council** (afternoon).
7 Thurs. *Council.*

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcement of Births, Marriages, and Deaths is 9s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

BIRTHS.

ADAMSON.—On February 27th, at 12a, Oakfield Terrace, Headingley, Leeds, Rhoda H. B. Adamson, M.D., B.S., the wife of Wallace W. Adamson, M.Sc., M.B., Ch.B., M.R.C.P., D.P.H., a son.

CHAPMAN.—On March 2nd, at Ferncliffe, St. Catherine's, Lincoln, to Phyllis E. Chapman, M.B., Ch.B. (formerly List), and T. Wallis Chapman, L.R.C.P.E., a daughter.

CURRIE.—On February 28th, to Kathleen (*née* Pilkington), wife of Donald I. Currie, F.R.C.S., of "Appleton," Conway Road, Colwyn Bay, a son.

MARRIAGE.

COLLIS—FODEN.—On March 5th, at the Church of St. Mary-le-Bow, London, *by the Rev. Chancellor* S. G. Ponsonby, G. E. Cecil Collis, M.B., B.S.Lond., M.R.C.S., L.R.C.P., of The Green, Newark, to *Mary* S. A. Foden, M.B., B.S.Lond., of Teddesley, Penkridge, Stafford.

DEATH.

ROBERTSON.—On March 4th, at 12, Park Road, Halifax, Dr. Andrew (Peter) Robertson, beloved husband of Margaret Emily (Madge) Robertson, in his 65th year.

Tavistock Square, in the Parish of St Pancras, in the County of London. Printed and published by the British Medical Association, at their Office.

SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, MARCH 19TH, 1927.

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British Medical Association.

CURRENT NOTES.

Edinburgh Annual Meeting: Reduced Railway Fares.

We are glad to be able to announce, on the authority of the Railway Clearing House, that the usual concession to members of the British Medical Association in regard to railway fares will apply to the Annual Meeting in Edinburgh this summer. The railway companies in Great Britain (except the Metropolitan, Metropolitan District, and London Electric Railway Companies) have agreed to issue passenger tickets to Edinburgh, available from July 13th to 25th, at the ordinary single fare and one-third for the double journey, fractions of 3d. being reckoned as 3d., with a minimum adult fare of 1s. A printed voucher of the usual kind, duly filled in by the applicant and signed by the Financial Secretary of the Association, must be given up at the booking office when the ticket is bought. These vouchers will be obtainable in due course on application to the Finance Department, British Medical Association, Tavistock Square.

Some Recent Work at Headquarters.

On March 1st the Pathological Committee of the British Medical Association considered and discussed with representatives of the newly formed British Pathologists Association certain suggestions the latter body had made in connexion with the report which was before the Council of the British Medical Association on December 15th last. As the result of the discussion certain modifications were made in the original recommendations, and an amended report will be presented to the next meeting of Council.

Propaganda Subcommittee.

Among other items of interest the Progaganda Subcommittee on March 2nd had under consideration the programme for the Secretaries' Conference at Edinburgh next July and the forthcoming issue of the Association's *Handbook*. A report upon the attitude of the lay press towards the profession and the Association since the last meeting showed the unusually wide publicity accorded to the work of the Association in connexion with tests for drunkenness. The report on this subject (published in the SUPPLEMENT of February 19th, p. 53) has received even more general notice than did the Hastings Lecture.

Disciplinary Machinery.

The Disciplinary Subcommittee of the Insurance Acts Committee met on March 3rd, and reviewed the whole field of disciplinary procedure in connexion with the National Health Insurance Acts. Proposals for improvement were formulated for submission to the Insurance Acts Committee, and will come before it at its next meeting.

Defence of Research.

On March 4th the Science Committee had under consideration the Council's instruction to organize medical opposition to any active parliamentary or extra-parliamentary agitation in favour of the Dogs' Protection Bill. The attempts of the Canine Defence League to secure prohibition of the use of dogs for experimental purposes have been dealt with in detail in a leading article in the JOURNAL of February 26th last. The position clearly calls for prompt and firm action in defence of legitimate research. In pursuance of the programme laid down by the Science Committee, a deputation under the leadership of Dr. Hawthorne, its chairman, met the medical members of Parliament at the House of Commons on March 9th. The medical M.P.s were unanimous in their expression of sympathy with the representations of the deputation. The Association is taking the opportunity afforded by the Lister centenary celebrations in London early next month to convene a conference of the chief medical and scientific societies directly interested in the question. It is hoped to secure a fully representative gathering, and invitations will be issued to the press. Meanwhile the Divisions of the Association have been requested to approach local members of Parliament, explaining to them the attitude of the profession in relation to the Dogs' Protection Bill, and urging them to vote against the bill on second reading. A petition against the bill has been circulated among the medical members of university staffs, medical schools, and teaching hospitals.

Hospital Policy.

Mention has been made in recent Current Notes of the increasing interest shown by the medical profession in the problems of hospital policy, and also the increasing difficulties in the way of general adoption of contributory schemes. The Hospitals Committee on March 9th had under review a memorandum for circulation amongst the medical staffs of hospitals dealing in detail with the application of the Association's policy to such schemes.

The memorandum was approved, and will be issued shortly. The committee is taking counsel's opinion on the possibility of recovering some payment in respect of accident cases received and treated by voluntary hospitals when the victim is either in a position to pay for treatment or to recover damages from some other party in connexion with the accident. Attention was drawn by Sir John Paget, K.C., at a recent meeting of the British Hospitals Association, to the difficulties arising in this connexion.

Medical Certificates for Injured Workmen.

On March 10th Dr. Bone, Dr. William Paterson, the Medical Secretary, and Dr. Courtenay Lord (Assistant Medical Secretary) had an interview with representatives of the Accident Offices Association with a view to ascertaining the exact position of the accident offices in the matter of medical certificates required in respect of men injured at their work. They obtained some very clear information on this subject, which will be reported to the Medico-Political Committee.

Poisons and Pharmacy Acts.

On March 4th Dr. J. W. Bone, Mr. Lewis Lilley, F.R.C.S., and the Medical Secretary gave evidence before the Departmental Committee which is inquiring generally into the existing machinery regulating the sale, keeping, distribution, and supply of poisons. The deputation emphasized the urgent need for consolidation of the present Poisons and Pharmacy Acts, and appealed to the committee to refrain from recommending the adoption of any additional regulations or restrictions calculated to hamper the work of either doctor or pharmacist.

Medical Secretary's Visits.

On March 8th Dr. Cox was present at the first dinner of the Doncaster Division (reported at page 93), and next evening had the pleasure of attending the Chesterfield Division dinner, when a presentation was made to Dr. Pooler, for many years honorary secretary of that very active Division. At Cardiff on Saturday, March 12th, Dr. Cox attended a meeting of colliery and works surgeons called by the South Wales Contract Practice Subcommittee, at which the position of the profession in regard to the long coal stoppage was discussed, and the honorary secretaries of the committee were instructed how to advise the doctors affected.

Sir Charles Hastings Clinical Prize Competition, 1928.

"The Sir Charles Hastings Clinical Prize" of fifty guineas, the second award for which will shortly be made by the Council of the British Medical Association, is again open for competition. The Prize has been established by the Association for the purpose of stimulating systematic observation, research and record in general practice. The Association believes that systematic observation by general practitioners, along selected lines of clinical study, may result in the production of practical contributions of great value by those who are in a favourable position for following disease through its various stages. The following are the conditions governing the award of the next Prize:

Regulations.

1. This prize is established by the Council of the British Medical Association for the promotion of systematic observation, research and record in general practice; it includes a money award of the value of fifty guineas.

2. Any member of the Association who is engaged in general practice is eligible to compete for the prize.

3. The work submitted must include personal observations and experience collected by the candidate in general practice, and a high order of excellence will be expected. If no essay entered is of sufficient merit no award will be made.

4. Essays, or whatever form the candidate desires his work to take, must be sent to the Medical Secretary, British Medical Association House, Tavistock Square, London, W.C.1, not later than December 31st, and the prize will be awarded at the Annual General Meeting of the Association.

5. No study or essay that has been published in the medical press or elsewhere will be considered eligible for the prize, and a contribution offered in one year cannot be accepted in any subsequent year unless it includes evidence of further work.

6. If any question arises in reference to the eligibility of the candidate or the admissibility of his essay, the decision of the Council on any such point shall be final.

7. Each essay must be typewritten or printed, must be distinguished by a motto, and must be accompanied by a sealed envelope marked with the same motto, and enclosing the candidate's name and address.

8. The writer of the essay to whom the prize is awarded may, on the initiative of the Science Committee, be requested to prepare a paper on the subject of his essay for publication in the *British Medical Journal* or for presentation to the appropriate Section of the Annual Meeting of the Association.

9. Inquiries relative to the prize should be sent to the Medical Secretary, address as above.

Association Prizes for Essays by Medical Students.

The Council of the Association gave notice in July last that it was prepared to award prizes of £10 each for essays by final-year students on "Three types of cases of thyroid enlargement, with their treatment." The essays have been examined by the following members of the Association: Mr. T. P. Dunhill, C.M.G., M.D., B.S. (London), Professor T. R. Elliott, C.B.E., D.S.O., F.R.C.P., F.R.S. (London), Professor G. R. Murray, M.D., F.R.C.P. (Manchester), Mr. G. Grey Turner, M.S., F.R.C.S. (Newcastle-on-Tyne). In accordance with the examiners' marks, prizes—a certificate signed by the President of the Association and a cheque for £10 in each case—have been awarded as follows:

Group of Medical Schools.	*Prize-winner.*
University of Birmingham; University of Bristol; University of Wales.	Mr. E. R. L. DAVIES, Welsh National School of Medicine.
University of Durham; University of Leeds; University of Sheffield.	Mr. MAX ABRAMS, Leeds University.
University of Edinburgh; School of Medicine of the Royal Colleges.	Miss GEORGINA M. H. SOMERVILLE, Edinburgh University.
University of Glasgow; Anderson College of Medicine; Queen Margaret College School of Medicine for Women; St. Mungo's College.	Mr. M. A. MACKEY, Glasgow University.
Charing Cross Hospital Medical School; King's College Hospital Medical School.	Miss FLORENCE M. PARSONS, *Charing* Cross Hospital Medical School.
Guy's Hospital Medical School; London Hospital Medical School.	Mr. E. R. HOLIDAY, London Hospital Medical School.
London (Royal Free Hospital) School of Medicine for Women; University College Hospital Medical School.	Miss HELEN NEWMAN, London School of Medicine for Women.
St. Bartholomew's Hospital Medical School; St. George's Hospital Medical School.	Mr. H. J. BURROWS, St. Bartholomew's Hospital.
St. Thomas's Hospital Medical School; Westminster Hospital Medical School.	Mr. P. A. M. SOUTTER, Westminster Hospital.
Medical Schools in British Empire outside the British Isles.	Mr. C. D. COSTELLO, Otago Medical School, New Zealand.

The prizes in respect of the London groups were presented to the winners at the meeting for senior students and recently qualified medical practitioners held in the Great Hall of the Association on February 24th. The prizes in respect of the other groups will, as far as possible, be presented at meetings held by the Divisions or Branches concerned to welcome the newly qualified members of the profession in their respective areas. Full particulars of the result of the competition have been sent by post to the deans of the medical schools and to all the competitors.

Annual Meeting of American Medical Association.

As was stated in our issue of February 19th, the seventy-eighth annual session of the American Medical Association will be held in Washington from May 16th to 20th inclusive, and the Council of the British Medical Association has been invited to appoint official delegates. The Medical Secretary will be glad to know of any member of the Association who is likely to be visiting the United States at that time.

THE report in last week's SUPPLEMENT of the Conference on Spa Treatment for Insured Persons, held at the Association's House on March 4th, should have included the name of Dr. Arthur Manknell of Bradford as one of the representatives of the British Medical Association.

Association Notices.

FORMATION OF ASHFORD, DOVER, AND FOLKESTONE DIVISIONS.

NOTICE is hereby given to all concerned of the formation of Ashford, Dover, and Folkestone Divisions of the Kent Branch, in substitution for the Dover and Folkestone Division of that Branch, with areas as follows:

Ashford Division: The municipal borough and rural district of Tenterden, the municipal boroughs of Lydd and New Romney, the urban district of Ashford, the rural districts of East Ashford, Romney Marsh, and West Ashford;

Dover Division: The municipal boroughs of Deal, Dover, and Sandwich, the urban district of Walmer, the rural districts of Eastry and Dover;

Folkestone Division: The municipal boroughs of Folkestone and Hythe, the urban districts of Sandgate and Cheriton, the rural district of Elham;

the new Divisions to come into existence as from the date of publication of this notice, and the area of the Maidstone Division being modified accordingly.

ALFRED COX, *Medical Secretary.*

TABLE OF DATES.

Mar. 28, Mon.	Nomination papers available at Head Office for election of 24 members of Council by grouped Branches in British Isles; and 2 Public Health Service members of Council and 4 Representatives of Public Health Service in Representative Body.
April 6, Wed.	*Council* (afternoon).
April 7, Thurs.	*Council.*
April 23, Sat.	Annual Report of Council appears in SUPPLEMENT.
	Last day for receipt at Head Office of nominations: (i) by a Division or not less than 3 members, for election of 24 members of Council by grouped Branches in British Isles; and (ii) for election of 2 Public Health Service members of Council, and 4 Representatives of Public Health Service in Representative Body.
May 7, Sat.	Publication in SUPPLEMENT of list of nominations for election of (i) 24 members of Council by grouped Branches in British Isles; (ii) 2 Public Health Service members of Council, and 4 Representatives of Public Health Service in Representative Body. Voting papers posted from Head Office where there are contests in above elections.
May 10, Tues.	Last date for receipt at Head Office of motions by Divisions and Branches for A.R.M. on matters of which two months' notice must be given.
May 14, Sat.	Last day for receipt at Head Office of voting papers for election, where there are contests, of (i) 24 members of Council by grouped Branches in British Isles; and (ii) 2 Public Health Service members of Council, and 4 Representatives of Public Health Service in Representative Body.
	Publication in SUPPLEMENT of motions by Divisions and Branches for A.R.M. on matters of which two months' notice must be given.
	Last date for election of Representatives and Deputy Representatives.
May 28, Sat.	Publication in SUPPLEMENT of results of election of members of Council by grouped Branches, and of election of members of Council and Representatives in Representative Body by Public Health Service members.
	Nomination papers available (at Head Office) for election of 12 members of Council by grouped Representatives (British Isles).
June 2, Thurs.	Last date for receipt at Head Office of names of Representatives and Deputy Representatives.
June 8, Wed.	*Council.*
June 16, Thurs.	Meetings of constituencies must be held between this date and July 15th, to instruct Representatives.
June 25, Sat.	Supplementary Report of Council appears in SUPPLEMENT.
July 1, Fri.	Amendments and riders by Divisions and Branches for inclusion in A.R.M. Agenda must be received at Head Office by this date.
July 15, Fri.	*Annual Representative Meeting*, Edinburgh, 10 a.m.
	Nominations for election of 12 members of Council by grouped Representatives must be received (at A.R.M., Edinburgh) by this date, 2 p.m.
July 16, Sat.	*A.R.M.* (Edinburgh).
July 18, Mon.	*Council* (Edinburgh).
July 19, Tues.	*A.R.M.* (Edinburgh).
July 20, Wed.	*A.R.M.* Annual General Meeting, Edinburgh, President's Address.
	Council (Edinburgh). Conference of Honorary Secretaries (Edinburgh).
July 21, Thurs.	*Meetings of Sections*, etc., Edinburgh.
July 22, Fri.	*Meetings of Sections*, etc., Edinburgh.
	Meetings of Sections, etc., Edinburgh.

ALFRED COX, *Medical Secretary.*

BRANCH AND DIVISION MEETINGS TO BE HELD.

BORDER COUNTIES BRANCH.—A general meeting of the Border Counties Branch will be held at the Dumfries and Galloway Royal Infirmary on Thursday, March 24th, at 3 p.m. Agenda: Major W. L. Forsyth, I.M.S.(ret.), bacteriologist to Dumfriesshire County Council, will describe "Laboratory methods"; a discussion on "Some common gastric disorders" will be introduced by Dr. P. Murray Kerr; Dr. J. D. Robson will show *x*-ray plates illustrating a series of these cases, and Dr. R. M. Glover will take up the surgical aspect; Dr. J. Ritchie (M.O.H. Dumfriesshire County Council) will give a short account of "The different food values of bread." At the conclusion of the meeting tea will be served by kind invitation of the President, Dr. P. Murray Kerr.

DORSET AND WEST HANTS BRANCH: BOURNEMOUTH DIVISION.—A meeting of the Bournemouth Division will be held at St. Peter's Small Hall, Bournemouth, on Thursday, April 7th. Dr. Robert Hutchison will give a British Medical Association Lecture on "Diet in infancy and childhood."

ESSEX BRANCH: MID-ESSEX DIVISION.—The annual general meeting of the Mid-Essex Division will be held on Friday, March 25th, at the Bell Hotel, Chelmsford, at 3 p.m. Agenda: (1) Report of the year's work. (2) Election of officers for 1927; lantern slides will be shown by the chairman, Dr. R. H. Vercoe, on: (*a*) Vitamin deficiency diseases; (*b*) On the mountains of Tyrol.

FIFE BRANCH.—The annual meeting of the Fife Branch will be held at the Station Hotel, Kirkcaldy, on Thursday, March 31st, at 3 p.m. Agenda: Report of Branch Council; election of office-bearers and Branch Council; arrangements for clinical meetings for winter of 1927-28; business of Annual Representative Meeting; Annual Meeting of Association in Edinburgh—excursions to Fife; and Guarantee Fund. The last clinical meeting of the session will follow at 4 p.m., when Professor Price (Dundee) will give an address on congenital deformities. The annual dinner will be held at the same place at 5.30 p.m.

KENT BRANCH: TUNBRIDGE WELLS DIVISION.—A meeting of the Division will be held at the General Hospital, Tunbridge Wells, on Wednesday, March 23rd, at 8.30 p.m. Agenda: To elect representative and deputy representative to Annual Meeting in July at Edinburgh; medical charities; to discuss following resolution:

> That this meeting of medical practitioners views with considerable anxiety the steady encroachment on the work of general practitioners by whole-time medical officers of county and local authorities, and calls upon the British Medical Association to do all in its power strenuously to oppose all such encroachments when the interests of the public can be advanced by other methods.

METROPOLITAN COUNTIES BRANCH: CITY DIVISION.—The Divisional fancy dress dance will be held in the Great Hall of the British Medical Association House, Tavistock Square, W., on Thursday, March 24th, at 8.30 p.m. to 1.30 a.m. Le Saire's Band. Refreshments by Gunters, Ltd. Fancy dress optional; four prizes. A demonstration by professional dancers will be given during the evening. Tickets (8s. inclusive) can be obtained from Dr. G. Clark Trotter, 2, Tyndale Place, Islington; Dr. Harold Latham, 2, Hemingford Road, Barnsbury, and from the secretary, Dr. Worley, 43, De Beauvoir Road, N. Early application is requested.

METROPOLITAN COUNTIES BRANCH: HENDON DIVISION.—A clinical meeting of the Hendon Division will be held at the Hendon Cottage Hospital, on Friday, March 25th, at 8.30 p.m. Mr. J. F. O'Malley, F.R.C.S. (surgeon to the Ear, Nose, and Throat Department, University College Hospital), will give an address on "Some recent advances in diseases of the ear, nose, and throat."

METROPOLITAN COUNTIES BRANCH: KENSINGTON DIVISION.—A clinical meeting of the Kensington Division will be held at St. Mary's Hospital, Paddington, W., on Wednesday, March 23rd, at 8.30 p.m.

METROPOLITAN COUNTIES BRANCH: NORTH MIDDLESEX DIVISION.—At the meeting of the North Middlesex Division on March 30th Dr. G. W. H. French will read a paper on "Differential diagnosis of the acute abdomen."

METROPOLITAN COUNTIES BRANCH: SOUTH-WEST ESSEX DIVISION.—A meeting of the South-West Essex Division will be held at the Walthamstow Hospital on Tuesday, March 29th, at 3.30 p.m. Dr. G. F. Still will give an address on "Vomiting in childhood."

MIDLAND BRANCH: CHESTERFIELD DIVISION.—A meeting of the Chesterfield Division will be held at the Maternity Hospital, Chesterfield, on Friday, March 25th, at 8.15 p.m. Mr. A. M. Webber, surgeon to the Nottingham Hospital, will give an address on "Observations on hysterectomies." Tea and coffee served at 8 p.m.

NORTH OF ENGLAND BRANCH: SUNDERLAND DIVISION.—A meeting of the Sunderland Division will be held at the Royal Infirmary, Sunderland, on Tuesday, March 22nd, at 8.15 p.m. Agenda: Letters; report of Executive Committee; report of Ethical Committee.

OXFORD AND READING BRANCH: OXFORD DIVISION.—The second meeting of the year of the Oxford Division will be held at the Radcliffe Infirmary, Oxford, on Wednesday, March 23rd, at 2.45 p.m. Clinical cases from the wards will be shown.

SHROPSHIRE AND MID-WALES BRANCH.—A clinical meeting of the Shropshire and Mid-Wales Branch will be held at the Royal Salop Infirmary on Tuesday, March 22nd, at 3.15 p.m., when Dr. Louise McIlroy, professor of the Obstetrical and Gynaecological Unit, Royal Free Hospital, will give a British Medical Association Lecture on "Pregnancy complicating tumours of the uterus and adnexa." Tea will be provided by kind invitation of the President.

SOUTH WALES AND MONMOUTHSHIRE BRANCH: NORTH GLAMORGAN AND BRECKNOCK DIVISION.—A meeting of the North Glamorgan and Brecknock Division will be held on Thursday, March 24th, when Dr. T. F. Cotton will deliver a British Medical Association Lecture on "Prognosis and treatment of heart disease."

STAFFORDSHIRE BRANCH: SOUTH STAFFORDSHIRE DIVISION.—At the meeting of the South Staffordshire Division to be held on Tuesday, March 29th, Dr. T. Watts Eden, F.R.C.P., will give a British Medical Association Lecture on "Prevention and treatment of eclampsia."

STIRLING BRANCH.—A clinical meeting of the Stirling Branch will be held on Wednesday, March 23rd, at 3.30 p.m., within the Falkirk and District Infirmary, when Mr. Tennant (Glasgow) will read a paper on colopexy, and cases will be shown. Tea will be served after the meeting.

SUFFOLK BRANCH: SOUTH SUFFOLK DIVISION.—A meeting of the South Suffolk Division will be held at the Crown and Anchor Hotel on Friday, March 25th, at 3.30 p.m. Agenda: Business arising out

of minutes; British Medical Association monthly circular; Dr. H. N. Baron will open a discussion on "The need for closer co-operation between hospital staffs and general practitioners.

SURREY BRANCH: CROYDON DIVISION.—A meeting of the Croydon Division will be held at the Croydon General Hospital on Tuesday, March 22nd, at 8.30 p.m., when Professor Verney will read a paper on "Pharmacology and practice."

SURREY BRANCH: GUILDFORD DIVISION.—Professor Hobday will open a discussion at a combined meeting of the Guildford Division and the Veterinary Medical Association, Southern Counties Branch, on clean milk, to be held on May 19th. Further particulars will be announced later.

SUSSEX BRANCH: BRIGHTON DIVISION.—A meeting of the Brighton Division will be held at the Queen's Road Dispensary on Monday, March 21st, at 8.30 p.m. Agenda: Election of representatives in *Representative Body*; report on result of deputation to the Brighton Council on Midwives and Maternity Homes By-laws; consider request of the Science Committee of the Association that every Division should send a letter to the member or members of Parliament connected with the Division explaining the attitude of the profession in relation to the Dogs' Protection Bill, and asking them to vote against this bill on its second reading (it will be moved at the meeting that the Division decline to adopt this procedure); Dr. C. Fraser will call attention to the certificates in connexion with application for ophthalmic benefit, and Dr. Louis Dods to the continual exploitation of the profession; annual report of Division; *report on the cancer campaign in Sussex*; *Charities Committee* of the Division.

SUSSEX BRANCH: HASTINGS DIVISION.—The next meeting of the Hastings Division will be held at the Queen's Hotel, Hastings, on Tuesday, April 5th, at 8.15 p.m. Coffee will be served immediately before the meeting. Mr. H. E. Marsh, L.D.S., will read a paper on "Collaboration of medical and dental practitioner in dental practice." The meeting is being held jointly with the local section of the British Dental Association, and all members of that association are cordially invited to attend and take part in the discussion.

WORCESTERSHIRE AND HEREFORDSHIRE BRANCH: HEREFORD DIVISION.—A meeting of the Hereford Division will be held at 20, East Street, Hereford, on Monday, March 21st, at 3.15 p.m. Agenda: Herefordshire General Hospital Contributory Scheme (the chairman of the Herefordshire General Hospital Contributory Scheme has kindly consented to be present and to make some explanatory remarks on the scope and working of the scheme for the benefit of members of the Division); mileage fees in emergency midwifery cases; social meeting in summer; post-graduate lectures; Circular M.25, 1926-27.

Meetings of Branches and Divisions.

METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.

A MEETING of the Lewisham Division was held at the Town Hall, *Catford, S.E.6, on February 15th.* The Medical Secretary of the Association, Dr. ALFRED COX, O.B.E., gave an address entitled "The medical profession in South Africa."

Address by the Medical Secretary.

Dr. Cox said that there were about a million and a half whites and six or seven million blacks in South Africa, with a large sprinkling of coloured people and Indians, and the colour problem was a very difficult one socially. Medical men were numerous in the towns, whilst the remote country districts were comparatively under-doctored, a state of things common to other British Dominions and the United States. Medical fees being too high for the "poor white" and the coloured people and natives, proposals had been made which might eventuate in a national health insurance system. Political feeling ran high and pervaded everything, having a distinct influence on medical politics. He found that the senior doctors were very largely Edinburgh graduates, quite a number of them having married Scottish wives; the next generation were representative more of London and the provincial schools and less of Edinburgh; while among the youngest men there was an increasing section who had trained and qualified at the universities in Capetown and Johannesburg.

Dr. Cox spoke of the excellent work done under the auspices of the Rand Mines in connexion with silicosis, and also the first-class provision made at many of the mines for the medical treatment of the natives. He thought there was a tendency among the doctors to over-specialize, which resulted in people in some of the towns having difficulty in securing a "family doctor," which complaint he had also heard when he was in Canada. He dealt with the hospital system, which included big hospitals on more or less British lines in the large towns; in the smaller towns the hospitals were more like our "cottage" hospitals, practically everybody paying in accordance with their means both the hospital for their maintenance and the doctors for their treatment. He mentioned the prevalence of pneumonia among the mine workers, and the excellent work that had been done in the prevention and treatment of that disease, alluding particularly to the South African Institute for Medical Research in Johannesburg. Malaria was still common in some parts, and there was a good deal of leprosy, mainly confined to the natives. He had found the summer climate pretty trying, and it seemed to him that it was possible, at any rate for a man of his age, to have too much ultra-violet radiation; but he supposed that this was mainly due to the fact that he, as a Britisher, was unused to luxury in the way of sunshine, for he found that those who had lived in South Africa for any length of time complained that on coming to the old country they *missed the sunshine more than anything else. Although* there were a few good roads in South Africa near the big towns, on the whole they would be a revelation to the country doctors in Great Britain, who could have no idea of the difficulties in the way of transport which the South African doctors had to put up with. The motor car had, of course, been a very great boon, and he admired the way in which the country doctor took his car over tracks and into places which would horrify the owner of a car in this country.

Speaking of the loneliness of the doctors in the outlying districts, Dr. Cox referred to their pathetic anxiety to be organized in some way which would enable them to feel that they were part of the organization, and were not being forgotten. He alluded briefly to the object of his visit, and to the pleasure which it had given him to be the means of bringing about union in the medical profession in South Africa, and predicted a bright future for the new organization, which was still an integral part of the old British Medical Association. Dr. Cox then gave an interesting and amusing account of some of the personalities he had met both inside and outside the profession, and ended with a very warm appreciation of the hospitality and good-fellowship with which he was met everywhere.

Dr. THOMSON, the chairman, proposed a vote of thanks to the lecturer, which was seconded by Dr. BUCHAN, and carried.

BIRMINGHAM BRANCH: NUNEATON AND TAMWORTH DIVISION.

A MEETING of the Nuneaton and Tamworth Division was held on March 3rd at the Tamworth General Hospital.

Mr. A. B. DANBY, F.R.C.S., read a paper on "The role of prevention in obstetrics." He described the importance of prevention of complications during labour by investigations during pregnancy; discussed the various methods of measuring the pelvis, and pointed out the importance of not omitting to measure the transverse diameters at the pelvic outlet. He described various methods of performing version during pregnancy in order to correct malpresentations, the methods of inducing premature labour, and the place of *x rays in the diagnosis of presentations* during pregnancy. He exhibited numerous skiagrams.

In the subsequent discussion Drs. JONES, MILLARD, HORSBURGH, and FORREST took part, and Mr. DANBY replied. A vote of thanks to Mr. Danby for his very interesting address was carried by acclamation.

DORSET AND WEST HANTS BRANCH: BOURNEMOUTH DIVISION.

THE annual dinner of the Bournemouth Division was held at the Royal Bath Hotel, Bournemouth, on March 3rd; seventy-three members and their guests were present. After the dinner the company retired to the adjoining King's Hall, where dancing went on until midnight.

METROPOLITAN COUNTIES BRANCH: SOUTH MIDDLESEX DIVISION.

A MEETING of the South Middlesex Division was held at St. John's Hospital, *Twickenham, on March 9th*, when Dr. EWEN presided.

Dr. J. B. COOK opened a discussion on "Treatment of cancer by non-operative means." He dealt in particular with the treatment of cancer by lead, and stated that the chorionic epithelium was normally malignant in character and had the power of eroding the blood vessels, etc., and was also capable of cellular multiplication. Now it was well known that lead was used as an abortifacient, causing a cloudy swelling of the chorionic epithelium; further, lead had a stunting effect on normal growth. These factors led Professor Blair Bell of Liverpool to investigate the effect of lead upon malignant growths. Lead had always been administered in colloid preparations, as otherwise the lead ion was too toxic for intravenous injection. Dr. Cook and Dr. Frank *Coke*, working on these lines, but independently of Blair Bell, experienced great difficulty in obtaining a suitable preparation of lead. At first they used the oleat[illegible] very small doses. The nitro-benzoate was [illegible] on account of the gastric trouble caused. [illegible] ith 0.1 per cent. of lead *plus* 0.1 per cent. of mercury was tried, and the toxicity of *all these* preparations was tested upon animals. Last summer they used a preparation supposed to be identical with that used by Blair Bell, but tests made by Crooks's colloids proved that it became inert. Prior to commencing treatment the blood was examined and a differential count made. The urine was tested for albumin and the daily amount measured. There was usually some reaction after dosage, which might be focal, general, or both. Usually a little pain was complained of at the site of the tumour and the temperature might rise to 103° F. The total amount of urine passed in twenty-four hours was charted; diminution was regarded as a danger signal. The blood was examined, about a week after the first dose, for the presence of stippled cells. Patients were encouraged to drink 4 or 5 pints of lemonade daily, and a light diet was given. Dr. Cook gave details of many cases which he had treated; all of them were inoperable, and in all cases the conditions were improved considerably. In many cases the patients died later from other diseases. Experience seemed to indicate that cancer of the stomach was not a safe condition to treat with lead, but one must not expect to get good results from patients in the last stages of malignant cachexia. When there was much glandular involvement it was advisable to remove as many as practicable; also if parts of the growth could be removed prior to lead treatment so much the better. Finally, Dr. Cook considered that lead had a definite inhibitory effect upon

the growth of malignant tumours, and was the most successful of all non-operative measures in use at the present time.

A discussion ensued, after which Dr. ROBINSON, radiographer of West Middlesex Hospital, spoke about diathermy treatment of cancer. He explained that by that means large currents of electricity could be utilized as no stimulation occurred owing to an oscillating current being employed. Heat was produced with resistance to the circuit; as there was none in the electrodes it must be caused by the tissues. A large electrode was placed in one part of the body and a smaller one used at the site of the growth. This caused intense heat with desiccation and coagulation, the depth depending upon the diameter of the smaller electrode. No immediate haemorrhage occurred, and there was no shock. The scar left was very supple and there was no risk of dissemination. Coagulation of large vessels and nerves might take place.

Another discussion now took place amongst the members; and a hearty vote of thanks was proposed by the CHAIRMAN to Drs. Cook and Robinson.

METROPOLITAN COUNTIES BRANCH: SOUTH-WEST ESSEX DIVISION.

A MEETING of the South-West Essex Division was held at Whipps Cross Hospital, Leytonstone, on March 1st. The chairman, Dr. W. T. BROWN, drew attention to the circular letter referring to the Treasurer's Cup golf competition. Members were conducted round the wards by Dr. MUIR, superintendent of the hospital, and a series of cases demonstrated. These included cases of osteitis deformans, an abdominal tumour (? expansile), chronic mastitis, diabetes complicated by hepatic cirrhosis, pyloric stenosis with visible peristalsis, hemiplegia following chorea, pancreatic cyst, and an acute orchitis due to *B. coli* infection. The meeting finished, at 5.45 p.m., with an appreciative vote of thanks to Dr. Muir for a most interesting and instructive afternoon.

PUNJAB BRANCH.

At a well attended meeting of members of the medical profession resident in Lahore, held at the King Edward Medical College on February 8th, it was unanimously decided to resuscitate the Punjab Branch of the British Medical Association. Colonel C. R. BAKHLE, I.M.S., Inspector-General of Civil Hospitals, Punjab, who was voted to the chair, briefly explained the objects of the Association, and after a short discussion twenty ladies and gentlemen, not already members of the Association, signified their intention to apply for membership.

It was decided to defer the election of officers until the next meeting, and in the meantime a subcommittee, comprising Lieut.-Colonel C. A. Gill, I.M.S., Major Harper-Nelson, I.M.S., O.B.E., Major T. A. Hughes, I.M.S., Major Hakumat Rai, *M.C.*, Dr. Mirza Yakub Bey, Dr. Vishnu Nath, Miss Newton, M.B., and Dr. Chawla, was instructed to draw up draft rules of organization for consideration of the general meeting of the Branch on February 22nd.

SOUTHERN BRANCH: PORTSMOUTH DIVISION.

A HIGHLY successful meeting of the Portsmouth Division was held at the Queen's Hotel, Southsea, on March 10th, when Dr. MEARNS FRASER was in the chair. The speaker for the evening was Sir JOHN COLLIE, C.M.G., M.D., whose address, entitled "Where law and medicine meet," dealt in an illuminating manner with many of the medico-legal problems which medical men encounter. Amongst other subjects the lecturer referred specially to medico-legal reports, the medical man in the witness-box, cross-examination, the county court, the Workmen's Compensation Act, malingering, and pseudo-neurasthenics. Through the address, which was most instructive and full of points of practical interest, ran a vein of light humour, pointed by sparkling epigram, and the keen interest of a large audience was maintained from start to finish.

On this occasion members had the opportunity of inviting as guests members of the legal profession, with the result that a large number, including Sir Thomas Bramsdon (the city coroner), Mr. F. G. Allen (the clerk of the peace), and most of the leading solicitors of the city accepted the hospitality of the Division and materially helped to promote the success of a most enjoyable evening.

In the discussion which followed the address the following solicitors and doctors, amongst others, took part: Mr. BOLITHO, Mr. BECHERVAISE, Mr. HALL KING, Dr. T. BEATON, Mr. F. G. ALLEN, Mr. CHURCHER, and Sir THOMAS BRAMSDON. The proceedings terminated with a most cordial vote of thanks to Sir John Collie, proposed by Sir S. GUISE MOORES, K.C.B., C.M.G., President of the Southern Branch, and seconded by Mr. F. G. ALLEN, clerk of the peace. Mr. Allen took this opportunity of expressing on behalf of the solicitors how much they appreciated being invited to the meeting and how greatly they had, one and all, enjoyed the address of Sir John Collie and the hospitality of the Portsmouth Division.

The total attendance numbered 132, of whom 30 were members of the legal profession, and 91 sat down to the supper which preceded the meeting.

SOUTH-WESTERN BRANCH: TORQUAY DIVISION.

A MEETING of the Torquay Division was held at the Torbay Hospital on February 9th, under the chairmanship of Dr. W. A. D. KING (Paignton).

After some routine business had been transacted the CHAIRMAN introduced Dr. T. DUNCAN GREENLEES, who gave a British Medical Association Lecture on "Early insanity: its medico-legal aspects." The subject was dealt with by the lecturer at considerable length under the following headings: (1) A brief account of the symptoms, and their treatment, as met with in the early stages of insanity, under these time epochs: (*a*) infancy and childhood; (*b*) puberty and adolescence; (*c*) adult life; (*d*) the climacteric period; (*e*) old age. (2) Treatment of mental cases in their own homes. (3) Certification of the insane, and when it should be done. (4) Summary and conclusions.

Dr. R. N. CRAIG, in the course of some criticisms, referred particularly to the recent advances in the treatment of general paralysis of the insane by malarial infection and to the modern theories on the pathology of maniacal states.

On the motion of Dr. YOUNG EALES, seconded by Dr. THISTLE, a hearty vote of thanks was accorded to Dr. Greenlees.

SUSSEX BRANCH: BRIGHTON DIVISION.

A COMBINED meeting of the Brighton Division of the British Medical Association and of the Brighton, Hove, and District Teachers' Association was held at the offices of the Hove Education Committee on March 2nd, when Dr. DONALD HALL, chairman of the Division, presided. He welcomed the experimental meeting of the two bodies which had been inaugurated by the honorary secretary of the Division, Dr. L. A. Parry, and expressed the hope that it was only the beginning of a series. There was a good attendance both of teachers and medical practitioners. Dr. NEVILLE COX opened an interesting discussion on "How to educate parents." This was followed by an animated debate in which many members of both associations took part. A further meeting is to be arranged shortly.

SUSSEX BRANCH: HASTINGS DIVISION.

A MEETING of the Hastings Division was held at the Queen's Hotel, Hastings, on March 1st, when Dr. E. C. MACKAY, chairman of the Division, presided. Coffee was served at 8.15 p.m. Dr. LANGLEY, M.B.E., of Ancoats Hospital, Manchester, delivered a British Medical Association Lecture on "Auricular fibrillation: its nature and treatment." The lecturer first explained very clearly the mechanism of the heart beat. By means of excellent lantern slides the nature of the sino-auricular node was demonstrated. The waves then spread out through the auricular musculature and thence to the auriculo-ventricular bands. The waves are conducted by contiguity of auricular muscle fibre, not by conducting nerve fibre. From the auriculo-ventricular band the waves passed to the Purkinje tissue in the inner wall of the ventricle, this tissue acting the part of end-organs. Morbid conditions of the heart were then discussed and the mechanism of "fibrillation" and "flutter" were explained. The lecturer pointed out that digitalis was only useful in slowing the heart in fibrillation or flutter; it was useless in ordinary cases of rapid pulse due to other conditions. The size of the dose was fully discussed, and he believed that it was useless to employ the drug in small doses. A dose of the tincture equivalent to about 0.15 c.cm. per lb. of body weight should be given. Cases of idiosyncrasy to the drug would be met with, but they were rare. In his clinic he had confined himself to the *B.P.* tincture. After the acute distress had passed off smaller doses might be given, sufficient to keep the apical rate at about 85 per minute. A series of electro-cardiograms was shown on the screen.

The lecture was listened to with great interest and was followed by a keen discussion, after which Dr. Langley was thanked for his address.

YORKSHIRE BRANCH: DONCASTER DIVISION.

Inaugural Dinner.

THE inaugural dinner of the Doncaster Division was held at Parkinson's Café, Doncaster, on March 8th, when Dr. HENRY J. CLARKE was in the chair. Sir Berkeley Moynihan, Bt., K.C.M.G., President of the Royal College of Surgeons, and Dr. Alfred Cox, Medical Secretary, were the principal guests. There were sixty members and non-members present. The principal toast of the evening, "The British Medical Association," was proposed by Sir BERKELEY MOYNIHAN, and was replied to by Dr. ALFRED COX. Other toasts followed, intermingled with musical items.

Dr. LECHMERE ANDERSON proposed the health of the chairman and thanked him for having so generously given such a fitting send-off to the Division, and the toast was supported by Dr. E. T. GOODE. Many allusions were made to Dr. Clarke's position in the affection of his colleagues, particularly by Sir BERKELEY MOYNIHAN, who, as an old personal friend, made some very interesting and graceful references to Dr. Clarke's career. The toast was received with acclamation. Dr. CLARKE, in responding, made generous acknowledgement of the help he had had from Mr. Callander, the honorary secretary, and expressed the hope that Dr. Cox's prophesy that Doncaster would become one of the best Divisions in the country would be fulfilled.

YORKSHIRE BRANCH: HUDDERSFIELD DIVISION.

ON March 9th a British Medical Association Lecture was given to the Huddersfield Division at the Huddersfield Royal Infirmary by Professor MILES PHILLIPS (Sheffield) on "Some obstetrical emergencies." Forty-six members and visitors were present. The lecturer limited his subject to emergencies connected with anomalies of muscular action of the uterus and showed many lantern slides to illustrate his remarks. He first dealt with the sluggish uterus and the exhausted uterus, and pointed out the value of sedatives (especially chloral in large doses) in treatment. He next dealt with cases characterized by severe pain, especially the colicky uterus and cases in which a contraction ring formed. The diagnosis of contraction ring was fully dealt with and the treatment discussed at length, and the value of antispasmodics and deep anaesthesia emphasized. Acute inversion of the uterus was also discussed, and the value of delaying reduction until the primary shock was over was demonstrated by statistics and cases. Avulsion of the uterus was also discussed.

National Insurance.

A STATISTICAL REVIEW OF NATIONAL HEALTH INSURANCE.

AT the meeting of the Royal Statistical Society on March 15th Sir ALFRED WATSON, K.C.B., the Government Actuary, read a paper entitled "National health insurance: a statistical review."

The author referred first to the objects of the scheme and to the fact that 97 per cent. of the insured population were members of approved societies, leaving 3 per cent. only to be divided between the "deposit contributors" and the men of the Forces whose contributions were paid into the Navy, Army, and Air Force Insurance Fund. The accumulated funds now approached £120,000,000, one-half of which was represented by valuation surpluses and cognate reserves, which were in course of application to raise the general level of benefits and to extend their scope. He then examined the movement of the industrial population with reference to insurance under the national scheme in the years 1913 to 1923. He estimated the number of insured workers in October, 1913, as 10,300,000 men and 4,610,000 women, exclusive of persons within what is now the Irish Free State. Ten years later these figures had increased, he estimated, to 10,699,000 men, and 4,977,000 women, of whom 930,000 were married. The comparatively small increase among men was explained by the war deaths, numbering over 600,000. The number of insured women had been considerably higher; this section of the contributors had decreased since 1918 by about 540,000 following the exodus from industry of women who took up employment during the war. He estimated that 2,630,000 men and 2,633,000 women had entered insurance between 1919 and 1923, and that 60 per cent. of them came in at the age of 16, when the compulsory insurance of those in employment begins; over 1,800,000 men and 3,000,000 women had gone out of insurance in the same period. 820,000 of the women having left industrial employment on marriage. He found that nearly 50 per cent. of the men who left insurance were over the age of 35, and concluded that a large majority of these had taken up forms of occupations other than employment. A corresponding feature was found also in the case of women; it seemed evident that quite apart from those who left employment on marriage many women resorted only temporarily to industrial employment.

The next section of the paper dealt with the claims for sickness and disablement benefits. Among both men and women the claims for sickness benefit were shown to have fallen greatly during the war years; this was particularly the case in regard to women, who in 1916-17 drew less than two-thirds of the sum drawn by them in 1913-14. Since the war the claims for sickness benefit had again risen, but the cost in 1925-26 showed that, on the average, sickness among men was still considerably below the level of 1913-14. Among women the indications were less satisfactory, the figures suggesting that within a short period the earlier level would again be reached.

Comparing the sickness experience of a representative sample of men in the years 1921-23 with late nineteenth-century experience, such as that of the Manchester Unity of Oddfellows in the years 1893-97, a marked improvement in the health of the community seemed to be indicated, the "rate of sickness" having fallen on the average by about 20 per cent. This was traced to a large reduction, at all ages, in the proportion of the insured who claimed benefit; among men of ages 40 to 45, 160 in 1,000 drew benefit in 1921-23, against 246 in 1,000 in 1893-97. The duration of sickness, on the other hand, had increased, the new average at the ages cited being 5.0 weeks per case against 4.3 weeks shown by the older tabulation. Special and not unsatisfactory causes were thought to explain these features. It was doubtful whether there was any real increase in the length of incapacity. Among unmarried women the proportion who fell sick was, as a rule, somewhat less than among men of the same age, but the duration of incapacity was much longer, and on the whole, therefore, the average amount of sickness per insured woman was greater than among men. Among married women, both the number claiming and the duration of the claim were relatively greater than among the unmarried; the duration of sickness benefit in the case of a married woman claimant averaged the very high figure of 8¾ weeks.

Disablement benefit (which is entered upon when sickness benefit has been paid for twenty-six weeks) was found to be an increasing quantity among all sections of the insured. This was an expected feature as the scheme grew to maturity, and so far as men were concerned the cost was well within the expectation indicated by the older friendly society experiences. The extent of the claims of women in respect of disablement benefit occasioned, however, some concern. Taking men and women together, it was estimated that about 200,000 persons were now permanently disabled and drawing benefit from the approved societies.

After explaining the seasonal variation of sickness, in which it was shown that the claims in the winter months averaged from 50 to 100 per cent. more than the summer minimum, Sir Alfred Watson discussed the changes in the birth rate brought out by the claims for maternity benefit. The claims among the wives of insured men in the years 1919-23 were 88 per cent. of those expected by the financial standard. The birth rate (compared with the married population at the reproductive ages) had fallen, it was estimated, by about 20 per cent. since the beginning of the century, but, on the other hand, the proportion of the married in the population had substantially grown, the increase in this respect being 20 per cent. at the ages 20 to 25, 10 per cent. at ages 25 to 30, and 5 per cent. or more in other age-groups. In comparison with the birth rates among wives of insured men, the great majority of whom are not employed outside the home, the birth rates among employed married women were significantly low; the proportion varied with age, being, for example, 69 per cent. at ages 25 to 30, and 61 per cent. at ages 30 to 35.

REGIONAL DENTAL STAFF.

THE Ministry of Health has issued a circular (A.S.261) describing what has already been done to bring into immediate operation the service of regional dental officers for England and Wales. The regional dental service forms part of the arrangements under the new scale and conditions of dental service as agreed by the Dental Benefit Joint Committee, and will be available for those societies and branches only which have adopted these arrangements.

The duties of the regional dental staff will include (*a*) advising approved societies entitled to avail themselves of the service, and dentists to whom members of such societies have applied for treatment, on questions relating to dental estimates furnished or treatment given; (*b*) advising on similar questions referred to them by the Joint Committee or the Minister; and (*c*) making inquiries at the direction of the Minister into matters relating to dental treatment under additional benefit schemes. Reference to these officers, whether from approved societies or dentists, will be of two kinds: "estimate references" relating to an estimate for work proposed to be done, and "treatment references" relating to the nature or quality of treatment which has been given, including questions of the quality or workmanship or fitting of dentures or other material used in treatment. Separate forms are provided for references of these two classes.

Six regional dental officers have so far been appointed, with offices in London, Manchester, Leeds, and Cardiff. The areas covered by the scheme are grouped in five divisions: North-Western, North-Eastern, South-Western, South-Eastern, and Wales. Additional officers will be appointed, or the services of part-time dental referees obtained, if found necessary, to enable the staff to cope with their duties. A principal regional dental officer, Mr. H. Alvin Mahony, in addition to his ordinary duties for the South-Eastern Division, with offices at Queen Anne's Chambers, Dean Farrar Street, S.W., will be responsible also for the technical supervision of the work of the staff as a whole.

Correspondence.

Anaesthetic Fees.

SIR,—It is evident that some Panel Committees are going rather far in their desire to secure adequate distribution amongst panel practitioners of the available capitation fund by recommending the non-payment of anaesthetic fees in cases taken into Poor Law hospitals for operation, and by deciding the choice of anaesthetic to be used in particular cases, regardless of what the operator, or preferably the anaesthetist, might consider the most suitable one. It is possible that the lure of an anaesthetic fee may result in a general anaesthetic being used for every conceivable thing, notwithstanding the obvious fact that spraying with ethyl chloride or infiltration anaesthesia would do equally well, but for which no special payment is made; but such a possibility does not justify interference by any Panel Committee, which is presumably ignorant of the circumstances of every case it has to deal with; and the anaesthetist or the operator should be given a perfectly free hand in the matter. He should be trusted to do what is right for the patient, and not be saddled with the suspicion of wishing to deprive his colleagues of what they can legitimately claim as their own.

In the case of panel patients undergoing operative treatment in Poor Law hospitals, their presence in such hospitals entails a considerable amount of extra work upon the medical staff, who are under contract with the guardians to give their services to the destitute poor only, and not to every patient, private or panel, whom their fellow practitioners of the district may wish to get rid of. There are Poor Law hospitals which are open to medical men, not necessarily on their staffs. Such being the

case, any panel practitioner sending an insured patient for operative treatment should at least be called upon to administer the anaesthetic, for which service he is, after all, in receipt of sixpence for every patient on his panel list. Why should the staff be expected to relieve him of this obligation, and, if it does so, what possible objection can there be to its receiving the anaesthetic fee in payment for work which they are under no contractual obligation to perform?

Too much abuse is being made of hospitals generally by the public, and that some medical men should strive to make an abuse of one another's services, so that, in the end, some may keep what they have not worked for and others be deprived of what they are entitled to claim, is unfortunately further evidence of the fact that some people's notion of justice and fair play can be priced at a few shillings, or very much less individually, which recognition on their part of the services and responsibilities devolving upon others through their deliberate action actually deprives them of.—I am, etc.,

D. W. STANDLEY.

Greenhithe, Kent, March 8th.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

Surgeon Commanders J. H. McDowall to the *Defiance*; F. St. D. Wickham, O.B.E., to the *Victory* for the *Assistance* on commissioning for trials, and to the *Assistance* on recommissioning.

Surgeon Lieutenant Commander J. F. Pace is promoted to the rank of Surgeon Commander.

Surgeon Lieutenant Commanders N. A. H. Barlow to the *Bryony*; W. A. Jolliffe to the *Pembroke* for R.N. Hospital [illegible]; W. Cocking to the *Pembroke* for R.N. Hospital [illegible] rary; N. B. de M. Greenstreet to the *Vivid* for [illegible].

Surgeon Lieutenant R. H. Dummett to the *Crocus*.

Surgeon Lieutenant (Short Service) R. Schofield has transferred to the permanent list.

Messrs. J. Johnston, J. B. Patrick, J. R. C. Spicer, and C. P. Burges have entered as Surgeon Lieutenants for short service, and appointed to R.N. Hospital, Haslar, for course of instruction.

ROYAL NAVAL VOLUNTEER RESERVE.

Probationary Surgeon Lieutenant H. P. Widdup to the *Ramillies* for twenty-eight days' training.

ROYAL AUSTRALIAN NAVY.

Surgeon Lieutenant A. Scott Mackenzie to the *Victory* for R.N. Hospital, Haslar.

ROYAL ARMY MEDICAL CORPS.

Major B. Biggar is restored to the establishment.

Temporary Captain M. Ferguson relinquishes his commission and is granted the rank of Captain.

The name of Captain C. M. Forster is as now described, and not as stated in the *London Gazette* of February 1st, 1927.

Temporary Lieutenant F. Widlake resigns his commission.

J. M. F. Whitby to be temporary Lieutenant.

ROYAL AIR FORCE MEDICAL SERVICE.

Squadron Leader A. J. Brown, D.S.O., to Headquarters, Egypt.

Flight Lieutenant T. McClurkin is promoted to the rank of Squadron Leader.

Flight Lieutenants L. C. Palmer-Jones to No. 4 Flying Training School, Egypt; O. A. Lindup to Headquarters, Air Defence of Great Britain, Uxbridge.

Flying Officers A. L. St. A. McClosky to Research Laboratory and Medical Officers' School of Instruction; R. Thorpe to Research Laboratory and Medical Officers' School of Instruction on appointment to a short-service commission; G. E. Church and M. D. Rawkins to R.A.F. Hospital, Halton; R. A. W. Kerr to No. 2 Flying Training School, Digby.

Flying Officer D. Oliver resigns his short-service commission.

INDIAN MEDICAL SERVICE.

Lieut.-Colonels A. Spitteler, O.B.E., and J. Norman Walker to be Brevet-Colonels.

Majors to be Lieutenant-Colonels: G. E. Malcomson, H. W. Acton, V. B. Green-Armytage, A. N. Dickson, M.C., A. J. H. Russell, C.B.E., R. E. Wright, D. H. Rae, M.C., F. A. Barker, O.B.E., and A. N. Thomas, D.S.O., P. K. Tarapore, D. D. Kamat, W. E. R. Williams, O.B.E., A. F. Babonau, C.I.E., O.B.E., and S. J. Bhathena.

Major Sir T. J. Carey-Evans, M.C., has retired from the service.

Captain U. J. Bourke to be Major.

Lieutenant T. J. Davidson to be Captain.

REGULAR ARMY RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

Lieutenant A. G. Henderson to be Captain.

TERRITORIAL ARMY.

ROYAL ARMY MEDICAL CORPS.

Captain H. C. O. Hackney to be Major.

Lieutenant G. F. Keatinge to be Captain (prov.).

Supernumerary for Service with the O.T.C.—Major W. J. A. Laird, Reserve of Officers, resigns his commission in the T.A.

COLONIAL MEDICAL SERVICES.

Drs. D. S. Scott, P. D. Connolly, and W. A. Bullen appointed Senior Medical Officer and Medical Officers, Kenya, respectively. Dr. H. O'H. May, Deputy Director, Sanitary Service, Sierra Leone, appointed Deputy Director, Sanitary Service, Gold Coast. Dr. J. H. Hutchinson appointed Assistant Medical Officer of Health, Nairobi Municipal Area, Eastleigh, Muthaiga, and M'bagathi Townships and Nairobi and Kyambu Districts. Dr. W. G. Cobb, D.S.O., Medical Officer, [illegible], Medical Officer, Gold Coast. Dr. H. Morris [illegible], Nigeria. Dr. D. A. Skan transferred from [illegible], Tanganyika.

VACANCIES.

BERMONDSEY BOROUGH.—Assistant Tuberculosis Officer. Salary £600 per annum.

BIRMINGHAM UNION.—Two House-Surgeons at the Dudley Road Hospital. Salary at the rate of £200 and £150 per annum respectively.

BOURNEMOUTH: ROYAL VICTORIA AND WEST HANTS HOSPITAL.—House-Surgeon (male). Salary at the rate of £100 per annum.

BRIGHTON COUNTY BOROUGH MENTAL HOSPITAL, Haywards Heath.—Second Assistant Medical Officer. Salary £350 per annum, rising to £400.

BRIGHTON: NEW SUSSEX HOSPITAL.—House-Surgeon (female). Honorarium at the rate of £50 per annum.

BRIGHTON: ROYAL SUSSEX COUNTY HOSPITAL.—(1) Honorary Surgeon. (2) Honorary Assistant Surgeon. (3) Honorary Medical Clinical Assistant.

CAMBRIDGE: ADDENBROOKE'S HOSPITAL.—(1) House-Physician. (2) House-Surgeon. (Males, unmarried.) Salary at the rate of £130 per annum each.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Judd Street, W.C.1.—Senior and Junior House-Surgeons. Salary £100 and £50 per annum respectively.

CHARING CROSS HOSPITAL, W.C.2.—Assistant Obstetric Physician.

CLINICAL RESEARCH ASSOCIATION, Adelphi, W.C.2.—Assistant Director of the Laboratories (part-time). Remuneration to commence at £250 per annum.

COSSHAM MEMORIAL HOSPITAL, Kingswood, Bristol.—Resident Medical Officer (male). Salary £150 per annum.

COUNTESS OF DUFFERIN'S FUND.—Medical Woman as Professor of Physiology for the Lady Hardinge Medical College, Delhi. Emoluments Rs.750 a month, rising.

DOUGLAS, ISLE OF MAN: NOBLE'S HOSPITAL.—Resident House-Surgeon (male, unmarried). Salary £175 per annum.

ELIZABETH GARRETT ANDERSON HOSPITAL, Euston Road, N.W.1.—Physician in charge of the Children's Department.

EVELINA HOSPITAL FOR CHILDREN, Southwark, S.E.1.—House-Surgeon (male). Salary at the rate of £120 per annum.

GARTLOCH MENTAL HOSPITAL, Gartcosh.—Junior Assistant Medical Officer (male). Salary £300 per annum, rising to £350 after six months.

GLAMORGAN COUNTY COUNCIL.—Dental Surgeon (woman). Salary £500 per annum, rising to £700.

HALIFAX: ROYAL HALIFAX INFIRMARY.—Third House-Surgeon. Salary at the rate of £100 per annum.

HEREFORDSHIRE COUNTY AND CITY MENTAL HOSPITAL.—Second Assistant Medical Officer (male, unmarried). Salary £350 per annum.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.3.—Assistant Surgeon to the Throat, Nose and Ear Department.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.1.—(1) House-Surgeon. (2) House-Physician and Assistant Casualty Officer. Salary £50 for six months each.

HOSPITAL OF ST. JOHN AND ST. ELIZABETH, 40, Grove End Road, N.W.8.—Resident House-Surgeon (male). Salary at the rate of £75 per annum.

JERUSALEM: OPHTHALMIC HOSPITAL.—(1) Subwarden. (2) Registrar or House-Surgeon.

KING'S LYNN: WEST NORFOLK HOSPITAL.—Junior House-Surgeon. Salary £100 per annum.

LIVERPOOL: ROYAL SOUTHERN HOSPITAL.—(1) Honorary Surgeon. (2) Honorary Dermatologist. (3) Honorary Ophthalmic Surgeon.

LONDON UNIVERSITY.—University Chair of Anatomy tenable at King's College. Salary £1,000 a year.

MANCHESTER CITY.—Two Junior Medical Assistants at the Monsall Hospital for Infectious Diseases (males, unmarried). Salary £350 per annum.

MANCHESTER EAR HOSPITAL.—House-Surgeon (non-resident). Salary at the rate of £150 per annum.

MANCHESTER: ST. MARY'S HOSPITALS.—(1) Two House-Surgeons for Whitworth Street West Hospital (Maternity). (2) Two House-Surgeons for Whitworth Park Hospital (Gynaecological). Salaries at the rate of £50 per annum.

MILLER GENERAL HOSPITAL, Greenwich Road, S.E.10.—House-Physician (male). Salary £125 per annum.

NATIONAL DENTAL HOSPITAL, Great Portland Street, W.1.—Honorary Radiologist.

NORTHAMPTON COUNTY BOROUGH.—Assistant Medical Officer of Health and Tuberculosis Officer. Salary £600 per annum.

PADDINGTON GREEN CHILDREN'S HOSPITAL, W.2.—(1) House-Physician. (2) House-Surgeon. (Males, unmarried.) Salary at the rate of £150 per annum each.

PENMAENMAWR: PENDYFFRYN HALL SANATORIUM.—Assistant Medical Officer (male). Salary commencing at £200 per annum.

POPLAR HOSPITAL FOR ACCIDENTS, East India Dock Road, E.14.—Second Resident Officer. Salary at the rate of £175 per annum.

PRINCE OF WALES'S GENERAL HOSPITAL, Tottenham, N.15.—(1) House-Surgeon. (2) Special [illegible]. (3) House-Physician. (4) Junior House-Surgeon. (5) [illegible]. Salary for (1), (2), and (3) £120 per annum, [illegible] per annum.

RYDE: ROYAL ISLE OF WIGHT COUNTY HOSPITAL.—Vacancy on Honorary Medical Staff.

SAMARITAN FREE HOSPITAL FOR WOMEN, Marylebone Road, N.W.1.—House-Surgeon. Salary at the rate of £100 per annum.

SHEFFIELD ROYAL HOSPITAL.—Senior Casualty Officer. Salary £150 per annum.

SHEFFIELD ROYAL INFIRMARY.—Assistant Surgeon to the Ophthalmic Department.

SOUTH LONDON HOSPITAL FOR WOMEN, Clapham Common, S.W.4.—(1) House-Physician. (2) Three House-Surgeons. Females. Salary at the rate of £50 per annum each.

STOCKPORT INFIRMARY.—House-Surgeon. Salary £175 per annum.

WEST END HOSPITAL FOR NERVOUS DISEASES.—Honorary Anaesthetist.

WEYMOUTH AND DISTRICT GENERAL HOSPITAL.—House-Surgeon (male). Salary £180 per annum.

WORCESTERSHIRE COUNTY COUNCIL.—Assistant County Medical Officer. Salary £600 per annum.

YORK CITY.—Assistant Medical Officer of Health, School Medical Officer, and Tuberculosis Officer. Salary £600 per annum.

CERTIFYING FACTORY SURGEONS.—The following vacant appointments are announ[illegible]kirk (Selkirkshire), Bakewell (Derbyshire. [illegible] Inspector of Factories, Home Office, Whitehall, S.W.1.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.

APPOINTMENTS.

BAMFORD, Charles H., M.B., Junior House-Surgeon to the Royal Eye Hospital, Manchester.

MANCHESTER ROYAL INFIRMARY.—*House-Physicians:* B. R. Sandiford, M.B., Ch.B., G. W. Jones, M.B., Ch.B., W. H. Ray, B.M., B.Ch., M. Sheehan, M.B., Ch.B. *House-Surgeons* R. Pendlebury, M.B., Ch.B., R. Illingworth, B.M., B.Ch., D. E. J. Mitchell, M.R.C.S., L.R.C.P., R. H. Poyser, M.B., Ch.B., J. K. Anderson, M.B., Ch.B., H. Simmons, M.R.C.S., L.R.C.P., C. D. Roff, M.B., Ch.B., D. Starr, M.B., Ch.B., G. S. W. Moll, M.B., Ch.B., H. T. Simmons, M.B., Ch.B., A. A. Davis, M.B., Ch.B., J. T. Whitley, M.B., Ch.B. *House-Surgeons* (Central Branch): Miss M. E. Edwards, M.B., Ch.B., Miss J. B. Stubbs, M.B., Ch.B., Miss M. Harburn, M.B., Ch.B.

QUEEN CHARLOTTE'S MATERNITY HOSPITAL, Marylebone Road, N.W.1.—*Senior Resident Medical Officer:* W. N. Chisholm, M.B., Ch.B. *Assistant Resident Medical Officer:* J. N. Sankey, M.B., Ch.B., F.R.C.S.Eng. *District Resident Medical Officer:* J. S. Aldridge, M.R.C.S., L.R.C.P.

ST. THOMAS'S HOSPITAL.—*Surgeon:* C. Max Page, D.S.O., M.S.Lond., F.R.C.S.Eng. *Resident Assistant Physician:* A. M. Cooke, M.B., B.Ch.Oxon., M.R.C.P.Lond. *Resident Assistant Surgeon:* C. V. Patrick, M.B., B.Ch.Cantab., F.R.C.S.Eng. *Medical Registrar:* B. E. Tompson, M.B., B.Ch.Oxon. *Surgical Registrar* R. H. Boggon, M.B., B.S.Lond., F.R.C.S.Eng. *Obstetric Registrar:* T. H. Sims, M.B., B.Ch.Cantab. *Senior Resident Surgical Casualty Officer:* J. C. Barrett, V.C., M.B., B.S.Lond. *Medical Officer in charge of Electro-Therapy Department:* P. Bauwens, M.R.C.S., L.R.C.P.

CERTIFYING FACTORY SURGEONS.—C. J. W. Clayton, M.R.C.S., L.R.C.P., for the St. Columb District, co. Cornwall; O. Cook, M.B., Ch.B.Edin., for the Walsall District, co. Stafford; W. Fordyce, M.B., Ch.B.Glas., for the Newton Mearns District, co. Renfrew; E. R. Lloyd, L.M.S.S.A.Lond., for the Stewarton District, co. Ayr; J. W. MacRae, M.B., Ch.B.Aberd., for the Portsoy District, co. Banff; T. Miller, M.B., Ch.B.Glas., for the Dumbarton District, co. Dumbarton; A. R. Rendle, M.D.Brux., M.R.C.S., L.R.C.P., for the Godalming District, co. Surrey; B. R. Reynolds, M.R.C.S., L.R.C.P., for the Fenny Stratford District, co. Buckingham; J. G. Thomas, M.B., Ch.B.Liverp., for the Denbigh District, co. Denbigh; J. S. Townley, M.B., Ch.B.Glas., for the Crickhowell District, co. Brecon; F. A. Unwin, L.M.S.S.A., for the Downham Market District, co. Norfolk.

DIARY OF SOCIETIES AND LECTURES.

ROYAL SOCIETY OF MEDICINE.

Sections of Medicine, Disease in Children, and Dermatology.—Tues., 5 p.m., Special Joint Discussion: The Uses and Limitations of Ultra-Violet Light Therapy. Speakers: Dr. S. Ernest Dore, Dr. J. H. Sequeira, and Dr. Albert Eidinow.

Section of Psychiatry.—Wed., 4.30 p.m., Pathological Meeting in the Laboratory at the Maudsley Hospital, Denmark Hill, S.E.5, by the courtesy of Dr. Golla. Tea provided before the meeting.

Section of Urology.—Thurs., 8.30 p.m., Clinical Pathological Meeting.

Section of Disease in Children.—Fri., 4.30 p.m., Cases.

Section of Epidemiology and State Medicine.—Fri., 8 p.m., Dr. W. St. C. McClure: The Incidence of Pneumonia.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W.1.—Tues. and Thurs., 5 p.m., Lumleian Lectures by Sir Charlton Briscoe, Bt.: Muscular Mechanism of Respiration and its Disorders.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.—Mon., 5 p.m., Dr. Alfred Piney: Hyperplasia and Neoplasia in Lymphatic Tissue.

HUNTERIAN SOCIETY.—Dinner Meeting at Simpson's Restaurant, 77, Poultry, Cheapside, 7.30 p.m. 8.30 p.m., Discussion: The Bottle of Medicine; to be opened by Dr. L. G. Glover and Dr. Thomson Brown.

MEDICO-LEGAL SOCIETY, 11, Chandos Street, W.1.—Thurs., 8.30 p.m., Sir Bernard Spilsbury: A Hat from a Fatal Case of Shooting; Dr. Letitia Fairfield: Some Psychological Reactions of the Physiological Crises in Women, followed by a discussion.

POST-GRADUATE COURSES AND LECTURES.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION.—Special Lecture at the Medical Society, 11, Chandos Street, W., Thurs., [illegible]ce. Open to all members of *entral London Ophthalmic* . and Fri., 4 p.m., Special nembers of the medical pro- m Street, W.C.: Tues., 2 p.m. No fee to members of the *omen*, Arthur Street, S.W.: Special Course in Gynaecology. Morning and/or afternoons. *London Temperance Hospital*, Hampstead Road, N.W.: 4.30 to 6 p.m., General [illegible]ine, Surgery, and the Specialties. *Royal* [illegible]l, 234, Great Portland Street, W.: Com- nd afternoon sessions. All information as the Fellowship of Medicine, 1, Wimpole Street, W.1.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.1.—Thurs., 4 p.m., Dental Caries in Young Children.

LONDON SCHOOL OF DERMATOLOGY, St. John's Hospital, Leicester Square, W.C.2.—Tues., 5 p.m., Benign Growths of the Skin. Thurs., 5 p.m., Malignant Growths of the Skin.

NATIONAL HOSPITAL, Queen Square, W.C.1.—Mon., Tues., Thurs., and Fri., 2 p.m., Out-patient Clinics. Mon., 12 noon, Pathology of the Nervous System; 3.30 p.m., Progressive Muscular Wasting. Tues., 3.30 p.m., Tumours of the Spinal Cord. Thurs., 3.30 p.m., Paraplegia. Fri., 12 noon, Anatomy and Physiology of the Nervous System; 3.30 p.m., Lateral Recess Tumours. Operations: Tues. and Fri., 9 a.m.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.15.—Mon., 10 a.m., Surgical Clinic; 2.30 to [illegible]Clinics; Operations. 5 p.m., Medical, Surgi [illegible] [illegible]ases; 2.30 to 5 p.m., Tues., 2.30 p.m., Special Operations. Wed., Medical, Surgical, Thro[illegible] 2.30 to 5 p.m., Medical Operations. Thurs., 11.30 a.m., Dental Clinics; 2.30 p.m., Special Demonstration of Surgical Cases, 2.30 to 5 p.m., Medical, Surgical, and Ear, Nose, and Throat Clinics; Operations. Fri., 10.30 a.m., Throat, Nose, and Ear Clinics; 2.30 to 5 p.m., Surgical, Medical, and Children's Diseases Clinics; Operations; 4.30 p.m., Demonstration on Selected Cases of Nerve Diseases.

ROYAL NORTHERN HOSPITAL, Holloway Road, N.—Tues., 3.15 p.m., Injuries to the Eye.

GLASGOW POST-GRADUATE MEDICAL ASSOCIATION.—At Royal Infirmary: Wed., 4.15 p.m., Skin Cases.

JAMES MACKENZIE INSTITUTE FOR CLINICAL RESEARCH, St. Andrews.—Tues., 4 p.m., Clinical Manifestations in Intra-abdominal Disease.

MANCHESTER: ANCOATS HOSPITAL.—Thurs., 4.15 p.m., Recent Advances in Chemotherapy.

MANCHESTER ROYAL INFIRMARY.—Tues., 4.15 p.m., Surgical Aspect of Diseases of the Spleen. Fri., 4.15 p.m., Demonstration of Aural Cases.

MANCHESTER: ST. MARY'S HOSPITALS (Whitworth Street West Branch).—Fri., 4.30 p.m., Obstetric Haemorrhage.

SHEFFIELD UNIVERSITY POST-GRADUATE CLINICS.—At Royal Hospital: Fri., 3.30 p.m., Radiology in Diagnosis.

British Medical Association.

OFFICES, BRITISH MEDICAL ASSOCIATION HOUSE, TAVISTOCK SQUARE, W.C.1.

Departments.

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SCOTTISH MEDICAL SECRETARY: 6, Drumsheugh Gardens, Edinburgh. (Telegrams: Associate, Edinburgh Tel.: 4361 Central.)

IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Telegrams: Bacillus, Dublin. Tel.: 4737 Dublin.)

Diary of the Association.

MARCH.

19 Sat. London: Rheumatic Heart Disease in Children Subcommittee, 10.30 a.m.

21 Mon. Brighton Division: Queen's Road Dispensary, 8.30 p.m.
Hereford Division: 20, East Street, Hereford, 3.15 p.m.

22 Tues. London: Naval and Military Committee, 2.30 p.m.
Croydon Division: Croydon General Hospital. Professor Verney on Pharmacology and Practice, 8.30 p.m.
Shropshire and Mid-Wales Branch: Royal Salop Infirmary. B.M.A. Lecture by Dr. Louise McIlroy on Pregnancy complicating Tumours of the Uterus and Adnexa, 3.15 p.m.
Sunderland Division: Royal Infirmary, Sunderland, 8.15 p.m.

23 Wed. Kensington Division: Clinical Meeting, St. Mary's Hospital, Paddington, 8.30 p.m.
Oxford Division: Radcliffe Infirmary, Oxford, 2.45 p.m.
Stirling Branch: Clinical Meeting, Falkirk and District Infirmary. Mr. Tennant on Colopexy, 3.30 p.m.
Tunbridge Wells Division: General Hospital, Tunbridge Wells, 8.30 p.m.

24 Thurs. London: Poor Law Reform Committee, 2.30 p.m.
Border Counties Branch: Dumfries and Galloway Royal Infirmary, 3 p.m.
City Division: Annual Fancy Dress Dance, B.M.A. House, Tavistock Square, W.C.1, 8.30 p.m.
North Glamorgan and Brecknock Division. B.M.A. Lecture by Dr. T. F. Cotton on Prognosis and Treatment of Heart Disease.
Swansea Division: Clinical Meeting, General Hospital, Swansea, 8.15 p.m.

25 Fri. Chesterfield Division: Maternity Hospital, Chesterfield. Mr. A. M. Webber on Hysterectomies, 8.15 p.m.
Hendon Division: Clinical Meeting, Hendon Cottage Hospital. Mr. J. F. O'Malley on Diseases of Ear, Nose, and Throat, 8.30 p.m.
Mid-Essex Division: Annual Meeting, Bell Hotel, Chelmsford, 3 p.m.
South Suffolk Division: Crown and Anchor Hotel. Discussion on Closer Co-operation between Hospital Staffs and General Practitioners, 3.30 p.m.

29 Tues. London: Grants Subcommittee, 2.30 p.m.
Brighton Division: Queen's Road Dispensary, Brighton. Discussion on Dental Anaesthesia, 8.30 p.m.
South Staffordshire Division: B.M.A. Lecture by Dr. T. Watts Eden on Prevention and Treatment of Eclampsia.
South-West Essex Division: Walthamstow Hospital. Dr. G. F. Still on Vomiting in Childhood, 3.30 p.m.

30 Wed. London: Psycho-Analysis Committee, 2.30 p.m.
North Middlesex Division: Dr. G. W. H. French on Diagnosis of Acute Abdomen.

31 Thurs. London: Ophthalmic Subcommittee, 2.30 p.m.
Fife Branch: Annual Meeting, Station Hotel, Kirkcaldy, 3.p.m. Clinical Meeting: Professor Price on Congenital Deformities, 4 p.m. Annual Dinner, 5.30.
Newcastle-on-Tyne Division: Reception and Dance, College of Medicine, 8.30 p.m.

APRIL.

5 Tues. Hastings Division: Queen's Hotel, Hastings. Mr. H. E. Marsh on Collaboration of Medical and Dental Practitioners in Dental Practice, 8.15 p.m.

6 Wed. **Council** (afternoon).

7 Thurs. *Council.*
Bournemouth Division: St. Peter's Small Hall, Bournemouth. B.M.A. Lecture by Dr. Robert Hutchison: Diet in Infancy and Childhood.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcement of Births, Marriages, and Deaths is 9s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

BIRTHS.

MCALPINE.—On March 6th, at 9, Albert Gate, Dowanhill, Glasgow, W.2, to Dr. Elizabeth McAlpine (*née* Bessie Gemmell), wife of Dr. George McAlpine, a son.

REES.—On March 6th, to Adelaide, the wife of Richard Eric Bowen Rees, M.B., Ch.B., of The Old Surgery, Trelewis, Glam, a son.

DEATHS.

HARMAR.—On March 11th, 1927, at the Pasture Farm, Tanworth-in-Arden, Warwickshire, James Raffles Harmar, of rheumatoid arthritis.

HAYNES.—On March 12th, at Evesham Hospital, after an operation, Horace Eyre Haynes, M.R.C.S., L.S.A., J.P., of Greyfriars, Evesham, and Littleton Hall, Brentwood, aged 80 years. R.I.P.

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SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, MARCH 26TH, 1927.

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British Medical Association.

NINETY-FIFTH ANNUAL MEETING, EDINBURGH, JULY, 1927.

Patron: HIS MAJESTY THE KING.

President: R. G. HOGARTH, C.B.E., F.R.C.S., Senior Surgeon, General Hospital, Nottingham.

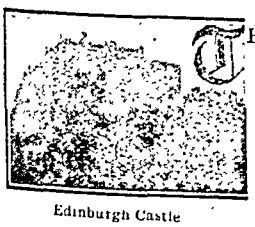
President-Elect: SIR ROBERT W. PHILIP, M.D., LL.D., F.R.C.P.Ed., Consulting Physician, Royal Infirmary, Edinburgh.

Chairman of Representative Body: H. B. BRACKENBURY, M.R.C.S., L.R.C.P.

Chairman of Council: SIR ROBERT BOLAM, M.D., LL.D., F.R.C.P.

Treasurer: N. BISHOP HARMAN, M.B., F.R.C.S.

PROVISIONAL PROGRAMME.



Edinburgh Castle

THE incoming President, Sir ROBERT PHILIP, will deliver his Address to the Association on Tuesday, July 19th, at 8 p.m.

The ANNUAL REPRESENTATIVE MEETING will begin on Friday, July 15th, at 10 a.m., and be continued on the three following week-days. The Representatives' Dinner will take place at the University Union on Friday evening, July 15th, at 7.30 p.m.

The statutory ANNUAL GENERAL MEETING will be held on Tuesday, July 19th, at 2 p.m., and the adjourned general meeting at 8 p.m.

The Annual Dinner of the Association will take place on the evening of Thursday, July 21st.

The Conference of Honorary Secretaries will be held at 2.30 p.m. on Wednesday, July 20th, and the Secretaries' Dinner at 6.30 the same evening.

The official Religious Service will be held in St. Giles's Cathedral on Tuesday, July 19th, at 4.30 p.m.

The Annual Exhibition of surgical appliances, foods, drugs, and books will be open for inspection on Monday, July 18th, from 2 till 6 p.m.; the formal opening by the President will take place on July 19th at 9.30 a.m. The exhibition will remain open on July 20th, 21st, and 22nd from 9 a.m. to 6 p.m.

A Centenary Celebration commemorative of the birth of Lord Lister, presided over by the Earl of Balfour, K.G., will take place on the evening of Wednesday, July 20th, at 8 o'clock, in the McEwan Hall, when short addresses will be given by Sir W. Watson Cheyne, Bt., Professor Tuffier of Paris, Professor Harvey Cushing of Harvard University, and Dr. James Stewart of Halifax, Nova Scotia. During the week of the Annual Meeting a museum containing relics of Lister's life and work will be displayed in the Upper Library of the Old University. A *Lister Memorial Volume* has been prepared, and a copy will be given to each member of the Association who registers in the Reception Room.

Saturday, July 23rd, will be given to excursions to places of interest in the neighbourhood of Edinburgh.

THE SECTIONS.

The Scientific Sections will meet from 10 a.m. to 1 p.m. for papers and discussions on Wednesday, Thursday, and Friday, July 20th, 21st, and 22nd.

The following Sections will meet on Three Days.

MEDICINE.

President: Professor G. LOVELL GULLAND, C.M.G., M.D., F.R.C.P.Ed. (Edinburgh).

Vice-Presidents: J. HILL ABRAM, M.D., F.R.C.P. (Liverpool); R. A. FLEMING, M.D., F.R.C.P.Ed. (Edinburgh); H. MORLEY FLETCHER, M.D., F.R.C.P. (London); W. T. RITCHIE, O.B.E., M.D., F.R.C.P.Ed. (Edinburgh).

Honorary Secretaries: GEORGE GRAHAM, M.D., F.R.C.P., 1, Devonshire Place, London, W.1; G. D. MATHEWSON, M.B., F.R.C.P.Ed., 28A, Moray Place, Edinburgh.

SURGERY.

President: Professor D. P. D. WILKIE, O.B.E., M.D., Ch.M., F.R.C.S. (Edinburgh).

Vice-Presidents: J. W. DOWDEN, C.M., F.R.C.S.Ed. (Edinburgh); F. J. STEWARD, M.S., F.R.C.S. (London); J. W. STRUTHERS, F.R.C.S.Ed. (Edinburgh); H. WADE, C.M.G., D.S.O., F.R.C.S.Ed. (Edinburgh); A. M. WEBBER, M.S., F.R.C.S. (Nottingham).

Honorary Secretaries: J. M. GRAHAM, Ch.M., F.R.C.S.Ed., 8, Manor Place, Edinburgh; E. C. HUGHES, O.B.E., M.Ch., F.R.C.S., 17, Wimpole Street, London, W.1.

OBSTETRICS AND GYNAECOLOGY.

President: JAMES HAIG FERGUSON, M.D., C.M., F.R.C.P.Ed., F.R.C.S.Ed. (Edinburgh).

Vice-Presidents: T. WATTS EDEN, M.D., F.R.C.P., F.R.C.S.Ed. (London); GIBBON FITZGIBBON, M.D., F.R.C.P.I. (Dublin);

WILLIAM FORDYCE, M.D., F.R.C.P.Ed. (Edinburgh); Professor R. W. JOHNSTONE, C.B.E., M.D., F.R.C.S.Ed. (Edinburgh); Mrs. ETHEL VAUGHAN-SAWYER, M.D. (London).

Honoraries Secretaries: DANIEL DOUGAL, *M.C.*, M.D., 11, St. John Street, Manchester; W. F. T. HAULTAIN, O.B.E., *M.C.*, M.B., Ch.B., F.R.C.S.Ed., 6, Walker Street, Edinburgh.

PATHOLOGY AND BACTERIOLOGY.

President: Professor J. LORRAIN SMITH, M.D., F.R.S., F.R.C.P.Ed. (Edinburgh).

Vice-Presidents: J. W. DAWSON, M.D., D.Sc., F.R.C.P.Ed. (Edinburgh); W. R. LOGAN, M.D., F.R.C.P.Ed. (Edinburgh); Professor T. J. MACKIE, M.D., D.P.H. (Edinburgh); H. D. WRIGHT, M.D., M.R.C.P.Ed. (London).

Honorary Secretaries: JAMES DAVIDSON, M.B., Ch.B., Pathological Department, University of Edinburgh; H. J. PARISH, M.D., M.R.C.P.Ed., D.P.H., Wellcome Physiological Research Laboratories, Langley Court, Beckenham, Kent.

THERAPEUTICS AND PHARMACOLOGY.

President: Professor J. A. GUNN, M.D., D.Sc. (Oxford).

Vice-Presidents: Professor A. J. CLARK, *M.C.*, M.D., F.R.C.P. (Edinburgh); Professor FRANCIS R. FRASER, M.D., F.R.C.P. (London); E. P. POULTON, M.D., F.R.C.P. (London).

Honorary Secretaries: E. G. HOLMES, M.B., B.Chir., Pharmacological Laboratory, Cambridge; C. G. LAMBIE, *M.C.*, M.B., F.R.C.P.Ed., 31, Drumsheugh Gardens, Edinburgh.

DISEASES OF CHILDREN.

President: Professor JOHN FRASER, *M.C.*, M.D., Ch.M., F.R.C.S.Ed. (Edinburgh).

Vice-Presidents: H. CHARLES CAMERON, M.D., F.R.C.P. (London); ALEXANDER DINGWALL FOLDYCE, M.D., F.R.C.P.Ed. (Liverpool); CHARLES MCNEIL, M.D., F.R.C.P.Ed. (Edinburgh).

Honorary Secretaries: Miss HELEN M. M. MACKAY, M.D., 28, John Street, Bedford Row, London, W.C.1; LEWIS THATCHER, M.D., F.R.C.P.Ed., 8, Melville Crescent, Edinburgh.

MENTAL DISEASES.

President: Professor GEORGE M. ROBERTSON, M.D., P.R.C.P.Ed. (Edinburgh).

Vice-Presidents: BERNARD HART, M.D., F.R.C.P. (London); JOHN KEAY, C.B.E., M.D., F.R.C.P.Ed. (Bangour); J. R. LORD, C.B.E., M.D., F.R.C.P.Ed. (Epsom); H. C. MARR, M.D., F.R.F.P.S.Glas. (Edinburgh).

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The following Sections will meet on Two Days.

NEUROLOGY.

President: Professor EDWIN BRAMWELL, M.D., F.R.C.P. (Edinburgh).

Vice-Presidents: ALEX. NINIAN BRUCE, M.D., D.Sc., F.R.C.P.Ed. (Edinburgh); J. GODWIN GREENFIELD, M.D., F.R.C.P. (London); F. M. R. WALSHE, O.B.E., M.D., D.Sc., F.R.C.P. (London).

Honorary Secretaries: E. A. CARMICHAEL, M.B., Ch.B., F.R.C.P.Ed., [illegible] queen Square, London, W.C.1; NORMAN M. [illegible], M.B., F.R.C.S.Ed., 8, Grosvenor Crescent, Edinburgh.

OPHTHALMOLOGY.

President: A. H. H. SINCLAIR, M.D., F.R.C.S.Ed. (Edinburgh).

Vice-Presidents: WILFRED ALLPORT, M.B., F.R.C.S.Ed. (Birmingham); Sir ARNOLD LAWSON, K.B.E., F.R.C.S. (London); H. M. TRAQUAIR, M.D., F.R.C.S.Ed. (Edinburgh).

Honorary Secretaries: R. E. BICKERTON, D.S.O., M.B., Ch.B., 33, Portland Place, London, W.1; E. H. CAMERON, M.B., Ch.B., F.R.C.S.Ed., 7, Darnaway Street, Edinburgh.

LARYNGOLOGY AND OTOLOGY.

President: A. LOGAN TURNER, M.D., P.R.C.S.Ed. (Edinburgh).

Vice-Presidents: J. S. FRASER, M.B., F.R.C.S.Ed. (Edinburgh); W. M. MOLLISON, C.B.E., M.Chir., F.R.C.S. (London); DONALD R. PATERSON, M.D.Ed., F.R.C.P. (Cardiff).

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Vice-Presidents: G. F. BUCHAN, M.D., D.P.H. (London); Miss HARRIETTE CHICK, D.Sc. (London); A. M. HEWAT, M.D., D.P.H. (London); G. R. LEIGHTON, O.B.E., M.D., D.Sc. (Edinburgh).

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PHYSIOLOGY AND BIOCHEMISTRY.

President: Professor Sir EDWARD SHARPEY-SCHAFER, M.D., LL.D., D.Sc., F.R.S. (Edinburgh).

Vice-Presidents: Professor P. T. HERRING, M.D., F.R.C.P.Ed. (St. Andrews); Professor D. MURRAY LYON, M.D., D.Sc., F.R.C.P.Ed. (Edinburgh); Professor JOHN MELLANBY, M.D. (London); Professor T. H. MILROY, M.D. (Belfast); Professor JOHN TAIT, M.D., D.Sc. (Montreal).

Honorary Secretaries: Professor B. A. MCSWINEY, M.B., B.Ch., School of Medicine, Leeds; Miss MAY LAURIE WALKER, B.Sc., M.B., Ch.B., Department of Physiology, University of Edinburgh.

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Vice-Presidents: Professor J. B. BUXTON, M.A., F.R.C.V.S. (Cambridge); F. E. CREW, M.B., Ch.B. (Edinburgh); Major G. W. DUNKIN, M.R.C.V.S. (London).

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The following Sections will meet on One Day.

DERMATOLOGY.

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Vice-Presidents: W. HERBERT BROWN, M.D. (Glasgow); H. D. HALDIN-DAVIS, M.D., F.R.C.S. (London).

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Honorary Secretaries: A. R. D. ADAMS, M.B., Ch.B., D.T.M., [illegible] dicine, University of Liverpool; J. F. C. HASLAM, *M.C.*, M.B., D.P.H., Bureau of Hygiene and Tropical Diseases, 23, Endsleigh Gardens, London, W.C.1.

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Vice-Presidents: The Right Hon. Earl RUSSELL (London); Sir WALTER SCHRODER, K.B.E. (London); Professor SYDNEY A. SMITH, M.D., D.P.H. (Cairo).

Honorary Secretaries: [illegible] A. KERR, M.B., Ch.B., D.P.H., [illegible] e Department, University, Teviot [illegible] E. W. MCFALL, M.D., D.P.H., [illegible] verpool.

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Vice-Presidents: ARCHIBALD CAMBELL, M [illegible]
Mrs. MARGARET ROBKE, M.B., Ch.B. [illegible]
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RADIOLOGY.

President: J. M. WOODBURN MORISON, M.D., C.M., D.M.R.E. (Edinburgh).

Vice-President: M. R. J. HAYES, F.R.C.S.I. (Dublin).

Honorary Secretaries: W. CRICHTON FOTHERGILL, M.B., Ch.B., D.M.R.E., 5, Hermitage Drive, Edinburgh; JOHN MUIR, O.B.E., M.B., B.Ch., British Institute of Radiology, 32, Welbeck Street, London, W.1.

HISTORY OF MEDICINE.

President: JOHN D. COMRIE, M.D., F.R.C.P.Ed. (Edinburgh).

Vice-Presidents: ARNOLD CHAPLIN, M.D., F.R.C.P. (London); CHARLES SINGER, M.D., D.Litt., F.R.C.P. (London); R. W. INNES SMITH, M.D. (Sheffield); HENRY S. WELLCOME (Beckenham).

Honorary Secretaries: WALTER J. DILLING, M.B., Ch.B., Faculty of Medicine, University of Liverpool; ADAM CAIRNS WHITE, M.B., Ch.B.Ed., Pharmacological Department, University of Edinburgh.

MEDICAL SOCIOLOGY.

President: F. N. KAY MENZIES, M.D., F.R.C.P.Ed., D.P.H. (London).

Vice-Presidents: L. D. CRUICKSHANK, M.D., M.R.C.P.Ed., D.P.H. (Edinburgh); Sir HENRY S. KEITH, J.P. (Hamilton); the Hon. Lord MACKENZIE, LL.D. (Edinburgh); the Hon. Sir ARTHUR STANLEY, G.B.E., C.B., LL.D., Hon. F.R.C.P.Ed. (London); Sir NORMAN WALKER, M.D., LL.D., F.R.C.P.Ed. (Edinburgh).

Honorary Secretaries: T. YULE FINLAY, M.D., M.R.C.P.Ed., 9, Hermitage Gardens, Edinburgh; B. S. SIMMONDS, M.S., F.R.C.S., 124, Harley Street, London, W.1.

The Honorary Local General Secretary of the Annual Meeting is A. FERGUS HEWAT, M.D., F.R.C.P.Ed., 14, Chester Street, Edinburgh.

HOTEL ACCOMMODATION.

THE Hotels and Lodgings Committee has practically completed its arrangements for coping with the large numbers who are expected to visit Edinburgh in July. In order to secure the accommodation which is believed to be necessary, the Committee has definitely engaged all the available rooms in the city, and will allocate these to applicants in rotation. The Scottish Medical Secretary (Dr. Drever) has undertaken to do this work for the Committee, and applications for rooms should be sent to him at 6, Drumsheugh Gardens. A form for the purpose has been prepared for the convenience of members and appeared in our advertisement pages a fortnight ago; it will be repeated in subsequent issues. The accommodation is grouped in three classes—namely:

1. Hotels, whose tariff for bed and breakfast ranges between 8s. 6d. and 14s. The number who can be accommodated in these is comparatively limited.

2. Private hotels and boarding houses, at prices from 5s. 6d. to 8s. 6d. for bed and breakfast. Of these there is a large number, all of them comfortable.

3. Hostels where the tariff is 8s. for bed and breakfast. Not many of these are available, but those that are can be recommended.

Garage accommodation has also been secured, and lodgings for chauffeurs.

It will facilitate other arrangements if members who intend to be present at the Annual Meeting will notify their intention whether they have already secured rooms or not. Early application for rooms is earnestly desired.

REDUCED RAILWAY FARES TO EDINBURGH.

THE Railway Clearing House announces that the usual concession to members of the British Medical Association in regard to railway fares will apply to the Annual Meeting in Edinburgh. The railway companies in Great Britain (except the Metropolitan, Metropolitan District, and London Electric Railway Companies) have agreed to issue passenger tickets to Edinburgh, available from July 13th to 25th, at the ordinary single fare and one-third for the double journey, fractions of 3d. being reckoned as 3d., with a minimum adult fare of 1s. A printed voucher of the usual kind, duly filled in by the applicant and signed by the Financial Secretary of the Association, must be given up at the booking office when the ticket is bought. These vouchers will be obtainable in due course on application to the Finance Department, British Medical Association, Tavistock Square, London, W.C.1.

British Medical Association.

CURRENT NOTES.

Appointments Overseas.

IT cannot be too widely known that the Medical Secretary is always glad to assist members in preliminary inquiries as to conditions overseas. At its meeting on March 18th the Dominions Committee considered suggestions from an oversea Branch for ensuring that up-to-date information in connexion with all such vacancies occurring in its area should always be immediately available in this country at the central office of the Association. The Branch states the position as follows:

"From time to time the president and council of this Branch receive complaints from doctors on the ground that their appointments when taken up are not, in many details, what they were led to believe they would be when they received the appointments. Once such a doctor comes out here from home and takes up his appointment on an agreement for a term of years it is a matter of considerable difficulty for us as a body to help him; but at the same time we feel he should never have been allowed to accept an appointment on such terms, nor presumably would such a doctor have accepted the appointment if he had received reliable information earlier. . . . There have been one or two bad cases lately. 'All we can do is to advise the doctor who has consulted us to serve out his time and fulfil his obligations to the best of his ability and leave for good at the end of his term of agreement, but the unfortunate part is that another man is appointed in his place . . . on exactly the same terms. We, as a body here, are actually not in a position to advise any individual before the appointment. He, in turn, on realizing things, applies to us, but it is too late to give effective help. So he in turn resigns on the expiry of his agreement. And so it goes on."

Even the admirable arrangements outlined by the Branch to safeguard members from such mistakes must remain useless so long as the practitioners concerned accept these contracts without adequate preliminary inquiries and (where they are not in a position to prosecute such inquiries themselves) neglect the obvious precaution of applying to the Medical Secretary for the help he is only too anxious to give. The experience of the head office in this matter is parallel to that outlined by the Branch. Help is only too often asked for when it is too late to take any effective action.

Approved Societies and Medical Certificates.

At the annual conference of Industrial Approved Societies, held on March 21st, certain statements were made to which it seems necessary to direct immediate notice. According to reports which are usually accurate, Mr. A. C. Thompson, chairman of the Prudential Assurance Company and of the conference, said that he was "forced with reluctance to the conclusion that many members had been provided with medical certificates although they were not, in fact, incapable of work," and he said this not merely with regard to the period of the coal dispute, but more generally. Mr. R. J. Meller, M.P., another official of the Prudential Assurance Company, went further, and, according to the report, said: "They must insist that doctors perform their duties with greater honesty." Accusations against the general body of the medical profession of lack of honesty and of a widespread giving of false certificates cannot be allowed to pass unchallenged. In so far as the abnormal conditions of the coal dispute are concerned, we have dealt fully with the subject in a leading article in the JOURNAL of February 26th last (p. 390), where it was shown that the matter could not be explained by the simple and offensive hypothesis now enunciated by Messrs. Thompson and Meller. In their more general application, accusations of this type are not in accordance with the facts, and they have been effectively dealt with before the Court of Inquiry into the capitation fee and at other times. Their continued repetition by a section of approved society officials cannot fail to hinder that harmonious co-operation between insurance practitioners and other workers in the sphere of National Health Insurance which is so desirable, and which, we hoped, was being obtained.

Indigenous Medicine in Ceylon.

A committee was recently appointed by the Government of Ceylon to report on the practicability of providing Government assistance in the training of practitioners of the indigenous systems of medicine and in the investigation of the medicinal value of drugs used in the practice of such systems; and to prepare for the consideration of the Government a detailed scheme for such training and investigation as might be considered practicable. The report of the committee, dated October, 1926, was considered by the Dominions Committee of the British Medical Association at its last meeting. The adoption of the majority report would involve the recognition and the subsidization of the Ayurvedic and Unani systems at the expense of the progress of scientific medicine. The Dominions Committee views such a possibility with the very gravest anxiety. It is in communication with the Ceylon Branch on the subject, and is making urgent representations both to the Colonial Office and to the General Medical Council.

Edinburgh Meeting: Section of Medical Sociology.

The names of the officers of this Section and of the other twenty Sections are printed in the SUPPLEMENT this week. The personnel of the Medico-Sociological Section has, it will be noted, a strong bearing on the subject chosen for discussion: "The future relationship of the municipalities to the voluntary hospitals of this country." It is believed that the subject is particularly topical in view of the proposed reform of the Poor Law system, and those who wish to take part in the discussion should communicate with one of the secretaries of the Section.

Association Notices.

TABLE OF DATES.

Mar. 28, Mon.	Nomination papers available at Head Office for election of 24 members of Council by grouped Branches in British Isles; and 2 Public Health Service members of Council and 4 Representatives of Public Health Service in Representative Body.
April 5, Tues.	*Council* (afternoon).
April 6, Wed.	*Council.*
April 23, Sat.	Annual Report of Council appears in SUPPLEMENT.
	Last day for receipt at Head Office of nominations: (i) by a Division or not less than 3 members, for election of 24 members of Council by grouped Branches in British Isles; and (ii) for election of 2 Public Health Service members of Council, and 4 Representatives of Public Health Service in Representative Body.
May 7, Sat.	Publication in SUPPLEMENT of list of nominations for election of (i) 24 members of Council by grouped Branches in British Isles; (ii) 2 Public Health Service members of Council, and 4 Representatives of Public Health Service in Representative Body. Voting papers posted from Head Office where there are contests in above elections.
May 10, Tues.	Last date for receipt at Head Office of motions by Divisions and Branches for A.R.M. on matters of which two months' notice must be given.
May 14, Sat.	*Last day for receipt at Head Office of voting papers for election, where there are contests, of (i) 24 members of Council by grouped Branches in British Isles; and (ii) 2 Public Health Service members of Council, and 4 Representatives of Public Health Service in Representative Body.*
	Publication in SUPPLEMENT of motions by Divisions and Branches for A.R.M. on matters of which two months' notice must be given.
	Last date for election of Representatives and Deputy Representatives.
May 28, Sat.	Publication in SUPPLEMENT of results of election of members of Council by grouped Branches, and of election of members of Council and Representatives in Representative Body by Public Health Service members.
	Nomination papers available (at Head Office) for election of 12 members of Council by grouped Representatives (British Isles).
June 2, Thurs.	Last date for receipt at Head Office of names of Representatives and Deputy Representatives.
June 8, Wed.	*Council.*
June 16, Thurs.	Meetings of constituencies must be held between this date and July 15th, to instruct Representatives.
June 25, Sat.	*Supplementary Report of Council appears in SUPPLEMENT.*
July 1, Fri.	Amendments and riders by Divisions and Branches for inclusion in A.R.M. Agenda must be received at Head Office by this date.
July 15, Fri.	*Annual Representative Meeting*, Edinburgh, 10 a.m.
	Nominations for election of 12 members of Council by grouped Representatives must be received (at A.R.M., Edinburgh) by this date, 2 p.m.
July 16, Sat.	*A.R.M.* (Edinburgh).
July 18, Mon.	*Council* (Edinburgh).
	A.R.M. (Edinburgh).
July 19, Tues.	*A.R.M.* Annual General Meeting, Edinburgh, President's Address.
July 20, Wed.	*Council* (Edinburgh). Conference of Honorary Secretaries (Edinburgh).
	Meetings of Sections, etc., Edinburgh.
July 21, Thurs.	*Meetings of Sections*, etc., Edinburgh.
July 22, Fri.	*Meetings of Sections*, etc., Edinburgh.

ALFRED COX, *Medical Secretary.*

BRANCH AND DIVISION MEETINGS TO BE HELD.

BIRMINGHAM BRANCH: DUDLEY DIVISION.—A meeting of the Dudley Division will be held jointly with the Stourbridge Medical Society at the Corbett Hospital, Stourbridge, on Thursday, April 7th, at 8.30 p.m. Agenda.—*Dudley Division:* Election of representative for Dudley and Bromsgrove constituency; medical charities; registration of maternity homes; Coroners Amendment Act, 1926; reports of Executive. *Stourbridge Medical Society:* Arrangements for Annual Meeting; paper by Dr. T. M. Tibbetts on "Quackery and stunts in modern practice." *Coffee and light refreshments will be provided.*

BIRMINGHAM BRANCH: NUNEATON AND TAMWORTH DIVISION.—A meeting of the Nuneaton and Tamworth Division will be held at the Nuneaton General Hospital on Wednesday, April 6th, when a paper will be read by Dr. P. C. Cloake.

BIRMINGHAM BRANCH: WEST BROMWICH DIVISION.—The second regular meeting of the West Bromwich Division will be held at the District Hospital, West Bromwich, on Tuesday, April 5th, at 3 p.m. Agenda: Consultants in puerperal fever and pyrexia cases; Coroners Amendment Act, 1926; circulating library; medical charities; Dr. Lewis Graham (Birmingham) will read a paper on "Some points in the conduct of midwifery in private practice."

DORSET AND WEST HANTS BRANCH: BOURNEMOUTH DIVISION.—A meeting of the Bournemouth Division will be held at St. Peter's Small Hall, Bournemouth, on Thursday, April 7th. Dr. Robert Hutchison will give a British Medical Association Lecture on "Diet in infancy and childhood."

DORSET AND WEST HANTS BRANCH: WEST DORSET DIVISION.—A meeting of the West Dorset Division will be held at the Weymouth and District Hospital on Thursday, March 31st, at 8 p.m. Cases will be shown and discussed. A discussion on "Pain in the right iliac fossa" will be opened by Mr. J. Whittingdale, F.R.C.S. The representative and deputy representative of the Division to the Annual Representative Meeting will also be elected.

ESSEX BRANCH: MID-ESSEX DIVISION.—The annual general meeting of the Mid-Essex Division will be held to-day (Friday, March 25th), at the Bell Hotel, Chelmsford, at 3 p.m. Agenda: (1) Report of the year's work. (2) Election of officers for 1927; lantern slides will be shown by the chairman, Dr. R. H. Vercoe, on: (*a*) Vitamin deficiency diseases; (*b*) On the mountains of Tyrol.

FIFE BRANCH.—The annual meeting of the Fife Branch will be held at the Station Hotel, Kirkcaldy, on Thursday, March 31st, at 3 p.m. Agenda: Report of Branch Council; election of office-bearers and Branch Council; arrangements for clinical meetings for winter of 1927-28; business of Annual Representative Meeting; Annual Meeting of Association in Edinburgh—excursions to Fife and Guarantee Fund. The last clinical meeting of the session will follow at 4 p.m., when Professor Price (Dundee) will give an address on congenital deformities. The annual dinner will be held at the same place at 5.30 p.m.

GLASGOW AND WEST OF SCOTLAND BRANCH: LANARKSHIRE DIVISION.—A meeting of the Lanarkshire Division will be held at Dalzell House on *Wednesday, April 6th*, at 3 p.m., when a visit will be paid to Lord Hamilton of Dalzell's model farm.

METROPOLITAN COUNTIES BRANCH: CITY DIVISION.—A meeting of the City Division will be held at the Metropolitan Hospital, Kingsland Road, E.3, on Tuesday, April 5th, at 9.30 p.m. Mr. Russell Howard, F.R.C.S., surgeon to the London Hospital, will read a paper on "The diagnosis and treatment of mammary swellings." A cordial invitation is extended to non-members.

METROPOLITAN COUNTIES BRANCH: FINCHLEY DIVISION.—A meeting of the Finchley Division will be held at the Finchley Memorial Hospital on Tuesday, April 5th, at 8.45 p.m. Dr. J. A. Hadfield will give an address on "Child psychology and the psychoneuroses."

METROPOLITAN COUNTIES BRANCH: HENDON DIVISION.—A clinical meeting of the Hendon Division will be held at the Hendon Cottage Hospital to-day (Friday, March 25th), at 8.30 p.m. Mr. J. F. O'Malley, F.R.C.S. (surgeon to the Ear, Nose, and Throat Department, University College Hospital), will give an address on "Some recent advances in diseases of the ear, nose, and throat."

METROPOLITAN COUNTIES BRANCH: NORTH MIDDLESEX DIVISION.—At the meeting of the North Middlesex Division on March 30th Dr. G. W. H. French will read a paper on "Differential diagnosis of the acute abdomen."

METROPOLITAN COUNTIES BRANCH: ST. PANCRAS DIVISION.—A meeting of the St. Pancras Division will be held at the British Medical Association House on Tuesday, April 12th, at 9 p.m., when Dr. Geoffrey Evans will discuss the treatment of high blood pressure.

METROPOLITAN COUNTIES BRANCH: SOUTH MIDDLESEX DIVISION.—A meeting of the South Middlesex Division will be held at St. John's Hospital, Twickenham, on Wednesday, April 6th, at 3.15 p.m., for general business. At 3.30 p.m. Dr. John Bell (Hammersmith) will read a paper on "Some difficulties met with in midwifery practice." Tea will be provided.

METROPOLITAN COUNTIES BRANCH: SOUTH-WEST ESSEX DIVISION.—A meeting of the South-West Essex Division will be held at the Walthamstow Hospital on Tuesday, March 29th, at 3.30 p.m. Dr. G. F. Still will give an address on "Vomiting in childhood."

MIDLAND BRANCH: CHESTERFIELD DIVISION.—A meeting of the Chesterfield [illegible] will be held at the Maternity Hospital, Chesterfield, " 25th), at 8.15 p.m. Mr. A. M. Webber, surg " Hospital, will give an address on "Observations on hysterectomies." Tea and coffee will be served at 8 p.m.

NORTH OF ENGLAND BRANCH: BLYTH DIVISION.—The Blyth Division is holding a dinner, at which Dr. Alfred Cox will be present, on Thursday, March 31st, at the Star and Garter Hotel, Blyth, at 7.30 for 8 p.m. Members of the Morpeth Division are invited to be present. Price of dinner (exclusive of wine), 10s.

NORTH OF ENGLAND BRANCH: NEWCASTLE-ON-TYNE DIVISION.—A reception and dance will be held by the Newcastle-on-Tyne Division at the College of Medicine, Newcastle-on-Tyne, on Thursday, March 31st, at 8.30 p.m. to 1 a.m. Dr. and Mrs. A. Livingston will receive the guests. During the evening a cabaret show will be given by the College of Medicine Concert Party, and arrangements will be made for those desiring to play cards. Light refreshments will be available. Cars may be parked in Northumberland Road, east of the College of Medicine, and in Ellison Place. Tickets 5s. each. Members are asked to make early application.

NORTH OF ENGLAND BRANCH: SUNDERLAND DIVISION.—A meeting of the Sunderland Division will be held at the Royal Infirmary, Sunderland, on Wednesday, April 20th, at 8.15 p.m. Dr. E. Farquhar Murray will give an address on "Some modern aspects of midwifery and gynaecology." All members of the Division are invited to be present.

SOUTH-WESTERN BRANCH.—An intermediate meeting of the South-Western Branch will be held on Thursday, March 31st, at Torquay.

SOUTHERN BRANCH: PORTSMOUTH DIVISION.—The next meeting of the [illegible] Division will be held at the Queen's Hotel, " April 7th, at 9.30 p.m., when Professor " n address on "The medical treatment of gastric diseases." The meeting will, as usual, be preceded by supper at 9 o'clock precisely. Members intending to be present at supper are particularly requested to notify the honorary secretary, Dr. H. H. Warren, Devonia, Goldsmith Avenue, Southsea, on or before Monday, April 4th.

STAFFORDSHIRE BRANCH: SOUTH STAFFORDSHIRE DIVISION.—At the meeting of the South Staffordshire Division to be held on Tuesday, March 29th, Dr. T. Watts Eden, F.R.C.P., will give a British Medical Association Lecture on "Prevention and treatment of eclampsia."

SUFFOLK BRANCH: SOUTH SUFFOLK DIVISION.—A meeting of the South Suffolk Division will be held at the Crown and Anchor Hotel to-day (Friday, March 25th), at 3.30 p.m. Agenda: Business arising out of minutes; British Medical Association monthly circular; Dr. H. N. Baron will open a discussion on "The need for closer co-operation between hospital staffs and general practitioners."

SURREY BRANCH: GUILDFO[illegible]day will open a discussion at a combi[illegible] Division and the Veterinary Medical [illegible]s Branch, on clean milk, to be held on May 19th. Further particulars will be announced later.

SURREY BRANCH: REIGATE DIVISION.—A clinical meeting of the Reigate Division will be held at the Caterham Cottage Hospital on Wednesday, April 13th, at 4 p.m.

SUSSEX BRANCH: BRIGHTON DIVISION.—A combined meeting of the Brighton and District Section of the British Dental Association and the Brighton Division will be held at the Queen's Road Dispensary, Brighton on Tuesday, March 29th, at 8.30 p.m. Mr. R. J. Hooker will open a discussion on dental anaesthesia. It is hoped that as many members as possible of both bodies will attend and take part in the debate.

SUSSEX BRANCH: HASTINGS DIVISION.—The next meeting of the Hastings Division will be held at the Queen's Hotel, Hastings, on Tuesday, April 5th, at 8.15 p.m. Coffee will be served immediately before the meeting. Mr. H. E. Marsh, L.D.S., will read a paper on "Collaboration of medical and dental practitioner in dental practice." The meeting is being held jointly with the local section of the British Dental Association, and all members of that association are cordially invited to attend and take part in the discussion.

YORKSHIRE BRANCH: WAKEFIELD, PONTEFRACT, AND CASTLEFORD DIVISION.—A meeting of the Wakefield, Pontefract, and Castleford Division will be held at the Bull Restaurant, Westgate, Wakefield, on Thursday, April 7th. Mr. G. L. Wilkinson (honorary clinical lecturer, Leeds University Dental School) will read a paper on "Conservative dentistry." Dental friends are invited. Supper at 7.45 p.m. (2s. 6d.) will precede the meeting.

Meetings of Branches and Divisions.

ASSAM BRANCH.

THE annual general meeting of the Assam Branch was held at Haflong on January 14th and 16th, with Dr. D. P. WILLIAMS, President of the Branch, in the chair. With reference to the question of unregistered practitioners in tea gardens, a resolution was passed calling attention to the injustice of dismissing those who are not now registerable under the Registration Act, although they had obtained medical qualifications previously. The present unregistered practitioners employed in tea gardens could not be replaced, since there were insufficient registered practitioners for the purpose. It was agreed that the Branch should approach the Government with a view to improving the training of registered practitioners. It was decided to form two autonomous and separate Divisions for Assam and the Surma Valley. The Branch secretary was asked to invite the Indian Tea Association to obtain from the Calcutta School of Tropical Medicine a research worker to inquire into the etiology of "naga sores." Dr. McLaren was elected president of the Branch for the ensuing year, and Dr. E. A. Goldie secretary of the Branch and also of the Assam Division. Dr. Dunlop was elected honorary secretary of the Surma Valley Division.

An address was delivered by the PRESIDENT, and Lieut.-Colonel PALMER read a paper on sporadic cholera in Cachar, and its association with a hitherto undescribed type of organism. This paper was discussed by Dr. D. P. WILLIAMS, Dr. F. W. O'CONNOR, and Dr. DE COURCY BENNETT. Dr. O'CONNOR read papers by Lieut.-Colonel Hodgson on the present position of anticholera vaccination, and by Dr. P. Foster on the importance of the early recognition of kala-azar. Dr. J. DUNLOP opened a discussion on the employment of trained Indian midwives in tea gardens with a view to reducing the high mortality and unnecessary loss of life of pregnant women. Dr. MEEK stated that in Cachar a child welfare scheme, involving the training of midwives, had been tried with success, and Dr. HOMER stated that the Assam Bengal Railway had employed two trained midwives in Lumding with satisfactory results. Dr. MCLAREN doubted whether the provision of a crèche would be popular, and suggested that trained midwives should be attached to garden hospitals. Dr. O'CONNOR believed that European women doctors or midwives would be more successful than those trained in India, and Dr. WILLIAMS agreed that this proposal was probably the best solution of a difficult problem.

MIDLAND BRANCH: CHESTERFIELD DIVISION.

THE annual dinner of the Chesterfield Division was held on March 9th. The chairman of the Division, Dr. MCGINNIS, presided, and was supported by numerous members and friends, included amongst the latter being Dr. Cox, Medical Secretary of the Association, who was the official guest of the Division; Dr. Hollies, President of the Shropshire and Mid-Wales Branch; and Dr. Nicholson, county tuberculosis officer.

The principal toast, "The British Medical Association," was proposed by Dr. PECK, who alluded to the good work done by the Divisions and at headquarters, special reference being made to the executive officers, and particularly to Dr. Cox, whose name he coupled with the toast.

Dr. Cox, in his reply, gave an account of some of the work at headquarters, and told some interesting stories of his travels in South Africa. Referring to the idea, prevalent amongst trade unionists, that the British Medical Association was a powerful trade union, he defined the exact position of the Association as being, not a trade union in the usual sense of the term, but an Association for the protection of its members, when such protection was not in antagonism to the interests of the public. The interests of the public were, and always must be, the first consideration. Dr. Cox referred in complimentary terms to the work of the Chesterfield Division, and expressed his pleasure at being able to be present on that occasion.

The CHAIRMAN then, on behalf of the Division, presented Dr. Pooler, honorary secretary, with a case of table silver inscribed as follows:

"Presented to Dr. H. W. Pooler by the Members of the Chesterfield Division of the British Medical Association, as a mark of their appreciation of his invaluable services as Honorary Secretary, March 9th, 1927."

Dr. MCGINNIS, in making the presentation, referred to Dr. Pooler's devoted and strenuous work for the Division, and stated that the gift was a mark of the gratitude, the respect, and the affection which Dr. Pooler had so worthily earned from his professional colleagues in the district. He asked those present to drink to his long life and happiness.

After the toast had been drunk with musical honours Dr. POOLER, in reply, said how much he appreciated the gift, not only for its intrinsic value, but for the spirit in which it had been offered. He gave a short history of the Division, which he stated was only founded in 1912, but owing to the national insurance agitation, and the great war, had really had no opportunity of development until after the armistice, soon after which he had been appointed secretary. There had, therefore, being a good deal of spade-work for the secretary, which would have been done equally well, or better, by any other secretary. He then gave a short summary of the work of the Division since 1918, alluding to the post-graduate classes, the clinical and pathological evenings, and the successful terminations of the three disputes with the local miners' sick clubs. In conclusion he said how, amidst all the difficulties and disappointments of general practice, in spite of set-backs, and sometimes even of gross ingratitude, the poorest and weakest practitioner had one great reward, greater than in any other profession, except perhaps in the clerical one—the gratitude and affection of his neighbours and fellow citizens; a reward which almost inevitably came to every medical practitioner in greater or less degree. But it was a much more difficult matter for a general practitioner to obtain the esteem and confidence of his professional colleagues, and it was because he himself regarded the presentation as evidence that he had secured such a position in the eyes of his colleagues that the gift would always be to him and his family a possession beyond price.

Other toasts given were "The Visitors" and "The Chairman," and the programme included a very fine selection of music by Messrs. Askew, Hartley, and Heath.

SCHOLARSHIPS AND GRANTS IN AID OF SCIENTIFIC RESEARCH.

SCHOLARSHIPS.

THE Council of the British Medical Association is prepared to receive applications for Research Scholarships, as follows:

> A Scholarship, known as the ERNEST HART MEMORIAL SCHOLARSHIP, of the annual value of not more than £200, and three other RESEARCH SCHOLARSHIPS, each of the annual value of not more than £150, for research in any subject (including State Medicine) relating to the Causation, Prevention, or Treatment of Disease.

Each Scholarship is tenable for one year, commencing on October 1st, 1927. A Scholar may be reappointed for not more than two additional terms. *A Scholar may hold a junior appointment at a University, Medical School, or Hospital* provided the duties of such appointment do not interfere with his work as a Scholar.

The conditions of the award of Scholarships are stated in the Regulations, a copy of which will be supplied on application to the Medical Secretary of the Association, British Medical Association House, Tavistock Square, London, W.C.1.

GRANTS.

The Council of the British Medical Association is also prepared to receive applications for Grants for the assistance of research into the Causation, Treatment, or Prevention of Disease. Preference will be given, other things being equal, to members of the medical profession and to applicants who propose as subjects of investigation problems directly related to practical medicine.

The conditions of the award of Grants are stated in the Regulations, a copy of which will be supplied on application to the Medical Secretary of the Association, British Medical Association House, Tavistock Square, London, W.C.1.

Applications.

Applications for Scholarships and Grants for the year 1927–28 *must be made not later than Saturday, June 4th, 1927*, on the prescribed form, a copy of which will be supplied by the Medical Secretary on application. Applicants are required to furnish the names of three referees who are competent to speak as to their capacity for the research contemplated to whom reference may be made.

March 5th, 1927. ALFRED COX, *Medical Secretary.*

GENERAL MEDICAL COUNCIL.

EXECUTIVE COMMITTEE.

THE Executive Committee of the General Medical Council met on February 28th under the presidency of Sir DONALD MACALISTER, and the minutes have now been issued.

Notification was received of the reappointment of the following members of the Council: Dr. John Y. Mackay (University of St. Andrews), Sir Arthur Chance (Royal College of Surgeons in Ireland), Mr. H. L. Eason (University of London). The Registrar reported that the names of twenty-six persons had been restored to the *Medical Register*, from which they had been erased under Section 14 of the Medical Act, 1858, because of failure to reply to inquiries as to cessation of practice or change of address. The Senior Treasurer presented the audited statements of receipts and expenditure, and the balance sheets of the General and Branch Councils for the year 1926. These accounts, which have been transmitted to the Lord President of the Privy Council to be laid before Parliament, are printed with the minutes in tabular form as an appendix.

Irish Free State.

The Privy Council transmitted a copy of a bill which was passed recently by both Houses of the Oireachtas of the Irish Free State, and received the Royal Assent on February 11th. The new Act gives power to prolong the operation of the Medical Act, 1925, for a limited period after February 21st, 1927. Under it the Executive Council of the Saorstat Eireann may continue the principal Act in force for one month from that date, and thereafter by subsequent orders until at latest June 21st, 1927. Thus the previous arrangement, by which the Medical Acts of this country are made applicable to Southern Ireland, is maintained for the time being.

Calcutta University.

The Committee heard with pleasure that the Vice-Chancellor of the University of Calcutta had reported to the President that that University has adopted all the suggestions for the improvement in instruction and standard of examination made by the Council in 1924. These have been embodied in regulations passed by the Senate, and come into operation this year.

Mauritius.

A communication was received from the Colonial Office transmitting for the observations of the Council a proposed bill to regulate the practice of medicine and surgery in the colony of Mauritius. The Committee expressed satisfaction at learning from this that Mauritius is taking steps to prevent the practice of medicine by unqualified persons.

British Institute of Radiology.

In May, 1921, the Board of Trade was in communication with the General Medical Council regarding an application from the British Institute of Radiology for registration without the use of the word "Limited." A further letter from the Board of February 14th, 1927, referred to a proposed alteration in the Memorandum and Articles of Association of the Institute and its proposed change of name to the "British Institute of Radiology, incorporated with the Röntgen Society." The Committee recorded approval of No. 12 of the Articles of Association:

"No member or associate who is not a registered medical or dental practitioner shall accept patients for medical diagnosis or treatment except under the personal supervision of a registered practitioner,"

and expressed the opinion that Section 3 (c) of the Memorandum of Association, which provides for granting diplomas and certificates of merit and efficiency, should be amended by the following words:

"and that the holder of such diploma or certificate is not thereby entitled to undertake the medical diagnosis or treatment of patients except under the personal supervision of a registered practitioner."

Drugs used by Midwives.

The Committee having before it a resolution adopted by the Central Midwives Board on January 6th last regarding the use of drugs by midwives, recorded the opinion that it is expedient that the rules of the Central Midwives Board should include provisions restricting the drugs and solutions to be used by midwives in their practice. This resolution is being forwarded to the Ministry of Health, the Scottish Board of Health, and the Ministry of Home Affairs for Northern Ireland.

Correspondence.

Spa Treatment for Insured Persons.

SIR,—The report of the conference on spa treatment for insured persons published in the SUPPLEMENT of March 12th (p. 85) presents many points of interest, and draws attention to statements which require careful consideration.

It is pointed out that since the publication of the report on "The incidence of rheumatic diseases" in 1924 by the Ministry of Health more attention has been drawn to the benefits derived from spa treatment in rheumatic conditions. The Ministry of Health report stated that nearly one-sixth of the industrial invalidity of this country is due to diseases classed as "rheumatic," and that each year these diseases are costing the approved societies nearly £2,000,000 in sick benefit, and the nation over 3,000,000 weeks of work from the insured population alone, and, further, this loss both in money and time is due to chronic joint disease. Various lines of action have been proposed for dealing with this problem, but here I only propose to deal with some factors in connexion with spa treatment.

For this form of treatment to be successful, accurate diagnosis and careful selection of cases are essential. It is certain that in suitable cases physiotherapeutic measures of treatment are efficacious. Physiotherapeutic methods consist of the use of natural forces such as light, heat, air, water, electricity, and exercise. Some of these—for example, balneotherapy—require a large and expensive installation, and where "baths" are extensively given, either alone or in combination with other modes of physiotherapy, the term "spa treatment" is in more or less general use.

At the recent conference spa treatment was defined as "treatment at a place possessing a supply of natural mineral waters of known therapeutic value, and facilities for their application," and, further, one of the essential rules for admission of any place to the British Spa Federation is "the possession of natural mineral waters showing on analysis a proper therapeutic value." It would be easy to criticize these definitions, and it is interesting to note that sea water, which is a natural mineral water of the muriated or chloride class, is not recognized under either.

Several spa physicians have drawn attention to the fact that nearly every spa—irrespective of the analysis of their various mineral waters—claims to be useful in the treatment of rheumatic disorders and arthritis, and it is certain that they are all correct; and I think we may go further, and state that every place giving "spa treatments" under suitable supervision can fairly make the same claim.

In an article in the *Prescriber* (March, 1926) I wrote:

"The term spa treatment has not the limited connotation frequently applied to it—the internal and external treatment by means of a natural mineral water. All spas have a natural mineral water, although in some the mineral content is extremely small, but they do not limit their treatment to the internal and external use of waters. At many a considerable percentage of prescriptions consist of electricity, massage, exercises and accessory treatments, combined with advice as to diet and other essentials."

And I may add that it has not been proved that for external hydrotherapeutic treatment natural mineral waters are superior to ordinary water, or that highly concentrated brines are superior to sea water.

Starling, in his *Textbook of Physiology*, writes:

"In order to test the alleged influence of baths containing medicinal substances in solution, many experiments have been made to determine whether absorption is possible by the skin. It may be regarded as established that the uninjured skin is impermeable for watery solutions of salts or other substances."

In Holland the "spas" are entirely sea-water resorts, and rheumatic patients are treated with good results, and there are several places in the British Isles where good results are obtained with the use of ordinary water; also, during and after the war soldiers suffering from rheumatic conditions were treated successfully at hydrological departments in hospitals.

In the rheumatic group of diseases it is the external balneological methods of treatment that prove most beneficial, either alone or when combined with other physiotherapeutic measures.

The therapeutic effects of baths are due to the temperature and pressure of the water, the duration of the bath, and the

immediate after-treatment, and it is not, in my opinion, essential that spa treatments should only be given "at a place possessing a supply of natural mineral water." If this is agreed the position is simplified, as it would not be possible for the federated spas or our mineral water hospitals with their present facilities to deal with more than a proportion of the rheumatic insured population.

If a definite scheme is to be finally adopted for the giving of "spa treatments" to the insured, it will be necessary also to utilize facilities which at present exist outside of the British Spa Federation, and to form clinics in large industrial centres with adequate apparatus for the giving of treatment by physical methods under medical supervision.—I am, etc.,

K. R. COLLIS HALLOWES, M.B.

Torquay, March 15th.

Anaesthetic Fees.

SIR,—It is probably worth while at once to correct the statement made by Dr. Standley in his letter in the SUPPLEMENT of March 19th (p. 94) that for the service of administering anaesthetics an insurance practitioner "is in receipt of sixpence for every patient on his panel list." There is no such provision. The remuneration for this service is included in the general capitation fee, but its separate evaluation has never been attempted. I have not hitherto met this particular delusion among the many that are prevalent with regard to "medical benefit," but, whether widely held or no, it should be corrected. —I am, etc.,

London, N.W.11, March 19th. H. B. BRACKENBURY.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

Surgeon Commanders D. D. Turner is placed on the retired list with the rank of Surgeon Captain; P. N. Button, O.B.E., to the *Columbine* for Port Edgar Naval Base.

Surgeon Lieutenant Commanders N. A. H. Barlow to the *Bryony*; W. J. McB. Allen to the *Comus*; I. W. Gammell to the *Malabar* for R.N. Hospital, Bermuda.

Surgeon Lieutenants N. A. Dickinson to the *Tamar*; P. J. Maguire to the *Victory* for R.N. Hospital, Haslar, temporary, supernumerary, March 14th, and to the *Pembroke* for R.M. Infirmary, Deal, April 2nd; A. P. Anderson-Stuart to the *Godetia*; T. Prentice to the *Fitzroy*; P. H. Deeny to the *Kellett*.

Surgeon Lieutenant L. R. Sorley (short service) has transferred to the permanent list.

ROYAL NAVAL VOLUNTEER RESERVE.

Surgeon Lieutenant Commander L. C. D. Irvine to the *Champion* for twenty-one days' training.

Surgeon Lieutenant C. C. Elliott, D.S.C., to the *Victory* for Haslar Hospital for fourteen days' training.

Probationary Surgeon Lieutenant R. J. Matthews to be Surgeon Lieutenant.

ROYAL ARMY MEDICAL CORPS.

W. T. Baker to be temporary Lieutenant.

Lieutenant W. V. Harke, late T.A., Reserve of Officers, to be temporary Lieutenant.

ROYAL AIR FORCE MEDICAL SERVICE.

Flight Lieutenant V. R. Smith is promoted to the rank of Squadron Leader.

Flying Officer D. B. Smith is promoted to the rank of Flight Lieutenant.

A. L. StA. McClosky is granted a short-service commission as a Flying Officer, for three years on the active list, and is seconded for civil employment at the Princess Alice Memorial Hospital, Eastbourne.

R. Thorpe is granted a short-service commission as a Flying Officer for three years on the active list.

REGULAR ARMY RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

Colonel A. H. Morris, C.I.E., C.B.E., late R.A.M.C., having attained the age limit of liability to recall, ceases to belong to the Reserve of Officers.

TERRITORIAL ARMY.

ROYAL ARMY MEDICAL CORPS.

Lieutenant A. Badenoch to be Captain (prov.).

Lieutenant D. A. Davies, late Welsh Guards Special Reserve, to be Lieutenant.

Second Lieutenant D. J. MacMyn, from the General List (unposted), T.A., to be Lieutenant.

VACANCIES.

BIRKENHEAD GENERAL HOSPITAL.—Casualty House-Surgeon (male). Salary £100 per annum.

BRIGHTON: THE LADY CHICHESTER HOSPITAL FOR EARLY NERVOUS BREAKDOWN.—Medical Woman as House-Physician, and also a Junior. Salary at the rate of £100 and £50 per annum respectively.

CHARING CROSS HOSPITAL, W.C.2.—Assistant Obstetric Physician.

EXETER: ROYAL DEVON AND EXETER HOSPITAL.—Resident Casualty Officer (male). Salary at the rate of £100 per annum.

GLAMORGAN COUNTY COUNCIL.—Dental Surgeon (woman). Salary £500 per annum, rising to £700.

HERTFORD COUNTY HOSPITAL.—House-Physician (male). Salary at the rate of £150 per annum.

HOSPITAL FOR EPILEPSY AND PARALYSIS, Maida Vale, W.9.—(1) Honorary Gynaecologist. (2) Resident Medical Officer. (3) House-Physician. Salary for (2) and (3) £150 and £100 per annum respectively.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.1.—(1) House-Surgeon. (2) House-Physician and Assistant Casualty Officer. Salary £50 for six months each.

HULL ROYAL INFIRMARY.—(1) Honorary Physician. (2) Honorary Assistant Surgeon to Nose, Throat, and Ear Department.

LEEDS GENERAL INFIRMARY.—Assistant Medical Officer for Venereal Diseases Department. Salary £500 per annum.

LEWISHAM: ST. JOHN'S HOSPITAL.—Resident Casualty Officer (male). Salary at the rate of £100 per annum.

LIVERPOOL AND DISTRICT HOSPITAL FOR DISEASES OF THE HEART.—House-Physician for six months.

LONDON UNIVERSITY.—University Chair of Anatomy tenable at King's College. Salary £1,000 a year.

MANCHESTER CITY.—Two Junior Medical Assistants at the Monsall Hospital for Infectious Diseases (males, unmarried). Salary £350 per annum.

METROPOLITAN ASYLUMS BOARD.—Junior Assistant Medical Officer at the High Wood Hospital for Children, Brentwood. Salary £500 per annum.

MIDDLESEX HOSPITAL, W.1.—Assistant Radiologist (Diagnostic). Salary £100 per annum.

PADDINGTON GREEN CHILDREN'S HOSPITAL, W.2.—(1) House-Physician. (2) House-Surgeon. (Males, unmarried.) Salary at the rate of £150 per annum each.

PLYMOUTH: SOUTH DEVON AND EAST CORNWALL HOSPITAL.—Casualty House-Surgeon (unpaid).

POPLAR HOSPITAL FOR ACCIDENTS, East India Dock Road, E.14.—Second Resident Officer. Salary at the rate of £175 per annum.

ROCHFORD HOSPITAL.—Assistant Resident Medical Officer (lady). Salary £175 per annum.

ROTHERHAM UNION.—Resident Assistant Medical Officer at the Union Hospital (unmarried). Salary £125 per annum.

SAMARITAN FREE HOSPITAL FOR WOMEN, Marylebone Road, N.W.1.—House-Surgeon. Salary at the rate of £100 per annum.

SUDAN GOVERNMENT MEDICAL DEPARTMENT.—Two Medical Officers. Pay £E.720 per annum, rising to £E.1,200 after thirteen years' service.

SUNDERLAND: CHILDREN'S HOSPITAL.—Senior and Junior Resident Medical Officers (female). Salary £120 and £100 per annum respectively.

YORK CITY.—Assistant Medical Officer of Health, School Medical Officer, and Tuberculosis Officer. Salary £600 per annum.

YORK: COUNTY HOSPITAL.—House-Physician. Salary £150 per annum.

CERTIFYING FACTORY SURGEON.—The appointment at Porlock (Somerset) is vacant. Applications to the Chief Inspector of Factories, Home Office, Whitehall, S.W.1.

MEDICAL REFEREE UNDER THE WORKMEN'S COMPENSATION ACT, 1925, for the Districts of the Bangor, Conway, Llandudno, and Colwyn Bay and Llanrwst County Courts. Applications to the Private Secretary, Home Office, S.W.1, by April 6th.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.

APPOINTMENTS.

DOWNER, R. L. E., M.D.Lond., Obstetric Consultant under the Public Health (Notification of Puerperal Fever and Puerperal Pyrexia) Regulations, 1926, for the county of Salop.

EDWARDS, R. B., M.B., B.S., Medical Referee under the Workmen's Compensation Act, 1925, for the districts of the Denbigh and Ruthin and Rhyl County Courts, vice D. Lloyd, M.B., C.M., deceased.

GILMORE, Edward R. W., M.B., Ch.B., D.P.H.Vict., D.P.H.Lond., D.T.M. Liverp., Assistant School Medical Officer to Education Committee, City of Salford.

MANCHESTER ROYAL INFIRMARY.—*Assistant Surgical Officers:* D. M. Sutherland, M.D., F.R.C.S., and K. V. Bailey, *M.C.*, M.D., Ch.B. *Cardiological Registrar:* R. Ellis, M.B., Ch.B. *Pathological Registrars:* W. Susman, M.D.Ont., and C. Polson, M.B. *Surgical Registrars:* S. W. Drinkwater, M.B., Ch.B., and S. M. Milner, M.A., B.Ch. *Clinical Assistants:* Miss F. Whitrow, M.B., Ch.B., and Miss G. Maclean, M.B., Ch.B. *Assistant to the Director of the Clinical Laboratory:* G. S. Smith, M.B., Ch.B. *Assistant Medical Officer in the Massage and Electrical Department:* Raphael Shaffer, M.B., Ch.B. *Resident Medical Officer:* William Brockbank, B.Ch.Camb., M.R.C.P. *Assistant Resident Surgical Officer:* L. Morris, M.B., Ch.B., F.R.C.S. *Resident Clinical Pathologist:* G. F. Langford, M.B., Ch.B.

CERTIFYING FACTORY SURGEONS.—F. B. Hobbs, M.D.Camb., M.R.C.P., for the Farnham District, co. Surrey; C. F. R. Killick, M.B., Ch.B.Brist., for the Williton District, co. Somerset; A. H. D. Ord-Richmond, M.B., Ch.B.Edin., for the Presteign District, co. Radnor; M. Purcell, M.B., B.Ch., N.U.I., for the Silsden District, co. York, West Riding.

DIARY OF SOCIETIES AND LECTURES.

ROYAL SOCIETY OF MEDICINE.

Section of Odontology.—Mon., 8 p.m., Mr. D. Stewart: Aspects of the Innervation of the Teeth; Mr. T. B. Layton: Osteomyelitis of the Upper Jaw in Scarlet Fever.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W.1.—Tues., 5 p.m., Lumleian Lecture by Sir Charlton Briscoe, Bt.: The Muscular Mechanism of Respiration and its Disorders.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.—Museum Demonstrations. Mon., 5 p.m., Mr. C. E. Shattock: Veins and Lymphatic Vessels. Fri., 5 p.m., Sir Arthur Keith: Anatomy and Physiology of the Gall Bladder.

POST-GRADUATE COURSES AND LECTURES.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION.—Special Lecture Demonstration at the Medical Society, 11, Chandos Street, W.1, Thurs., 5 p.m.: Emergencies in Anaesthetics. Open to all members of the medical profession, without fee. *All Saints' Hospital*, Vauxhall Bridge Road, S.W.: Thurs., 3 p.m., Special Demonstration (Genito-urinary). Free to members of the medical profession. *London Temperance Hospital*, Hampstead Road, N.W.1.: 4.30 to 6 p.m., General Practitioners' Course in Medicine, Surgery, and the Specialties. *Queen's Hospital for Children*, Hackney Road, Bethnal Green, E.: All-day Course, the chief feature of which will be the showing of cases. *Royal Eye Hospital*, St. George's Circus, Southwark, S.E.: Afternoon Demonstrations on the Diagnosis and Treatment of Diseases of the Eye. *Royal National Orthopaedic Hospital*, 234, Great Portland Street, W.: Comprehensive Course—morning and afternoon sessions, including Saturday. All information as to fees, etc., obtainable from the Fellowship of Medicine, 1, Wimpole Street, W.1.

CENTRAL LONDON THROAT, NOSE AND EAR HOSPITAL, Gray's Inn Road, W.C.1.—Fri., 4 p.m., Diathermy in the Treatment of Cancer in the Pharynx.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.1.—Thurs., 4 p.m., Abdominal Pain.

LONDON SCHOOL OF DERMATOLOGY, St. John's Hospital, Leicester Square, W.C.2.—Tues., 5 p.m., Scleroderma, Neurofibromatosis.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, [illegible] a.m., Surgical Clinic; 2.30 to 5 p.m., [illegible] naecological Clinics; Operations. Tues., 2.3[illegible] of Surgical Cases; 2.30 to 5 p.m., Medical, [illegible] Ear Clinics; Operations. Wed., 2.30 to 5 [illegible] ye Clinics; Operations. Thurs., 11.30 a.m. [illegible] Special Demonstration of Medical Cases; 2.[illegible] ical, and Ear, Nose, and Throat Clinics; [illegible], Throat, Nose, and Ear Clinics; 2.30 to 5 p.m., Surgical, Medical, and Children's Diseases Clinics; Operations; 4.30 p.m., Demonstration on Selected Cases of Nerve Diseases.

ROYAL NORTHERN HOSPITAL, Holloway Road, N.—Tues., 3.15 p.m., The Significance of (1) Glycosuria, (2) Albuminuria: Main Points in Diagnosis and Treatment.

WEST LONDON HOSPITAL POST-GRADUATE COLLEGE, Hammersmith, W.6.—Mon., 10 a.m. to 1 p.m., Genito-urinary Operations, Skin Department, Surgical Wards; 2 p.m., Surgical Wards, Gynaecological and Eye Departments. Tues., 10 a.m. to 1 p.m., Lecture on Clinical Methods, Demonstrations in Venereal Diseases and Chest Cases; 2 p.m., Medical Wards, Throat, Nose, and Ear Department. Wed., 10 a.m. to 1 p.m., Children's Medical Out-patients, Medical Wards, Demonstration in Medical Pathology; 2 p.m., Surgical Wards, Eye Department. Thurs., 10 a.m. to 1 p.m., Neurological Department, Demonstration of Fractures; 2 p.m., Eye and Genito-urinary Departments, Gynaecological Wards. Fri., 10 a.m. to 1 p.m., Gynaecological Operations, Dental, Skin, and Electrical Departments; 2 p.m., Throat, Nose, and Ear Department. Sat., 10 a.m. to 1 p.m., Bacterial Therapy Department, Children's Medical Department. Daily: Operations, Medical and Surgical Out-patients at 2 p.m.

GLASGOW POST-GRADUATE MEDICAL ASSOCIATION.—At Royal Samaritan Hospital for Women: Wed., 4.15 p.m., Gynaecological Cases.

JAMES MACKENZIE INSTITUTE FOR CLINICAL RESEARCH, St. Andrews.—Tues., 4 p.m., Laboratory Observations in Acidosis.

MANCHESTER: ANCOATS HOSPITAL.—Thurs., 4.15 p.m., Tabes Dorsalis. Tea served at 3.45 p.m.

MANCHESTER ROYAL INFIRMARY.—Tues., 4.15 p.m., Pulmonary Embolism. Fri., 4.15 p.m., Demonstration of Surgical Cases.

LISTER CENTENARY CELEBRATIONS IN LONDON.

MONDAY, APRIL 4TH.

11.0 a.m.—Reception of delegates at Buckingham Palace by His Majesty the King.

3 p.m.—King's College Hospital. Addresses by Sir Watson Cheyne, Bt., Sir Lenthal Cheatle, and seven others on "Lister's Personality."

8.30 p.m.—Reception at Royal Society of Medicine, 1, Wimpole Street, W.1. Address by Sir StClair Thomson: The Centenary of Lister—Recollections by One of his House-Surgeons.

TUESDAY, APRIL 5TH.

11.30 a.m.—Reception of official delegates and members of the Lister family by the Prime Minister at the British Medical Association House, Tavistock Square, W.C.1.

4 p.m.—Conversazione at the Royal College of Surgeons of England, Lincoln's Inn Fields.

7.30 p.m.—Dinner by Merchant Taylors Company at 30, Threadneedle Street, E.C.

WEDNESDAY, APRIL 6TH.

11.15 a.m.—Memorial Service at Westminster Abbey. Address by the Bishop of Birmingham.

3 p.m.—Addresses at the house of the Royal Society of Medicine, 1, Wimpole Street, W.1, by (*a*) Sir Charles Sherrington on Lister as a Physiologist; (*b*) Professor W. Bulloch on Lister as a Pathologist; and (*c*) Sir Berkeley Moynihan on Lister as a Surgeon.

9 p.m.—Conversazione at the rooms of the Royal Society, Burlington House.

The Lister Collection in the Wellcome Historical Medical Museum, 54a, Wigmore Street, W.1, will be open from 9.30 a.m. to 6 p.m. on and after Monday, April 4th.

Academic Dress.

At the reception of delegates in the British Medical Association's House on April 5th, and at the memorial service in Westminster Abbey on April 6th, morning dress will be worn with or without academic robes. Members of the British Medical Association wishing to hire academic dress should intimate their desire to the official robe providers for the Association, Messrs. Ede and Ravenscroft, 93 and 94, Chancery Lane, W.C.2. Accommodation for robing will be provided at Tavistock Square, where representatives of Messrs. Ede and Ravenscroft will be in attendance on April 5th with the robes ordered

British Medical Association.

OFFICES, BRITISH MEDICAL ASSOCIATION HOUSE, TAVISTOCK SQUARE, W.C.1.

Departments.

SUBSCRIPTIONS AND ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate Westcent, London).
MEDICAL SECRETARY (Telegrams: Mediscera Westcent, London).
EDITOR, *British Medical Journal* (Telegrams: Aitiology Westcent, London).
Telephone numbers of British Medical Association and British Medical Journal, Museum 9861, 9862, 9863, and 9864 (internal exchange, four lines).

SCOTTISH MEDICAL SECRETARY: 6, Drumsheugh Gardens, Edinburgh. (Telegrams: [illegible] 4361 Central.)
IRISH MEDICAL [illegible] rederick Street, Dublin. (Telegrams: [illegible] Dublin.)

Diary of the Association.

MARCH.

25 Fri. Chesterfield Division: Maternity Hospital, Chesterfield. Mr A. M. Webber on Hysterectomies, 8.15 p.m.
Hendon Division: Clinical Meeting, Hendon Cottage Hospital. Mr. J. F. O'Malley on Diseases of Ear, Nose, and Throat 8.30 p.m.
Mid-Essex Division: Annual Meeting, Bell Hotel, Chelmsford 3 p.m.
South Suffolk Division: Crown and Anchor Hotel. Discussion on Closer Co-operation between Hospital Staffs and General Practitioners, 3.30 p.m.

28 Mon. London: Lunacy Law and Administration Committee, 2.30 p.m.

29 Tues. London: Insurance Acts Disciplinary Subcommittee, 11.30 a.m.
London: Insurance Acts Pathological Subcommittee, 2.30 p.m.
London: Grants Subcomittee, 2.30 p.m.
Brighton Division: Queen's Road Dispensary, Brighton. Discussion on Dental Anaesthesia, 8.30 p.m.
South Staffordshire Division: B.M.A. Lecture by Dr. T. Watts Eden on Prevention and Treatment of Eclampsia.
South-West Essex Division: Walthamstow Hospital. Dr. G. F. Still on Vomiting in Childhood, 3.30 p.m.

30 Wed. London: Psycho-Analysis Committee, 2.30 p.m.
North Middlesex Division: Dr. G. W. H. French on Diagnosis of Acute Abdomen.

31 Thurs. London: Ophthalmic Subcommittee, 2.30 p.m.
Blyth Division: Star and Garter Hotel, Blyth. Dinner, 8 p.m.
Fife Branch: Annual Meeting, Station Hotel, Kirkcaldy, 3 p.m. Clinical Meeting: Professor Price on Congenital Deformities, 4 p.m. Annual Dinner, 5.30.
Newcastle-on-Tyne Division: Reception and Dance, College of Medicine, 8.30 p.m.
South-Western Branch: Intermediate Meeting, Torquay.
West Dorset Division: Weymouth and District Hospital. Discussion on Pain in the Right Iliac Fossa; to be opened by Mr. J. Whittingdale, F.R.C.S., 8 p.m.

APRIL.

5 Tues. London: *Lister Centenary Celebration.* Reception of delegates by the Prime Minister, B.M.A. House, 11.30 a.m.
Council, 2 p.m.
City Division: Metropolitan Hospital, Kingsland Road, E.3. Mr. Russell Howard on Mammary Swellings, 9.30 p.m.
Finchley Division: Finchley Memorial Hospital. Dr. J. A. Hadfield on Child Psychology and the Psychoneuroses, 8.45 p.m.
Hastings Division: Queen's Hotel, Hastings. Mr. H. E. Marsh on Collaboration of Medical and Dental Practitioners in Dental Practice, 8.15 p.m.
West Bromwich Division: District Hospital, West Bromwich. Dr. Lewis Graham (Birmingham) on Some Points in the Conduct of Midwifery in Private Practice, 3 p.m.

6 Wed. **Council**, 10 a.m.
Lanarkshire Division: Dalzell House. Visit to Lord Hamilton of Dalzell's Model Farm, 3 p.m.
Nuneaton and Tamworth Division: Nuneaton General Hospital.
South Middlesex Division: St. John's Hospital, Twickenham. Dr. John Bell on Some Difficulties in Midwifery Practice, 3.30 p.m.

7 Thurs. Bournemouth Division: St. Peter's Small Hall, Bournemouth. B.M.A. Lecture by Dr. Robert Hutchison: Diet in Infancy and Childhood.
Dudley Division: Corbett Hospital, Stourbridge. Joint Meeting with the Stourbridge Medical Society, 8.30 p.m.
Portsmouth Division: Queen's Hotel, Southsea. Professor Maclean on the Medical Treatment of Gastric Diseases, 9.30 p.m. Supper, 9 p.m.
Wakefield, [illegible] Division: Bull Restaurant, Westgate [illegible] lkinson on Conservative Dentistry [illegible] ing afterwards.

12 Tues. St. Pancras [illegible] Tavistock Square, W.C.1. Dr. Geoff[illegible] of High Blood Pressure, 9 p.m.

13 Wed. Reigate Division: Clinical Meeting, Caterham Cottage Hospital, 4 p.m.

20 Wed. Sunderland Division: Royal Infirmary, Sunderland. Dr. E. Farquhar Murray on Some Modern Aspects of Midwifery and Gynaecology, 8.15 p.m.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcement of Births, Marriages, and Deaths is 9s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

BIRTH.

DALGLISH.—At Ardene, St. Boswells, on March 17th, to Dr. and Mrs. J. W. Dalglish, a daughter.

DEATHS.

BURD.—On March 21st, at Mornington, Richmond Road, Malvern Link, Cyril Prichard Burd, M.R.C.S., L.R.C.P., aged 51 years.
EVANS.—On March 18th, at The Laurels, Blackwood, Mon., Kathleen, the dearly beloved fourth daughter of Howell and Annie Evans, aged 27 years. Interred at Bedwellty Church, Wednesday, March 23rd.

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SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, APRIL 2ND, 1927.

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British Medical Association.

CURRENT NOTES.

Committee Work at Headquarters.

Scheme for Group Organization within the Association.

HE problem of giving due weight within the Association to the sectional interests that have developed so quickly in ecent years with the increasing specialization of the pro- ession is felt to be one of ncreasing urgency. At its eeting on March 15th the rganization Committee pproved the principles mbodied in a memoran- um on the subject by the ledical Secretary. The ommittee proposes to ork out a detailed scheme n the general lines laid own in this memoran- um, and meanwhile is ecommending the Council o move the Representa- ive Body to approve the ecessary constitutional rovision. The basis of the uggested scheme is the reation within the Asso- iation of special groups of embers who, whilst they ave common interests ufficiently distinct from hose of the general body f members to warrant uch a course, are so few n number or so scattered s to be unable in existing ircumstances to meet for he discussion of those nterests or to secure ade- uate expression of their iews through the Divi- ional machinery of the Association.

Co-operation with other Scientific Societies.

Another question of considerable interest before the Organization Committee was an instruction given to the Council by the Representative Meeting last year to consider and report "to what extent and under what conditions could financial and other assistance be given to Branches and Divisions of the Association in the United Kingdom which may desire to invite societies formed for the promotion of medical and/or allied sciences to hold conferences within their respective areas." The conclusion of the Committee was that special financial provision for such activities was not desirable, but an incidental review of the position in this connexion showed a welcome increase in the amount of co-operation between the Branches and Divisions and other scientific or professional associations within their areas.

Fiftieth Anniversary of the Jamaica Branch.

The Jamaica Branch, the first Oversea Branch of the British Medical Association, will celebrate its fiftieth birthday in December next. The Organization Committee is in communication with the Branch as to suitable local celebrations of this interesting event.

Medico-Political Committee.

The business before the Medico-Political Committee at a session which extended from noon on March 10th until late in the evening included the final approval for presentation to the Council of memorandums on orthopaedic hospitals and clinics and on remuneration and conditions of service of medical officers of public schools. The latter subject was discussed by the Council at its meeting on December 15th last, when it was referred back for further consideration and revision. It is the work of a special subcommittee in the personnel of which a due share has been given to the medical officers concerned.

The Medico-Political Committee is making further representations to the Ministry of Health as to the position of members of local authorities who are in receipt of fees for medical work paid for by those authorities. At present it seems doubtful how far such a position is tenable under Section 12 of the Municipal Corporations Act of 1882. A deputation discussed this matter with representatives of the Ministry of Health in November last. The Committee is also keeping a close watch upon developments in connexion with the Bill for the Registration of Nursing Homes introduced by

LISTER CENTENARY CELEBRATIONS IN LONDON.

MONDAY, APRIL 4TH.

11.0 a.m.—Reception of delegates at Buckingham Palace by His Majesty the King.

3 p.m.—King's College Hospital. Addresses by Sir Watson Cheyne, Bt., Sir Lenthal Cheatle, and seven others on "Lister's Personality."

8.30 p.m.—Reception at Royal Society of Medicine, 1, Wimpole Street, W.1. Address by Sir StClair Thomson: The Centenary of Lister—Recollections by One of his House-Surgeons.

TUESDAY, APRIL 5TH.

11.30 a.m.—Reception of official delegates and members of the Lister family by the Prime Minister at the British Medical Association House, Tavistock Square, W.C.1

4 p.m.—Conversazione at the Royal College of Surgeons of England, Lincoln's Inn Fields.

7.30 p.m.—Dinner by Merchant Taylors Company at 30, Threadneedle Street, E.C.

WEDNESDAY, APRIL 6TH.

11.15 a.m.—Memorial Service at Westminster Abbey. Address by the Bishop of Birmingham.

3 p.m.—Addresses at the house of the Royal Society of Medicine, 1, Wimpole Street, W.1, by (*a*) Sir Charles Sherrington on Lister as a Physiologist; (*b*) Professor W. Bulloch on Lister as a Pathologist; and (*c*) Sir Berkeley Moynihan on Lister as a Surgeon.

9 p.m.—Conversazione at the rooms of the Royal Society, Burlington House.

THURSDAY, APRIL 7TH.

8.30 [illegible] Wellcome Historical Medical Museum, [illegible]et, W.1. Sir W. Watson Cheyne, Bt., Sir StClair Thomson and Professor (Glasgow) will give short addresses on Lister. The Lister Collection in the Museum will be open from 9.30 a.m. to 6 p.m. on and after Monday, April 4th.

Academic Dress.

At the reception of delegates in the British Medical Association's House on April 5th, and at the memorial service in Westminster Abbey on April 6th, *morning dress* will be worn with or *without academic* robes. Members of the British Medical Association wishing to hire academic dress should intimate their desire to the official robe providers for the Association, Messrs. Ede and Ravenscroft, 93 and 94, Chancery Lane, W.C.2. Accommodation for robing will be provided at Tavistock Square, where representatives of Messrs. Ede and Ravenscroft will be in attendance on April 5th with the robes ordered.

Mrs. Philipson on February 11th last. The bill was printed on March 25th and is down for second reading on April 1st.

Second Report on Rheumatic Heart Disease.

The Rheumatic Heart Disease Subcommittee of the Science Committee has finally approved its second report, which is being circulated to members of the parent committee prior to its presentation to the Council.

Charing Cross Hospital Institute of Pathology: Appointment of Whole-time Pathologist.

We are glad to be able to report that the *Important Notice* regarding the post of assistant pathologist at Charing Cross Hospital has been removed owing to amended terms of appointment which have now been submitted. The assistant pathologist will be paid at the rate of £500 per annum for a probationary period of six months, after which the salary will rise to £600 per annum.

Association Notices.

BRANCH AND DIVISION MEETINGS TO BE HELD.

BATH AND BRISTOL BRANCH.—A meeting of the Bath and Bristol Branch will be held at the Cottage Hospital, Wells, on Thursday, April 7th, at 3 p.m. Mr. C. F. Walters will open a discussion on the treatment of empyema.

BIRMINGHAM BRANCH: DUDLEY DIVISION.—A meeting of the Dudley Division will be held jointly with the Stourbridge Medical Society at the Corbett Hospital, Stourbridge, on Thursday, April 7th, at 8.30 p.m. Agenda.—*Dudley Division:* Election of representative for Dudley and Bromsgrove constituency; medical charities; registration of maternity homes; Coroners Amendment Act, 1926; reports of Executive. *Stourbridge Medical Society:* Arrangements for Annual Meeting; paper by Dr. T. M. Tibbetts on "Quackery and stunts in modern practice." Coffee and light refreshments will be provided.

BIRMINGHAM BRANCH: NUNEATON AND TAMWORTH DIVISION.—A meeting of the Nuneaton and Tamworth Division will be held at the Nuneaton General Hospital on Wednesday, April 6th, when a paper will be read by Dr. P. C. Cloake.

BIRMINGHAM BRANCH: WEST BROMWICH DIVISION.—The second regular meeting of the West Bromwich Division will be held at the District Hospital, West Bromwich, on Tuesday, April 5th, at 3 p.m. Agenda: Consultants in puerperal fever and pyrexia cases; Coroners Amendment Act, 1926; circulating library; medical charities; Dr. Lewis Graham (Birmingham) will read a paper on "Some points in the conduct of midwifery in private practice."

CAMBRIDGE AND HUNTINGDON BRANCH.—A meeting of the Cambridge and Huntingdon Branch will be held at Addenbrooke's Hospital, Cambridge, to-day (Friday, April 1st), at 2.30 p.m. The meeting will be devoted to the exhibition of clinical cases and pathological specimens.

DORSET AND WEST HANTS BRANCH: BOURNEMOUTH DIVISION.—A meeting of the Bournemouth Division will be held at St. Peter's Small Hall, Bournemouth, on Thursday, April 7th, at 4.15 p.m. Tea at 4 o'clock. Dr. Robert Hutchison, physician to the London Hospital, will give a British Medical Association Lecture on "Diet in infancy and childhood."

GLASGOW AND WEST OF SCOTLAND BRANCH: LANARKSHIRE DIVISION.—A meeting of the Lanarkshire Division will be held at Dalzell House on Wednesday, April 6th, at 3 p.m., when a visit will be paid to Lord Hamilton of Dalzell's model farm.

LANCASHIRE AND CHESHIRE BRANCH: SOUTHPORT DIVISION.—Professor Ralph Stockman (Glasgow) will give a British Medical Association Lecture on fibrositis at a meeting of the Southport Division to be held at 52, Hoghton Street, Southport, on Friday, April 8th, at 8 p.m. It is hoped that local practitioners will take the opportunity of hearing the lecture.

METROPOLITAN COUNTIES BRANCH: CHELSEA DIVISION.—A general meeting of the Chelsea Division will be held in the Fulham Town Hall on Wednesday, April 6th, at 9 p.m. Mr. Leonard Phillips, F.R.C.S., surgeon to Soho Square and to Queen Charlotte's Hospitals, will give an address on "Common errors of diagnosis in gynaecological practice."

METROPOLITAN COUNTIES BRANCH: CITY DIVISION.—A meeting of the City Division will be held at the Metropolitan Hospital, Kingsland Road, E.3, on Tuesday, April 5th, at 9.30 p.m. Mr. Russell Howard, F.R.C.S., surgeon to the London Hospital, will read a paper on "The diagnosis and treatment of mammary swellings." A cordial invitation is extended to non-members.

METROPOLITAN COUNTIES BRANCH: FINCHLEY DIVISION.—A meeting of the Finchley Division will be held at the Finchley Memorial Hospital on Tuesday, April 5th, at 8.45 p.m. Dr. J. A. Hadfield will give an address on "Child psychology and the psychoneuroses." Members are asked to make every effort to be present.

METROPOLITAN COUNTIES BRANCH: ST. PANCRAS DIVISION.—A meeting of the St. Pancras Division will be held at the British Medical Association House on Tuesday, April 12th, at 9 p.m., when Dr. Geoffrey Evans will discuss the treatment of high blood pressure.

METROPOLITAN COUNTIES BRANCH: SOUTH MIDDLESEX DIVISION.—A meeting of the South Middlesex Division will be held at St. John's Hospital, Twickenham, on Wednesday, April 6th, at 3.15 p.m., for general business. At 3.30 p.m. Dr. John Bell (Hammersmith) will read a paper on "Some difficulties met with in midwifery practice." Tea will be provided.

METROPOLITAN COUNTIES BRANCH: TOWER HAMLETS DIVISION.—A clinical meeting of the Tower Hamlets Division will be held at St. Peter's Hospital, Vallance Road, E.1, on Wednesday, April 6th, at 3.45 p.m., when Dr. Randle, medical superintendent, and the staff will show interesting cases, followed by a discussion. During the afternoon there will also be a demonstration of border-line mental cases, of special interest to the general practitioner, by Dr. E. Mapother, the visiting physician for mental diseases. Tea will be served.

MIDLAND BRANCH: KESTEVEN DIVISION.—A meeting of the Kesteven Division will be held at the Abbey House, Grantham, on Tuesday, April 5th, at 3.15 p.m., to consider the analysis of non-members; action in reference to the Dogs' Protection Bill; B.M.A. Charities; nomination of officers for the ensuing year. Grantham members are particularly requested to attend this meeting in order that the proposition of having a resident midwife at the Victoria Nursing Home may be discussed.

NORTH OF ENGLAND BRANCH: GATESHEAD DIVISION.—A regular meeting of the Gateshead Division will be held at 9, Walker Terrace, Gateshead, to-day (Friday, April 1st), at 8.15 p.m. Agenda: Business arising out of minutes; correspondence; report of the contract practice practitioners' special meeting, and any other business relating thereto.

NORTH OF ENGLAND BRANCH: NORTH NORTHUMBERLAND DIVISION.—A meeting of the North Northumberland Division will be held in the Alnwick Infirmary, to-day (Friday, April 1st), at 2.45 p.m. At the close of the business meeting an address will be given by Dr. Frank Wilson, entitled "A talk about nose, throat, and ear work," which will be illustrated with blackboard diagrams, etc. Tea will be provided at the close of the proceedings.

NORTH WALES BRANCH.—The spring meeting of the North Wales Branch will be held on Tuesday, April 19th, at Pwllheli. Members wishing to read papers or show cases should communicate with Dr. E. Lewys-Lloyd, Branch secretary (Rhianfa, Towyn, Merioneth), not later than April 8th.

SOUTHERN BRANCH: PORTSMOUTH DIVISION.—The next meeting of the Portsmouth Division will be held at the Queen's Hotel, Southsea, on Thursday, April 7th, at 9.30 p.m., when Professor H. Maclean will give an address on "The medical treatment of gastric diseases." The meeting will, as usual, be preceded by supper at 9 o'clock precisely. [illegible] retary, Dr. H. H. Warren, Devonia, [illegible], on or before Monday, April 4th.

SURREY BRANCH: REIGATE DIVISION.—A clinical meeting of the Reigate Division will be held at the Caterham Cottage Hospital on Wednesday, April 13th, at 4 p.m.

SUSSEX BRANCH: HASTINGS DIVISION.—The next meeting of the Hastings Division will be held at the Queen's Hotel, Hastings, on Tuesday, April 5th, at 8.15 p.m. Coffee will be served immediately before the meeting. Mr. H. E. Marsh, L.D.S., will read a paper on "Collaboration of medical and dental practitioner in dental practice." The meeting is being held jointly with the local section of the British Dental Association, and all members of that association are cordially invited to attend and take part in the discussion.

WILTSHIRE BRANCH: TROWBRIDGE DIVISION.—The annual general meeting of the Trowbridge Division will be held at Trowbridge Town Hall on Wednesday, April 13th, at 3 p.m. Agenda: Election of officers; annual report; puerperal fever regulations; medical charities. Tea will be served after the meeting.

YORKSHIRE BRANCH: WAKEFIELD, PONTEFRACT, AND CASTLEFORD DIVISION.—A meeting of the Wak[illegible] Castleford Division will be held at the Bull [illegible] Wakefield, on Thursday, April 7th. Mr. G. [illegible] clinical lecturer, Leeds University Dental School) will read a paper on "Conservative dentistry." Dental friends are invited. Supper at 7.45 p.m. (2s. 6d.) will precede the meeting.

Meetings of Branches and Divisions.

EDINBURGH BRANCH: SOUTH-EASTERN COUNTIES DIVISION.

THE annual dinner of the South-Eastern Counties Division was held in the Douglas Hotel, Galashiels, on March 16th, when Dr. JAMES WILFRED GEORGESON, chairman of the Division, presided. The guests of the Division were the Rev. Dr. McConnachie, Sheriff Chisholm, K.C., Professor Lovell Gulland, and Mr. Dowden. "The Sheriff CHISHOLM proposed the toast of the evening, "The British Medical Association," to which Professor GULLAND replied. During the evening a most [illegible] entertainment was given by the chairman, Dr. J. [illegible] GE (Stow), and the Rev. Mr. LANGLANDS, whi[illegible] contributed a recitation given in his own inimitable manner. Apparently for the first time in the history of the Division dinner the members contributed to their own entertainment, community singing having been arranged for and appropriate songs being provided on the back of the menu cards. The dinner was a very great success, and a special vote of thanks was accorded to the chairman, both for presiding on the occasion and for his musical efforts. The function terminated after 11 p.m. by the company singing "Auld lang syne."

SUSSEX BRANCH: BRIGHTON DIVISION.

A MEETING of the Brighton Division was held at the Queen's Road Dispensary on March 21st. Dr. WHITTINGTON was in the chair, and there were present twenty-six other members.

Dr. GEMMELL moved that the Division should approach the local members of Parliament and ask them to vote against the Dogs' Protection Bill. He said he should say nothing either for or against vivisection, either of dogs or other animals, but would content himself with asking the members to support his resolution. Dr. SUMMERHAYES, who seconded, said that there was too much sentimentalism and faddism in the profession and it was time a stand was made against it. Dr. L. A. PARRY asked the Division to take no action in this matter. He was strongly opposed to the use of dogs for experimental purposes. Was there a member in the room who would allow his own dog to be employed in this way? If not, what right had they to suggest that the dogs of other people should suffer? The Royal Commission on Vivisection had reported that the higher animals had a claim to special consideration, and the dog, being the highest of all, should be exempted. He protested against the refusal of the Association to publish a letter in the JOURNAL from him opposing the action of the Science Committee. He thought it a deplorable principle that a minority should be refused the opportunity of expressing its views in their own journal—(applause)—and he intended to take every possible step to alter this. If necessary he would raise the matter at the Representative Meeting at Edinburgh. Dr. FOTHERGILL supported the resolution. He thought these experiments were necessary, and that the Division should stand by its own Science Committee. Mr. FIELDEN strongly opposed the resolution. There were, he said, no experiments for which it was not quite possible to use some other animal than dogs, and he sincerely hoped that Dr. Parry's suggestion of taking no action in this matter would be carried. Mr. MCCURRICH also hoped the Division would not commit itself to any principle; the members did not know enough of the question to support Dr. Gemmell. He had a profound distrust of the methods of the Research Defence Society. Dr. WHITTINGTON, from the chair, though expressing no decided opinion, was on the whole in favour of no action being taken.

On the resolution of Dr. Gemmell being put it was carried by 16 votes to 7.

National Insurance.

LONDON PANEL COMMITTEE.

AT the meeting of the London Panel Committee on March 22nd, with Dr. H. J. CARDALE in the chair, Dr. J. Hollings was appointed a member of the committee to fill a vacancy in the representation of Bermondsey.

Delegation of Insurance Practice to Assistant.

Discussion arose on a case, which had been before the Medical Service Subcommittee, in which the principal in a practice had delegated the major portion of his insurance work to an assistant. Only 59 prescriptions were issued by himself during three months, while his assistant issued 3,291. The Medical Service Subcommittee had found that this practitioner had committed a breach of the terms of service, the Insurance Committee confirmed this, and the case was reported to the Ministry of Health. The Minister held, however, that the practitioner's failure to give personal service to his insured patients did not constitute a breach of the terms of service, and that the practitioner's obligation to give personal service did not prevent the assistant giving treatment instead of the principal, provided that continuity of treatment was secured, and that if a patient demanded he received the services of the principal. Dr. CARDALE said that they would all be agreed that every step should be taken to prevent the farming out of a practice, though the Minister's interpretation of the relevant clause of the terms of service—Clause 11 (1) and (8)—tacitly admitted that there was nothing in the regulations to prevent such farming out. There was some difference of opinion in the subcommittee of the Panel Committee with regard to pressing for an amendment of the clause, but it made the recommendation "That the Panel Committee do strongly deprecate any attempt at the farming out of insurance practices, but that the committee's representatives upon the Joint Consultative Committee be instructed not to take any definite steps in the matter without first reporting any contemplated action to the Panel Committee." His personal view was that the Minister's interpretation of the regulation was incorrect. He thought there could be no doubt that the regulation was intended to apply to patients individually, and not to permit a transference in bulk, whereas in the case under consideration the practitioner had handed over his patients in bulk to his assistant. Dr. CHASE moved an amendment strongly deprecating any attempt by the Insurance Committee to get the regulations altered until a definite complaint by an insured person on the subject had been received. Dr. PARTRIDGE said that he would prefer that the committee should neither take exception to the regulations as they stood nor, on the other hand, to the Minister's interpretation of them in this particular case. After some further discussion the amendment proposed by Dr. Chase was carried.

Medicine Containers.

The committee resolved to inform the Ministry of Health that owing to the use of medicine containers lacking graduation there was inaccuracy in dosage and waste of drugs, and to urge on the Ministry that regulations should be introduced as soon as possible to provide that all medicine containers supplied by pharmacists should be graduated.

Claims for Payment for Anaesthetist.

The committee decided in about a dozen cases to disallow the fee of one guinea claimed for the services of a second practitioner in administering a general anaesthetic, and to allow a fee of half a guinea only, in view of the nature of the operation. Letters were read from several of the practitioners concerned strongly protesting against this procedure on the ground that they, and not the committee, should be the judge as to what anaesthetic was necessary in a particular case.

Public Medical Service for London.

At a meeting of the Central Committee of Management of the Public Medical Service for London, which followed, it was reported that the number of subscribers was now 6,867.

Correspondence.

Fabian Medicine.

SIR,—My attention has just been drawn to a review under this heading in the JOURNAL of March 5th (SUPPLEMENT, p. 80) of a lecture given by myself on February 25th to the Fabian Society, really entitled "A medical service for all." The notice begins as follows: "It is sometimes useful to know to what length *animosity, ill-informed and unbridled, can carry the more narrow-minded of controversialists.*" (The italics are my own.) The critic then proceeds to give a very much condensed account of my remarks, which do not give any support to the opinion stated above. His objection was based presumably on the closing remarks by a non-medical member of the audience, but anyone reading the criticism to which I take exception would be left with the impression that the *lecturer* had engaged in a bitter attack on members of the medical profession.—I am, etc.,

London, W.4, March 19th. STELLA CHURCHILL.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

Surgeon Captain C. K. Bushe, O.B.E., to the *President* for three months' post-graduate course.

Surgeon Commanders W. J. Morris to the *Castor* on transfer; H. E. Seargill to the *Victory* for R.N. Barracks, Portsmouth, and for specialist duties; F. E. Anley to the *Dartmouth*, and as Fleet Medical Officer on transfer.

Surgeon Lieutenant Commander C. N. Ratcliffe to the *Dartmouth* on transfer.

Surgeon Lieutenants V. H. Boobbyer to the *Castor* on transfer; J. F. H. Gausson to the *Sutton* on transfer; C. R. Boland to the *Wildgeon*.

ROYAL ARMY MEDICAL CORPS.

Major J. H. Robinson to be temporary Captain, and relinquishes the rank of Major.

Captain E. M. Townsend, M.C., to be Major (prov.).

Captain J. W. Malcolm, O.B.E., M.C., is restored to the establishment.

H. A. Ferguson to be temporary Lieutenant.

ROYAL AIR FORCE MEDICAL SERVICE.

Squadron Leader H. McW. Daniel to R.A.F. British Hospital, Irak.

Flight Lieutenant L. C. Palmer-Jones is granted a permanent commission.

Flying Officers S. F. Heatley to the Pathological Laboratory, Halton; A. L. St.A. McClosky to R.A.F. Depot, Uxbridge.

INDIAN MEDICAL SERVICE.

Major M. A. Nicholson is appointed substantively to be an Agency Surgeon under the Government of India in the Foreign and Political Department.

Captains F. Oppenheimer and S. D. Sondhi, M.C., to be Majors.

Lieutenants S. D. Gupta and D. MacD. Fraser to be Captains (prov.).

COLONIAL MEDICAL SERVICES.

Dr. J. W. Thomson promoted Senior Medical Officer, Nigeria. Dr. F. McKernan, Medical Officer, Nigeria, transferred to Gold Coast.

VACANCIES.

BELGRAVE HOSPITAL FOR CHILDREN, Clapham Road, S.W.9.—Honorary Radiologist. Honorarium 50 guineas per annum.

BIRMINGHAM AND MIDLAND EYE HOSPITAL.—Resident Surgical Officer. Salary £150 per annum.

CAMBRIDGE: ADDENBROOKE'S HOSPITAL.—(1) House-Surgeon. (2) Casualty Officer and Resident Anaesthetist. Males, unmarried. Salary at the rate of £130 per annum each.

CANTERBURY: BOROUGH MENTAL HOSPITAL.—Assistant Medical Officer (male). Salary £300 per annum, rising to £400.

CHARING CROSS HOSPITAL INSTITUTE OF PATHOLOGY.—Assistant Pathologist. Salary at the rate of £500 per annum, rising to £600 after six months.

CHESTER ROYAL INFIRMARY.—House-Surgeon (male). Salary £150 per annum.

DERBYSHIRE ROYAL INFIRMARY, Derby.—(1) House-Physician. (2) Assistant House-Surgeon and Casualty Officer. Salaries at the rate of £150 per annum.

DOVER: ROYAL VICTORIA HOSPITAL.—House-Surgeon (unmarried). Salary £180 per annum.

EXETER: ROYAL DEVON AND EXETER HOSPITAL.—Resident Casualty Officer (male). Salary at the rate of £100 per annum.

GRAVESEND AND NORTH KENT HOSPITAL.—Junior House-Surgeon. Salary at the rate of £50 per annum for six months, rising to £100 on appointment as Senior.

GRIMSBY AND DISTRICT HOSPITAL.—Secretary-Superintendent. Salary commencing about £300.

HALIFAX: ROYAL HALIFAX INFIRMARY.—Third House-Surgeon (male, unmarried). Salary £100 per annum.

HAMPSTEAD GENERAL AND NORTH-WEST LONDON HOSPITAL, Haverstock Hill, N.W.3.—(1) House-Surgeon. (2) House-Physician. (3) Casualty Medical Officer. Salary at the rate of £100 per annum each.

HOSPITAL FOR EPILEPSY AND PARALYSIS, Maida Vale, W.9.—(1) Honorary Gynaecologist. (2) Resident Medical Officer. (3) House-Physician. Salary for (2) and (3) £150 and £100 per annum respectively.

LEEDS CITY.—Resident Medical Officer at the City of Leeds Sanatorium at Gateforth (unmarried). Salary £300 per annum.

LEICESTER ROYAL INFIRMARY.—Honorary Ear, Nose, and Throat Surgeon. Fifty guineas for out-of-pocket expenses.

LEWISHAM: St. JOHN'S HOSPITAL.—Resident Casualty Officer (male). Salary at the rate of £100 per annum.

LONDON UNIVERSITY.—University Chair of Anatomy tenable at King's College. Salary £1,000 a year.

MANCHESTER: ANCOATS HOSPITAL.—House-Surgeon. Salary at the rate of £100 per annum.

MANCHESTER ROYAL INFIRMARY.—Resident Surgical Officer. Salary £200 per annum.

MANCHESTER VICTORIA MEMORIAL JEWISH HOSPITAL.—(1) Honorary Surgeon. (2) Senior House-Surgeon (male). Salary £250 for first year and £300 for second year.

MANOR HOUSE HOSPITAL, Golders Green, N.W.11.—House-Surgeon (male, unmarried). Salary at the rate of £200 per annum.

METROPOLITAN HOSPITAL, Kingsland Road, E.8.—(1) Senior House-Physician. (2) Senior House-Surgeon. (3) Junior House-Physician. (4) Junior House-Surgeon. (5) Two Casualty Officers. Males. Salary £100 per annum.

MOUNT VERNON HOSPITAL FOR DISEASES OF THE CHEST, Northwood.—Assistant Male Resident Medical Officer. Salary at the rate of £250 per annum.

NORTHUMBERLAND COUNTY COUNCIL AND URBAN DISTRICT COUNCIL OF NEWBURN.—Assistant County Medical Officer and Medical Officer of Health to the Newburn Urban District Council. Salary £700 per annum.

NORWICH: NORFOLK AND NORWICH HOSPITAL.—House-Surgeon. Salary £120 per annum.

PERTH: JAMES MURRAY'S ROYAL ASYLUM.—Assistant Physician (male, unmarried). Salary £300 per annum.

PORTSMOUTH BOROUGH.—First Assistant Resident Medical Officer for St. Mary's Infirmary, St. Mary's Institution and Children's Home (male, unmarried). Salary £350 per annum.

PRINCE OF WALES'S GENERAL HOSPITAL, Tottenham, N.15.—Two Honorary Anaesthetists. Honorarium £40 per annum.

RICHMOND, SURREY: ROYAL HOSPITAL.—Assistant House-Surgeon (male). Salary at the rate of £100 per annum, rising to £150 on appointment as Senior after six months.

ROYAL CHEST HOSPITAL, City Road, E.C.—(1) Resident Medical Officer. (2) House-Physician. Salary at the rate of £150 and £100 per annum respectively.

ROYAL EARLSWOOD INSTITUTION, Redhill.—Junior Assistant Medical Officer (male, unmarried). Salary at the rate of £250 per annum.

ST. ALBANS: HILL END MENTAL HOSPITAL.—Third Assistant Medical Officer (male, unmarried). Salary £450, rising to £500 per annum.

ST. JOHN'S HOSPITAL, Lewisham, S.E.13.—Resident Male Casualty Officer. Salary at the rate of £100 per annum.

SHEFFIELD ROYAL INFIRMARY.—House-Surgeon. Salary at the rate of £80 per annum.

STOCKTON AND THORNABY HOSPITAL, Stockton-on-Tees.—Honorary Ear, Nose, and Throat Surgeon.

VENTNOR: ROYAL NATIONAL HOSPITAL FOR CONSUMPTION.—Medical Superintendent. Salary £1,000 per annum.

WALTHAMSTOW, WANSTEAD, AND LEYTON CHILDREN'S AND GENERAL HOSPITAL.—Senior and Junior Resident House-Surgeons (males). Salary £150 and £100 per annum respectively.

WEIR HOSPITAL, Grove Road, Balham, S.W.12.—Junior Resident Medical Officer (male, unmarried). Salary £100 per annum.

WEST END HOSPITAL FOR NERVOUS DISEASES.—Casualty Physician. Remuneration £200 per annum.

WINSLEY SANATORIUM, near Bath.—Assistant Resident Medical Officer (male). Salary £250 per annum.

CERTIFYING FACTORY SURGEONS.—The following vacant appointments are announced: Matlock (Derbyshire), Buckhaven (Fifeshire), Sedbergh (Yorks, West Riding). Applications to the Chief Inspector of Factories, Home Office, Whitehall, S.W.1.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.

DIARY OF SOCIETIES AND LECTURES.

ROYAL SOCIETY OF MEDICINE.

Social Evening.—Mon., 8.30 p.m.

Section of Orthopaedics.—Tues., 4.30 p.m., Cases.

Sections of Odontology and Disease in Children.—Wed., 8 p.m., Special Joint Discussion: Oral Manifestations of General Disease in Children. Openers: Mr. A. T. Pitts and Dr. Robert Hutchison.

Sections of Tropical Diseases and Parasitology.—Wed., 8.15 p.m., Laboratory Meeting at the London School of Hygiene and Tropical Medicine, 23, Endsleigh Gardens, W.C.1. Professor W. Robinson: Crown Gall in Plants in reference to Comparisons with Cancer. Followed by a demonstration of laboratory exhibits illustrating crown gall, and recent developments in tropical diseases and parasitology.

General Meeting of Fellows.—Thurs., 5 p.m., Special Discussion on Bloodletting. Opening Speakers: Mr. W. G. Spencer, Dr. Herbert French, and Dr. Fortescue Fox.

Section of Laryngology.—Fri., 4 p.m., Cases.

Section of Electro-Therapeutics.—Fri., 8.30 p.m., Professor S. Russ and Miss G. M. Scott: (1) Growth of Tumours in Tissues exposed to X Rays and Radium; (2) Action of Radon "Seeds" upon Tumours and Some Normal Tissues of the Rat. Dr. J. C. Mottram: Correlation between Experimental and Clinical Radiation of Tumours.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—Museum Demonstrations, 5 p.m. Mon., Mr. C. E. Shattock: Large Intestine. Fri., Sir Arthur Keith: Anatomy and Physiology of the Caecum and Appendix Vermiformis.

RÖNTGEN SOCIETY, 32, Welbeck Street, W.1.—Tues., 8.15 p.m., Dr. J. V. Sparks: Uses of Lipiodol as an Aid to Diagnosis in Diseases of the Chest; Mr. F. Melville: X-Ray Cinematography.

WEST KENT MEDICO-CHIRURGICAL SOCIETY, Miller General Hospital, Greenwich, S.E.10.—Fri., Dr. H. Charles Cameron: Common Neuroses of Childhood.

POST-GRADUATE COURSES AND LECTURES.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION.—*Queen's Hospital for Children*, Hackney Road, Bethnal Green, E.: All-day Course, the chief feature of which is the showing of cases. *Royal Eye Hospital*, Southwark, S.E.: Afternoon Demonstrations on the Diagnosis and Treatment of Diseases of the Eye. Information as to fees, etc., obtainable from the Fellowship of Medicine, 1, Wimpole Street, W.1.

CENTRAL LONDON THROAT, NOSE AND EAR HOSPITAL, Gray's Inn Road, W.C.1.—Fri., 4 p.m., Tuberculosis of the Larynx.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.1.—Thurs., 4 p.m., Vomiting in Infancy.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.15.—Mon., 10 a.m., Surgical Clinic; 2.30 to 5 p.m., Medical, Surgical, and Gynaecological Clinics; Operations. Tues., 2.30 to 5 p.m., Medical, Surgical, Throat, Nose, and Ear Clinics; Operations. Wed., 2.30 to 5 p.m., Medical Skin and Eye Clinics; Operations. Thurs., 11.30 a.m., Dental Clinics; 2.30 to 5 p.m., Medical, Surgical, and Ear, Nose, and Throat Clinics; Operations. Fri., 10.30 a.m., Throat, Nose, and Ear Clinics; 2.30 to 5 p.m., Surgical, Medical, and Children's Diseases Clinics; Operations; 4.30 p.m., Demonstration on Selected Cases of Nerve Diseases.

GLASGOW POST-GRADUATE MEDICAL ASSOCIATION.—At Ophthalmic Institution: Wed., 4.15 p.m., Eye Cases.

MANCHESTER: ANCOATS HOSPITAL.—Thurs., 4.15 p.m., Tabes Dorsalis.

MANCHESTER ROYAL INFIRMARY.—Tues., 4.15 p.m., Epidemic Encephalitis, Acute and Chronic. Fri., 4.15 p.m., Demonstration of Medical Cases.

MANCHESTER: ST. MARY'S HOSPITALS (Whitworth Street West Branch).—Fri., 4.30 p.m., Induction of Labour.

British Medical Association.

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Diary of the Association.

APRIL

5 Tues. London: *Lister Centenary Celebration.* Reception of delegates by the Prime Minister, B.M.A. House, 11.30 a.m.
Council, 2 p.m.
City Division: Metropolitan Hospital, Kingsland Road, E.3. Mr. Russell Howard on Mammary Swellings, 9.30 p.m.
Finchley Division: Finchley Memorial Hospital. Dr. J. A. Hadfield on Child Psychology and the Psychoneuroses, 8.45 p.m.
Hastings Division: Queen's Hotel, Hastings. Mr. H. E. Marsh on Collaboration of Medical and Dental Practitioners in Dental Practice, 8.15 p.m.
Kesteven Division: Abbey House, Grantham, 3.15 p.m.
West Bromwich Division: District Hospital, West Bromwich. Dr. Lewis Graham (Birmingham) on Some Points in the Conduct of Midwifery in Private Practice, 3 p.m.

6 Wed. **Council**, 10 a.m.
Chelsea Division: Fulham Town Hall. Mr. Leonard Phillips, F.R.C.S., on Common Errors of Diagnosis in Gynaecological Practice, 9 p.m.
Lanarkshire Division: Dalzell House. Visit to Lord Hamilton of Dalzell's Model Farm, 3 p.m.
Nuneaton and Tamworth Division: Nuneaton General Hospital.
South Middlesex Division: St. John's Hospital, Twickenham. Dr. John Bell on Some Difficulties in Midwifery Practice, 3.30 p.m.
Tower Hamlets Division: St. Peter's Hospital, Vallance Road, E.1, 3.45 p.m.

7 Thurs. Bath and Bristol Branch: Cottage Hospital, Wells. Discussion on Empyema, 3 p.m.
Bournemouth Division: St. Peter's Small Hall, Bournemouth. B.M.A. Lecture by Dr. Robert Hutchison: Diet in Infancy and Childhood.
Dudley Division; Corbe[illegible] Joint Meeting with the Stourbridge [illegible]
Portsmouth Division: [illegible] Professor Maclean on the Me[illegible] Diseases, 9.30 p.m. Supper, 9 p.m.
Wakefield, Pontefract, and Castleford Division: Bull Restaurant, Westgate, Wakefield. Mr. G. L. Wilkinson on Conservative Dentistry. Supper, 7.45 p.m.; meeting afterwards.

8 Fri. Southport Division: 52, Hoghton Street, Southport. B.M.A. Lecture by Professor Ralph Stockman on Fibrositis, 8 p.m.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcement of Births, Marriages, and Deaths is 9s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

BIRTH.

INNES SMITH.—On March 28th, at Osterley Nursing Home, Thornbury Road, Isleworth, to Eva (*née* Nairn), wife of Neil Innes Smith, M.B., Ch.B., R.A.F.M.S., a daughter.

DEATHS.

FORSYTH.—On March 24th, 1927, at Maxwellton House, Cramlington, Northumberland, Robert Forsyth, M.B., C.M.Glasg., aged 62 years.

MARTIN.—On March 21st, 1927, very suddenly, Cecilia Small Turnbull Martin (*née* Anderson), M.B., Ch.B., beloved wife of Major J. McEwan Martin, 7, Winsford House, Northumberland Street, W.1. Cremation took place at Golders Green on Friday, March 25th, 1927.

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SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, APRIL 9TH, 1927.

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THE DOGS' PROTECTION BILL.

CONFERENCE ON ANIMAL EXPERIMENTATION.

RESOLUTIONS IN DEFENCE OF RESEARCH UNANIMOUSLY CARRIED.

A conference of representatives of medical and scientific bodies, in opposition to the Dogs' Protection Bill, was held at the House of the British Medical Association on Monday, April 4th. Mr. R. G. Hogarth, C.B.E., F.R.C.S., President of the British Medical Association, was in the chair, and those present included nearly one hundred representatives, from the universities, medical schools, medical and scientific societies, and other organizations such as those interested in dentistry, pharmacy, and veterinary science.

Chairman's Opening Remarks.

The President of the Association, after expressing his pleasure at welcoming so large, representative, and influential a gathering of the profession, said:

We are called upon to repel an organized attack on an important outpost of scientific research, and the best defence is often found in a vigorous offensive. The resolutions on the agenda are firm and uncompromising. For my own part I could have wished them stronger, but perhaps Lord Dawson and the other eminent speakers will supply in their commentaries whatever incisiveness some may find lacking in the text. As you are all doubtless aware, a monster petition is shortly to be presented to Parliament, signed, it is said, by over a million people, praying that the use of dogs for the purposes of scientific experiment may be forbidden by law. This agitation is not new, and, so far as I can learn, it has no new features. It is kept alive, after repeated rebuffs, by the flow of bequests made to the antivivisection societies and to the various bodies which exist for the special protection of dogs. It is an agitation which is not distinguished by scrupulous regard for accuracy of statement or fairness of description. Those who conduct its emotional propaganda by poster, pamphlet, and letters to the press are much addicted to over-colouring their case in order to excite emotion. I doubt whether 5 per cent. of the signatories are aware of the stringent conditions under which experimentation of all kinds upon living animals is carried on, of the jealous scrutiny with which licences are granted, and still less of what this class of experiment has done for the advance of medical knowledge and the practical conquest of disease. It is enough for them to see the lurid picture of a dog—which might be their own—dumbly pleading to be spared, and they assume that the knife must be cruel and the research worker a cold-blooded torturer.

I do not challenge the instinct which makes the ordinary man or woman shrink from the thought of experiment on the flesh of a living, though anaesthetized, animal, whether cold-blooded or warm-blooded, wild or domesticated, pest or pet. That instinct is both human and humane. But it is the business of science to look deeper than that. Man, by virtue of his superiority, arrogates to himself in a hundred ways the right to exercise the power of life and death over the lower orders of creation. So long as this power is exercised with humanity, and the purpose is worthy and adequate, the considered judgement of the civilized world approves the practice of painless experiment, and even, in strictly exceptional circumstances, tolerates the deliberate infliction of pain. Every aspect of this subject has been investigated again and again. The verdict does not vary, and informed opinion generally accepts the decision of the Royal Commission of 1912 that: "Experiments upon animals, adequately safeguarded by law, faithfully administered, are morally justifiable and should not be prohibited by legislation." That is the sufficient answer to the antivivisectionists. (Applause.) To those who qualify their formal acceptance of that general conclusion by demanding the special reservation of dogs, the answer is, in my opinion, no less conclusive—namely, that the overwhelming weight of expert scientific opinion lays stress on the special experimental value of the dog, because of the near analogy of its frame and digestive processes to those of human beings. Scientists—and our profession is scientific or it is nothing—can only judge by the balance of expert evidence. I surely need not avow in this matter my own strong affection for either dog or cat. I enjoy at home the favours of both. But when I consider at how low and cheap a rate human life is commonly valued, I am amazed at the fluent tears and hysterical emotion of those who support the Dogs' Protection Bill. If you think of the reckless and irresponsible prodigality of canine birth, of the facile mutability of their species, of the cynical indifference of dog for dog, and of the forlorn condition of the homeless stray, sentimentality over a dog's life may easily be indistinguishable from a soft and slushy emotionalism. Moreover, the dogs which

are the martyrs of this movement do not give their lives for man alone, they yield them no less for the benefit of their brother dogs. I hope that this meeting, representing as it worthily does science and medicine in all their branches, will impress upon Parliament the duty of yielding *nothing* to this illogical, this ill-balanced, and, I will also add, this mischievous and dangerous clamour. Let us say to the Government and to both Houses of Parliament as well as to the public at large: "*Trust your scientists* and trust them fully. It is not from science that you need apprehend cruelty, either to man or to dog, but from ignorance—from ignorance which is steeped in sentimentality and lacking in vision, proportion, and self-control." (Loud applause.)

THE POINT OF VIEW OF THE PHYSICIAN.

LORD DAWSON OF PENN, G.C.V.O., M.D., F.R.C.P.: This is one of the most curious meetings in respect to its composition that any of us has attended. Has there ever been an occasion with less disagreement between those who speak and those who hear? I see around me colleagues far better able than I to address you. To this audience we are preaching to the converted. But the public is also here, not in numbers, but in the representatives of the press, through whom what we say may reach many who at present do not see eye to eye with us.

Although the immediate purpose of this meeting is to counter a movement to exclude dogs from experimentation, the fact cannot be disguised that the whole principle of animal experimentation is involved. No small proportion of the people who are trying to exclude dogs from experimentation are avowed opponents of experimentation altogether. ("Hear, hear.") They regard this movement to prohibit the use of dogs as in the nature of a reconnaissance in force or a flank movement. For my part I am delighted. I think it is far better for the question to be faced outright rather than that our opponents should be allowed to attack in detail. If it is wrong to use dogs in the search after knowledge, it follows that it is wrong to use any higher animal at all.

It will be common ground that doctors belong to a humane race. It is part of their make-up, one of the greatest of their traditions. Is it likely that men who are trained to care for human suffering will be guilty of practices cruel and inconsiderate? I will assume, therefore, that all our opponents will admit that there is at any rate no cruelty of intention on the part of medical experimenters. Well, Sir, whatever your road of approach to this question, it always appears to me that you come up against the fundamental principle, Is it ethically justifiable to make use of animals for man's purposes? Are we justified in making use of animals for food or as beasts of burden? No one can pretend that the preparation of the Christmas turkey for the antivivisector's table is a pleasing process—for the turkey—or that horses like drawing heavy loads, or that cattle like being castrated in order that their flesh may be made more tender for man. However carefully done, castration produces far more distress than most of the experiments performed in research. These are questions on which we should welcome discussion. Surely the use of animals is justifiable provided the end in view is sufficiently beneficial to mankind and that no unnecessary discomfort is suffered by the animal. And is not the alleviation of pain and distress—of the suffering which may be witnessed day by day in our hospitals—sufficient reason for the employment of experimentation? (Applause.)

What is often forgotten in talking of animals and comparing them with man is that the animal at least suffers none of the anticipatory fears, none of the anxieties and griefs, which in human patients far outweigh the actual physical suffering. It does not realize what the suffering is going to be. If the public say that experimentation is not justifiable, well and good, the responsibility is upon them. I will venture to say that when once the public understand what the implications of such a position really are they will not be long in withdrawing their support from those who wish to suppress experimentation.

The benefits which have accrued from animal experiment might occupy us for a long time, but as a physician I take only a few examples. For years there have been the most patient investigations on the function of the pancreas; then came the crowning success of insulin by Banting at Toronto, with the result that diabetes has been brought under control, and literally thousands of lives have been saved. Within a short distance of this hall there lives a distinguished man who, as the result of the administration of insulin, is able to continue a career of unexampled value to the public; without insulin, there is not the slightest doubt, he would by this time be dead. Are our opponents prepared to take the responsibility of saying that the use of insulin is not justifiable? If so, we should like it stated in plain language. Yet it is on dogs that a large portion of this work has been done. I myself saw the dogs at Toronto which were the subject of experiment by Banting and his colleagues; they were well cared for, and those that were not ill were happy, some of them the pets of the laboratory.

What about diseases of the spleen, the causes of jaundice, the formation of gall stones? Fruitful work in all these directions has resulted from experiments on animals. Do they say that this is to stop? Yet in all these cases dogs were required for the investigations. All of this work would stop if the bill prohibiting the use of dogs became a legal enactment. Take typhoid, lockjaw, diphtheria. Is the work which has been done on these diseases to stop? It would if the higher animals were withdrawn from the use of the profession. Then again, new drugs—let me mention pituitrin, a drug which will control haemorrhage on the one hand, and go far to diminish the dangers of childbirth on the other. How are new drugs to be tested? On the wives and daughters of the members of the public—or on animals? Or are no new drugs to be tested and used at all? If there is to be no animal experimentation, the use of pituitrin falls to the ground. (For I will presume that a country which prohibits the use of animals for research is not going to be mean enough to take advantage of the results of experiment in other countries.)

It is for the public to decide, and if they decide that experiment on animals is right, then I have only this point to make, that the use of the rabbit in one case, of the guinea-pig in another, or of the monkey, or the cat, or the dog, is a question for experts. When a dog is used there is invariably good reason for its use. It may be, in some cases, a question of the size of the animal, or its physiological function or anatomical structure, or, again, it may be necessary to use a dog because it can subsist on a mixed diet. But I fall back on this ground that, granted the justifiability of animal experiment, the question of whether the dog should be used or not is one for experts. And is it to be supposed that the members of a humane profession would use a dog unless the necessities of knowledge required it? When it is a question of building a bridge across a river, the public rightly decides on the policy as to whether or not a bridge should be built, but, having so decided, leaves to the engineers the technical question as to what variety of steel shall be employed. We ask for the same confidence in endeavouring to bridge the gap from ignorance to knowledge. We ask confidently of public opinion that it should free us from these mischievous interferences, and enable our colleagues to pursue their scientific research for the benefit of mankind. (Loud applause.)

THE POINT OF VIEW OF THE SURGEON.

Sir HOLBURT WARING, F.R.C.S.: I associate myself with what Lord Dawson has said on the general question of the necessity of using animals for experimentation. I speak as a surgeon. What are the duties of a surgeon to his patients and to humanity at large? They are to provide the greatest possible amount of relief to humanity in the best possible manner. Surgery from many points of view is a handicraft—a scientific handicraft—and when it is desired in the interest of humanity to make progress or investigation it is necessary that this should be done on the animal. For ten years I was a licence-holder in connexion with vivisection and an active worker. The work I did was mainly in connexion with the surgery of the liver, gall bladder, bile ducts, spleen, and alimentary canal.

I say without hesitation that that early experiment has enabled me during a comparatively long and active surgical career in one of the largest hospitals in this country to avoid many unnecessary or imperfect operations on patients. These things have been avoided by the knowledge which I was able to gain from the experiments I actually made on the living animal. At the time when I began surgery the technique in the various branches I have just named was not as well understood as it is now. I agree with Lord Dawson also when he says that if public opinion is in accord with the desirability of experiment there is no justification for excluding the dog. By excluding the dog one takes away the principal means which the surgeon has of finding out what he wants to know. When I was carrying on these investigations I used, at different times, monkeys, dogs, cats, rats, sheep, and pigs, but I found that from the point of view of discovering the best solution of a surgical question which would be of importance when I came to treat the human patient a large-sized dog was far and away the best. It was the easiest to manipulate, with the dog we were better able to avoid all unnecessary pain, and from the experiment we got the knowledge we most desired. Would the promoters of the bill prefer that surgeons should make their experiments on patients in hospital or private practice? Personally, I should say it is far more humane to use for these experiments an animal so well suited to the purpose. The amount of suffering is very much less, and the result is very much better. And as a surgeon I ask, Have we as surgeons not ourselves certain rights as an expert body to make advances in our own particular art and science? ("Hear, hear.") Why should the surgeon who is in practice and at the same time is carrying on his experiments be looked upon by the community or any section of it as a criminal or potential criminal? Not only is he so regarded in some quarters, but if this bill passes into law the law may so regard him. With respect to the necessity that experiments on animals should be carried out under strict supervision, I may assure you from my own practical experience that the safeguards are very effective. During ten years I was making experiments of one kind or another, and on one occasion by some accident I used a cat instead of a rabbit. It was an entire accident, but I very soon had a strongly worded communication from the Home Secretary drawing my attention to what I had done, and pointing out that I had rendered myself liable to various penalties. That is the only lapse that I can remember, and I assure you the safeguards are very complete. On behalf of surgeons in general I endorse what Lord Dawson has said, and support the resolutions presently to be put to the meeting. (Applause.)

THE VIEW OF THE PSYCHIATRIST.

Professor GEORGE M. ROBERTSON, M.D., President of the Royal College of Physicians of Edinburgh, said: We are all lovers of dogs, and we can sympathize with those who on purely sentimental grounds bring forward this bill. But we love mankind more than we do dogs, and so we oppose it. Medical education has taught us the amount of suffering—of the mind even more than the body—that the human race has been spared by the sacrifice, small in comparison, of a few dogs. Were men and dogs placed on an equality, this sacrifice would be fully justified in our eyes; but men and dogs are not equal in the sight of any ordinary man or woman. To be sure, there are men and women who think differently. We have all met persons who, if asked the question, "Is man not of more value than many dogs?" would promptly reply in the negative, regardless of the biblical analogy. A lady of my acquaintance kept the day of her dog's death sacred and made an annual pilgrimage to its grave, which involved a railway journey. She was prepared to ignore any amount of human suffering rather than allow one dog to suffer pain. Another talented woman was asked the question, if her only child were sick and dying and an operation on a dog might save its life, would she permit it to be performed. Her answer was a decided negative. Is legislation on a subject so important, affecting the welfare of the whole human race, to conform to the ideals of such people, however worthy they may be? ("Hear, hear.")

Human nature being what it is, it is not surprising that this bill should be brought forward. Moreover, it is fostered by ignorance of the facts. To us, who know the facts, it is inconceivable that any rational being with this knowledge could support the bill. It is also based on a failure of the imagination. It is not difficult for any sympathetic person to feel for the dog that is suffering pain. It is much more difficult for him to form in his mind a picture of human suffering in the abstract and in the mass, for the object by its very vastness becomes vague, and the image loses vividness, so that it does not make the same direct appeal as the suffering of one dog.

Speaking as one who is particularly interested in the brain and nervous system, I would refer to the classical experiments of Fritsch and Hitzig, and of our dear friend Sir David Ferrier, who is amongst us to-day. (Applause.) The whole aspect of cerebral physiology and pathology was revolutionized by the discovery that certain movements could be excited by the direct application of electricity to certain regions of the cortex in dogs. Ferrier's own experiments were made with the object of obtaining proof of the views of Hughlings Jackson as to the causation of unilateral convulsions.

It is important to note, as showing the necessity for comparative experiments, that four centres discovered in dogs could not be found in cats. At a later date dogs were superseded by monkeys in these cerebral experiments as being nearer to man in the scale of creation. The sympathy of the supporters of this bill, whether as a result of policy or otherwise, does not extend to these near relations of ours. I would refer also to Pavlov's experiments on dogs, whereby he established the fact of the psychic control of gastric secretion, and of his valuable observations on conditioned reflexes.

While smaller animals are suitable for many types of experiment, an animal of sufficient size, which resembles the human subject in its anatomy and in its habits of feeding, is essential for experiment on the central nervous system, and on the stomach, intestines, and pancreas. By long experience the dog has been found to be the only animal which fulfils these requirements, and progress at the present time is already greatly hampered by the difficulty of obtaining dogs for laboratory work in these departments of medicine.

In conclusion, I should like to read you a quotation from O. Henry, who possessed an uncanny insight into human nature. It occurs in the volume entitled *Whirligigs*, and in the story of "The theory and the hound." There the principal character is made to say: "I am a Kentuckian, and I have seen a great deal of both men and animals, and I never yet saw a man who was overfond of horses and dogs who was not cruel to women." That furnishes a problem for the psycho-pathologist, and, indeed, light might be thrown on the whole attitude of the out-and-out supporters of the bill by an inquiry of this nature. (Laughter.) The medical man is often referred to as the "beloved physician," and the public entrust their own lives into the keeping of members of our profession. Is it too much to ask them to trust us also not to cause unnecessary pain to any of God's creatures, particularly dogs? (Applause.)

THE VIEW OF THE INVESTIGATOR.

Sir THOMAS LEWIS, M.D., F.R.S., began by showing that the science and practice of medicine had been built, and continued to be built, upon a threefold basis: the examination of living people, the dissection of their bodies after death, and experiment upon living animals. If any of those three sources of information had been closed in the past, medicine would have failed to emerge from the status it held in the Dark Ages.

"It is a usual plan, in explaining the value of experiments upon living animals, to recite instances in which such experiments have directly led to the prevention, cure, or alleviation of disease in man. This plan makes perhaps the strongest, since it is the most direct, appeal to the masses of the people; and those who adopt it have no difficulty in pointing to an array of brilliant discoveries illustrating the extraordinary value of the method. It is not, however, upon such examples that the case for

experiments on living animals mainly depends. It is more deeply founded. A full appreciation of the value of this method is obtained in one way only—namely, by considering where medical knowledge would now stand had this method been forbidden us.

"I start with Harvey, the pioneer of this method. Harvey's great work, conducted in large part upon dogs, and the further discoveries by means of similar experiments which his work has since prompted, have laid the whole foundation of physiological knowledge. Let any medical man sit down and attempt to write a reasoned statement as to the manner in which the circulation of the blood happens in the body and is controlled, and let him in so doing refrain from writing down any fact or inference derived, directly or indirectly, from experiments on living animals, and he will realize how primitive and inadequate his statement will be. Let him set himself a similar question in respect of the nervous system, the functions of its many parts, or of the glandular organs of the body. When he has made these attempts, and only then, will he begin fully to understand the fundamental part experiments on living animals have played and what they mean to him and to his daily work." (Applause.)

Sir Thomas Lewis mentioned as an illustration the cardio-vascular system, pointing out that to the man who denied himself knowledge from this source the stethoscope would be of small value, for the manner in which the valves of the heart gave out their sounds was determined by animal experimentation, which cleared up the errors of Laennec—errors consequent upon relying purely upon clinical observation. The determination of variations of the pulse, the measurement of blood pressure, the interpretation of the movements of the heart by the electrocardiograph—all these things had developed from experiments on animals, and the bulk of the information had been derived from experiment upon unconscious dogs, in which the circulation more closely resembled that of man than that of any other domesticated animal.

"There is no practitioner in this land who does not use information of this kind, and information similarly derived from other organs and systems, constantly in his daily work. When he sets out to understand the meaning of such common symptoms as palpitation, breathlessness, giddiness, fainting, and innumerable other forms of distress, when he transfuses his patient with blood, or employs rectal feeding, he is making wholesale use of knowledge won by animal experimentation."

The speaker mentioned the capital that had been made out of the large number of dogs used at University College, London. But this was the chief centre in the country for studying problems relating to the circulation, and for those problems the dog was by far the most suitable animal. Dogs were never used unless their use was essential. The fiction had been spread abroad that experiments on living animals were conducted secretly, "behind closed doors." That experiments were not conducted publicly, and so illegally, seemed to be a grievance. But to suggest that there was secrecy was to betray an astonishing ignorance of prevailing conditions. Experiments could be performed in licensed buildings only, and these were institutes in which many people were at work. Few experiments were carried out except in the presence of other people, none were done out of earshot, the presence of assistants was the rule, and other workers and helpers were constantly going in and out. No dog could be in serious pain without the fact becoming known, and this was a more powerful preventive of abuse than would be a tenfold increase of inspectors' visits. No experimenter could contemplate cruelty, for he would run the certain risk of losing the respect and esteem of his associates. (Applause.)

Of the petition of the National Canine Defence League, the speaker said that it spoke falsely of the dog having been specially selected for demonstrations of a prolonged and agonizing nature before classes of students. "No operations upon living animals are performed, either as demonstrations or otherwise, except upon anaesthetized and unconscious animals. No one who has signed this document in good faith can escape the judgement that he has done so under an entire misapprehension of the present-day conditions of animal experiment. In its own brief phrasing the document proclaims itself valueless, and proves its signatories to be unfitted to influence the decisions of Parliament." (Applause.)

Antivivisectors (said Sir Thomas Lewis in conclusion) formed a curious body of people. Their leaders were unscrupulous or culpably negligent in their method of presenting a case; in their propaganda they issued statements which the simplest inquiries would prove grossly inaccurate; they deliberately or otherwise perverted the meaning of plain words; they concealed or denied the central fact that operational experiments were only performed under deep anaesthesia and with the strictest precautions for the avoidance of suffering. They derived their descriptions from experiments conducted in other lands and from the doings of physiologists who lived in the days when man as well as beast perforce lay unanaesthetized under the surgeon's knife. The campaign satisfied in some a morbid craving for the horrible; it brought to others—the misanthropic—their only stimulus to self-esteem, namely, a belief in the depravity of their fellow-beings; but to many unselfish and right-minded people it brought much needless mental suffering. To these last, and these alone, the medical profession could tell the actual facts with any prospect of credence; on these the fact must be impressed that statements representing cruelty were false, but that their refutation was not always possible or to be expected, for they were published in periodicals controlled by those who were deeply prejudiced, or in obscure newspapers to which those calumniated had little access, and were written by people who had time and leisure to pour forth a flood of abuse concerning men and women to whom leisure was almost unknown. But the campaign was really an attack upon the progress of medicine and surgery and against the cure and alleviation of human suffering. (Loud applause.)

The View of the Veterinarian.

Lieut.-Colonel J. W. Brittlebank (President of the Royal College of Veterinary Surgeons) associated himself, from the veterinarian standpoint, with what had been said by other speakers. It was regrettable that there should be any necessity in 1927 to reply to the many unprincipled accusations made against great scientists who had to resort to experiments on animals. The chairman had rightly said that as a result of emotional propaganda a good deal of money was left by people to societies whose objects were supposed to be the mitigation of animal suffering. In his profession they had considerable acquaintance with those bodies, whose emotional propaganda was extraordinarily effective. If it were only emotional and not unprincipled the objection would not be so great, but in fact there were no lengths to which these propagandists would not go in the statements they made. Men who had devoted the best years of their lives to carrying on research work of immense benefit to humanity, and to the animal kingdom also, were pilloried as blackguards, and this a hundred years after the birth of Lister! The whole training of the member of the veterinary as of the medical profession was in the direction of the relief of pain. There was not a man in his own profession who, having seen animals in gross pain, would not do his utmost to relieve it. At the same time there was a vast difference in what might be called the mental attitude of animals and of human beings. He had seen animals undergo the severest operations—often, years ago, in circumstances in which anaesthesia was impossible—and at the completion of the operation the animal would get up and begin to feed. There was no agony of anticipation in the animal, and there was a great capacity to forget. Some very valuable work for animals themselves had been done as a result of animal experiment—he instanced distemper, a work for which dog-lovers should be grateful. Was that sort of work to be stopped? Science must not be interfered with by this clamour; it must be free to carry on its work in its own quiet, dignified, and unadvertised way. He quoted, in conclusion, a letter received by the Royal College of Veterinary Surgeons from Lord Lister many years ago in reply to congratulations on the conferment of his peerage. The College had told him that veterinary medicine and surgery had benefited

amensely from his work, and Lord Lister's reply was that e equally had benefited from veterinary science and from ie opportunity of working among animals. (Applause.)

The View of the General Practitioner.

Dr. H. B. Brackenbury, Chairman of the Representative ody of the British Medical Association, said: It is my rivilege and responsibility to present a few observations o this audience, and through them perhaps to a larger udience, as representing in some sort the general practiioner. We general practitioners constitute the great bulk f the profession, and when anyone in a book or a speech r a petition accuses, directly or by implication, the proession of cruelty, or of something very much like it, it ollows that the body of general practitioners are themelves accused. The curious thing is that if you take the ndividual patient or potential patient you will not find him aking an accusation of that sort against any section of he profession, certainly not against general practitioners ho form the bulk of the profession, but the same ndividual seems to have no hesitation whatever in putting is name as one of the million to statements which involve hat accusation. That is a curious psychological feature, nd in itself, even apart from the absurdly untrue statenents in the petition, would lead anyone who brought an ndependent mind to bear upon the matter—the mind which re may assume all members of Parliament to possess—to lismiss the statements above such signatures as being ithout value. ("Hear, hear.")

On behalf of the general practitioners in the profession I would say that we feel, as everybody in the profession must feel, that an accusation of cruelty or callousness, or even lack of sympathy, is one which, if calmly examined, would be at once refuted, and we must discount here, as we do elsewhere—in public meetings for example—that mass psychology which shows such curious perversities.

General practitioners are often described as the rank and file of the profession. It is an unhappy phrase, to my mind, because it involves what I believe to be a false metaphor. We general practitioners are not conscious that in our fight for health we are under the orders of a superior body of persons whose words it would be almost a mutiny to gainsay. (Laughter and applause.) We believe that our part in professional work is at least as important as any other part—some of us think even more important—and that we can bring as much skill and careful scientific thought into that work as any other branch of the profession. ("Hear, hear.") Therefore as *scientists*—as men and women who have been brought up in the traditions of scientific training and teaching—we associate ourselves with those more specialized branches of the profession whose members no doubt know a great deal more at first hand than we do about experiments upon animals.

But it is not on that ground that mainly we should base our desire to create a public opinion unfavourable to such movements as are indicated by the Dogs Bill. It is, of course, more directly the practical usefulness of the results of these experiments in our daily work that we wish to bring home. Here I might mention—not to discuss or to prove again—three ways in which general practitioners every day of their lives must be seeing the beneficial results of work which has in fact been done upon dogs. One may take three types of work, though they are not really separate. One is the testing of drugs so that we can apply them in our daily work with precision and with the best results. I believe that the testing of the chief drugs for controlling cardiac troubles has been carried out largely on dogs. As we go on in practice from year to year we see an increasing number of people who, but for the work done in this connexion, would have died years ago after a distressful life, but who to-day are able to enjoy reasonable comfort and activity.

Among the commonest troubles for which our patients come to us are those connected with the digestive system. Here again the investigation of function, of the stomach particularly, has been, and must necessarily have been, upon the dog, because there is no other animal whose diet so closely approaches that of the human being. Once more, the discovery of insulin has already been referred to, and here we have the actual discovery of a new medicament. One could mention a great many other things, all of them of everyday use to the practitioner. I fail to see how it is possible for anyone to support such a bill as the Dogs Bill unless he is prepared at the same time to say that he will refuse the chief aids which his medical practitioner can give him when he is suffering from a distressed and struggling heart, or the consequences and discomforts of an ill directed diet, or the grave disease of an imperfectly controlled diabetes. ("Hear, hear.") I do not think that anyone would sign a petition such as this if he understood that it involved, as logically it does, the suffering of those ills without the resort to methods of relief which have been worked out as the result of experiments which he deprecates and desires to forbid. (Applause.)

We have heard a good deal about the research which might be done by general practitioners. This has not yet been properly directed, systematized, or controlled. But there is a good deal of individual research going forward by general practitioners, and there is obviously a great movement for combined research by them all over the country. But this must necessarily be the kind of research which follows upon laboratory experiment. We cannot begin research of that kind on the human being. It is laboratory work—experiments on animals, particularly on dogs—which brings about the safe and efficient application of new substances or methods to human beings. Only in that way can we reap the advantage of combined research by general practitioners.

May I, in conclusion, say one or two words to general practitioners themselves? What we are trying to do here is to create an informed and intelligent public opinion. There are certain people whom we cannot hope to influence in any circumstances whatever, but if we as a profession and as a body of scientific men and women are going to get such an intelligent public opinion as will prevent the annual recurrence of these absurd proposals no one can help more to create that opinion than the general practitioner. It is difficult and requires a certain amount of courage for general practitioners to tackle their own patients on this subject when many of those patients are exceedingly sensitive and may be profoundly offended if their medical man expresses an opinion in a different direction from that in which their own sympathies lie. But I am certain that there are among our patients a very large number of persons who are sincerely desirous of information upon this subject, who would welcome it, and accept it as truthful; and I want to appeal to general practitioners to throw themselves into this campaign to create a proper public opinion. Never mind if we come up against the impossible person, the ultra-sentimentalist, to whom plain logic is of no value whatever, or the perverted idealist, who has no regard for practical common sense. When you come against such people, wisdom sometimes consists in saying no more in those circumstances. But there is a propaganda we can carry on among our patients who, though ill informed, are anxious for information, and if opportunities are not made for us it is possible for us to make opportunities. If we do not do so, I am afraid we may at last come up against that state of affairs in which sheer terror born of disastrous experience achieves what intelligence and a sense of public duty and the advice of doctors and scientists had not succeeded in effecting. I have great pleasure in supporting the resolutions. (Loud applause.)

Questions and Suggestions.

After these various addresses were concluded the meeting was thrown open for questions or brief discussion.

Lord Lamington promised the utmost help of the Research Defence Society in prosecuting the campaign against the bill.

Mr. E. Moss-Blundell (*Field* Distemper Fund) associated his council whole-heartedly with the objects of the Conference. The work upon which the supporters of the Fund were engaged was designed to relieve much animal suffering, and it would be a great disappointment from that point of view, apart from any other, if it were stopped, as it would be, by the passing into law of the Dogs' Protection Bill.

Dr. F. E. Fremantle, M.P., referred to the difficulty of confuting by argument the positions of those who were

blinded by their love of dogs, though such argument, of course, must continue. But he thought that it would be very useful to have a clear statement of the advantages to dogs themselves which had followed from this experimental work. In the literature of the subject not enough was made of the value of experiment in the relief of animal suffering.

Mr. F. T. G. HOBDAY, C.M.G., F.R.C.V.S., mentioned that as a student he had always been taught that the dog could not with safety be chloroformed for operations, and in his young days he scarcely ever saw a dog chloroformed which did not die under the anaesthetic. The operations had accordingly to be done on the conscious creature, to its great agony. He himself refused to believe that chloroform could not effectively be given to dogs, and noticing that when chloroform was given it was usually in a rough-and-ready way, he set himself to work out a proper appliance and method. But in order to do this he had to hold four vivisection licences, one of which was considered by the antivivisectionist to be the most brutal of all. The result was that dogs could now be chloroformed with speed, efficiency, and safety. A somewhat similar piece of work was also done in connexion with the administration of local anaesthetics, under which formerly dog after dog was lost. But again animal experiment was necessary for bringing this great boon to the animals themselves.

Dr. ALFRED COX (Medical Secretary, British Medical Association) read the following telegram from Mr. J. J. Withers, M.P. for Cambridge University:

"I am sorry I cannot possibly come to meeting this afternoon. Please, however, assure your body that I shall support the provision of all proper facilities approved by the recognized medical authorities under the existing proper safeguards."

A resolution by the Council of the Royal Society of Tropical Medicine and Hygiene was also circulated, conveying unanimous approval of the objects of the Conference and expressing the opinion that medical research would be greatly facilitated if the Government would allow a proportion of the stray dogs which are killed every year to be used for purposes of research, under the strict regulations of the Act. Another memorandum circulated conveyed the views of the Faculty of Medicine, Edinburgh University, that the advances in surgery during the last fifty years had been almost without exception made possible by carefully conducted experiments on animals, and that the dog had been found to be the only animal which fulfilled the requirements of experimental work in relation to surgery. The Faculty further expressed the view that progress in this branch of medical science was at present greatly hampered by the difficulty which existed of obtaining dogs for laboratory work, and that any further restriction in the supply of dogs would not only impede but virtually preclude a large amount of valuable research. It was added that the statement as to the restriction of the work through the inadequacy of the supply of animals applied to physiology as well as to surgery.

THE RESOLUTIONS.

The CHAIRMAN then put to the Conference separately the following three resolutions, and declared each of them to be carried unanimously:

1. That this Conference, believing that any withdrawal or curtailment of the powers at present granted under licence and inspection will hinder medical research to the detriment of the health and well-being of the community, wishes to enter a strong protest against any bill which has for its object further restrictions upon experimental work on dogs or other animals.

2. That this Conference is of opinion that the existing law should be altered so as to permit, under proper provision for the prevention of pain and for efficient inspection and control, the use, for purposes of research, of some of the numerous stray and unowned dogs now taken up by the police and condemned to the lethal chamber, thus ensuring conditions which are essential to progress and physiological knowledge and to the application of this knowledge to the practice of medicine.

3. That copies of the above resolutions be sent to the Prime Minister and to the Home Secretary, together with a note of the names of those present at the Conference and of the bodies they severally represent.

On the motion of Mr. HERBERT L. EASON (General Medical Council) a hearty vote of thanks was accorded to Mr. Hogarth for presiding, and the Conference then terminated.

The universities, colleges, and other scientific societies represented at the Conference were as follows:

British Association for the Advancement of Science: Sir Edwar Sharpey-Schafer, F.R.S.
British Dental Association: Mr. C. F. Rilot.
British Empire Cancer Campaign: Dr. N. Howard Mummery.
British Medical Association: Mr. R. G. Hogarth, C.B.E. (President) Dr. H. B. Brackenbury, Dr. C. O. Hawthorne, Dr. Alfred Co O.B.E., Dr. G. C. Anderson.
"Field" Distemper Fund: Mr. E. W. Moss-Blundell.
General Medical Council: Dr. H. B. Brackenbury, Mr. Herbert L Eason, C.B., C.M.G., Sir Humphry Rolleston, Bt., K.C.B. Professor Arthur Thomson, Sir Holburt Waring, C.B.E.
Glasgow Veterinary College: Mr. A. W. Whitehouse (Principal).
Imperial Cancer Research Fund: Sir Frederick Andrewes, F.R.S.
Foot-and-Mouth Disease Research Committee: Professor W. Bulloch F.R.S.
Lister Institute of Preventive Medicine: Professor C. J. Martin C.M.G., F.R.S. (Director).
Medical Research Council: Sir Walter Fletcher, K.B.E., F.R.S.
Medical Society of London: Dr. E. M. Callender, C.B.E.
Medical Women's Federation: Lady Briscoe, M.B.
National Institute of Medical Research: Dr. S. R. Douglas.
Pathological Society of Great Britain: Professor A. E. Boycott F.R.S.
Pharmaceutical Society of Great Britain: Dr. J. H. Burn.
Physiological Society: Dr. H. H. Dale, C.B.E., F.R.S., Professo C. Lovatt Evans, F.R.S.
Research Defence Society: Lord Lamington, G.C.M.G., G.C.I.E (President), Sir Thomas Lewis, C.B.E., F.R.S., Sir David Ferrier, F.R.S., Lady Horsley, Dr. F. W. Goodbody, Dr. G. P Crowden.
Royal College of Physicians of London: Sir Wilmot Herringham K.C.M.G., C.B.
Royal College of Physicians of Edinburgh: Professor George M Robertson (President).
Royal College of Surgeons of England: Sir Cuthbert Wallace, K.C.M.G., C.B. (Vice-President).
Royal College of Surgeons of Edinburgh: Mr. A. Logan Turner, LL.D. (President), Mr. George Mackay.
Royal College of Veterinary Surgeons: Lieut.-Colonel J. W. Brittlebank, C.M.G. (President).
Royal (Dick) Veterinary College of Edinburgh: Dr. Henry Dryerre.
Royal Society of Edinburgh: Sir E. Sharpey-Schafer, F.R.S.
Royal Society of Tropical Medicine and Hygiene: Dr. Leslie Sheather, Dr. H. S. Stannus, Dr. C. M. Wenyon, C.M.G., C.B.E.
Royal Society of Medicine: Lord Dawson of Penn, G.C.V.O., K.C.B., K.C.M.G., Dr. S. Monckton Copeman, F.R.S., Mr. F. T. G. Hobday, C.M.G., Professor J. McIntosh.
School of Medicine of the Royal Colleges, Edinburgh: Dr. John Orr.
Society of Apothecaries of London: Dr. Alfred Hepburn (Master), Lieut.-Colonel C. T. Samman, R.A.M.C.(ret.).
Veterinary College of Ireland: Professor D. Kehoe.
Wellcome Bureau of Scientific Research: Major H. C. Brown, C.I.E., I.M.S.(ret.).
Wellcome Physiological Research Laboratories: Dr. R. A. O'Brien, C.B.E.
Welsh National School of Medicine: Professor T. Graham Brown, Professor A. W. Sheen, C.B.E.

MEDICAL FACULTIES OF THE UNIVERSITIES.

St. Andrews: Professor P. T. Herring.
Birmingham: Professor E. W. W. Carlier, Professor G. Haswell Wilson.
Bristol: Professor E. Fawcett.
Cambridge: Sir Humphry Rolleston, Bt., K.C.B., Dr. W. E. Dixon, F.R.S.
Edinburgh: Professor G. M. Robertson, Sir E. Sharpey-Schafer, F.R.S., Professor D. P. D. Wilkie, O.B.E.
Glasgow: Professor Archibald Young.
Leeds: Professor J. Kay Jamieson.
Liverpool: Professor W. J. Dilling, Professor J. S. Macdonald, F.R.S.
Sheffield: Professor E. Mellanby, F.R.S.
LONDON—
Guy's Hospital Medical School: Professor M. S. Pembrey, F.R.S.
London Hospital Medical College: Professor H. E. Roaf, Mr. H. S. Souttar, C.B.E.
London School of Hygiene and Tropical Medicine: Mr. J. T. Duncan, Dr. Andrew Robertson.
Middlesex Hospital Medical School: Professor J. McIntosh.
St. Bartholomew's Hospital and College: Professor F. R. Fraser.
St. Mary's Hospital Medical School: Sir William Willcox, K.C.I.E., C.B., C.M.G.
St. Thomas's Hospital Medical School: Sir Cuthbert Wallace, K.C.M.G.
University College Hospital Medical School: Professor A. E. Boycott, F.R.S., Professor T. R. Elliott, C.B.E., D.S.O., F.R.S., Sir Thomas Lewis, C.B.E., F.R.S.
Westminster Hospital Medical School: Sir James Purves-Stewart, K.C.M.G., C.B., Mr. Arthur Evans, Mr. Stanford Cade.
Bedford College: Professor J. S. Edkins.

Among others present were Sir Archibald Garrod, K.C.M.G., F.R.S., Regius Professor of Medicine in the University of Oxford, and the following medical members of Parliament: Sir Richard Luce, Sir George Berry, Dr. F. E. Fremantle, Mr. T. Sinclair, C.B.

British Medical Association.

CURRENT NOTES.

Optical Practitioners' Registration Bill.

The personnel of the Departmental Committee appointed by the Minister of Health "to consider a draft bill prepared by the Joint Committee of Qualified Opticians to provide for the registration of optical practitioners and to regulate the practice of sight-testing" is as follows: Mr. F. B. Merriman, K.C., M.P. (chairman), Mr. O. Ares, Mr. W. B. Barker, Dr. H. B. Brackenbury, Mr. L. G. Brock, C.B., Mr. E. Treacher Collins, F.R.C.S., Mrs. W. L. Courtney, Lord Cozens-Hardy, Mr. R. J. Davies, M.P., Mr. H. L. F. Fraser, M.A., LL.B., Dr. C. O. Hawthorne, Mr. G. E. Houghton, and Sir Henry Keith. Mr. J. S. Henderson of the Ministry of Health is secretary. The representative of the British Medical Association on this committee is Dr. Brackenbury. The special subcommittee appointed by the Ophthalmic Committee to consider the evidence to be given by the Association before this committee held its first meeting on March 31st, when it made a preliminary examination of the text of the bill introduced in the House of Commons on February 11th last, determined the plan of the evidence to be given, and arranged for the collection of information by means of a questionary addressed to selected ophthalmic surgeons. The bill would provide that registration as an optical practitioner should be open to any person at, or over, the age of 21 who held a recognized certificate or other evidence of qualification approved by a Central Optical Board; or had been engaged in optometry in Great Britain for the five years previous to the passing of the bill, and had been successful in an examination in optometry; or, having completed the prescribed training, had satisfied the board's examiners as to his competency in optometry. Such a registered optical practitioner would be entitled to give certificates relating to visual acuity or visual defects; such certificates would be recognized as admissible by any local or central authority or Government department in any part of Great Britain. Reciprocal arrangements for the recognition of such practitioners could be made with other countries. The Central Optical Board would appoint a registrar to keep a register of optical practitioners to whom certificates would be issued annually. The board would draw up regulations for the removal or restoration of the names included in this register; for prescribing training for qualification; for holding examinations; and for regulating advertising. It would consist of twelve members, and include representatives of the General Medical Council, the Ministry of Health, the Scottish Board of Health, and the Board of Education; the remaining eight members would be optical practitioners appointed by the Minister of Health after consultation with associations or organized bodies of such practitioners. The board would hold office for two years, and subsequently would include eight optical practitioners elected by those whose names appear on the register.

Laboratory Services for Insured Persons.

The Pathological Subcommittee appointed by the Insurance Acts Committee met on March 29th to discuss with representatives of the British Pathologists' Association the arrangements now being made in the areas of some Insurance Committees for the provision of a laboratory service for insured persons. These efforts to meet the growing need for such services are a source of much anxiety to the Insurance Acts Committee, since a false step at the outset may seriously hamper the future development of an important public service. The subcommittee is formulating suggestions for the consideration of the Insurance Acts Committee.

Association Notices.

TABLE OF DATES.

April 23, Sat.	Annual Report of Council appears in SUPPLEMENT. Last day for receipt at Head Office of nominations: (i) by a Division or not less than 3 members, for election of 24 members of Council by grouped Branches in British Isles; and (ii) for election of 2 Public Health Service members of Council, and 4 Representatives of Public Health Service in Representative Body.
May 7, Sat.	Publication in SUPPLEMENT of list of nominations for election of (i) 24 members of Council by grouped Branches in British Isles; (ii) 2 Public Health Service members of Council, and 4 Representatives of Public Health Service in Representative Body. Voting papers posted from Head Office where there are contests in above elections.
May 10, Tues.	Last date for receipt at Head Office of motions by Divisions and Branches for A.R.M. on matters of which two months' notice must be given.
May 14, Sat.	Last day for receipt at Head Office of voting papers for election, where there are contests, of (i) 24 members of Council by grouped Branches in British Isles; and (ii) 2 Public Health Service members of Council, and 4 Representatives of Public Health Service in Representative Body. Publication in SUPPLEMENT of motions by Divisions and Branches for A.R.M. on matters of which two months' notice must be given. Last date for election of Representatives and Deputy Representatives.
May 28, Sat.	Publication in SUPPLEMENT of results of election of members of Council by grouped Branches, and of election of members of Council and Representatives in Representative Body by Public Health Service members. Nomination papers available (at Head Office) for election of 12 members of Council by grouped Representatives (British Isles).
June 2, Thurs.	Last date for receipt at Head Office of names of Representatives and Deputy Representatives.
June 8, Wed.	*Council.*
June 16, Thurs.	Meetings of constituencies must be held between this date and July 15th, to instruct Representatives.
June 25, Sat.	Supplementary Report of Council appears in SUPPLEMENT.
July 1, Fri.	Amendments and riders by Divisions and Branches for inclusion in A.R.M. Agenda must be received at Head Office by this date.
July 15, Fri.	[illegible] *ting*, Edinburgh, 10 a.m. [illegible] of 12 members of Council by must be received (at A.R.M., [illegible], 2 p.m.
July 16, Sat.	[illegible]
July 18, Mon.	[illegible]
July 19, Tues.	[illegible] Meeting, Edinburgh, President's Address.
July 20, Wed.	*Council* (Edinburgh). Conference of Honorary Secretaries (Edinburgh). *Meetings of Sections*, etc., Edinburgh.
July 21, Thurs.	*Meetings of Sections*, etc., Edinburgh.
July 22, Fri.	*Meetings of Sections*, etc., Edinburgh.

ALFRED COX, *Medical Secretary.*

BRANCH AND DIVISION MEETINGS TO BE HELD.

ABERDEEN BRANCH: ABERDEEN DIVISION.—At the meeting of the Aberdeen Division to be held on Thursday, April 21st, a British Medical Association Lecture will be given by Professor John Fraser, *M.C.*, F.R.C.S., on "The treatment of burns in children."

KENT BRANCH: ISLE OF THANET DIVISION.—The annual meeting of the Isle of Thanet Division will be held at the Royal Albion Hotel, Broadstairs, to-day (Friday, April 8th), at 8.30 p.m., when Dr. H. Raven will take the chair. A paper on "Clinical notes from practice" will be read by Dr. W. J. Tyson, F.R.C.P. Agenda: Election of officers for the ensuing year; observations by Dr. A. M. Watts on the new regulations governing notification of puerperal pyrexia.

LANCASHIRE AND CHESHIRE BRANCH: BLACKBURN DIVISION.—A meeting of the Blackburn Division will be held on Tuesday, April 12th. Professor A. J. Hall, F.R.C.P., will give a British Medical Association Lecture on "The reflexes which determine and control posture," with cinematograph illustrations.

LANCASHIRE AND CHESHIRE BRANCH: ROCHDALE DIVISION.—The annual meeting of the Rochdale Division will be held in the Education Offices, Lyceum, Ballie Street, Rochdale, on Wednesday, April 27th, at 8.30 p.m. Business: Annual report for 1926; election of representative, deputy representative, officers, and Executive Committee for the ensuing year.

LANCASHIRE AND CHESHIRE BRANCH: SOUTHPORT DIVISION.—Professor Ralph Stockman (Glasgow) will give a British Medical Association Lecture on fibrositis at a meeting of the Southport Division to be held at 52, Hoghton Street, Southport, to-day (Friday, April 8th), at 8 p.m. It is hoped that local practitioners will take the opportunity of hearing the lecture.

METROPOLITAN COUNTIES BRANCH: CITY DIVISION.—The next clinical meeting of the City Division will be held at the Metropolitan Hospital, Kingsland Road, E., to-day (Friday, April 8th), at 4.15 p.m., when Mr. Heath will show cases. Tea at 4 p.m.

METROPOLITAN COUNTIES BRANCH: ST. PANCRAS DIVISION.—A meeting of the St. Pancras Division will be held at the British Medical Association House on Tuesday, April 12th, at 9 p.m., when Dr. Geoffrey Evans will discuss the treatment of high blood pressure.

MIDLAND BRANCH: CHESTERFIELD DIVISION.—A meeting of the Chesterfield Division will be held at the Royal Hospital, Chesterfield, on Wednesday, April 13th, at 3 p.m., for clinical and pathological demonstrations.

NORTH WALES BRANCH.—The spring meeting of the North Wales Branch will be held on Tuesday, April 19th, at Pwllheli. Members wishing to read papers or show cases should communicate with Dr. E. Lewys-Lloyd, Branch secretary (Rhianfa, Towyn, Merioneth).

NORTH OF ENGLAND BRANCH: BLYTH DIVISION.—A meeting of the Blyth Division will be held in the Knight Memorial Hospital, Blyth, on April 20th, at 8.15 p.m., when Mr. Arkle (Newcastle-on-Tyne) will lecture on "Eye conditions of interest to colliery practitioners." Members of the Morpeth Division are invited.

NORTH OF ENGLAND BRANCH: SUNDERLAND DIVISION.—A meeting of the Sunderland Division will be held at the Royal Infirmary, Sunderland, on Wednesday, April 20th, at 8.15 p.m. Dr. E. Farquhar Murray will give an address on "Some modern aspects of midwifery and gynaecology." All members of the Division are invited to be present.

SURREY BRANCH: GUILDFORD DIVISION.—At a combined meeting of the Guildford Division and the Veterinary Medical Association, Southern Counties Branch, to be held on May 19th, Professor Hobday will open a discussion on clean milk. Further particulars will be announced later.

SURREY BRANCH: REIGATE DIVISION.—A clinical meeting of the Reigate Division will be held at the Caterham Cottage Hospital on Wednesday, April 13th, at 4 p.m.

SUSSEX BRANCH: BRIGHTON DIVISION.—A clinical meeting of the Brighton Division will be held at the Lady Chichester Hospital on Thursday, April 21st, at 3.45 p.m.

WILTSHIRE BRANCH: TROWBRIDGE DIVISION.—The annual general meeting of the Trowbridge Division will be held at Trowbridge Town Hall on Wednesday, April 13th, at 3 p.m. Agenda: Election of officers; annual report; puerperal fever regulations; medical charities. Tea will be served after the meeting.

WORCESTERSHIRE AND HEREFORDSHIRE BRANCH.—The spring clinical meeting of the Worcestershire and Herefordshire Branch will be held at Hereford on Wednesday, April 20th, at 3.15 p.m. It is hoped to make this an especially interesting meeting. The President wishes to entertain those members attending to dinner at the Booth Hall at 6.30 p.m. The programme will be: 3.15 p.m., meeting; 4.30 p.m., tea; 5 p.m., meeting resumed; 6.30 p.m., dinner. Members desirous of either showing specimens or sending notes on cases are asked to notify Dr. W. B. Butler (honorary secretary) on or before April 6th.

Meetings of Branches and Divisions.

METROPOLITAN COUNTIES BRANCH: CITY DIVISION.

AT a meeting of the City Division of the Metropolitan Counties Branch on January 4th, at the Metropolitan Hospital, Mr. K. J. ACTON DAVIS, F.R.C.S., read a paper on osteo-myelitis.

After giving a general account of this disease, Mr. Acton Davis described the process of inflammation. He said that the long bones were usually affected first, the cause being generally injury and dirt; the organism concerned was nearly always the *Staphylococcus aureus*, and more rarely the pneumococcus. The infective organism was brought to the bone by the blood stream, and inflammation commenced in one of the end arteries of the metaphysis; from this point it passed along the Haversian canals beneath the periosteum, and might spread from one epiphysis to another, stripping the whole of the diaphysis and cutting off the blood supply, with resultant necrosis. Toxin absorption was very rapid, and pyaemic abscesses often followed. When such abscesses occurred in the heart muscle and lungs operative treatment on the bone was of no avail, and death followed. Mr. Acton Davis referred to the statistics collected by St. Bartholomew's Hospital, which related to thirty cases observed during the five years before the war. In fifteen cases the tibia was affected, and in eight the femur; twenty-seven of the patients were under 15 years of age. Mr. Acton Davis condemned the gutter operation by reason of its length and severity; in many cases the bone was insufficiently opened. By removing the whole shaft of the diseased bone the periosteal surfaces come together, obliterating the cavity, and a new bone resulted. Removal of the shaft of the bone in this way obviated amputation and evacuated collections of pus pent up between the shaft and the periosteum behind it. Correct alignment of the limbs, if effected at once, prevented shortening. When the tibia or femur was involved the knee should be flexed and a Thomas splint, with extension, applied. Diaphysectomy reduced the mortality, and was efficient and quick. No sequestrum resulted, and the only risk was failure of regeneration of bone.

METROPOLITAN COUNTIES BRANCH: HARROW DIVISION.

A MEETING of the Harrow Division was held at Gayton Rooms, Harrow, on January 18th. Dr. BRONTÉ gave information as to the payment for performing *post-mortem* examinations and attending inquests.

Dr. C. GODDARD, O.B.E., medical officer of health for Harrow, in opening a discussion on the puerperal pyrexia notification regulations pointed out that, though the notification of puerperal fever had been obligatory for twenty-seven years, the Ministry of Health considered that it was often incomplete, causing statistics to be inaccurate and often misleading, also that the notification was frequently sent too late to arrange for any special treatment required. What the Ministry now insisted on was that the notification of puerperal pyrexia should be sent in as soon as the temperature reached 100.4° and lasted twenty-four hours. Dr. Goddard paid tribute to the low maternity death rate, and to the great care and skill exhibited in the district by all practitioners, but he insisted on the early notification, so that in necessitous cases he could provide a specialist, or nurses, or send the patient to hospital as the medical attendant advised. He stressed the point that the certificate and all matters relating to the patient were strictly confidential and private; there would be no inquisition or information given away to patients' friends. The new scheme was provided to assist the doctors and to benefit the patient while there was time and at the earliest moment.

A further meeting of the Division was held on February 15th. The rules of the Division were altered to bring them up to date. The question of sons and daughters of well-to-do people on the panel was brought up, and it was pointed out that the proportion of these to real workers seemed to be increasing. The matter was referred to the Panel Committee, as was also the question of panel patients being recommended by their approved societies to opticians rather than to ophthalmic surgeons. Dr. DARBY reported that matters in connexion with the hostel had been settled to the advantage of the Division members in nearly every point raised.

At a meeting of the Division held on March 15th a strong appeal was made for support of medical charities, and the matter was referred to the Executive Committee. Dr. LANGDON BROWN gave a very instructive lecture on diabetes.

METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.

A MEETING of the Lewisham Division was held on March 15th at the South-Eastern Hospital for Children, Sydenham, when Lieut.-Colonel CHARLES THOMSON was in the chair.

The SECRETARY read a letter in regard to the Dogs' Protection Bill, and the following resolution was carried unanimously:

> That this Division wishes to denounce the infamous attempt to hinder scientific research and to delay the progress of medicine foreshadowed in the Dogs' Protection Bill, and hopes that it will be rejected by a large majority of the House of Commons, and resents the insulting reflections on the humanity of the medical profession.

It was decided to send copies of the resolution to the two members of Parliament for Lewisham.

The attention of members was called to the medical charities, and, as Dr. Charsley is already local secretary for the Royal Medical Benevolent Fund, it was agreed that he be charities secretary for the Division.

Members were asked to furnish statistics to the committee on puerperal morbidity under four heads.

Mr. STEWART showed a case of a girl with ichthyosis under the breast, and also an eye specimen removed from a case of meningitis.

Dr. LIGHTWOOD showed a boy with epicanthus and ptosis—or it might be ocular hypertelorism. The great breadth of the bridge of the nose was noticeable.

Dr. CARPMAEL showed a girl, aged 6, with fusiform enlargements of the fingers of both hands and enlargement of feet, commencing at the age of 1 year, and considered to be rheumatoid arthritis. He showed also a boy with a nail in his linea that caused acute suppuration of the joint for five months, but it was saved ultimately.

Dr. CHARSLEY showed the brain and other organs from a case of tuberculous meningitis, which had an acute course of eleven days from onset till death.

METROPOLITAN COUNTIES BRANCH: MARYLEBONE DIVISION.

A MEETING of the Marylebone Division was held at 11, Chandos Street, W., on March 22nd, when Mr. BISHOP HARMAN presided, in the absence of the chairman of the Division. A discussion on the extension of specialist services under the National Health Insurance Act was opened by Dr. ELEANOR LOWRY, followed by Drs. JONSON HORNE and W. GRIFFITH. In the subsequent discussion Drs. BEDDOES, HAWTHORNE, GOODBODY, and TEMPLE GRAY took part. A resolution was adopted advising specialist ear and throat treatment under the Act.

The scale of minimum commencing salaries for medical officers of health was approved by the meeting.

Dr. C. O. HAWTHORNE gave a brief historical survey of the B.M.A. Charities Fund, after which the following resolution was carried.

> That this meeting of the Marylebone Division is in hearty sympathy with the aims of the Medical Charities Fund and cordially commends the claims of the fund to the members of the profession.

METROPOLITAN COUNTIES BRANCH: SOUTH-WEST ESSEX DIVISION.

A MEETING of the South-West Essex Division was held at Walthamstow Hospital on March 29th. The routine business having been transacted, the advisability of asking local members of Parliament to vote against the Dogs' Protection Bill was discussed. Dr. MABEL FOLEY hoped that if such a motion were passed her vote against it would be placed on record. She thought the profession was far from being unanimous on the subject. Dr. TODD-WHITE considered that human life was of more account than that of the lower animals, and dogs were necessary for the carrying out of certain experiments which could not be done on other animals. He moved that a letter be sent to the members of Parliament connected with the Division, asking them to oppose the second reading of the bill. Dr. HOWAT seconded, and the motion was carried by a large majority.

Dr. G. F. STILL, physician to the Hospital for Children, Great Ormond Street, gave a lecture on vomiting in childhood. Dr. Still said it should be kept in mind that children in the first few weeks of life did not, as a rule, vomit severely enough for a doctor to be called in, unless there was something serious the matter. The points of difference between pyloric stenosis and duodenal atresia were mentioned. Pyloric stenosis should not be diagnosed unless a tumour could be felt. It was necessary to look for the unexpected in a newborn child. Cases of meningitis and strangulated hernia were instanced. Posseting and ruminating in infants were discussed. The essential thing in the treatment of ruminating seemed to be to make the child cease enjoying the process. Operative treatment for spasm of the œsophagus—wrongly called cardiospasm—was condemned.

Dr. Still considered that vomiting with anorexia—generally seen in children from 1 to 3 years of age—was a nervous phenomenon and generally passed off without serious consequences. Two forms of morning vomiting were described—one associated with emotional upset, and the other with enlarged tonsils. Rather different was *night vomiting*, when the child woke up and vomited some hours after being put to bed. Probably defective gastric motility was a factor. Sedatives were useless in the treatment of night vomiting—nux vomica and pepsin were helpful. Finally, the prevalence of acetonuria in children was mentioned, and the fallacy of always regarding it as the cause of vomiting pointed out.

Drs. BROWN, TODD-WHITE, and HELEN WATSON took part in the after-discussion, and on the call of Dr. SCOTT, seconded by Dr. SANDERS, a hearty vote of thanks was accorded Dr. Still.

METROPOLITAN COUNTIES BRANCH: TOWER HAMLETS DIVISION.

A GENERAL meeting of the Tower Hamlets Division was held at Limehouse Town Hall on March 16th, with Dr. E. B. HASTINGS in the chair. A letter from the Medical Secretary relating to the Dogs' Protection Bill was read, and it was resolved that letters be sent to the members of Parliament connected with the Division explaining the attitude of the profession in relation to the Dogs' Protection Bill, and asking them to vote against it.

The appeal for the Medical Charities Committee of the British Medical Association was considered, and the hope was expressed that all members of the Division would subscribe suitably.

The following officers were elected for 1927-28:

Chairman, Dr. E. B. *Hastings*. *Vice-Chairman*, Dr. W. H. F. *Oxley*. *Honorary Secretary*, Dr. L. Mushin. *Honorary Treasurer*, Dr. M. L. Barst. *Representative in Representative Body*, Dr. W. H. F. Oxley. *Deputy Representative*, Dr. L. Turiansky.

NORTH OF ENGLAND BRANCH: MORPETH DIVISION.

THE annual dinner of the Morpeth Division was held in the Grand Hotel, Ashington, on March 11th, when Dr. STEPHENSON, President, was in the chair. There was a gratifying attendance of members. The guests of the evening were Dr. FARQUHAR MURRAY and Mr. NORMAN HODGSON, honorary secretary, North of England Branch, both of Newcastle-on-Tyne. The toast of "The British Medical Association" was duly proposed by the CHAIRMAN, and heartily honoured. Dr. BEATON, who has been honorary secretary for the Morpeth Division for the past twenty years and President-Elect for the Branch, replied. In his remarks Dr. Beaton mentioned his earlier association with Dr. Cox in the days of the Northumberland and Newcastle Medical Society, and that the large and representative membership in the North of England were due to the strenuous efforts and personality of Dr. Cox. With song and story a most enjoyable evening was spent and the function was voted one of the most enjoyable yet held.

SUFFOLK BRANCH: WEST SUFFOLK DIVISION.

THE annual meeting of the West Suffolk Division was held at the West Suffolk General Hospital, Bury St. Edmunds, on March 29th, when Dr. J. R. DOBBIN was in the chair.

Items from the Medical Secretary's monthly circulars for January and February were considered. Arising out of the note about the Coroners Amendment Act, the question of travelling expenses was discussed, and it was also stated that in Essex a fee of 10s. 6d. was paid for a report to the coroner by the doctor when an inquest was not held. The honorary secretary was instructed to make inquiries about this. With regard to registration of maternity homes, it was suggested that the county medical officer of health should be written to, asking what steps the county council had taken with regard to the by-laws to be adopted by it. The secretary was instructed to point out that in the opinion of the Division it was quite unnecessary that the amount of payments made by patients to doctors should be recorded.

The following officers were elected:

Chairman, Dr. Grace Griffith. *Secretary*, Dr. B. E. A. Batt (re-elected with a cordial vote of thanks for past services). *Representative in Representative Body*, Dr. E. C. Hardwicke. *Deputy Representative*, Dr. J. G. B. Shand. *Golf Competition Subcommittee*, Dr. F. R. Barwell, Dr. B. E. A. Batt, and Dr. E. C. Hardwicke.

On consideration of the circular from headquarters about the Dogs' Protection Bill, the secretary was instructed to write to the members of Parliament—namely, the Right Hon. Walter Guinness and Colonel H. Burton—asking them to oppose the bill.

A report from the West Suffolk Medical Charities Committee was received in which it was stated that subscriptions to date amounted to £48.

A hearty vote of thanks to the retiring chairman, Dr. Dobbin, was carried with acclamation, and the members then adjourned for tea.

GENERAL MEDICAL COUNCIL.

DENTAL COMMITTEE.

Medical Practitioners and Dental Benefit.

AT a recent meeting of the Dental Executive Committee of the General Medical Council a communication was considered from a medical practitioner complaining that he was not allowed to sign letters relating to dental benefit under the additional benefit scheme of the National Health Insurance Acts. The Ministry of Health and the Scottish Board of Health have appointed a certain number of dentists and approved societies' representatives to form a dental benefit joint committee. This committee has no statutory powers, but derives its jurisdiction from the voluntary acceptance by both the dentists and the approved societies of the conditions set out in the model dental letter. The use of this letter, in accordance with the provisions of the approved schemes adopted by the societies under which the benefit is provided, is limited to registered dentists. The medical practitioner who has raised the question is entitled as a medical practitioner to practise dentistry, but he is not entitled to have his name entered on the *Dentists Register*, because he possesses no dental qualification and did not make application under the Dentists Act, 1921. He stated that he found himself under a disadvantage in consequence of the fact that he was not allowed to sign dental letters, and he questioned whether his rights as a medical practitioner were being upheld. He was informed by the direction of the President of the General Medical Council that he was not prevented from practising dentistry, and that his privileges as a medical practitioner were not infringed, but that he could not claim to be a registered dentist. The Dental Executive Committee approved the action of the President.

New South Wales Dentists Bill.

A communication was received from the Dominions Office transmitting a bill recently introduced to amend the Dentists Acts of New South Wales. In this bill the penal sections are altered by the substitution of the word "misconduct" for "infamous conduct," and include under this heading the use of a description other than one granted by some body recognized by the New South Wales Board, practising in a name other than the practitioner's own, allowing his name to appear on premises where he is not in regular attendance, and advertising other than in the manner prescribed. Complainants alleging misconduct have to make a deposit of £5, which will be forfeited if the complaint is proved vexatious or frivolous.

National Insurance.

MEDICAL BENEFITS.

DISCUSSION AT FACULTY OF INSURANCE.

AT the annual general meeting of the Faculty of Insurance, held in London on April 2nd, one of the subjects set down for discussion was "Medical benefits."

Lord COZENS-HARDY, President of the National Association of Insurance Committees, opened with a paper which consisted almost entirely of a summary of the evidence—especially the evidence of the British Medical Association—presented to the Royal Commission and the conclusions of the majority report. He declared himself personally in accord with the recommendations of the majority of the Commission with regard to existing and prospective medical benefits, but he dissented strongly from the recommendation that the powers and duties of Insurance Committees should be transferred to committees of the appropriate local authorities, containing possibly a proportion of co-opted members. So long as medical benefit was financed out of insurance funds it seemed contrary to all reason to remove its administration from the representatives of the contributors and hand it over to local authorities elected largely on political grounds. He would apply to that position the remark of the Commission itself with regard to the approved society system: "We feel that it is to the public advantage that this great scheme should be administered by the representatives of the insured persons themselves, and that the governing bodies should have that full responsibility for the results of their own activities without which it is as hopeless as it would be unreasonable to look for a high standard of efficiency and vigilance."

Dr. H. B. BRACKENBURY, who followed, said that when medical benefit—that is to say, the medical service given by the profession to insured persons—was compared with anything else the conclusions reached must necessarily depend upon what was taken as a standard of comparison. If the service were compared, as it often was, with an ideal state of things in which there were no imperfections, in which everything was as it should be, alike with the doctor, the insured person, and the

means by which they were brought into relationship, then the present service would be found to have many defects and deficiencies. Such imperfections were felt perhaps more keenly by members of the medical profession themselves than by anybody else. But it must not be forgotten that that was not always a practical standard of comparison. If, on the other hand, the service were compared with the state of things which existed before there was any insurance service at all the result was entirely different. From his own experience and from that of many others in the profession he could affirm the truth of the evidence given to the Commission by the British Medical Association that the medical service was superior to that given in even the best of the old clubs, and vastly superior to that given in a very large number—perhaps the majority—of the old clubs. But there was still another standard of comparison, less frequently taken, but very apposite—namely, private practice as it was carried on to-day among any class of the population who could be compared approximately with the insurance class. There again, from his own knowledge, he could say that many of the things sometimes pointed out as deficiencies or defects in insurance practice were not peculiar to that class of practice, but permeated all medical practice, private or insurance. It was not quite fair to pick out some undoubted deficiencies as if they belonged to insurance practice alone, when in fact they appertained as much, if not more, to private practice. They were consequent upon personal idiosyncrasy in some cases and upon the conditions under which a good deal of medical practice had to be carried on. His deliberate opinion was that the attention, courtesy, and skill given by the general practitioner to his insured patients was as a whole rather higher than that given to private patients, instead of, as had sometimes been said, rather lower. (Some laughter.) Those who were present had occasion, by reason of their official position in approved societies and their intercourse with insured persons, to be made aware of various respects in which medical practice did not work smoothly in individual cases, but, on the other hand, there were many thousands of cases in which the relations between the practitioner and his private patient were not smooth either.

One suggestion which the Commission turned down was that there had been an undue tendency on the part of insurance practitioners to make use of hospitals to do the work which they were under contract to do themselves. That was a statement which had often—though less frequently of late—been made, and there might have been a few instances in the conduct of the individual doctor in a particular locality which gave colour to it. But the broad fact was as the Commission had reported. Arising out of this, it must not be assumed that everything was wrong with the insurance practitioner's diagnosis, certification, and treatment, while everything was right with the diagnosis, certification, and treatment in the out-patient department. From the point of view of certification the worst cases he had ever known in his experience had been out-patient cases. He had known cases, not one or two but a considerable number in total—though, of course, in proportion to the whole number of out-patients in the country very small indeed—in which the insured persons had been attending at out-patient departments every fortnight for perhaps four years, and had never been examined since the first occasion of their attendance. Other patients had gone on attending for eighteen months or two years without any further examination. Therefore, he strongly resisted the assumption that the insurance practitioner was necessarily inferior to the out-patient department of the hospital in the attendance and treatment he provided.

Turning, finally, to the question of additional benefits, Dr. Brackenbury said that the Royal Commission had put dental benefit into its proper place in the order of requirements. There was no doubt that defective teeth and unclean mouths were the cause of a good deal of the more chronic type of illness, but there was just as much likelihood that the septic focus might be the tonsils, the nasal sinuses, or the bowels, and it would be wholly wrong to say, "We will make special provision for you if your general trouble is caused by your teeth, but if you have derived it from any other part of your body we will let you go your own way, and make no special provision." Dental treatment must be in its right place as one of the special forms of treatment required.

In the course of some brief general discussion, Mr. G. S. PIKE (National Amalgamated Approved Society) deplored the absence of co-operation between the principal parties in national health insurance. The approved societies and the medical profession had never really got together. He was afraid there was still a little resentment on both sides. The model system would be that of the governing board of a hospital which combined medical and lay elements. There was certainly some sort of co-operation on Insurance Committees, but those bodies were concerned only with giving administrative effect to a policy already laid down for them. What he wanted to see was co-operation in the framing of policy, and he begged the medical profession to consider whether the time had not arrived for a new orientation, and whether a tripartite governing body, bringing in the Ministry, the approved societies, and the profession, might not be instituted.

Mr. H. LESSER (ex-chairman, London Insurance Committee) commented upon Dr. Brackenbury's "cryptic" reference to dental benefit. The only way in which he could understand the reference was that, if body poisons could be due to other sources than the teeth, it emphasized the need for special expert and consultative services. One of the recommendations made by the Royal Commission was that such services should immediately be set up, and he urged that there was need for legislation at once to bring into effect that part of the Commission's report which dealt with such services. At the same time, he could not think that the prominence given to dental benefit was by any means unjustified, having regard to the dental condition of the population, the widespread need of such a service, and the fact that perhaps millions of insured persons, given the necessary financial help, would take advantage of it.

LONDON INSURANCE COMMITTEE.

A MEETING of the London Insurance Committee was held on March 24th, with Dr. DAVID DAVIS in the chair.

Inaccurate Dispensing.

A number of cases of inaccurate dispensing by chemists were reported by the Pharmaceutical Service Subcommittee, but in several of the cases only a caution was recommended, in others a censure. Dr. CARDALE protested against the general run of the recommendations on the ground that they amounted to a whitewashing of gross irregularity. In one case in which a caution was recommended by the subcommittee (though the full committee made it a censure) the chemist had put in 98.5 per cent. too much ammonium carbonate. It appeared that the chemist, while preparing the mixture, had been called away, and on returning added a further quantity of ammonium carbonate, not realizing that he had already placed sufficient in the container.

Insurance Practitioners Fined.

Two cases were reported to the committee in which, the practitioners having failed properly to keep medical records, the Minister had decided to withhold in the one case £40 and in the other case £50 from the moneys payable to the committee in respect of medical benefit, with a view to these sums being deducted from the remuneration payable to the practitioners. The Minister stated that in deciding on the amount to be withheld he had had regard to the fact that both practitioners were making arrangements to keep the records properly in future, but that in fairness to other practitioners who were keeping records it was not possible to overlook the fact that these two practitioners had failed in the past to keep them in the prescribed manner, although their attention had been drawn to the matter by the Regional Medical Officer. In another case in which the committee had previously found that a breach of the medical certification rules had been committed, but had not recommended any monetary penalty, the Minister of Health stated that he was of opinion that the facts of the case appeared to warrant the withholding of money—the practitioner had furnished certificates over a period of six weeks without seeing the insured person—and he invited the observations of the committee on this matter before taking action. The committee decided to adhere to its previous decision, which was that the practitioner be censured, and to make no recommendation with regard to the withholding of money, but as his was the second case of the kind which had been referred back to the committee by the Minister it also resolved to ask the Minister to receive a deputation with regard to the practice to be followed by the committee in making representations to the Minister as to the infliction of a monetary penalty.

In the case of alleged "farming out" of insurance practice to an assistant (reported in the proceedings of the London Panel Committee last week) the Insurance Committee found itself unable to do otherwise than accept the ruling of the Ministry, having no evidence that there had been any break in the continuity of treatment or that any patient had unsuccessfully sought to obtain the personal services of the principal. At the same time, the pronouncement of the Ministry that, although such a procedure in carrying on a practice was to be deprecated, the letter of the regulation had not been infringed, and it was not possible to act on the committee's recommendation to withhold money, disclosed a state of affairs which was never contemplated by the committee, and one on which the Joint Consultative Committee (composed of members of the Insurance and Panel Committees) should be asked to report.

Numbers of Prescriptions.

The number of prescriptions dispensed for insured persons in London in 1926 was 7,890,186, at a total cost of £271,317. The mean number of insured pers[illegible] lists was 1,665,259. The average cost per [illegible] of ingredients and dispensing fee, was 8.25 pe[illegible] of prescriptions per person was 4.74, and the average total cost per person 39.10 pence. The number of prescriptions dispensed personally by practitioners was 1,235, the total cost being £194, an average cost per subscription of 37.81 pence. The number of prescriptions for serums and vaccines dispensed by chemists was 1,451, and of vaccines dispensed personally by practitioners 876. The number of prescriptions for insulin was 8,758, the total cost being £2,918, and 175 hypodermic syringes for the self-administration of insulin were provided.

Correspondence.

Anaesthetic Fees.

SIR,—I am pleased that my letter has been noticed by Dr. Brackenbury, who has come forward with the definite statement that no provision was ever made in reference to the proportion of the general capitation fee which covers payment to panel practitioners for administration of anaesthetics to their own patients. I am informed by a delegate to the Conference which discussed the question of a capitation fee that an extra sixpence was obtained in return for which we were pledged to that increased service, on the initiative of Dr. Brackenbury himself. It is a pledge which binds us to give anaesthetics, not only in cases coming within the scope of our work under the Act, but outside it, and, if rigidly applied, could be extended to cases receiving dental treatment as well. I believe that we have always had to keep records, to send in quarterly reports of phthisical cases, and the obligation of giving emergency treatment to one another's patients was evidently not included in that pledge, as it carries a separate fee. In these circumstances it stands to reason that we should not have got the increased capitation fee but for the undertaking given by Dr. Brackenbury that administration of anaesthetics would form part of medical benefit. If I am rightly informed in connexion with this question of a definite pledge and the ensuing extra sixpence—and I have no reason to believe my informant to be wrong—it is not unreasonable that I should have come to the conclusion referred to by Dr. Brackenbury as a delusion.

The burden of disproof lies with Dr. Brackenbury, and he must tell us equally definitely whether the pledge he gave, and that alone, had or had not an unquestionable bearing upon the grant that was eventually made. I have no wish to find fault with Dr. Brackenbury in this connexion. We all acknowledge that he did his best to secure an adequate remuneration for our services, and no doubt his offer of an increased service helped to crown his efforts with success. Dr. Brackenbury will agree, I am sure, that those panel practitioners who refuse to avail themselves of the facilities offered them for administering anaesthetics to their patients requiring surgical treatment in some Poor Law and voluntary hospitals in their own districts, and to which they have access, are obviously not carrying out that part of the contract to which they are pledged, and consequently are not justifying the capitation fee they receive. On the other hand, if they made use of those facilities, they would not be adding considerably to the work of the part-time staffs of those hospitals, nor would they be relegating so lightly and inconsiderately their responsibilities and obligations to others whose duties are already by no means light, and they would have the satisfaction of feeling that as far as they can they are doing all they are expected to do under the terms of their contract. The bargain that was made should be observed by all, and in circumstances which render full observance absolutely impossible those responsibilities and obligations are none the less binding. I hardly think that when Dr. Brackenbury made it he contemplated the release from the obligations it entails of even those panel practitioners whose patients are in receipt of operative treatment in hospitals to which they have no access. As things are it is unavoidably so, but, as regards other hospitals to which they do have access, I am sure he will agree that my complaint is amply justified and deserves redress.—I am, etc.,

Greenhithe, Kent, March 27th. D. W. STANDLEY.

** We have shown this letter to Dr. Brackenbury, and his reply is as follows:

SIR,—All that I was concerned with in my letter was to correct the statement that the insurance practitioner was "in receipt of sixpence for every patient" in respect of his obligation to provide an anaesthetist when necessary. I did not, and do not, wish to enter into any discussion as to the circumstances in which a practitioner should or should not arrange for an anaesthetist for his patient, or those in which he could, or could not, properly claim a fee therefor. A statement on this matter has been issued to Panel Committees and insurance practitioners by the Insurance Acts Committee, and an authoritative, but not official, account of the position will be found on pages 71 and 72 of Harris and Sack's little book on *Medical Insurance Practice*.

Nevertheless, it may be well to put on record certain facts on which there seems to be some danger of misunderstanding, as evidenced by Dr. Standley's further letter.

1. The obligations of insurance practitioners are set out in the Medical Benefit Regulations and Terms of Service. For these a certain remuneration is given. From time to time minor, but important, modifications have been made in the terms of service, and when the question of remuneration has come up for reconsideration these modifications have been taken into account, among other things, as affecting that question. But no particular obligation has been regarded as carrying with it any definite proportion of the total fee; nor, apart from such general reconsideration of both terms of service and remuneration, has there been any "pledge" or "ensuing extra" payment of sixpence or any other amount.

2. The special payments made to individual practitioners in response to their claims, whether as to anaesthetists or as to emergency treatment, are not paid out of any additional fund, but are all met from the common practitioners' fund of the area, thereby reducing the sum distributable to the practitioners of the area for ordinary treatment. It is for this reason that in some areas Panel Committees have urged that practitioners should render these services for one another as a matter of courtesy without making any claims on the fund.

3. When an operation is performed in a hospital there is no obligation on an insurance practitioner to provide an anaesthetist or to give an anaesthetic, nor is it permissible for him to receive a payment from the practitioners' fund for such service, unless two conditions are fulfilled: (*a*) that the hospital is one in which every practitioner is at liberty to treat and be responsible for his own patient; (*b*) that there is no restriction on the choice of anaesthetist. Moreover, a Panel Committee may by a clause in its distribution scheme provide that no such payment shall be sanctioned even when the above conditions are fulfilled.

4. The Insurance Acts Committee holds that dental operations are wholly outside medical benefit, and that therefore the payment from the practitioners' fund of any fee for the provision of an anaesthetist for a dental operation cannot be sanctioned.—I am, etc.,

London, N.W.11, March 30th. H. B. BRACKENBURY.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

Surgeon Commander G. V. Hobbs to the *Cardiff* as Squadron Medical Officer.

Surgeon Lieutenant Commander J. B. Crawford is promoted to the rank of Surgeon Commander.

Surgeon Lieutenant Commanders J. S. Elliott to the *Concord*; L. W. Gemmell to the *Malabar* for R.N. Hospital, Bermuda, as bacteriological specialist.

Surgeon Lieutenants J. Hamilton to the *Pembroke* for R.M. Infirmary, Chatham; W. Flynn to the *Ark Royal*; G. Rorison to the *Tiger*.

Surgeon Lieutenant D. Duncan transferred to permanent list with original seniority of October 15th, 1924.

ROYAL NAVAL VOLUNTEER RESERVE.

Surgeon Lieutenant Commander J. Lorimer to the *Marlborough* for fourteen days' training.

Probationary Surgeon Lieutenant L. C. Rogers to the *Repulse* for fourteen days' training.

Probationary Surgeon Sublieutenant L. D. Nelson to be Surgeon Sublieutenant.

W. McO. Macgregor and G. H. Bradshaw have entered as Probationary Surgeon Sublieutenants and attached to the London Division.

ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel M. D. Ahern, O.B.E., is restored to the establishment.

Lieut.-Colonel C. M. Row to be temporary Captain and relinquishes the rank of Lieutenant-Colonel.

Major R. O'Kelly is placed on the half-pay list on account of ill health.

The following Captains to be Majors: G. H. Haines, M.C., P. J. S. O'Grady (prov.), R. D. Davy, M.C. (prov.), F. McKibbin.

Captain (local Major) J. W. Malcolm, O.B.E., M.C., relinquishes his local rank on ceasing to be employed with the Iraq levies.

ROYAL AIR FORCE MEDICAL SERVICE.

Flight Lieutenants J. D. Leahy, M.C., to No. 1 Flying Training School, Netheravon; W. J. G. Walker to the Armament and Gunnery School, Eastchurch; H. E. H. Tracy (Hon. Squadron Leader) and W. E. Barnes to No. 1 School of Technical Training (Apprentices), Halton.

Flying Officers M. D. Rawkins to No. 1 School of Technical Training (Apprentices), Halton; E. J. T. McWeeney to Research Laboratory and Medical Officers' School of Instruction on appointment to a short-service commission.

MILITIA.

ROYAL ARMY MEDICAL CORPS.

Majors T. Walker, M.C., E. S. B. Hamilton, M.C., L. W. O. Taylor, and G. F. V. Leary relinquish their commissions and retain the rank of Major.

TERRITORIAL ARMY.

ROYAL ARMY MEDICAL CORPS.

Honorary Major-General Sir Berkeley G. A. Moynihan, Bt., vacates the appointment of Honorary Colonel, R.A.M.C. Units, 49th (West Riding) Division, T.A., on expiration of tenure.

Colonel A. B. Soltau, C.M.G., T.D., K.H.P., to be Honorary Colonel R.A.M.C., 43rd (Wessex) Division, T.A.

Colonel A. D. Sharp, C.B., C.M.G., T.D., K.H.S., to be Honorary Colonel R.A.M.C. Units, 49th (West Riding) Division, T.A.

Honorary Colonel J. V. D. Rutherford, V.D., vacates the appointment of Honorary Colonel, R.A.M.C. Units, 50th (Northumbrian) Division, T.A., on expiration of tenure.

Colonel J. Clay, C.B.E., T.D., retired T.A., to be Honorary Colonel R.A.M.C. Units, 50th (Northumbrian) Division, T.A.

Lieutenant J. A. Stobbs ceases to hold a commission in the Territorial Army.

F. J. L. Lang to be Lieutenant, with precedence as from July 11th, 1926.

General Hospitals.—To be Lieutenants: W. L. Lamb and R. L. Turner, [illegible] 7th, 1926.

[illegible] J. B. McGovern to command the 7th

VACANCIES.

ASHINGTON HOSPITAL.—Junior House-Surgeon. Salary at the rate of £100 per annum.

BIRMINGHAM AND MIDLAND EYE HOSPITAL.—Resident Surgical Officer. Salary £150 per annum.

BRITISH RED CROSS AND ORDER OF ST. JOHN.—Assistant Medical Officer (male) at the East Lancashire Tuberculosis Colony, Great Barrow. Salary £250 per annum.

BURNLEY: VICTORIA HOSPITAL.—House-Surgeon. Salary £150 per annum.

CAMBRIDGE: ADDENBROOKE'S HOSPITAL.—Casualty Officer and Resident Anaesthetist (male, unmarried). Salary at the rate of £130 per annum.

CHARING CROSS HOSPITAL INSTITUTE OF PATHOLOGY.—Assistant Pathologist. Salary at the rate of £500 per annum, rising to £600 after six months.

CHESTER ROYAL INFIRMARY.—House-Surgeon (male). Salary £150 per annum.

CHESTERFIELD AND NORTH DERBYSHIRE ROYAL HOSPITAL.—Honorary Ophthalmic Surgeon.

DERBYSHIRE ROYAL INFIRMARY, Derby.—(1) House-Physician. (2) Assistant House-Surgeon and Casualty Officer. Salaries at the rate of £150 per annum.

EAST LONDON HOSPITAL FOR CHILDREN, Shadwell, E.1.—(1) House-Physician. (2) House-Surgeon. (3) Whole-time Casualty Officer. Salary at the rate of £125 per annum.

EXETER: ROYAL DEVON AND EXETER HOSPITAL.—Resident Casualty Officer (male). Salary at the rate of £100 per annum.

HAMPSTEAD GENERAL AND NORTH-WEST LONDON HOSPITAL, Haverstock Hill, N.W.3.—(1) House-Surgeon. (2) House-Physician. (3) Casualty Medical Officer. Salary at the rate of £100 per annum each.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.3.—Three House-Physicians. Honorarium £50 for six months.

IPSWICH: EAST SUFFOLK AND IPSWICH HOSPITAL.—House-Surgeon (male) for Ear, Nose, and Throat Department and General Surgery. Salary at the rate of £100 per annum.

JERUSALEM OPHTHALMIC HOSPITAL.—(1) Subwarden. (2) Registrar or House-Surgeon.

LANCASTER BOROUGH.—Assistant Medical Officer of Health and Assistant School Medical Officer. Salary £500 per annum, rising to £600 on completion of one year's approved service.

LEEDS CITY.—Resident Medical Officer at the City of Leeds Sanatorium at Gateforth (unmarried). Salary £400 per annum.

LEIGH INFIRMARY, Lancashire.—Resident House-Surgeon (male, unmarried). Salary £150 per annum.

LONDON HOSPITAL, E.—Physician to the Skin Department.

LONDON HOSPITAL DENTAL SCHOOL, Mile End, E.1.—Demonstrator. Salary £200 per annum.

MAIDSTONE: KENT COUNTY MENTAL HOSPITAL.—Assistant Medical Officer (male, unmarried). Salary £300 per annum.

MANCHESTER: ANCOATS HOSPITAL.—House-Surgeon. Salary at the rate of £100 per annum.

MANCHESTER CITY.—Assistant Tuberculosis Officer (male). Salary £600 per annum.

MIDDLESEX COUNTY COUNCIL.—Assistant Dental Officer. Salary at the rate of £500 per annum, rising to £700.

MILLER GENERAL HO[illegible]atient Officer (male, unmarried)

NORWICH: NORFOLK [illegible] Salary £120 per annum.

PORTSMOUTH: ROYAL PORTSMOUTH HOSPITAL.—Casualty Officer (male). Salary at the rate of £100 per annum.

PRINCE OF WALES'S GENERAL HOSPITAL, Tottenham, N.15.—Two Honorary Anaesthetists. Honorarium £40 per annum.

PUBLIC DISPENSARY, 122, Drury Lane, W.C.—Resident Medical Officer (unmarried). Salary £105 per annum.

PUTNEY HOSPITAL, S.W.15.—Resident Medical Officer (male). Salary £150 per annum.

READING: ROYAL BERKSHIRE HOSPITAL.—House-Surgeon.—Salary £150 per annum.

RICHMOND, SURREY: ROYAL HOSPITAL.—Assistant House-Surgeon (male). Salary at the rate of £100 per annum, rising to £150 on appointment as Senior after six months.

ROYAL CHEST HOSPITAL, City Road, E.C.—(1) Resident Medical Officer. (2) House-Physician. Salary at the rate of £150 and £100 per annum respectively.

ROYAL NORTHERN HOSPITAL, Holloway, N.7.—House-Surgeon. Salary at the rate of £70 per annum.

ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN, Waterloo Road, S.E.1.—Non-resident Casualty Officer (male). Salary £150 per annum.

SALFORD UNION INFIRMARY.—Radiologist. Salary at the rate of £150 per annum.

SHEFFIELD ROYAL HOSPITAL.—Resident House-Physician. Salary at the rate of £80 per annum.

STOCKTON AND THORNABY HOSPITAL, Stockton-on-Tees.—Honorary Ear, Nose, and Throat Surgeon.

TUNBRIDGE WELLS AND COUNTIES GENERAL HOSPITAL.—House-Surgeon (male, unmarried). Salary £160 per annum.

VENTNOR: ROYAL NATIONAL HOSPITAL FOR CONSUMPTION.—Medical Superintendent. Salary £1,000 per annum.

WAKEFIELD: CLAYTON HOSPITAL.—House-Surgeon. Salary £150 per annum, rising to £175 after six months.

WEST END HOSPITAL FOR NERVOUS DISEASES.—Casualty Physician. Remuneration £200 per annum.

WEST HAM COUNTY BOROUGH.—Assistant Medical Officer, Maternity and Child Welfare (female). Salary £600 per annum.

WHITTINGHAM: COUNTY MENTAL HOSPITAL.—Sixth Assistant Medical Officer. Salary £350 per annum, rising to £450.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.

APPOINTMENTS.

ALEXANDER, A. D. P., M.B., Ch.B.Glas., House-Physician to the Royal Infirmary, Sunderland.

GEFFEN, D. H., M.D.Lond., D.P.H., Medical Officer of Health for Enfield.

HARLOW, F. Wilson, M.B., F.R.C.S.Eng., Resident Medical Officer, Royal Northern Hospital, Holloway, N.7.

HORWOOD, Oswald R., M.A.Camb., M.R.C.S., L.R.C.P.Lond., Assistant School Medical Officer for Coventry.

KEITH, F. L., M.D.Aberd., D.P.H., Medical Officer of Health for Bethnal Green.

LAMBIH, V. M., M.B., Ch.B., B.Sc. (P.H.) Edin., District Medical Officer and Public Vaccinator for the Combined Nos. 3 and 4 Districts of Bilston, and Acting Medical Officer of Health, School Medical Officer, etc., for Urban District of Bilston.

SOFFREY, M., M.D.Leeds, F.R.C.S.Edin., Assistant Surgeon in the Ear, Nose, and Throat Department of the London Jewish Hospital, Stepney Green, vice E. H. Richards, F.R.C.S., resigned.

TOWNROW, Vincent, M.B., B.S., F.R.C.S., Surgeon to the Ear, Nose, and Throat Department at the Sheffield Royal Hospital.

WILLIAMS, Hubert C. Maurice, M.R.C.S., L.R.C.P., D.P.H., Assistant Medical Officer of Health, County Borough and Port of Southampton.

WORTHINGTON, A., M.B., Ch.B.Edin., D.P.H., Medical Officer of Health for Stoke-on-Trent.

CERTIFYING FACTORY SURGEONS.—W. R. Griffith, L.R.C.P. and S.Edin., L.R.F.P.S.Glas., for the Clwt-y-Bont District, co. Carnarvon; A. H. C. Hill, M.R.C.S.Eng., L.R.C.P.Lond., for the Calvert District, co. Buckingham; W. Megaw, M.B., B.Ch., B.A.O.Belf., for the Audley District, co. Stafford; S. K. Vines, L.R.C.P.Edin., L.S.A., for the Allendale District, co. Northumberland; J. Wells, M.R.C.S., L.R.C.P., for the Dilston District, co. Stafford.

DIARY OF SOCIETIES AND LECTURES.

ROYAL SOCIETY OF MEDICINE.

War Section.—Mon., 4.30 p.m., Annual General Meeting: Election of Officers and Council for 1927-28. Major T. J. Mitchell, R.A.M.C.: Man Power and the Medical Service in Relation to Some of the Principles of War.

Section of Odontology.—Mon., 8 p.m., Professor Gottlieb (Vienna): The Gingival Margin.

General Meeting of Fellows.—Tues., 5.30 p.m. Ballot for Fellowship.

ROYAL COLLEGE OF SURGEONS OF ENGLAND, Lincoln's Inn Fields, W.C.—Mon., 5 p.m., Museum Demonstration by Mr. C. E. Shattock: Joints.

POST-GRADUATE COURSES AND LECTURES.

ROYAL CHEST HOSPITAL, City Road, E.C.—Tues., 3.15 p.m., Diagnosis and Treatment of Bronchial Asthma.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General [illegible]15.—Mon., 2.30 to 5 p.m., Medical, Surgical, and [illegible] Operations. Tues., 2.30 to 5 p.m., Medical, [illegible] and Ear Clinics; Operations. Wed., 2.30 to [illegible]d Eye Clinics; Operations. Thurs., 11.30 a.m., Dental Clinics; 2.30 to 5 p.m., Medical, Surgical, and Ear, Nose, and Throat Clinics; Operations. Fri., 10.30 a.m., Throat, Nose, and Ear Clinics; 2.30 to 5 p.m., Surgical, Medical, and Children's Diseases Clinics; Operations; 4.30 p.m., Demonstration on Selected Cases of Nerve Diseases.

GLASGOW POST-GRADUATE MEDICAL ASSOCIATION.—At Gartnavel Mental Hospital: Wed., 4.15 p.m., Mental Cases.

MANCHESTER ROYAL INFIRMARY.—Tues., 4.15 p.m., Conditions simulating Heart Disease.

British Medical Association.

OFFICES, BRITISH MEDICAL ASSOCIATION HOUSE, TAVISTOCK SQUARE, W.C.1.

Departments.

SUBSCRIP[illegible] (Financial Secretary and Business Manag[illegible] Westcent, London).

MEDICAL [illegible]discera Westcent, London).

EDITOR, [illegible] (Telegrams: Aitiology Westcent, London).

Telephone numbers of British Medical Association and British Medical Journal, Museum 9861, 9862, 9863, and 9864 (internal exchange, four lines).

SCOTTISH MEDICAL SECRETARY: 6, Drumsheugh Gardens, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.: 4361 Central.)

IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Telegrams: Bacillus, Dublin. Tel.: 4737 Dublin.)

Diary of the Association.

APRIL

8 Fri. City Division: Metropolitan Hospital, Kingsland Road, E., 4.15 p.m.
Isle of Thanet Division: Annual Meeting, Royal Albion Hotel, Broadstairs. Dr. W. J. Tyson on Clinical Notes from Practice, 6.30 p.m.

12 Tues. Blackburn Division: B.M.A. Lecture by Professor A. J. Hall on the Reflexes which Determine and Control Posture.
St. Pancras Division: B.M.A. House, Tavistock Square, W.C.1. Dr. Geoffrey Evans on the Treatment of High Blood Pressure, 9 p.m.

13 Wed. Chesterfield Division: Royal Hospital, Chesterfield. Clinical and Pathological Demonstrations, 3 p.m.
Reigate Division: Clinical Meeting, Caterham Cottage Hospital, 4 p.m.
Trowbridge Division: Annual Meeting, Trowbridge Town Hall, 3 p.m.

19 Tues. North Wales Branch: Spring Meeting at Pwllheli.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcement of Births, Marriages, and Deaths is 9s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

BIRTH.

LANZON.—On March 18th, 1927, in Baghdad, Iraq, to Frances Veronica (*née* Thorp), wife of Dr. E. Lanzon, Iraq Health Service, a daughter.

MARRIAGES.

IVES—LEGGATE.—On March 31st, at Wishaw, Lanarkshire, Benjamin G. Ives, M.B., Ch.B.Glas., of 3, Magnus Street, Newark, Notts, to Elizabeth Leggate, M.A.Glas., of "Merrilea," Wishaw, Lanarkshire.

MARTIN—WARD.—On April 2nd, 1927, at St. Thomas Church, Belfast, by the Very Reverend the Dean of Connor, Alexander Reid Martin, M.B., B.Ch.Belf., D.P.M.Lond., of Sheppard and Enoch Pratt Hospital, Baltimore, U.S.A., son of Mrs. C. R. Martin, Wilmont Terrace, Belfast, to Nancy, daughter of the late John K. Ward and Mrs. M. J. Ward, University Street, Belfast.

Printed and published by the British Medical Association, at their Office, Tavistock Square, in the Parish of St. Pancras, in the County of London.

SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, APRIL 16TH, 1927.

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British Medical Association.

SCIENCE COMMITTEE:

SECOND REPORT OF THE SUBCOMMITTEE ON RHEUMATIC HEART DISEASE IN CHILDREN.

PREVENTION AND CONTROL OF RHEUMATIC INFECTION IN CHILDREN.

PREFACE.

e Subcommittee as now constituted is as follows: Sir mphry Rolleston, Bt. (Chairman), Dr. George A. Allan, . H. B. Brackenbury, Dr. Carey F. Coombs, Dr. C. O. wthorne, Dr. F. J. Poynton, Dr. A. P. Thomson, and . Reginald Miller (Honorary Secretary).

n July, 1926, the Subcommittee on Rheumatic Heart sease presented their first report; this was published as special Supplement to the BRITISH MEDICAL JOURNAL July 3rd, 1926. It consisted of a Preface signed by Chairman on behalf of the Subcommittee, followed by r separate parts written by individual members of the bcommittee, as follows:

1. On the Environmental and other Predisposing Causes of Rheumatic Infection, by Dr. R. Miller.
2. On Recent Investigations into the Bacteriology of the Rheumatic Infection, by Dr. C. F. Coombs and Dr. F. J. Poynton.
3. On the Effect of Tonsillectomy on Rheumatic Infection in Children, by Dr. R. Miller.
4. On the Organized After-Care of Rheumatic Children in Great Britain, by Dr. G. A. Allan with Dr. A. P. Thomson.

The proposals which were made by the Subcommittee ere:

1. Stricter attention to the prevention of damp in dwelling-houses.
2. Further investigation of housing conditions and of the geographical distribution of the disease.
3. Pooling of material for investigation of the bacteriological aspects of rheumatic infection in childhood.
4. Careful and discriminating use of the operation of tonsillectomy.
5. Rapid expansion of the accommodation available for prolonged institutional care of rheumatic children.

With the presentation of their Report the Subcommittee hought that they had fulfilled their terms of reference. They, however, continued to meet to discuss, somewhat informally, the lines on which any national effort to cope with the problem of juvenile rheumatism should proceed, and also to give assistance to some members of the Subcommittee who were undertaking special work in harmony with the proposals of the Report mentioned above. At these meetings the Subcommittee were assisted by Dr. H. B. Brackenbury, Chairman of the Representative Body of the Association, and by Dr. J. Alison Glover of the Ministry of Health, who attended at the Chairman's invitation.

The Science Committee, at their meeting on November 12th, 1926, passed the following resolution:

> "*Subcommittee on Rheumatic Heart Disease in Children.*—That a Subcommittee consisting of Chairman of the Science Committee, C. O. Hawthorne, Sir Humphry Rolleston (as Chairman), G. A. Allan, H. B. Brackenbury, Carey F. Coombs, J. A. Glover, Reginald Miller, F. J. Poynton, and A. P. Thomson, be appointed to advise the Science Committee on the rheumatism problem generally, and that the Subcommittee be given power to co-opt two additional members."

Dr. Glover regretted that, as an official of the Ministry of Health, he was unable to accept full membership of the Subcommittee. He attended the meetings in an advisory capacity without voting power in matters of policy.

The Subcommittee, therefore, thus reappointed and enlarged, considered that they could not do better than attempt, by means of a second report, to enunciate the principles and sketch out the lines of an organized effort on a large scale for the prevention and control of the rheumatic infection among the children of this country. In making this decision they were actuated by three considerations. In the first place, rheumatic infection is so prevalent among the poorer children of Great Britain that some organized effort against the disease on a national scale is long overdue. Secondly, medical opinion is largely aware of this fact, as the reception of the Subcommittee's

previous report has proved. Thirdly, much concerning the prevention and treatment of the disease has necessarily been omitted from the first report as outside the scope of the work on which the Subcommittee were then engaged.

In preparation for this second Report the Honorary Secretary drew up a document under the headings of Prevention, Early Detection, Supervision, etc., to form a basis for discussion by the Subcommittee. This document, expanded in form, and approved by the Subcommittee, is published as an Appendix to the Report.

REPORT.

Any organized effort on a large scale to prevent and control the rheumatic infection among the children of this country will necessarily require the co-operation of every branch of the medical and ancillary services, and it is the purpose of this Report to indicate what particular form of assistance can be rendered by the several branches of the medical profession. Before, however, proceeding to discuss the matter in detail there are two preliminary considerations on which stress must be laid. In the Subcommittee's view these are of such moment that their acceptance is of fundamental importance for the right understanding and correct handling of the problem of juvenile rheumatism. They are:

First, the problem of rheumatic heart disease in children is the problem of a systemic infection, not of a static disease of an important organ; in other words, every case of rheumatic heart disease in a child is primarily a rheumatic rather than a cardiac problem, and is, therefore, one for consideration on the broadest principles of medicine.

Secondly, this being so, the medical care of such children should be left to those who have immediately at hand the means of treatment for any and every rheumatic condition or emergency—that is to say, to practitioners (where means permit) or to hospitals, rather than to any *ad hoc* institutions or clinics which are divorced from facilities for dealing with the serious infective problems that may arise at any moment in rheumatic children. Thus, as a broad statement of their view, the Subcommittee endorse the terms of the resolution submitted by the Representative Body of the Association at the Nottingham Annual Meeting for consideration by the Council—namely, that

> " (1) the selection of patients should be mainly through the various branches of the public health services, and (2) the clinical treatment should, wherever possible, be by means of private practitioners and voluntary hospitals." (BRITISH MEDICAL JOURNAL, July 31st, 1926, SUPPLEMENT, p. 83.)

With these principles enunciated, the Subcommittee now proceed to sketch out the functions of the various medical services in connexion with an organized effort to prevent and control juvenile rheumatic infection.

PUBLIC HEALTH AUTHORITIES.

Damp Dwellings.

The Subcommittee are impressed by the importance of the housing factor in the production of rheumatic infection and heart disease in children, and they are of opinion that the public health authorities can give most valuable help in the prevention of the disease by stricter attention to the prevention and treatment of damp in the homes of the poorer classes. (Appendix, Sec. 2 and 3.)

Rest Homes (Hospital-Schools).

The provision of Rest Homes on the lines indicated later in this Report, or of wards allocated to a similar purpose, is an immediate necessity in all large towns, and where such are not provided by the charitable public it may fall upon the local health authorities to provide, or assist in providing them.

Notification.

If an organized attempt is to be made to deal with the housing conditions of rheumatic patients it is difficult to see how compulsory notification can be avoided, but the Subcommittee are not prepared on general grounds to advise that rheumatic infection in children should be made a notifiable disease. Where, however, a locality is provided with a scheme for the investigation, supervision, and treatment of the cases in a given area, local notification may be of value, though it is not to be anticipated that, even here, its value will be very great. Legally, compulsory notification can only be applied to an infective disease, endemic or epidemic; consequently such notification would embrace only *active* rheumatic infection, and would necessarily include every form of such active infection. It would be impossible, for instance, to make rheumatic heart disease alone notifiable under such a scheme.

Voluntary notification, where such could be set working, might thus have an advantage over compulsory measures. Here it would be possible to restrict such notification to cases of rheumatic heart disease, and to include quiescent and old cases as well as those showing infective activity at the time of notification.

Formulae for compulsory and voluntary notification are given in the Appendix (Sections 8 and 9).

SCHOOL MEDICAL SERVICE.

Under this heading are included the administrative, medical, visiting, and nursing services in connexion with the public elementary schools.

That rheumatic infection is frequent among the children of the public elementary schools, and rare in those of the private and public schools of the richer classes, must be accepted as proved. Yet on the evidence before them the Subcommittee do not regard the school environment itself as a potent factor in originating the disease in the children of the poorer classes; but this is not to say that the school environment is unimportant. In addition to non-rheumatic children attending these schools there are many already slightly infected with the disease, and it is difficult to avoid the conclusion that to them the necessity for regular school attendance may be a source of danger.

With these thoughts in mind the Subcommittee put forward propositions, some of which, they gladly acknowledge, have already been advanced by Sir George Newman in his suggested " lines of action by local education authorities," and reproduced in the concluding paragraphs of their first report, Part IV.

Administrative.

No difficulty should be placed in the way of irregularity of attendance on the part of children certified as rheumatic, so that exposure to unsuitable weather may be reduced to a minimum. Similarly, convalescent rheumatic or heart cases should be allowed to attend school for only half-days on production of a suitable medical certificate. Care should be taken to prevent children from sitting in wet clothes or boots while at school, and to see that they do not get wet at school when going to lavatories or play.

The Subcommittee are of opinion that Day Open-air Schools in cities are unsuitable for rheumatic children, and regard swimming as the least satisfactory sport for rheumatic subjects.

Valuable time might be gained if school teachers were taught to suspect an oncoming chorea by the early, often mainly psychological, symptoms of that malady.

Medical.

In the Subcommittee's view the most important work which can be undertaken by the school medical officers in connexion with juvenile rheumatism is the early detection of rheumatic infection and heart disease. To deal with the problem as actively as it deserves, " special " inspections for the detection of cases would need to be undertaken at least twice a year. Further, it must be allowed that unless the co-operation with the parents is sufficiently close to reveal the slighter symptoms of rheumatism, only the cases showing the grosser physical signs will be detected. Much work preliminary to the medical inspection will therefore need to be done by the teachers and school nurses, aided by information sought and obtained from the parents.

For the proper examination of the hearts of children facilities for examining the child when lying down as well as when standing up should be at hand.

There should be co-operation between the school medical officer on the one hand, and hospitals and practitioners on the other. The cases detected at school should be registered and referred to the family practitioner or hospital for

treatment or medical supervision. The school medical officer should receive notice of cases detected elsewhere so that he can register them for special observation.

Every effort should be made to keep the operative technique at the school throat clinics at the highest grade of excellence. It should be recognized that tonsillectomy is often an operation demanding great skill.

The Subcommittee regard the treatment of rheumatic children as outside the scope of the School Medical Service, school clinics, or minor ailment centres. Further, they think that special medical supervision is necessary for these children, and that it should be conducted on the lines suggested in the next section of this Report. This special medical supervision should, in the Subcommittee's opinion, be conducted by the hospitals rather than by the School Medical Service and its clinics. In expressing this opinion the Subcommittee have in mind the second of the principles stated at the beginning of this Report—namely, that such work should be undertaken only by those who have at hand every kind of treatment which the various phases of the disease may demand.

Hospitals.

The hospital is the one organized unit which potentially can provide all the facilities necessary for the treatment and supervision of the rheumatic child in every stage of the disease, but for this ideal to be realized an expansion of the work of the hospital in two directions is necessary—namely, towards stricter supervision of apparently quiescent cases, and further facilities for the prolonged treatment of certain convalescent and chronic cases.

Medical Supervision of Rheumatic Children.

The chief difficulty to be faced is that of the rheumatic child whose rheumatism is apparently quiescent, so that he is not brought to hospital, but whose heart disease is in reality active. To deal with this problem the Subcommittee see no way other than the establishment by hospitals of some system of supervision whereby the hospital sends for its rheumatic patients for the purpose of periodic re-examination, even though to the parent the child appears well. It is realized that the introduction of such a system is to some extent an expansion of the ordinary work of a hospital, but the lack of supervision of this type has proved in this particular disease so great an evil that such a measure must be regarded as a necessity.

The easiest way for a hospital to deal with this matter is by setting up a "*Rheumatism Register*" or bureau kept by the almoner. This method, which is explained more fully in the Appendix (Sec. 13*a*) is, the Subcommittee think, generally sufficient from the patient's point of view. A more elaborate plan—to be preferred where local conditions are favourable—is the establishment of a "*Rheumatism Supervisory Centre*" in the charge of a member of the staff of the hospital (Appendix, Sec. 13*b*). Such a centre would keep in touch with all rheumatic cases referred to it during their periods of apparent quiescence.

The Subcommittee are not in favour of setting up special "*Rheumatism Treatment Clinics*" to which all rheumatic cases would be drafted for treatment. Nor are they in agreement with the suggestion to establish "cardiac clinics" for cases of rheumatic heart disease in children. The ideal is to catch the rheumatic child before he is in any true sense a "cardiac" case, and the Subcommittee regard it as essential that the emphasis should be laid upon the "rheumatism" rather than the "cardiac" aspect of preventive work if the prevention of heart disease is to have any hope of success.

In any scheme of supervision of rheumatic children arrangements should be made for co-operation with practitioners and school medical officers, and for printed instructions on the care of their children to be given to parents. (Appendix, Section 15.)

The Subcommittee venture to express the hope that these proposals may receive the consideration of hospital authorities.

Hospital Accommodation.

The provision of beds for acute rheumatic cases varies with the pressure on the beds of any particular institution. Except, perhaps, where special research work is being undertaken, special beds allocated to rheumatic cases only are seldom practicable and are unnecessary. Any bed available can be put to this use as required.

On the other hand, the provision of beds for cases requiring many months of rest and treatment is beyond the scope of most ordinary voluntary hospitals; nor are these the ideal places for such treatment. This must be undertaken in the Rest Homes as described below, but it is much to be hoped that these will be organized and conducted in such close connexion with the hospitals that their work may be regarded as an expansion of hospital activities.

Practitioners.

As with the hospitals, so with the practitioner, the chief difficulty lies in keeping in touch with rheumatic patients once they are apparently well. For this purpose it will be necessary to make a list of rheumatic cases and obtain from parents permission to send them reminders to bring their children up for re-examination every three months. If the practitioner cannot undertake such work himself, he should recommend the child to the hospital for this purpose.

Rest Homes (Hospital-Schools).

The good effect of prolonged institutional treatment on a certain proportion of cases of rheumatic heart disease in children has long been recognized in this and other countries. In their first report the Subcommittee drew attention to the fact that a rapid expansion of such accommodation is urgently needed, as the demand greatly exceeds the supply. They now propose to suggest the lines upon which, in their view, such accommodation should be provided.

1. It is essential that the rest home should be conducted in as close association with hospitals as possible. It is through the hospitals that most cases will be recommended to the rest home, and it is to the parent hospital that the patient will be referred should any acute rheumatic emergency arise. In large cities the rest home will receive cases from more than one hospital, and it will always be necessary that the rest home should be within comparatively easy reach by motor of its associated hospitals.

2. In order to obtain the smoothest co-operation between hospital and rest home it is essential that members of the honorary hospital staff should act as visiting consultants to the rest home, or at least be members of the managing committees of such homes.

3. Since many of the children who are particularly in need of treatment in rest homes will be inmates of them for many months, it is necessary that education should be provided for them.

4. In order to combine economy with efficiency, it is advisable that the site of the rest home, or school-hospital, be directly continuous with that in which the other crippling diseases of childhood—for example, poliomyelitis and tuberculosis of bones and joints—are treated. The cardio-rheumatic children will then be able to share the services of the administrative and educational staffs provided for the orthopaedic patients. Moreover, it will facilitate the provision of laboratory, x-ray, and other equipment on an economical yet adequate scale. Thirdly, it will offer to both classes of patient the service of the best medical staff available. Fourthly, the training of students in the treatment of chronic disease will be made easier and better.

5. Last, but not least, it has to be remembered that the number of good hospital sites within reasonable reach of most great cities is small. Probably the best policy for the future will be one of concentration. Each city will seek to develop a kind of hospital suburb or colony at the best site available, and it is as a part of this development that we hope to see the hospital-school, or rest-home as we have called it here, which shall provide for the rheumatic child treatment as long as may be necessary in the best possible environment.

It is not expected that there would be great difficulty in collecting money from voluntary sources to get such rest homes started, and grants in aid of upkeep might legitimately be claimed from the public health and education authorities.

The Science Standing Committee of the Royal Institute of British Architects, and later a subcommittee appointed by them, met on two occasions certain members of the Subcommittee. These meetings led to the adoption of the following resolution by the Council of the Institute:

> "The Council of the Royal Institute of British Architects have had their attention called to the Report on Rheumatic Heart Disease in Children by the British Medical Association, and, having regard to the fact that it is in the public interest to eliminate dampness in all dwellings, they note with approval that the Science Standing Committee have appointed a Subcommittee to investigate and report on this subject."

The Subcommittee desire to express their sincere thanks to those gentlemen who gave their time so unsparingly to the discussion of the problem of damp houses, and to assure the Council of the Royal Institute of British Architects that the resolution quoted above is welcomed by the Association.

Owing to his official connexion with the Ministry of Health Dr. J. Alison Glover preferred to remain without a vote on matters of policy and so is not a signatory to this Report. His advice on many matters has been invaluable to the Subcommittee.

Finally the Subcommittee desire to emphasize their debt to their able and energetic Honorary Secretary, Dr. Reginald Miller, for the energy and tact which he has brought to the composition of this Report.

Signed on behalf of the Subcommittee,

HUMPHRY ROLLESTON,
Chairman.

APPENDIX.

NOTES ON THE PREVENTION AND CONTROL OF JUVENILE RHEUMATIC INFECTION

Prepared by REGINALD MILLER, M.D., F.R.C.P. (Hon. Sec.), *and adopted by the Subcommittee.*

§ 1. In approaching the subject of the prevention and control of rheumatic infection in children reference must be made to certain difficulties in connection with the occurrence of the disease on a large scale. The etiological factors of its production fall into three grades which differ in the degree of their influence on the causation of the disease. First, there is the infecting micro-organism itself. Whatever its nature it is important to realise that it is able to produce a disease which is as clearly defined as any in clinical medicine. Secondly, there is the factor of tonsillar infection. Chronic diseased tonsils are found in 75 or 80 per cent. of all rheumatic children who have not undergone tonsillectomy; to these must be added a few whose tonsils have been only temporarily infected during acute rheumatic attacks. Thus the association of tonsillar disease with juvenile rheumatism is a close one. In some instances the tonsillitis is a direct manifestation of rheumatism (rheumatic tonsillitis). In others it is probable that the tonsillar tissues, damaged by chronic non-rheumatic infections, present an avenue through which a systemic rheumatic infection readily occurs. Thirdly, there are the "predisposing" factors including the environmental factors with which the prevention of the disease is specially concerned.

These are not the only difficulties, for in juvenile rheumatism the earliest symptoms are often obscure and insidious, and it cannot be easy to distinguish between influences which tend to originate the disease and those which, by increasing its severity, merely unmask it.

PREVENTION.

§ 2. *Damp Homes.*—The first report (1) laid stress on the association between rheumatic infection in children and damp in their homes. The effect of cold and damp on the incidence of the disease is so strongly evidenced by the world distribution of acute rheumatism and its seasonal incidence in England that it cannot be set aside. Further, the peculiar class-incidence of juvenile rheumatism in England affecting the poor, but not the poorest, shows that some factor other than mere poverty is at work.

In view of the importance of this subject some further evidence, published since the appearance of the first report, is summarised here.

(a) The special investigations made for the previous report (1) (v. Part I.), in West London, Bristol and Bath, showed that nearly two-thirds (62·2 per cent.) of rheumatic children were, when first attacked by rheumatic infection, living in damp homes. These figures were thought to represent a minimum proportion, included in the series were several cases of frank scarlatinal origin.

(b) The previous report, which investigated (page the distribution of damp and of rheumatism in the vario stories of the West London houses, showed that t middle floors of the houses were the driest and that t same floors provided the fewest cases of rheumatism.

(c) A. P. Thomson (2), working in Birmingham, fou that the homes of rheumatic children showed obvio signs of damp in 45 per cent. of cases: if the eviden of the inhabitants was accepted the proportion was rais to 52 per cent.

(d) A. P. Thomson (2) has constructed a spot-map Birmingham showing the distribution of some 400 cas He found that the rheumatic areas did not correspo accurately with the areas of poverty. Of the latter the are several, but the bulk of the juvenile rheumatis occurred in only two of them, and through both of the areas ran streams, one of which was subject to period overflowing.

(e) R. H. Vercoe (3) found in Chelmsford that t proportion of damp homes was twice as great in a seri of rheumatic children as in non-rheumatic children. H percentage (only 26 per cent.) of damp houses was ve much lower than the above figures: a different standa of "damp" was used.

(f) F. C. Shrubsall (4) has constructed a map of Lond showing the distribution of 1,000 cases of acquired hea disease attending the L.C.C. Special (P.D.) Schools December, 1925. In it the influence of the Thames a its tributaries are well seen. This work is an interesti confirmation of the results obtained by Dr. Jane F. Shrubsall, who deserves credit for being a pioneer investigations along these lines in 1912-15. A sho account of her work is given by F. C. Shrubsall (5, "The only common facts seemed to be the presence old river valleys and other water courses (in London) . . The author did not regard it as proven that this associ tion was a direct one between rheumatism and dampne since there is some difficulty in excluding the seconda relation between dampness and social surroundings in t widest sense." It is unfortunate that Dr. Jane Shrubsall thesis (Jane Gilmour (6), 1915) was unpublished; n only because of its intrinsic value, but because it mig serve as a pattern for similar investigations in tow smaller than London, a research which is much neede

This evidence points to an association between damp a juvenile rheumatism, but how close this association may is not yet settled. Several of the facts recorded above sugge that the association is close and direct, but it may be th it is only an indirect one, acting through the productio of chronic tonsillar infection by predisposing to repeat catarrhs. Probably in England damp is both a direct a an indirect cause of the disease.

If, then, it be accepted that damp in houses is an importa factor in the mass-production of juvenile rheumatism in th country, it is not easy to regard with satisfaction the prese state of housing here: for there is little doubt that, tak as a whole, the houses of the urban poor are conspicuous damp. Whether legislative or administrative measures c ever ensure dry homes in England is open to discussion, b certain it is that the problem has not yet been solved. W may well press for some assurance that even in the prese time of house-shortage and excessive building costs, ne houses shall keep drier than existing ones.

§ 3. *Test for Damp.*—There does not appear to be a simple and generally accepted test for damp in houses. reliance is placed only on the inspection of walls, roofs a floors, damp due to faulty ventilation may be overlooke A better test, therefore, appears to be one including examination in the house of the condition of articles whi easily absorb moisture, due allowance being made for te porary causes of damp, such as laundering, cooking, etc. T results published in Report I were obtained on these lines was there explained.

§ 4. *Incidence in School Children.*—The influence of t years of school attendance on the production of juveni rheumatism appears to be governed by three facts which we demonstrated in Part I. of the first report.

(a) Rheumatic infection is common among the childr of the Public Elementary Schools and rare in the publ or private schools of the richer classes.

(b) Many elementary school children who have enter upon school life with normal hearts pass out of scho with rheumatic heart disease.

(c) Such heart disease is about three times as comm in the elementary schools of industrial towns as in tho of rural areas.

These facts suggest that the environment of the elementary school child in industrial areas is probably favourable to the incidence of rheumatism, and certainly favourable to the incidence of heart disease.

§ 5. *Instruction to Parents.*—As rheumatism often attacks more than one member of a family, instruction given to the parents of any child diagnosed as rheumatic should, as C. O. Hawthorne (7) has emphasised, be a valuable means of preventing further cases.

§ 6. *Early Tonsillectomy.*—As it is so often the child with chronic infected tonsils who acquires rheumatism it would seem that the early removal of such would tend to prevent the development of this infection.

Early Detection.

§ 7. The detection of rheumatic infection must necessarily remain in the hands of the school medical officers, general practitioners and the hospitals. In the early detection of the disease, before any obvious condition of invalidism is reached, the School Medical Service is in the best position for giving valuable assistance.

Instruction to parents, school teachers and nurses should greatly help towards the earlier recognition of the minor manifestations of rheumatic infection in children.

Notification.

§ 8. *Compulsory Notification.*—Legally, the only sort of disease which can be made compulsorily notifiable is an infection, endemic or epidemic. As will be seen in the following extract from regulations recently issued by the Minister of Health (8) only cases of rheumatic infection showing infective activity can be made notifiable:—

> In "The Paddington (Acute Rheumatism) Regulations, 1927," the title given to the disease is that of "Acute Rheumatism," and it is defined as follows:—"The expression 'acute rheumatism' means the following conditions occurring separately or together in a child under the age of 16 years:—
>
> (1) rheumatic pains or arthritis, if accompanied by a rise of temperature;
>
> (2) rheumatic chorea;
>
> (3) rheumatic carditis."

§ 9. *Voluntary Notification.*—It is thus seen that if an accurate estimate of the prevalence of rheumatic heart disease is wanted, reliance will have to be placed on a system of voluntary notification. By this means, only such cases of rheumatic infection as show heart disease can be collected, and such could be notified both in quiescent as well as active stages.

Dr. Carey Coombs has suggested the following formula for the voluntary notification of rheumatic heart disease.—

> (1) Heart disease arising in connection with acute or subacute rheumatism or chorea; and
>
> (2) heart disease displaying the signs commonly found in early rheumatic heart disease; *i.e.*,
>
> (a) ventricular enlargement with mitral regurgitation, to which may be added the signs of
>
> (b) aortic regurgitation,
>
> (c) acute pericarditis.

Treatment in Acute Stages.

§ 10. The Voluntary Hospitals in general, and the Children's Hospitals in particular, make every effort to provide in-patient treatment for patients with active rheumatic symptoms, and their needs are fairly well met. Where enough accommodation is wanting it is usually a matter of either particularly heavy incidence or a general shortage of hospital beds for the district. Long-lasting cases of chorea, however, do put a severe strain on hospitals; and the provision of prolonged institutional treatment for convalescent heart cases is quite beyond the present capacity of any hospital in a busy area. This matter is dealt with later. (§ 13.)

Tonsillectomy.

§ 11. In Part III. of the first report evidence was brought forward to show that the acute rheumatism seen in tonsillectomized children tended to be much reduced in severity by the previous operation, if complete. In particular the heart was notably spared.

Two recent expressions of opinion may be noted:—

> A. P. Thomson (2) reports that he finds that previous tonsillectomy diminishes the tendency to pyrexial attacks during treatment and that it protects "rheumatic children from permanent heart disease."
>
> O. Holsti (9) observes no harmful effect from tonsillectomy in rheumatic cases (his series contains adults as well as children). He finds that the operation gives some protection against rheumatic arthritis.

Medical Supervision of Rheumatic Children.

§ 12. To attempt to deal with rheumatic children merely by treating them in the acute phases of their disease is not a success: something more in the way of prolonged medical supervision is necessary. For this there are several reasons. For one thing it is a cardinal feature of juvenile rheumatism to show a tendency to repeated relapses, and no one can say in which cases relapses will occur, nor when, nor with what severity. Perhaps a greater difficulty arises in connection with cases in which the infection goes smouldering on, so that disaster overtakes the heart without the child's having been to a doctor at any time. Thus, medical supervision appears a necessity. Fortunately there are good grounds for hoping that it would be beneficial: acute attacks seldom develop without warning signals which a doctor can detect, and many cases of smouldering carditis can be diagnosed by careful medical examination.

The features, then, of the medical supervision of rheumatic children should include (a) registration for (b) periodic re-examination; (c) co-operation with the school medical service, where similar registers should be kept, and (d) instruction to parents. (e) The question who should properly undertake the medical supervision of these children raises a delicate but most important point of principle, namely, that as juvenile rheumatism is so dangerous and uncertain a disease, it is only fair to the children that their supervision should be undertaken by those who are prepared to deal with every type of rheumatic emergency which may arise. Thus, for the work to be properly and safely done, there must be provision for immediate bed treatment for some cases, for others out-patient treatment or expert throat surgery. Further, facilities for re-examination at least every three months, and in cases nearer the danger line, every month, or even oftener, must be provided.

With these points in view, it seems that such supervision can be carried out better by hospitals and practitioners than by special clinics or centres separated from, and without the facilities of, the hospitals.

§ 13. *Supervision by Hospitals.*—There are various ways in which hospitals could carry out the medical supervision of rheumatic children.

(*a*) *Rheumatism Register* ("*Bureau*").—The method which disturbs hospital routine least is to establish a register of all rheumatic patients attending the in- or out-patient departments of the hospital. This could be kept by the Almoner's office, by which reminders could be sent to the children's parents that they should attend for re-examination. The child would then be seen by the physician who had previously treated it. The register should be correlated with a similar register kept by the school authorities, the hospital and the school notifying each other of cases discovered. Printed instructions on the care of their children should be given to the parents.

(*b*) *Rheumatism Supervisory Centre.*—This more elaborate plan has certain advantages. It permits of closer investigation into the local distribution of the disease; by having one person in charge, it tends towards more efficient co-operation with practitioners and schools; and it relieves out-patient departments of the necessary "inspection" work.

The physician in charge of the Centre should be appointed by the hospital authorities and the Centre become part of the activities of the hospital. The work of the Centre is to supervise the children during the apparently quiescent stages of their rheumatism, while treatment during all active phases remains in the hands of the practitioner or the various physicians of the hospital. Thus, the Centre can admit to the medical beds, can refer cases for treatment to the medical or special out-patient departments, or to the practitioner who attends the child when it is ill. The Centre itself gives no direct treatment save such emergency treatment as may be necessary to tide over the time before regular treatment is re-established.

The "Parents' Paper" in use at the Rheumatism Supervisory Centre at the Paddington Green Children's Hospital, is printed below. It shows the method adopted to ensure that the Centre acts in co-operation with practitioners and the physicians of the hospital.

Although the Centre does not directly treat the patient, except in emergencies, it has immediately at hand every form of treatment which the rheumatic subject may require in any emergency.

(*c*) *Rheumatism Treatment Clinic.*—A further possible plan may be mentioned, namely, the establishment by the hospital

of a Clinic to which all rheumatic children should be drafted and where they should not only be supervised but actually treated.

§ 14. *Supervision by General Practitioners.*—The practitioner's chief difficulty in this matter lies in the fact that poor people are willing to pay for treatment during illness but are not educated up to spending money on having children inspected while apparently well. Where the parents' means permit, the practitioner is able to provide for every sort of treatment in the same way as a hospital, and the above remarks may be adapted to his use. Otherwise the patient can be transferred for supervision to a hospital centre where the parents should be instructed to seek advice from their own doctor should the child fall ill (*v. infra*: Parents' Paper).

INSTRUCTIONS TO PARENTS.

§ 15. It has already been mentioned that instruction to parents may help to prevent further cases of rheumatic infection in a rheumatic family (7). Certainly such instructions on the care of their children should be part of the work of any supervisory scheme.

The instructions published by F. J. Poynton (10) and already in considerable use form an admirable basis for the printed instructions which should be distributed to parents.

The instructions to parents distributed at the Rheumatism Supervisory Centre of Paddington Green Children's Hospital, are given at the end of this Appendix.

OPEN AIR TREATMENT.

§ 16. Open air treatment has been advocated for rheumatic subjects under two headings:—(a) the value of Open Air Day Schools for such children, and (b) the value of a modified open air régime in the rest homes for rheumatic convalescents.

(*a*) *Day Open Air Schools.*—The following passage may be quoted from the Annual Report of the Chief Medical Officer of the Board of Education for the year 1925 (11):—

> During 1925, enquiries were addressed to 30 school medical officers concerning the response and progress of cases of rheumatism, carditis and chorea, admitted to Day Open Air Schools in their respective areas. Medical experience seems to indicate that cases of rheumatism which are subject to relapse, of severe carditis following an acute attack, or of severe chorea, are not suitable for admission to a Day Open Air School. The more rigorous conditions of cold and wet to which children attending a Day Open Air School may be subjected are a source of risk in favouring a relapse of the disease. On the other hand, mild cases of chorea, cases of slight rheumatic carditis in which the active disease is quiescent, or well. Practice should be modified by consideration of the climatic conditions of the area.

In connection with this opinion arise the questions of the difficulty in regarding any case of rheumatic infection in a child as mild, and the uncertainty in predicting whether such a case will show relapses or not.

(*b*) *Open Air Convalescent Treatment.*—Many have advocated the value of open air treatment for convalescent or chronic rheumatic states in children. It must, however, be remembered that the connection between over-exposure to cold or epidemic catarrhs and renewal of the activity of the disease is much closer in rheumatic than in tuberculous infection, especially surgical tuberculosis, and a considerable modification of the open air régime for the benefit of the rheumatic cases is probably necessary.

REST HOMES (Hospital-Schools).

§ 17. There has been very general acceptance of the view that there is a need of special accommodation for convalescent rheumatic children in homes where they may enjoy the advantage of healthy environment, modified rest, and education. Such accommodation has been provided in America and in this country and, as was emphasised in the first report, there is need for "a rapid expansion of the accommodation for prolonged institutional care of rheumatic children."

This subject has been considered by W. T. Gordon Pugh in his two reports to the Metropolitan Asylums Board (12), and has recently been discussed at Bristol at a meeting opened by J. A. Nixon (13).

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Instructions to Parents Distributed at the Rheumatism Supervisory Centre, Paddington Green Children's Hospital.

Parents' Paper.

PADDINGTON GREEN CHILDREN'S HOSPITAL.

(Incorporated.)

RHEUMATISM SUPERVISORY CENTRE.

(FOR RHEUMATISM, ST. VITUS'S DANCE, AND RHEUMATIC HEART DISEASE.)

The Centre is open every Saturday. Admission (free) 1 to 2 o'clock p.m.

The object of the Centre is to keep a watch over your child, so as to prevent it from getting a fresh attack of rheumatism, or developing heart disease, without your knowing that anything is wrong.

The chief danger of rheumatism in children is heart disease, and this may develop so quietly that it can only be detected by a doctor's examination. The Centre offers you the opportunity of having your child's heart examined periodically with a view to preventing its becoming affected.

The Centre is not a treatment clinic, and will not interfere in any way with the treatment from the hospital or private doctor who usually looks after your child. It is intended to help you to take the best care of your child while it is apparently well, and to warn you as early as possible of any symptoms requiring medical attention.

A card will be sent to you to remind you when your next visit is due; but if you are in any doubt or difficulty about your child, you can bring it to the Centre on ANY Saturday.

If the child becomes ill, do not wait for the Centre to be open, but obtain advice at once from:

(Name of Practitioner or Hospital Physician).....

(Address).....

YOU SHOULD READ THE SUGGESTIONS OVERLEAF.

(Reverse.)

ON THE CARE OF RHEUMATIC CHILDREN.

1. Rheumatism is caused by infection by a germ, and it is a common disease of children, in whom it often attacks the heart. This is the great danger of the disease. Rheumatism is the commonest cause of heart disease in children.

2. Rheumatic attacks of all sorts often start with a sore throat. A sore throat in a rheumatic child is always a dangerous symptom.

3. Common symptoms of rheumatism in children are:

Sore throat.	Paleness.
Pains in muscles.	Shortness of breath.
Painful joints.	Fidgetiness or nervousness.

4. Chorea, or St. Vitus's dance, is rheumatism attacking the brain. Its chief danger is the tendency for the heart to be injured at the same time. Unusual nervousness, disturbed sleep, fidgety movements, or a tendency to drop things, may be warnings of St. Vitus's dance.

5. Rheumatic heart disease is often painless and may only be discoverable by a doctor's examination.

6. If the heart has been injured by rheumatism, its recovery is very slow, and permanent harm may be done by letting the child resume an ordinary life before recovery is satisfactory.

7. An occupation in life for a child with heart disease requires very careful choice.

8. Rest is very necessary for rheumatic children. They should always be put to bed early, and they should be made to lie down during the day if they seem at all tired or if there is any aching of the limbs.

9. Damp is bad for rheumatism; basements are dangerous. Rheumatic children should sleep in the sunniest and driest room available. If they get wet, their clothes should be taken off and dried at once. Water-tight boots are especially important.

10. Rheumatism tends to recur, especially in the winter months.

British Medical Association.

CURRENT NOTES.

Lunacy Law Reform.

It will be remembered that when the Royal Commission on Lunacy was set up in July, 1924, the British Medical Association appointed a special committee to prepare evidence for submission on behalf of the Association to the Royal Commission. In view of the publication of the Commission's Report in July last, and the possibility of legislation to give effect to its recommendations, the committee was reappointed to make a detailed examination of the Report and prepare to scrutinize the Government measure on its appearance. The reconstituted committee has held two meetings—on March 17th and 28th. While the Report of the Royal Commission shows the careful attention given to the views expressed by the Association's witnesses, in many cases endorsing them, the recommendations directed to the better protection of medical practitioners in their duty of certification of the insane fall far short of the policy put forward by the Association. The claim of the Association on behalf of practitioners signing certificates under the Lunacy Act was for the immunities granted to witnesses in courts of law. The Royal Commission, on the other hand, after consideration of the admitted difficulties of the present position, merely recommends "that, for the more effective protection of medical men and others in the bona-fide discharge of their duties under the Act, Section 3 (30) should be so amended as to provide that any such person shall not be liable to civil or criminal proceedings unless he has acted with bad faith or without reasonable care," and that subject to this qualification "any proceedings taken against such person shall be stayed upon a summary application to the High Court or a judge in chambers." This recommendation would shift the onus of proof as to good faith and reasonable care from the practitioner, with whom it lies at present, to those who seek to impugn his conduct. It is hard to believe that its adoption would supply an adequate safeguard. So far this is the chief point of difficulty encountered by the committee in its review of the Report.

Election of Representative Body.

The Council has grouped the Divisions for election of the Representative Body, 1927-8, in the manner shown in the next column. It is a matter for the Executive Committee of the Division (or, where the Constituency comprises more than one Division, for a joint meeting of the Executives of the Divisions) to decide whether the Representative(s) and Deputy Representatives shall be elected by a *general meeting* of the Constituency or by *postal vote*. The meeting must be called (or, where the election is by voting papers, these must be issued) by the Secretary of the Division (or, in the case of Constituencies comprising more Divisions than one, by the Secretary of the Division containing the largest number of members). The Representatives and Deputy Representatives must be elected not later than Saturday, May 14th, and their names forwarded to the Head Office not later than Thursday, June 2nd.

Edinburgh Annual Meeting: Reduced Railway Fares.

We have already announced that the usual concession to members of the British Medical Association in regard to railway fares will apply to the Annual Meeting in Edinburgh this summer. The railway companies in Great Britain (except the Metropolitan, Metropolitan District, and London Electric Railway Companies) have agreed to issue passenger tickets to Edinburgh, available from July 13th to 25th, at the ordinary single fare and one-third for the double journey, with a minimum adult fare of 1s. A printed voucher filled in by the applicant and signed by the Financial Secretary of the Association, must be given up at the booking office when the ticket is bought. These vouchers will be obtainable in due course from the Finance Department, British Medical Association, Tavistock Square, W.C.1.

The Financial Secretary has now heard from the Railway Clearing House, informing him that the cheap fare concession referred to above will, in addition to applying from stations in Great Britain, also operate from the Irish ports by railway-owned steamers, and by the boats of the Belfast Steamship, British and Irish Steam Packet, and the City of Cork Steam Packet Companies, and of Messrs. Burns and Laird, Ltd.

Association Notices.

TABLE OF DATES.

April 23, Sat.	Annual Report of Council appears in SUPPLEMENT.
	Last day for receipt at Head Office of nominations: (i) by a Division or not less than 3 members, for election of 24 members of Council by grouped Branches in British Isles; and (ii) for election of 2 Public Health Service members of Council, and 4 Representatives of Public Health Service in Representative Body.
May 7, Sat.	Publication in SUPPLEMENT of list of nominations for election of (i) 24 members of Council by grouped Branches in British Isles; (ii) 2 Public Health Service members of Council, and 4 Representatives of Public Health Service in Representative Body. Voting papers posted from Head Office where there are contests in above elections.
May 10, Tues.	Last date for receipt at Head Office of motions by Divisions and Branches for A.R.M. on matters of which two months' notice must be given.
May 14, Sat.	Last day for receipt at Head Office of voting papers for election, where there are contests, of (i) 24 members of Council by grouped Branches in British Isles; and (ii) 2 Public Health Service members of Council, and 4 Representatives of Public Health Service in Representative Body.
	Publication in SUPPLEMENT of motions by Divisions and Branches for A.R.M. on matters of which two months' notice must be given.
	Last date for election of Representatives and Deputy
May 28, Sat.	of results of election of members Branches, and of election of members of Council and Representatives in Representative Body by Public Health Service members.
	Nomination papers available (at Head Office) for election of 12 members of Council by grouped Representatives (British Isles).
June 2, Thurs.	Last date for receipt at Head Office of names of Representatives and Deputy Representatives.
June 8, Wed.	*Council.*
June 16, Thurs.	Meetings of constituencies must be held between this date and July 15th, to instruct Representatives.
June 25, Sat.	Supplementary Report of Council appears in SUPPLEMENT.
July 1, Fri.	Amendments and riders by Divisions and Branches for inclusion in A.R.M. Agenda must be received at Head Office by this date.
July 15, Fri.	*Annual Representative Meeting*, Edinburgh, 10 a.m.
	Nominations for election of 12 members of Council by grouped Representatives must be received (at A.R.M., Edinburgh) by this date, 2 p.m.
July 16, Sat.	*A.R.M.* (Edinburgh).
July 18, Mon.	*Council* (Edinburgh).
	A.R.M. (Edinburgh).
July 19, Tues.	*A.R.M.* Annual General Meeting, Edinburgh, President's Address.
July 20, Wed.	*Council* (Edinburgh). Conference of Honorary Secretaries (Edinburgh).
	Meetings of Sections, etc., Edinburgh.
July 21, Thurs.	*Meetings of Sections*, etc., Edinburgh.
July 22, Fri.	*Meetings of Sections*, etc, Edinburgh.

ALFRED COX, *Medical Secretary.*

CONSTITUENCIES FOR ELECTION OF REPRESENTATIVE BODY, 1927-8.

(I) CONSTITUENCIES IN THE BRITISH ISLES.

(Divisions bracketed together form one Constituency.)

ABERDEEN—
{Aberdeen
Orkney
Shetland

BATH AND BRISTOL—
Bath
Bristol

BIRMINGHAM—
{Bromsgrove
{Dudley
Central
Coventry
Nuneaton and Tamworth
{Rugby
{Warwick and Leamington
West Bromwich

BORDER COUNTIES—
Dumfries and Galloway
English

CAMBRIDGE AND HUNTINGDON—
{Cambridge and Huntingdon
{Isle of Ely
East Hertfordshire

CONNAUGHT—
{Mid-Connaught
{North Connaught
{South Connaught

DORSET AND WEST HANTS—
Bournemouth
West Dorset

DUNDEE

EAST YORK AND NORTH LINCOLN—
East York
North Lincoln

EDINBURGH—
Edinburgh and Leith
Lothians
South-Eastern Counties

ESSEX—
Mid-Essex
North-East Essex
South Essex

FIFE

GLASGOW AND WEST OF SCOTLAND—
Argyllshire
Ayrshire
Dumbartonshire
Glasgow Central
Glasgow Eastern
Glasgow North-Western
Glasgow Southern
Lanarkshire
Renfrewshire and Buteshire

GLOUCESTERSHIRE
KENT—
- Ashford
- Dover
- Folkestone
- Bromley
- Dartford
- Rochester, Chatham, and Gillingham
- Isle of Thanet
- Maidstone
- Tunbridge Wells

LANCASHIRE AND CHESHIRE—
- Ashton-under-Lyne
- Glossop
- Birkenhead
- Blackburn
- Blackpool
- Isle of Man
- Bolton
- Burnley
- Bury
- Chester
- Crewe
- Hyde
- Stockport, Macclesfield, and East Cheshire
- Leigh
- Wigan
- Liverpool
- Manchester
- Mid-Cheshire
- Oldham
- Preston
- Rochdale
- St. Helens
- Warrington
- Salford
- Southport

LEINSTER—
- Dublin
- East Leinster
- Mid-Leinster
- North Leinster
- North-West Leinster
- South-East Leinster

METROPOLITAN COUNTIES—
- Camberwell
- Chelsea
- City
- Finchley
- Greenwich and Deptford
- Hampstead
- Harrow
- Hendon
- Kensington
- Lambeth and Southwark
- Lewisham
- Marylebone
- North Middlesex
- St. Pancras
- South Middlesex
- South-West Essex
- Stratford
- Tower Hamlets
- Wandsworth
- West Hertfordshire
- West Middlesex
- Westminster and Holborn
- Willesden
- Woolwich

MIDLAND—
- Chesterfield
- Derby
- Holland
- Kesteven
- Leicester and Rutland
- Lincoln
- Nottingham

MUNSTER—
- North Munster
- South Munster
- West Munster

NORFOLK—
- East Norfolk
- Norwich
- West Norfolk

NORTHERN COUNTIES OF SCOTLAND—
- Banff, Elgin, and Nairn
- Caithness and Sutherland
- Inverness
- Islands
- Ross and Cromarty

NORTH LANCASHIRE AND SOUTH WESTMORLAND—
- Furness
- Kendal
- Lancaster

NORTH OF ENGLAND—
- Bishop Auckland
- Durham
- Blyth
- Morpeth
- Cleveland
- Consett
- Hexham

NORTH OF ENGLAND (*continued*)—
- Darlington
- Gateshead
- Hartlepools
- Stockton
- Newcastle-on-Tyne
- North Northumberland
- South Shields
- Tyneside
- Sunderland

NORTH WALES—

OXFORD AND READING—
- Oxford
- Reading
- Windsor

PERTH

SHROPSHIRE AND MID-WALES

LAND—

SOUTHERN—
- Guernsey and Alderney
- Isle of Wight
- Jersey
- Portsmouth
- Southampton
- Winchester

SOUTH MIDLAND—
- Bedford
- Buckinghamshire
- Northamptonshire

SOUTH WALES AND MONMOUTHSHIRE—
- Cardiff
- Monmouthshire
- North Glamorgan and Brecknock
- South-West Wales
- Swansea

SOUTH-WESTERN—
- Barnstaple
- East Cornwall
- Exeter
- Plymouth
- Torquay
- West Cornwall

STAFFORDSHIRE—
- North Staffordshire
- South Staffordshire
- Walsall and Lichfield

STIRLING

SUFFOLK—
- North Suffolk
- South Suffolk
- West Suffolk

SURREY—
- Croydon
- Guildford
- Kingston-on-Thames
- Reigate

SUSSEX—
- Brighton
- Chichester and Worthing
- Horsham
- Eastbourne
- Hastings
- Lewes and East Grinstead

ULSTER—
- Ballymoney, North Antrim, and South Derry
- Derry
- Belfast
- Enniskillen or co. Fermanagh
- Monaghan and Cavan
- Tyrone
- Portadown and West Down

WEST SOMERSET

WILTSHIRE—
- Salisbury
- Swindon
- Trowbridge

WORCESTERSHIRE AND HEREFORDSHIRE—
- Hereford
- Worcester

YORKSHIRE—
- Barnsley
- Bradford
- Dewsbury
- Doncaster
- Halifax
- Harrogate
- Huddersfield
- Leeds
- Rotherham
- Scarborough
- Sheffield
- Wakefield, Pontefract, and Castleford
- York

(II) CONSTITUENCIES OUTSIDE THE BRITISH ISLES.

The Council has made each Division and Division-Branch outside the British Isles an independent Constituency, entitled to elect one Representative and one or more Deputy Representatives (By-laws 40, 41, and 43).

BRANCH AND DIVISION MEETINGS TO BE HELD.

ABERDEEN BRANCH: ABERDEEN DIVISION.—A meeting of the Aberdeen Division will be held in the Physiology Classroom, Marischal College, on Thursday, April 21st, at 3.30 p.m. A British Medical Association Lecture will be given by Professor John Fraser, *M.C.*, F.R.C.S. (Edinburgh), on "Treatment of burns in children." All medical men in the district are cordially invited.

BORDER COUNTIES BRANCH: DUMFRIES AND GALLOWAY DIVISION.—The next meeting of the Dumfries and Galloway Division will be held at the Royal Infirmary, Dumfries, on Thursday, April 21st, at 3 p.m., when Dr. J. Stanley White will deliver an address, illustrated with lantern slides, on "Some recent aspects of gland therapy."

METROPOLITAN COUNTIES BRANCH: HARROW DIVISION.—A meeting of the Harrow Division will be held at the Gayton Rooms, Harrow, on Tuesday, April 19th, at 8.30 p.m. It is hoped to hold a clinical evening, and each member who has a suitable case (or cases) is asked to make an effort to bring it. The annual dinner and election of officers will probably take place on the fourth Tuesday in May. Ordinary meetings will be held on June 28th, October 25th, November 22nd, and December 27th, and members are requested to book these dates.

METROPOLITAN COUNTIES BRANCH: WILLESDEN DIVISION.—A meeting of the Willesden Division will be held at St. Andrew's Church Hall, High Road, Willesden Green, on Wednesday, April 27th, at 9 p.m. Agenda: Minutes, correspondence, etc.; consider Annual Report of Council (to appear in BRITISH MEDICAL JOURNAL SUPPLEMENT, April 23rd); any other business.

MIDLAND BRANCH: CHESTERFIELD DIVISION.—A meeting of the Chesterfield Division will be held at the Maternity Hospital, Chesterfield, on Friday, April 29th, at 8.15 p.m. Dr. L. G. Parsons, physician to Queen's Hospital and the Children's Hospital, Birmingham, will give an address on "Some points in the diagnosis and treatment of pneumococcal infections in children." Tea and coffee will be served at 8 p.m.

NORFOLK BRANCH: NORWICH DIVISION.—A general meeting of the Norwich Division will be held in the Medical Library on Friday, April 22nd, at 9 p.m. Agenda: Election of representatives to Annual Representative Meeting at Edinburgh in July, 1927.

NORTH WALES BRANCH.—The spring meeting of the North Wales Branch will be held on Tuesday, April 19th, at Pwllheli. Members wishing to read papers or show cases should communicate with Dr. E. Lewys-Lloyd, Branch secretary (Rhianfa, Towyn, Merioneth).

NORTH OF ENGLAND BRANCH: BISHOP AUCKLAND DIVISION.—It is proposed to hold an annual dinner of the Bishop Auckland Division on Friday, April 29th, at 7.30 for 8 p.m., in the King's Café, Newgate Street, Bishop Auckland. Tickets £1 1s. each (inclusive of wines). Guests may be invited. The dinner will only be held provided a sufficient number of members inform Dr. P. V. Anderson (Enfield Lodge, Shildon, co. Durham) by to-day (Friday, April 15th) that they intend to be present.

NORTH OF ENGLAND BRANCH: BLYTH DIVISION.—A meeting of the Blyth Division will be held in the Knight Memorial Hospital, Blyth, on Wednesday, April 20th, at 8.15 p.m., when Mr. Arkle (Newcastle-on-Tyne) will lecture on "Eye conditions of interest to colliery practitioners." Members of the Morpeth Division are invited.

NORTH OF ENGLAND BRANCH: SUNDERLAND DIVISION.—A meeting of the Sunderland Division will be held at the Royal Infirmary, Sunderland, on Wednesday, April 20th, at 8.15 p.m. Dr. E. Farquhar Murray will give an address on "Some modern aspects of midwifery and gynaecology." All members of the Division are invited to be present

OXFORD AND READING BRANCH: OXFORD DIVISION.—A clinical meeting of the Oxford Division will, by invitation of the local practitioners, be held at the Horton Infirmary, Banbury, on Friday, April 22nd, at 3 p.m. Professor G. E. Gask, C.M.G., D.S.O., director of Surgical Unit, St. Bartholomew's Hospital, will read a paper on "Some operations for gastric ulcer," illustrated by lantern slides. Clinical cases will be shown by members of the honorary staff of the Horton Infirmary and others. On Thursday, April 28th, the South-West Division of the Royal Medico-Psychological Society is meeting at the Mental Hospital, Littlemore. Cases will be shown from 2.30 to 4 p.m. Those members of the Division who intend to be present and to take tea are asked to notify Dr. Good.

SOUTHERN BRANCH: PORTSMOUTH DIVISION.—A clinical meeting of the Portsmouth Division will be held on Thursday, April 28th, at 3 p.m., at the Royal Portsmouth Hospital (Out-patient Department). 3 p.m., Examination of cases; 3.45 p.m., tea, provided by the staff of the hospital; 4 p.m., discussion of cases in Board Room. The meeting will end promptly at 5 p.m. Members are requested to show cases of general interest—concise notes of these should reach Mr. A. Scott Ridout (clinical secretary), 37A, Clarendon Road, Southsea, not later than Monday, April 18th, so as to appear on the agenda paper.

SUFFOLK BRANCH: WEST SUFFOLK DIVISION.—A clinical meeting of the West Suffolk Division will be held at the Angel Hotel, Bury St. Edmunds, on Saturday, April 23rd, at 8 p.m. Sir Thomas Horder, Bt., K.C.V.O., physician to St. Bartholomew's Hospital, has kindly promised to open an informal discussion on "What are the most useful methods of supplementing clinical diagnosis?" Arrangements have been made for members attending the meeting to dine together, and Sir Thomas Horder's paper will be read after dinner. Dinner (at 8 p.m.), price 5s. Morning dress. Members are invited to bring guests, and are requested to notify Dr. B. E. A. Batt (6, Angel Hill, Bury St. Edmunds) by Monday next, April 18th, whether they propose to attend, and the names of any guests.

SURREY BRANCH: GUILDFORD DIVISION.—At a combined meeting of the Guildford Division and the Veterinary Medical Association, Southern Counties Branch, to be held on May 19th, Professor Hobday will open a discussion on clean milk. Further particulars will be announced later.

SUSSEX BRANCH: BRIGHTON DIVISION.—A clinical meeting of the Brighton Division will be held at the Lady Chichester Hospital on Thursday, April 21st, at 3.45 p.m.

WORCESTERSHIRE AND HEREFORDSHIRE BRANCH.—The spring meeting of the Worcestershire and Herefordshire Branch will be held at the Hospital, Hereford, on Wednesday, April 20th, at 3.15 p.m. Agenda: To arrange time and place of annual meeting. Mr. Duggan (Worcester) will read a short paper, "A case of splenic anæmia treated by splenectomy"; Dr. Clarke (Weobley) notes of an outbreak of epidemic jaundice; Dr. Smyth (Malvern) notes of a case described as "Two dreams"; Mr. Cavenagh (Worcester) notes on two cases of foreign body in the œsophagus and two interesting cases of ear trouble. 4.30 p.m., Tea. 5 p.m., Notes of cases and pathological specimens will be read and shown by Mr. Devereux (Malvern), Mr. Ainslie (Hereford), Mr. Wood Power (Hereford), Dr. Tullis (Hereford), Mr. Purdy (Hereford), Mr. Butler (Hereford); microscope slides by Dr. Smith of the County Asylum, Herefordshire. 6.30 p.m., The President hopes that as many of the members as can will dine with him at the Booth Hall, Hereford (morning dress). Members wishing to avail themselves of this invitation are asked to advise Dr. W. B. Butler, honorary secretary, on or before Monday, April 18th.

YORKSHIRE BRANCH: HARROGATE DIVISION.—The annual meeting of the Harrogate Division will be held at the Imperial Café, Harrogate, on Wednesday, May 4th, at 8.30 p.m. Agenda: (1) Arrangements for meeting of Yorkshire Branch to be held in Harrogate on June 11th; (2) Annual Report of Council; (3) steps taken against activities of antivivisection societies; (4) B.M.A. Charities scheme; (5) annual report and financial statement; (6) election of officers.

Meetings of Branches and Divisions.

BOMBAY BRANCH.

THE third ordinary general meeting of the session was held at the Pathological Laboratory of the Grant Medical College, Bombay, on January 28th, when the President, Dr. R. Row, was in the chair.

Twenty-two members were declared duly elected, the total strength of the Branch being 220, a larger total than in any of the preceding years.

Colonel F. P. Mackie, I.M.S., Dr. N. H. Choksy, C.I.E., Dr. K. G. Mhaskar, and Dr. R. B. Bilimoria were appointed a subcommittee to report on the Medical Secretary's letter dated January 6th, 1927, regarding the new issue of the *British Pharmacopœia* and on the inclusion of substances or preparations used in tropical climates in the body or otherwise of the *British Pharmacopœia*. The subcommittee agreed in main to the evidence given by the representatives of the British Medical Association, and observed that, if need be, a committee of experts should be appointed by the Government of India as regards useful Indian drugs, and that the same be embodied in a separate volume.

Dr. GHARPURE read a paper on "Incidence of primary carcinoma of the gastro-intestinal tract as inferred from the *post-mortem* records of fifty years at the Jamsetjee Jeejeebhoy Hospital." He said the total number of *post-mortem* examinations from 1877 to 1926 was more than six thousand, and in these there occurred two cases of primary carcinoma of the liver, thirteen of the stomach, six of the pancreas, and two of the gall bladder. He showed two interesting pathological specimens: (1) a dissecting aneurysm of the aorta extending from the orifice to its bifurcation; (2) a ganglion neuroma of the thorax.

The PRESIDENT gave "Further observations on the effects of Row's tubercle autolysate in leprosy," illustrating it by projecting pictures of cases of leprosy much improved under the treatment. After a brief reference to the history of some of the aspects which led the author to the study of tubercle bacillary autolysate in tuberculosis and its extension to cases of leprosy, Dr. Row gave a short résumé of the report he had made to the thirteenth Indian Science Congress in 1926 on the value of this vaccine in leprosy. Since that date he had been able to gather together the observations in a further series of cases the analysis of which he ventured to lay before the meeting. These he proposed to divide into two classes: (*a*) The asylum cases from the Ackworth Leper Asylum, Bombay, whose history ranged from three to fifteen years, with extensive atrophic ulceration and frightful facial and other disfiguration—cases which, in the opinion of the superintendent of the asylum, Dr. Rodrique, were beyond human redemption. (*b*) Some private cases in a better social condition and with a shorter history (three years or less) with pronounced lesions. The photographs of all these were thrown on the screen to show the condition before and after treatment, ranging from six to ten months. The alterations in the features and lesions were left to the members to judge for themselves. The most noteworthy features were (1) shrinkage and partial cicatrization of the nodules; (2) return of sensation in anæsthetic patches; (3) the raised age of the patches (erythematous) becoming flush with the skin, leaving only a depigmented patch; (4) return to normal of the leonine features by shrinkage of diffuse nodules; (5) ulceration and cicatrization of the more chronic and fibrosed granulomata, but a very slow reduction of the pearl-white nodules; (6) rapid healing of trophic ulcers. These observations, he said, included the results of the independent observations and investigations carried out clinically by Major Kamat, I.M.S., of Ratnagiri, whose report will be presented by him independently to the fourteenth Indian Science Congress of 1927.

In the subsequent discussion Dr. N. H. CHOKSY and Dr. R. B. BILIMORIA took part. Dr. Bilimoria said he was using two varieties of tuberculin, one containing the fatty envelope or lipoidal substance, and the other obtained from the body of the bacillus in different types of cases; he had only treated one case of leprosy, and that, too, not completely. To this Dr. Row replied that he had tried the lipoidal material long ago, but had abandoned its use as it did not give so satisfactory results as the autolysate.

A clinical meeting of the Branch was held at the Jamsetjee Jeejeebhoy Hospital staff-room on March 4th, when, besides the President and members, the senior students and staff of the hospital were invited as guests by the President; an overflow meeting resulted.

Dr. B. B. YODH showed an interesting case of syphilis of the lung in a man of about 45 and cured by specific treatment. Skiagrams taken before and after the treatment were shown. He also showed a case of carcinoma of the stomach, in a man aged 40, in the primary stage. A beautiful skiagram showed the lumen of the pyloric canal constricted by the malignant mass. Dr. A. K. CONTRACTOR showed five cases, including one of an old man with carcinoma of the stomach in the secondary stage. A big gland at the root of the neck on the left side proved secondary metastasis. He demonstrated a case of wrist-drop of the left hand, involving the musculo-spiral nerve in an alcoholic subject. The third case was of dysphagia due to paralysis of the basal ganglia after an attack of hemiplegia with a peculiar happy look and slow speech, in a man aged about 45. Two more cases of myelitis were also shown by him.

Dr. DERUV showed a case of successful removal of fibro-adenoma of the left parotid without injury to the facial nerve, and another case of fracture of the zygoma and left maxillary bone in a young woman battered by her husband. Dr. K. A. TURNER related his experience in treating soft sores with methylene blue and carbol fuchsin solutions in proportion of two to one. The results were good, healing taking place in about ten days, and more satisfactorily than by the time-worn and objectionable iodoform treatment.

Lastly, Dr. F. D. BANA gave a brief account of the electrophonoid method of treating the deaf.

Dr. Row, the chairman, thanked, on behalf of the Branch, all those who had taken the trouble to bring the cases and clinical material for the interesting discussions they had had that evening.

BORDER COUNTIES BRANCH.

A GENERAL meeting of the Border Counties Branch was held at the Dumfries and Galloway Royal Infirmary on March 24th, with the President, Dr. P. MURRAY KERR, in the chair.

Major W. L. FORSYTH, I.M.S.(ret.), gave an interesting demonstration of laboratory methods, and answered various questions. Dr. P. M. KERR introduced a discussion on "Some common gastric disorders," and Dr. J. D. ROBSON showed *x*-ray plates of the cases described; Dr. R. M. GLOVER spoke from the point of view of the surgeon, and was followed by Drs. CONNELL, LAIDLAW, LIVINGSTONE, EASTERBROOK, and STEVEN.

After tea, at the invitation of the President, Dr. J. RITCHIE, M.O.H., gave a most interesting paper on "Bread." After a general discussion the meeting ended with votes of thanks to the President for his hospitality, and to those who had read papers.

HONG-KONG AND CHINA BRANCH.

Annual Dinner.

AT the annual dinner of the Hong-Kong and China Branch on February 16th Sir Cecil Clementi, K.C.M.G., Governor of Hong-Kong, was the guest of honour.

The president of the Branch, Colonel BOYLAN SMITH, D.S.O., R.A.M.C., in proposing the Governor's health, described certain difficulties and deficiencies in connexion with the general health of the colony. He pleaded for the establishment of a statistical bureau in order that more accurate information might be available with regard to public health matters. He urged that malarial fever should be a notifiable disease, and thought the appointment of a malariologist was essential if an attempt was to be made to eradicate malarial fever from the island. With the provision of a more adequate intelligence department the whole health of the colony would be improved.

The GOVERNOR respo[illegible], and referred at considerable length to [illegible] of such requirements. He said that [illegible] inhabitants was situated on the sea coast of the large province of Kwangtung, with thirty-seven million inhabitants under the rule of Canton, where problems of sanitation and of public health received only the most perfunctory attention. The daily ebb and flow of many thousand Chinese between Hong-Kong and Canton rendered strict quarantine measures impossible, and, therefore, the health of the colony must remain precarious until the province of Kwangtung was submitted to sanitary reform. Health statistics in Hong-Kong were vitiated by the strong preference of Chinese women to return to their native villages on the mainland for childbirth, and the mortality figures were similarly affected by the strong desire of the aged and infirm to go back to their ancestral homes to die. A very large portion of the Chinese population of Hong-Kong was not attended in sickness by any medical practitioner, and many Chinese patients were only admitted to hospital when dying, which rendered the colony's vital statistics extremely misleading. The Governor thought that the reconstructed Victoria Hospital

and the new hospital in Kowloon were model institutions. The Government Civil Hospital was now out of date, and it was proposed to rebuild it on modern lines and on a larger scale as soon as funds were available. Special attention was being paid to the health of the children, a school medical officer having been appointed in 1925 and definite records being kept. The great problem of tuberculosis was intimately connected with the very difficult hospital problem. In conclusion, the Governor referred appreciatively to the work of the British Medical Association in instructing the public in health matters.

Midland Branch: Kesteven Division.

A MEETING of the Kesteven Division was held at the Abbey House, Castlegate, Grantham, on April 5th. The non-members' analysis was considered. The secretary was instructed to write to the two local members of Parliament explaining the attitude of the profession regarding the Dogs' Protection Bill, and asking them to vote against it. It was resolved to send to all members a copy of the Association's letter regarding B.M.A. Charities.

North of England Branch: Blyth Division.

THE Blyth Division held a very successful dinner on March 31st, when Dr. A. FAIRLIE, chairman of the Division, presided, the chief guest being the Medical Secretary. Several members of the Morpeth Division were present.

The CHAIRMAN proposed the health of the British Medical Association, coupled with the name of the Medical Secretary. Dr. ALFRED COX, replying, dealt with the recent attack on the profession in regard to the increase of certification under the National Health Insurance Act, and urged his hearers to regard this matter very seriously. The reputation of medical practitioners could not be more easily damaged than by having doubts cast upon their deliberately written statements about patients. He also emphasized the importance of the work of the Division. In no areas were active Divisions so essential as in small ones, where local jealousies were likely to prevail more than in the larger areas, particularly when these were industrial ones where complications in connexion with associations of workmen might happen at any time. A Division could not suddenly be resuscitated in time of trouble—it must be kept always in working order.

A vote of thanks was moved by Dr. JAMES ANDERSON, who recalled the days when Dr. Cox was active in the area of the Branch and won his spurs by devoted work for the colliery practitioner, though he was not one himself. The Blyth Division had had many ups and downs since the day it was founded at a meeting at which Dr. Cox was present, when the speaker was elected secretary, but he hoped that the present successful gathering was the beginning of a new stage of activity. The motion was seconded by Drs. DICKIE and BEATON of Morpeth and carried unanimously.

Oxford and Reading Branch: Oxford Division.

A MEETING of the Oxford Division was held at the Radcliffe Infirmary on March 23rd; in the absence of the chairman, Dr. R. W. CRUICKSHANK took the chair. The HONORARY SECRETARY read a letter from the Director of Education of the Oxfordshire County Council, inviting the Division to send a deputation to discuss the question of certificates of absence from school. A motion that no conference with the Education Committee should be held until that body was willing to consider the question of the payment for such certificates having been defeated, Dr. R. W. Cruickshank and Mr. N. E. Waterfield, with the honorary secretary, were appointed representatives of the Division to confer with the education authorities. The honorary secretary read a letter from the Medical Secretary of the Association in connexion with the Dogs' Protection Bill. Dr. A. G. GIBSON, speaking from the standpoint of one possessing a vivisection licence, suggested that the honorary secretary should write to the members of Parliament for the area, asking them to vote against the bill. He added that while medical practitioners yielded to none in their fondness for animals and had no desire to cause unnecessary suffering, they were already seriously restricted in experimental work: but for the use of dogs in research insulin would not have been discovered.

Mr. WATERFIELD, seconding the proposal, referred to a meeting of the Antivivisection Society at Banbury, when no new members had been secured; and Dr. F. G. GARDNER, supporting the proposal, suggested that the mentality of supporters of the bill resembled that of the old lady who declined to live near Hyde Park, since she feared she would hear the shrieks from the dissecting-room at St. George's Hospital!

Dr. Gibson's suggestion was unanimously approved.

Clinical Cases.

Dr. R. H. SANKEY showed several *x*-ray photographs of gall bladders after the oral administration of tetraiodophenolphthalein.

Dr. A. G. GIBSON reported a case of an agricultural labourer, aged 17, who had a severe chlorotic anaemia, no other physical signs of disease being detected. The eggs of *Trichocephalus dispar* were found in the faeces, which were free from occult blood, and this parasite was believed to be the cause of the anaemia.

Dr. R. G. ANDERSON reported a case of pyopneumothorax in a man aged 36, following the rupture of a hydatid cyst into the pleura.

Mr. E. C. BEVERS showed a cutaneous horn, which had been removed from the right hand of a man, aged 67, who was by trade a joiner. This horn was nearly four inches long and was growing from the back of the right hand between the first and second metacarpals. It had been present for four years and had originated in a wart. The base of the horn was hard and suggested commencing epithelioma. After removal of the horn the raw surface was treated successfully by immediate pressure grafting, the wound healing in ten days. Commencing epithelioma was found subsequently at the base of the horn. Mr. Bevers also showed a woman, aged 47, with a tumour of the horizontal and ascending rami of the lower jaw on the right side. The tumour had been growing for a year and had produced considerable expansion of the jaw; in one spot there was eggshell crackling. An *x*-ray photograph showed much thinning of the jaw, except at its lower posterior margin. The tumour was removed and proved to be an endothelioma of the parotid type.

Mr. HUGH WHITELOCKE showed a specimen of calculus formation round a piece of catheter left in a patient's bladder after prostatectomy. He also showed a specimen representing seven-eighths of a thyroid gland, which had been removed from a young man, aged 20, who had suffered from Graves's disease for six months, and whose metabolic rate had improved markedly after the operation.

Referring to the paper of Mr. H. S. Souttar (BRITISH MEDICAL JOURNAL, March 19th, p. 501), Mr. Whitelocke read notes of a patient, aged 55, from whom he had excised a chronic ulcer of the lesser curvature of the stomach. He also reported the case of a patient, aged 57, who had suffered from sciatica in the right side for nine months. An *x*-ray examination showed marked irregularity and thickening of the ischium on the right side, and lipping of the lumbar vertebrae.

Shropshire and Mid-Wales Branch.

A MEETING of the Shropshire and Mid-Wales Branch was held at the Royal Salop Infirmary on March 22nd, when Professor LOUISE MCILROY of the Royal Free Hospital, London, delivered a paper on "Pregnancy complicating tumours of the uterus and adnexa." There was a very good attendance, and the chairman, Dr. HOLLIES, pointed out that this was the first occasion that the branch had been privileged to listen to a lady lecturer. Dr. MCILROY first dealt with fibroids, illustrating the great difficulty which sometimes arose in diagnosing pregnancy in association with them. She pleaded for conservancy in these cases, and strongly deprecated hysterectomy. Subserous fibroids could often be enucleated, and the pregnancy proceed normally. After dealing with ovarian cysts, the lecturer touched on her routine treatment of puerperal septicaemia, and described the process of injecting glycerin into the uterus through a short catheter, this being kept in position by a catgut suture through the cervix. She was indebted to Dr Remington Hobbs for first bringing this to her notice.

Professor McIlroy was cordially thanked for her very interesting paper, and the hope was generally expressed that she would return at no distant date to enlighten the members on some other subject in gynaecology.

Prior to the paper the Medical Secretary's circular on the Dogs' Protection Bill was discussed, and the following resolution was *carried unanimously*:

> That this meeting of medical practitioners, representative of the Shropshire and Mid-Wales Branch of the British Medical Association, records its entire approval of the principle of experiments on animals, believing, as it does, that the relief of suffering is thereby advanced. It is convinced that for certain types of experiment the dog is much more [illegible] animal. It deplores the efforts of the [illegible] Dogs' Protection Bill to restrict the pr[illegible] it further emphatically protests again[illegible]ral principles and humanity of those [illegible]ged in such research.

The secretary was instructed to draft a letter embodying the above resolution, to be sent to each of the six members of Parliament representing the area covered by the Branch.

Southern Branch: Portsmouth Division.

AT the meeting of the Portsmouth Division held at the Queen's Hotel, Southsea, on April 7th, when Dr. MEARNS FRASER was in the chair, there was an attendance of eighty-nine, of whom fifty sat down to the supper which as usual preceded the meeting at 9 o'clock.

At the conclusion of the business an address was delivered by Dr. HUGH MACLEAN, St. Thomas's Hospital, London, on "The medical treatment of gastric diseases." After giving a general survey of our knowledge of gastric function and its bearing on gastric diseases, Dr. Maclean devoted the principal part of his remarks to a description of the method of the treatment of gastric ulcer by means of large doses of alkali—a method which in practice he had found so successful that he thought it was only a matter of a short time before it was largely adopted in place of surgical operation. In discussing the etiology of cancer and gastric ulcer he stated that in his experience it was very rare for gastric ulcer to develop into cancer.

Dr. Maclean's address was most instructive and full of points of practical interest to the general practitioner. It was followed by a good discussion which was taken part in, amongst others, by Drs. BLACKMAN, LISTER WRIGHT, BOSWORTH WRIGHT, HILLMAN, JEANS, LUMB, MCASKIE, DEWEY, and LYTLE. A cordial vote of thanks to Dr. Maclean, proposed by Dr. JEANS and seconded by Dr. H. D. BROOK, brought a most successful meeting to a close.

Yorkshire Branch: Wakefield, Pontefract, and Castleford Division.

A LECTURE meeting of the Wakefield, Pontefract, and Castleford Division was held at the Great Bull Restaurant, Wakefield, on March 10th, when Dr. GIBSON was in the chair, and thirty-six members were present.

Dr. G. W. WATSON, physician to the Leeds General Infirmary, gave an extremely interesting address on the "Diagnosis of early

phthisis." He laid stress on the importance of an accurate history, fatigue at the end of the day, haemoptysis in the absence of heart disease, and anal fistula.

Dr. G. E. COOPER expressed the opinion that radiology was of very little assistance in the diagnosis of early apical infection. Quite considerable infection and fibrosis of the bronchi had been frequently found in the absence of any discoverable physical signs. He considered that screen examinations were frequently of more use than the film.

Dr. JOHNSTON, chief tuberculosis medical officer for the West Riding, considered that it was almost impossible to make a diagnosis of early phthisis at one consultation, however careful the examination, and he recommended "observation beds" for suspects at sanatoriums.

Dr. HILLMAN considered that there would be less early phthisis to diagnose if provision were made for the segregation of cases of advanced tuberculosis. Drs. GIBSON and STEVEN also took part in the discussion.

FIFE BRANCH.

Medical Charities.

THE Charities Committee of the Fife Branch, which was formed last year, sent a circular to all members at that time putting before them the present deplorable position of medical charities and appealing for subscriptions. The result did not come up to the committee's expectations and a further appeal has now been circulated.

Having enumerated the general medical charities now in existence, and emphasized the point that the policy of the British Medical Association is to devote any sums it may collect to the support of these funds and not in any way to act as a rival to them, the circular states that the Fife Branch is very anxious to prove that its members are not behind those of any other area in regard to their duties to the charities, and urges every local practitioner to subscribe some amount, however small, to so good an object. The Branch aims at getting a subscription from every medical practitioner in the area; but in order that those who are already subscribing to one or more of the charities should not be troubled further, it is essential that the Charities Committee should know who are subscribing, to what charities and through what channel. This information will be registered, and the committee will then be able to devote its attention to those who do not subscribe. It is the aim of the Association to raise an annual income of at least £20,000; to achieve this end it is essential that every member of the profession should subscribe as much as he possibly can. With the circular is enclosed a form which it is hoped every member of the Branch will fill up and return at an early date to the honorary secretary of the Charities Committee, Dr. C. E. Douglas.

SCHOLARSHIPS AND GRANTS IN AID OF SCIENTIFIC RESEARCH.

SCHOLARSHIPS.

THE Council of the British Medical Association is prepared to receive applications for Research Scholarships, as follows:

A Scholarship, known as the ERNEST HART MEMORIAL SCHOLARSHIP, of the annual value of not more than £200, and three other RESEARCH SCHOLARSHIPS, each of the annual value of not more than £150, for research in any subject (including State Medicine) relating to the Causation, Prevention, or Treatment of Disease.

Each Scholarship is tenable for one year, commencing on October 1st, 1927. A Scholar may be reappointed for not more than two additional terms. *A Scholar may hold a junior appointment at a University, Medical School, or Hospital* provided the duties of such appointment do not interfere with his work as a Scholar.

The conditions of the award of Scholarships are stated in the Regulations, a copy of which will be supplied on application to the Medical Secretary of the Association, British Medical Association House, Tavistock Square, London, W.C.1.

GRANTS.

The Council of the British Medical Association is also prepared to receive applications for Grants for the assistance of research into the Causation, Treatment, or Prevention of Disease. Preference will be given, other things being equal, to members of the medical profession and to applicants who propose as subjects of investigation problems directly related to practical medicine.

The conditions of the award of Grants are stated in the Regulations, a copy of which will be supplied on application to the Medical Secretary of the Association, British Medical Association House, Tavistock Square, London, W.C.1.

Applications.

Applications for Scholarships and Grants for the year 1927–28 *must be made not later than Saturday, June 4th, 1927*, on the prescribed form, a copy of which will be supplied by the Medical Secretary on application. Applicants are required to furnish the names of three referees who are competent to speak as to their capacity for the research contemplated to whom reference may be made.

March 5th, 1927. ALFRED COX, *Medical Secretary.*

National Insurance.

LOCAL MEDICAL AND PANEL COMMITTEES.

WARWICKSHIRE.

A MEETING of the Warwickshire Panel and Local Medical Committee was held at Coventry on March 24th, Dr. HERBERT MALINS presiding.

Extended consideration was given to the proposals outlined in the Insurance Acts Committee's Circular M. 25 bearing upon medical certification. The committee agreed to recommend the Insurance Acts Committee to endeavour to maintain the present unfettered free choice of doctor as desirable in principle. The committee considered, however, that such free choice may entail extra certification owing to the new doctor's lack of acquaintance with the clinical history of patients transferring during or shortly after a period of certification by the old doctor. To check hasty transfer it was recommended that, apart from mutual consent of the doctors concerned, an insured patient should be required to give the Insurance Committee at least two weeks' notice of his desire to transfer. The committee also expressed the view that approved societies should refer to the regional medical officer all doubtful cases where an insured member is signed on the funds having recently been declared off by another doctor.

The difficulty of obtaining volunteers for the keeping of statistics required by the Insurance Acts Committee was considered. It was resolved to suggest to the Medical Secretary that specimen sets of the necessary forms should be made available for circulation to all local doctors by the honorary secretary with an explanatory memorandum.

The question of the use of radium in the hands of general practitioners having recently emerged and the Radium Institute having been consulted, it was resolved to inform the Insurance Committee that the Local Medical Committee was of opinion that treatment by radium is of a highly technical character requiring considerable clinical skill and experience for the estimation of dosage and exposure; and that such treatment was thought to be outside the scope of medical benefit. Upon a similar question involving the use of a particularly expensive proprietary preparation the committee resolved to notify the Insurance Committee "that it is not open to the Panel Committee under the regulations to prohibit the use by an insurance practitioner at the cost of the Drug Fund of any preparation, whether proprietary or otherwise, coming under the category of drug or medicine; but the Panel Committee deprecates the use of expensive glandular products and of endocrine treatment generally except as the result of the practitioner's individual experience and conclusions based upon his own study of the needs of his patient."

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

Surgeon Commanders A. E. Malone to the *Pembroke* for R.N. Barracks, Chatham, for duty with S.R.A., Chatham Hospital, as Naval Health Officer, Nore Command; S. Bradbury to the *Dunedin*; S. F. Dudley to the *Pembroke*, additional, for R.N. Hospital, Chatham, and as specialist in bacteriology; T. C. Patterson to the *Frobisher* as Squadron Medical Officer.

Surgeon Lieutenants (short service) J. S. Harper, W. C. Sloan, A. S. Nicol, and H. M. Martin have transferred to the permanent list.

Messrs. J. D. Sayers, T. L. J. Barry, L. P. Sayers, and E. W. Bingham have entered as *Surgeon Lieutenants for short service, and have been* appointed to R.N. Hospital, Haslar, for course of instruction.

ROYAL ARMY MEDICAL CORPS.

Captain R. L. Ritchie, O.B.E., to be Major (prov.).

The following Captains to be *temporary Captains* and temporarily relinquish the rank of Captain: J. A. Quin and E. A. Tozer.

ROYAL AIR FORCE MEDICAL SERVICE.

Squadron Leaders P. M. Keene to R.A.F. Depot, Uxbridge; R. H. Knowles to Palestine General Hospital.

Flight Lieutenants T. J. X. Canton to R.A.F. Base, Calshot; J. Parry-Evans to Headquarters, Egypt; L. C. Palmer-Jones to No. 208 Squadron, Egypt; D. B. Smith to Station Commandant, Basrah.

Flight Lieutenant J. G. Skeet relinquishes his temporary commission on completion of service.

Flying Officers R. Thorpe and E. J. T. McWeeney to R.A.F. Depot, Uxbridge; P. D. Barling to No. 8 Squadron, Aden; J. McM. Wilder to R.A.F. British Hospital, Iraq; A. L. St.A. McClosky to Home Aircraft Depot, Henlow.

INDIAN MEDICAL SERVICE.

The services of the following officers are placed at the disposal of the Government indicated:—*Bihar and Orissa:* Majors L. S. Modi and O. R. Unger (perma in the Jail Department; Major R. R. M. Porte *Bombay:* Major R. V. Martin (permanently) for Department.

Lieut.-Colonel G. Hutcheson is appointed to officate as Inspector-General of Civil Hospitals and Prisons, Assam.

Captains to be Majors: A. Y. Dabholkar, M.C., R. N. Khosla, R. N. Kapadia, M.C., S. A. McSwiney, and H. S. Rajan.

To be Lieutenant: Dr. Kulwant Rai.

REGULAR ARMY RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

Major J. W. G. H. Riddel, M.C., resigns his commission and retains the rank of Major.

TERRITORIAL ARMY.

ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel D. Shannon, T.D., resigns his commission and retains his rank with permission to wear the prescribed uniform.

Second Lieutenant R. McI. Gordon, D.F.C., late R.A.F., to be Lieutenant.

VACANCIES.

ASHINGTON HOSPITAL.—Junior House-Surgeon. Salary at the rate of £100 per annum.

AYLESFORD: BRITISH LEGION VILLAGE, HOSPITAL, SANATORIUM AND SETTLEMENT FOR TUBERCULOUS EX-SERVICE MEN, Preston Hall.—Junior Physician. Salary £100 per annum.

BETHLEM HOSPITAL, Lambeth Road, S.E.1.—Two House-Physicians (males, unmarried). Honorarium £25 per quarter.

BILSTON URBAN DISTRICT.—Medical Officer of Health. Salary £800 per annum.

BIRKENHEAD GENERAL HOSPITAL.—Two House-Surgeons (male). Salary £200 and £150 per annum respectively.

BIRMINGHAM: GENERAL HOSPITAL.—Biochemist. Salary £500 per annum.

BLACKBURN AND EAST LANCASHIRE ROYAL INFIRMARY.—Third House-Surgeon (male). Salary £150 per annum.

BRADFORD CITY.—Assistant Dentist. Salary £450 per annum, *plus* bonus, at present £28 12s. a year.

BRADFORD ROYAL INFIRMARY.—(1) House-Surgeon. (2) House-Physician. Males (unmarried). Salary £150 per annum each.

BRIGHTON AND HOVE PROVIDENT DENTAL HOSPITAL.—Anæsthetist.

BRITISH GUIANA.—Surgeon Specialist. Salary £1,200 per annum.

BRITISH RED CROSS AND ORDER OF ST. JOHN.—Assistant Medical Officer (*male*) at the East Lancashire Tuberculosis Colony, Great Barrow. Salary £250 per annum.

BURSLEM: HAYWOOD HOSPITAL.—Resident Medical Officer. Salary £175 per annum.

CHARING CROSS HOSPITAL INSTITUTE OF PATHOLOGY.—Assistant Pathologist. *Salary at the rate of £500 per annum, rising to £680 after six months.*

CHESTER ROYAL INFIRMARY.—Honorary Surgeon in charge of the Ear, Nose, and Throat Department.

COVENTRY AND WARWICKSHIRE HOSPITAL.—(1) Member of Honorary Surgical Staff. (2) *Honorary Assistant Physician.*

EAST LONDON HOSPITAL FOR CHILDREN, Shadwell, E.1.—(1) House-Physician. (2) House-Surgeon. (3) *Whole-time Casualty Officer.* Salary at the rate of £125 per annum.

EAST LONDON MUNICIPALITY, South Africa.—Medical Officer of Health. Salary £800 per annum, rising to £1,000.

ESSEX COUNTY COUNCIL.—Obstetric Specialist. Fee £5 5s. for each consultation.

EXETER: ROYAL DEVON AND EXETER HOSPITAL.—Resident Casualty Officer (male). Salary at the rate of £100 per annum

GLOUCESTERSHIRE JOINT COMMITTEE FOR TUBERCULOSIS.—*Assistant* Medical Officer at the Standish House Sanatorium. Salary £250 per annum.

GLOUCESTERSHIRE ROYAL INFIRMARY AND EYE INSTITUTION.—Assistant House-Surgeon (male). Salary £120 per annum.

GRAVESEND AND NORTH KENT HOSPITAL.—Junior House-Surgeon. Salary at the rate of £150 per annum.

LANCASTER BOROUGH.—Assistant Medical Officer of Health and Assistant School Medical Officer. Salary £500 per annum, rising to £600 on completion of one year's approved service.

LEEDS CITY.—Assistant Medical Officer of Health. *Salary £900 per annum.*

LEIGH INFIRMARY, Lancashire.—Resident House-Surgeon (male, unmarried). Salary £150 per annum.

MANCHESTER CITY.—Assistant Tuberculosis Officer (male). Salary £600 per annum.

MANCHESTER ROYAL INFIRMARY (CENTRAL BRANCH).—(1) Anæsthetist; salary at the rate of £100 per annum. (2) Junior House-Surgeon (lady); salary for eight months at the rate of £100 per annum, increasing to £200 per annum for four months as Senior.

MARSEILLES: QUEEN ALEXANDRA MEMORIAL HOSPITAL.—Resident House-Surgeon.

MIDDLESEX COUNTY COUNCIL.—Assistant Dental Officer. Salary at the rate of £500 per annum, rising to £700.

MILLER GENERAL HOSPITAL, Greenwich Road, S.E.10.—(1) Out-patient Officer (male, unmarried); salary £150 per annum. (2) Assistant Orthopædic Surgeon.

MONTGOMERY COUNTY COUNCIL.—County Medical Officer and School Medical Officer. Salary £600 per annum.

NEWCASTLE-ON-TYNE: ROYAL VICTORIA INFIRMARY.—Honorary *Surgeon.*

PRESTWICH: COUNTY MENTAL HOSPITAL.—Assistant Medical Officer. Salary £350 per annum, rising to £450.

ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN, S.E.1.—(1) House-Surgeon. (2) Non-resident Casualty Officer. (Males.) Salary £100 and £150 per annum respectively.

ST. LEONARDS-ON-SEA: BUCHANAN HOSPITAL.—(1) Out-patient Physician for Diseases of the Chest. (2) Out-patient Physician for Diseases of the Nervous System.

SALFORD UNION INFIRMARY.—Radiologist. Salary at the rate of £150 per annum.

STOCKTON AND THORNABY HOSPITAL.—Junior Resident Medical Officer (male, unmarried). Salary £150 per annum.

STOKE-ON-TRENT EDUCATION COMMITTEE.—Assistant School Medical Officer. Salary £500 per annum, rising to £600.

WAKEFIELD: CLAYTON HOSPITAL.—House-Surgeon. Salary £150 per annum, rising to £175 after six months' service.

WALSALL GENERAL HOSPITAL.—Senior and Junior House-Surgeons. Salary £200 and £125 per annum respectively.

WEST LONDON HOSPITAL, Hammersmith Road, W.6.—(1) Assistant Physician. (2) Honorary Medical Radiologist (Diagnosis).

WHITTINGHAM: COUNTY MENTAL HOSPITAL.—Sixth Assistant Medical Officer. Salary £350 per annum, rising to £450.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.

APPOINTMENTS.

DAVIE, T. M., *M.C.*, M.D., Medical Superintendent, East Riding Mental Hospital, Beverley, Yorkshire.

HESLOP, A. H., D.S.O., O.B.E., M.B., B.S.Durh., F.R.C.S.Eng., Surgeon to the Royal Isle of Wight County Hospital, Ryde.

HOLMES, Evelyn M., M.B., Ch.B., Medical Officer in charge of After-care and House-Surgeon, Shropshire Orthopædic Hospital, Oswestry.

MACKINTOSH, R. D., M.B., Assistant School Medical Officer at Hull.

MORRIS, Miss Eileen, M.B., B.S.Lond., House-Surgeon to the New Sussex Hospital for Women and Children, Brighton.

PATERSON, Arthur T., M.D.Edin., F.R.C.S.Edin., D.P.H.Birm., Honorary Ophthalmic Surgeon to the Eye Infirmary, Newcastle-on-Tyne.

STRATFORD, Howard M., F.R.C.S.Edin., Consulting Surgeon to the Westminster General Dispensary.

WESTMINSTER HOSPITAL.—*House-Physicians:* B. A. Smith, M.R.C.S., L.R.C.P., and D. P. Holmes, M.B., B.S. *House-Surgeon:* R. A. Haythornthwaite, M.B., B.Ch. *Resident Obstetric Assistant:* P. P. Slater, M.R.C.S., L.R.C.P.

POST-GRADUATE COURSES AND LECTURES.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, *Tottenham*, N.15.—Wed., 2.30 to 5 p.m., Medical, Skin, and Eye Clinics, Operations. Thurs., 11.30 a.m., Dental Clinic; 2.30 to 5 p.m., Medical, Surgical, and Ear, Nose, and Throat Clinics, Operations. Fri., 10.30 a.m., Throat, Nose, and Ear Clinics; 2.30 to 5 p.m., Surgical, Medical, and Children's Diseases Clinics, Operations.

GLASGOW POST-GRADUATE MEDICAL ASSOCIATION.—At Victoria Infirmary: Wed., 4.15 p.m., Surgical Cases.

British Medical Association.

OFFICES, BRITISH MEDICAL ASSOCIATION HOUSE, TAVISTOCK SQUARE, W.C.1.

Departments.

SUBSCRIPTIONS AND ADVERTISEMENTS (Financial Secretary and Business Manag Westcent, London).
MEDICAL *direcra Westcent, London).*
EDITOR, l (Telegrams: Attiology Westcent, London).
Telephone numbers of British Medical Association and British Medical Journal, Museum 9861, 9862, 9863, and 9864 (internal exchange, four lines)

SCOTTISH MEDICAL SECRETARY: 6, Drumsheugh Gardens, Edinburgh. (Telegrams: Associate, Edinburgh. Tel: 4361 Central.)

IRISH MEDICAL SECRETARY: 15, South Frederick Street, Dublin. (Telegrams: Bacillus, Dublin. Tel.: 4737 Dublin.)

Diary of the Association.

APRIL.

19 Tues. Harrow Division: Gayton Rooms, 8.30 p.m.
North Wales Branch: Spring Meeting at Pwllheli.
20 Wed. Blyth Division: Knight Memorial Hospital. Mr. Arkle on Eye Conditions of Interest to Colliery Practitioners, 8.15 p.m.
Sunderland Division: Royal Infirmary, Sunderland. Dr. E. Farquhar Murray on Some Modern Aspects of Midwifery and Gynæcology, 8.15 p.m.
Worcestershire and Herefordshire Branch: Hospital, Hereford, 3.15 p.m. Dinner, Booth Hall, 6.30.
21 Thurs. London: Insurance Acts Committee, 12 noon.
Aberdeen Division: Marischal College. B.M.A. Lecture by Professor John Fraser on Treatment of Burns in Children, 3.30 p.m.
Brighton Division: Lady Chichester Hospital, 3.45 p.m.
Dumfries and Galloway Division: Royal Infirmary, Dumfries. Dr. J. Stanley White on Gland Therapy, 3 p.m.
22 Fri. Norwich Division: Medical Library, 9 p.m.
Oxford Division: Clinical Meeting, Horton Infirmary, Banbury, 3 p.m.
23 Sat. West Suffolk Division: Angel Hotel, Bury St. Edmunds. Dinner, 8 p.m.; afterwards Discussion on Methods of Supplementary Clinical Diagnosis; to be opened by Sir Thomas Horder.
25 Mon. London: Lunacy Committee, 2.30 p.m.
26 Tues. London: Parliamentary Subcommittee, 2 p.m.
London: Central Ethical Committee, 2.30 p.m.
27 Wed. Rochdale Division: Annual Meeting, Education Offices, Ballie Street, Rochdale, 8.30 p.m.
Willesden Division: St. Andrew's Church Hall, High Road, Willesden Green, 9 p.m.
28 Thurs. Portsmouth Division: Clinical Meeting, Royal Portsmouth Hospital, 3 p.m.
29 Fri. Bishop Auckland Division: Annual Dinner, King's Café, Newgate Street, Bishop Auckland, 7.30 p.m.
Chesterfield Division Maternity Hospital, Chesterfield. Dr. L. G. Parsons on Pneumococcal Infections in Children, 8.15 p.m.

MAY.

3 Tues. London: Psycho-Analysis Committee, 3 p.m.
4 Wed. Harrogate Division: Annual Meeting, Imperial Café, Harrogate, 8.30 p.m.
5 Thurs. London: Science and Insurance Acts Committees' Joint Research Subcommittee, 2 p.m.
19 Thurs. Guildford Division: Discussion on Clean Milk.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcement of Births, Marriages, and Deaths is 9s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

BIRTHS.

LIDDELL.—On April 5th, 1927, at 260, Caledonian Road, London, N.1, to Catherine, the wife of James Liddell, M.B., Ch.B.Glas., of a son.

MACCALLAN.—On April 9th, 1927, at 33, Welbeck Street, London, W., the wife of A. F. MacCallan, C.B.E., M.D., F.R.C.S., of a son.

MCGRIGOR.—At Livingstone, Northern Rhodesia, on April 8th, 1927, to Dr. John A. and Mrs. McGrigor (Mary W. T. Turner), a daughter.

MARRIAGES.

DAVIDSON—CAMERON.—At St. Giles's Cathedral, Edinburgh, on April 9th, by the Rev. Duncan Macrae and the Rev. J. E. M'Intosh, Dumfries, James Davidson, M.B., Ch.B., only son of Mr. and Mrs. Davidson, Summerville, Dumfries, to Constance Ellen, second daughter of Mr. and Mrs. Cameron, 21, Grosvenor Street, Edinburgh.

RODGERS—M'ILVEEN.—March 31st, 1927, at Dunc[illegible] by the Rev. J. S. Wilson, B.A., B.D., and [illegible] B.A., Samuel Rodgers, M.B., of Ashley H[illegible] Belfast, only son of Mr. and Mrs. Gordon Rod[illegible] Avenue, to Ethel May M'Ilveen, B.A., second [illegible] J. H. M'Ilveen, Irene, Parkmount Road, Belfast.

DEATHS.

BUTLER.—At Old Church Hospital, Romford, on April 5th, Patrick Butler, L.R.C.P. and S.I., aged 75. *Rich* in good works. "The world that time and sense has known Falls off and leaves us God alone." Interred at Becontree. Rest in peace.

HICKEY.—At King's College Hospital, on April 8th, the result of an accident, Lewis Hickey, M.D., of West Norwood, late of Stourbridge, aged 63.

LUKE.—At Woodcliffe, Inverness, on March 24th, James Luke, M.B., C.M.Edin., Senior Surgeon, Northern Infirmary, Inverness.

Printed and published by the British Medical Association, at their Office, Tavistock Square, in the Parish of St Pancras, in the County of London.

SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, APRIL 23RD, 1927.

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SPECIAL NOTICE TO MEMBERS.

Every Member is requested to preserve this "Supplement," which contains matters specially referred to Divisions, until the subjects have been discussed by the Division to which he or she belongs. The Financial Statement will appear next week.

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Preliminary.

ANNUAL MEETING, NOTTINGHAM, 1926.

1. The Council has expressed to the President, Mr. R. G. Hogarth, the Honorary Local Secretary, Mr. A. M. Webber, their medical colleagues and the many lay persons and authorities (especially the Corporations of Nottingham and Buxton, and Messrs. Boots, Ltd.), the thanks of the Association for their efforts in making the 1926 Annual Meeting of the Association so successful.

ANNUAL MEETING, EDINBURGH, 1927.

2. The Annual Meeting, 1927, commences at Edinburgh, on Friday, July 15th, under the Presidency of Sir Robert Philip, M.D., F.R.C.P.E., LL.D.

HONOURS.

3. The Council has pleasure in announcing that during the present Session honours have been conferred upon the following members, to whom the congratulations of the Association have been sent:—

Knighthood.

Henry Head, F.R.S., F.R.C.P.
Thomas Houston, O.B.E.

OBITUARY.

4. The Association has to deplore the loss of the following Members:—

Name.	Offices held in the Association.
Prof. John George Adami	Honorary Local Secretary, Montreal Meeting, 1897; President, 1905, and a Vice-President, 1902, of Section of Pathology and Bacteriology, and a Vice-President, 1897, of Section of Pathology.
Dr. Thomas Ridley Bailey	Member of Central Council, and of the Medico Political, Public Health, Insurance Acts and Welsh Committees; at one time President of the Staffordshire Branch, for many years a Member of the Branch Council, and a former Chairman of the South Staffordshire Division.
Dr. Frank Hugh Barendt	Member of the Lancashire and Cheshire Branch Council; Honorary Local Secretary, Liverpool Meeting, 1912; Vice-President of Section of Dermatology, 1913.

Dr. Lawrence Barnett ...	Former Secretary of the Hampstead Division; at one time Member of the Metropolitan Counties Branch Council.
Dr. Thomas Ashby Barron ...	Former Member of the Midland Branch Council.
Dr. George Lindsay Bonnar ...	Former Member of the Natal Coastal Branch Council.
Dr. Thomas Robert Bradshaw	Former Member of the Central Council, and of the old Parliamentary Bills Committee; at one time Secretary of the Lancashire and Cheshire Branch, and Representative of the Liverpool Division; Vice-President of Section of Medicine, 1912.
Dr. Cyril Prichard Burd ...	Former Member of Worcester and Hereford Branch Council.
Dr. George Bosomworth Buttery	Former Chairman of the West Bromwich Division.
Prof. Francis Mitchell Caird	Secretary of Section of Surgery, 1898.
Dr. Thomas Marshall Callender	Former Member of the Executive Committee of the Bromley Division.
Dr. Joseph Cantley	Representative of the Salford Division; a former Chairman of that Division.
Lt.-Col. Robert Alexander Chambers, I.M.S.	Former Honorary Secretary and Treasurer of the Baluchistan Branch.
Dr. Robert Henry Cole ...	Secretary of Section of Psychology, 1903, and Vice-President of Section of Psychological Medicine, 1909.
Sir Henry Craik, M.P. ...	Honorary Member, elected 1921.
Dr. Wm. Youngson Davidson	Member of the Executive Committee of the Birmingham Central Division.
Dr. Howell Davies	Former President of the Pretoria Branch, and President-Elect South African Medical Congress.
Dr. Charles Chatterton Deane	Member of the Executive Committee, Portadown Division.
Dr. Henry Bertram Dismorr	Former Secretary of the Swindon Division.
Sir Harry Edward Dixey ...	Former Member of the old Parliamentary Bills Committee; former President of the Worcester and Hereford Branch, and Representative of the Worcester Division.
Mr. Douglas Douglas-Crawford	Vice-President of Section of Anatomy, 1912.
Dr. Herbert Edmondson ...	Former Chairman of the Burnley Division.
Dr. James Erlank	Honorary Medical Secretary of the South African Committee.
Dr. David Ewart	Member of the Central Council and of the Finance and Dominions Committees. Former President of the Sussex Branch, and Chairman of the Chichester and Worthing Division.
Dr. Wm. Hardy Fleetwood	Member of the Executive Committee of the South Suffolk Division.
Dr. Robert Forsyth	Former Chairman of the Blyth Division.
Dr. Wm. Edward Fothergill	Secretary of Section of Obstetrics, 1912.
Dr. Archie Reith Fraser ...	Secretary of the Cape Western Branch.
Dr. Walter Ernest Fry ...	Member of the Metropolitan Counties Branch Council. A former Secretary and Chairman of the Kensington Division.
Dr. Samuel Goss	Vice-President of Section of Pharmacology and Therapeutics, 1899.
Dr. Wm. Vaughan Griffith	Former Vice-Chairman of the Denbigh and Flint Division.
Dr. Wilshaw Wm. Grosvenor	Local Secretary, Cheltenham Meeting, 1901. At one time President of the Gloucestershire Branch and Branch Secretary.
Dr. John Francis Hall-Edwards	Honorary Member, elected 1926.
Dr. John Hedley	Former President of the North of England Branch.
Dr. Ernest Henry Houfton	Former Representative of the Nottingham Division of the Midland Branch and a Member of Branch Council.
Dr. Edward Henry Hugo ...	Former Secretary of the East Cornwall Division.
Dr. Gilbert Petgrave Johnson	Former Member of the Contract Practice Sub-Committee of the Medico-Political Committee and of the *Joint* Committee on Minimum Salaries for Public Appointments.
Dr. George Wm. Lilley ...	Former Chairman of the East York Division.
Dr. David Lloyd	Former President of the North Wales Branch and Chairman of the Denbigh and Flint Division.
Dr. Robert Harry Lucas ...	Former Representative and Chairman of the West Suffolk Division.
Dr. John Doig McCrindle ...	Member of the South Midland Branch Council.
Dr. Charles George Maclagan	Former President of the North of England Branch.
Dr. Neil Maclay	Vice-President of Section of [illegible] and
Dr. John Munro Moir ...	M[illegible] Committee, former Member of the Central Council, and of the Journal, Medico-Political and Organisation Committees; at one time President of the Northern Counties of Scotland Branch, and Chairman and Representative of the Inverness Division. Vice-President of Section of Medical Sociology, 1914.
Sir Frederick Walker Mott	Secretary of Section of Pathology and Bacteriology, 1893, Vice-President, 1898, and President, 1903, of Section of Pathology; President of Section of Neurology and Psychological Medicine, 1914. Stewart Prizeman, 1903.
Dr. Charles Drummond Muspratt	Former President of the Dorset and West Hants Branch.
Dr. Patrick John Smith Nicoll	Former Secretary of the Stratford Division.
Dr. Wm. Oliver	Representative and a former Chairman of the Oldham Division.
Mr. Stephen Paget	Vice-President of Section of Laryngology, 1910.
Dr. Charles Henry Watts Parkinson	Member of Central Council, 1888-1908, Chairman of Public Health Committee and member of many Committees, and former Secretary of Dorset and West Hants Branch.
Dr. Robert Parry	Member of the North Wales Branch Council and former President of the Branch.
Dr. George Edwin Pearcey	Former Member of the Executive Committee of the Sunderland Division.
Dr. Thomas Perrin ...	...Secretary of the Buckinghamshire Division.
Dr. Frederick Philip ...	Secretary of Section of Electro-Therapeutics and Radiology, 1914.
Dr. Joseph Pollard	Member of Metropolitan Counties Branch Council.
Dr. Lionel Litchfield Preston	Former Representative of the Isle of Wight Division.
Dr. John Stuart Rose ...	Former Vice-President of the Malaya Branch.

Dr. John Russell	Former Chairman and Representative of the North Staffordshire Division of the Staffordshire Branch.
Dr. Francis Shillington Scales	Secretary of Section of Electro-Therapeutics, 1920, and Vice-President of the Section of Radiology at the forthcoming Edinburgh meeting.
Dr. Wm. Robert Sergeant ...	Former Member of the Executive Committee of the Gateshead Division.
Dr. Wm. Robert Sewell ...	Former Chairman of the Dumbartonshire Division.
Dr. Gideon Silverthorn ...	Secretary of Section of Pathology and Bacteriology, 1906.
Dr. Wm. Francis Somerville	Vice-President of Section of Radiology and Medical Electricity, 1910.
Dr. Wm. Corbet Watson Stain	Former Chairman of the Crewe Division.
Dr. Frederic Osmund Stedman	Member of the Central Council and of the Dominions Committee; former President and Representative of the Hong Kong Branch
Prof. Robert Hunter Steen	Former Chairman of the Dartford Division; Secretary of Section of Psychological Medicine and Neurology, 1910.
Dr. Thomas Strangeways Pigg Strangeways	Vice-President of Section of Pathology, 1912, and of Section of Pathology and Bacteriology, 1920.
Dr. John Thomson	Secretary, 1898, Vice-President, 1900, and President, 1914, of Section of Diseases of Children.
Dr. Richard Crawford Twigg	Member of Executive Committee of the Wandsworth Division.
Dr. John Caldwell Uhthoff	Representative of the Bournemouth Division; former Member of the Sussex Branch Council and at one time Chairman of the Brighton Division. Secretary of Section of Pathology and Bacteriology, 1886, and Vice-President of Section of Pharmacology, Therapeutics and Dietetics, 1913.
Mr. Charles Edward Wallis	Member of the Journal Committee; former Secretary, Chairman, and Representative of the Marylebone Division. Vice-President of Section of Odontology, 1911.
Dr. Arnold Hirst Watkins	Former President, and Representative of the Griqualand West Branch.

Dr. Charles Thomas Abbott, Dr. Eustace Henry Adams, Dr. Joseph Ebenezer Adams, Dr. John Theodore Anderson, Dr. Frank Carl Frederic Andrew, Dr. Robert Richmond Archibald, Dr. Frank Greasley Armson, Dr. Francis Sorell Arnold, Dr. Henry Hepburn Averay-Jones, Lt.-Col. Dharmadas Basu, I.M.S., Ret., Dr. Wm. Bruce Bell, Dr. Wm. Arthur Bernhard-Smith, Dr. Moore Montgomery Betty, Dr. Robert Leighton Blenkhorn, Sir Kailas Chandra Bose, Dr. Reginald Francis Bower, Dr. James Charles Bradshaw, Lt.-Col. Henry Arthur Bransbury, D.S.O., R.A.M.C., Dr. Alexander Tratman Bremner, Dr. Charles Brooks, Dr. Wm. Arthur Handcock Burkitt, Dr. Flora Butcher, Dr. Alexander Butler, Dr. John Bygott, Dr. Walter Francis Raphael Castle, D.S.C., Dr. George Joseph Chipperfield, Dr. Robert Henry Clarke, Dr. Wm. Robert Addison Coates, Dr. Ivy Collier, Dr. Digby Francis Baynes Cotes, Dr. Patrick G. Cotter, Dr. Herbert David Crook, Dr. Geoffrey Cross, Dr. John Thomas Crowley, Dr. Cecil John Davenport, Dr. Robert Charles De Lacey, Dr. Hubert Templer Depree, Dr. Joseph English, Dr. Gwilym Idwal Evans, Dr. Harold Maund Evans, Dr. Philip Francis Evans, Dr. Wm. Godfrey Evans, Dr. Richard Fegan, Dr. Robert Wm. Felkin, Dr. Patrick Joseph Finegan, Major Arthur Ormsby Fitzgerald, R.A.M.C., Ret., Dr. John Flynn, Dr. Gladys Maude Fraser, Lt.-Col. Wm. James Fraser, I.M.S., Dr. John Jones Gasperini, Flight Lt. Sydney George Gilmore, R.A.F.M.S., Dr. James Glover, Dr. James Wilford Good, Dr. John Hubert Griffin, Dr. Helena Adelaide Hall, Dr. Edmund Walter St. Clair Hannah, Dr. Helen Beatrice de Rastricke Hanson, Dr. George Wm. Hardie, Dr. Andrew Harris, M.B.E., Dr. Charles Joseph Harrison, Dr. Lionel Wykeham Hayward, Dr. Ernest Morgan Hearnden, Dr. John George Hewitson, Dr. Robert John Hillier, Dr. Claude Anthony Holburn, Dr. Alfred Hewston Holmes, Dr. Charles Evan Humphreys, Dr. Wm. Harry Hunter, Dr. John Wilkinson Davis Hyde, Dr. Arthur Conyers Inman, Dr. Joe Iredale, M.B.E., Dr. Edwin Brooke Jago, Dr. Arthur George Johnson, Surgeon Lt. Colin Joiner, R.N., Dr. David Jones, Dr. John Jones, Dr. Owen Clayton Jones, Dr. Wm. Owen Jones, Dr. Robert Jope, Dr. Alexander Charter Lambert, M.C., Dr. Leo Lane, Dr. Francis Henry Langlands, Dr. Alexander Lawrence, Dr. Harry Burton Lawson, Dr. Oliver Leitch, Dr. Lionel Hugh Lewis, Dr. Nynian Yeo Lower, Dr. James Luke, Dr. Wm. Lumsden, M.C., Dr. Francis James McArdle, Dr. James Ireland McCaa, Dr. David MacEwan, Dr. George Owen Carr Mackness, Dr. Thomas Bennett Wilson MacQuaide, Dr. Melrose Mailer, Dr. Constance Muriel Marrat, Major Wm. Edward Marshall, M.C., R.A.M.C., Dr. Frank Sirett Mathwin, Dr. Joseph Leopold Meynell, Dr. Alexander Sutherland Miller, Dr. Mary Wilhelminia Mitchell, Dr. Victor Gray Molteno, Dr. Wm. Frank Morgan, Dr. Alexander Morrison, Dr. Robert Morton, Dr. Sidney Gwenffrwd Mostyn, Dr. Wm. Duke Gorges Mulloy, Dr. Samuel Clarke Noble, Dr. Dennis O'Mahony, Dr. Charles Alexander Page, Dr. John Marie Anthony Paling, Dr. Charles John Linton Palmer, Dr. Harry Palmer, Dr. Jethalal Nathalal Parikh, Dr. James Henry Parkinson, Dr. Wm. Robert Parkinson, Dr. Edwin Stephen Pasmore, Dr. Walter Paterson, Mr. Cuthbert Balfour Paul, Dr. Wm. Kerr Peden, Dr. Herbert Francis Perkins, Dr. Lionel Banks Perry, Major Ernest Cyril Phelan, D.S.O., M.C., R.A.M.C., Dr. Llewellyn Caractacus Powell Phillips, Dr. James Shaw Pickford, Dr. Wm. Arthur Pierce, Dr. Hugh Walter Pigeon, Lt.-Col. Lionel John Pisani, I.M.S., Ret., Dr. Frederic Wm. Pollard, Dr. John Pollock, Dr. Ronald George Ponton, Dr. John Fletcher Porter, Dr. Samuel Arthur Powell, Dr. Laura Williams Pugh, Dr. Edward John Joseph Quirk, M.B.E., Dr. Osborne Henry Reddall, Surg. Capt. John Charles Groscort Reed, R.N., Ret., Dr. John Reid, Dr. Augustus Cecil Renton, Dr. Arthur Rhodes, Dr. Richard Richmond, Dr. Charles Samuel Alfred Rigby, Colonel Edmund John Erskine Risk, Dr. Robert Wm. Roberts, Dr. Andrew Robertson, Capt. George Cuthbert Robinson, R.A.M.C., Dr. Cecil Beaumont Roscrow, Dr. Alexander Ross, Dr. John Merry Ross, Prof. Carmel Samut, Dr. Thomas Scanlan, Dr. Wm. Bonwill Shanasy, Dr. Wm. Shirreffs, Dr. Edward Swan Simpson, M.C., Dr. Walter Petrie Simpson, Dr. Philip Lyonel Grey Skipworth, Dr. Charles Vance Smith, Dr. Daniel Lloyd Smith, Dr. Herbert Sidney Smith, Dr. Roland Dunn Smith, Dr. Walter Richard Hugh Smith, Dr. James Hugh Sproat, Dr. Arthur Powell Square, Lt.-Col. Robert Fraser Standage, C.I.E., I.M.S., Ret., Dr. John Wm. Staniforth, Dr. Walter Stapley, Dr. Ernest George Best Starkie, Dr. John Wm. Steven, Dr. Patrick Stevenson, Dr. Robert John Stevenson, Dr. Henry Stoker, Dr. Herbert Stone, Dr. Charles Frederick Strange, Dr. Robert Charles Stuart, Dr. John Norman Macdonald Sutherland, Dr. James Swan, M.C., Dr. Mary Alfreda St. Clair Swann, Dr. Herbert Mayris Sylvester, Major Frank Stuart Tamplin, R.A.M.C., Dr. Lewis Dunbar Temple, Dr. Percy George Temple, Dr. Andrew Douglas Ramsay Thomson, Dr. John Herbert Tonking, Dr. Arthur Hewett Turner, Dr. Reginald Charles Verley, Dr. Thomas Mayne Reid Waddell, Dr. Wm. Alexander Wadsworth, Dr. Sydney Arthur Thomas Ware, Dr. James Watson, Dr. Frederick Kearsley Weaver, Dr. Wm. Henry White, Col. Wm. Westropp White, C.B., C.M.G., I.M.S., Ret., Dr. George Wight, Major Charles Louis Williams, I.M.S., Ret., Dr. Albert Emanuel Williamson, Dr. Robert Eardley Byam Wilmot, Dr. Daniel Wilson, Dr. George Wilson, Dr. Henry Clark Wilson, Dr. John Winder, Dr. Graham Shaw Arnold Smith Wynne, Dr. David Hastings Young.

ATTENDANCES.

5. The Council submits in Appendix I. a list of attendances at meetings of the Council from the Annual Representative Meeting, 1926, to April, 1927.

ANNUAL MEETING, 1928.

6. In connection with the Annual Meeting at Cardiff in 1928, the Cardiff Division has nominated Sir Ewen Maclean as President for 1928-29.

The Council recommends:—

Recommendation: That Sir Ewen Maclean, M.D., F.R.C.P., F.R.S.E., be elected President of the Association, 1928-29.

ANNUAL MEETINGS, 1929 and 1930.

7. Invitations were received for the Annual Meetings as follows:—Manchester, for 1929; Bournemouth, for 1929; and Winnipeg at an early date. The Council is of opinion that

the Association should accept the invitation of the Manchester Division (which is endorsed by the Salford Division) for 1929, and the Canadian invitation (endorsed by the Winnipeg Medical Society) for 1930. The Association last met in Manchester in 1902, and in Canada (Toronto) in 1906.

The Council recommends:—

Recommendation: That the Annual Meeting of the Association in 1929 be held in Manchester.

Recommendation: That the Annual Meeting of the Association in 1930 be held in Winnipeg, Canada.

Press Arrangements in connection with the Sections at the Annual Meeting.

8. With the exception of the Sections of Medical Sociology and Public Health, the Sections at the Annual Meeting are closed to the press and this has been the cause of dissatisfaction and misunderstanding. Representations have been made by a deputation from the Institute of Journalists to the effect that the position of press representatives is most invidious, it being left to them either to gain entrance to the Sections unfairly, or to get their information from members who have been present, which they declare it is quite easy to do. They asked that the Association should allow accredited representatives of the press to enter the Sections and use what was being said in the discussions for their own guidance, the names of the speakers not being published; and expressed the opinion that if reporters were put on their honour in this way the results would be more satisfactory to everybody concerned. The Council has decided, as an experiment, that an advance copy of the programme of the Sections shall be sent to the Institute of Journalists, the newspapers, and the press agencies, with a request that the recipients shall inform the Association within three days to which discussions, if any, they would like to send a representative, it being clearly understood that the admittance of such representative would be conditional upon the sanction of the officers of the Section concerned and upon undertaking not to report anything which the President of any Section requests them not to. Officers of Sections will be asked to inform members attending the Sections that official arrangements are made whereby the press obtains such information as it is advisable should be published, and to request those members attending not to discuss the proceedings of the Sections with representatives of the lay press.

NOMINATION OF DR. F. G. THOMSON AS A VICE-PRESIDENT.

9. The Council recommends:—

Recommendation: That F. G. Thomson, M.A., M.D., F.R.C.P., be elected a Vice-President of the Association under Article 40 and By-law 73 as a recognition of his services as President of the Association for the year 1925-26.

AUSTRALASIAN MEDICAL CONGRESS.

10. The Council has pleasure in reporting that Dr. H. Cooper Pattin, late Medical Officer of Health for Norwich and an old member of the Association, represented the Association at the Australasian Medical Congress held at Dunedin, in February, 1927, and has reported that he was treated with lavish hospitality and made welcome by everybody. He had the honour of responding at the official dinner to the toast of "The British Medical Association," proposed by the Acting Prime Minister.

CANADIAN MEDICAL ASSOCIATION.

Annual Meeting, 1926.

11. Mr. T. Ritchie Rodger, F.R.C.S., of Kingston-upon-Hull, who was the Association's official delegate to the Canadian Medical Association's Annual Meeting at Victoria, British Columbia, and who contributed thereat a paper on "The Problem of the Acute Ear" has had conveyed to him the appreciation and thanks of the Council for representing the Association on that occasion.

Annual Meeting, 1927.

12. The Council has pleasure in reporting that Sir Lenthal Cheatle (London), and Drs. A. L. Fleming (Bristol), Strickland Goodall (London), and Gilbert Scott (London), have accepted the invitation of the Canadian Medical Association to be present at its Annual Meeting at Toronto, June, 1927, and that at the request of the Council they have agreed to act as official delegates of the British Medical Association.

AMERICAN MEDICAL ASSOCIATION ANNUAL SESSION, 1927.

13. The American Medical Association, having invited the Association to send one or more delegates to its Seventy-Eighth Annual Session, to be held at Washington, May, 1927, the Council is pleased to be able to report that Dr. Helen Ingleby, now Professor of Pathology, Women's Medical College of Pennsylvania, and Dr. H. M. Cohen, of Manchester, Editor of the *British Journal of Anæsthesia*, have agreed to act as official delegates of the Association.

THE LISTER CENTENARY.

14. The Council has pleasure and pride in reporting that the Association has taken an active part in the celebration of the 100th anniversary of the birth of Lord Lister. The President of the Association acted on the Committee which organised the celebration, and the Council, in addition to subscribing £50 to the Guarantee Fund, had the pleasure of placing at the disposal of the Committee the Great Hall of the Association for a reception by the Prime Minister of the Foreign Delegates to the Celebration and of members of the Lister family, on Tuesday, April 5th. The President deposited a wreath on behalf of the Association at the Memorial Service in Westminster Abbey on April 6th. Dr. G. A. Allen, who represented the Association at the Official Religious Service in the Cathedral, Glasgow, on April 1st, also deposited a wreath thereat on behalf of the Association. Lord Lister was an honoured member of the Association for 49 years, from 1863 until his death in 1912; he was President of the Section of Surgery at the Annual Meeting in 1870 and again in 1875; and he gave the Address in Surgery at the Annual Meeting of the Association at Plymouth in 1871.

UNIVERSITY COLLEGE, LONDON, CENTENARY CELEBRATIONS.

15. The Association being invited to appoint a delegate to attend the celebration of the 100th anniversary of the University College of London on June 23rd, 1927, has appointed Sir Dawson Williams.

FLAGS FOR THE GREAT HALL IN THE B.M.A. HOUSE.

16. To the 22 areas which were reported last year as having presented a Flag for the Great Hall must now be added *Belfast, Dublin, Ipswich and Leeds. These flags form* a very distinctive feature of the decoration of the Hall and the Council hopes that the 17 niches in respect of Bath, Cheltenham, Canterbury, Cambridge, Chester, Cork, Derby, Exeter, Kingston-upon-Hull, Leamington, Northampton, Norwich, Oxford, Plymouth, Ryde, Southampton and Torquay may before long be filled.

DR. R. LANGDON-DOWN AND THE CHAIRMANSHIP OF THE ETHICAL COMMITTEE.

17. The Council has placed on record its grateful appreciation of the specially valuable services rendered to the Association by Dr. Reginald Langdon-Down during his tenure of office as Chairman of the Ethical Committee, 1919-26, and has expressed its satisfaction that it may count on his continued co-operation in the work of that Committee.

OFFER TO ASSOCIATION OF PREMISES AS JENNER MEMORIAL.

18. Lord Berkeley was good enough to offer to present Phipps Cottage, at Berkeley, closely associated with the early work of Edward Jenner, to the Association for the purpose of establishing a Jenner Memorial Exhibition. The Council gave this offer very careful consideration but regretfully found it necessary to decline it, because it is believed that it would be unlikely that another really satisfactory Jenner Memorial Exhibition could be established, seeing that a very extensive collection of Jenner relics is already contained in the Wellcome Historical Medical Museum. Lord Berkeley has been thanked for his kind offer.

USE OF THE B.M.A. HOUSE BY DIVISIONS AND BRANCHES.

19. The Council has considered under what conditions the House of the Association can be used by the local units of the Association, apart, of course, from the ordinary hire of rooms for Division and Branch purposes, and has come to the conclusion that when any Division or Branch desires to hold a meeting of a public or semi-public nature in the House the special permission of the Office Committee must first be obtained.

LEGAL ACTIONS COMMITTEE.

20. For the purpose of assisting the officials of the Association and of creating some degree of uniformity in dealing with such matters, the Council has set up a Legal Actions Committee to consider and report to the Council, and to act in emergency, in regard to any threatened legal action against the Association or any such action which it may be contemplated should be undertaken by the Association; to watch the course of any such action, instruct the Solicitor of the Association, and keep the Council advised thereon. The Committee consists of the Chairman of Council, Chairman of Representative Body, Treasurer, Chairman of the *Journal* Committee, Chairman of the Central Ethical Committee, the Editor, the Medical Secretary, and the Financial Secretary.

APPOINTMENT DURING YEAR OF REPRESENTATIVES OF ASSOCIATION ON OUTSIDE BODIES.

21. The following appointments have been made by the Council during the year:—Executive Committee of the National Association for the Prevention of Infant Mortality, Dr. E. R. Fothergill; Council of the Society of Medical Officers of Health, Dr. H. B. Brackenbury and Dr. W. Paterson; British Sub-Committee of the Committee on Rheumatism of the International Society of Medical Hydrology, Dr. E. R. Fothergill; Joint Tuberculosis Council, Dr. A. Lyndon and Dr. G. B. Hillman; Court of Governors of the London School of Hygiene and Tropical Medicine, Sir Robert Bolam; Ministry of Health Advisory Medical Committee re Decennial Revision of the International List of Causes of Death, Dr. C. O. Hawthorne; Central Council for District Nursing in London, Dr. W. Paterson, Mr. Comyns Berkeley and Mr. H. M. Stratford; Royal Sanitary Institute Congress, 1927, Dr. G. F. Buchan and Dr. I. W. Johnson; Lister Centenary (London Celebrations) Committee, The President; Faculty of Insurance, Dr. H. B. Brackenbury; National Conference on Maternity and Child Welfare, 1927, Dr. E. R. Fothergill; Imperial Social Hygiene Congress, 1927, Dr. H. G. Dain, Dr. C. E. S. Flemming and Mr. N. Bishop Harman.

INTERNATIONAL UNION OF MEDICAL ORGANISATIONS.

22. The Council reported, in paras. 204-5 of its last Annual Report, that in response to an invitation to the Association to appoint representatives to attend in July, 1926, a meeting in Paris for the purpose of establishing an International Union of Medical Organisations, it had intimated to the convener that while it accepted in principle the desirability of such an organisation it was not possible to send a representative to the meeting, and reserved its liberty as to joining the proposed union until it had before it details of the constitution of that body. The Council has since then had an opportunity of considering the constitution of the union, and decided that it could not recommend that the Association join the organisation. A contribution of £50 has been made towards the funds of the union in respect of the preliminary work carried out during the time the Association was considering its position but had agreed in principle with the formation of such a body.

NATIONAL MEMORIAL TO LATE QUEEN ALEXANDRA.

23. The Council, on behalf of the Association, has contributed the sum of 100 guineas to the "Living" side of the National Memorial to the late Queen Alexandra, namely, the furtherance of district nursing under the auspices of the Queen Victoria Jubilee Institute for Nurses.

LOCUM BUREAUX.

24. It was reported to the A.R.M., 1926, that the subject matter of the following instructions of the A.R.M., 1925, was still under consideration:—

Minute 57.—Resolved: That a Bureau for the provision of locumtenents and assistants, with power for further expansion, be formed under the auspices of the Association with branches in such centres as may be deemed desirable, and that the organisation be set up under the control of the Association by means of (a) a separate Limited Liability Company, or (b) a Society registered under the Friendly Societies Act, whichever may be found the more suitable.

Minute 58.—Resolved: That the questions (i.) of confining the activities of the Bureau to provincial centres; (ii.) of the Bureau subsequently taking over the work of transfer of practices; and (iii.) of limiting the activities of the Bureau to newly qualified practitioners up to the end of the fourth year after registration under the Medical Acts, be reserved for further consideration by the Council.

Minute 59.—Resolved: That in any such scheme instituted as above, preferential treatment be given to members of the British Medical Association.

25. Considerable difficulties were found to arise in carrying out the instructions in the above Minutes exactly by the methods outlined therein. The Council believes that the facilities contemplated can under the circumstances best be obtained by an extension of the work of an existing medical agency, and possibly by the association of existing bureaux in certain centres with such agency. The Council now reports that in furtherance of this, it has purchased one-half of the issued shares of the Scholastic, Clerical and Medical Association, Limited, a medical agency of repute established for many years. The interest in the company so obtained will be used to ensure that one-half of the Board of Directors shall be representative of the British Medical Association. In this way influence will be exercised so that the work of the Agency shall be conducted on lines in accord with the policy of the British Medical Association laid down from time to time. The representatives of the British Medical Association who have been elected upon the Board of Directors since the purchase of shares are Sir Robert Bolam, Mr. N. Bishop Harman, Dr. S. Morton Mackenzie and Sir Humphry Rolleston, Bart.

PERMANENT RECORD OF WORKERS FOR ASSOCIATION.

26. The Council has decided to establish a permanent record of some of the workers for the Association, by means of a collection of the signatures of members of the Council and Representative Body, a commencement being made in this latter respect with the Edinburgh meeting of the Representative Body. In future all new members of either the Representative Body or the Council will be formally introduced to their fellow members at the first meeting attended by them and afterwards asked to sign the appropriate book.

PSYCHO-ANALYSIS.

27. Pursuant to Minute 76 of the A.R.M., 1926, a special Committee has been appointed to investigate and report upon the subject of psycho-analysis. The names of the members are:—The President, the Chairman of Council, the Chairman of the Representative Body, the Treasurer, Dr. Wm. Brown, Dr. R. G. Gordon, Dr. C. O. Hawthorne, Mrs. Isabel E. Hutton, M.D., Dr. R. Langdon-Down, Dr. E. K. LeFleming, Dr. L. R. Lempriere, Dr. Peter Macdonald, Dr. J. S. Manson, Dr. Hugh Miller, Dr. L. A. Parry, Dr. J. R. Rees, Dr. T. A. Ross, Dr. C. Worster-Drought. Dr. R. G. Gordon has been appointed Honorary Secretary of the Committee.

Finance.

28. The Financial Statement for the year ended 31st December, 1926, is set out in detail in Appendix II.

Despite the facts that the year 1926 witnessed the general strike, and that for the first time in its history the publication of the BRITISH MEDICAL JOURNAL was interrupted, the Council feels that there is much upon which, from a financial point of view, the members of the Association are to be congratulated.

The surplus for the year 1926 was estimated at £4,200; the surplus realized, after providing £1,000 to commence a sinking fund for the redemption of the leasehold property, was £7,875. But it will be remembered that during 1925 it was found necessary to realize the Conversion Loan Stock amounting to £3,635. This amount has now been replaced to Reserve Fund, together with a further sum of £2,365. The balance of Income over Expenditure carried to Surplus Account for the year 1926 thus amounts to £1,873 1s. 2d., the total at which this account now stands being £188,174 7s.

The sale of the freehold (429, Strand) was arranged during 1926, payment of the balance of the purchase price to the extent of £77,500 being deferred under certain conditions until 1930.

The amount shown in the Balance Sheet as "surplus on realization" includes, of course, amounts previously written off for depreciation.

The membership increased during the year by 1,826, the total at 31st December, 1926, being 32,350.

The income for the past three years has been as follows:

	£	s.	d.
1924	122,840	0	3
1925	131,787	4	5
1926	136,357	14	4

The expenditure for the same three years was:

	£	s.	d.
1924	113,917	0	0
1925	131,003	18	1
1926	134,484	13	2

BALANCE SHEET.

Liabilities.

29. The sundry creditors stand at practically the same figure as last year. An increase will be noted in the sundry creditors for publishing owing to a different method of treating the non-member subscriptions for the BRITISH MEDICAL JOURNAL. The liabilities in respect of the *Archives of Disease in Childhood* and the *Journal of Neurology* represent the cost to the Association of these publications during the year (see also Abstracts H and I in Appendix II).

The Reserve Account has been increased as set out above. The market value of the stocks taken in the Balance Sheet at £23,612 10s. was, on the 31st December, 1926, £24,848.

The Loan Account from the Westminster Bank of £80,000 had been repaid and partly replaced by a temporary overdraft of £29,146, as against the overdraft of £5,553 at 31st December, 1925.

This overdraft of £29,146 had been completely repaid by 15th March, 1927.

Assets.

30. *Leasehold Premises.* Depreciation at the rate of £2,000 per annum has been written off.

Scottish House.—The Scottish House of the Association appeared in the Balance Sheet of 1925 at the bare purchase price, and will be depreciated at the rate of £200 per annum until it stands at a nominal figure.

Investment.—The British Medical Association has purchased and controls 522 fully paid shares of £10 each in the Scholastic, Clerical and Medical Association, Ltd., but by special arrangement will not pay for 117 of them until the decease of the transferor. There is therefore a future liability of £1,170, but the voting power now vests in the Association (*see also para.* 25).

Subscriptions in Arrears.—The subscriptions carried forward as in arrear have increased in value, the number being 1,564 at the 31st December, 1926, as against 1,469 at the end of 1925, and as against 1,372 at the end of 1924. The item of £2,436 is represented largely by subscriptions of overseas members which may have been paid to the Branch Secretaries abroad, but have not reached the Head Office before the end of the year. (See also note on subscriptions in Income and Expenditure Account.)

Sundry Debtors for Advertisements have increased in value, but the reserve for bad debts has been maintained at last year's figure which is considered adequate.

Accrued Rents and Interest include £1,550 payable by the New Zealand Government.

INCOME AND EXPENDITURE ACCOUNT.

31. *Subscriptions.*—The subscriptions due for the current year show an increase of £3,815 due to the increase in membership during 1926, and to the number of members who cease to enjoy the reduction of subscription under the "newly qualified" clause. The subscriptions due for previous years which have been recovered during the year under review have again been shown separately, in order to demonstrate that the amounts shown in the Income and Expenditure Account as "subscriptions written off" are by no means lost. Of the sum of £2,120 7s. 9d. carried forward in the Balance Sheet of 31st December, 1924, as "Subscriptions in Arrear," no less a sum than £1,761 12s. 3d. was recovered during 1925. The balance of £358 15s. 6d. was included in the amount of £2,736 12s. 2d. written off in the Income and Expenditure Account at 31st December, 1925. A further sum of £224 8s. 9d. was received during 1926, which, together with the £1,442 15s. 5d. collected by the Head Office in respect of 1925 subscriptions written off, and £169 18s. 4d. recovered in respect of previous years' subscriptions, makes a total recovery of 694 subscriptions, representing £1,837 2s. 6d.

Rents.—The rents at 429, Strand, are now the property of the New Zealand Government.

Sundry Receipts.—The figure for 1926 includes refunds of amounts paid in respect of two Deferred Annuity Bonds.

ABSTRACT A.

32. *Representative Meeting.*—The attendances at the Annual Meeting for which fares were paid were:

1924, Bradford	173
1925, Bath	191
1926, Nottingham	165

A further saving was effected by the adoption of the new method of preparing and stencilling the Minutes of the Representative Meeting.

Annual Meeting.—There was a considerable saving in the amount claimed for fares by officers of Sections, and a saving in the cost of the *Handbook* of the Meeting. At Bath there were 12 Sections; at Nottingham 13.

Council.—The attendances at Council meetings:

In 1924 incurred 201 railway fares.
In 1925 incurred 194 railway fares.
In 1926 incurred 203 railway fares.

Secretaries' Conference.—The railway fares paid to Secretaries who were not members of Council or Representatives numbered:

In 1924, Bradford	29
In 1925, Bath	33
In 1926, Nottingham	48

Committees.—The various increases and decreases are shown in detail in the Abstract.

Insurance Acts Committee.—The National Insurance Defence Trust repaid to the Association during 1926 the following sums:

	£	s.	d.
Railway Fares	189	17	0
Printings	134	7	6
Sundries	53	0	9
	£377	5	3

Organization Committee.—It will be observed that the reprint of the Articles and By-laws cost £67 2s. 6d., and the second edition of the *Handbook for Newly Qualified Practitioners*, published during 1926, cost £324 15s.

ABSTRACT B.

33. *Charges on Bank Loan.*—The reduction of the Bank Loan has already been mentioned.

Legal Charges.—The figure for 1925 included the costs in connection with the lease of the new House. The charge for 1926 includes the cost of certain ethical cases.

Sundry Expenses.—The various extraordinary expenses in each year are set out in detail.

ABSTRACT C.

34. The figures for 1926 set out the normal central premises expenses in a full year.

ABSTRACT D.

35. The premium for deferred annuities for officials shows an increase, due to the adoption of the new Pensions Scheme.

The Office Staff Superannuation Fund has been adjusted in accordance with the report of the Actuary, as announced last year.

ABSTRACT F.

36. The subscription to Messrs. Lewis's Library has been increased to allow of more books being borrowed (instead of purchased). No books are now stored outside the Association's premises.

ABSTRACT G.

37. Although the first number of the BRITISH MEDICAL JOURNAL in 1927 is dated 1st January, 1927, the issue was printed in 1926, and the expenditure incurred falls in that year.

The following are comparative figures:

	1925.		*1926.*
Literary pages and Epitome ...	2,710	...	2,574
Supplement	536	...	516
Advertisements	2,746	...	2,786
	5,992		5,876

The amount required from Subscription Account for 1926 to cover the cost of production and issue of the JOURNAL was £13,480, or just under 8s. 4d. per member. The figure for 1925 was £12,730, or 8s. 4d. per member.

Despite the effect of the general strike and the interruption of the issue of the JOURNAL, the increased value of the BRITISH MEDICAL JOURNAL is reflected in the larger revenue from advertisements to meet the increasing cost.

The adverse effect of the increase of membership upon the revenue from sales to non-members has received comment in past years.

Composing, Machining, etc.—The number of pages decreased from 5,992 in 1925 to 5,876 in 1926, but the number of JOURNALS printed increased from 1,778,553 in 1925 to 1,805,862 in 1926.

On all occasions in 1926 it was found possible to print in standard sizes.

The comparative figures are:

	1925. £ s. d.	*1926.* £ s. d.
Machining ...	16,289 12 10	17,088 10 11
Composition ...	7,410 6 2	7,171 19 2
	£23,699 19 0	£24,260 10 1

Paper and Postage.—The increases have been occasioned by the larger number of JOURNALS issued.

ABSTRACTS H AND I.

38. Full details of the income and expenditure of these special journals published by the Association are here set out.

TRUST FUNDS.

39. *Office Staff Superannuation Fund.*—The market value of the stocks owned by this Fund on 31st December, 1926, was £17,622 9s. 8d.

B.M.A. Charities Fund.—The monies collected through this Fund had all been distributed by the end of the year.

APPORTIONMENT OF MEMBERS' SUBSCRIPTIONS.

40. The membership of the Association at the end of 1926 was 32,350. It must be remembered, however, that all members do

not pay the same rate of subscription; therefore the average amount of revenue per member is less than the full subscription of £3 3s.

The total revenue from subscriptions (excluding arrears) was £76,532 12s. 1d. for the year 1926, or roughly £2 7s. 4d. per member.

The following table has been calculated on this basis to show how the subscription of a member was apportionable towards defraying the expenses of the Association for the year ending 31st December, 1926.

		1926.	*1925*
	£	£ s. d.	£ s. d.
Central Meeting Expenses ...	7,149	4 5	5 9
General Association Expenses	5,055	3 2	5 4
Central Staff Expenses ...	17,935	11 1	11 8
Central Premises Expenses ...	9,945	6 2	4 7
Central Printing, Stationery, and Postage	2,755	1 9	1 11
Library Account	942	7	8
JOURNAL Account	13,480	8 4	8 4
Irish Committee Account ...	1,069	8	9
Scottish Committee Account...	2,080	1 3	1 5
Capitation Grants to Branches	6,155	3 9	3 7
Subscriptions written off for Deaths and Arrears... ...	3,311	2 1	1 11
Depreciation	4,037	2 6	2 1
Part Transfer to Reserve ...	2,402	1 6	—
Sundry Publications	157	1	—
	£76,532	£2 7 4	£2 7 7

ESTIMATE OF RECEIPTS AND EXPENDITURE IN 1927.

41. The following figures represent an approximate forecast of the possible revenue and expenditure for the current year:

Receipts.

	1926. Actual.			*1927.* Estimated.
	£	£		£
Subscriptions	78,369	2,131	Increase ...	80,500
Advertisements... ...	45,277	1,277	Decrease ...	44,000
Sale of JOURNALS, etc.	7,931	431	Decrease ...	7,500
Investments, Rents, etc.	4,272	228	Increase ...	4,500
Sundries	503	403	Decrease ...	100
	£136,357			£136,600

Expenditure.

	1926. Actual.			*1927.* Estimated.
	£	£		£
Central Meeting Expenses ...	7,149	1,101	Increase ...	8,250
General Association Expenses	5,055	55	Decrease ...	5,000
Central Staff Expenses ...	17,985	815	Increase ...	18,800
Central Premises Expenses..	9,945	105	Decrease ...	9,840
Printing, etc.	2,755	45	Increase ...	2,800
Library Account	942	58	Increase ...	1,000
JOURNAL Account	66,687	1,113	Increase ...	67,800
Irish Account	1,069	11	Increase ...	1,080
Scottish Account	2,080	20	Increase ...	2,100
Capitation Grants	6,155	385	Increase ...	6,500
Subscriptions written off ...	3,311	189	Increase ...	3,500
Depreciation	4,037	87	Decrease ...	4,000
Sundry Publications	157	7	Decrease ...	150
Sinking Fund	1,000	—	...	1,000
Reserve Fund :				
Replacement of Stock ...	3,635	3,635	Decrease ...	—
Increase of Fund	2,365	135	*Increase* ...	2,500
	£134,337			£134,320
Estimated Surplus... ...			...	2,280
				£136,600

Organisation.

MEMBERSHIP FIGURES.

42. During 1926 there was a net increase in the membership of the Association of over 1,800, and during the four years 1923-6, the net increase has been over 8,000. The Council welcomes this as a recognition on the part of the profession of the value of the work of the Association. The most fruitful sources of recruitment were :—by Head Office summer recruiting issue and by circulars to newly qualified, 816; by other activities of Head Office, 552; by Oversea Branches, 704; by Home Divisions and Branches, 536.

43. The following is a summary of the changes in the membership during 1926 (the figures for 1925 are given for comparison):—

1925.			1926.		
New members	8,091		New members	2,872	
Paid arrears	833		Paid arrears	814	
Resignations withdrawn	28	3,952	Resignations withdrawn	39	3,725
Resignations	438		Resignations	467	
Deaths	807		Deaths	296	
Arrears	1,110		Arrears	1,134	
Expelled	2		Erased under Article 9 (c) (1)	2	1,899
Erased under Article 9 (c) (1)	2	1,859			
Increase ..		2,093	Increase ..		1,826

Membership, December 31st, 1925 .. .. 80,524.
Membership, December 31st, 1926 ... .. 82,350.

WORK DONE BY THE DIVISIONS, BRANCHES, AND FEDERAL COMMITTEES.

44. The great majority of the Divisions and Branches in the British Isles have furnished to the Council reports for 1926, and these reports, together with the reports of proceedings published in the *B.M.J.* Supplement, show gratifying activity of the local units of the Association. One in every three of the Divisions which have reported has held at least seven meetings during the year; the remaining bodies have held, in the great number of cases, four or five meetings.

On behalf of the Association, the Council desires warmly to thank the Chairmen, Presidents, Secretaries, Treasurers and Executives of the Divisions, Branches and Federal Committees for the highly creditable work which is being done.

FORMATION OF GROUPS IN THE ASSOCIATION.

45. From time to time circumstances have arisen which seemed to show that the machinery of the Association is defective as regards its capacity to obtain the opinions, and therefore represent the views, and protect the interests, of certain classes of practitioners, and the Council has considered the question whether any and if so what modifications of the machinery of the Association are necessary and advisable to meet this position. The difficulty was felt long ago when special arrangements were made for representation of the Services on the Council. The most recent outstanding example was provided by those members who are in the Public Health Service, and elaborate provisions were made for them, not only by giving them special representation in the R.B., Council, Public Health Committee, and Branch and Division executives, but also by creating a special liaison with the Society of Medical Officers of Health.

46. Examples of other special cases are: the representation always given on various Committees and Sub-Committees to the Poor Law Medical Officers Society; formation of special Committees, as for example, the Ophthalmic; and co-option from time to time to one or other of the Standing Committees or Sub-Committees (generally the Medico-Political and Parliamentary) of representatives of, for example, ship surgeons, prison surgeons, Ministry of Pensions officials, medical officers of schools, asylum medical officers, etc. All these permanent or temporary arrangements have been made chiefly because it was recognised that the section of the profession concerned was not large enough, or not large enough in most areas, to be able to put its special case up to the Divisions and through them to the R.B.

47. An outstanding example of the necessity for consideration of the principles under which arrangements of this kind should be made presents itself at the present moment. There is a growing body of pathologists, employed either part- or whole-time by hospitals and public authorities, and mostly engaged also in private practice, and new problems are arising in connection with their work. The Council last session appointed an *ad hoc* Committee to consider these problems, and on it several outside members with special experience were appointed. In the meantime, a number of pathologists have formed themselves into a new association. The fact that these men (mostly members of the Association) have felt it necessary to form a new body shows that they are too small in numbers or too widely scattered to feel that they can use the ordinary Division machinery for their purposes, and that they believe that their only safe course lies in forming a new body, though this means an additional subscription.

48. The formation of the Pathological Association and of a Spa Practitioners Association show that a number of our members do not feel that they can get all they want *inside* the Association, and so long as this can be said it is a reflection on the Association's claim to be able to collect the opinions of and speak for *all* classes of practitioners. In addition, every doctor engaged in a special line of work who joins an outside body whose object is to protect his special interests feels he has a good excuse for resigning from, or declining to join, the B.M.A.

49. The Council believes that the above considerations show the need for a new form of machinery to meet the requirements of those members of the Association who have common interests sufficiently distinct from those of the general body of members, and who by reason of their smallness in numbers and/or nature of distribution, are not able to meet to discuss those interests or to express their opinion in regard to them adequately through the Divisional machinery of the Association. The initiation of some such new machinery would obviate the need of such members going outside the Association to get their medico-political work done.

The Council recommends:—

Recommendation:—That the Representative Body approves the scheme for formation of Groups in the Association, and instructs the Council to prepare the necessary amendments to the Articles and By-laws for submission to the A.R.M. 1928, it being agreed that the Council, should the need arise, may give immediate provisional effect to the scheme (see Appendix III.).

LOCAL CONFERENCES FOR PROMOTION OF MEDICAL AND ALLIED SCIENCES.

50. The Council has considered following Minute 47 of the A.R.M. 1926:—

Minute 47 (Proposed by Brighton).—Resolved: That the Council be instructed to consider and report to what extent and under what conditions could financial and other assistance be given to Branches and Divisions of the Association in the United Kingdom which may desire to invite societies formed for the promotion of medical and (or) allied science to hold conferences within their respective areas,

and a memorandum by the Brighton Division on the subject.

51. There are already in existence, under the auspices or with the co-operation of Divisions and Branches of the Association, various arrangements for local discussion of clinical, scientific and allied subjects in which outside bodies or persons other than members of the Association to some extent participate. Many Divisions and Branches have meetings dealing with such matters to which lay persons interested are invited. There are also, financed direct from the central funds of the Association, B.M.A. Lectures, to which medical non-members are on occasion invited. Some Divisions and Branches have, as complimentary membership, persons distinguished in science resident within their areas but not eligible for ordinary membership of the Association. Incidentally this method of increasing the usefulness of the clinical and scientific work of the Divisions and Branches is one which, the Council considers, might well be further developed. There is also, in many areas, mutually helpful co-operation between the local Divisions or Branches of the Association and other local societies. Thus, often, the Division or Branch and a local medical or other scientific society, or local group of a central society, carry out in co-operation a concerted programme.

52. The Brighton Division proposes that Divisions, especially those situated where the Association cannot be expected to have its Annual Meeting, should be encouraged to invite from time to time into their areas central societies, for the purpose of the society's annual meeting or a special conference of up to a full 2-days' mutually agreed programme, to be held at a time, other than the Association's Annual Meeting, settled between the Division and the Society; that local hospitality and entertainment should be arranged with the town officially and with individual residents therein; that mutual arrangements be made as regards the expenses, the whole scheme for such a meeting or conference to be as for a miniature Annual Meeting of the Association; and that in order to assist Divisions which might desire to arrange such meetings or conferences, the Council should earmark a sum of money from which grants could be made on certain conditions, including a stipulation that there would be no competition with the Annual Meeting of the Association.

53. In the opinion of the Council it is not, in the interests of the Association or of the profession, desirable that a general provision of the kind should be made from the funds of the Association. The Council is, however, sympathetically disposed to the object which the Brighton Division has in mind, but considers (1) that it is best that any definite local proposals for holding of meetings or joint conferences of central societies in local areas should come from local units or representatives of the societies themselves where such exist, direct to the headquarters of the societies, for the decision of the latter; (2) that there could be no harm, and might be great advantage, in suggestions of the kind being made by a Division or Branch of the Association to the local unit or representatives of the society, provided that the Division or Branch did not in any way purport to commit the Division or Branch to expense outside the legal powers of the Association, or, without the previous sanction of the Council, to expense greater in amount than the Division or Branch could meet from the ordinary funds of the Association in its hands; and (3) that inasmuch as local municipalities are generally willing to help as regards the provision of hospitality on such occasions, this source of possible help as regards the organising of such joint conferences should be carefully borne in mind by any Division or Branch concerned. Subject as above, the Council would consider sympathetically, with a view if necessary to a supplementary grant and any other help in the power of the Head Office to give, any proposal by an individual Division or Branch for such a meeting or joint conference in its area.

ORGANISATION OF PROFESSION IN SOUTH AFRICA.

54. The A.R.M. at Nottingham (Min. 43) expressed its gratification with the arrangement whereby there is now only one organised body representing the profession in South Africa, namely, the "Medical Association of South Africa —Die Mediese Vereniging van Suid-Afrika (British Medical Association)," the constituent parts of which are the Branches and Divisions of the B.M.A. in South Africa.

The Federal Council of the new body has prepared, and the Council has approved a constitution, duties and powers of the Federal Council, including plenary ethical powers.

The Federal Council having been informed by its legal advisers of the need for incorporation of the Medical Association of South Africa, the Federal Council drafted, for the approval of the Home Association, a Memorandum and Articles of Association of the new body. The draft followed closely the spirit and letter of the Memorandum and Articles of Association of the parent body, and thus, subject to merely formal amendments, the Council had much pleasure in approving it. Steps have since been taken by the Federal Council for completion of the incorporation of the new body under the South African law accordingly.

Journal of Medical Association of South Africa—Die Mediese Vereniging van Suid-Afrika (British Medical Association).

55. Among matters requiring urgent settlement by its Federal Council on the formation of the Medical Association of South Africa, were the establishment of an official journal of the new body, and the question of appointing an Organising Medical Secretary for South Africa.

During the Medical Secretary's recent visit to South Africa the question arose of the provision of an official journal, to be sent (in addition to the *B.M.J.*) to every member in South Africa, following the example of Australia and New Zealand. The proposal was mooted that the two existing South African medical journals, namely, the "South African Medical Record" and the "Medical Journal of South Africa" should be amalgamated and the result published as the official organ of the Medical Association of South Africa. At that time the prospect of South Africa being able to have an Organising Secretary seemed rather remote, and the new journal was suggested rather as an alternative, but it was always agreed that the journal and the Secretary were complementary in the work of organisation and that both should be secured as soon as possible.

The Federal Council applied itself with great energy to these questions, and as a result a scheme was formulated (*i.*) for the setting up in the place of the two medical journals of a new journal, to be called "The Journal of the Medical Association of South Africa (British Medical Association)"; and (*ii.*) for appointing an Organising Medical Secretary. In connection with the matter, the Federal Council applied to the home Association for a grant of £1,000 per annum, possibly for a period of three years.

The Council recognised that such a journal as was proposed would be a very good means of keeping the members in touch with their Branches, and the detailed proposals made by the central executive, and the particularly with their Federal Council for amalgamation of the two existing journals also commended themselves to the case. The proposals moreover satisfactorily the needs of the Council as likely to meet had the advantage that they would secure the appointment of an Organising Medical Secretary for South Africa. In connection with the question of a possible appointment of that kind, the Council had, in February, 1924, been prepared to grant a sum of £1,000 a year for three years on condition that the members of the Association in South Africa found the balance and that a suitable secretary could be found. There were, as matters then stood, various difficulties in the way of the appointment of such an official, and the Council therefore, in October, 1924, at the request of the South African Committee, decided that that offer should be kept open for a year. The Council regarded the new application of the Federal Council for assistance as coming within the spirit of its decision of February, 1924, and after reviewing all the circumstances of the case decided to make a grant of £1,000 a year for two years, namely, for 1927 and 1928.

The Council has very great pleasure in reporting that the first number of "The Journal of the Medical Association of South Africa (British Medical Association)" was published under the joint editorship of Drs. W. Darley-Hartley and C. L. Leipoldt on January 8th, 1927, and that there has been a gratifying increase in membership throughout the Union of South Africa. Mention should be made of the handsome gift made by the private proprietors of the "Medical Journal of South Africa" who presented that journal with its assets valued at £2,000 to the Federal Council.

56. The home Association and its ramifications throughout the world will join in congratulating our South African colleagues on the great progress they are making, and especially on the fact that they have found that this can best be done as a part of the one great medical Association of the Empire.

Incorporation of Queensland Branch.

57. The Council has pleasure in reporting the completion of the incorporation of the Queensland Branch, and has conveyed to the Branch its good wishes for the success of the Branch under its new constitution.

Newly Qualified Practitioners.

58. The Council has pleasure in reporting that practically all those Divisions and Branches whose areas contain medical schools have taken very successful action in connection with the scheme recently inaugurated by the Council for interesting final-year medical students and newly qualified medical practitioners in the work of the Association. One result of these gratifying activities is seen in the increased membership of the Association, especially among the newly qualified.

59. The second edition of the "Handbook for Recently Qualified Medical Practitioners" was published in April, 1926. The new edition has met with an even greater response than the first edition, 2,000 copies having already been disposed of. The Handbook has been presented to those attending the meetings of welcome to the entrants to the profession, organised by the Divisions and Branches, and constitutes a very valuable part of the Association's propaganda among the newly qualified and other practitioners.

New Divisions of the Association.

60. The Council has formed new Ashford, Dover, Folkestone, Rugby, and Tyrone Divisions, and has adjusted the areas of many other Divisions and Branches in order to meet the convenience of members and make the work of the Association on their behalf still more effective.

Constituencies for Election of Representative Body, 1927-28.

Divisions in British Isles.

61. The Council has, subject to one or two adjustments, repeated the 1926-27 grouping of the Divisions in the British Isles for election of the Representative Body, 1927-28.

Divisions outside British Isles.

62. Each Division and Division-Branch outside the British Isles has been made an independent constituency.

Groups of Branches for Election of Council, 1927-28.

Bodies in British Isles.

63. Pursuant to the standing authority conferred upon it by the Representative Body, the Council has grouped the Branches and Constituencies in the British Isles respectively for election of the "24" and "12" members of the Council for 1927-28 in the same way as for 1926-27.

Bodies outside British Isles.

64. The Branches outside the British Isles have been grouped for election of the "7" members of Council, 1927-28, in the same way as for 1926-27.

Central Lectures on Public Health Topics.

65. As an extension of the practice of the Association whereby public lectures are delivered at its Annual Meetings, the Council organised, as an experiment, a "Hastings Lecture" in the Great Hall of the Association on a topic of public health interest to which the public were invited.

66. The lecture was given by Sir Berkeley Moynihan, P.R.C.S., who took as his subject "Cancer and how to fight it," and the meeting was presided over by the Minister of Health, Mr. Neville Chamberlain. The attendance was very satisfactory and the press notices both before and after the Lecture were both numerous and complimentary. The Council has, on behalf of the Association, conveyed to Sir Berkeley Moynihan and Mr. Chamberlain its thanks. The Council will consider whether further lectures of a similar kind should be given.

"British Medical Journal."

Circulation and Advertisement Revenue.

67. The circulation and revenue of the *British Medical Journal* have again far surpassed all previous records. The steady growth in circulation is shown by the following figures, which give the average number of copies printed weekly during the eight years since the armistice: 24,520 in 1919; 26,195 in 1920; 27,247 in 1921; 27,600 in 1922; 29,036 in 1923; 31,339 in 1924; 33,530 in 1925; and 35,920 in 1926. Advertisements and circulation usually bear a close relationship, and there is the best possible evidence of the increasing value set upon the *British Medical Journal* as an advertising medium. The income from advertisements last year was £46,369, as compared with £43,480 in 1925; £39,437 in 1924; and £38,318 in 1923. It is worthy of note that the advertisement revenue for 1926 was nearly twice that for 1914, when the pages of advertisements were much more numerous and the rates much lower.

Size of Journal.

68. The weekly average number of pages of the *British Medical Journal* in 1926 was 115·8, distributed as follows:—Journal, Epitome, and Supplement, 61; advertisements, 54·8. This figure 115·8 is higher than that for 1925, and considerably higher than the average for any year since the beginning of the war. In 1926 the total pages of text and of advertisements was 5,876 (fifty-one issues), as compared with 5,884 in 1925 (fifty-two issues); these figures do not include the half-yearly indexes nor special plates printed on art paper. The growth in size of the *Journal* during the past ten years, made necessary by increasing calls on its space, many of them due to new activities of the Association, is shown by the following figures: in 1917 the total number of pages of text, including Supplement but excluding advertisements, was 2,100; in 1926 the total was 3,080.

Publication of Reports.

69. Publication of the proceedings at the Annual Meeting at Nottingham, including full reports of the twelve Sections, occupied 284½ pages; the reports of the Presidential Address, proceedings of the Annual Representative Meeting, the statutory Annual General Meeting, and the various conferences held at Nottingham, occupied 65¾ pages; this making in all, 350 pages. Publication of the full reports of the scientific Sections was once again completed in the last issue of December. Apart from the two Annual Meeting issues of the *Supplement*, those which contained the Annual and Supplementary Reports of Council, the annual report of the Insurance Acts Committee, and the report of the Annual Panel Conference, were exceptionally large. The *Supplement* of July 3rd, consisting of 24 pages, was devoted to the first report of the Association's Special Sub-Committee of Inquiry into Rheumatic Heart Disease in Children. In accordance with custom no Epitome or Supplement appeared with the Educational Number published on September 4th. A considerable amount of space in the body of the *Journal* was again devoted to British Medical Association lectures and papers of scientific and practical interest read to the Divisions and Branches of the Association. On several occasions the *Epitome of Current Medical Literature* was enlarged to six pages, when the other demands upon space made this practicable, and in these issues a wider range of topics was covered.

Illustrations.

70. During the year, 12 special plates were issued for the reproduction of illustrations which would not have given good results if printed in the text on the ordinary paper by rotary machines. One of these art-paper plates was in colours, and another was a double sheet of four pages. A very large number of figures, executed in line or half-tone, were printed in the text, and the general standard of reproduction of these blocks has been improved. Altogether, 528 illustrative blocks were engraved in 1926, against 512 in the previous year. An additional mechanical type-setting machine, making five linotypes in all, was set up in the composing room at Tavistock Square, for the printing of display advertisements, at a cost of £1,175.

Effect of the General Strike.

71. Owing to the General Strike it was not possible to print the issue of the *Journal* for May 8th. It was therefore decided to publish one issue for that week and the following week, bearing the double date "May 8th and 15th, 1926," with the result that fifty-one instead of fifty-two issues appeared last year. The material was in course of preparation for printing when the strike stopped all work at the machine printers' office (where the *Journal* is printed on rotary presses) on the morning of May 4th, and work was not

resumed there until the afternoon of May 17th. The compositors in the Association's Printing Department at Tavistock Square (where the type for the *Journal* is set) were called out by their trade union on May 6th, and returned to duty on May 13th.

MSS. AND BOOKS.

72. In the twelve months under review a very large number of original articles and addresses, and medical, surgical and obstetrical memoranda were submitted to the Editor for publication in addition to those from the Annual Meeting to which reference has already been made. Of this large number space was found for the inclusion of 445 in all—188 original articles, 98 Annual Meeting papers, and 159 clinical memoranda. The number of books received from publishers for review was 869, and notices of 519 books appeared.

COST OF PRODUCTION AND DISTRIBUTION.

73. It will be seen from the Journal Account published in the annual Financial Statement that the gross cost of production and distribution of the *British Medical Journal*, including all editorial and a proportion of the managerial expenses, was £66,687 in 1926. Receipts from advertisements, sales to non-members, etc., amounted to £53,207; so that the net cost of the *Journal* to members of the Association was £13,480 or 8s. 4d. a head for the whole year, including postage. Thus, while the gross cost of producing a single copy of the *Journal* and supplying it to a member was practically 9d., the net cost to him was approximately 2d.; to a non-member in Great Britain or Ireland the price of a single copy, including postage, was 1s. 4½d. Sales of *Journals* to non-members yielded £6,264. The charge for postage of the *Journal* forms a very heavy item of the total expenditure on the *Journal*. It amounted to £12,049 in 1926, as compared with £11,836 in 1925; £10,635 in 1924; £9,724 in 1923; £8,904 in 1922; and £7,261 in 1921. The increase in postage costs is due mainly to the continued growth in membership, and partly to the growth in size and weight of the *Journals* posted.

CENSORSHIP OF ADVERTISEMENTS.

74. Strict supervision has been maintained over advertisements tendered for publication in the *British Medical Journal*, and during 1926 it was found necessary to exclude many which did not conform to the policy and requirements of the Association. This censorship entails a considerable loss of revenue. The immediate loss is known, but the consequential loss, due to withdrawal of further advertising matter from the same quarters, cannot be calculated. Nevertheless, costly as it may be in terms of money, this policy of excluding undesirable advertisements from its official organ is a duty the Association owes to its members and through them to the public. While the acceptance of an advertisement for publication in the *Journal* is not to be understood as recommending or guaranteeing the article advertised, yet the appearance of an advertisement indicates that no objection of principle has been taken to it. The enterprise and ingenuity of some would-be advertisers is often such that the task of deciding whether their advertisements are admissible is far from easy. All new advertisements tendered for publication are scrutinised in the Finance and Medical Departments of the Association, and those considered prima facie to be misleading or otherwise objectionable are referred for further inquiry and consultation. The Council has laid down rules governing the acceptance and refusal of advertisements in general, but the application of these rules in particular cases tends to become more difficult. A detailed statement of advertisements suspended or refused, and of the grounds for the action taken, is presented to every meeting of the Journal Committee, when the circumstances of each case are reviewed. The Medical Department reports to the Committee on the results of excluding advertisements of medical posts at a lower salary than that approved by the Association. These results satisfy the Committee that the carrying out of this policy often has the effect intended by the Association. The Committee reappointed the Foods and Drugs (Advertisements) Sub-Committee to advise its Chairman in regard to doubtful advertisements of pharmaceutical and dietetic preparations. The claims made for particular substances have been reported on by pharmacological and analytical experts.

"ARCHIVES OF DISEASE IN CHILDHOOD."

75. As stated in the report of Council last year, the Council decided, in response to representations made by many members of the Association interested in diseases of children, to issue a periodical which would worthily represent the British school by presenting the investigations and conclusions, clinical and pathological, of all its workers. In order that the plan should be worthily carried out the Council appointed a General Committee, representative of all parts of Great Britain, with Dr. Hugh Thursfield and Dr. Reginald Miller as editors. They are assisted by a small Editorial Committee of practitioners particularly interested in the subject and resident in London, Liverpool, Edinburgh and Glasgow. The premature death of Dr. Thomson, of Edinburgh, has deprived the editors of his skilled and unselfish services. The first number of the *Archives of Disease in Childhood* was issued in February, 1926, and the first volume was completed by the sixth issue in December last. In the papers published the editors have achieved and maintained a very high standard. Its appeal is worldwide, for it is addressed to all those at home and abroad, in every sphere of work, who realise the importance to medicine and the race of this rapidly growing department. The bulk of the work presented in the past year has of necessity dealt rather with the medical and pathological than with the surgical aspects of Disease in Childhood, for the surgery of childhood, with certain exceptions, is not differentiated from that of the adult. The editors would welcome further papers dealing with surgery. The *Archives* appear six times a year, and the subscription (25s. post free) is payable to the Financial Secretary, British Medical Association, Tavistock Square, London, W.C. 1. The subscription for Canada and the United States is six dollars (post free). The price of single numbers is 4s. 6d.

"JOURNAL OF NEUROLOGY AND PSYCHOPATHOLOGY."

76. Early last year an application was received by the British Medical Association to take over the publication of the *Journal of Neurology and Psychopathology*, then in its sixth volume. From the first number of the seventh volume (July, 1926), the journal has been issued by the British Medical Association. The aim of the *Journal of Neurology* is to supply up-to-date information on the subjects named in its title. This it does by publishing short original articles, editorial articles, and a series of abstracts and critical reviews. With this programme it fills a place which no other periodical published in English exactly occupies. It is edited by Dr. S. A. Kinnier Wilson, with the assistance of an Editorial Committee, mainly British, all of whom are members of the British Medical Association. It is published quarterly, and the subscription is 30s. a year, payable to the Financial Secretary, British Medical Association, Tavistock Square, London, W.C. 1. The price of a single number is 8s. 6d. (post free).

Science.

SCIENTIFIC WORK OF ANNUAL MEETING, 1927.

77. The Council has arranged the following Sections for the forthcoming Annual Meeting at Edinburgh. *Three-day Sections*: Medicine, Surgery, Obstetrics and Gynæcology, Pathology and Bacteriology (one day combined with Comparative Medicine), Therapeutics and Pharmacology, Diseases of Children, Mental Diseases (one day combined with Neurology). *Two-day Sections*: Neurology (one day combined with Mental Diseases), Ophthalmology, Laryngology and Otology, Preventive Medicine, Physiology and Biochemistry, Comparative Medicine (one day combined with Pathology and Bacteriology). *One-day Sections*: Dermatology, Tropical Diseases, Forensic Medicine, Tuberculosis, Venereal Diseases, Radiology, History of Medicine, Medical Sociology.

THE ASSOCIATION'S SCHOLARS AND GRANTEES.

78. The annual sum granted by the Council for the direct encouragement of original investigation and research exceeds £1,100. The following are the awards made for the period 1926-27:—

Ernest Hart Memorial Scholarship.

Claude H. Whittle (Cambridge)	The pathology and epidemiology of pneumonia and pneumococcal infections.

Ordinary Research Scholarships.

Helen M. M. Mackay (London) (2nd year)	Secondary (alimentary) anæmia in infancy and ultra-violet light treatment.
Percy C. Raiment (Oxford) (2nd year)	The significance of the changes of the inorganic radicles of the blood in cases of chronic rheumatism, gout and allied diseases.
William C. Wilson (Edinburgh)	Injury and disease of the thoracic organs, in order to elucidate the mechanical and pathological factory involved, and to assess the value of treatment by surgical measures.

Research Grants.

N. L. Capener (London), £25; Winifred C. Callis (London), £10; L. S. Davidson (Cambridge), £25; W. S. Duke-Elder (London), £70; E. G. Holmes (Cambridge), £50; H. W. Jones and R. E. Roberts (Liverpool), £40; Mary F. L. Keene (London), £10;

A. P. Mitchell (Edinburgh), £25; G. H. Drummond Robinson (Cambridge), £20; E. F. Skinner (Sheffield), £20; N. Ross Smith (London) £25; H. H. Woollard (London), £30.

Work of the Scholars and Grantees.

79. Satisfactory work was carried out by the Scholars and Grantees for 1925-6, the results in several cases being communicated to various scientific societies. The Council is grateful to the following gentlemen who reviewed the work done by the Scholars and Grantees:—Prof. W. E. Dixon, Sir David Drummond, Prof. G. E. Gask, Prof. J. B. Leathes, and Prof. J. Lorrain Smith.

ENQUIRY INTO RHEUMATIC HEART DISEASE IN CHILDREN.

80. Arising out of a recommendation of the Section of Medicine of the Portsmouth Meeting, 1923, the Science Committee appointed a Special Sub-Committee of Enquiry into Rheumatic Heart Disease in Children under the chairmanship of Sir Humphry Rolleston. The first Report of the Sub-Committee appeared in the *B.M.J.* Supplement of July 3rd, 1926. It embodied researches conducted over a considerable period and has been widely recognised as a valuable contribution to the subject. The Sub-Committee was re-appointed to advise on the rheumatism problem generally and its second Report on the Prevention and Control of Rheumatic Infection in Children was published in the *British Medical Journal*, April 16th, 1927. The Council has had much pleasure in placing on record its appreciation of the work of the Sub-Committee.

The Council has made a special grant of £100 in aid of a scheme of investigation, which is being carried out with the approval of the Sub-Committee under the direction of Dr. Reginald Miller at the Rheumatism Supervisory Centre at Paddington Green Children's Hospital.

B.M.A. LECTURES.

81. The system of B.M.A. Lectures to Divisions and Branches continues to be appreciated, and the Council has set apart £400 to meet the demand for these lectures in 1927.

The following have given Lectures during the past year:—Dr. J. D. Barris, Mr. W. Rowley Bristow, Dr. R. M. Bronte (2), Dr. S. Cameron, Dr. T. F. Cotton, Prof. W. E. Dixon, Dr. T. Watts Eden, Dr. Herbert French (2), Prof. G. E. Gask, Dr. T. D. Greenlees, Mr. N. Bishop Harman, Prof. John Hay, Prof. W. E. Hume, Dr. Robert Hutchison (2), Dr. R. Jewesbury, Dr. G. J. Langley (2), Prof. D. M. Lyon, Prof. E. Mellanby, Dr. Reginald Miller, Prof. F. Craven Moore, Mr. C. A. R. Nitch, Prof. Miles Phillips, Dr. F. W Price, Sir James Purves-Stewart, Mr. H. S. Souttar, Dr. T. Grainger Stewart, Dr. G. F. Still, Prof. Ralph Stockman, Dr. H. Letheby Tidy, Prof. D. P. Wilkie.

THE LIBRARY.

82. In conformity with Minute 55 of the A.R.M. 1926, the Council has amended paragraph 4 of the Library Rules to read—

"4. A member shall be entitled to retain a book borrowed from the Library for a period of twenty-eight days unless the book be accompanied by a notification from the Librarian that it must be returned at the expiration of 14 days . . ."

and in order to promote the greater use of the Library, to lessen the trouble of application and slightly to diminish the cost, paragraph 2 of the Library Rules has been amended as follows:—

"2. Application for any book to be sent post free may be made in writing on a special post-card form. These forms may be obtained from the Librarian on the payment of 5s. for 12. *Applications* not on these forms must each be accompanied by a remittance of 6d. per volume towards the cost of postage and packing."

The number of books borrowed from the Library during the years 1922-26 has been respectively as follows:—

1922	...	3,700
1923	..	4,800
1924	...	7,200
1925	...	7,300 (during 1925 Library was closed for several weeks).
1926	...	9,810

It will greatly expedite the issue of volumes from the Library, if members will promptly return books in accordance with Rule 4 (see above). The Council appeals to members for loyal co-operation in this matter. It may seem ungracious to remind members of the penalties prescribed for breach of the Rules, but when volumes are improperly detained the delay is to the prejudice and disadvantage of other readers.

The Council again acknowledges the valuable services rendered by the Honorary Librarian, Mr. W. G. Spencer.

THE "BRITISH PHARMACOPŒIA."

83. The Council in its Report for 1926 stated that the Association had been invited to send representatives to a Conference of scientific bodies with the Pharmacopœia Committee of the General Medical Council, concerning the method of preparation of the British Pharmacopœia. Following upon that Conference, the Lord President of the Council was moved by the General Medical Council to remit the question for consideration by the Committee of Civil Research, and a Sub-Committee of that body invited the Association to place its views before the Sub-Committee. The Council accordingly submitted the memorandum of evidence which appears in Appendix IV., and Dr. J. W. Bone and the Deputy Medical Secretary (Dr. G. C. Anderson) gave oral evidence before the Sub-Committee.

84. The Council has, at the request of the Sub-Committee of Civil Research, made enquiries of the various governing bodies of the Association overseas, and of the Canadian Medical Association as to:—

1. The best method of adapting the British Pharmacopœia to Imperial uses;

2. The manner in which the Dominions and Colonies could with this object co-operate to the best advantage in the preparation of the British Pharmacopœia;

3. The utility of the present Pharmacopœia;

4. Any improvements that might be effected so as to render the Pharmacopœia more useful;

5. The inclusion of substances or preparations in use daily in tropical climates or restricted parts of the Empire in (a) a separate volume, (b) an addendum, or (c) in the body of the Pharmacopœia itself.

The replies were prompt and have been most useful. They have been communicated to the Sub-Committee of Civil Research.

STEWART PRIZE.

85. The Council has decided to award the Stewart Prize to Sir Malcolm Watson, M.D., LL.D., in recognition of the scientific and administrative work that has freed large tracts of tropical Malaya from malaria, and has proved of high service both to preventive medicine and to economic developments. The Prize will take the form of an Illuminated Certificate and a cheque for £50.

Sir Malcolm Watson has spent many years in the Federated Malay States, and has devoted himself with great zeal to the study of malaria and other diseases prevalent in tropical latitudes. He is the author of two books of recognised authority and value, namely, "Rural Sanitation in the Tropics," and "The Prevention of Malaria in the Federated Malay States." The practical value of his work, both in the prevention of disease and in relation to commercial interests, has been recognised by the Government, and his academic studies have gained for him an honorary degree (LL.D.) from his *Alma Mater*.

THE SIR CHARLES HASTINGS CLINICAL PRIZE.

86. The Sir Charles Hastings Clinical Prize consisting of an Illuminated Certificate and a cheque for 50 guineas, which was established by the Council for the promotion of systematic observation, research and record in general practice, has been awarded in respect of the year 1927 to Dr. John Sinclair Manson, Warrington, for his clinical study entitled "Observations on Human Heredity."

The clinical study submitted by Dr. James Alston, Edinburgh, showed exceptional merit and the Council has awarded to him the distinction of Honourable Mention.

The 10 clinical studies submitted for the Prize showed much careful work and observation. They were examined by Prof. W. E. Dixon and Sir Humphry Rolleston to whom the Council is much indebted for this further service.

The Council proposes to offer the Prize for competition in 1928 under the existing Regulations.

THE NEED FOR THE USE OF DOGS IN PHYSIOLOGICAL AND THERAPEUTIC EXPERIMENTS.

87. On several occasions the Association in co-operation with other organisations has taken an active part in opposition to Bills promoted in Parliament with the intention of suppressing, or of limiting in some special direction, the practice of research by experiments on animals. Such a Bill (Dogs Protection Bill) has recently been read a first time in the House of Commons, and were it to become law the progress of research in this country would be seriously hampered. An energetic campaign in support of the Bill is being conducted, and in these circumstances the Council has felt it a duty to try to inform both public and

Parliamentary opinion, and to expose some of the misrepresentations by which the case for the Bill is being supported. The following steps have been taken :—

(a) A reasoned statement as to the need for the use of dogs in physiological and therapeutic experiments was prepared by the Science Committee and published in the *B.M.J.* on December 4th, 1926.

(b) In response to several requests the Council convened on April 4th a Conference of representatives of medical and other scientific organisations. The Conference, which was of a most representative character, unanimously adopted the following resolutions :—

> That this Conference, believing that any withdrawal or curtailment of the powers at present granted under license and inspection will hinder medical research to the detriment of the health and well-being of the community, wishes to enter a strong protest against any Bill which has for its object further restrictions upon experimental work on dogs or other animals;
>
> That this Conference is of opinion that the existing law should be altered so as to permit, under proper provision for the prevention of pain and for efficient inspection and control, the use, for purposes of research, of some of the numerous stray and unowned dogs now taken up by the police and condemned to the lethal chamber, thus ensuring conditions which are essential to progress in physiological knowledge and to the application of this knowledge to the practice of medicine;

and directed that a copy of the resolutions be sent to the Prime Minister and to the Home Secretary, together with a note of the names of those present at the Conference and of the bodies they severally represented. A full report of the Conference was published in the *B.M.J.* Supplement of April 9th, 1927.

(c) The Council has organised a Petition to Parliament in opposition to the Dogs Protection Bill, and steps are being taken to secure the signatures of all medical members of University staffs, medical schools and teaching hospitals (including post-graduate hospitals). The response has been excellent. The Petition is as follows :—

> Your Petitioners, medical members of university staffs, medical schools, and teaching hospitals in Great Britain and Northern Ireland, pray that your honourable House will not support any Bill which has for its object further restrictions upon experimental work on dogs or other animals, believing that any withdrawal or curtailment of the powers at present granted under licence will hinder medical research to the detriment of the health and well-being of the community.
>
> Further, your Petitioners would pray that you will endeavour to secure such an alteration in the existing law as will permit, under proper provision for the prevention of pain and for efficient inspection and control, the use, for purposes of research, of some of the numerous stray and unowned dogs now taken up by the police and condemned to the lethal chamber, thus ensuring conditions which are essential to progress in physiological knowledge and to the application of this knowledge to the practice of medicine.

(d) The Council has urged Branches and Divisions to press upon the attention of Members of Parliament the prejudice to medical knowledge and the public interest which must follow interference with experimental research. Many Divisions are known to have taken action and it is hoped that the rest will follow suit.

PATHOLOGY.

88. In view (i) of complaints by members of the Association that the advertisements of various pathological institutes in the *British Medical Journal* are unfair to the private practitioner of pathology, and (ii.) of proposals submitted to the Council relative to commercial pathological laboratories and laboratories of public health authorities, the Council has considered the whole situation.

Some General Propositions.

89. The Council adopted the following general propositions :—

(a) That in the interests of medicine and of medical practice the status and professional values of the private practitioner of pathology should be more generally recognised;

(b) That the practice of clinical pathology should be conducted in accordance with the professional customs and ethical principles that govern other specialised departments of medical practice;

(c) That so far as possible, and this especially in difficult and obscure cases, the pathologist and the practitioner in charge of the patient should meet in consultation;

(d) That a practitioner engaged in private practice as a pathologist is at liberty to notify the fact, together with his professional address, to medical practitioners within the area of his practice;

(e) That in no circumstances should a pathological report be furnished to any person other than a qualified medical practitioner.

The Pathologist as Consultant.

90. The Council has carefully considered the representations submitted by various private and hospital pathologists. It is convinced that in the interests of medicine and of medical practice the status and professional values of the private practitioner of pathology should be more generally recognised. The desirable position is that the expert pathologist should occupy in medical practice a position comparable to that held by experts in other specialised departments of medicine. He should, that is, in consultation with the practitioner in charge of the case, add his contribution to the diagnostic scheme. In many instances, indeed, it is only by this personal association of the pathologist and the clinician that the facts determined in the laboratory can be made to render a maximum service to the problems of clinical practice. This proposition may well be emphasised by those immediately concerned, and it is open to the pathologist, as it is to experts in other specialised departments, to announce by legitimate means his ability to make a particular contribution to the various aspects of medical science and practice. Through the agency of medical journals, of lectures and of local medical societies and discussions, he has, even as others, the means of claiming his place in the professional brotherhood and of educating his fellows in the value of the subject of his choice. Further, in commencing practice, and in accordance with a pleasing custom, he has the right to introduce himself to his professional neighbours and to intimate to them the form of work which he proposes to cultivate. Unquestionably the desirable arrangement is one, not of independence and detachment but of co-operation. Laboratory tests, like other observations, need to be brought into comparison with the clinical record. In any event, the Council feels justified in assuring the writers of various memoranda submitted to it that the Association will through its *Journal* and by other agencies continue to emphasise the position of laboratory tests as aids to diagnosis and treatment, and to recognise that such tests are of special value when their application rests on a known individual guarantee and when the results are placed by personal consultation in their due order and perspective.

Advertisements of Pathological Institutes.

91. One of the complaints advanced by the private pathologist is that advertisements of pathological institutes and laboratories in the *British Medical Journal* are allowed, while ethical custom forbids such advertisements to individuals. There is here obviously some inequality of opportunity, and though not prepared to advise the summary exclusion of these advertisements, the Council is of opinion that in some respects they require supervision. The Council has therefore defined the conditions under which such advertisements may be allowed in the *British Medical Journal* as follows :—

> (i.) That the offer of the advertisement is accompanied by a guarantee from some responsible person that the work of the laboratory is conducted by a registered medical practitioner whose name must be supplied to the office, and
>
> (ii.) that the advertisement quotes no tariff or fees.

92. Advertisement by postal circulars to members of the profession raises a more difficult issue. The custom has long been cultivated without open objection, and, seeing that there are certainly some parts of the country where local pathological facilities are not at hand, an intimation of the addresses of available laboratories must be admitted to be convenient or even necessary. The Council is of opinion that if and when such intimations are issued they should in all cases bear the name of the registered medical practitioner responsible for the work of the laboratory, and that each report issued from the laboratory should be guaranteed in like fashion. Again, any announcement by postal circular should cultivate the characters of a professional intimation rather than those of a commercial advertisement, and certainly anything of the nature of a fee-cutting competition ought to be regarded as utterly undignified and unworthy. To meet the position further, the Council sees no objection to

the private practitioner of pathology announcing the existence of his laboratory to the practitioners in the area in which he practises, provided such announcement is on professional and not on commercial lines. If, as the Council strongly urges, it is in the interests both of medicine and of the public that the individual practising pathologist with opportunities for personal consultation should be widely available, some reasonable method for the announcement of what in many districts must be a new development ought to be allowed, it being of course understood that due regard be paid to professional custom and tradition.

Pathological Institutes and the Public Health.

93. The Council has received various criticisms adverse to the work of certain private institutional laboratories. Into these, however, it has not felt itself called on to enter. Broadly, individualism in laboratory work can claim the special advantage of personal responsibility and guarantee and of the opportunity for consultation and discussion, as compared with what may be called mass production or a simple affirmative or negative verdict. The private pathologist may also claim that in relation to the area in which he practises he is able to afford a prompt service and to avoid those risks of deterioration or change which may seriously affect certain specimens during their transit through the post.

94. Yet on economic grounds, other reasons apart, the organised pathological institute is likely to continue to exist, for certain laboratory tests when applied to numerous specimens at one and the same time can be conducted at a cost which is trifling as compared with the application of the same tests to individual specimens. To secure this advantage the laboratory must collect its specimens from a large area, and such geographical, and consequent economic pressure comes particularly into operation when—and this is a growing quantity—laboratory work is undertaken for public health authorities and is financed at the public charge. The private practitioner working in a limited area is here clearly at a disadvantage, and at the same time he cannot but feel the effect of the low level of the fees accepted by the laboratory working for the public health authority. He may hope by a high standard of personal and professional efficiency and responsibility to win a recognised position in the consulting ranks of the profession, but the routine and simpler tests and the investigations required by public health authorities are likely to continue to find their main application in the organised pathological institute. This statement may be partially qualified by the possibility that medical practitioners in increasing measure may cultivate laboratory methods for themselves.

Varieties of Pathological Institutes.

95. The Council has learned the necessity of recognising certain differences of professional quality between various classes of pathological institutes advertised in the medical journals or elsewhere. In some instances the institute is obviously a form of advertisement cultivated by a commercial firm for the sake of drawing the attention of the profession to the firm's goods or products; and cheap fees are charged in order to render the advertisement more effective. The Council considers this practice most objectionable, as it makes a scheme of medical work and responsibility subordinate to a purely financial end. Further, if such a practice is legitimate in reference to pathology, there would seem to be no consistent objection to its application in other directions, and thus a commercial firm might among its advertising activities offer the opportunities of a cheap X-ray department or the consultant services of a physician, surgeon or other expert. The Council is of opinion that the Association should endeavour to discourage its members from any association with pathological institutes of this order.

Other organisations advertised as pathological institutes or under some allied term are, there is reason to believe, the property either of an individual medical practitioner or of a group of practitioners or of a limited liability company.

96. Again, the laboratories of hospitals and of medical schools are utilised as a source of information by private practitioners. Strictly speaking such laboratories should undertake examinations needed for hospital patients only. But it is not unnatural that practitioners should prefer reports, even for non-hospital cases, from a pathologist attached to the school where they have been students. In any such arrangement the relation should be a personal one between the practitioner and the pathologist as consultant, rather than between the practitioner and the hospital. Where a pathologist attached to a hospital or medical school undertaking pathological work as a general service does such work for persons able to pay fees, the fees paid for such examinations (subject to such charge for the use of the laboratory as may be arranged) should, the Council considers, be the property of the pathologist and should be a matter of private arrangement between the pathologist and the persons for whom the examinations are made.

The Council recommends:—

Recommendation: That the Representative Body disapproves of the establishment by trading firms of laboratories as subsidiary enterprises for the purpose of offering pathological examinations and reports on individual cases, and advises members of the Association to avoid any association with such enterprises.

Recommendation: That in the opinion of the Representative Body all institutions undertaking pathological examinations and reports should include in any intimation made to the profession the name of the registered medical practitioner in charge of the laboratory, and that each report issued from the laboratory should be guaranteed by the personal signature in writing either of this practitioner or of some other registered medical practitioner approved by him.

Recommendation: That in the opinion of the Representative Body, public health authorities should neither provide for pathological examinations nor furnish pathological reports on individual cases, except (i.) in cases which directly involve questions of public health, or (ii.) where provision is made for such reports by statutory right, or (iii.) when the patient is stated by the practitioner to be, in his opinion, unable to pay a fee.

Recommendation: That where a pathologist attached to a hospital or medical school undertaking pathological work as a general service does such work for persons able to pay fees, the fees paid for such examinations (subject to such charge for the use of the laboratory as may be arranged) should be the property of the pathologist and should be a matter of private arrangement between the pathologist and the person for whom the examinations are made.

Medical Ethics.

ADVERTISEMENTS OF THERAPEUTIC INSTITUTIONS IN THE MEDICAL PRESS.

97. The A.R.M., 1924, passed the following resolution on the question of advertisements of therapeutic institutions in the medical press:—

Minute 151.—Resolved: That the advertisement in the medical press of institutions professing to provide medical advice and treatment is a practice free from objection, and such advertisements may include the names of the resident and attending medical officers.

It appears to the Council that, as a large number of advertisements of such institutions appearing week by week in the *British Medical Journal* contain particulars which are not free from objection, the above decision of the Representative Body should be amplified to meet the position.

The Council takes the view that it is sufficient to state in the advertisements the name or names of the medical officers of the institutions, with their qualifications, and that the inclusion of such particulars as the private address, consulting rooms or hours savours of personal advertisement of the practitioner concerned.

The Council recommends:—

Recommendation: That the Representative Body considers it undesirable that there should be inserted in the medical press or in other publications primarily intended for the medical profession any advertisement of a therapeutic institution which includes any laudatory statement of the form of treatment given, or the private address or the consulting rooms or hours of a member of the medical staff; but that there is no objection to the name and qualifications of medical officers of the institution being given.

PUBLICITY BY MEDICAL PRACTITIONERS: HIGH COURT ACTION BY THE ASSOCIATION.

98. From the various pronouncements made in the public press it would appear that the Association's attitude with regard to the publicity which is allowed to medical practitioners is still misunderstood. The policy of the Council in this matter is guided by paragraph 12 of the Report of the Central Ethical Committee on Indirect Methods of Advertising approved by the A.R.M., 1925, which was re-stated in the Annual Report of the Council, 1926 (*B.M.J.* Supplement, April 24th, 1926, page 144).

A commentary upon the Association's attitude in regard to publicity by doctors appeared in a certain London newspaper. The Association was advised by its solicitor that this commentary constituted a libel upon the Association

which would entitle it to redress. The newspaper in question having declined to publish an apology, the Council had no alternative but to institute proceedings against the printers and publishers of this newspaper, and the action is pending.

PREPARATION BY ASSOCIATION OF AN ETHICAL CODE.

99. The Council has considered the question of the publication by the Association of an Ethical Code. Having regard however to the ground covered by Section IV. of the Handbook for Recently Qualified Medical Practitioners dealing with "Some Practical Aspects of Medical Work," the Council is of opinion that that Section renders it unnecessary and undesirable for the Association to issue at present any other guide on ethical matters. The Council contemplates the extension of the Section from time to time in conformity with the various ethical pronouncements of the Association.

ADOPTION BY DIVISIONS AND BRANCHES OF RESOLUTIONS UNDER THEIR ETHICAL RULES *Re* THE SCALE OF MINIMUM COMMENCING SALARIES.

100. As a result of the decision of the A.R.M., 1926, urging those Divisions and Branches in England and Wales which had not adopted a resolution under their Ethical Rules in relation to the scale of minimum commencing salaries for whole-time public health appointments to take steps in this matter, many of the bodies concerned have taken the necessary action. The position to date is as follows:—

	Have adopted Resolution.	*Out of possible total of.*
Branches	17	26
Division Branches ...	3	3
Divisions	73	152

Those Branches and Divisions which have failed to adopt a Resolution are thereby depriving the profession, not necessarily only in their own area, of a powerful weapon of defence when public health appointments are offered at inadequate salaries. The Council, therefore, urges these Branches and Divisions to take action in this matter at the earliest possible opportunity.

ETHICAL RULES.

101. In pursuance of the standing instruction of the Representative Body the Council reports that the following bodies in Great Britain have still not adopted the Revised Ethical Rules:—*Divisions:* Argyllshire, Chester, Crewe, Dumbartonshire, Durham, Edinburgh and Leith, Halifax, Islands, Leigh, Ross and Cromarty, Salford, Wandsworth, *Branches:* East York and North Lincoln, Edinburgh.

Medico-Political.

CORONERS' AMENDMENT ACT, 1926.

102. Although this Act has not given full effect to the aims of the Association as laid down by the Representative Body in 1925, it has improved by 50 per cent. the fees paid to medical witnesses, and has introduced a fee of 10s. 6d. for a report by a practitioner who, having conducted a post-mortem (at the request of a Coroner), has supplied the Coroner with a report and has not been called upon to give evidence. Practitioners will in future receive a fee for each attendance at adjourned inquests and not, as in the past, one fee to cover all attendances at an inquest.

The full list of fees for medical practitioners, as from 1st May, 1927, will be governed by the following provisions of the Act:—

(a) for attending to give evidence at any inquest whereat no post-mortem examination has been made by the practitioner, one-and-a half guineas for each day on which he is required to attend; and

(b) for making a post-mortem examination of the body of the deceased and reporting the result thereof to the coroner without attending to give evidence at an inquest, two guineas; and

(c) for making a post-mortem examination of the body of the deceased (including the making of a report, if any, of the result thereof to the coroner) and for attending to give evidence at an inquest on the body, three guineas for the first day and one-and-a-half guineas for each subsequent day on which the practitioner is required to attend.

In relation to this matter the following resolution was passed by the Representative Body, 1926:—

Minute 108.—Resolved: That the Representative Body is of opinion that all medical officers—honorary or otherwise—of hospitals or rate-aided institutions be entitled to receive fees on the same scale as other practitioners for post-mortem examinations and attendance as medical witnesses at inquests.

and the Council is pleased to be able to report that the Coroners' Amendment Act of 1926 has removed the long standing grievance referred to.

REGISTRATION OF MATERNITY AND NURSING HOMES.

103. The Representative Body, 1925, in Minutes 122 and 123 instructed the Council to oppose the Nursing Homes (Registration) Bill, 1925, and also any other Bill having reference to Nursing Homes based on similar principles. The "similar principles" were defined as (i) non-recognition of the local medical profession by the supervising authority; (ii) disclosures of private case-records to supervising authorities; and (iii) inclusion within the definition of a nursing home of premises which are under the control of a registered medical practitioner.

104. The Council did not succeed in getting this policy adopted in the Midwives and Maternity Homes Act, 1926, Section 5 of which provides a penalty for a person who after 1st January 1927 carries on a maternity home, unless that person is registered in respect of that home. This Act defines a maternity home as

> "any premises used or intended to be used for the reception of pregnant women or of women immediately after childbirth, but shall not include any hospital or other premises maintained or controlled by a Government Department or local authority, or by any other body of persons constituted by special Act of Parliament or incorporated by Royal Charter."

The Act, however, provides, in Section 11, that a Local Supervising Authority may grant exemption from registration in respect of

> "any hospital or other premises for the conduct of which a duly qualified medical practitioner resident therein is responsible or any hospital or institution not carried on for profit or not used mainly as a maternity home"; or
>
> "any hospital or institution not carried on for profit and not used *mainly as a maternity home*"

but the same section also provides that the local supervising authority may at any time withdraw an exemption granted thereunder.

Maternity Homes registered under this Act are liable to be inspected by an officer duly authorised by the local supervising authority, who may inspect any records. It is required that in registered maternity homes the certificate of registration shall be exhibited in a conspicuous place.

105. The Nursing Homes (Registration) Bill, read a second time in the House of Commons on 1st April, 1927, and remitted to a Standing Committee, provides (contrary to the policy of the Association referred to in para. 103) for the registration and inspection of all nursing homes whether or not under the control of a resident medical practitioner, and repeals the provision in the Midwives and Maternity Homes Act, 1926 (Part II.) empowering local supervising authorities to exempt from registration maternity homes under the control of a resident medical practitioner.

106. The Council, after due consideration, and on the strong advice of medical Members of Parliament, is of opinion that it would be detrimental to the interests of the public and of the profession for the Association any longer to attempt to secure exemption from registration and inspection of either nursing or maternity homes for which a resident medical practitioner is responsible.

107. The Council intends, however, taking parliamentary action in connection with the Nursing Homes Registration Bill, in furtherance of the rest of the Association's policy on this question.

LUNACY LAW AND ADMINISTRATION.

108. The Council has appointed a Special Committee to consider the Report of the Royal Commission on Lunacy and Mental Disorder (as regards England and Wales) and to examine the recommendations of the Commission in relation to the evidence submitted on behalf of the Association.

The following resolution of the Representative Body, 1926, has been referred to this Committee:—

Minute 115.—Resolved: That the following Motion be referred to the Council:—

> That the Council be requested to take all necessary steps as soon as possible to deal with the situation that has arisen as a result of the findings of the jury in the "Harnett v. Fisher" case with the view of protecting the interests of the medical profession.

EXAMINATION AND REPORT ON NAVAL PERSONNEL AND PENSIONERS.

109. The scale of fees payable to medical practitioners for examination and report on Naval Personnel and Pensioners has, on the representations of the Association, been increased,

and the following revised scale has been issued by the Admiralty:—

	s.	d.
For examining a naval rating. For invaliding and reporting on form B. 145, and in the case of tuberculosis, M. 133 ... ... (old fee, 5s.)	7	6
For visiting and reporting on a naval rating sick on shore	5	0
For examining and reporting on an applicant for a grant from the Compassionate Fund ...	5	0
For examining and reporting on applicant for benefits for Greenwich Hospital	4	0
Re-survey of naval pensioner and report on form B. 145	4	0
For examining an applicant for compensation and report on D. 729	4	0
For examination for enrolment and re-enrolment in Royal Naval Reserve	4	0

Travelling expenses 1s. per mile, one way.

CENTRAL EMERGENCY FUND.

110. This Fund was created in 1905 with the object of assisting members of the Association to maintain the interests of the profession against organised bodies, and grants made from this Fund have been of great assistance in the past. The Fund is administered by the members of the Medico-Political Committee who act as trustees, and is entirely supported by voluntary contributions.

PRIVY COUNCIL COMMITTEE ON POISONS AND PHARMACY ACTS.

111. At the invitation of the Privy Council Committee on the Poisons and Pharmacy Acts, the evidence set out in Appendix V., was given before that Committee on behalf of the Association, on 4th March, 1927, oral evidence in support thereof being given by Dr. J. W. Bone, Mr. E. Lewis Lilley, and the Medical Secretary.

EXAMINATIONS UNDER SCHOOL TEACHERS (SUPERANNUATION) ACT, 1918.

112. As a result of action taken by the Council, medical practitioners should in future have no difficulty in obtaining a fee of 15s. for the examination of teachers submitting themselves for medical examination under the School Teachers (Superannuation) Act, 1918.

PUERPERAL MORBIDITY AND MORTALITY.

113. The enquiry into the causation of puerperal morbidity and mortality and on the administrative action, if any, that should be taken in connection with this matter is being continued, but the Council is not yet in a position to report thereon.

With a view to assisting in the consideration of this very important subject, information under the following heads, among others, has been sought but the response to the first has been very inadequate:—

(a) the experiences of individual practitioners and Lying-in Hospitals as to the incidence of puerperal fever and mortality; and

(b) the number of maternity beds available throughout the country.

The Puerperal Fever and Puerperal Pyrexia Regulations, 1926, which came into operation on 1st October, 1926, require the notification of cases of puerperal fever and puerperal pyrexia, and also provide that local authorities may, if the notifying doctor so desires, provide a second opinion, trained nurses, pathological examination of the lochia or blood, and hospital accommodation for the patient. This coincided with the previously expressed opinion of the Council.

The Council, being of opinion that it would be inadvisable for the Association to lay down a uniform fee which local authorities should pay to consultants for services rendered under these Regulations, has advised that the fee paid should bear relation to the usual consultation fees in the various areas, and should be arranged between representatives of the medical profession and the local authority.

DANGEROUS DRUGS TRIBUNALS.

114. The Representative Body, 1925 (Min. 192 (1)) approved a suggestion by the Government that a special medical tribunal should be set up consisting of three medical practitioners to be nominated by the General Medical Council, the British Medical Association and the Royal College of Physicians with a legal assessor, to consider charges against medical practitioners for offences under the Dangerous Drugs Act and to advise the Home Secretary as to the withdrawal of the authorisation to possess and supply the drugs and the right to prescribe them. Under the Dangerous Drugs Regulations, 1926, two such tribunals have been set up, one for England and one for Scotland and, in response to the invitation of the Home Office to nominate a member of each of these tribunals, together with two practitioners to act as substitutes in respect of each tribunal, the Council nominated Dr. J. W. Bone (Luton) for the English and Prof. T. K. Munro (Glasgow) for the Scottish Tribunal, with Dr. H. G. Dain and Dr. W. Paterson, and Dr. G. A. Allan and Dr. John Patrick, as substitutes for the nominees. These nominations have been adopted by the Home Office.

MEDICAL PRACTITIONERS ENGAGED IN MUNICIPAL MATERNITY HOSPITALS.

115. The Representative Body in 1926 adopted the following resolutions as "policy":—

Minute 88.—Resolved: That where the Local Authority makes provision for the institutional treatment of maternity cases, this should be mainly or primarily for serious cases of ante-natal complications, for cases requiring major obstetric operations, for cases where isolation and treatment of septic infection is specially indicated, and other cases where the home conditions are unsuitable or dangerous for confinements.

Minute 92.—Resolved: That where a general practitioner is called upon to render assistance at a confinement in a Municipal Maternity Hospital, the fees payable to such practitioner should not be less than the scale of fees approved by the Ministry of Health for the payment by Local Supervising Authorities to medical practitioners called in on the advice of midwives under Section 14 of the Midwives Act, 1918.

Minute 95.—Resolved: That where a consultant is called in by the practitioner in charge of the case the fee should be for the consultation not less than three guineas and for a major operation not less than ten guineas.

During the discussion of this matter by the Representative Body it was proposed (Min. 90) that the whole of the last clause of Minute 92 should be deleted and the following words substituted therefor:—

The Local Authority shall be responsible to such practitioner for his fees until such time as the patient is removed from the hospital.

The Council is, however, of opinion that it is not desirable that the responsibility of Local Authorities in regard to the payment of fees in respect of maternity cases should be extended beyond the present period of responsibility, namely four weeks, and accordingly recommends:—

Recommendation: That (with reference to Min. 90 of the A.R.M. 1926), inasmuch as the liability of Local Authorities for the payment of a medical practitioner called in on the advice of a midwife extends over a period of four weeks from the birth of the child, it is not desirable to suggest that the period of responsibility of Local Authorities should be extended.

116. The Representative Body, 1926, also passed the following resolution:—

Minute 97.—Resolved: That the question of consultative services for Municipal Hospitals on a salaried basis be referred to the Council.

In this connection the Council recommends:—

Recommendation:—That the principle of remuneration on a salaried basis for consultative services to municipal maternity hospitals is not unreasonable but that the actual salary must be governed by the circumstances of each particular case (*i.e.*, the amount of work required and the time occupied) and should bear some relation to the remuneration laid down in the following Minute 95 of the Annual Representative Meeting, 1926.—

Minute 95.—Resolved: That where a consultant is called in by the practitioner in charge of the case the fee should be for the consultation not less than three guineas and for a major operation not less than ten guineas.

ADMINISTRATION OF ANÆSTHETICS.

117. The Representative Body in 1910, in approving the evidence given on behalf of the Association before the Departmental Committee on Coroners Law, &c., approved *inter alia* the following:—

(1) That it should not be permissible for any person other than a registered medical practitioner or a registered dentist to administer any anæsthetic for medical or surgical purposes.

(2) That registered dentists should be permitted to administer nitrous oxide and local dental anæsthetics, but no other anæsthetics.

(3) That it is undesirable that any person should act both as operator and administrator in the same case where this

can be avoided, but it must be recognised that cases occur in practice, especially in sparsely populated districts, in which this responsibility must occasionally be undertaken.

As dentists now receive, as part of their training, instruction in the administration of anæsthetics the Council recommends that the policy as contained in the foregoing paragraphs should be amended to meet the present position.

Recommendation:—That the policy of the Association (as contained in the paragraphs relating to the administration of anæsthetics approved by the Representative Body in 1910, as part of the evidence given on behalf of the Association before the Departmental Committee on Coroners Law, &c.) be amended to read as follows:—

(1) That no person other than a registered medical practitioner should administer any anæsthetic for medical or surgical purposes, except that a registered dentist may administer anæsthetics for dental purposes only;

(2) That where a general anæsthetic is administered it is undesirable that any person should act both as operator and administrator in the same case where this can be avoided, but it must be recognised that cases occur in practice, especially in sparsely populated districts, in which this responsibility must occasionally be undertaken.

Remuneration of Medical Practitioners Administering Anæsthetics in connection with Dental Benefit under the National Health Insurance Acts.

118. Under the provisions which exist in the National Health Insurance Regulations for additional benefits, a number of Approved Societies are giving dental benefits to their members and a number of these societies, through the Dental Benefit Joint Committee (which is comprised of representatives of Approved Societies and dentists), have agreed to a scale of dental charges. The Council has informed the Ministry that the Association does not recognise this scale as applying to medical practitioners. The Council recommends the following scale of fees as applicable to medical practitioners for such services:—

Recommendation: That the fees for medical practitioners administering anæsthetics for dental operations (as an additional benefit under the National Health Insurance Acts), be as follows:—

(a) for the simple administration of nitrous oxide or a similar anæsthetic, 10s. 6d. if only one patient is dealt with, but if more than one patient is dealt with at the same time and place the fee should be 7s. 6d. per patient; and

(b) that for other administrations, whatever the anæsthetic, the fee should be one guinea.

Local Authorities and payment for Ante-Natal work.

119. The Representative Body in 1926 (Minute 112) instructed the Council to consider the advisability of pressing for the amendment of the Midwives Act, 1918, in order to secure that Local Authorities should be responsible for payment for ante-natal work.

The Council considers that, for the following reasons, the responsibilities of Local Authorities in this respect should not be increased:—

(a) such a provision would only apply to persons not entitled to medical benefit under the National Health Insurance Acts;

(b) any such provision might lead to persons who are not entitled to medical benefit being sent to the local clinic, where there is one, instead of remaining with their own doctors; and

(c) that where there are no clinics Local Authorities who are already complaining of the heavy burdens laid on them by Section 14 of the Midwives Act, 1918, might reasonably oppose the suggestion.

The Council accordingly recommends:—

Recommendation: That it is inadvisable to press (as suggested in Minute 112 of the A.R.M. 1926) for the amendment of the Midwives Act, 1918, in order to secure that Local Authorities be made responsible for ante-natal work to any greater extent than is at present the case.

Tests for "Drunkenness."

120. The Special Committee of the Association which was appointed to consider and report on the present tests for "drunkenness" with recommendations as to their modification or improvement, has presented its report to the Council.

On account of the special nature of the Report the Council is not submitting it to the Representative Body for approval, but authorised its publication in the Supplement to the *B.M.J.* of 19th February, 1927, and the Report was immediately communicated to the lay Press and placed on sale. The members of the Committee have been cordially thanked for their services.

Factories Bill.

121. Under the Factories Bill, 1926, it was proposed to transfer from Local Authorities to the Home Office the duty of enforcing those provisions of the Factories Act which relate to the sanitary conditions of workshops. This is opposed to the policy of the Association that the administration of all health services should be co-ordinated under the Ministry of Health. As the Government has stated its intention again to introduce a Bill on the lines of the 1926 Bill, the Ministry of Health has been asked to receive a deputation from the Association, the Society of Medical Officers of Health and the Association of Certifying Factory Surgeons which will urge that the Association's policy on this matter should be adopted. The Ministry is at present in communication with the Home Office on the matter.

Medical Defence.

122. The following two motions (Mins. 113-4) were submitted to the Representative Body in 1926, but subsequently withdrawn:—

That the Representative Body views with alarm the present position of members of the medical profession with regard to medical defence in that no Medical Defence Society completely indemnifies the principal for the acts of his assistant or locum; and is of opinion that the time has arrived for Defence Societies to issue a comprehensive policy such as is issued in other branches of insurance work.

That the Representative Body calls attention to the fact that under present conditions principals are legally responsible for the acts of their assistants unless both belong to the same Medical Defence Society, and instructs the Council of the Association to take up the question with a view to the issue by the Medical Defence Societies of an "All-In" policy, to cover these risks, on the lines of other insurance companies.

Arising out of consideration of the matters dealt with in these motions and out of correspondence with regard to medical defence which appeared in the *British Medical Journal*, a conference was arranged between representatives of the Association and the Standing Joint Committee of the Medical Defence Union and the London and Counties Medical Protection Society, when matters relative to the medical defence of medical practitioners were considered, and certain questions were submitted on behalf of the Association with a view to defining the exact liability of the societies.

The representatives of the societies agreed to give these matters their very serious and, if possible, favourable consideration, and the Council is now awaiting their deliberations, and hopes to report in the Supplementary Report.

Orthopædic Hospitals and Clinics, and Treatment of Physically Crippled Children.

123. The Representative Body in 1926 (Min. 103) decided that for part-time work at ordinary orthopædic clinics the remuneration of the medical practitioner should be £2. 12s. 6d. per session of not more than two hours, provided there is a limitation, to be agreed locally, of the average number of new cases to be seen in each session.

124. The Council submits for the information of the Representative Body the Memorandum contained in Appendix VI. concerning the following resolution of the A.R.M. 1926:—

Minute 122.—Resolved: That this meeting requests the Council generally to consider and report upon the present position and probable future development of organised schemes for "the treatment of physically crippled children" (infancy up to 16 years of age), and of "children suffering from actual or potential rheumatism and/or heart disease," and in particular to consider the following suggested governing principles:—

(a) The selection of patients should be mainly through the various branches of the Public Health Service;

(b) the clinical treatment should, wherever possible, be by means of private practitioners and voluntary hospitals,

and recommends:—

Recommendation: That the specialist work of orthopædic treatment whether at hospitals or clinics should not be done by whole-time officers, but, on a part-time basis, by surgeons who need not necessarily be devoting all their attention to orthopædic work.

Recommendation: That existing local institutions should be utilised to their fullest extent.

Recommendation: That the private practitioner should have free access to the work at hospitals and clinics for the purposes of observation and training, and that his services should be fully utilised by giving him a definite position in the scheme both at the clinic and in the domiciliary care of cases.

Recommendation: That the arrangements laid down in the British Medical Association's scheme for school children and maternity and child welfare clinics should apply equally in regard to orthopædic clinics. (*Vide Handbook, p. 192.*)

Mental Deficiency Bill.

125. The Mental Deficiency (H.L.) Bill, 1926, was dropped by the Government at the end of the last Parliamentary Session owing to lack of time and to the fact that the definition of "mental defectiveness" contained therein was to be opposed. The definition of "mental defectiveness" proposed in that Bill was "a condition of arrested or incomplete development of mind whether innate or induced after birth by disease, injury or other cause," and the Council, as it approved that definition and considered it would fill in a gap left by the Mental Deficiency Bill, 1913, urged the Ministry of Health to reintroduce the Bill early in the 1927 Parliamentary Session.

126. Another Bill has now been introduced as a private Member's Bill and "mental defectiveness" is therein defined as "a condition of arrested or incomplete development of mind existing before the age of 18 years, whether arising from inherent causes or induced by disease or injury." It is hoped that this variation will placate much of the former opposition. The Council is raising no objection to the proposed definition.

Receipt of Fees by Medical Members of Local Authorities.

127. A deputation from the Association has discussed with a representative of the Ministry of Health, difficulties which may arise owing to the acceptance by medical members of local authorities of fees for medical services paid by those authorities. The deputation was anxious to find out if medical members of local authorities accepting such fees could be exempted from disqualification under Section 12 of the Municipal Corporations Act, 1882, which would prevent them being or remaining members of local authorities.

128. The Ministry of Health, while fully alive to the difficulties of the position, pointed out that legislation would be necessary to get over them and that the Association would doubtless appreciate that if such legislation applied only to the medical profession it might savour of preferential treatment.

129. The Minister of Health considers that it would be proper to remove any disqualification now existing in cases where a contract was made by accepting an offer which was open generally to the public or to any specified class of the public and that this would cover the payment of fees by a local authority to any medical practitioner for reporting specified cases upon which he was in attendance such as that of a patient suffering from an infectious disease or a patient unfit to attend school; he believes that the Courts would hold that a medical practitioner was not disqualified in such circumstances and he would be disposed, should an opportunity occur, to introduce legislation removing any doubts in the matter. On the suggestion of the Ministry, the Council made enquiries as to whether other organised bodies of professional men are affected and has ascertained that the Royal Institute of British Architects, the Law Society, the British Dental Association and the Surveyors' Institution have received no complaints from their members in this connection.

130. The Council therefore feels that it is the medical profession alone that is affected by the present legal position and has intimated to the Ministry of Health that the Association desires (a) that members of medical staffs of hospitals who receive a portion of the money paid to hospitals by local authorities for the treatment of patients for whom the local authorities are responsible, and (b) medical practitioners who receive remuneration for medical attendance at clinics organised by local authorities where there is a rota of practitioners or where all practitioners who so wish may take a part in the work should not in consequence be debarred from membership of the local authorities concerned.

Medical Officers of Public Schools.

131. The Medical Officers of Public Schools Association having sought the assistance of the Association with a view to securing improved conditions of remuneration and employment of medical officers of public schools and improving the status of such officers, the Council submits the following recommendations for the consideration of the Representative Body. For the assistance of the Representative Body in considering this matter the Council also submits a memorandum as regards the duties, difficulties and conditions of service of such officers, namely:—

(a) The work of a medical officer of a school is carried on in circumstances which differ from those of the general practitioner. He is at a disadvantage in that he generally has no personal consultation with the parents or guardians of the boys who are ill, except by a special arrangement, nor is he in touch with the doctors who attend the pupils when they are at home.

(b) The Association is of opinion that it is advisable and desirable that every pupil in a public school should be examined periodically and a report furnished on their physical development.

(c) It is a common fallacy to assume that because the school population is one of healthy pupils, the sum total of work is small. This will be seen from a consideration of the duties of the medical officer which may be stated under the following heads:—

(d) Care of those who are actually sick—pupils and usually masters (servants are excluded, as they are attended under the N.H.I. Acts).

(e) Preventive work, i.e., keeping the pupils well

(i.) by constantly being among them and knowing them personally so as to recognise the early stages of fatigue, whether due to over-exercise, too little sleep, or a diet which may be lacking in quantity or quality. Periodical examinations of all pupils should be made and records kept;

(ii.) by general hygienic measures. These comprise diet in all its aspects, hours of sleep, hours of work in relation to age; exercise (its modification and relation to meals); and physical training; the efficient lighting, ventilation and cleanliness of the school premises; and personal cleanliness.

(f) Of the duties enumerated above, those under "preventive work" are the most important and onerous.

(g) It is the duty of the medical officer to know all the pupils personally so that he may be able to recognise at once any signs of debility or poor nutrition.

(h) The pupils are continually engaged in mental or physical work; the former, with the stress of rapid development during puberty, bringing certain troubles in its train; the latter with its liability to numerous minor surgical ailments.

(i) The school medical officer must be prepared to deal with parents and guardians of the pupils and these have many and varied ideas on the question of exercise, diet and medical treatment. This will often require a great deal of tact and knowledge of the world.

(j) Clerical work, including correspondence with house masters, parents and doctors, reports to the headmaster, the keeping of personal records of each pupil, general statistics and an annual report to the governing body.

(k) The administrative duties are comparable to those of a hospital superintendent without the help of a secretary or typist.

(l) His work commences about 8 a.m., with out-patient sick parade. He sees all pupils reporting sick for the first time, and will keep a watch on all other cases brought up for treatment. He must be constantly on the alert for any case of contagious or infectious disease especially during the first three weeks of the term.

(m) The ward visit is then made, all necessary dressings done and arrangements made for treatment.

(n) Clerical work follows. A list of all patients is sent to the headmaster and to each house master or tutor concerned with a report on the condition of the patient.

(o) Special detailed treatment (i.e., adjustment of splints, dressings, and minor operations) follows, with the necessary radiology and development of negatives, etc. Routine correspondence with parents of in-patients is usually carried out by house masters but in special cases the medical officer must do this after his in-patient visit.

(p) An afternoon or evening sick parade is held, followed by an evening visit to the in-patients. During the afternoon the medical officer must be available in case of accidents in the playing fields.

(q) The examination of new pupils is a very important duty. This takes much time and care as defects unknown to the parents are often found and must be reported to them.

(r) Arrangements may have to be made for anæsthetics for dental operations and for major operations.

(s) The work does not often finish with the end of the school term, and in addition the medical officer must be available at least a week before the commencement of the next term.

(t) Official school holidays amount to 15 or 16 weeks in the year, but the medical officer rarely gets half of this clear of all school work.

Whole-Time Medical Officers of Public Schools.

Recommendation:—That the whole-time Medical Officer of a Public School should be appointed by, be directly responsible to, and have direct access to, the Governors of the School.

Recommendation:—That the whole-time Medical Officer of a Public School should be a medical practitioner who has had experience in practice, including experience in special branches of medical work; and that the possession of a qualification in public health work would be an additional advantage.

Recommendation:—That the minimum commencing salary of a whole-time Medical Officer of a Public School with a maximum of 500 resident pupils should be £600 a year, plus £1 per head per annum for each resident pupil in excess of 500; and that, in addition, the Medical Officer should be provided by the School Authorities with a suitable house or an adequate allowance in lieu thereof.

Recommendation:—That the initial salary of a whole-time Medical Officer of a Public School should be subject to such periodical increments as shall have been determined upon between the Governors of the School and the Medical Officer at the time of his appointment.

Recommendation:—That the whole-time Medical Officer of a Public School should not be responsible, during the intervals between school terms, for any medical attendance given to pupils other than those remaining at the school owing to illness.

Recommendation:—That the duties of a whole-time Medical Officer of a Public School should include:—

- Examination of all new pupils on admission to the school.
- Periodical examination of resident pupils.
- Special examination of candidates for the various Services.
- Simple vision and colour vision testing.
- Supervision and inspection of school dietary.
- Supervision and inspection of physical training of pupils.
- Supervision of school sanitation.
- Attendance on sick resident pupils and masters.
- Inoculations and administration of vaccines.
- Dispensing of medicine, but not the provision of drugs.
- Administration of anæsthetics for dental extractions.
- Attendance while school games are in progress.
- Keeping of medical records of resident pupils.
- Special reports to the Headmaster, and House Masters *re* patients.
- Correspondence with House Masters, Tutors, parents and private medical attendants of pupils.
- General administration of the sanatorium.
- Advice on all general hygienic measures in connection with school work.
- Annual report to the Governing Body.

Recommendation:—That the following duties should not be demanded of a whole-time Medical Officer of a Public School as being covered by his salary, but may be undertaken by him by special arrangement:—

- Bacteriological examinations.
- Administration of general anæsthetics (except in emergency).
- X-ray examinations.
- Routine refraction testing.
- Major operations.

Recommendation:—That a whole-time Medical Officer of a Public School should not be allowed to enter into private practice nor to undertake consultative work outside the school community, but he may make private arrangements for:—

- Attendance on Masters out of term time.
- Attendance on Families of Masters.
- Attendance on Servants of Masters.
- Attendance on School Servants.

Recommendation:—That, in the case of a preparatory or junior branch school under the same governing body as the principal school, it should be open to the Medical Officer to the principal school to act as Medical Officer to such preparatory or junior branch school, but he should not act as Medical Officer to a preparatory or junior branch school not under the same governing body as the principal school.

Recommendation:—That satisfactory arrangements should be made in school curricula for giving instruction to the pupils on questions of health and hygiene; and that the Medical Officer should be consulted in framing the syllabus.

Part-Time Medical Officers of Public Schools.

Recommendation: That a part-time Medical Officer of a Public School should be appointed by, be directly responsible to, and have direct access to, the Governors of the school.

Recommendation: That the usual duties of a part-time Medical Officer of a Public School include:—

- Attendance on sick resident pupils.
- Reports to Masters on sick resident pupils.
- Correspondence with parents regarding the health of resident pupils.
- Accessibility when school games are in progress.

Recommendation: That the remuneration of a part-time Medical Officer of a Public School for the performance of such duties should be either:—

(a) by a capitation fee of not less than 10s. 6d. per resident pupil per term, or £1. 11s. 6d. per resident pupil per year;

(b) by salary of such amount as shall be approximately equivalent to the remuneration of the Medical Officer if he were paid a capitation rate as stated in foregoing sub-paragraph (a); or

(c) by arrangement with the parents of the pupils where the parents are directly responsible to the Medical Officer for the payment of his fees;

Recommendation: That the duties of a part-time Medical Officer of a Public School should also include:—

- Examination of new pupils on admission to the school.
- Periodical examination of pupils.
- Keeping of medical records of resident pupils.
- Supervision and inspection of dietary of resident pupils.
- Supervision and inspection of physical training of pupils.
- Simple vision and colour vision testing.
- Advice on all hygienic measures in connection with school work.

Recommendation: That where the additional duties enumerated in the foregoing recommendation are required of a part-time Medical Officer of a Public School the remuneration should be increased by higher capitation rate or retaining fee.

Recommendation: That satisfactory arrangements should be made in school curricula for giving instructions to the pupils on questions of health and hygiene; and that the Medical Officer should be consulted in framing the syllabus.

CERTIFICATION UNDER THE WORKMEN'S COMPENSATION ACT.

132. In paragraph 226 of its Supplementary Annual Report last session, the Council reported that difficulties had arisen in regard to certification under the Workmen's Compensation Act, primarily in connection with the responsibility for payment for medical certificates and that the Council had decided to approach the Accident Offices Association (representing the larger Insurance Offices which undertake workmen's compensation insurance) with a view to ascertaining what certificates are required by Insurance Companies. In this connection the Representative Body passed the following resolution:—

Minute 111.—Resolved: That the following motion be referred to the Council:—

That (with reference to para. 226 of the Supplementary Report of Council) the Representative Body is of opinion that, while the obligation of certification of injury under the Workmen's Compensation Act, is in the first instance placed upon the employer, and there is no obligation whatever under the National Health Insurance Acts to provide compensation certification, nevertheless it is often found that the employer, or his agents, or his covering company requires initial certification either at no expense or wrongfully at the expense of the injured person, and that it is therefore advisable that a uniform and universally used form of certification be employed in all cases in order to conform to the law; and that the Council be instructed to take such steps as may be necessary to bring a uniform certification system into being at the earliest possible moment.

133. The position was discussed with representatives of the Accident Offices Association on 10th March, 1927, when the representatives of that Association stated (a) that they did not require or ask for certificates in the first instance in order to substantiate claims for compensation, but if they decided that a medical report was desirable they paid for it; (b) that they paid the employer insuring with them for any information of a medical nature which they required him to obtain; (c) that the present system worked well, and no uniform system of initial certificates would be of value to them; (d) that they neither induced nor pressed employers to produce certificates; (e) that they would be glad to hear of, and investigate, instances in which employers who were insured with them made difficulties with injured workmen on account of the absence of an initial certificate; (f) that it would not be possible for them to circulate all their clients, pointing out that initial certificates were not required; and (d) that if an employer, for purposes of discipline or record in his own works, asked the insured person to provide a certificate, that was no business of the Insurance Companies.

DEATH REGISTRATION AND CERTIFICATION.

134. As from 1st January, 1927, Registrars of Births and Deaths were instructed that if a medical certificate of the cause of death showed that the certifying practitioner had not seen the deceased person after death nor within 14 days before death, the matter should be referred to a coroner. Before issuing these instructions the Registrar ascertained that the Council would raise no objection to the proposal, but his attention was drawn to the fact that practitioners are allowed to issue monthly certificates to insured patients suffering from chronic illnesses and to the fact that deaths may not infrequently arise towards the end of that period in cases in which the doctor has not recently seen the patient and in whose case there can be no suspicion of neglect or foul play.

The Council considers that when this procedure becomes known to the public it is likely to cause the public, in order to avoid the inconvenience and unpleasantness of an inquest, oriat any rate of inquiries by the Coroner's Officer, to ask the certifyng practitioner to make a visit in order that he may be in a position to certify that he has seen the body of the deceased person. This would be in accordance with the long standing policy of the Association in favour of certification of the fact of death.

REMUNERATION OF ASSISTANTS.

135. The Representative Body in 1925 passed the following resolution:—

Minute 125.—Resolved: (a) That on general principles the employment in suitable cases of assistants by practitioners is in the interests both of the general public and of the profession.

(b) That it is not desirable for a principal to employ an assistant where he is unable to exercise adequate personal supervision over the latter, *e.g.*, in some types of branch practice. In such circumstances a partnership is to be preferred.

(c) That the offer or a promise of a future partnership should not be made a reason for paying a lower salary to an assistant.

(d) That the minimum commencing salary for a newly qualified inexperienced practitioner, acting as a whole-time indoor assistant to a practitioner, should be £240 per annum, with the addition of board and lodging; and in the case of such a practitioner employed on an outdoor basis, the board and lodging value should be estimated at from £120 to £160 per annum according to the circumstances of the individual case; that the only exceptions or possible exceptions to the foregoing should be in the case where, owing to arrangements made for study leave, or to physical disability or other reasons, the assistant is not able to give full time to the work.

(e) That a whole-time assistant should be entitled to not less than two weeks' holiday a year on full pay.

(f) That no steps should be taken for the present to make the foregoing expressions of opinion the policy of the Association, but they should be used for the assistance of the office in advising on points connected with the terms and conditions of the work of assistants. Where an advertisement is offered for insertion in the *British Medical Journal* in connection with an assistantship not in accordance with the foregoing opinions, the attention of the advertiser should be drawn to them in the hope that the advertisement will be amended; but the advertisement should not, if otherwise eligible, be refused.

In attempting to give effect to these instructions, difficulty has been experienced as many practitioners offer their services in advertisements in the *British Medical Journal* for less than the salaries suggested by the Representative Body and this leads to corresponding offers by employers. Moreover, these facts are frequently quoted by candidates for public appointments who are seeking to find an excuse for applying for such as are advertised at rates below those sanctioned by the Association. While at the present time not suggesting any amendment of the resolution of the Representative Body quoted above, the Council thinks the Representative Body should have an opportunity of discussing this matter fully.

SHIP SURGEONS.

136. The policy of the Association with regard to the remuneration of ship surgeons is contained in the following resolution of the A.R.M., 1912:—

Minute 158.—Resolved:—That the remuneration of ship surgeons should not be less than £10 a month.

Many shipping companies now pay their surgeons £25 a month though many pay less and not a few have surgeons who receive no salary. Whilst it is not suggested that the Representative Body should amend the Policy adopted in 1912, the Council proposes in the next edition of the Handbook and Handbook for Newly Qualified Practitioners, to indicate that the above-mentioned minimum salary suggested in 1912 is subject to the 50 per cent. general increase which has taken place in medical fees since the War.

STATUTORY RECOGNITION OF OPTICIANS.

137. Renewed life appears to have been given to the efforts of opticians to secure statutory recognition owing to the use made of them by approved societies in connection with the administration of ophthalmic benefit under the Health Insurance Acts, and the apparent acquiescence therein of the Ministry of Health. A private Bill having been introduced into the House of Commons "to secure the registration of optical practitioners, and to regulate the practice of sight-testing, and for purposes incidental thereto," the Ministry of Health has set up a Departmental Committee to consider the Bill (prepared by the Joint Committee of Qualified Opticians) and requested the Association to nominate a member for appointment thereon. The Council has accordingly nominated Dr. H. B. Brackenbury.

138. The Council has in course of preparation evidence for submission to the Departmental Committee based upon Minute 143 of the A.R.M., 1923, expressing the opinion that any State recognition of sight-testing by persons not possessed of a medical qualification would not be in the interest of the community, and ought to be opposed in the strongest possible manner.

Parliamentary Elections.

139. The Council, on behalf of the Association, expressed approval of the candidature of Dr. Haden Guest as Independent Constitutional candidate at the North Southwark By-election, March, 1927, and made a grant out of the Medical Representation in Parliament Fund to Dr. Guest towards his election expenses. He was, however, unsuccessful in his effort to re-enter Parliament. After payment of the amount in question there is a sum of rather more than £1,000 in this Fund at the present moment.

Public Health and Poor Law.

HEALTH LECTURES BY MEDICAL PRACTITIONERS.

140. In view of the likelihood of increased use being made of the services of medical practitioners for the giving of public lectures on health matters under arrangements made by local authorities, consideration has been given by the Council to the position of such practitioners and as to whether private practitioners should be barred from giving these lectures, more particularly if they practise in the area where the lecture is to be given.

On the former point, the Council, whilst of opinion that medical practitioners should not give their services gratuitously in this connection, suggests that the amount of the remuneration therefor must be governed by the status of the practitioner concerned. On the latter point, the Council sees no reason for any differentiation being made as to practitioners giving these lectures.

The Council recommends:—

Recommendation: (i.) That medical practitioners should not give health lectures under the ægis of local authorities gratuitously; and (ii.) that although the lecturer must in every case necessarily be approved by the local authority there is no reason why any particular class of practitioner should be excluded from delivering such lectures.

SMOKE ABATEMENT.

141. With a view to assisting the Ministry of Health in any efforts it might make to secure abatement of the smoke nuisance, the Council has informed the Ministry of Health that it is of opinion that, in view of the importance of a pure atmosphere for the health of the people, the Government should press forward measures for smoke abatement by securing more stringent laws regarding industrial smoke and by progressive improvement in the methods of domestic heating especially in connection with new housing schemes.

CO-OPERATION BETWEEN B.M.A. AND SOCIETY OF M.O.H.

142. The scheme of co-operation between the Association and Society of Medical Officers of Health agreed to by the Representative Body in 1923 (Min. 39) is under consideration with a view to defining more clearly the relationship between the two bodies and to render their co-operation more effective. As a first step in this direction it has been decided that the offices of the Association and Society shall keep each other advised in all matters relating to prospective public health appointments, and that the Society shall make it clear to all its members that any action taken locally must be by and through the British Medical Association Division.

PUBLIC HEALTH APPOINTMENTS.

143. The efforts of the Council to induce local authorities to adopt the scale of minimum commencing salaries for public health appointments, have met with very fair success. A statement as to the number of cases in which scale salaries have been secured since the A.R.M. 1926, will be included in the Supplementary Report of Council.

SCOTTISH PUBLIC HEALTH APPOINTMENTS.

144. Pending the result of negotiations between the Scottish Committee and the Scottish Health Authorities, the Council has decided not to insert "Important Notices" in the *British Medical Journal* relative to any Scottish public health appointment in which the salary, although less than the scale minimum commencing salary of £630 a year, offers such increments as will make the total salary over a limited number of years equal to that which would be received under the scale, provided that the commencing salary offered is not less than £500 a year.

STATUS OF MEDICAL OFFICERS OF HEALTH IN LOCAL ADMINISTRATION.

145. The fifth Annual Report of the Ministry of Health (dated 1923-24) in its opening section headed "Local Government and Local Finance" contains the following paragraphs:—

> Some difficulties have been caused during the year by proposals to give the Town Clerk more extensive powers of control over other officers than are usually provided for expressly by the terms of appointment.
>
> It is manifest that a Town Clerk or any other officer could not properly dictate to other persons in the employment of the Local Authority, the Medical Officer of Health or the Engineer, for instance, what they should do in the details of technical matters within their particular purview. Nor could any Local Authority impose on any one of their officers duties in conflict with those conferred on any other officers by statute or by central regulations.
>
> The proposal to make some one officer definitely responsible for the general supervision of the whole of the business of the Local Authority, and their chief adviser on all matters of policy, is, however a different question.
>
> The work of Local Authorities has changed very considerably in recent years. The large Authorities, in particular, in addition to being the bodies regulating matters of local government in their area, are in fact important business corporations, carrying out costly services, trading and other.
>
> There appears to be room for consideration whether, while maintaining to the full the traditions of local government service, and, especially, of democratic control, the time has not come for some further development of the administrative arrangements of the Local Authorities, and for their having one chief official who, whatever his title, shall be in a position of definite responsibility for the general official organisation.
>
> It may be premature to express any decided opinion on this possible development, but the question clearly merits attention. Two conditions would always have to be fulfilled —(1) The unquestioned control of the elected body; (2) No derogation from the responsibility of the present principal officers. The value of any such chief official as has been suggested would depend very largely on his exercising general control, on his not attempting to do the detailed work of officers expressly appointed because of their specialised qualifications, and on his working in full harmony with them.

146. The Council takes the strongest possible objection to the suggestions contained in the above-quoted paragraphs and, in notifying the Ministry of Health to this effect, pointed out that it considered it impossible for a town clerk to be responsible for the work either of a medical officer of health or of any other technical officer of the local authority.

147. In a few instances where the suggestion contained in the above paragraphs has been put into operation representations have been made by the Council to the Ministry of Health objecting thereto.

DEPUTATIONS TO LOCAL AUTHORITIES IN REGARD TO PUBLIC HEALTH MATTERS.

148. In view of the number of requests received by the Association to send deputations to local authorities in support of representations made on behalf of public health medical officers, the Council has decided, as a general rule, only to agree to deputations asked for by medical officers or Divisions (a) in the case of new appointments, (b) where there is urgency, and if sanctioned by the Chairman of the Committee after consultation with the Medical Secretary, and (c) in cases which have been approved by the Public Health Committee.

SPECIALIST SERVICES: PUERPERAL FEVER AND PUERPERAL PYREXIA REGULATIONS.

149. In connection with the compilation by a county medical officer of health of a list of obstetricians willing to act as specialists under the Puerperal Fever and Puerperal Pyrexia Regulations, 1926, a Division in the county, on being asked to submit the names of a few selected obstetricians for this purpose, decided that the names of all the competent practitioners in the area who were so willing should be placed upon a panel in order that private practitioners could select therefrom the specialists they required. The county medical officer of health did not think his authority would be willing to approve such a list but would wish to appoint one or more practitioners definitely. The matter was submitted to the Council which has expressed the opinion that in areas where several consulting obstetricians are willing to undertake this work it is desirable that all their names should be included in a local panel.

Poor Law Reform.

150. In view of the following Minute 106 of the A.R.M., 1926, further consideration has been given by the Council to the reply of the Minister of Health to certain of the Association's criticisms of the Minister's provisional proposals for poor law reform (referred to in paras. 25 of the Annual Report and 236 of the Supplementary Annual Report to the Nottingham Meeting):

> *Minute* 106.—Resolved: That the Memorandum of Evidence submitted to the Royal Commission on Local Government on behalf of the Association be approved, but that further consideration of the matter by the Council be given, if possible, before any Parliamentary or Political action be taken.

The first of the two points on which the Minister was not in full agreement with the policy of the Association was that he was not favourable to making co-option on the new health committees compulsory. Such co-option by the Council of a county or borough is to be permissive only.

151. The Council much regrets this attitude of the Minister and wishes still to press for compulsory co-option. Nevertheless this is not necessarily a fatal bar to the Association supporting the Government proposals, provided the rest of the Association's suggestions in the matter are accepted, because in that event

> (i.) there would still be an opportunity for the local profession to try to persuade local authorities to adopt co-option;
>
> (ii.) there would still be opportunity for the local profession to secure the election of local medical practitioners upon the local authority; and
>
> (iii.) there would be a representative local medical committee which would nominate local practitioners for co-option upon the local authority if co-option be ultimately obtained, and would in any case have to be consulted on medical matters.

152. If, however, upon the publication of the Bill it is found that the Association's proposals as to compulsory co-option and as to a statutory medical committee are both rejected, then the Council is of opinion that the full weight of the Association should

be used to oppose the passage of the Bill through Parliament or to secure its amendment in accordance with the Association's desires.

153. A second point upon which the Ministry's reply was not completely satisfactory was as regards the provisional proposal of the Minister that County Councils be given a general supervisory authority over, and responsibility for, the health activities of other local authorities in their administrative area. Of this the Association expressed strong disapproval, except in the event of a local health authority refusing to carry out its duties. The Minister has since stated in reply to a deputation that this objection will have to be met in the case of the larger boroughs and urban districts, but the modifications to be made have not been indicated in detail. Unless, on the introduction of the Bill this objection is adequately dealt with the Council is of opinion that the Bill or any relevant clause should be strongly opposed.

154. There has been objection in various quarters on the Association's incidental suggestion that the powers and duties of Insurance Committees under the National Health Insurance Acts should, with proper safeguards, be handed over to the local health authority if there is to be a real unification of health administration. These objections seem in the main to be based on a misunderstanding of the Association's attitude. Whether the administration of Medical Benefit ought to be transferred to the new local authority for other health purposes would depend (in the opinion of the Association) on what kind of a new Committee was set up as an alternative and how far the demand of the Association was met for medical representation thereon, and for the establishment of a Local Medical Committee with adequate powers in connection therewith.

National Health Insurance.

DISPENSING CAPITATION FEE.

155. In view of the cost of medicines a request was made to the Ministry of Health for an increase in the dispensing capitation fee from the existing 2s. to 2s. 6d. per annum per dispensing patient as from January 1st, 1926. As a result it was agreed with representatives of the Ministry of Health that an investigation be made by the latter in agreed areas of the cost of medicine ordered by practitioners who both prescribe and dispense for their patients. Subsequently the Ministry of Health made an offer to increase the dispensing fee from the existing 2s. to 2s. 3d. as from January 1st, 1927, which offer was accepted by the 1926 Annual Conference of Representatives of Local Medical and Panel Committees as being the best obtainable under the circumstances.

CERTIFICATION AND SICKNESS BENEFIT CLAIMS.

156. Members doubtless read the important speech by Sir Walter Kinnear, Controller, Insurance Department, Ministry of Health, to the October, 1926, Conference of Representatives of Local Medical and Panel Committees (*B.M.J.* Supplement, October 30th, 1926), upon the position in which approved societies were finding themselves owing to the greatly increased claims made upon their Sickness Benefit funds during 1926.

157. The Conference instructed the Insurance Acts Committee to consider what practical steps could be taken to meet the difficulties referred to by Sir Walter Kinnear, and the members of the Conference pledged themselves to use their influence locally in order to secure strict adherence to the principles governing certification under the National Health Insurance Acts. Following the consideration of the question and of the expressions of opinion on the matter received from Local Medical and Panel Committees, the following communication was addressed to the Ministry of Health on January 26th, 1927:—

BRITISH MEDICAL ASSOCIATION,
B.M.A. HOUSE,
TAVISTOCK SQUARE, LONDON, W.C. 1.
26th January, 1927.

Dear Sir,

Sickness Benefit Claims and Certification.

The Insurance Acts Committee has given careful consideration to the question of certification under the National Health Insurance Act in its relation to Sickness Benefit Claims, which was the subject of an address to the Annual Conference of Representatives of Local Medical and Panel Committees in October last, by Sir Walter Kinnear, and particularly to the possible relation of the increased claims for Sickness Benefit to the Regulation which allows for change of doctor at any time by insured persons.

With regard to this latter point I am instructed to state that so far as the professional aspect of the matter is concerned, the Committee remains firmly of opinion that the present unfettered free choice of doctor by patient is the ideal principle in any scheme of national health insurance, and that it would not be advisable to return to the previous arrangement under which insured persons could only change their medical attendant at definite dates. At the same time, the Committee recognises that the additional duties cast upon insurance practitioners, as compared with their duties as private practitioners, necessitate the existence of certain procedure in association with the principle of choice of doctor which is not necessary in private medical practice, and modification of this procedure may be necessary. The Committee submits a suggestion that the insured person should be required, in some agreed suitable, prescribed way, to give at least two weeks' notice to the Insurance Committee of intention to change his doctor, provided that a person receiving treatment should as at present, have the right of immediate change of doctor subject to the mutual consent of the two practitioners concerned. It is believed that the interposition of a small formal check such as this would give the insured person, who may be annoyed because he has been refused a certificate on which he may claim Sickness Benefit, time to reflect.

There is one aspect of the question which was referred to at the discussion on November 30th, 1926, namely, the possibility of making provision for obviating in future the situation which arose recently in Durham and elsewhere, where, owing to the coal stoppage, mass pressure was brought to bear upon insurance practitioners by the trade unions to obtain Sickness Benefit for their members in order to conserve the unions' funds. The Ministry is urged to take into very serious consideration the desirability of preparing in advance for a situation which may easily arise again.

The Committee is also of opinion that certification rules bearing less severely upon insurance practitioners than those at present in operation, that is to say, relying more upon his discretion, while providing for a more rigorous prosecution of the individual wrong-doer, would result in more efficient certification.

With respect to the general question of the recent increased claims the Committee would point out that, under a system of compulsory State insurance, the attitude of the individual insured person with regard to obtaining benefit from State funds is entirely different from that of the voluntary member of an old Friendly Society or similar body. He will apply for benefit from funds which he regards as State provided and practically unlimited, where he would never have claimed from a fund built up entirely from contributions of himself and his fellows. The present day tendency to look to the State for help in every emergency is likely to make this factor more important as time goes on. Secondly, the economic pressure which keeps many sick persons at work who might very properly remain away and consequently be in receipt of Sickness Benefit, is removed in times of unemployment, with the result that such persons quite properly claim Sickness Benefit. Then there is the widespread and sometimes vexatious use at present made of medical referees by the approved societies, which the Committee believes is tending to lessen the insurance practitioner's sense of responsibility in the matter of certification. Another cause which is operating as regards women is the advice received at ante-natal and maternity clinics, both before and after confinement. These are, in the opinion of the Insurance Acts Committee, contributory causes which must be taken into account in any effort to trace the cause of the increase in claims for Sickness Benefit.

In conclusion, I am desired to inform you that the Insurance Acts Committee, fully recognising the serious nature of the present position and the duty of the medical profession in this matter, is urging Local Medical and Panel Committees to hold local meetings of insurance practitioners for the purpose of discussing in all its bearings the question of certification in its relation to Sickness Benefit claims, and is suggesting that at such meetings attention should be given to the possibility of co-operation by practitioners in ways which might allay the fear that patients who desired to change from a doctor who for good reasons had refused Sickness Benefit certificates, would readily be accepted by other practitioners.

Yours faithfully,

(Signed) ALFRED COX,
Medical Secretary.

The Secretary,
Ministry of Health,
Whitehall S.W. 1.

DISCIPLINARY MACHINERY.

158. The disciplinary procedure of the Regulations was the subject of discussions with representatives of the Ministry in November and December, 1926. It was then pointed out that there was general dissatisfaction among insurance

practitioners with the present disciplinary procedure on two main grounds (a) that practitioners had been subjected to decisions of the Minister on questions of professional treatment, based upon a judgment of the Minister's medical officers, and (b) that the Minister in giving his decisions in disciplinary cases had departed from the recommendations of the Committee or the Court of Enquiry reporting upon the cases. The further discussion of this question is in abeyance pending an examination of the whole of the disciplinary machinery of the Regulations by the Insurance Acts Committee with a view to agreement, if possible, with the Ministry as to revision and improvement of the present machinery.

OPHTHALMIC BENEFIT.

159. Up to February, 1927, the Association's list of practitioners who had intimated their willingness to advise on ophthalmic cases and prescribe spectacles when necessary (at a fee of one guinea) for insured members of Approved Societies contained 899 names including duplicates, or 756 individuals, the former being distributed as follows:—England 789, Scotland 87, and Wales 23. Alterations to the list are forwarded to the Ministry of Health periodically and are issued by the Ministry periodically to the Clerks to the Insurance Committees concerned. Copies of the complete list are reprinted twice a year by the Ministry of Health and made available to approved societies, etc. In view of statements that have been made it may be well to make it clear that admission to this list is in no way affected by membership or non-membership of the Association.

160. The position in connection with the administration of ophthalmic benefit is far from satisfactory. On the one hand, there is the statement by Sir Walter Kinnear, Controller, Insurance Department, Ministry of Health, at the October Conference of representatives of Local Medical and Panel Committees, which was, briefly, to the effect that if every insured person who required glasses was to be referred to an ophthalmic surgeon, ophthalmic benefit would cease at an early date owing to lack of funds. From that statement and other sources it would appear that many approved societies hold the opinion that an insurance practitioner should take the responsibility of recommending in some eye cases that the patient should consult an optician (a responsibility which the Association declined to advocate or countenance when suggested by societies at the outset of the present arrangements) instead of, as at present, referring all such patients to a practitioner upon the Association's ophthalmic list.

161. On the other hand, experience of the operation of ophthalmic benefit indicates that the administration of ophthalmic benefit rests practically entirely in the hands of approved societies who may or may not grant a member's application therefor, or, if granting it, may refuse to permit the member to consult an ophthalmic surgeon, and refer him to an optician, thus ignoring the recommendation of the patient's own practitioner. Many cases recommended by a doctor for treatment by an ophthalmic specialist are deliberately referred by Societies to an optician who either refers the case to an ophthalmic surgeon or, more probably, attends to the case himself. Practitioners also complain that many societies when sending their members to a practitioner on the list do not allow them free choice of those on the local list.

162. The Ministry of Health has, therefore, been informed that in view of the various difficulties which have arisen in connection with the administration of ophthalmic benefit since its inauguration, the Association is of opinion that the following principles should be re-affirmed and maintained in practice:—

(i.) that no practitioner should be encouraged or even allowed to recommend his patients to a person not upon the Medical Register for the purposes of diagnosis or treatment;

(ii.) that the option of an approved society to recommend one of its members to see an unqualified person is not contested, but the onus of so doing and the responsibility for any untoward consequence following therefrom must rest entirely with the approved society;

(iii.) that there should be free choice of available practitioners upon the Association's ophthalmic list;

(iv.) that the selection of a particular ophthalmologist to see all or most of the cases dealt with by any approved society, whether in his private consulting room or at a clinic, is inconsistent with the arrangements agreed upon and should be discouraged both by the B.M.A. and the Ministry;

(v.) that the reference of a member by an approved society for treatment by a charitable institution is inconsistent with the arrangements agreed upon and should not be allowed.

Hospitals.

POSITION OF VOLUNTARY HOSPITALS IN REGARD TO THE RECOVERY OF MONEY.

163. In view of the doubt which exists as to the legal position of a voluntary hospital in trying to recover from patients the cost of maintenance and treatment in the circumstances referred to in the following resolution of the Annual Representative Meeting, 1926, the Council is obtaining counsel's opinion on the matter:—

Minute 59.—Resolved: That in all cases of accident where medical attendance is given at a Voluntary Hospital, and such medical attendance is covered either directly or indirectly by insurance, the hospital authorities should recover from the insurance company the full cost of maintenance and treatment of such patient. That where patients who would ordinarily be considered as private patients are admitted to hospital solely on account of accident or emergency, they should be considered as "private patients."

REMUNERATION OF VISITING CONSULTING STAFFS OF POOR LAW HOSPITALS.

164. The Council, having considered the following Minutes passed by the Representative Body in 1926, submits the recommendation set out below:—

Minute 66.—Resolved: (i.) That the minimum fee per visit of a consultant called in to a poor law patient in a Poor Law Hospital should be £2. 2s. 0d., with mileage in addition where necessary, and (ii.) that the minimum fee for each operation performed in such circumstances should be £5. 5s. 0d., the fee for a major operation being not less than £10. 10s. 0d.

Minute 69.—Resolved: That the following proposed amendment be referred to the Council:—

That where the remuneration of a consultant for regular periodic visits for either of these services (*i.e.*, consultation or operation) is on a salary basis it should be a matter of arrangement between representatives of the local medical profession and the Local Authority but should have regard to the minimum fees mentioned above (*i.e.*, Minute 66).

Minute 70.—Resolved: That the Council be instructed to consider the appropriate conditions of annual contracts for Visiting Consulting Staffs of Poor Law Hospitals.

Recommendation: That where the remuneration of a consultant for regular periodic visits to a Poor Law Hospital is on a salary basis, the amount of that salary should be a matter of arrangement between representatives of the local medical profession and the appointing authority, but regard should be had to the minimum fees laid down in Minute 66 of the Annual Representative Meeting, 1926, and/or to the basis of £2. 12s. 6d. for consultant sessions of not more than two hours, with an allowance for mileage where necessary.

RECOGNITION OF SERVICES OF VISITING MEDICAL STAFFS OF HOSPITALS.

165. The Council is of opinion that the following paragraphs of the Hospital Policy having served their purpose in connection with the introduction of the principle of the recognition of the services of Visiting Medical Staffs of Hospitals should now be deleted therefrom although the principle of para. 36 might very well be retained in a resolution of the Representative Body:—

34. The honorary medical staffs may find the following suggestions valuable in connection with the disposal of the moneys in the special fund, and accordingly the Association suggests to the hospital staffs concerned that one or more of the following methods of distribution of any moneys in the special fund may be found suitable:—

(a) To the members of the honorary medical staffs for their own personal disposal;

(b) for the assistance of members of the medical staff in connection with research work;

(c) for the purchase of instruments, books, etc., for the use of the medical staff, or for lending to other members of the profession;

(d) for the initiation or development of post-graduate teaching in the institution;

(e) the institution of a local medical benevolent fund administered by the members of the honorary medical staff, for dealing with necessitous cases (*e.g.*, widows and children of former colleagues);

(f) grants to any recognised medical benevolent fund or institution; or

(g) otherwise as the medical staff may decide.

36. Any concession of a nominal recognition of the services of the visiting medical staff by a percentage or honorarium should be accepted without prejudice and on account of the existing general economic conditions.

The Council therefore recommends:—

Recommendation: That paragraphs 34 and 36 of the Voluntary Hospital Policy (United Kingdom) be deleted.

166. The Council is, however, of opinion that the position of medical staffs of hospitals would be materially strengthened if the Representative Body adopted a resolution (not for inclusion in the Hospital Policy) urging the staffs to seek satisfactory recognition of their services and accordingly recommends:—

Recommendation: That the Visiting Medical Staffs of Hospitals should seek to secure arrangements with Boards of Hospitals for the satisfactory recognition of their services in accordance with Section XII. of the Voluntary Hospital (United Kingdom) Policy of the Association, since any laxity in securing such recognition is detrimental to medical work of all kinds and ultimately to the general public.

Propaganda on Hospital Contributory Schemes.

167. As at the present time hospital contributory schemes are being inaugurated throughout the country, the Council has issued to the medical staffs of Voluntary Hospitals and of some Cottage Hospitals in England, Scotland and Wales, a memorandum explanatory of the policy in regard to these schemes, laying special emphasis on the three fundamental principles referred to below. This is contained in Appendix VI.

Contributory Schemes are defined for the purposes of the policy of the Association as schemes to which contributions are made for which there is a stated or implied return, and the three fundamental principles of the Association's policy with regard to these schemes are:—

(1) that membership of contributory schemes should be governed by an income limit;

(2) that (except in emergency) a contributor to a scheme would only be admitted to hospital upon the recommendation of the attending practitioner; and

(3) that recognition is made of the services of the medical staff of the hospital attending members of contributory schemes.

Hospital Saving Association's Contributory Scheme.

168. Representations were made by the Council to the controlling body of the above-mentioned scheme (which operates mainly in and around London, and makes payments to co-operating hospitals in respect of the maintenance of contributors who are treated at those hospitals), to adopt as an integral part of the scheme the following principles contained in the Association's Hospital Policy, namely:—

(a) that contributors when attending hospitals should take with them a recommendation from their medical practitioner; and

(b) that the primary object of out-patient departments of hospitals should be for consultation.

The Hospital Saving Association is in favour of the first of these principles and has stated so in its instructions to its Group Secretaries (through whom contributors receive authorisation to attend hospitals) and at public meetings. What is now required is the adoption of this practice by general practitioners and hospital staffs.

The Hospital Saving Association also agrees with the principle that out-patient departments should be centres for consultations and specialist treatment.

Treatment of Patients Suffering from Early Stages of Mental Disease.

169. In connection with the setting up of clinics attached to voluntary hospitals for the treatment of patients suffering from the early stages of mental disease it has been learned that in some instances the Medical Superintendent of the County Mental Hospital has been placed in charge of these clinics. The Council does not consider this to be in the best interests of the patients.

The Council recommends:—

Recommendation: That specialist work in connection with the treatment of patients suffering from mental disease in its early stages whether at hospitals or clinics should not be carried out by whole-time medical officers of public health or local government authorities, but on a part-time basis by medical practitioners who have special knowledge of the subject but who need not necessarily be devoting their whole time to such special work.

Hertford British Hospital, Paris.

170. The Council has enquired into the circumstances connected with the dismissal in September, 1924, of the resident medical officer of this hospital and the consequent resignation of the other British members of the medical and surgical staffs of the hospital. As a result of a visit by Sir Richard Luce, M.P., and the Medical Secretary to Paris in November, 1926, when they conferred with a number of persons interested in this matter, including members of the Board of Management and members of the late medical staff, the Board agreed that His Majesty's Government should be asked to send to Paris a competent and reliable person who would consider the whole of the evidence and decide whether or not the Hospital Committee had been unjust in dismissing the late Resident M.O. Both sides agreed to accept the decision of such a person, and the Government has arranged for such an enquiry by Mr. Vaughan Williams, K.C.

Naval and Military.

Representative of the Indian Medical Service on the Council.

171. The term of office of Lt.-Col. F. O'Kinealy, I.M.S. (ret.), the present representative of the Indian Medical Service on the Council, expires at the termination of the A.R.M., 1927. Col. O'Kinealy is eligible for re-appointment. The Council recommends:—

Recommendation: That Lt.-Col. F. O'Kinealy, I.M.S. (ret.), be appointed the representative of the Indian Medical Service on the Council for the period 1927-30.

New Conditions of Service for the R.A.M.C.

172. Largely as a result of action taken by the Association, new improved rates of pay and conditions of service for the R.A.M.C. were introduced by the War Office as from July 1st, 1926. They were approved by the A.R.M., 1926, and the Council has expressed its indebtedness to Sir Richard Luce, M.P., the Chairman of the Naval and Military Committee, for the valuable help rendered by him in connection with this matter, both in Parliament and out.

173. Notwithstanding the improved conditions of service, however, the War Office is still experiencing difficulty in obtaining an adequate number of candidates for the Corps, and has recently been reduced to appointing temporary officers for service at home stations. As the future of the Corps depends upon an adequate supply of young doctors, the Council again draws attention to the opportunities for a career afforded by service in the regular Royal Army Medical Corps. The new conditions provide adequate remuneration, a gratuity of £1,000 after seven years' service to those who do not desire to remain permanently in the Corps, and valuable concessions affecting officers who have held, or are about to hold, resident appointments in hospitals. In view of the satisfactory conditions of service now obtaining, the Council feels that the Association should assist the War Office to the utmost of its ability to secure the right kind and number of young medical men. A special letter with this end in view is being sent to the college magazines of the various medical schools.

Marriage and Lodging Allowances for R.A.M.C. Officers Serving in India.

174. Marriage and lodging allowances for R.A.M.C. officers serving in India have now been approved by the Secretary of State for India, and take effect as from July 1st, 1926. As officers of other branches of the British Army serving in India received these allowances as from July 1st, 1924, the Council drew the attention of the India Office to the fact that officers of the R.A.M.C. were thus at a great disadvantage by the prolonged delay which had ensued in arriving at the decision to grant them the new rates, and pressed for the ante-dating of the rates to July 1st, 1924. The India Office stated in reply, however, that the revised marriage and lodging allowances were based upon the increased rates of pay for the R.A.M.C., which came into force from July 1st, 1926, and that it was not possible to make them retrospective beyond that date. The Council feels that no further useful action can be taken.

Employment of Qualified Pharmacists in the Army.

175. The League of Ex-Service Pharmacists asked the Council to support it in its efforts to secure the employment of qualified pharmacists in the Army. The Council, believing that the request was a reasonable one, has expressed itself in favour of the efforts of the League to secure that qualified pharmacists should be employed in the larger military hospitals.

Medical Benevolence.

176. During the twelve months ending December 31st, 1926, the amounts collected by the Association on behalf of existing medical charities were as follows:—

	£	s.	d.
Royal Medical Benevolent Fund	1,141	0	6
Royal Medical Foundation of Epsom College	841	2	3
Royal Medical Benevolent Fund Society of Ireland	35	13	0
Sir Charles Hastings Fund	17	8	11

In addition, the sum of £767. 10s. 3d. was received for distribution among existing medical charities at the discretion of the Trustees of the B.M.A. Charities Trust Fund. This amount, together with a balance of £457. 2s. 8d. brought forward from 1925, was distributed as follows:—

	£	s.	d.
Royal Medical Benevolent Fund	600	0	0
Royal Medical Foundation of Epsom College	400	0	0
Royal Medical Benevolent Fund Society of Ireland	50	0	0
Sir Charles Hastings Fund	124	12	11
Royal Medical Benevolent Fund Guild ...	150	0	0

It will thus be seen that altogether the Association passed on to medical charities in 1926 the sum of £3,259. 17s. 7d. This compares favourably with the amount collected in 1925, *i.e.*, £2,267. 19s. 8d., but is, of course, still very far from being satisfactory.

177. The Council considered the question of the best method of appealing for subscriptions and donations to the Charities Trust Fund and for increased support for medical charities generally, and came to the conclusion that the duty of collecting subscriptions should be laid on the Divisions, as the Council was convinced that local appeals would be more satisfactory than a central one. A memorandum (D. 11) was accordingly issued to Divisions containing suggestions as to the way in which appeals might be made and Divisions were advised to ascertain, first of all, which members of the profession in the area are already subscribing to medical charities, in order that they may not be troubled with further appeals.

178. At the present time the claims of the various medical charities are brought to the notice of members of the Association by means of the form of application for the annual subscription to the Association. It is, however, thought that this should be supplemented later in the year by a systematic appeal from the Divisions to local members of the profession at a time when financial calls are less numerous, poesibly in connection with the Annual General Meeting of the Division. Also, it has been suggested to Divisions that they should arrange an annual social function of some kind the proceeds from which, after paying expenses, might be forwarded to the Association's Charities Trust Fund. This suggestion has been acted upon already by several Divisions and looks like being generally adopted, with results that are bound to be satisfactory.

179. The Council aims at raising a steady income of at least £20,000 per annum for medical charities This sounds ambitious in view of the present feeble response of the profession, but if every member would accept it as part of his duty to his profession to give not less than a guinea a year to the Charities Fund, the position of the medical charities would be vastly improved and the reputation of the profession correspondingly raised.

Wales.

180. Though the Welsh Committee itself has not met so far this session, its Contract Practice Sub-Committee has been active in the interests of colliery and works doctors, which is one of the main concerns of the parent Committee.

The prolonged coal stoppage last year entailed great financial loss to colliery doctors, and meetings of the Sub-Committee and also one of colliery and works doctors have considered how best the situation should be met. It was resolved to leave the initiative to the doctors in each locality, and Division Secretaries and others concerned have been informed of the findings of the General Meeting.

Ireland.

181. Satisfactory progress with regard to membership of the Association continues to be made in Northern and Southern Ireland. If it were not for the large number of the younger members who leave Ireland every year to practise in Great Britain the total membership would be convincing of the satisfactory position of the Association in Ireland.

182. In the last annual report of the Council references were made to the Commissions in Northern and Southern Ireland inquiring as to whether the existing medical services were equal to the needs of the communities in these areas. The views of the profession were carefully prepared and put before both Commissions. It is believed the work of the Commissions is now completed and that the reports are about to be placed in the hands of the printers.

183. In the Free State two further Commissions of a medical nature, namely, the Poor Law Commission and Clean Milk Supply Commission, have been appointed. The terms of reference of the Poor Law Commission are to inquire into the adequacy and suitability of schemes which have been formulated under previous Acts and to make recommendations in regard thereto and generally to advise upon the system of relief of the destitute sick and poor, including the insane poor. The Milk Commission is taking evidence with the view of ascertaining what changes in the existing law and its administration are necessary to ensure a pure milk supply. On both Commissions there are members of the medical profession, including the Irish Medical Secretary.

184. The Department of Local Government and Public Health (Free State) has experienced some difficulty with the County Councils who in many instances have refused to provide funds for the appointment of whole-time county medical officers of health under the Local Government Act, 1925. The County Councils urge that the whole or at least half the cost of the salaries and travelling allowances of the medical officers of health should be paid out of State funds. To this claim the Department of Local Government and Public Health replies that the agricultural grant in aid of certain local rates has been doubled in recent years and that the grant alone is more than is required to pay the entire salaries of all the officials employed by the local authorities in the Free State. The Minister has, moreover, stated that the appointments must be made by the local authorities.

185. The outstanding legislation, affecting the medical profession, since the last report of the Council, is the Local Authorities (Officers and Employees) Act, 1926. This Act provides for the establishment of a Commission charged with the duty of selecting persons to be appointed to situations in the employment of local authorities. The main offices to which the Act applied includes amongst others every office under a local authority the qualifications for which are wholly or in part professional or technical. This provision means that all medical appointments hitherto made by the local authorities will, in the future, be filled by a body which will be known as the Local Appointments Commissioners. The Local Appointments Commissoners will, for medical appointments, appoint a Selection Board consisting of medical men who will recommend to the Commissioners the most suitable candidate for the vacancy. The Act is at present in operation. It has been recommended to the Appointments Commissioners on behalf of the profession that special consideration should be given to post-graduate experience and study.

186. The Coroners (Amendment) Act, 1927, has been recently passed through the Dail and Senate. The Act contains many changes in the previous law as it affected coroners and medical practitioners. The duty of viewing the body under the new Act is imposed on the coroner and not as formerly on the jury. The fees payable to medical witnesses have been revised and are as follows:—

(a) for attending to give evidence at any inquest whereat no post-mortem examination has been made by the practitioner, not exceeding two guineas;

(b) for making a post-mortem examination of the body of the deceased and reporting the result thereof to the coroner without attending to give evidence at an inquest, not exceeding three guineas; and

(c) for making a post-mortem examination of the body of the deceased (including the making of a report, if any, of the result thereof to the coroner) and for attending to give evidence at an inquest on the body, not exceeding four guineas.

Oversea Branches.

EAST AFRICAN MEDICAL SERVICE.

187. New regulations introduced for this Service towards the end of 1926 were considered by the Council in the light of representations from the Branches concerned. Generally speaking, the Branches seem to consider that the regulations, including the scales of pay, may be regarded as, in the main, acceptable so far as the officers who were already in the Service when the regulations were introduced are concerned. At the same time it is evident that the new entrant into the Service is in a position which compares unfavourably with that of his immediate seniors as regards ultimate total emoluments, apart from certain opportunities for promotion the value of which it is impossible to assess without information which the Council has been unable to obtain. The Medical Service as a whole is left, in relation to other branches of the Civil Service, in a less favourable position than formerly. The Council understands, however, that whatever may be expected to result from

practical experience of the new scales, there is at the moment no lack of suitable candidates for the Service, and in these circumstances it seems inadvisable to press the Colonial Office for any further concession at the present time, except as regards certain points of detail which are still open to discussion. The Council has therefore indicated to the Colonial Office that, whilst regretting its failure to secure the full measure of improvement for which it has worked, it does not at present propose to ask for any modification of the regulations, beyond those involved in points of detail. Those who contemplate entering the Service and who apply to the Office for information as to the pay and prospects will be given full information and left to make their own decision as to its advantages, it being pointed out to them that, apart from the question of the scale of pay, the Service seems to offer considerable scope to those who are attracted to this particular branch of medical work.

Malayan Medical Service.

188. The Council is gratified to be able to report that after some years of endeavour, its representations to the Colonial Office in respect of the salaries and conditions of the Malayan Medical Service have been recognised by the introduction of new terms and conditions which the Council considers are now on the whole satisfactory.

The only point of real substance contained in the Report of the Federated Malay States Medical Inquiry Committee (which Report was supported by the Association) which has not been met in the new conditions, is the proposal that the three Services should be unified, but this the Government has decided for political reasons is at the present impracticable.

A new Standing Advisory Medical Committee for Malaya has been appointed which may, to some extent, at any rate, act as a co-ordinating body.

The Council considers the new terms and conditions for this Service are such that it can advise medical practitioners to enter the Service, but is asking the Malayan Branch for its comments on the position.

Windward Islands Medical Service.

189. In 1923 the A.R.M. approved the insertion of an "Important Notice" in respect of this Service and the "Notice" is still appearing. The Council in that year decided that the minimum salary which the Association could approve for this Service was £400, rising by annual increments of £25 to £600, but the existing scale of salaries is £400 for the first five years and then by increments of £20 a year until £500 is reached at the end of 10 years' service.

Shortly after the publication of the "Important Notice," a local Ordinance was passed which legalised the registration of foreign practitioners in the Islands. Another Ordinance also regulates the fees which medical officers of the Service may charge to private patients. Both these Ordinances are strongly objected to by the Council.

In July, 1926, the Governor of the Islands stated he would consider the suggestions of the Grenada Branch for the improvement of the terms and conditions of medical officers of the Service, including the repeal of the Ordinances referred to above, but would not entertain the suggestion which the Branch had made for improvement of the scale of salaries. So far, however, no improvements have been made nor have the Ordinances been repealed, and therefore the "Important Notice" is still appearing.

The Council is gratified to be able to report that the Canadian and American Medical Associations have agreed to assist the Association in this matter by advising practitioners, so far as they can, of the conditions to which the Association takes exception.

Medical Officers to Overseas Commercial Bodies.

190. From time to time advertisements for medical officers for employment by commercial bodies overseas are submitted for publication in the *British Medical Journal*, and a number of these advertisements contain no statement as to the salary (and other emoluments, if any) which will be paid to the practitioner appointed. The Council has decided that unless the Association is informed of the terms and conditions of the appointment (not necessarily for publication) such advertisements will not be published in the *Journal*.

Bill to Regulate Medical Education in India.

191. A Bill "to regulate medical education in India" has recently been introduced, in which it was proposed to set up a "Council of Medical Education," one of the duties of which would be

> "the establishment of a qualification in independent schools or methods of medicine as shall empower the holders thereof to practise in all provinces in India."

The Branches in India were asked for their opinion and the Council of the Hyderabad Branch, which is the only one which up to the present has replied, is unanimously of opinion that nothing would be gained by having a separate register of practitioners of indigenous systems of medicine in India.

The Council referred the matter to the General Medical Council. It has since been learned that the Bill is not being proceeded with.

Medical Practice in Hong Kong.

192. The Council is pleased to be able to report that the Hong Kong Government has decided that as from the beginning of 1927, patients who can afford to pay will be charged fees for medical services rendered to them in Government Hospitals in addition to being charged for the bed or room occupied, thus avoiding unfair competition with outside practitioners.

ROBERT BOLAM,
Chairman.

APPENDIX I.

Return of Attendances

At Council Meetings, from the termination of Annual Representative Meeting, 1926, up to and including April 6th, 1927.

(Prepared pursuant to Standing Orders.)

Chairman: Sir Robert Bolam.

NAME.	ATTENDANCES. Actual.	Possible.
President: Hogarth [illegible]	6	7
President-Elect: [illegible]	1	7
Past President: Thomson	3	7
Chairman of Council: Bolam, Sir Robert, Newcastle-on-Tyne	7	7
Chairman of Representative Body: Brackenbury, H. B., London	7	7
Deputy-Chairman of Representative Body: Hawthorne, C. O., London	7	7
Treasurer: Harman, N. Bishop, London	7	7
Allan, G. A., Glasgow	3	7
Anderson, J. Barcroft, Dublin	6	7
Bassett-Smith, Sir Percy, London	6	7
Beadles, H. S., Romford	7	7
Blenkinsop, Sir Alfred, Frensham	7	7
Bone, J. W., Luton	7	7
Bristowe, H. C., Wrington	3	7
Buchan, G. F., London	6	7
Dain, H. G., Birmingham	6	6
†Darling, J. Singleton, Lurgan	4	7
Douglas, C. E., Cupar	7	7
Dunhill, T. P., London	4	7
Eccles, W. McAdam, London	7	7
Finlay, D. E., Gloucester	5	7
Fothergill, E. R., Hove	6	7
Gomez, T. J., South Petherton	7	7
Greenfield, D. G., Ruthden	7	7
Henry, R. Wallace, Leicester	7	7
Hillman, G. B., Wakefield	6	7
Hudson, J., Newcastle-on-Tyne	5	7
Johnson, I. W., Bury	6	7
Langdon-Down, R., Teddington	5	7
Lawson, D., Banchory	6	7
Leslie, R. W., Belfast	5	7
Le Fleming, E. K., Wimborne	5	7
Lewis-Lloyd, E., Towyn	5	7
Luce, Sir Richard H., Derby	5	7
[illegible]	5	7
[illegible]	4	7
[illegible]	5	7
†McHutchison, G. B., London	1	1
Mackenzie, S. Morton, Dorking	7	7
Manknell, A., Bradford	6	7
*Marriott, Oswald, Haywards Heath	6	6
Matthews, J. C., Liverpool	6	7
Miller, G. W., Dundee	5	7
Miller, Hugh, Hamilton	7	7
Mills, John, Ballinasloe	4	7
Murrell, Christine, London	7	7
Nuthall, A. W., Birmingham	3	7
O'Kinealy, F., London	5	7
Paterson, W., London	6	7
*Price, J. Dodds, London	6	6
Radcliffe, Frank, Oldham	7	7
Roche, N. J., Southsea	0	7
Souttar, H. S., London	5	7
Stephens, Lockhart E. W., Emsworth	6	7
Stevens, John, Edinburgh	7	7
Thomas, W. E., Ystrad Rhondda	7	7
Trotter, G. Clark, London	7	7
Turner, E. B., London	5	7
Verrall, Sir Jenner, Leatherhead	7	7
Walker, J. F., Southend-on-Sea	7	7
Walshe, Denis, Graigurenamanagh	1	7
Wheeler, Sir W. de Courcy, Dublin	3	7

‡ Appointed July, 1926. * Appointed October, 1926.
† Resigned October, 1926.

APPENDIX III.

SCHEME FOR FORMATION OF GROUPS IN THE ASSOCIATION.

1. The Council shall have power to form Groups in the Association, but, nevertheless, shall not approve the formation of any Group unless it be shown that the ordinary machinery of the Association cannot be used.

2. A Group shall be composed of members of the Association who have common interests sufficiently distinct from those of the general body of members, and who by reason of their smallness in numbers and/or nature of distribution, are not able to meet to discuss those interests or to express their opinion in regard to them adequately through the Divisions and Branches of the Association.

3. If a sufficient number of members specially concerned shall petition the Council to the effect that they wish a Group to be formed, their request shall be considered by the Council, whose decision, subject to appeal to the Representative Body, shall be final.

4. If the formation of a Group be authorised, a list of those qualified to be members of it shall be made in the Central Office. Only the members on the list shall be considered to be members of the Group.

5. The Annual Meeting of the Group shall be held at the time and place of the Annual Meeting of the Association. Other meetings of the Group may be authorised by the Council.

6. The Group Meeting shall appoint a Committee not exceeding 6 in number.

7. The Group Committee may meet twice a year at the Head Office and at other times by consent of the Chairman of Council, the travelling expenses of the members of the Group Committee being paid in the usual way.

8. The Group Committee shall consider the opinions expressed at the Group Meeting, and may also take the opinion of members thereof by post, or, if so authorised by the Council, at a further meeting or meetings of the Group.

9. The findings of the Group Committee shall be placed before the appropriate Standing Committee of the Association, to whose meetings, when these findings are under consideration, the Group Committee, Chairman and one member of the Group Committee shall be invited and shall have the right to speak on those matters but not to vote. It shall be the duty of the Standing Committee concerned to place the Group Committee findings before the Council with the remarks of the Standing Committee. Any such findings approved by the Standing Committee concerned shall be submitted as recommendations of that Committee.

10. The Chairman of Council shall have power, if so requested by the Group Committee, to invite the Chairman or other specially designated representative of that Committee, to the meeting of the Council while matters considered by a Standing Committee in accordance with Rule 9 are being dealt with; and the Group Committee representative shall have the right to speak on those matters, but not to vote.

11. If no member of the Group Committee is in fact a member of the Representative Body, the Chairman of the Representative Body shall be authorised to invite not more than two members of a Group Committee to attend the A.R.M. and to speak on the matters specially affecting that Group, but not to vote.

12. The Council shall have power to dissolve a Group if and when in its opinion the need for its special organisation has ceased to exist.

APPENDIX IV.

MEMORANDUM OF EVIDENCE SUBMITTED BY THE BRITISH MEDICAL ASSOCIATION TO THE SUB-COMMITTEE OF THE COMMITTEE OF CIVIL RESEARCH ON THE EXISTING PRACTICE RELATING TO THE METHOD OF PREPARATION OF THE BRITISH PHARMACOPŒIA.

1. In response to the request of the Sub-Committee on the British Pharmacopœia appointed by the Committee of Civil Research that the British Medical Association should submit its opinion as to the existing practice relating to the method of preparation of the British Pharmacopœia, we have been instructed by the Council of the Association to forward the following observations:—

2. As the British Pharmacopœia establishes a legal standard for the substances described in it when these are dispensed or sold for medicinal use, the revision of the volume is a matter of great importance to the members of the medical profession. The Association claims to express the general views adopted by the profession, and as the membership of the Association is over 32,000, it will be realised that the collective opinion of its members is well worthy of consideration.

(A) *Responsibility for the Publication of the British Pharmacopœia.*

3. At present the British Pharmacopœia is, in pursuance of the Medical Act of 1858, Section 54, published under the direction of the General Medical Council, and the Association believes that opinion within the profession is definitely in favour of the continuance of the existing practice and wishes to leave the final and formal responsibility for future editions in the hands of the Council.

(B) *The Method of Preparation of the British Pharmacopœia.*

4. The practice of the General Medical Council has been to entrust the work of revision to a Pharmacopœia Committee (of twelve members), which, being an Executive Committee, is necessarily composed wholly of members of the Council. These members are appointed to the General Medical Council primarily to assist in the highly important duties connected with medical education and registration with which the Council has to deal under the Statute; it is improbable that any of them are appointed because of their special fitness for the work of preparing a Pharmacopœia. The Association appreciates that in the past the Pharmacopœia Committee, in dealing with the difficult task entrusted to it, has taken steps to obtain expert and authoritative information from various Committees of Reference, has instigated many practical researches and has sought information in many other directions. It is, however, felt that the method of compilation adopted by the General Medical Council is not the best that can be devised and the Association would suggest that it is essential that experts should have a voice in the editing of the volume. At the present moment they have no such voice, and the Association is convinced that any attempt to prepare another edition of the Pharmacopœia, on the lines of the 1914 edition, would break down, as the essential co-operation of all interests would not be secured.

5. The Association favours the suggestion made at the Conference held in February, 1926, of representatives of scientific bodies and the Pharmacopœia Committee of the General Medical Council, that:—

> "It is desirable that the revision of the British Pharmacopœia should be placed in the hands of a committee of experts appointed for that special purpose by the General Medical Council."

The highest degree of responsibility should be given to this Committee of Experts to make decisions, to initiate recommendations, and to explore the whole field of modern therapeutics. It would then remain for the General Medical Council to adopt or to refer back the conclusions of the Committee of Experts.

6. The Association suggests that a Committee of Experts should be appointed by the General Medical Council on such lines as the following:—

5 Members of the General Medical Council
and the following members nominated to them:—
1 by the Ministry of Health,
1 by the Scottish Board of Health,
1 by the Royal Society,
1 by the Royal Society of Medicine,
1 by the Medical Research Council,
2 by the British Medical Association,
1 by the Physiological Society,
1 by the Chemical Society,
1 by the Linnean Society,
2 by the Pharmaceutical Society of Great Britain,
1 by the Pharmaceutical Society of Northern Ireland,
1 by the Pharmaceutical Society of Ireland,
1 by the Society of Analysts.

This would mean a Committee of twenty members representative of the chief interests deserving of consideration. Much of the work would necessarily fall to be done by means of Sub-Committees to which further experts might be co-opted.

(C) *Continuity of Work.*

7. With the constant changes that are taking place in therapeutic practice it is essential that the work of the revision of the Pharmacopœia should be continuous. On the appearance of one edition the Committee should be deemed to be discharged and a new Committee appointed in like manner, retiring members being eligible for re-appointment.

8. The Revision Committee should have such financial resources as to be able to appoint and pay a suitable Secretary

and to conduct or direct such tests or other research work as they may think necessary for the proper performance of their work.

(D) *Adaptation of the British Pharmacopœia to the Needs of the British Empire.*

9. In the opinion of the British Medical Association, the result of the attempt made in 1914 to produce a Pharmacopœia to serve the needs of the whole Empire has not been entirely satisfactory. It appears to the Association that certain drugs and preparations used in tropical climates or in restricted parts of the Empire only, should be placed in a separate Volume or Addendum. Questions relating to this proposal might be decided in consultation with the Governing bodies in India and the Dominions and with the other authorities concerned.

10. If it be finally decided that the new Pharmacopœia is to serve the needs of the whole Empire, the Association supports the suggestion that—

> "It is desirable that the Governments of India and of the Dominions be requested, if they think fit, to appoint Expert Committees to work in co-operation with the Committee for Great Britain."

(E) *Scope of the Pharmacopœia.*

11. The Association suggests that the Pharmacopœia should contain, so far as is practicable, all those drugs and preparations which experience shows to be in common use by medical practitioners and which, in the interests of the public, require a standard method of preparation or a standard of strength or a standard of purity; provided that such drugs and preparations have a therapeutic or diagnostic value or are pharmaceutically necessary.

(F) *Need for Economy.*

12. Another important matter to which the Association wishes to direct attention is that due regard to economy should be given in considering the inclusion or otherwise of any preparations in the British Pharmacopœia.

13. The provision of an official name, and an official standard for a preparation will generally speaking reduce its price. If there are preparations equally effective, one of which is cheaper than the other, the cheaper preparation should be included either along with or in preference to the other.

14. It would probably be found possible to add to the Pharmacopœia preparations of certain drugs, particularly sweetening and flavouring agents which, whilst equally efficacious, are much cheaper than those at present included.

In this connection special regard should be had to any Drug Tariff issued under the National Health Insurance Acts.

APPENDIX V.

MEMORANDUM OF EVIDENCE SUBMITTED BY THE BRITISH MEDICAL ASSOCIATION TO THE PRIVY COUNCIL COMMITTEE ON THE POISONS AND PHARMACY ACTS.

I. The British Medical Association, representing as it does the majority of the medical profession in this country, is naturally interested in all matters appertaining to the practitioner and the materials with which he has to work. It is therefore interested in the conditions relating to the sale of poisons. As the Association has not had access to the evidence which has been given before the Committee, the evidence to be given by the Association may perhaps not be of as much value as the Association would wish. If the Committee desires specific information on points that have already been raised before it, the witnesses representing the Association will do their best to give that information, and if they are unable to do so when they are heard on 4th March, would be willing to use the machinery of the Association either for obtaining such information as is required or for asking the opinion of its members on any points which the Committee would desire specifically to be put to them.

II. The Association makes the following commentary on the questionnaire which has been sent to it by the Committee:—

> *Question 1*: Do you think that, generally speaking, the conditions relating to the sale of Poisons, as laid down in the Poisons and Pharmacy Acts are satisfactory, or are you of opinion that certain modifications are desirable or necessary?

Excepting on one point the Association has no reason to suppose that the conditions relating to the sale of poisons as laid down in the Poisons and Pharmacy Acts are unsatisfactory. That exception has regard to Section 3 (1) of the Dangerous Drugs and Poisons Act of 1923, which requires that a seller of any Poisons in Part 1 of the Schedule of Poisons shall not supply them except on receipt of an order in writing signed by the purchaser giving the name and address of the purchaser, and the name and quantity of the article purchased. This, in the opinion of doctors in dispensing practices, and of all the sellers of the articles whose opinion we have taken, is totally unnecessary with regard to the Poisons and is regarded by all as a nuisance. The position is made more invidious for the doctor by the fact that apparently no ceremony of the kind is necessary when a retail chemist buys these poisons from a wholesaler. The Association takes no exception to the Clause so far as Dangerous Drugs are concerned, but it trusts that if, as it hopes, the Committee recommends the consolidation of the Acts relating to the sale, etc., of poisons it will recommend the rescission of this Clause so far as Poisons are concerned.

On the general question of the conditions relating to the sale, etc., of poisons, the Association has to report that there has been a practically total absence of complaint and our experience would lead us to believe that had there been any serious dissatisfaction we should have heard of it.

> III. *Question 2*: Have you any criticisms or suggestions to offer with regard to the present procedure for the modification or extension of the Schedule of Poisons to which the Acts apply?

If the Committee has reason for thinking that the present procedure for the modification or extension of the Schedule of poisons is not satisfactory, the Association would submit a method which it would probably be agreed would be more in accordance with present-day custom. That is to say, if we were beginning afresh and were asked what kind of machinery should be set up for the purpose of modifying or extending the Schedule of Poisons, the Association would suggest a Committee composed of representatives of the Ministry of Health, the Home Office, the Pharmaceutical Society of Great Britain, the Royal College of Physicians, the British Medical Association and the Society of Apothecaries. This Committee would consider all suggestions made to it by any of the bodies represented on it, or by any other responsible person or authority and would make recommendations to the Government Department concerned. This Department the Association considers should be the Ministry of Health, for the Association is strongly of opinion that all questions concerning the medical and kindred professions should be brought under the ægis of the Ministry of Health, except with regard to those matters which are under the control of the General Medical Council. The Ministry of Health could quite well arrange for co-operation with the Home Office in so far as that Department is concerned with the legal aspect of poisons.

> IV. *Question 3*: Do you regard the present division of the Poisons Schedule into Parts I. and II. as sufficient, or would you be in favour of further sub-divisions which would on the one hand impose conditions more stringent than those governing the sale of substances included in Part I, and on the other hand provide safeguards for certain other substances where some restriction as to sale is desirable but where a sufficiently strong case could not be made out for inclusion in Parts I and II as at present constituted?

The Association is of opinion that there should be three if not four groups in the Schedule of Poisons:—

> (a) Poisons used in Agriculture, Horticulture and Commerce. These should be sold only by qualified persons or by persons licensed by the Local Authorities as prescribed in Section 2 of the Poisons and Pharmacy Act of 1908. We would suggest that articles in this class should be put up in wrappers or containers labelled "Poison" having printed on the label the name of the poison, the approximate strength of it and the most practical antidote for use in case of poisoning. The group should contain arsenic and all the poisons mentioned in Sections 2 and 5 of the Poisons and Pharmacy Act, 1908, and any others that may be added by the proper authority.
>
> (b) The present Part I. Poisons.
>
> (c) The present Part II. Poisons.

V. There is another group of what may be called "Habit-forming Drugs," typically exemplified by the Barbituric Acid group, which the Association is of opinion might properly be dealt with either by placing them in a fourth division of the Schedule or placing them in Part III. of the Dangerous Drugs Act, 1920. The chief advantage of such a discrimination as regards these drugs would be the ability to prevent repetition.

> VI. *Question 4*: If the Schedule be thus extended in an upward direction to include a sub-division governed by conditions more stringent than those at present obtaining under Part I., do you think that this expedient could be made to serve as a

half-way house between the restrictions of the Dangerous Drugs Acts and the provisions of Part I. in the case of potent drugs?

See answer to Question 3.

VII. *Question 5*: If your answer is in the affirmative, what conditions would you feel inclined to impose in the case of substances which it is thought desirable to include in this higher division of the Schedule with a view to safeguarding adequately the public without putting unnecessary obstacles in the way of employment of the drugs in the treatment of disease

See answer to Question 3.

VIII. *Question 6.* It has been suggested that the qualifications of the dispensers in Hospitals and other similar Institutions should be those required of persons at present authorised by the Pharmacy Acts to keep open shop for the compounding and dispensing of Poisons. Have you any views upon the point?

The Association is in favour of the holders of positions as dispensers in hospitals and similar institutions being required in future to hold some qualification either as a Pharmacist or as a holder of the Assistant's diplo[illegible]e Society of Apothecaries or some similar

IX. *Question 7*: It has also been suggested to the Committee that registered pharmacists should alone be permitted to dispense medicines containing poisons except in emergencies and where no pharmacist is accessible. Have you any remarks to make upon this suggestion?

The Association is not in favour of the suggestion that only registered pharmacists should be permitted to dispense medicines containing poisons except in emergencies and where no pharmacist is accessible.

X. At the present time medical practitioners have a right to dispense *any* medicines and the Association would strongly oppose any attempt to take away that right. To support such a change it would have to be shown that the public suffers from the present position of affairs and the Association knows of no complaints on this score. Reference to the Registrar-General's Reports on the causes of death discloses no marked increase in the numbers of deaths from poisons, and the Association is not aware that it has ever been suggested that of the deaths from poisoning that do occur any appreciable number can be traced to the dispensing done by or on behalf of doctors in private practice. The public in most parts of England and Wales get the medicines which are prescribed for them by their doctors from the dispensaries of those doctors. Insured persons in areas where a chemist is available get their medicines from a chemist, but it must be remembered that even there the doctor has to dispense in emergencies, which means generally whenever the chemist has retired for the night or left his premises as a very large number do after business hours. Dispensing by doctors is regarded by the public as a convenience and it is also a right possessed by the doctor which has never been seriously challenged. Whether the doctor dispenses the medicines himself or has them dispensed by a dispenser in his employ the doctor is equally responsible; and the Association would submit that the doctor who is responsible for the treatment of the patient is at least as much concerned as anyone else could be with the safety and convenience of his patient.

XI. The position of the doctor's dispenser is very different from that of the pharmacist keeping open shop. The former deals with the dispensing of one man (or perhaps a partnership) with whose ways he is thoroughly familiar. The latter must be capable of dealing with the various methods of prescribing of the whole profession and with the requirements of the public. He is a pharmacist and not a mere dispenser.

XII. Again it is to be noted that dispensing is not, for the purposes of the doctor who owns his own dispensary, nor even (but to a lesser extent) for the pharmacist, the complicated matter that it used to be. A very great deal is done for the dispenser by the wholesale druggist who now provides in an easily handled form many of the things which at one time took a great deal of time and needed a good deal of skill in making up. The more difficult preparations are naturally still left in the hands of the pharmacist.

XIII. Moreover if the doctor were to be prevented from dispensing medicines containing poisons, except in emergency and in rural districts, he might as well be prevented from dispensing any kind of medicines, for a large proportion of this prescriptions contain poisons. It would not be worth his while keeping a dispensary for the remainder. If the doctor were deprived of his right to dispense the pharmacist would naturally have to be prevented from counter prescribing, and the Association sees no practicable way of enforcing anything of the kind. The average pharmacist, being a law-abiding person, would, if such a law came into force, undoubtedly do his best to keep it, but is he to be prevented for example from making up a probably harmless mixture containing say, a minute dose of Nux Vomica for a patient who complains that he is "run down" and requires a tonic and does not want to be bothered to go to the doctor, or wishes to avoid the expense? It is difficult to believe that the public would stand being told that they must go to the doctor in every case where the appropriate medicine might contain small doses of poisonous substances, unless able to produce a prescription for what they want. Further, there is the increased cost to the community. No arrangement could be arrived at dividing the prescribing and the dispensing between the doctor and the chemist which would not increase the total cost to the public. The Association therefore is not in favour of any restriction of the right of the doctor to dispense his medicines, whether containing poisons or otherwise.

XIV. *Question 8*: Are there any other matters coming within the Committee's terms of reference to which you desire to draw attention?

The Association hopes that the Committee will recommend the consolidation of the Acts and Orders relating to the sale of poisons and at the same time trusts that the Committee will not be induced, without the very strongest reasons, to recommend the imposition of further restrictions on either doctors or pharmacists with regard to the purchase, storing or dispensing of poisons. Medical men and pharmacists are accustomed to deal with poisons and have to do so very frequently every day. We have no right, of course, to speak for pharmacists as a class, but we can say that doctors find that on the whole the work of the pharmacist is done carefully, skilfully and conscientiously, and they have a right, on their record, to be trusted in professional matters for which they are specially trained and recognised by the State.

XV. Speaking for the medical profession, the Association would submit that it ought to be assumed that practitioners have the interests of their patients sufficiently at heart to take the necessary care in dealing with poisonous drugs just as they do with other potentially dangerous means of treatment. The Association took an active part in advising and helping the Home Office when it introduced regulations dealing with Dangerous Drugs—a class of medicament which admittedly raises an acute social problem. But medical men as a whole would strongly resent having placed upon them with regard to the ordinary poisons restrictions approaching in severity the Dangerous Drugs Regulations and as at present advised the Association sees no need for further restrictions.

APPENDIX VI.

MEMORANDUM SUBMITTED BY THE COUNCIL ON ORTHOPÆDIC HOSPITALS AND CLINICS.

AUTHORITIES AND FINANCE.

State funds from rates and taxes are available for treatment of crippled children and of persons *of any age* crippled by non-pulmonary tuberculosis.

Orthopædic Hospitals are in almost all instances Voluntary Hospitals taking charity cases as well as those for whom capitation payments are available.

Central departments responsible are the Ministry of Health and the Board of Education.

Local Authorities:—
Local Health Authorities,
Education Authorities,
Boards of Guardians.

Within any one administrative County there may be many such independent authorities for one or more parts of the work.

The Ministry of Health is responsible for:—

1. Patients suffering from tuberculosis, whatever their age, under the Public Health (Tuberculosis) Act, 1921.

2. Infants and children up to five years of age under the Maternity and Child Welfare Act, 1918.

The Board of Education is responsible for non-tuberculous children of school age, normally 5 to 16, but also from 2 to 5 if provision is made for their education.

The Ministry of Health does not pay any grant directly to a hospital. All grants and arrangements for admission to hospital are made through the Local Authority.

If children of school age are sent into hospital by any person or authority other than a Local Education Authority,

the Board of Education pays a direct grant to the hospital not exceeding £24. 10s. 0d. per annum per unit of average school attendance.

Before any arrangement can be made hospitals and their charges must be approved by the Ministry of Health or by the Board of Education.

The capitation rate is arrived at by the hospital submitting an annual balance sheet to the Board of Education giving in detail the costs of maintenance, treatment and education.

The charges must not exceed the actual cost of these services.

Local Health Authorities may, and Local Education Authorities must, collect from the parents of the patients whatever sum is considered fair.

Similar arrangements can be made for treatment in clinics whether patients have received in-patient treatment or not.

NATURE OF THE WORK.

The work involves the early discovery of the cripple, efficient treatment, after care and the education of the patient during the time he is under observation.

The actual treatment both at clinic and hospital must clearly be largely, if not entirely, of a specialist nature. In many of the existing clinics the principal work is carried out by an orthopædic surgeon assisted by trained orthopædic nurses. As a rule the surgeon is on the staff of a general or orthopædic hospital. He visits the clinics periodically and sees both new cases and cases which, having been into hospital, require after treatment. The nurse carries out his instructions in the intervals between his visits.

The general practitioner seems to have been usually overlooked both in actual schemes at work and in publications purporting to put forward ideal schemes.

Girdlestone, in his monograph "The Care and Cure of Crippled Children," certainly insists on the importance of ensuring the willing co-operation of the local doctors but assigns no particular functions to them. He stresses the fact that the whole scheme is voluntary from start to finish. On the question of remuneration he points out that the orthopædic surgeon has special financial difficulties as the majority of crippled children belong to the poorer classes. For this reason, he says, "there is much to be said for the payment of the visiting orthopædic surgeons by the hospital on a part-time basis," and also says that the hospital can set aside a certain proportion of the capitation payments made by local authorities for this purpose.

He visualises the staffing of clinics in the future by young surgeons who have been house men in orthopædic hospitals and suggests that if they can get a fee of say three guineas for attending clinics it will induce them to settle down in country towns with a good hospital with a view to getting on the staff.

It seems that as much of the work at clinics must be of the nature of specialist treatment, the sphere of the general practitioner until he has acquired the necessary knowledge and skill will be confined to the discovery of early crippling conditions and to such after care as he can carry out either at the clinic or in the patient's home, under the direction of the orthopædic surgeon. Meanwhile it should be open to him to put in as much time as he can at the clinic with a view to acquiring skill which will enable him to become competent to take an active part in the work of the clinic.

It is understood that in the clinics attached to the Wingfield Hospital, Oxford, any practitioner may bring his patients to the clinic and attend them there.

It is clear from such information as has come to hand that in trying to regulate rates of remuneration, particularly as regards operative work that necessitates treatment at a hospital, the Association is going to find itself up against the old difficulties, the honorary status of some of the orthopædic surgeons, the in-patient letter and the hospital contributory scheme.

A COUNTY SCHEME.

(*See* "The Cripple," by Frederick Watson, 23 *et seq.*)

The following is a County scheme as outlined by C. E. Humphreys, the C.M.O. Montgomeryshire.

There should be:—

1. Provisions for the prevention and early detection of crippling.
2. Provisions for ascertaining the number of cripples and the nature of their defects.
3. Provisions for remedial facilities:—
   (a) An Orthopædic Hospital.
   (b) Orthopædic Clinics.
4. Provisions for following up and ensuring regular attendance at the clinics.
5. Provisions for after care by committees of voluntary workers.

The orthopædic hospital should be an open air hospital and if it is a general hospital it should have an open air hospital run in connection with it with sufficient beds to give cases prolonged treatment.

The surgeons appointed must have had special experience in orthopædic work and a proportion of the nurses must be trained in orthopædic work.

After care clinics should be set up and run in close association with the Central Orthopædic Hospital. They should be not more than a day's return journey from the central hospital.

SOME WORKING SCHEMES.

The following are particulars of some actual schemes in being, and a good deal of further information is contained in the Report of the Central Committee for Care of Cripples, 1924 and 1925.

The Shropshire scheme with its 300 bed open air hospital at Gobowen caters for Shropshire, Herefordshire, and a good deal of Wales. It has after care clinics in Denbighshire and Flintshire and is arranging for them in Montgomery and Monmouth. It is staffed by visiting surgeons from London, Birmingham, Cardiff and Liverpool.

Oxfordshire has a complete county scheme centred round the Wingfield Orthopædic Hospital. It has three general hospitals attached to it at Reading, Aylesbury and Windsor and clinics at Banbury, Stow-on-the-Wold, Witney, Wantage, Newbury, Wallingford, Sandhurst, Wokingham, High Wycombe, and Newport Pagnell.

Each patient at the Wokingham clinic pays 3d. per attendance.

It is stated that none of the surgeons in this scheme are paid for either hospital work or clinic work; that general practitioners are not utilised as paid units at the clinics and that domiciliary visiting is done by the orthopædic nurses.

Gloucester County has not yet a fully developed scheme of its own. It sends cases of surgical tuberculosis to the Cheltenham General Hospital and for other orthopædic cases has made use of the Hereford Clinic and the Shropshire Hospital.

An orthopædic nurse has been appointed:—

(a) to visit out stations and assist the orthopædic surgeon;

(b) to supervise cases and give any immediate treatment required—adjusting and removing splints.

(c) to examine appliances supplied by the Committee.

The M.O.H. in his annual report says the nurse has reviewed many of the cases in their homes and will attend regular clinics both with the orthopædic surgeon and intermediately at the out stations.

Information has been collected by the Council with respect to clinics established throughout the country, some of which are attached to voluntary hospitals.

COMMENTS AND SUGGESTIONS.

It is clear that there are growing up somewhat insidiously all over the country schemes for orthopædic treatment, partly under voluntary and partly under State auspices, partly under Education Authorities and partly under Public Health Authorities, which schemes appear to be of a somewhat haphazard or experimental character.

It would be unfortunate to allow these developments to proceed much further without warning the profession and public of certain possible dangers and laying down one or two general principles that ought to be observed in all schemes.

It is suggested that the chief dangers are:—

1. The establishment of yet another segregated public health service, with its separate institutions and whole-time specialist officers.
2. The withdrawal of a large number of cases of a special type from those hospitals in which medical education is carried on in connection with medical schools, so adding to the difficulties of securing an adequate knowledge of such conditions among medical practitioners in general.
3. The ignoring of the general practitioner altogether or his perfunctory use in connection with this work.

Action on the above lines would result in reducing the experience of the private practitioner (specialist and general) and consequently his value to the community.

Association Notices.

TABLE OF DATES.

April 23, Sat. Last day for receipt at Head Office of nominations: (i) by a Division of not less than 3 members, for election of 24 members of Council by grouped Branches in British Isles; and (ii) for election of 2 Public Health Service members of Council, and 4 Representatives of Public Health Service in Representative Body.

May 7, Sat. Publication in SUPPLEMENT of list of nominations for election of (i) 24 members of Council by grouped Branches in British Isles; (ii) 2 Public Health Service members of Council, and 4 Representatives of Public Health Service in Representative Body. Voting papers posted from Head Office where there are contests in above elections.

May 10, Tues. Last date for receipt at Head Office of motions by Divisions and Branches for A.R.M. on matters of which two months' notice must be given.

May 14, Sat Last day for receipt at Head Office of voting papers for election, where there are contests, of (i) 24 members of Council by grouped Branches in British Isles; and (ii) 2 Public Health Service members of Council, and 4 Representatives of Public Health Service in Representative Body.

Publication in SUPPLEMENT of motions by Divisions and Branches for A.R.M. on matters of which two months' notice must be given.

Last date for election of Representatives and Deputy Representatives

May 28, Sat. Publication in SUPPLEMENT of results of election of members of Council by grouped Branches, and of election of members of Council and Representatives in Representative Body by Public Health Service members.

Nomination papers available (at Head Office) for election of 12 members of Council by grouped Representatives (British Isles).

June 2, Thurs. Last date for receipt at Head Office of names of Representatives and Deputy Representatives.

June 8, Wed. *Council.*

June 16, Thurs. Meetings of constituencies must be held between this date and July 15th, to instruct Representatives.

June 25, Sat. Supplementary Report of Council appears in SUPPLEMENT.

July 1, Fri. Amendments and riders by Divisions and Branches for inclusion in A.R.M. Agenda must be received at Head Office by this date

July 15, Fri. *Annual Representative Meeting*, Edinburgh, 10 a.m.

Nominations for election of 12 members of Council by grouped Representatives must be received (at A.R.M., [illegible]ate, 2 p.m.

July 16, Sat.

July 18, Mon.

July 19, Tues. Meeting, Edinburgh, President's Address.

July 20, Wed. *Council* (Edinburgh). Conference of Honorary Secretaries (Edinburgh).

Meetings of Sections, etc., Edinburgh.

July 21, Thurs. *Meetings of Sections*, etc., Edinburgh.

July 22, Fri. *Meetings of Sections*, etc., Edinburgh.

ALFRED COX, *Medical Secretary.*

BRANCH AND DIVISION MEETINGS TO BE HELD.

DORSET AND WEST HANTS BRANCH: WEST DORSET DIVISION.—A meeting of the West Dorset Division will take place on Friday, April 29th, at the Durlston Court School, Swanage, near the Children's Hospital, at 2.45 p.m. Cases will be shown and a paper read by Dr. W. A. Rees, O.B.E. Tea will be served afterwards at the Trocadero Restaurant by the courtesy of the Swanage members. A report and recommendations of the Divisional Ethical Committee will be brought forward.

KENT BRANCH: DARTFORD DIVISION.—A general meeting of the Dartford Division, to which all practitioners in the Dartford area are invited, will be held at the King Edward Avenue Hospital, West Hill, Dartford, on Wednesday, April 27th, at 3 p.m. Agenda: Anaesthetic fees (national health insurance); midwifery fees; antenatal clinics; maternity homes. At 4 p.m. a paper will be read by Mr. A. L. MORETON, M.S., F.R.C.S., medical superintendent of the Alexandra Hospital for Children with Hip [illegible] pains, or the diagnosis of certain chronic af[illegible] the joints of children."

LANCASHIRE AND CHESHIRE BRANCH: ROCHDALE DIVISION.—The annual meeting of the Rochdale Division will be held in the Education Offices, Lyceum, Ballie Street, Rochdale, on Wednesday, April 27th, at 8.30 p.m. Business: Annual report for 1926; election of representative, deputy representative, officers, and Executive Committee for the ensuing year.

METROPOLITAN COUNTIES BRANCH: CITY DIVISION.—A meeting of the City Division will be held at the Metropolitan Hospital, Kingsland Road, E., on Tuesday, May 3rd, at 9.30 p.m. Dr. H. C. Lucey will read a paper on clinical pathology.

METROPOLITAN COUNTIES BRANCH: WILLESDEN DIVISION.—A meeting of the Willesden Division will be held at St. Andrew's Church Hall, High Road, Willesden Green, on Wednesday, April 27th, at 9 p.m. Agenda: Minutes, correspondence, etc.; consider Annual Report of Council (BRITISH MEDICAL JOURNAL SUPPLEMENT, April 23rd); any other business.

MIDLAND BRANCH: CHESTERFIELD DIVISION.—A meeting of the Chesterfield Division will be held at the Maternity Hospital, Chesterfield, on Friday, April 29th, at 8.15 p.m. Dr. L. G. Parsons, physician to Queen's Hospital and the Children's Hospital, Birmingham, will give an address on "Some points in the diagnosis and treatment of pneumococcal infections in childhood." Tea and coffee will be served at 8 p.m.

NORTH OF ENGLAND BRANCH: BISHOP AUCKLAND DIVISION.—It is proposed to hold an annual dinner of the Bishop Auckland Division on Friday, April 29th, at 7.30 for 8 p.m., in the King's Café, Newgate Street, Bishop Auckland. Tickets £1 1s. each (inclusive of wines). Guests may be invited.

OXFORD AND READING BRANCH: OXFORD DIVISION.—A clinical meeting of the Oxford Division will, by invitation of the local practitioners, be held at the Horton Infirmary, Banbury, to-day (Friday, April 22nd), at 3 p.m. Professor G. E. Gask, C.M.G., D.S.O., director of Surgical Unit, St. Bartholomew's Hospital, will read a paper on "Some operations for gastric ulcer," illustrated by lantern slides. Clinical cases will be shown by members of the honorary staff of the Horton Infirmary and others. On Thursday, April 28th, the South-West Division of the Royal Medico-Psychological Society is meeting at the Mental Hospital, Littlemore. Cases will be shown from 2.30 to 4 p.m. Those members of the Division who intend to be present and to take tea are asked to notify Dr. Good.

SOUTHERN BRANCH: PORTSMOUTH DIVISION.—A clinical meeting of the Portsmouth Division will be held on Thursday, April 28th, at 3 p.m., at the Royal Portsmouth Hospital (Out-patient Department). 3 p.m., Examination of cases; 3.45 p.m., tea, provided by the staff of the hospital; 4 p.m., discussion of cases in Board Room. The meeting will end promptly at 5 p.m.

SUFFOLK BRANCH: WEST SUFFOLK DIVISION.—A clinical meeting of the West Suffolk Division will be held at the Angel Hotel, Bury St. Edmunds, to-day (Saturday, April 23rd), at 8 p.m. Sir Thomas Horder, Bt., K.C.V.O., physician to St. Bartholomew's Hospital, has kindly promised to open an informal discussion on "What are the most useful methods of supplementing clinical diagnosis?" Arrangements have been made for members attending the meeting to dine together, and Sir Thomas Horder's paper will be read after dinner. Dinner (at 8 p.m.), price 5s. Morning dress.

SURREY BRANCH: GUILDFORD DIVISION.—A meeting of the Guildford Division will be held at the Royal Surrey County Hospital on Thursday, April 28th, at 4 p.m. Dr. J. A. Ryle will read a paper on "Modern views on diathesis." Tea will be served at 3.45. At a combined meeting of the Guildford Division and the Veterinary Medical Association, Southern Counties Branch, to be held on May 19th, Professor Hobday will open a discussion on clean milk. Further particulars will be announced later.

SUSSEX BRANCH: BRIGHTON DIVISION.—A conjoint meeting of the Brighton and Hove Association of Pharmacy and the Brighton Division of the British Medical Association will be held at the Queen's Road Dispensary, Brighton, on Wednesday, April 27th, at 8.30 p.m. Dr. Donald Hall, F.R.C.P., will open a discussion on "Therapeutics—thirty years ago and now." It is hoped that as many members as possible of both associations will attend and take part in the debate.

Meetings of Branches and Divisions.

BIRMINGHAM BRANCH: NUNEATON AND TAMWORTH DIVISION.

A MEETING of the Nuneaton and Tamworth Division was held at the Nuneaton General Hospital on April 6th.

It was decided to hold the annual dinner on the second Wednesday in May in Nuneaton, and the arrangements were left to the Executive Committee.

Dr. P. C. CLOAKE read a paper on "Neuritis and its treatment." He described the pathology of the condition, etiology, symptoms, both general and local, and diagnosis. With regard to the latter, he mentioned the importance of local pain, tenderness along the affected nerve, and loss of power and wasting in the muscles supplied by the nerve. He described various varieties of neuritis and entered very fully into the question of treatment, mentioning the great importance of the general factor in the more acute cases, and the importance of treating foci of infection, such as apical abscesses of the teeth, colitis, pyelitis, gleet, etc. He also described the use of autogenous vaccines in these cases. He entered into the question of local treatment, alluding to radiant heat, diathermy, massage and electricity, etc., and discussed the indications for their use, and described methods of preventing deformities. He also described medicinal and operative treatment.

A discussion followed in which Drs. H. PRICE, E. NASON, L. E. PRICE, DUDLEY, and POWER took part.

Dr. CLOAKE having replied, a vote of thanks for his valuable address was carried unanimously.

It was decided to communicate with the local members of Parliament regarding the Dogs' Protection Bill.

BIRMINGHAM BRANCH: WEST BROMWICH DIVISION.

THE second regular meeting for 1927 of the West Bromwich Division was held on April 5th.

It was brought to the notice of members that under the Puerperal [illegible] which came into force on October 1st, 1926, local [illegible] he notifying doctor so desired, provide, *inter* [illegible] should see the patient.

The attention of members was drawn to the fact that under the Coroners Amendment Act, 1926, all medical fees in connexion with inquests would be increased by 50 per cent.; also that if, as a result of a *post-mortem* examination performed at the request of the coroner, an inquest was saved, the doctor, in addition to the 31s. 6d. for the *post-mortem* examination, would receive 10s. 6d.

for his report. The inquest fee, as from May 1st, would be £1 11s. 6d. a day, instead of £1 1s. for the whole inquest, however long.

The British Medical Association circular on medical charities (D.11) was read in full to the meeting. After some discussion it was agreed to leave the whole matter to the Executive Committee, who would prepare a scheme.

Dr. LEWIS GRAHAM (Birmingham) opened a discussion on "Some points in the conduct of midwifery in private practice." Dr. Graham's remarks and hints were highly appreciated.

DORSET AND WEST HANTS BRANCH: BOURNEMOUTH DIVISION.

A SUCCESSFUL meeting of the Bournemouth Division was held on April 7th in the St. Peter's Hall, Bournemouth; Dr. A. D. EDWARDS was in the chair and there was a good attendance of members.

Dr. E. K. LE FLEMING was again unanimously nominated as a candidate for election as member of the Council of the Association.

Dr. ROBERT HUTCHISON gave a very instructive British Medical Association lecture, entitled "Diet in infancy and childhood." After the lecture several members put questions to Dr. Hutchison, which he answered. On the motion of Dr. HYLA GREVES, seconded by Dr. JOHNSON SMYTH, a vote of thanks to Dr. Hutchison for his very interesting lecture was carried with acclamation.

DORSET AND WEST HANTS BRANCH: WEST DORSET DIVISION.

A MEETING of the West Dorset Division took place on March 31st at the Weymouth and District Hospital. Despite the weather there was a large attendance.

Dr. C. J. Marsh was unanimously elected representative, and Dr. O. Rees deputy representative of the Division for the year 1927-28.

Mr. R. L. HORTON showed (*a*) a case of tumour of the neck, with a suggested diagnosis of Hodgkin's disease; (*b*) a girl of 16 suffering from Hodgkin's disease; (*c*) a case of acute poliomyelitis who apparently had had a second acute attack over two months after the first.

Dr. C. M. FORBES showed a case with tumours in the right arm and forearm. It was suggested this might be due to neuro-fibromatosis.

Dr. O. REES showed a mother and daughter who both frequently dislocated both their patellae externally. The grandmother, now dead, had the same habit.

Dr. G. R. ALDRED-BROWN showed a case of recurrent scarlatiniform erythema with subsequent desquamation.

Dr. KING FRETTS showed a girl of 16 who had a long growth of hair in the sacral region, probably a dermoid.

Refreshments were served. Afterwards Mr. J. WHITTINGDALE, F.R.C.S., read a paper entitled "*Chronic pain in the right iliac fossa.*" He was followed in an interesting discussion by Drs. H. L. TASKER, R. L. HORTON, A. GRAY, E. W. SMERDON, F. L. NASH-WORTHAM, and O. REES.

JAMAICA BRANCH.

THE monthly meeting of the Jamaica Branch was held in the Leper Home at Spanish Town on February 17th. Dr. WILSON, senior medical officer, opened the discussion on leprosy, and Dr. CAMPBELL read a paper on the treatment of the cases at the home. Many cases were demonstrated to the seventeen members who attended. Dr. Campbell entertained the visitors to tea at the Rio Cobre Home.

METROPOLITAN COUNTIES BRANCH: TOWER HAMLETS DIVISION.

A CLINICAL meeting of the Tower Hamlets Division was held on April 6th at St. Peter's Hospital, Whitechapel, when about forty members were present.

Dr. A. RANDLE showed two cases of perforated pyloric ulcer on which he had operated, occurring in men aged respectively 72 and 22, and illustrating the wide extremes of age at which this catastrophe was possible. Dr. E. MAPOTHER demonstrated cases exhibiting mental symptoms associated respectively with a physical basis (uterine tumour) and endocrine disorder. Dr. FANNING showed a specimen and drawings from a case synophthalmia. Dr. THOMPSON showed cases of tertiary syphilis and described the treatment. Dr. MARIAN showed cases of acromegaly and congenital cystic kidneys. He also demonstrated an appliance fitted to the ends of crutches and artificial legs, the principle of which was a steel spring acting as a shock absorber. A discussion ensued, and the proceedings terminated with a vote of thanks to Dr. A. Randle, medical superintendent of St. Peter's Hospital.

SOUTH INDIAN AND MADRAS BRANCH.

THE annual general meeting of the South Indian and Madras Branch was held on March 5th at the General Hospital, Madras, under the chairmanship of Major-General F. H. G. Hutchinson, C.I.E., K.H.S., I.M.S.

On the motion of Major J. A CRUICKSHANK, seconded by Dr. H. RANGAPPA, the accounts of the Branch for 1926 were passed and the annual report recorded.

The following members were elected office-bearers for 1927:

President, Major-General F. H. G. Hutchinson, C.I.E. *Vice-President*, Lieut.-Colonel E. W. C. Bradfield, M.S., C.B.E. *Secretary*, Major Clive Newcomb, I.M.S.

The action of the secretary in purchasing venereal films from the British Social Hygiene Council was approved. It was resolved that the Council should draw up rules for the custody and use of the films. It was resolved that one meeting a month should be arranged by the honorary secretary from July to February each year. The question of framing rules for the grant of Branch funds for research was referred to the executive committee.

YORKSHIRE BRANCH: WAKEFIELD, PONTEFRACT, AND CASTLEFORD DIVISION.

A LECTURE meeting of the Wakefield, Pontefract, and Castleford Division was held at the Great Bull Restaurant, Wakefield, on April 7th, under the chairmanship of Dr. GIBSON.

Mr. G. L. WILKINSON, M.R.C.S., L.D.S., gave a very interesting lecture on conservative dentistry. He considered that Mrs. Mellanby's experiments were a useful addition to knowledge in the matter of dental caries. Summarizing her conclusions, he emphasized that vitamin A was the chief essential and that calcium was of secondary importance to this, and that some cereals—for example, oatmeal—inhibited calcification of teeth; it was found that white flour and rice were probably the least harmful of the cereals. Cod-liver oil was the best known source of vitamin A, and if a diet containing this and milk were given to growing children and also to the expectant mother, it was thought that the incidence of dental caries would be diminished. Another suggestion at the present time was that dental caries might be due to lack of endocrine balance. Mr. Wilkinson stated that a carious temporary molar, if left in the mouth, would lead to caries of the permanent teeth beneath it. He dealt with the question of apical infection, and said that all such areas could satisfactorily be cleared up without extraction of the tooth, provided the patient was in good health and that definite bony regeneration took place if this was properly done. He considered that a good *x*-ray photograph carefully read was of considerable value in conservative dentistry.

The following members took part in the subsequent discussion: DRS. GIBSON, RADCLIFFE, BUTLER, TOWNEND, STEVEN, and HILLIARD.

Correspondence.

State and Municipal Health Services.

SIR,—I think that this is an appropriate time to call the attention of the profession to the activities of county councils in the direction of State socialism by allowing their medical officers to enlarge the scope of their work at the expense of the general practitioner. To take the instance of our own area, the Holland Division of Lincolnshire, our medical officer of health has recently added to his two qualified assistants a third, and to his health visitors two more—this at a time when the nation is calling out for economy in Government departments. What is more, he has announced in the local press the benefits that any member of the public can obtain from his various departments.

Whatever the general opinion of the profession as to this extension of State interference with the health of private individuals, I know that our Medical Secretary, Dr. Cox, at a meeting of the local Branch of the British Medical Association at Boston last autumn, warned us against further encroachments on the work of the general practitioner.

Whether the doctors themselves take any steps to protect their interests or not will not much matter, as economic pressure is slowly but surely going to produce a marked retrenchment in public expenditure.—I am, etc.,

Long Sutton, Wisbech, April 12th. R. MURRAY BARROW.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

Surgeon Commanders W. W. D. Chilcott to the *Victory* for the *Nelson* for trials; S. Bradbury lent to New Zealand Division; L. F. Strugnell to the *Adventure* on commissioning; J. F. Pace to the *Victory* for R.N. Barracks; H. W. Nicholls to the *Ganges*, temporary, supernumerary, and to the *St. Vincent*; H. C. Deves to the *Pembroke* for R.N. Hospital, Great Yarmouth.

Surgeon Lieutenant Commander J. R. Brannan to the *Vivid* for R.N. Hospital, Plymouth.

Surgeon Lieutenants W. G. C. Fitzpatrick to the *Vivid* for R.N. Hospital, Plymouth; S. G. Weldon to the *Revenge*; R. W. Mussen to the *St. Vincent*.

ROYAL ARMY MEDICAL CORPS.

Captain J. W. Pell to be temporary Captain, and temporarily relinquishes the rank of Captain.

J. W. Dowzer to be temporary Lieutenant.

ROYAL AIR FORCE MEDICAL SERVICE.

Flight Lieutenant (Honorary Squadron Leader) F. E. Wilson resigns his temporary commission.

INDIAN MEDICAL SERVICE.

Colonel A. Fenton, Inspector-General of Civil Hospitals, Burma, is granted leave on average pay for eight months, pending retirement.

The services of Colonel R. A. Needham, C.I.E., D.S.O., are again placed at the disposal of the Government of the Central Provinces.

Lieut.-Colonel J. Cunningham, I.M.S., is confirmed as Director, Pasteur Institute, Kasauli.

Lieut.-Colonel L. E. Gilbert, C.I.E., is appointed to act as Inspector-General of Civil Hospitals, Burma, and Lieut.-Colonel J. Masson is appointed Inspector-General of Civil Hospitals, Bihar and Orissa.

Lieut.-Colonel W. D. H. Stevenson, C.I.E., has retired from the service.

The services of Major S. D. *Sondhi*, M.C., are placed temporarily at the disposal of the Government of the Punjab for employment in the Jail Department.

The promotion to his present rank of Major E. A. Penny is antedated to January 29th, 1923.

VACANCIES.

BIRKENHEAD GENERAL HOSPITAL.—Two House-Surgeons (male). Salary £200 and £150 per annum respectively.

BIRMINGHAM GENERAL DISPENSARY.—Holiday Locumtenent (male). Remuneration £8 8s. per week.

BOURNEMOUTH: ROYAL VICTORIA AND WEST HANTS HOSPITAL.—Honorary Physician.

BRADFORD CITY.—Assistant Dentist. Salary £450 per annum, *plus* bonus, at present £28 12s. a year.

BRADFORD ROYAL INFIRMARY.—(1) House-Surgeon. (2) House-Physician. Males (unmarried). Salary £150 per annum each.

BRIGHTON AND HOVE PROVIDENT DENTAL HOSPITAL.—Anaesthetist.

BRISTOL ROYAL HOSPITAL FOR SICK CHILDREN AND WOMEN.—(1) In-patient Physician (2) Out-patient Physician.

BURTON-ON-TRENT COUNTY BOROUGH.—Assistant Medical Officer of Health, etc. Salary £600 per annum.

CARDIFF CITY MENTAL HOSPITAL, Whitchurch.—Resident Clinical Assistant (male). Honorarium 50 guineas for six months.

CENTRAL LONDON OPHTHALMIC HOSPITAL, Judd Street, W.C.1.—Honorary Anaesthetist.

CENTRAL LONDON THROAT, NOSE AND EAR HOSPITAL, Gray's Inn Road, W.C.1. —(1) Assistant Out-patient Registrar. (2) Second Resident House-Surgeon (male); salary at the rate of £75 per annum.

CHARING CROSS HOSPITAL, W.C.2.—(1) Physician to Children's Department. (2) Obstetric Registrar.

CHESTER ROYAL INFIRMARY.—Honorary Surgeon in charge of the Ear, Nose, and Throat Department.

CHESTERFIELD COUNTY BOROUGH.—Female Assistant Medical Officer of Health and School Medical Officer. Salary £450 per annum.

COLCHESTER PARISH.—Medical Officer of the Institution and Public Vaccinator for the Parish. Salary £150 per annum and vaccination fees.

COVENTRY AND WARWICKSHIRE HOSPITAL.—(1) Member of Honorary Surgical Staff. (2) Honorary Assistant Physician.

DUDLEY COUNTY BOROUGH.—Assistant School Medical Officer and Assistant Medical Officer of Health (male). Salary £600 per annum, rising to £650.

HULL ROYAL INFIRMARY.—Casualty House-Surgeon (male). Salary at the rate of £130 per annum.

LEEDS CITY.—Assistant Medical Officer of Health. Salary £900 per annum.

LIVERPOOL MATERNITY HOSPITAL.—Honorary Assistant Surgeon.

LOWESTOFT BOROUGH AND PORT SANITARY DISTRICT.—Medical Officer of Health and School Medical Officer. Salary £800 per annum.

MANCHESTER CITY.—Assistant Tuberculosis Officer (male). Salary £600 per annum.

MANCHESTER VICTORIA MEMORIAL JEWISH HOSPITAL.—Senior House-Surgeon (male). Salary £250 for first year, and £300 for second year.

MEDICAL RESEARCH COUNCIL.—(1) Qualified Dentist; salary £500 per annum. (2) Woman Assistant; salary from £250 per annum.

MIDDLESBROUGH: NORTH ORMESBY HOSPITAL.—Second House-Surgeon (male, unmarried). Salary £135 per annum.

MONTGOMERY COUNTY COUNCIL.—County Medical Officer and School Medical Officer. Salary £800 per annum.

RICHMOND, SURREY: ROYAL HOSPITAL.—Assistant House-Surgeon (male). Salary at the rate of £100 per annum for first six months, rising to £150 on appointment as Senior.

ROYAL SCOTTISH NATIONAL INSTITUTION, Larbert.—Assistant Medical Officer. Salary £350 per annum.

ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN, Waterloo Road, S.E.1. —House-Surgeon (male). Salary at the rate of £100 per annum.

SALFORD ROYAL HOSPITAL.—Medical Registrar.

SOUTH EASTERN HOSPITAL FOR CHILDREN, Lower Sydenham, S.E.26.—Resident Medical Officer (female). Salary at the rate of £100 per annum.

WEST LONDON HOSPITAL, Hammersmith Road, W.6.—(1) Assistant Physician. (2) Honorary Medical Radiologist (Diagnosis).

WESTERN AUSTRALIA.—Pathologist and Bacteriologist at the Hospital for the Insane, Claremont. Salary ranges from £576 to £768 per annum, *plus* allowances.

WOOLWICH AND DISTRICT MEMORIAL HOSPITAL, Shooters' Hill.—(1) Honorary Surgeon. (2) Honorary Assistant Surgeon. (3) Honorary Physician. (4) Honorary Assistant Physician. (5) Radiologist.

CERTIFYING FACTORY SURGEONS.—The following vacant appointments are announced: Buntingford (Herts), Resolven (Glam), Mauchline (Ayrshire), Burgees Hill (Sussex). Applications to the Chief Inspector of Factories, Home Office, Whitehall, S.W.1.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.

APPOINTMENTS.

HUGHES, Miss Audrey Margaret, M.B., B.S.Lond., D.P.H., Assistant Medical Officer of Health, Assistant School Medical Officer, and Assistant Tuberculosis Officer under the York Corporation.

VEITCH, Vera C., M.B., Ch.B.Edin., Honorary Assistant Orthopaedic Surgeon to the North Staffordshire Cripples Aid Society, Stoke-on-Trent.

CHILDREN'S HOSPITAL IN CONNEXION WITH THE ROYAL INFIRMARY, Sunderland. —*Senior Resident Medical* [illegible] *Physician*: Miss Constance I. Pattullo, M.B., B.Ch.Oxon [illegible] *cal Officer and House-Surgeon*: Miss Ethel G.

CERTIFYING FACTORY SURGEONS.—A. G. Holman, M.R.C.S., L.R.C.P., for the Aylsham District, co. Norfolk; H. M. Wilson, M.B., Ch.B.Glas., for the Linton District, co. Cambridge.

DIARY OF SOCIETIES AND LECTURES.

ROYAL SOCIETY OF MEDICINE.

Section of Odontology.—Mon., 8 p.m., Mr. E. C. Sprawson: Further Investigation of the Pathology of Dentigerous Cysts, with a New Treatment based thereon.

Section of Medicine.—Tues., 5 p.m., Dr. Parkes Weber: Stenosis (Co-arctation) of the Aortic Isthmus, with Sudden Death from Rupture of a Cerebral Aneurysm; Dr. Morley Fletcher: Two Cases of Co-arctation of the Aorta; Dr. Osman and Dr. Carter: The Prevention of Scarlatinal Nephritis.

Section of Surgery.—Wed., 8.30 p.m., Annual General Meeting: Election of Officers and Council for Session 1927-28. A Clinical Pathological Evening will follow.

Section of Urology.—Thurs., 8.30 p.m., Sir Thomas Horder: The Medical Aspects of Haematuria.

Section for the Study of Disease in Children.—Fri., 4 p.m., Clinical Meeting at the Victoria Hospital for Children, Tite Street, S.W.3. Tea will be served at 4 p.m., followed by a Demonstration of Clinical Cases.

Section of Epidemiology and State Medicine.—Fri., 8 p.m., Sir William Hamer: The Influenzal Constitution.

CHELSEA CLINICAL SOCIETY, St. George's Hospital, S.W.—Tues., 8.30 p.m., Discussion: Peptic Ulcer, in which Drs. R. Hutchison and J. A. Ryle and Mr. H. W. Carson will take part.

HUNTERIAN SOCIETY, 91, Harley Street, W.1.—Annual General Meeting, Mon., 8.30 p.m.

MEDICO-LEGAL SOCIETY, 11, Chandos Street, W.1.—Thurs., 8.30 p.m., Dr. A. Knyvett Gordon: Certain Difficulties in Life and Sickness Assurance; followed by a discussion.

ST. JOHN'S HOSPITAL DERMATOLOGICAL SOCIETY, St. John's Hospital, Leicester Square, W.C.2.—Wed., 4.15 p.m., Dr. H. G. Adamson: Some Remarks upon Treatment of Skin Diseases, to be followed by a discussion.

POST-GRADUATE COURSES AND LECTURES.

LONDON SCHOOL OF DERMATOLOGY, St. John's Hospital, Leicester Square, W.C.2.—Tues., 5 p.m., Warts. Thurs., 5 p.m., Skin Diseases of Animals [illegible]

[illegible] IRMARY.—Tues., 4.15 p.m., Examination of the [illegible] Fri., 4.15 p.m., Demonstration of Surgical Cases.

[illegible] City Road, E.C.—Tues., 3.15 p.m., Muscle Strain in the Respiratory Mechanism.

GLASGOW POST-GRADUATE MEDICAL ASSOCIATION.—At Royal Hospital for Children: Wed., 4.15 p.m., Surgical Cases.

British Medical Association.

OFFICES, BRITISH MEDICAL ASSOCIATION HOUSE, TAVISTOCK SQUARE, W.C.1.

Departments.

[illegible] ENTS (Financial Secretary and Business [illegible] date Westcent, London).

[illegible] Mediscera Westcent, London).

[illegible] *rnal* (Telegrams: Aitiology Westcent, London).

Telephone numbers of British Medical Association and British Medical Journal, Museum 9861, 9862, 9863, and 9864 (internal exchange, four lines).

SCOTTISH MEDICAL SECRETARY, 6, Drumsheugh Gardens, Edinburgh. (Telegrams: 4361 Central.)

IRISH MEDICAL [illegible] rederick Street, Dublin. (Telegrams: Dublin.)

Diary of the Association.

APRIL.

25 Mon. London: Lunacy Committee, 2.30 p.m.

26 Tues. London: Parliamentary Subcommittee, 2 p.m.
London: Central Ethical Committee, 2.30 p.m.

27 Wed. Brighton Division: Queen's Road Dispensary, Brighton. Discussion on Therapeutics, to be opened by Dr. Donald Hall, 8.30 p.m.
Dartford Division: King Edward Avenue Hospital, Dartford. Mr. A. L. Moreton on "Growing Pains," 3 p.m.
Rochdale Division: Annual Meeting, Education Offices, Ballie Street, Rochdale, 8.30 p.m.
Willesden Division: St. Andrew's Church Hall, High Road, Willesden Green, 9 p.m.

28 Thurs. Guildford Division: Royal Surrey County Hospital. Dr. J. A. Ryle on Modern Views on Diathesis, 4 p.m.
Portsmouth Division: Clinical Meeting, Royal Portsmouth Hospital, 3 p.m.

29 Fri. Bishop Auckland Division: Annual Dinner, King's Café, Newgate Street, Bishop Auckland, 7.30 p.m.
Chesterfield Division Maternity Hospital, Chesterfield. Dr. L. G. Parsons on Pneumococcal Infections in Children, 8.15 p.m.
West Dorset Division: Durlston Court School, Swanage, 2.45 p.m.

MAY.

3 Tues. London: Psycho- [illegible] [illegible] sland Road, E.
City Division: [illegible] p.m.
Dr. H. C. Luce [illegible] Café, Harrogate,

4 Wed. Harrogate Divisio [illegible] 8.30 p.m.

5 Thurs. London: Science and Insurance Acts Committees' Joint Research Subcommittee, 2 p.m.

19 Thurs. Guildford Division: Discussion on Clean Milk.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcement of Births, Marriages, and Deaths is 9s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

BIRTH.

WHITE.—On April 15th, 1927, at 12, Ripon Road, Harrogate, to Dorothy, wife of Ernest White, a daughter.

MARRIAGE.

LYALL—STRACHAN.—At St. Mary's Episcopal Church, Arbroath, on April 18th, by the Rev. Canon E. W. Millar, B.A., Alexander Lyall, M.A., M.D., M.R.C.P.Lond., second son of Mr. and Mrs. Alexander Lyall, 74, Ferryhill Road, Aberdeen, to Emma Allen, third daughter of Mr. and Mrs. David Strachan, 175, High Street, Arbroath.

DEATHS.

MILLER.—On April 18th, at 68, Killieser Avenue, Streatham Hill, S.W.2, Guy Witton Miller, M.R.C.S., L.R.C.P., aged 50.

WILLSON.—At "The Homestead," Wetherby Lane, Harrogate, on Easter Day, John Wherry Willson, L.R.C.P., M.R.C.S., late of Bradford, aged 59, the dearly loved husband of Laura M. Willson.

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SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, APRIL 30TH, 1927.

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SPECIAL NOTICE TO MEMBERS.

Every Member is requested to preserve this "Supplement," which contains matters specially referred to Divisions, until the subjects have been discussed by the Division to which he or she belongs.

British Medical Association.

PROCEEDINGS OF COUNCIL.

Tuesday and Wednesday, April 5th and 6th, 1927.

A meeting of the Council was held on April 5th and 6th at the House of the Association, Tavistock Square. The meeting began at 2 p.m. on the first day, the members having attended the Lister Celebration in the morning,[1] and continued throughout the whole of the second day. Sir Robert Bolam, Chairman of Council, presided, and there were present:

Mr. R. G. Hogarth (President), Dr. H. B. Brackenbury (Chairman of Representative Body), Mr. N. Bishop Harman (Treasurer), Dr. F. G. Thomson (Past President), Dr. C. O. Hawthorne (Deputy Chairman of Barcroft Anderson, Surgeon Rear-Dr. H. S. Beadles, Sir Alfred Blenkinsop, Dr. J. W. Bone, Dr. H. C. Bristowe, Dr. H. G. Dain, Dr. J. S. Darling, Dr. C. E. Douglas, Mr. T. P. Dunhill, Mr. W. McAdam Eccles, Dr. D. E. Finlay, Dr. E. R. Fothergill, Dr. F. J. Gomez, Dr. D. G. Greenfield, Dr. R. Wallace Henry, Dr. G. B. Hillman, Dr. J. Hudson, Dr. I. W. Johnson, Dr. R. Langdon-Down, Dr. E. K. Le Fleming, Dr. R. W. Leslie, Dr. E. Lewys-Lloyd, Sir Richard Luce, M.P., Dr. A. Lyndon, Dr. R. A. Lyster, Dr. J. A. Macdonald, Dr. S. Morton Mackenzie, Dr. A. Manknell, Dr. O. Marriott, Dr. J. C. Matthews, Dr. G. W. Miller, Dr. Hugh Miller, Dr. John Mills, Dr. Christine Murrell, Mr. A. W. Nuthall, Lieut.-Colonel F. O'Kinealy, Dr. W. Paterson, Dr. J. Dodds Price, Dr. R. Radcliffe, Mr. H. S. Souttar, Dr. Lockhart Stephens, Dr. John Stevens, Dr. W. E. Thomas, Dr. G. Clark Trotter, Mr. E. B. Turner, Sir Jenner Verrall, and Dr. J. F. Walker.

Apologies for absence in respect of the meeting on Tuesday, April 5th, were received from the Past President, the President-Elect, Dr. G. A. Allan, Dr. G. F. Buchan, Mr. T. P. Dunhill, Dr. I. W. Johnson, Dr. David Lawson, Dr. J. G. McCutcheon, Mr. A. W. Nuthall, Group Captain N. J. Roche, Dr. W. E. Thomas, Mr. E. B. Turner, Dr. D. Walshe, and Sir William de Courcy Wheeler; and in respect of the meeting on Wednesday, April 6th, from the President, the President-Elect, Dr. G. A. Allan, Dr. G. F. Buchan, Dr. David Lawson, Dr. J. G. McCutcheon, Dr. W. Paterson, Group Captain N. J. Roche, Dr. D. Walshe, and Sir William de Courcy Wheeler.

[1] See British Medical Journal, April 9th, 1927, p. 686.

Preliminary Business.

The Chairman announced the death of Dr. Charles H. W. Parkinson, formerly member of Council, president of the Dorset and West Hants Branch, and chairman of the Bournemouth Division. The Chairman was authorized by the Council to send a letter of condolence to the family.

The Chairman reported that Dr. Clark Trotter was the only candidate nominated to represent the New Zealand and Fiji Branches on the Council for the unexpired portion of the late Dr. David Ewart's term of office—namely, to the end of the 1927-28 session—and he was accordingly elected; also that the following, in the absence of other nominations, had been elected members of the Council to represent groups of Branches outside the United Kingdom where there were vacancies: Mr. T. P. Dunhill (New South Wales and Queensland), Sir Jenner Verrall (South Australian, Tasmanian, Victorian, and Western Australian), Dr. F. J. Gomez (West Indian group), Dr. O. Marriott (Hong-Kong and China and Malaya), and Lieut.-Colonel Ashton Street, I.M.S.(ret.) (Indian group).

Dr. William Paterson was nominated for election to the Council of the Society of Medical Officers of Health for the remainder of the present session, in the place of the late Dr. Ridley Bailey. The nomination of Dr. H. B. Brackenbury to represent the Association on the Departmental Committee to consider the draft bill for the registration of optical practitioners was confirmed.

A report was received from Dr. H. Cooper Pattin, the official delegate of the Association to the Australasian Medical Congress, held in Dunedin in February, and already very fully reported in the Journal. The President of the Congress (Dr. Barnett) also sent a communication thanking the President of the Association and the Council for their cable message, which "was received with hearty acclamation at the inaugural function, and brought home to all of us the fact that the parent body maintains a very real interest in the welfare of the younger Branches in distant lands."

On the Chairman's motion, Sir G. Lenthal Cheatle, Dr. A. L. Flemming, Dr. J. Strickland Goodall, and Dr. S. Gilbert Scott

were appointed official delegates of the Association to the annual meeting of the Canadian Medical Association in 1927. Dr. H. M. Cohen of Manchester, who expected to be in the United States at the time of the annual session at Washington of the American Medical Association, was appointed to act as delegate on that occasion, and the Chairman was empowered to add a second name.

The Chairman reported that he had requested Dr. G. A. Allan to attend the official religious service at Glasgow in connexion with the Lister Celebration as representative of the Association, and Dr. Allan had attended and deposited a wreath.

The University of Toronto invited the Association to send a delegate to take part in the celebration of the centenary of the granting of the University charter, which was to take place in October. It was agreed to defer this matter until the Annual Meeting.

In response to the invitation of the Dean and Faculty of University College, London, asking the Association to send a delegate to the centenary celebrations, the Council decided that the Editor, Sir Dawson Williams, a Fellow of University College, should be asked to attend.

Dr. Fothergill was appointed to represent the Association at the National Conference on Maternity and Infant Welfare in July; and Dr. Dain, Dr. C. E. S. Flemming, and Mr. Bishop Harman were asked to serve as representatives to the third Imperial Social Hygiene Congress.

On the motion of the Chairman, Mr. W. E. Hempson was reappointed Solicitor of the Association for one year from April 1st.

The officers of the Association were constituted a sub-committee to consider preliminary arrangements in connexion with the preparations for the Annual Meeting in Canada in 1930.

The Medical Secretary read the cablegram from Shanghai which was reproduced in the JOURNAL of April 9th (p. 680), and the Council resolved that steps be taken to get into communication with the senders of the cablegram and assure the profession in Shanghai of its cordial sympathy and of whatever support the Association was able to give. It was also decided that copies of the cablegram should be sent to the members of the Medical Committee in Parliament.

Association Finance.

The Treasurer (Mr. Bishop Harman) reviewed the financial position of the Association in the light of the figures for 1926. The surplus originally estimated for the year was £4,200, but the actual total surplus realized was £8,873. Against this had to be set certain expenditure. It was necessary to provide a sinking fund for the redemption of the amount spent on leasehold premises. The Finance Committee recommended that a sum of £1,000 should be set aside annually for this purpose. For the first time in the history of the JOURNAL there had been a lapse in its sequence of issues. That was due to the general strike. Otherwise the year had been a "bumper" one for the JOURNAL. A striking feature of the year's working was the way in which the advertisement revenue had been maintained. The scrupulous care exercised by the Journal Committee and the staff over the character of the advertisements appearing in the JOURNAL exemplified the truth that honesty was the best policy, for the columns of the JOURNAL, as a result of this scrutiny, became more valuable for honest traders, who in consequence supported it more extensively. Altogether, it was a matter for congratulation that at the end of a year which had been in many ways exceptionally difficult the financial position should be so satisfactory. In reply to Dr. Macdonald, who wanted to know the explanation for the error in budgeting whereby the proved surplus turned out to be twice as great as the estimated surplus, Mr. Bishop Harman said that the budgeting was on the basis of the membership, and it had not been possible to budget for the increase of membership which had in fact taken place during the year.

On the recommendation that a sinking fund be commenced for the redemption of the amount spent on leasehold premises, the Treasurer said that the idea of the Finance Committee was to invest this money annually in a policy, which would be less likely to be used for other purposes than if the money were accumulated in the Association's own hands. Dr. Lyndon thought that the Finance Committee had not taken any final decision on the matter of taking out a policy, but had resolved to consider this expedient further. Dr. Beadles thought that the Association was quite large enough to be its own insurer, and that it was unnecessary for it to take out a policy. The Treasurer pointed out that the recommendation before the Council was only that a sinking fund should be commenced by the setting apart of a sum of £1,000, and that the course to be pursued would be a matter for further consideration by the Finance Committee, which would bring up a recommendation later on. The recommendation was agreed to, as were also certain other formal recommendations of the committee and of the Office Staff Superannuation Committee.

Early Mental Disease and General Practitioner Treatment.

Mr. Souttar brought forward two recommendations from the Hospitals Committee, both of them for reference to the Representative Body. One of them dealt with the recognition of services of the medical staffs of voluntary hospitals, and the other with the treatment by practitioners working on a part-time basis of patients suffering from early mental disease at hospitals or clinics. Both recommendations are set out in the Annual Report of Council (SUPPLEMENT, April 23rd, p. 155). With regard to the second of these Mr. Souttar pointed out that clinics for the treatment of patients suffering from the early stages of mental disease were being attached to hospitals and placed in charge of the medical superintendents of county asylums. His committee was of opinion that such a position was not in the best interest of the patients, and that such work should be in the hands of practitioners serving on a part-time basis who had special knowledge of the subject. If care were not taken in connexion with this matter the general practitioner might be pushed out of a province in which he could perhaps do better work than a whole-time officer. In border-line cases the general practitioner was very often the most competent person to deal with the situation.

Dr. Walker was not happy about the recommendation. A patient suffering from mental disease in its early stages seemed to him to require very expert handling. He quite agreed that a general practitioner of any standing was perhaps as well able to recognize early mental abnormalities as anybody else, but was he in a position to give the requisite time to the treatment of early mental cases? Dr. Brackenbury said that the committee's reason for bringing forward this recommendation was, not that it considered medical superintendents of mental hospitals to be less advantageously placed for dealing with such cases than other medical men, but that the whole-time officer employed by the local authority and the hospital superintendent ought not, on the general principles which had been enunciated by the Association from time to time, to be allowed to take the extra appointments, which might very well be left to the part-time service of private practitioners if they were properly qualified to carry out the work required.

Dr. Fothergill said that the superintendents of mental hospitals and their colleagues never saw the beginnings of mental disease, and therefore were not so versed in the disease in its early stages. Those who did see the beginnings were general practitioners—not necessarily general practitioners as a class, but those among general practitioners who had made a speciality of the work and had given most of their time to it.

Dr. Douglas supported Dr. Brackenbury's contention. They did not want such cases to be placed in charge of medical superintendents of county hospitals. In the Edinburgh Royal Infirmary there was a ward for incipient cases which was attended by one of the physicians of the hospital, and the experiment had been very successful. He was aware, however, that it was one which did not commend itself to medical superintendents of mental hospitals, and one such superintendent had said that he and other medical officers similarly placed did not think that to take such cases into general hospitals was at all the right thing. That opinion, however, was certainly contrary to the trend of public feeling at the present time. He thought that the Association ought to use all its influence in the direction of seeing that this work was not done by physicians to mental hospitals. Whether the work could be done by men in general practice was another matter, but personally he felt that such men, by reason of the width of their experience, knew a great deal more about the early manifestations of mental disorder than men who were working in mental hospitals.

Dr. Christine Murrell thought that if medical officers of mental hospitals were in charge of such clinics a wrong atmosphere would be created, and the patients of whom it was desired to get hold would not come. It was not at all advisable

that these clinics should be too much and too clearly associated with mental treatment and hospitalization. What was wanted was that the patients should feel only that they were nervously deranged.

Dr. Lyndon wanted some qualifying words to be inserted after the reference in the recommendation to medical practitioners as those who should carry out the treatment of these patients—such words as "medical practitioners who have special knowledge of the subject." Dr. Bristowe supported this suggestion. He considered it really necessary to have men who had some special knowledge of the subject to deal with early mental cases, and not those who had only the experience of the ordinary general practitioner. Dr. Mills said that his experience of the treatment of mental cases was that the general practitioner treated them wrongly. The proposal of the Hospitals Committee should not be passed in any shape or form, in his opinion. Dr. Dain suggested that if there was no urgency about this matter the recommendation might be taken back for rewording.

Dr. Lyndon moved an amendment of the latter part of the recommendation, which was seconded by Dr. Dain, and carried, and the Council then gave its approval to the amended recommendation, which read as follows:

> That it be recommended to the Representative Body that specialist work in connexion with the treatment of patients suffering from mental disease in its early stages, whether at hospitals or clinics, should not be carried out by whole-time medical officers of public health or local government authorities, but on a part-time basis by medical practitioners who have special knowledge of the subject, but who need not necessarily be devoting their whole time to such work.

The Hospital Saving Association Scheme.

In dealing with other matters in the report of the Hospitals Committee, Mr. Souttar said that the committee had had a good deal of correspondence with the Hospital Saving Association on one important point of hospital policy. It had been suggested by the Council that the Hospital Saving Association should adopt as an integral part of its policy a provision that its contributors when attending hospital should take with them a letter of recommendation from their private practitioner. The Hospital Saving Association recognized the importance of this, but said that it could not penalize its members by insisting upon such a letter when other patients entered without it. It brought itself within the four corners of the policy, however, by issuing a notice to its members pointing out the importance of taking a letter with them. The Hospital Saving Association had also raised another matter. It had made arrangements with opticians for the supply of glasses without any reference to the medical profession at all, but afterwards it had agreed to withdraw these arrangements, and a panel of medical practitioners who were willing to examine the eyes and prescribe spectacles, if necessary, for contributors to the scheme was being drawn up. He thought that the committee had scored a point with regard to this.

Dr. Hawthorne asked whether the Council might take it from Mr. Souttar's statement that the conditions regarding this optical arrangement were now satisfactory. This was not quite clear from the report of the committee, which stated, "Subject to it (the committee) being satisfied that the Hospital Saving Association will no longer recognize any arrangement with opticians for the examination of the eyes of its contributors, the committee has agreed," etc. He gathered that no positive assurance had been given on the point. A great deal had been heard about the attitude of the Hospital Saving Association, but its action seemed to be continually in conflict with what it professed. It professed great regard for the principle that the patient who went to hospital should go with a note of introduction from a practitioner, but it did not secure that that end was attained. As to the proposition that out-patient departments should be used as consultative centres, there again there had been a warm expression of appreciation on the part of the Hospital Saving Association, but no active measures had been taken to secure that the principle was carried out in practice.

Mr. Souttar said that there had been several discussions between the committee and the Hospital Saving Association with regard to patients' letters, and the Association had said that it would be quite willing to insist on a letter, but that practitioners refused to supply them. The people who had to be educated in this matter were practitioners. When the staffs of hospitals had been educated up to refuse to receive patients unless they brought letters with them, and when the practitioners who treated the patients had been educated as to the necessity of sending a letter with a patient, it would be time to quarrel with the Hospital Saving Association. In this connexion he called attention to an appendix on "Contributory schemes for hospital benefit," drawn up in a masterly way by the Deputy Medical Secretary, which it was proposed to bring before the Representative Body as a matter of propaganda.

Mr. Bishop Harman drew attention to a paragraph in the committee's report which stated that the attitude of the Hospital Saving Association on the matter of contributory schemes for hospital benefit was such as to justify the Council in withdrawing any opposition to the scheme of that association. He desired to see this paragraph deleted, and moved accordingly, and this was seconded by Dr. Hawthorne.

Mr. Souttar opposed the motion. The Hospital Saving Association was being asked to do something which the hospitals themselves did not do, and which many medical men refused to take the trouble to do. Why should the Hospital Saving Association penalize itself by insisting on its members having letters while other people were allowed to walk in without any letters at all?

Mr. McAdam Eccles also opposed the motion to delete the paragraph. He knew something about the Hospital Saving Association from the inside, and he could assure the Council that it was in absolute accord with the view that the patient should have a letter from his practitioner, but the difficulties in carrying this out at the present time were almost insuperable. In some of the large hospitals only one-sixth of the patients brought a letter. In hospitals which had medical schools, if the condition were insisted upon at the present time, the result would be a serious loss of clinical material for teaching purposes.

Mr. Bishop Harman maintained that the paragraph to which he objected was directly in conflict with the hospital policy of the Association. The Chairman considered it a debatable paragraph, and one which undoubtedly weakened the policy. Dr. Brackenbury said that he would be extremely opposed to the Association retiring from its policy in the slightest degree, and if the paragraph implied any such retirement he hoped it would be deleted. If the paragraph were taken out and things remained as they were, the Association would be bound in accordance with its hospital policy to carry out an active opposition to the Hospital Saving Association scheme. The Hospital Saving Association was adopting an attitude towards the policy of the British Medical Association which was perfectly correct, but was taking no action itself thereon, because it declared that it was not the body which could properly take action. He suggested a rewording of the paragraph, that it should simply read: "The committee is of opinion that this attitude of the Hospital Saving Association would justify the Council in withdrawing any active opposition at present to the contributory scheme of that association." The term "at present" meant that the provision would remain in force until the Council determined otherwise.

Mr. Souttar objected to the words "active" and "at present." They took away the point of the committee's paragraph, which was that the Hospital Saving Association had met the committee as far as it was possible to do so.

Dr. Brackenbury's amendment, which was seconded by Dr. Radcliffe, was carried, and a proposal by Mr. Souttar to leave out the words to which he had just objected was negatived.

Mr. Souttar, in reply to Dr. Hawthorne's earlier question about the arrangement with opticians being withdrawn, said that the committee had the assurance of the Hospital Saving Association that the action would be taken, and he was informed by Dr. Anderson that that association would not be supplied, as requested, with the list of ophthalmic surgeons in the area covered by its scheme until it had done so.

Groups in the Association.

Dr. Morton Mackenzie, chairman of the Organization Committee, brought forward a scheme for the formation of groups in the Association, based on a memorandum submitted by the Medical Secretary to the Council at its previous meeting. The idea was that groups should be composed of members of the Association who had common interests sufficiently distinct from

those of the general body of members, and who, by reason of their smallness in numbers or the nature of their distribution, or both, were not able to meet to discuss those interests or to express their opinion in regard to them adequately through the Branch and Divisional machinery. It was proposed that if not fewer than thirty-five members specially concerned petitioned the Council to the effect that they wished a group to be formed, the request should be considered by the Council, whose decision, subject to appeal to the Representative Body, should be final. Dr. Mackenzie said that if some such arrangement as this were not made there was always a danger that sectional societies altogether outside the organization of the Association might be formed. He believed that the majority of the groups which might possibly be formed would be of a scientific character, and the hope would be to associate them as far as possible with the appropriate Section at the Annual Meeting.

Dr. Fothergill, who was of opinion that this question should go before the Representative Meeting, mentioned some of the groups which might possibly be formed—ship doctors, medical officers of seaports, prison surgeons, spa practitioners, medical radiologists, medical officers of schools, psychologists, and others. He thought that the procedure of petitioning to have a group formed should be left quite fluid. One suggestion, that the annual meeting of the group should be held at the time and place of the Annual Meeting of the Association, he thought unwise. Why should not the members of the group have their annual meetings to suit themselves? He would have much the same procedure adopted as in the case of Divisions. He also urged the great need for care in dealing with what was an altogether new departure for the Association, which had hitherto been run entirely on territorial lines. He was very jealous of the Division grouping, and he thought that as far as possible members with special interests should be encouraged to voice their opinions through the Divisions.

Some criticism was made as to the number—thirty-five—of petitioners which was laid down as necessary before the formation of a group could be considered. Dr. Mackenzie did not think it worth while forming a group unless thirty-five people at least were found willing to support it; but Mr. Bishop Harman, who hoped the Council would approve the principle of group formation, deprecated the number being fixed at thirty-five. He preferred the same procedure, by advertisement in the JOURNAL, which was followed in the case of the formation of Divisions.

Dr. Brackenbury hoped that the Council would adopt, not merely the principle, but the scheme itself. At this time of day he thought they would all be in favour of the principle, but there might be some hesitation on details. He was glad that the Medical Secretary had been able to formulate a scheme which appeared so satisfactory. One had had it vaguely in mind that this thing would be very difficult. The whole object was, not to encourage the formation of groups, but to provide that when the necessity arose the machinery would be available. This would avoid the formation of bodies outside the Association, for such bodies, however they might begin, tended to drift more and more into the position of independent units. He thought the dangers of the scheme were very small, though in making a radical move of this kind it was necessary to be aware of such dangers as existed.

Dr. Bone was also in favour of the scheme, but asked what was meant by the phrase "common interests" as pertaining to the members of a possible group. Might there be groups of members whose common interests were financial or political? He thought also that by the subcommittee system the Association had already made provision for many members of this class.

Dr. Hawthorne said that one of the commanding phrases in the scheme was that the question of the formation of any group must be "considered by the Council." This clearly implied that the Council would not sanction a group unless it was considered necessary. The object was, not to encourage members having particular interests to form groups, but only to provide for the construction of a group when the need was not met in any other way. But the laying down of an arbitrary number like thirty-five seemed to tie the hands of the Council, and while in favour of the scheme he was against that part of the proposal.

The Chairman thought that the financial implications should be considered. The Council should pause before saying that any number below thirty-five needed special expression in a society of 35,000 members. Further, was it to be considered that ophthalmologists, for instance, had interests so distinct from those of other members of the Association that they would be entitled to form a special group? He was a little unhappy about the scheme. He could not see that it was right to give machinery such as this into the hands of very minute groups of members; and in the case of large groups, like the ophthalmologists, he could not see that their needs were so different from those of the general body of members in the Association as to warrant the formation of a group.

The Medical Secretary said that the intention was to provide for quite small groups. He never had in his mind a scheme which would attract any large number of members, for whom the machinery of the Divisions was at present available. But, take such a group as the prison surgeons—there were only about twenty-five of them working as whole-time officers. There was a further number of part-time officers, but their interests were different from those of the whole-time men. If he had been asked a year ago whether there was any hurry in this matter he would have said that there was not, but during the last twelve months the pathologists had got together and started a new body, which gave them an excellent excuse for not joining the Association. In reply to a question with regard to colliery practitioners, the Medical Secretary pointed out that such practitioners had a large voice in many Divisions in the country, and that the scheme now proposed was not for them, seeing that they were not a small group nor sparsely distributed.

With regard to the number of members required to petition the Council if a group was to be formed, it was agreed that it should be left to the Council, in the event of any request, to consider whether the number was satisfactory. The Medical Secretary also emphasized that one of the points in the scheme was that the group meeting or the group committee should, whenever possible, use the ordinary machinery of the Association, its Divisions and Branches, Standing Committees, and Council, for the discussion of subjects in which it was interested and for making any proposals to the Representative Body.

It was then agreed to recommend to the Representative Body the approval of the scheme.

Other Organization Matters.

Dr. Morton Mackenzie said that the Brighton Division had asked the Council to consider and report to what extent and under what conditions financial and other assistance could be given to Branches and Divisions which might desire to invite societies formed for the promotion of medical and allied sciences to hold conferences within their areas. As in everything which came from the Brighton Division, there was an excellent idea at the bottom of this proposal, but his committee thought that each suggestion of this kind should be treated on its merits. A long appendix contained the comments of the committee on the Brighton proposal.

Dr. Fothergill was delighted that the Organization Committee had accepted the principle of the proposal.

Pathologists and Public Health Authorities.

Dr. Hawthorne (Chairman of the Pathological Committee) said that as a result of representations made by the British Pathologists' Association, a body recently formed, the Council had been asked to modify certain of the recommendations which it adopted at its December meeting for submission to the Representative Body. Some of the proposals of this new body—not all of them—commanded the support of his committee, which therefore asked the Council to make the modifications. The Council had proposed that public health authorities should not furnish pathological reports except in three cases—namely, those which directly involved questions of public health, those in which the patient could not pay a fee, and those in which provision was made for such reports by statutory right. It was now requested that there should be incorporated in the recommendation that public health authorities "should neither provide for pathological examinations nor furnish pathological reports on individual cases" except in the three instances mentioned; in other words, that the door should be locked a little more effectively than was proposed in the original recommendation. It was also proposed to modify the second of the exceptions above, in order to afford some kind of guarantee that the person who claimed to receive a report without pay-

ment should be one who was really unable to pay a fee. The suggestion was that in each case there should be a guarantee from the practitioner in attendance that such was the economic state of the patient. He therefore proposed that the exception should read, "when the patient, as certified by the practitioner in attendance, is unable to pay a fee."

Dr. Fothergill suggested the alternative words "when the patient is introduced by the practitioner in attendance"—who would not introduce anybody able, to his knowledge, to pay a fee—but Mr. Bishop Harman hoped the Council would not accept this suggestion, as there was very little hardship, if any, involved in saying, "This patient of mine is a proper person to receive a report without payment." Dr. Manknell pointed out that in general practice nothing was more difficult than to judge of the ability of a patient to pay. Dr. Douglas said that this was a public health service, and the public health authorities had it in their power to charge an individual if he was in a position to pay. That was probably the correct angle, on the analogy of the Midwives Act, from which to view the matter. Dr. Brackenbury thought that the modification now suggested by the committee, that the method of determining that the patient was unable to pay a fee should be a little more specific, was quite reasonable. Dr. Fothergill still considered that the inquiry into the question whether the patient was able to pay a fee should be carried out by the local authority. Doctors should not be expected to make inquisitorial inquiries into the incomes of patients. Dr. Hawthorne, in reply to this, asked whether it was reasonable to suggest that when a doctor and patient were awaiting anxiously a pathological report the machinery of the local authority should be set in motion to conduct an inquiry into the economic condition of the patient. In the great majority of cases the position would be met if the doctor said, "In my judgement this is a patient for whom a report ought to be provided without payment of a fee." Doctors could surely trust their professional brethren to act fairly towards one another and towards the local authority. He was bound to press the principle upon the Council because his committee had heard the representatives of the Pathologists' Association, and had been convinced that something ought to be done to secure a guarantee. For practical purposes no one was able to produce that guarantee except the practitioner in attendance. He agreed, however, to substitute the word "stated" for "certified."

After further discussion, Dr. Radcliffe proposed as an amendment to lay down the requirement that the medical officer of health should be satisfied, "either by the general practitioner in attendance or otherwise," that the patient was unable to pay, and this was seconded by Dr. Hugh Miller, but was negatived.

Dr. Lyster indicated certain administrative difficulties. The suggestion underlying the recommendation was that practitioners should send specimens to the public health authority's laboratory when they could certify that the patient was unable to pay a fee. This implied a division by the practitioner of his specimens into two classes, the poor patients' specimens being sent to one laboratory, and others, presumably, to another laboratory, which would lead to difficulties of an obvious kind. But in many districts there would be no choice of laboratory. In his own area practitioners were sending specimens to his laboratory, and were indicating whether the patient could or could not pay. They were finding the service of great value to them—at all events, they were taking advantage of it to a constantly increasing extent. Was it likely that public health authorities would turn away specimens from patients who were able to pay, and could the Association criticize a local authority so long as it was paying its pathologists and laboratory workers a satisfactory sum?

After further discussion it was agreed that the recommendation to the Representative Body should read:

> "That public health authorities should neither provide for pathological examinations nor furnish pathological reports on individual cases except (1) in cases which directly involve questions of public health, or (2) where provision is made for such reports by statutory right, or (3) when the patient is stated by the practitioner to be, in his opinion, a person unable to pay a fee."

The Pathologist's Fees for Private Work.

Dr. Hawthorne moved a further recommendation modifying a resolution already passed. The resolution was that where a pathologist attached to a hospital or medical school undertaking pathological work as a general service did such work for persons able to pay fees, the fees should be the property of the pathologist, subject to such charge for the use of the laboratory as might be arranged. His committee now considered that the fees paid in the circumstances contemplated should be a matter of private arrangement between the pathologist and the persons for whom the examinations were made. It had been pointed out to his committee that hospital authorities might insist upon fees being fixed at a rate that would involve unfair competition with other laboratories outside. The revised recommendation followed the one already approved by the Council with regard to private patients in hospitals. The pathologists wished to make the position in their case the same as that of the attending practitioner, and to provide that it was for them to fix the fees, and not for the authorities to fix them.

The Chairman said that he was aware of several instances in which an attempt had been made to establish a system similar to that now suggested, and after a time it had been found to be unworkable. The pathologist, a whole-time man, got his introduction to various private work by virtue of his occupation as an officer, and the employing body had felt compelled, in the long run, in many cases, to insist on the disclosure of all such transactions, and that proper accounts be kept. The system was productive of friction between the person employed and his employers.

Dr. Brackenbury, in reply to a criticism by Dr. Radcliffe, that the Pathological Committee had heard only one side of the case, that of the pathologists, pointed out that on the committee there were two representatives of the Hospitals Committee, and it was not correct to say that one side only had been heard. The point was that under the original recommendation it was competent for the hospitals or laboratories concerned to say to the pathologists, "We agree that you may do private work, but we are going to prescribe the fees which you shall charge for that work," whereas the pathologists claimed to be at liberty to make their own schedule of fees and not to have to adopt the hospital schedule. The committee believed the contention of the pathologists to be a just one, and entirely consistent with the hospitals policy.

Dr. Thomas said that he could not conceive any public body engaging any person on the terms suggested; they were absolutely impracticable. Mr. Harman, however, said that the arrangement proposed was common practice in London, and worked admirably, without any suggestion of overcharging or undercharging, or anything else. The pathologists, however, must be protected in such a case as had occurred in London, where an institute was started with a scale of fees which undercut everything, even the public laboratories.

Dr. Hawthorne defended his committee, which, he said, had spent a great deal of time over this matter, and, as a matter of fact, had not endorsed all the proposals received from the Pathologists' Association, a body which came into existence long after the main deliberations of the committee were concluded.

The recommendation, which read:

> That where a pathologist attached to a hospital or medical school undertaking pathological work as a general service does such work for persons able to pay fees, the fees paid for such examinations (subject to such charge for the use of the laboratory as may be arranged) should be the property of the pathologist, and should be a matter of private arrangement between the pathologist and the person for whom the examinations are made—

was then put to the Council and adopted.

Orthopaedic Hospitals and Clinics.

Dr. Bone (Chairman of the Medico-Political Committee), in bringing forward a memorandum with regard to orthopaedic hospitals and clinics (SUPPLEMENT, April 23rd, p. 160), which he moved for approval and presentation to the Representative Body, recalled that the Representative Body gave the Council specific instructions to consider and report upon the present position and probable future development of organized schemes for the treatment of physically crippled children and of children suffering from actual or potential rheumatism and/or heart disease.

The memorandum and the contingent recommendations to the Representative Body, which are set out in the Annual

Report of Council, were approved. In the course of some brief discussion, Dr. Lewys-Lloyd asked what was meant by "free access" in one of the recommendations—"the private practitioner should have free access to the work at hospitals and clinics for the purposes of observation and training." Difficulty often arose about doctors in the same town. He himself had taken the definite stand of turning out everybody except the child's doctor, and he was quite prepared to do so again.

Dr. Brackenbury said that it was one of the principles already laid down by the Association that, speaking generally (of course, one could conceive of wanton abuse of privileges, but one did not assume such abuse), clinics and treatment centres established out of public funds should be available for medical observation and for the increase of medical experience. The recommendation simply applied that principle to orthopaedic centres. It was true that the privileges had to be used under certain regulations and with common sense, and those in administrative charge of the clinics could not yield to clamour on the part of a mob of practitioners intruding themselves in a consulting-room, which was what was logically implied by "free access."

Medical Officers of Public Schools.

Dr. Bone, in bringing forward a memorandum on the responsibilities and difficulties of medical officers of public schools, and a series of recommendations relating to whole-time and part-time medical officers, recalled the long discussion which took place in the Council at the December meeting (SUPPLEMENT, January 1st, 1927), when this question was first submitted, and said that many valuable suggestions had been made on that occasion, of which the committee in revising the report and recommendations had taken note.

Dr. Le Fleming thought that the matter might be approached from a wider point of view than that of a scale of salaries and a schedule of duties. Every medical man connected with public school work must be aware of the little attention which parents paid to the physical side of education. The parent was willing to spend from £50 to £100 a term for the mental education of his child, receiving twice a term generally a detailed report of the development of his child's mind, but only some ten shillings a term for possible attention to the physical side, because it seemed to be assumed that the physical development would proceed normally and without trouble, perhaps even without oversight. Therefore, he urged that, in the preamble to what the Council proposed to make the British Medical Association say upon this subject, the opinion of the profession should be very definitely stated that it was desirable that every pupil should be examined periodically, and that a report on his physical development should be furnished.

Dr. Bone said that his committee had not lost sight of the very important matter of periodical physical examination, and it was provided for in one of the recommendations. Dr. Le Fleming, however, contended that attention ought to be drawn to this matter singly and directly, instead of placing it, as in the recommendation, as a thing only equal in importance to some fifteen or twenty other duties. Referring to another paragraph of the report, which stated that the duties of the school medical officer included the care of those who were actually sick—namely, pupils or masters—he asked whether it was customary for attendance on the masters to be so included. Dr. Bone said that the committee had been informed that attendance on the masters, as distinct from the masters' families, was part of the duty for which remuneration was paid. The statement referred to the general usage, and a few exceptions did not invalidate it. Dr. Bone having further stated, in reply to Mr. McAdam Eccles, that the committee had not had any direct conference with the headmasters, Dr. Brackenbury said that more than one person on the committee was an experienced governor of a large public school, and such members, being unable to separate themselves into different parts, had brought their experience as governors to bear upon this problem.

Approval was then given to the preamble which appears in the Annual Report of Council (SUPPLEMENT, April 23rd, p. 149), the only alteration being that, to meet Dr. Le Fleming's point, the word "usually" was inserted before "masters" in the phrase "Care of those actually sick—pupils and masters," and a paragraph inserted expressing the desirability of periodical examination and report.

The Council then discussed the principal recommendation, which dealt with the appointment, qualification, salary, and duties of the whole-time medical officer. Discussion arose on the list of duties set out.

Dr. Fothergill here raised a point he had already raised in committee—namely, the question of periodical examination of boarders—which was set out as one of the duties. No reference whatever was made to day-boys, and his view was that every boy, even though a day-boy, should come under the supervision periodically of the medical officer. Why should day-boys be exempted? Dr. Le Fleming said that periodical supervision would undoubtedly be of benefit to the boy, but the practical objections were insuperable. The position of the medical officer would be made very difficult in these circumstances in relation to the other doctors in the town.

On the question of the duties which should not be demanded of a whole-time medical officer as being covered by his salary, Dr. Lyndon noted *x*-ray examinations, and asked whether it was not the fact that in many large schools at the present time the resident medical officers took *x*-ray pictures of injuries to bones and joints as part of their ordinary work, and did not charge fees for doing so. Dr. Bone replied that there were certain schools in which this was done, but the paragraph did not say that the medical officer was not to do it; what the paragraph said was that this was not part of his duty. There, again, the question was one of balance. Some men did such things in their schools without any special fee; in other schools it was a matter of special arrangement.

All the recommendations of the committee up to this point were adopted.

The principal discussion then took place on a recommendation that all public schools with 400 or more resident pupils should be provided with a whole-time medical officer.

Dr. Lyndon considered this to be doubtful wisdom. There were quite a number of public schools with more than 400 boys without a resident medical officer, local practitioners attending the different houses where the boys lived, and the system had worked well. Dr. Douglas took the same view, and urged also that it was very much better that this work should be in the hands of a man in general practice than in those of a whole-time medical officer. At Eton, he believed, the work was done by two part-time medical officers who were also engaged in practice in the neighbourhood. Mr. Bishop Harman supported the proposal of the committee, which he thought represented an advance. His experience had been that the treatment by part-time medical men at public schools was very good when the scholars were seriously ill, but very indifferent when they were not seriously ill. The beginnings of disease, which might be serious in the end, were not observed by the busy practitioner, who naturally could not be in the school whenever there was anything happening. Surely 400 children was a sufficient number to justify one medical man on the premises all the time. Mr. McAdam Eccles thought that it was necessary to exercise great care over this recommendation. It represented an ideal, but he questioned whether the time was ripe. Perhaps in the near future it might be possible to approve such a recommendation, but some governing bodies had not yet realized the advantage of a whole-time medical officer. Dr. Langdon-Down said that he had had children in schools under both systems, and in his experience matters were more satisfactory when the local practitioner came in. Observation was kept by the matron, and there was some fear that her feeling of responsibility would slacken if she knew that there was a doctor always, like herself, in the place. Dr. Bone hoped that the recommendation would go forward. If it did not, it simply meant that the Council did not believe in the whole-time medical officer. He pointed out also that under the recommendation no part-time officer would be displaced; only as vacancies occurred would posts be filled in the manner indicated.

The recommendation of the committee was negatived by 26 votes to 14.

Dr. Bone next came to a series of recommendations dealing with the part-time medical officer.

Dr. Brackenbury raised the question of the inclusion, among the part-time officer's duties, of the periodical examination of pupils. The Council had decided that it was not desirable in the case of a whole-time officer that he should make a periodical examination of any pupils except those who were

resident. Was it or was it not desirable that the man chosen for appointment as part-time officer should have as his duty the periodical examination of all the boys attending the school irrespective of whether that in their homes they were the patients of other local doctors?

Dr. Le Fleming hoped the Council would not agree to the inclusion of this duty. It was extremely important that there should be periodical examination of all pupils, whether by the term or by the year, but obviously, to examine properly hundreds of boys and furnish a proper report on their condition, must take up a great deal of time. To include this as part of the day's work would be wholly unreasonable. The periodical examination of day-boys, he thought, should be done by special arrangement, and not of necessity made part of the duty of the medical officer. If this work were included in a part-time officer's duties it might be done very perfunctorily or not at all.

Dr. Christine Murrell, as a part-time school medical officer, had no hesitation in saying that periodical examination, which was very largely preventive work, could be quite satisfactorily carried out both in regard to resident and day pupils by such an officer, without any difficulty at all being raised by the local doctors. These doctors welcomed such examinations, and it was all to their advantage to be told of any slight defect in their patients.

Eventually Dr. Le Fleming suggested a rearrangement of the order of duties given in the paragraphs, whereby the usual duties of a part-time medical officer of a public school were set out in one category, and other duties which might be included—these embracing periodical examination of pupils—were set out in another category. When the duties in this second category were required of the part-time officer, it was recommended that he should be paid a retaining fee. This rearrangement was accepted by Dr. Bone on behalf of his committee, and was approved by the Council. It appears in the Annual Report of Council, SUPPLEMENT, April 23rd, p. 150.

Nursing Homes Registration Bill.

Dr. Bone, in dealing with other work of the Medico-Political Committee, said that a great deal of attention had been given to the Nursing Homes Registration Bill. The policy formulated at the last Representative Meeting embodied three particular points: (1) compulsory delegation of powers of registration to a committee on which doctors and nurses must be represented; (2) medical records of every kind to be free from inspection; (3) all premises under the control of a registered medical practitioner to be exempt from the operation of the bill. The Select Committee, before whom the witnesses appointed by the Association gave evidence, had decided that this last point could not be conceded, though it was favourable to the other points in the Association's policy. The bill had been well received in the House, it was going into committee very soon, and there was every prospect of its passage this session. His feeling was that there was no hope of persuading the House of Commons to consent to the exemption of doctors' homes, though possibly some modification might be obtained in the Committee stage in the case of medical men who had a single resident patient under their care.

Sir Richard Luce also said that in his view there was no chance of Parliament consenting to a special exemption of medical practitioners' homes. One point affecting professional secrecy which should be safeguarded was with regard to regulations requiring, not only a record of deaths occurring in the home to be furnished, but also the cause of death. He did not think that the cause of death should be required to be given save to the registrar. The inspection of the homes would be carried out by the medical officer of health of the supervising authority, and it should be insisted that the supervising authority was a large one—that the right of inspection, for example, should be granted only to such authorities as had a whole-time officer.

Dr. Fothergill deprecated dropping the objection to the registration of the homes of medical practitioners. He failed to see why, if a maternity home in which a doctor was resident could be exempted under the Midwives and Maternity Homes Act, the same exemption should not apply to any other home under the control of a practitioner. Dr. Bone said that he would like the Council to express its opinion whether this point should be dropped or an endeavour made to obtain a permissive clause on the lines of Section XI of the Midwives and Maternity Homes Act. Dr. Brackenbury thought that if it was the case that this principle of exemption could not be supported in Parliament it had better be relinquished. The Council, by a show of hands, decided to relinquish the policy of asking for exemption.

Dr. Bone then passed in review other action taken by his committee. The results of the conferences which had taken place with the professional defence societies had been very satisfactory. The reintroduction of the Mental Deficiency Bill had been noted by the committee. Another matter upon which the committee would shortly be engaged was a new wording of the death certificate, consequent on the recent Births and Deaths Registration Act. A discussion with Mr. Vivian, the Registrar-General, would take place at an early date.

Supervision of Medical Officer by Town Clerk.

Dr. Lewys-Lloyd, for the Public Health Committee, brought forward the question of the post of medical officer of health for Smethwick, whose department, it was ascertained, would be under the supervision of the town clerk. The committee, after setting out certain paragraphs of the section on "Local government and local finance" in the fifth annual report of the Ministry of Health, which dealt with the powers of control exercised by the town clerk over other officers, and to which the town clerk of Smethwick had referred, recommended that the Ministry be informed that the Council was not in agreement with the views therein stated, and that it was impossible for town clerks to be really responsible for the work carried out by the medical officer of health and his subordinate medical officers. Dr. Lyndon, while agreeing with the recommendation, thought that the opinion of the Ministry, as set out in its annual report, had been misapprehended. Dr. Brackenbury thought there was real matter for protest in the doctrine laid down by the Ministry with regard to the responsibility of one officer for the general supervision of the whole of the business of the local authority. The recommendation as it stood was carried.

Other public health questions touched upon in the report of the committee included that of the status of tuberculosis officers, and the Council agreed that steps should be taken to obtain assent to the proposition that all tuberculosis officers in charge of areas so large that their clinical work could not possibly be supervised by the chief tuberculosis officer should be considered, for the purposes of the scale of commencing minimum salaries, to be officers in charge of departments, and entitled to the minimum commencing salary of £750 a year.

Dogs' Protection Bill.

Dr. Hawthorne, as chairman of the Science Committee, reported on the steps taken to organize opposition to the Dogs' Protection Bill. A petition against the bill had been prepared and circulated among the medical members of university staffs, medical schools, and teaching hospitals, and was being signed satisfactorily. It had been suggested to secretaries of Divisions and Branches that they should use their influence with members of Parliament to emphasize their objections to the measure. A conference attended by a remarkably representative number of delegates from universities, colleges, and scientific bodies was held in that room two days previously, when resolutions against the bill were unanimously carried. The bill was down for second reading on April 29th, but as it was third on the list its parliamentary chances appeared rather slender. Nevertheless, whatever was the fate of this particular bill, there was a strong feeling among many with whom his committee had taken counsel that unless public opinion was steadily and sufficiently educated a bill similar to the one now brought forward would before long be accepted by the House of Commons.

The Poisons and Pharmacy Acts.

Dr. Bone, who was one of the witnesses on behalf of the Association before the Committee on the Poisons and Pharmacy Acts, asked for the opinion of the Council on a matter which had been put to the witnesses by the Committee—namely, as to the restrictions which should govern the selling or dispensing of the preparations under the Acts. His own view was that the drugs in question should not be sold over the counter, but only dispensed on a doctor's prescription, and that such dispensing should be done on not more than three separate occasions, but that the Association was not interested in the machinery by which this was done, whether by a new schedule or otherwise.

Dr. Hawthorne's view was that the restrictions should be those which Dr. Bone had just stated, but that they should be secured by the construction of a new schedule under the *Poisons Act*.

After a brief discussion the Council voted on the proposal of Dr. Bone and of Dr. Hawthorne, and the latter had the majority.

Other Business.

Several other reports of committees were approved without giving rise to any discussion. Among these was the report of the Dominions Committee, brought forward by Sir Jenner Verrall, the principal matters in which were a statement on the present improved position of the East African Medical Service—improved so far, at least, as the existing members of the service were concerned—and also the bill to regulate medical education in India. With regard to this latter, however, Sir Jenner Verrall understood that the bill was moribund.

On the report of the Naval and Military Committee, Sir Richard Luce mentioned the shortage of candidates for the R.A.M.C. Notwithstanding the improved conditions of pay and service, and the introduction of a system of nomination through the medical schools, the War Office was still experiencing difficulty in recruitment. The committee had authorized him to draw up a letter for issue to the medical schools pointing out the advantages of the R.A.M.C. as a career.

Dr. Brackenbury made a statement on the position with regard to the proposals for the reform of the Poor Law. The Poor Law Reform Committee of the Association had put forward the two points in which the provisional proposal of the Minister was not in agreement with Association policy—namely, that the Minister was not favourable to the principle of compulsory co-option on the new health committees, and, further, that he proposed to give county councils a general supervisory authority over the health activities of other local authorities in their area. The committee could now only await the introduction of the bill.

Dr. Wallace Henry introduced the report of the Ophthalmic Committee, which dealt with a number of matters, more especially with difficulties which have arisen in the administration of ophthalmic benefit. These difficulties have been brought by the committee to the notice of the Ministry of Health. The committee also reported that the Association's ophthalmic list now contained 899 names, including duplicates, or 756 individuals.

The Council, sitting *in camera*, considered a report presented by its chairman, who is also the chairman of the Building Committee, on the progress made with regard to extension of the Association's headquarters.

The Council decided, on the recommendation of the Office Committee, to adopt a proposal by Dr. Fothergill to make a permanent record, in suitable volumes, of the signatures of present and future members of Council and of the Representative Body.

The Science Committee brought forward certain amendments of the Library Rules with the object of securing the more prompt return of borrowed books or periodicals.

It was resolved, on the recommendation of the Science Committee, that the Sir Charles Hastings Clinical Prize, 1927, should be awarded to Dr. J. S. Manson of Warrington for his clinical study entitled "Observations on human heredity," and that Honourable Mention be awarded to Dr. James Alston of Edinburgh for his clinical study on "The treatment of suppurating and other inflammatory lesions by magnesium sulphate"; also that the Stewart Prize be awarded to Sir Malcolm Watson, M.D., LL.D., in recognition of the scientific and administrative work that has freed large tracts of tropical Malaya from malaria, and has proved of high service both to preventive medicine and to economic developments. Sir Humphry Rolleston and Professor W. E. Dixon were thanked by the Council for examining and reporting on the ten clinical studies entered for the Hastings Prize.

The Council approved the second report of the Subcommittee on Rheumatic Heart Disease in Children, and authorized its publication in an early issue of the JOURNAL (SUPPLEMENT, April 16th, p. 121).

The Council then devoted the last hour of its session to considering the draft Annual Report. Various emendations were suggested and adopted, and, subject to these being made, the Report was approved and ordered to be circulated to Divisions and Branches, and submitted to the Annual Representative Meeting in Edinburgh next July.

SCHOLARSHIPS AND GRANTS IN AID OF SCIENTIFIC RESEARCH.

SCHOLARSHIPS.

THE Council of the British Medical Association is prepared to receive applications for Research Scholarships, as follows:

A Scholarship, known as the ERNEST HART MEMORIAL SCHOLARSHIP, of the annual value of not more than £200, and three other RESEARCH SCHOLARSHIPS, each of the annual value of not more than £150, for research in any subject (including State Medicine) relating to the Causation, Prevention, or Treatment of Disease.

Each Scholarship is tenable for one year, commencing on October 1st, 1927. A Scholar may be reappointed for not more than two additional terms. *A Scholar may hold a junior appointment at a University, Medical School, or Hospital* provided the duties of such appointment do not interfere with his work as a Scholar.

The conditions of the award of Scholarships are stated in the Regulations, a copy of which will be supplied on application to the Medical Secretary of the Association, British Medical Association House, Tavistock Square, London, W.C.1.

GRANTS.

The Council of the British Medical Association is also prepared to receive applications for Grants for the assistance of research into the Causation, Treatment, or Prevention of Disease. Preference will be given, other things being equal, to members of the medical profession and to applicants who propose as subjects of investigation problems directly related to practical medicine.

The conditions of the award of Grants are stated in the Regulations, a copy of which will be supplied on application to the Medical Secretary of the Association, British Medical Association House, Tavistock Square, London, W.C.1.

Applications.

Applications for Scholarships and Grants for the year 1927-28 *must be made not later than Saturday, June 4th, 1927*, on the prescribed form, a copy of which will be supplied by the Medical Secretary on application. Applicants are required to furnish the names of three referees who are competent to speak as to their capacity for the research contemplated to whom reference may be made.

March 5th, 1927. ALFRED COX, *Medical Secretary*.

TABLE OF DATES.

May 7, Sat.	Publication in SUPPLEMENT of list of nominations for election of (i) 24 members of Council by grouped Branches in British Isles; (ii) 2 Public Health Service members of Council, and 4 Representatives of Public Health Service in Representative Body. Voting papers posted from Head Office where there are contests in above elections.
May 10, Tues.	Last date for receipt at Head Office of motions by Divisions and Branches for A.R.M. on matters of which two months' notice must be given.
May 14, Sat.	Last day for receipt at Head Office of voting papers for election, where there are contests, of (i) 24 members of Council by *grouped* Branches in British Isles; and (ii) 2 Public Health Service members of Council, and 4 Representatives of Public Health Service in Representative Body Publication in SUPPLEMENT of motions by Divisions and Branches for A.R.M. on matters of which two months' notice must be given Last date for election of Representatives and Deputy Representatives
May 28, Sat.	Publication in SUPPLEMENT of results of election of members of Council by grouped Branches, and of election of members of Council and Representatives in Representative Body by Public Health Service members. Nomination papers available (at Head Office) for election of 12 members of Council by grouped Representatives (British Isles).
June 2, Thurs.	Last date for receipt at Head Office of names of Representatives and Deputy Representatives.
June 8, Wed.	*Council.*
June 16, Thurs.	Meetings of constituencies must be held between this date and July 15th, to instruct Representatives.
June 25, Sat.	Supplementary Report of Council appears in SUPPLEMENT.
July 1, Fri.	Amendments and riders by Divisions and Branches for inclusion in A.R.M. Agenda must be received at Head Office by this date
July 15, Fri.	*Annual Representative Meeting*, Edinburgh, 10 a.m. Nominations for election of 12 members of Council by grouped Representatives must be received (at A.R.M., Edinburgh) by this date, 2 p.m.
July 16, Sat.	*A.R.M.* (Edinburgh).
July 18, Mon.	*Council* (Edinburgh). *A.R.M.* (Edinburgh).
July 19, Tues.	*A.R.M.* Annual General Meeting, Edinburgh, President's Address.
July 20, Wed.	Council (Edinburgh). Conference of Honorary Secretaries (Edinburgh). *Meetings of Sections*, etc., Edinburgh.
July 21, Thurs.	*Meetings of Sections*, etc., Edinburgh.
July 22, Fri.	*Meetings of Sections*, etc., Edinburgh.

ALFRED COX, *Medical Secretary*.

British Medical Association.

ANNUAL REPORT OF COUNCIL, 1926-27—*(continued).*

APPENDIX II.—FINANCIAL STATEMENT FOR THE TWELVE MONTHS ENDING 31ST DECEMBER, 1926.

Balance Sheet 31st December, 1926.

Dr. **Cr.**

LIABILITIES.

1925 £		£ s. d.	1926 £ s. d.
	To Creditors for:—		
1,182	„ Subscriptions paid in advance	1,076 4 0	
941	„ Advertisements ditto	1,018 9 2	
6	„ Publishing ditto	591 18 9	
—	„ Capitation Grant due and not deducted by Overseas Branches when remitting subscriptions	7 7 0	
338	„ Contributions	376 16 0	
14	„ Engraving	78 15 0	
—	„ Interest on Loan	363 10 5	
98	„ Irish Committee	67 12 1	
68	„ Journal Index	77 7 0	
164	„ Legal Charges	184 6 6	
113	„ Library Books, etc.	135 0 4	
1,640	„ Miscellaneous Printing and Paper	910 5 0	
1,720	„ Machining Journal	3,164 18 0	
2,394	„ Paper for Journal	1,345 14 4	
2,206	„ Postage of Journal	2,247 12 6	
73	„ Plant and Type	87 19 2	
132	„ Rates, Taxes, Electricity, and Gas	166 14 10	
32	„ Repairs	30 10 3	
96	„ Reporting for Journal	110 12 6	
409	„ Stationery	321 8 0	
80	„ Sundries	84 5 10	
23	„ Telephone Charges	52 3 3	
	„ "Archives of Disease in Childhood"	96 0 1	
	„ "Journal of Neurology and Psychopathology" ...	60 16 6	
	„ Purchase of Shares in Scholastic, Clerical, and Medical Association, Ltd., for which payment is deferred by agreement	1,170 0 0	
			13,856 12 6
	„ Reserve Account—		
	Represented by Investments (as per contra) ...	23,612 10 0	
	Amount added for year 1926	6,000 0 0	
			29,612 10 0
	„ Sinking Fund—		
	For redemption of Leasehold Premises		1,000 0 0
80,000	**„ Loan Account—**		
6,500	National Insurance Defence Trust		6,500 0 0
5,553	**„ Overdraft at Bank**		29,146 7 2
	„ Surplus Account—		
	Balance on January 1st, 1925	148,150 7 7	
	Add Surplus on realisation of Freehold Premises—429, Strand, W.C	38,150 18 3	
		186,301 5 10	
783	„ Excess of Income over Expenditure, 1926 ...	1,873 1 2	
			188,174 7 0
			£268,289 16 8

ASSETS.

1925 £		£ s. d.	1926 £ s. d.
	By Leasehold Premises—		
	Tavistock Square and Upper Woburn Place	107,657 10 11	
	Add amounts paid on account of Alterations and Decorations ...	23,508 14 8	
		131,166 5 7	
107,657	*Less* amount written off for Depreciation, 1926	2,000 0 0	
			129,066 5 7
	By Premises held by Feu Charter—		
	Drumsheugh Gardens, Edinburgh	3,850 0 0	
3,850	*Less* amount written off for Depreciation, 1926	200 0 0	
			3,650 0 0
	By Investment—		
	522 Shares of £10 each, fully paid, in the Scholastic, Clerical, and Medical Association, Ltd., purchased at par		5,220 0 0
	By Investments Representing Reserve (as per contra) (At cost or under)—		
	£3,200 Bank of England Stock @ 200	6,400 0 0	
	£5,000 Commonwealth of Australia 5% 1935-1945 Stock at cost (97½)	4,856 5 0	
	£4,000 London, Midland, and Scottish Railway 4% Guaranteed Stock at 80	3,200 0 0	
	£5,000 New South Wales 5½% 1924-1934 at cost (99¾)	4,981 5 0	
23,612	£5,000 Port of London 4% Stock 1940-1960 at cost (83½)	4,175 0 0	
			23,612 10 0
	By New Zealand Government—		
	Amount outstanding in respect of Purchase Price of 429, Strand		77,500 0 0
	By Library—		
	Balance at 31st December, 1925	1,610 0 1	
	Add Purchase and Binding of Books during 1926	311 12 10	
		1,921 12 11	
	Less Amount written off for Depreciation, 1926	200 0 0	
1,610			1,721 12 11
	By Furniture and Fittings—		
	Balance at 31st December, 1925	7,165 3 4	
	Add Purchases during 1926	3,937 15 4	
		11,392 18 8	
7,165	*Less* amount written off for Depreciation, 1926	1,140 0 0	
			10,252 18 8
	By Plant and Type—		
	Balance at 31st December, 1925	4,084 17 9	
	Add Purchases during 1926	1,389 14 4	
		5,474 12 1	
4,084	*Less* 10% written off for Depreciation, 1926	547 9 2	
			4,927 2 11
659	„ Paper Stock		317 11 9
2,263	„ Subscriptions in arrear...		2,436 8 3
	„ Sundry Debtors (Advertisements)	8,296 8 2	
7,356	*Less* reserve for Bad Debts and Discounts	1,750 0 0	
			6,546 8 2
643	„ Sundry Debtors (Publishing)		726 9 7
	„		286 4 0
779	„ Accrued Rents and Interest		1,825 0 0
97	„ Cash in hand		111 6 0
—	„ Cash in hand (Scottish Office)		56 15 10
			£268,289 16 8

Income and Expenditure Account for the Year ending 31st December, 1926.

		1925.		1926.	
		£ s. d.	£ s. d.	£ s. d.	£ s. d.
Central Meetings Expenses	*Abstract A*	8,743 18 9		7,149 0 5	
General Association Expenses	*B*	8,131 8 7		5,055 10 6	
Central Premises Expenses	*C*	6,966 0 9		9,944 18 3	
Central Staff Expenses	*D*	17,144 3 5		17,984 18 11	
Central Printing, Stationery, and Postage Expenses	*E*	2,980 6 9		2,755 11 5	
Library Account Expenses	*F*	1,045 8 9		941 12 0	
Journal Account Expenses	*G*	65,107 6 2		66,687 8 11	
Scottish Committee Expenses	*J*	2,175 3 8		2,079 9 6	
Irish Committee Expenses	*K*	1,093 0 1		1,069 3 5	
Capitation Grants to Branches		5,456 8 6		6,115 3 0	
Subscriptions Written off for Deaths		220 10 6		149 0 9	
" " Arrears		2,736 12 2		3,122 8 4	
		£122,103 8 1		£123,094 5 5	
Interest and Stamp Duties incurred in purchase of Shares			146 2 0		
"Archives of Disease in Childhood"	*Abstract H*		96 0 1		
"Journal of Neurology and Psychopathology"	*I*		60 16 6		
				302 18 7	
Written off for Depreciation of Freehold Premises, 429, Strand, W.C.2.	£ s. d. 1,250 0 0		—		
" " " of Leasehold Premises, Tavistock Square, W.C.	1,000 0 0		2,000 0 0		
" " " of Library	200 0 0		200 0 0		
" " " of Furniture and Fittings	200 0 0		1,140 0 0		
" " " of Plant and Type	45 19 9		547 9 2		
" " " Scotttish House	—		200 0 0		
		3,106 19 9		4,087 9 2	
Cost of Removal and Royal Opening Ceremony	1,646 17 10				
Reinstatement of Old Building	3,340 2 7				
Scottish House—Law Charges, Alterations, and Furnishings	806 9 10				
Amount transferred to Reserve Fund for the extension of the work and premises of the Association	—			6,000 0 0	
Amount transferred to Sinking Fund for the redemption of Leasehold Premises	—			1,000 0 0	
		5,793 10 3			
Balance of Income over Expenditure—Carried to Balance Sheet		783 6 4		1,873 1 2	
		£131,787 4 5		£136,357 14 4	

	1925.	1926.
	£ s. d.	£ s. d.
Subscriptions for year	72,617 7 5	76,532 12 1
" for previous year	1,118 13 5	1,442 15 5
" for former years previously written off	317 19 3	394 7 1
Journal Account, Total Receipts	52,377 7 1	53,207 5 6
Interest on Investments, Deposits, &c.	1,459 0 0	1,279 0 0
Rents received and accrued	3,151 1 9	2,601 15 5
" " (Scottish House)	55 0 0	110 0 0
Scientific Grants Unused and Returned	5 0	—
Refund of Income Tax deducted at source	250 18 3	281 12 0
Sundry Receipts	109 12 3	503 6 10
	£131,787 4 5	£136,357 14 4

Abstract A.] Central Meetings Expenses.

	1925. £ s. d.	1925. £ s. d.	1926. £ s. d.	1926. £ s. d.
Annual Representative Meeting—				
Railway Fares	599 3 3		449 3 0	
Printings	379 7 0		268 18 0	
Sundries	50 1 6		54 14 0	
		1,028 11 9		772 15 0
Annual Meeting—				
Sectional Expenses, Handbook of Meeting, etc.	253 6 9		151 17 3	
		253 6 9		151 17 3
Council—				
Railway Fares	987 2 10		1,017 12 9	
Printings	1,070 8 6		888 19 0	
Sundries	83 16 11		11 15 0	
		2,141 8 3		1,918 6 9
Secretaries' Conference, Railway Fares	117 5 8		114 12 1	
		117 5 8		114 12 1
		3,540 12 5		2,957 11 1
Committees.				
Arrangements Committee—				
Railway Fares	46 7 1		112 19 0	
Printings, etc.	28 3 6		47 0 0	
		74 10 7		159 19 0
British Pharmacopœia Committee—				
Railway Fares	—		4 2 7	
Printings	—	—	6 11	
				4 9 6
Building Committee—				
Railway Fares	—		2 0 4	
Printings	—	—	5 5	
				2 5 9
Central Ethical Committee—				
Railway Fares	241 8 0		83 1 4	
Printings	48 19 5		30 3 7	
		290 7 5		113 4 11
Charities Committee—				
Railway Fares	7 4 4		23 16 4	
Printings	3 16 7		1 9 6	
		11 0 11		25 5 10
Conference, B.M.A., with Society of M.O.H.—				
Railway Fares	—		3 10	
Printings	6 9 6	6 9 6	10 3	
				14 1
Dominions Committee—				
Railway Fares	40 2 2		28 9 6	
Printings	7 2 4		3 10 2	
		47 4 6		31 19 8
Drug Addiction Committee—				
Railway Fares	9 14 11			
Printings	3 19 0		—	
		13 13 11		—
Finance Committee—				
Railway Fares	67 9 6		64 17 9	
Printings	96 19 0		92 4 9	
		164 8 6		157 2 6
Hospitals Committee—				
Railway Fares	67 18 6		141 3 6	
Printings	6 15 2		4 1 7	
Pamphlet *re* "Hospital Policy"	12 6 6		16 1 6	
		87 0 2		161 6 7
Insurance Acts Committee—				
Railway Fares	546 7 10		415 18 3	
Travelling (Officials)	—		7 17 0	
Printings	144 1 8		90 12 11	
Sundries	5 0 6		1 1 0	
		695 10 0		515 9 2
Journal Committee—				
Railway Fares	93 12 10		53 11 4	
Printings	11 17 6		2 5 2	
		105 10 4		55 16 6
Medico-Political and Parliamentary Committee—				
Railway Fares	161 3 10		167 16 8	
Travelling (Officials)	—		10 2 6	
Printings	60 16 1		10 7 6	
Sundries	3 3 0		3 3 0	
		228 2 11		191 9 8
Carried forward		£5,264 11 2		£4,376 14 3

	1925. £ s. d.	1925. £ s. d.	1926. £ s. d.	1926. £ s. d.
Brought forward		5,264 11 2		4,376 14 3
Naval and Military Committee—				
Railway Fares	53 5 10		27 16 8	
Printings	6 13 10		3 15 0	
		59 19 8		31 11 8
Office Committee—				
Fees	157 10 0		126 0 0	
Printings	20 16 0		2 17 4	
		178 6 0		128 17 4
Ophthalmic Committee—				
Railway Fares	47 9 8		50 6 10	
Printings	9 14 9		1 11 3	
		57 4 5		51 18 1
Organisation Committee—				
Railway Fares	271 2 10		117 16 10	
Travelling (Officials)	16 11 9		46 3 6	
Printings, etc.	283 11 8		273 1 11	
"Annual Handbook"	291 6 6		390 8 6	
"Articles and By-laws"	—		67 2 6	
"Handbook for Newly Qualified"	—		324 15 0	
Non-Members' List	229 17 6		209 16 6	
Post and Addressing Propaganda Issues of Journal	116 5 0		115 0 0	
Sundries	15 8 0		15 2 6	
		1,232 3 3		1,559 7 3
Pathological Committee—				
Railway Fares	—		42 19 4	
Printings	—	—	3 9 9	
				46 9 1
Poor Law Reform Committee—				
Railway Fares	—	—	14 15 3	
				14 15 3
Post-Graduates' Committee—				
Railway Fares	3 0 0			
Printings	4 13 6			
		7 13 6	—	—
Public Health Committee—				
Railway Fares	119 4 10		162 16 5	
Travelling (Officials)	—		31 6 6	
Printings	59 18 7		3 17 2	
		179 3 5		19 0 1
Puerperal Morbidity and Mortality Committee—				
Railway Fares	120 5 9		69 16 0	
Printings	15 11 0		6 0 1	
		135 16 9		75 16 1
Reception Committee—				
Railway Fares	13 9 0			
Printings	119 11 0			
		193 0 0	—	—
Recruitment of Med. Practitioners in Case of War—				
Printings	6 8		10 7	
		6 8		10 7
Royal Commission on N.H.I.—Committee *re*				
Railway Fares	651 6 3		52 0 3	
Printings	95 13 0		7 9	
Sundries	68 15 5		—	
		815 14 8		52 8 0
Royal Committee on Superior Civil Services in India—				
Railway Fares	51 13 0			
Printings	10 13 11		—	
		62 6 11		—
Science Committee—				
Railway Fares	33 10 6		113 6 9	
Printings	56 19 5		29 16 0	
Lectures	435 15 9		375 15 7	
Sundries	—		12 0	
		526 5 8		519 10 4
Tests for Drunkenness—Committee *re*				
Railway Fares	—		35 11 5	
Printings	—	—	3 2 11	
				38 14 4
Welsh Committee—				
Railway Fares	1 14 2		53 8 6	
Printings	4 12 6		19 7	
		6 6 8		54 8 1
		£8,818 18 9		£7,149 0 5

Abstract B.] General Association Expenses.

	1925. £ s. d.	1926. £ s. d.
Auditors' Fee	210 0 0	210 0 0
Association Gold Medal	36 19 6	36 10 0
Testamur presented with Gold Medal	20 0 0	20 15 0
Bank Charges	57 7 7	22 4 2
Charges on Bank Loan	2,780 11 8	157 1 10
Bonus to Member of Composing Staff	20 0 0	32 15 6
Faculty of Insurance, Subscription	2 2 0	2 2 0
Income Tax on Dividends and Interest	318 12 6	253 16 0
Intelligence Department, Papers, Press Cuttings, etc.	155 6 10	114 12 4
Legal Charges	922 4 2	381 0 9
Parliamentary Papers, Directories, etc.	49 9 9	45 16 2
Porters' Liveries	56 14 0	33 3 0
Repairs to and Hire of Typewriters	45 10 7	47 3 0
Research Scholarships	650 0 0	650 0 0
Scientific Grants	350 0 0	350 0 0
Office—Petty Cash	340 5 9	285 13 6
Prizes for Final Year Medical Students	100 0 0	50 0 0
Sir Charles Hasting's Clinical Prize	—	67 10 0
Mr. W. E. Warne's Pension	500 0 0	500 0 0
Fee for preparation of plans of 429, Strand	—	66 5 0
Stamping Subscription Receipt Books	121 4 2	132 18 4
Rent of Telephones (including Editorial)	151 13 4	170 9 7
Vote to Post-Graduates' Hostel	—	25 0 0
Vote to Memorial to Queen Alexandra	—	105 0 0
Vote to Association Professionelle Internationelle des Medicine	—	50 0 0
Grant to Widow of deceased Head Porter	—	50 0 0
Vote to Investigation of Rheumatism	—	100 0 0
Grant to Kitchen Sub-Committee	—	200 0 0
Loud Speaker Installation	—	134 19 9
Delegate to U.S.A.	250 0 0	—
Organizing Tour of Medical Secretary to South Africa	805 4 0	—
Fee for Revision of pamphlet "Smallpox and Vaccination"	10 10 0	—
Honorarium to Housekeeper (Miss J. Honeyman)	105 0 0	—
Roll of Honour	188 12 8	—
Sundries	187 0 1	194 14 7
	£8,434 8 7	£5,055 10 6

Abstract C.] Central Premises Expenses.

	1925. £ s. d.	1926. £ s. d.
Cleaning Offices	723 8 10	741 16 6
Coals, Coke, and Wood	293 4 6	249 17 10
General Repairs, Upkeep, and Alterations	199 15 9	393 7 5
Electricity and Gas	406 13 8	454 17 1
Insurances	227 7 8	389 3 7
Ground Rent	2,225 0 0	2,500 0 0
Rates and Taxes	2,890 10 4	5,094 16 8
Care and maintenance of Grounds	—	120 19 2
	£6,966 0 9	£9,944 18 3

Abstract D.] Central Staff Expenses.

	1925. £ s. d.	1925. £ s. d.	1926. £ s. d.	1926. £ s. d.
Financial Secretary and Business Manager	1,325 0 0		1,425 0 0	
Clerical Staff, Finance Department	6,684 9 3		6,782 1 6	
		8,009 9 3		8,207 1 6
Less Proportion of Salaries debited to Journal Account		4,030 19 6		4,138 3 0
		3,978 9 9		4,068 18 6
Medical Secretary	1,800 0 0		1,800 0 0	
Deputy Medical Secretary	1,362 10 0		1,312 10 0	
Assistant Medical Secretary (1)	1,000 0 0		1,000 0 0	
Do. Do. (2)	900 0 0		900 0 0	
Clerical Staff, Medical Department	4,536 8 10		4,658 11 4	
		9,198 18 10		9,671 1 4
Intelligence Officer	500 0 0		500 0 0	
Clerical Staff, Intelligence Department	405 5 0		338 0 0	
		905 5 0		838 0 0
Porters and Janitor		820 0 3		810 4 8
Premiums of Deferred Annuities for Officials		291 10 5		925 12 1
Contribution to Office Staff Superannuation Fund		1,333 2 10		1,379 12 0
TRAVELLING AND SUBSISTENCE EXPENSES (Annual Meeting, etc.):—				
Finance Department	95 1 8		68 10 6	
Medical Department	147 13 0		151 9 0	
Intelligence Department	12 17 0		14 6 0	
		255 10 8		234 5 6
Fidelity Guarantee and Employers' Liability Insurances		61 5 8		57 4 10
		£17,111 3 5		£17,934 18 11

Abstract E.] Central Printing, Stationery, and Postage Expenses.

	1925. £ s. d.	1926. £ s. d.
General Printing	731 15 8	657 12 1
Office—General Postages:—		
Finance Department	611 3 10	660 17 4
Medical Department	538 6 8	443 8 3
Stationery	1,001 0 7	993 13 9
	£2,903 6 9	£2,755 11 5

Abstract F.] Library Expenses.

	1925. £ s. d.	1926. £ s. d.
Honorary Librarian's Honorarium	26 5 0	26 5 0
Librarian's Salary	476 13 4	486 13 4
Clerical Staff Salaries	367 0 11	263 11 2
Subscription to Messrs. H. K. Lewis's Library	63 18 6	91 3 6
Warehousing of Books	93 15 6	62 15 0
Postages	11 10 6	6 4 0
Sundries	5 19 0	—
	£1,015 8 9	£941 12 0

JOURNAL ACCOUNT.

Income and Expenditure Account for the Year ending 31st December, 1926.

	1925. £ s. d.	1925. £ s. d.	1926. £ s. d.	1926. £ s. d.
EDITORIAL.				
Salaries:— Editor	2,000 0 0		2,000 0 0	
,, Assistant Editor	1,487 10 0		1,500 0 0	
,, Sub-Editor	829 3 4		879 3 4	
,, Late Sub-Editor—Pension	226 13 4		226 13 4	
,, Clerical Staff	1,803 19 11		1,855 13 8	
Contributions to Journal	2,157 14 9		2,286 2 0	
Fee to Pharmacologist	105 0 0		105 0 0	
Engraving	358 2 8		448 16 5	
Reporting	527 8 4		487 19 3	
Legal Charges	64 19 0		64 8 8	
Postages	72 0 0		68 0 0	
Travelling, Parliamentary Papers, and Sundries ...	82 1 4		83 18 8	
Analyses	11 11 0		1 1 0	
Compiling Indexes for JOURNAL and SUPPLEMENT ...	145 5 1		154 7 4	
Editorial Petty Cash	10 13 9		12 10 5	
		9,882 2 6		10,173 14 1
MANAGERIAL.				
JOURNAL—Compositors' Wages, Machining, &c. ...	21,545 8 2		22,238 15 11	
,, Paper	12,445 7 2		12,909 5 5	
SUPPLEMENT—Compositors' Wages, Machining, &c. ...	2,154 10 10		2,021 14 2	
,, Paper	1,244 10 9		1,173 11 4	
Postage for Dispatch of JOURNAL	11,836 5 8		12,049 16 5	
Address Bands for JOURNAL	790 8 0		810 16 6	
Repairs to Plant	33 10 8		27 2 8	
Proportion of Manager's and Clerks' Salaries	4,030 19 6		4,138 3 0	
General Postage	305 11 10		330 8 7	
Printings	340 3 2		274 2 7	
Reprints	335 18 5		355 4 1	
Stationery (Ledgers, &c.)	111 11 2		110 8 2	
Insurances	27 1 10		25 3 1	
Sundries	21 16 6		49 2 11	
		55,223 3 8		56,513 14 10
		£65,107 6 2		£66,687 8 11

	1925. £ s. d.	1925. £ s. d.	1926. £ s. d.	1926. £ s. d.
Advertisements	44,379 2 0		45,276 18 10	
Sundry Sales—Journals	6,799 17 4		6,264 13 7	
,, Pamphlets, Covers, Blocks, etc....	234 19 11		268 10 1	
,, Reprints	366 0 0		387 18 3	
Sale of Waste	23 19 5		12 16 0	
Discounts on Machining, &c.	575 8 5		996 8 9	
		52,377 7 1		53,207 5 6
Balance from Subscriptions for the cost of production and issue of the JOURNAL		12,729 19 1		13,480 3 5
		£65,107 6 2		£66,687 8 11

Abstract H.]

"Archives of Disease in Childhood."

Income and Expenditure Account for the Year ending 31st December, 1926.

	£ s. d.
Machining	470 10 0
Paper	89 11 11
Engraving	141 3 6
Reprints	61 6 2
Postages	27 8 2
Proportion of Managerial Salaries	52 0 0
Sundries	34 16 0
	£879 15 9

	£ s. d.
Subscriptions	555 11 9
Advertisements	154 10 2
Reprints	63 3 0
Cash Sales	10 10 9
Deficit transferred to INCOME AND EXPENDITURE ACCOUNT	96 0 1
	£879 15 9

Abstract I.]

"Journal of Neurology and Psychopathology."

Income and Expenditure Account for the Year ending 31st December, 1926.

	£ s. d.
Machining and Paper	165 14 0
Engraving	2 9 6
Reprints	21 8 9
Postages	4 13 11
Proportion of Managerial Salaries	26 0 0
Sundries	15 18 9
	£236 4 11

	£ s. d.
Subscriptions	105 16 10
Advertisements	41 11 1
Reprints	22 14 6
Cash Sales	2 3 0
Deficit transferred to INCOME AND EXPENDITURE ACCOUNT	60 16 6
	£236 4 11

Abstract J.]

Scottish Committee.

Financial Statement for the Year ending 31st December, 1926.

1926.		£ s. d.	1926.		£ s. d.	£ s. d.
Jan. 1.	To Cash, Balance on hand ...	4 17 4	Dec. 31.	By Cash, Heating, Cleaning, Lighting, etc. ...		107 19 4
Dec. 31.	,, ,, Financial Secretary ...	2,200 0 0	,, ,,	Rates and Taxes—		
	,, ,, Use of Hall for Meetings ...	30 0 6		Burgh Rates ...	44 15 9	
	,, ,, Meteorological Office for Cleaning	50 0 0		Parish Rates ...	39 8 8	
				Property Tax ...	19 1 0	
				Income Tax (Schedule A) ...	11 15 6	
						117 0 11
			,, ,,	Feu Duty ...		17 12 10
			,, ,,	Fares of Members attending Meetings—		
				Scottish Committee ...	43 2 10	
				Chairman's Sub-Committee ...	8 16 8½	
				Highlands and Islands Sub-Committee ...	23 13 6	
				Insurance Acts Sub-Committee ...	31 13 6½	
				Rural Practitioners' Sub-Committee ...	7 14 10	
				Conference of Hon. Secs. of Branches and Divisions	24 14 7	
				Colliery and Public Works' Surgeons' Committee ...	12 6	
						140 8 6
			,, ,,	Fares of Scottish Medical Secretary ...		82 13 4
			,, ,,	Salary of ,, ... ,, ...		1,250 0 0
			,, ,,	,, of Clerical Staff ...		279 4 0
			,, ,,	Printing, Stationery, Newspapers, etc. ...		77 18 11
			,, ,,	Postages		19 0 0
			,, ,,	Telephone and Telegrams		40 18 2
			,, ,,	Insurance		11 15 6
			,, ,,	Alterations to Lavatory (plumber, joiner, and painter work)		48 19 3
			,, ,,	Upkeep and Repairs		11 16 5
			,, ,,	Auditors Fees		3 3 0
			,, ,,	Solicitor's Fees		15 4 6
			,, ,,	Bank Interest		1 9
			,, ,,	Sundry small outlays		4 5 7
			,,	Balance, Cash on hand		56 15 10
		£2,284 17 10				£2,284 17 10

JAS. R. DREVER, *Scottish Medical Secretary.*

Abstract K.]

Irish Committee.

Financial Statement for the Year ending 31st December, 1926.

1926.		£ s. d.	1926.		£ s. d.	£ s. d.
To Contributions from Head Office		1,100 0 0	By Balance from 1925			98 8 8
			,, Rent, etc.		70 0 0	
			,, Printing and Stationery		15 7 3	
			,, Postages		13 17 6	
			,, Telephone		9 15 8	
			,, Electric Light		5 7 2	
						114 7 7
			,, Sundries			25 12 3
			,, Salaries—Irish Medical Secretary		800 0 0	
			,, ,, Clerk		62 10 0	
						862 10 0
,, Balance		67 13 1	,, Travelling Expenses—			
			(For members of Irish Committee and Irish Medical Secretary) ...			66 13 7
		£1,167 13 1				£1,167 13 1

JOHN MILLS, *Chairman.*
THOMAS HENNESSY, *Irish Medical Secretary.*

Office Staff Superannuation Fund.

FOR WHICH THE COUNCIL OF THE BRITISH MEDICAL ASSOCIATION ACT AS TRUSTEES.

Income and Expenditure Account for the Year ending 31st December, 1926.

1926.	INCOME.	£ s. d.	1926.	EXPENDITURE.	£ s. d.
Dec. 31.—Contributions from Association		1,415 16 0	Dec. 31.—Pensions paid during the year		333 0 0
,, ,, Members of Staff		752 2 9	Amounts refunded to retiring members		39 1 0
Refund of Income Tax (1925-1926)		112 1 9	Income Tax on untaxed interest		23 18 3
Interest on Investments and Deposits		673 13 7	Charges incurred in purchase of Stock		7 16 0
			Balance carried to Capital Account		2,549 18 10
		£2,953 14 1			£2,953 14 1

Capital Account for the Year ending 31st December, 1926.

1926.	£ s. d.	1926.	£ s. d.
Dec. 31.—Balance brought down from 1925	16,161 10 11	Dec. 31.—Balance carried to Balance Sheet	18,711 9 9
,, from Income and Expenditure Account	2,549 18 10		
	£18,711 9 9		£18,711 9 9

Balance Sheet, 31st December, 1926.

Dr. LIABILITIES.	£ s. d.	ASSETS.	£ s. d.	£ s. d.	Cr. £ s. d.
To Balance of Capital Account	£18,711 9 9	By Cash with Bankers—Current Account	1,756 6 5		
		,, ,, —Deposit ,, ...	125 0 0	1,881 6 5	
		By Investments calculated at cost or under—			
		,, £250 Bank of England Stock @ 200	500 0 0		
		,, £1,000 Bradford Corporation 6 per cent. Mortgage Loan at cost	1,000 0 0		
		,, £100 Bristol Corporation 3½ per cent. Redeemable Stock @ 65	65 0 0		
		,, £600 Cape of Good Hope 3 per cent. Inscribed Stock @ 61	331 0 0		
		,, £1,830 Commonwealth of Australia 5 per cent. 1935-1945 at cost [98¼] ...	1,766 15 0		
		,, £5,000 Consols 2½ per cent. at cost [55½]	2,777 10 0		
		,, £2,500 Conversion 3½ Stock at cost [75 5/16]	1,882 5 0		
		,, £100 India Stock 3 per cent. @ 51½	206 0 0		
		,, £537 London, Midland, and Scottish Railway 4 per cent. Debentures at conversion price	453 0 0		
		,, £650 London, Midland, and Scottish Railway 4 per cent. Preference Stock at conversion price	477 0 0		
		,, £100 London, Midland, and Scottish Railway 4 per cent. Preference Stock (1923) at conversion price	53 10 0		
		,, £719 London Midland, and Scottish Railway 4 per cent. Guaranteed Stock at conversion price	575 8 3		
		,, £900 London and North Eastern Railway 3 per cent. Debenture Stock @ 56	504 0 0		
		,, £500 National Savings Certificates	393 15 0		
		,, £500 National War Bonds 5 per cent. 1st Series 1927 @ 101½	506 5 0		
		,, £100 New South Wales Government 5½ per cent. Inscribed Stock 1922-1927 @ 96	96 0 0		
		,, £2,000 New Zealand 4 per cent. 1929 Consolidated Inscribed Stock @ 95½ ...	1,909 7 6		
		,, £400 New Zealand 3 per cent. 1915 Inscribed Stock @ 64	256 0 0		
		,, £450 Stockton-on-Tees Corporation 3 per cent. Redeemable Stock 1915-1935 @ 70	315 0 0		
		,, £2,900 War Loan 5 per cent. 1929-1947 @ 93½	2,709 7 7		
				16,830 ,,	
	£18,711 9 9			£18,711 9 9	

TRUST FUNDS FOR WHICH THE COUNCIL OF THE BRITISH MEDICAL ASSOCIATION ACT AS TRUSTEES.

Francis Fowke Bequest.

(Holding £437 London, Midland, and Scottish Railway 4% Guaranteed Stock "O" a/c.)

1926.		£ s. d.	1926.		£ s. d.
Jan. 1.	To Balance brought forward from 1925 ...	191 8 8	Dec. 31.	By Income Tax on Deposit Interest ...	16 6
	„ Interest on Investments and Deposits	19 19 2		„ Balance, Cash in hand, Current and Deposit Accounts	213 11 4
		£214 7 10			£214 7 10

Fotherby Bequest Fund.

1926.		£ s. d.	1926.		£ s. d.
Jan. 1.	To Balance brought forward from 1925	57 18 2	Dec. 31.	By Income Tax on Deposit Interest	3 8
	„ Interest on Deposit	1 7 1		„ Balance, Cash in hand, Current and Deposit Accounts	59 1 7
		£59 5 3			£59 5 3

Stewart Fund.

(Holding £579 London, Midland, and Scottish Railway 4% Debenture Stock "D" a/c.)

1926.		£ s. d.	1926.		£ s. d.
Jan. 1.	To Balance brought forward from 1925	19 2 7	Dec. 31.	By Balance, Cash in hand, Current and Deposit Account	37 13 1
	„ Interest on Investment	18 10 6			
		£37 13 1			£37 13 1

Middlemore Fund.

(Holding £666 London and North Eastern Railway 3% Debenture Stock.)

1926.		£ s. d.	1926.		£ s. d.
Dec. 31.	To Interest on Investment	15 19 8	Jan. 1.	By Balance overdrawn, 1925	5 4 7
			Dec. 31.	„ Balance, Cash in hand, Current and Deposit Account	10 15 1
		£15 19 8			£15 19 8

Katherine Bishop Harman Prize Fund.

(Holding £1,000 New South Wales 5% Stock, 1945-65.)

1926.		£ s. d.	1926.		£ s. d.
Dec. 31.	To Interest on Investment	21 0 0	Dec. 31.	By Balance, Cash in hand	21 0 0
		£21 0 0			£21 0 0

Sir Charles Hastings Fund.

FOR WHICH THE COUNCIL OF THE BRITISH MEDICAL ASSOCIATION ACT AS NOMINAL TRUSTEES, THE CHAIRMAN OF THE REPRESENTATIVE BODY, CHAIRMAN OF COUNCIL, AND THE MEDICAL SECRETARY ACTING AS EXECUTIVE TRUSTEES.

1926.		£ s. d.	£ s. d.
Jan. 1.	*To Balance brought forward from 1925—*		
	,, *Investments calculated at middle price 31st December, 1925—*		
	£200 Greek Government 7% Refugee Loan of 1924 at 90½ ...	181 0 0	
	25 Phœnix Assurance Co. £1 Pelican Shares at 13¼	331 5 0	
	20 Central Mining and Investment Corporation £3 Shares at 15	300 0 0	
	25 Swedish Match Co. "B" Shares 100 Swedish crowns each at 12⅝	304 13 9	
	Cash at Bank—Current Account	24 18 5	
			1,141 17 2
	,, Subscriptions and Donations		117 8 11
	,, Interest on Investments and Bank Deposits		59 15 8
			£1,319 1 9

1926.		£ s. d.	£ s. d.
Dec. 31.	By Loans—		
	Case "B"	30 0 0	
	Case "C"	40 0 0	
			70 0 0
	,, *Balance 31st December, 1926—*		
	Investments calculated at middle price 31st December, 1925—		
	£200 Greek Government 7% Refugee Loan of 1924 at 90½ ...	181 0 0	
	25 Phœnix Assurance Co. £1 Pelican Shares at 13¼	331 5 0	
	20 Central Mining and Investment Corporation £3 Shares at 15	300 0 0	
	25 Swedish Match Co. "B" Shares 100 Swedish crowns each at 12⅝	304 13 9	
	Cash at Bank—Current and Deposit Accounts	133 3 0	
			1,249 1 9
			£1,319 1 9

Medical Representation in Parliament Fund.

FOR WHICH THE COUNCIL OF THE BRITISH MEDICAL ASSOCIATION ACT AS TRUSTEES.

1926.		£ s. d.
	To Balance brought forward from 1925	950 4 10
	,, Subscriptions and Donations	204 7 0
	,, Interest on Deposits	31 2 11
		£1,185 14 9

1926.		£ s. d.
	By Income Tax on Deposit Interest	1 18 10
	,, *Balance 31st December, 1926—*	
	Cash at Bank—Current Account	83 15 11
	,, Deposit Account	1,100 0 0
		£1,185 14 9

Central Emergency Fund.

FOR WHICH THE MEDICO-POLITICAL AND PARLIAMENTARY COMMITTEE OF THE BRITISH MEDICAL ASSOCIATION ACT AS TRUSTEES.

1926.		£ s. d.	£ s. d.
	To Balance brought forward from 1925—		
	Cash at Bankers—Current Account...	38 18 2	
	National Savings Certificates (with accrued interest) ...	560 8 4	
	£500 4% National War Bonds, 1927 (at cost)	500 0 0	
	£900 5% War Loan, 1929-47 (at cost)	898 6 3	
			1,997 12 9
	,, Subscriptions and Donations		86 0 3
	,, Deposit Interest and Dividends		69 8 6
	,, Accrued Interest on National Savings Certificates		25 0 0
			£2,178 1 6

1926.		£ s. d.	£ s. d.
	By Income Tax		18 9
	,, Expenses Incurred in purchase of Stock		1 1 0
	,, *Balance 31st December, 1926—*		
	Cash at Bankers—Current Account	40 18 5	
	,, ,, Deposit Account	50 0 0	
	National Savings Certificates	357 10 0	
	,, ,, (Interest accrued)	197 18 4	
	£1,000 5% War Loan, 1929-47 (at cost)	999 15 0	
	£500 4% National War Bonds, 1927 (at cost)	500 0 0	
			2,176 1 9
			£2 178 1 6

British Medical Association Charities Fund.

Statement of Amounts Collected and Distributed for Twelve Months ending December 31st, 1926.

1926.	£ s. d.
To Balance, January 1st, 1926, brought forward	457 2 8
To Subscriptions and Donations collected:—	
(a) For distribution at discretion of **B.M.A. Charities Committee** ...	767 10 3
(b) **Royal Medical Benevolent Fund**	1,114 0 6
(c) **Royal Medical Foundation of Epsom College**	841 2 3
(d) **Royal Medical Benevolent Fund Society of Ireland** ...	35 13 0
	£3,243 8 8

1926.	£ s. d.	£ s. d.
By amounts distributed to:—		
(a) **Royal Medical Benevolent Fund.**		
(1) Allocated from B.M.A. Charities Fund	300 0 0	
(2) Earmarked for Fund	1,141 0 6	1,441 0 6
(b) **Royal Medical Foundation of Epsom College.**		
(1) Allocated from B.M.A. Charities Fund	400 0 0	
(2) Earmarked for Fund	841 2 3	1,241 2 3
(c) **Royal Medical Benevolent Fund Society of Ireland.**		
(1) Allocated from B.M.A. Charities Fund	50 0 0	
(2) Earmarked for Fund	35 13 0	85 13 0
(d) **Sir Charles Hastings Fund.**		
Allocated from B.M.A. Charities Fund		124 12 11
(e) **Royal Medical Benevolent Fund Guild.**		
Allocated from B.M.A. Charities Fund		150 0 0
		£3,243 8 8

Having examined the Balance Sheet, dated 31st December, 1926, and Accounts with the Books and Vouchers of the Association, except as regards the Irish Committee and Scottish Committee Accounts, and having received all the information and explanations we have required, we report that the Balance Sheet is, in our opinion, properly drawn up so as to exhibit a true and correct view of the state of the affairs of the Association according to the best of our information and the explanations given to us and as shown by the Books of the Association.

We have inspected the Lease of the New Building and the Disposition in favour of the Association of the premises in Edinburgh, and have verified the Investments of the Association on General Account, on account of the Trust Funds, and of the Office Staff Superannuation Fund, and have further ascertained that the Deeds of the Freehold Property, 429, Strand, Agar Street, and Harvey's Buildings, are held by the Westminster Bank as security for the sum advanced.

We further report that we have examined the Accounts, with the books and vouchers, of the Medical Benevolent Funds for whom the Association receives remittances, and found them correct.

N. BISHOP HARMAN, F.R.C.S.,
Treasurer.

L. FERRIS-SCOTT, F.C.A.,
Financial Secretary and Business Manager.

PRICE, WATERHOUSE & CO.,
3, Frederick's Place, Old Jewry, London, E.C.2.
23rd March, 1927.

APPENDIX VII.

(NOTE.—*Referred to, in error, in para. 167 of the Annual Report, as Appendix VI.*)

CONTRIBUTORY SCHEMES FOR HOSPITAL BENEFIT.

A CONTRIBUTORY SCHEME AS REFERRED TO IN THIS MEMORANDUM IS DEFINED IN THE POLICY OF THE BRITISH MEDICAL ASSOCIATION AS A SCHEME TO WHICH CONTRIBUTIONS ARE MADE FOR WHICH THERE IS TO BE A STATED OR IMPLIED RETURN.

1. Contributory schemes are springing up in various parts of the country in increasing numbers, and from information received by the Association it is evident that the medical staffs of the hospitals concerned in many instances have not been consulted in connection therewith. The Association is of the opinion that the attention of the members of medical staffs should be drawn to certain fundamental principles which should be insisted upon before any contributory scheme is launched. These fundamental principles are:—

(a) That only persons below a definite income limit should be entitled to join a contributory scheme for hospital benefit.

(b) That (except in emergency) a contributor to a scheme should only be admitted to a hospital upon the recommendation of the attending practitioner.

(c) That recognition should be made of the services of the medical staff.

2. It is essential in any such scheme that there should be a clear definition of what is given or promised in return for the contribution.

3. An examination of many schemes shows that they may or may not contain some statement as to the contractual obligation for the provision of hospital and additional benefits. For example, there is the contributory scheme whereby it is explicitly stated that for the payment of a specified weekly sum the contributor becomes entitled to certain specified benefits, whilst on the other hand certain hospitals in certain areas receive periodic massed payments or contributions from work-people in the neighbourhood in return for which there is no definite guarantee that hospital benefit will be forthcoming to the contributor should occasion demand it, although in such cases the assumption that such benefits will be forthcoming is understood to be implied.

4. In the provinces some Hospital Saturday Fund contributions come under the latter category.

5. It would appear to be desirable that in any contributory scheme the presence, limitation or absence of a contractual obligation for the provision of hospital and additional benefits should be plainly stated to the contributors.

6. The establishment of a definite income limit and the admission to the hospital via the attending practitioner are essential in the interests of the medical staffs of the hospitals and the private practitioner who is not on the staff.

7. Modern progress in medical science, the introduction of costly appliances for diagnosis and treatment, the need for more prolonged clinical observation due to the increased complexity of medical, surgical, and special department work, and many other factors, have driven people, who formerly obtained medical and surgical advice from the private practitioner in their own homes or in a nursing home, to seek admission to a voluntary hospital through sheer inability to meet the demands made upon their purses.

8. It must, therefore, be fully recognised that the clientele of a hospital is now much more widely distributed, and that persons who until recently would never have contemplated entering a hospital are now only too anxious to obtain treatment there. It cannot be fairly claimed, however, that many of the persons who are treated in the voluntary hospitals should receive such treatment free of charge or for such a small contribution as, for example, the payment of a penny, twopence, or threepence a week, by means of a contributory scheme.

9. Persons above the income limit (which may vary in different areas but should be clearly defined and put in force) should not be permitted to obtain hospital benefit through any contributory scheme unless such scheme is so drawn as to take into consideration their particular financial circumstances. In any event they should pay the full cost of the maintenance and the agreed treatment fees.

10. In order to prevent abuse the recommendation by the attending practitioner should be insisted upon and therefore, unless the case is one which the attending practitioner considers on medical grounds to be a suitable one for hospital treatment, admission should be refused even although the person concerned is a member of a contributory scheme.

11. The need for this safeguard is perhaps most evident in connection with the out-patient departments of the voluntary hospitals. The amount of work carried on at the out-patient departments of some of our hospitals ought to be curtailed, and only such treatment should be given as cannot consistently with the best interests of the patient be undertaken by a general practitioner of ordinary professional competence and skill. The primary purposes of the out-patient department should be consultation, and the giving of such treatment as cannot be given by a private practitioner independently of the hospital.

12. If those in charge of the out-patient departments were to refer all cases not suitable for hospital treatment to practitioners concerned with the cases, and to refuse all further treatment which comes within the scope of the practitioner of ordinary competence and skill, there would be less abuse of hospitals and much less waste of the time and skill of the staff and the materials of the hospital.

13. The practice of referring a case to a hospital for advice when the patient is able to pay a fee (modified if necessary) to a consultant seeing the patient at his own home cannot be too strongly condemned, both because it is unfair to the medical profession and because it undermines the self-respect of those allowed to accept charitable services when they can afford to pay for them.

14. A proper regulation of the work at the out-patient departments of our hospitals will do much to remove many of the difficulties, financial and otherwise, which face the hospitals.

15. Without a definite income limit in any contributory scheme, the field of work of a member of a hospital staff in his private capacity is bound to diminish, as many persons who formerly obtained the advice of the member of the hospital staff in his private capacity will in future claim such advice at the hospital as one of the benefits of the contributory scheme in the area.

16. It is perhaps the junior members of the medical staff of the voluntary hospitals who will suffer most in this respect, and it is evident from information which the Association has collected that the pinch is being felt already in many areas. The Hospitals Committee of the Association would, therefore, urge upon the members of the medical staffs the necessity for taking a keen interest in any proposals for the establishment of schemes for hospital benefit upon a contributory basis, and for insisting

(1) that only persons below a definite income limit should be entitled to join any such scheme, and

(2) that admission to the hospital whether as an out-patient or in-patient should, except in emergency, only be upon the recommendation of the attending practitioner. (This does not mean that a person applying for out-patient examination and/or treatment, without such recommendation, should always be turned away without being seen.)

17. The following maximum scale of income limits, subject to economic and local variations and to periodic revision, is suggested:—

Class 1—Limit of Income £200 a year.

(a) Single persons over 16 years of age.
(b) Widow or widower without children under 16 years of age.

Class 2—Limit of Income £250 a year.

(a) Married couples without children under 16 years of age.
(b) Persons with one dependent under 16 years of age.

Class 3—Limit of Income £300 a year.

(a) Married couples with a child or children under 16 years of age.
(b) Persons with more than one dependent under 16 years of age.

The applicability of this scale with or without modification is, of course, one of the matters which should receive earnest attention at the inception if possible of any contributory scheme.

18. The third fundamental principle outlined in paragraph 1, viz., the recognition financially of the services of the medical staff should engage the serious consideration of the medical staffs.

19. Nearly everyone is now agreed that for the work which a hospital does for the State the hospital and the medical staff should receive payment. This was recognised in the treatment of discharged and disabled soldiers during the war, and in many hospitals as much as 20 per cent. of their gross receipts under such arrangements was allocated to the medical staffs.

20. Again, it is generally agreed that for cases referred to the hospital for treatment by Local Authorities, such as the Education Authority, payment should be made, and that this should include some payment for the services of the medical staff. Indeed, whenever the board of management of a voluntary hospital enters into a financial arrangement with a public authority, an employer of labour, approved society or insurance company, or under a contributory scheme or otherwise, for the reception of patients, such arrangement should be so framed as to cover not merely the cost of maintenance but of medical

treatment also, and a percentage of all such receipts should be passed into a fund at the disposal of the visiting medical staff of the hospital.

21. *A definite financial arrangement having been made by some body or company which has accepted responsibility for the provision of hospital benefit for a group of persons under certain defined conditions, it cannot be expected that the medical staffs of the voluntary hospitals concerned should give their services free.*

22. The contract made is for hospital benefit as a whole, consequently the payment made under any financial arrangement is for treatment as well as for accommodation and maintenance. Therefore the Association recommends that a percentage of the money received by the hospital under such an arrangement should be allocated to a Staff Fund at the disposal of the staff.

23. It is necessary to point out that in connection with many of the contributory schemes which are springing up all over the country no definite financial arrangement is entered into with the hospital or hospitals concerned, the scheme being organised by some group which gives a contribution to the hospital out of the funds collected. In other instances the hospital itself organises the scheme. In other areas although no definite contributory scheme, as such, exists, the hospital receives contributions for patients from *approved societies, insurance companies, employers of labour,* and/or by massed or periodic payments by employees. The Association considers that the visiting medical staff should, in all these circumstances, also receive recognition for its services either by a percentage passing into the Staff Fund or by a fixed honorarium. An honorarium was suggested to meet the objections of those who were definitely opposed to the staff fund proposal in these particular instances.

24. In the opinion of the Hospitals Committee the time has arrived for insistence upon the three fundamental principles enumerated in paragraph 1 of this Memorandum.

Association Notices.

BRANCH AND DIVISION MEETINGS TO BE HELD.

DORSET AND WEST HANTS BRANCH: BOURNEMOUTH DIVISION.—The annual meeting of the Bournemouth Division will be held on Wednesday, May 4th, in St. Peter's Small Hall at 4.15 p.m. Agenda: Election of officers; consideration of Dr. Asten's resolution for the Representative Body; policy of Division towards Dogs' Protection Bill; question of extension of Division boundary. The chairman invites members to tea at 4 p.m.

DORSET AND WEST HANTS BRANCH: WEST DORSET DIVISION.—A meeting of the West Dorset Division will take place to-day (Friday, April 29th), at the Durlston Court School, Swanage, near the Children's Hospital, at 2.45 p.m. Cases will be shown and a paper read by Dr. W. A. Rees, O.B.E. Tea will be served afterwards at the Trocadero Restaurant by the courtesy of the Swanage members. A report and recommendations of the Divisional Ethical Committee will be brought forward.

GLASGOW AND WEST OF SCOTLAND BRANCH: LANARKSHIRE DIVISION.—The annual general meeting of the Lanarkshire Division will be held at 242, St. Vincent Street, Glasgow, on Wednesday, May 4th, at 3 p.m.

METROPOLITAN COUNTIES BRANCH: CITY DIVISION.—A meeting of the City Division will be held at the Metropolitan Hospital, Kingsland Road, E., on Tuesday, May 3rd, at 9.30 p.m. Dr. H. C. Lucey will read a paper on clinical pathology.

METROPOLITAN COUNTIES BRANCH: HAMPSTEAD DIVISION.—A meeting of the Hampstead Division will be held at the Central Library, Finchley Road, on Thursday, May 12th, at 8.30 p.m. Agenda: Election of representatives and deputy representatives; adoption of resolution concerning the scale of commencing salaries for public health medical officers; address by Dr. R. A. O'Brien, C.B.E., medical director of the Wellcome Physiological Research Laboratories, on "Immunity to diphtheria and scarlet fever by means of toxin-antitoxin." Dr. Graham Forbes, medical officer of health for the County of London, has also promised to speak.

METROPOLITAN COUNTIES BRANCH: HENDON DIVISION.—The annual meeting of the Hendon Division will be held at the Hendon Cottage Hospital to-day (Friday, April 29th), at 8.30 p.m. Agenda: Report of the Executive Committee on the work of the Division during the past year; election of officers and Executive Committee for the coming year; any other business.

METROPOLITAN COUNTIES BRANCH: SOUTH MIDDLESEX DIVISION.—A meeting of the South Middlesex Division will be held at St. John's Hospital, Twickenham, on Wednesday, May 4th, at 8.15 p.m. Agenda: General business; election of officers; reports of the representatives and of the honorary secretary.

METROPOLITAN COUNTIES BRANCH: SOUTH-WEST ESSEX DIVISION.—At the meeting of the South-West Essex Division, to be held at Claybury Mental Hospital, Woodford Bridge, on Tuesday, May 3rd, at 3.30 p.m., Dr. G. F. Barham, medical superintendent, will give a demonstration of cases.

MIDLAND BRANCH: CHESTERFIELD DIVISION.—A meeting of the Chesterfield Division will be held at the Maternity Hospital, Chesterfield, to-day (Friday, April 29th), at 8.15 p.m. Dr. L. G. Parsons, physician to Queen's Hospital and the Children's Hospital, Birmingham, will give an address on "Some points in the diagnosis and treatment of pneumococcal infections in childhood." Tea and coffee will be served at 8 p.m.

NORTH OF ENGLAND BRANCH: BISHOP AUCKLAND DIVISION.—It is proposed to hold the annual dinner of the Bishop Auckland Division to-day (Friday, April 29th), at 7.30 for 8 p.m., in the King's Café, Newgate Street, Bishop Auckland. Tickets £1 1s. each (inclusive of wines). Guests may be invited.

NORTH OF ENGLAND BRANCH: BLYTH DIVISION.—The next meeting of the Blyth Division will be held at Old Brewery House, Bedlington, on Wednesday, May 4th, at the invitation of Dr. Hudson.

NORTH OF ENGLAND BRANCH: NEWCASTLE-ON-TYNE DIVISION.—*A meeting of the Newcastle-on-Tyne Division will be held* at 7, Windsor Terrace, Newcastle-on-Tyne, on Tuesday, May 3rd, at 8.30 p.m. Agenda: Matters arising from minutes; report re reception and dance; appointment of representatives and deputy representatives; consideration of Annual Report of Council.

NORTHERN COUNTIES OF SCOTLAND BRANCH: BANFF, MORAY, AND NAIRN DIVISION.—The annual meeting of the Banff, Moray, and Nairn Division will be held at the Commercial Hotel, Keith, on Saturday, May 7th. Luncheon will be taken at 2 o'clock, and the meeting will be held immediately thereafter. The Keith Golf Club has extended the courtesy of the course to the members of the Division for the afternoon. Agenda: Secretary and treasurer's annual report for 1927; appointment of office-bearers for current year and representatives in Representative Body; Annual Report of Council; "Black List" addenda; any other competent business.

SOUTHERN BRANCH: PORTSMOUTH DIVISION.—The annual meeting of the Portsmouth Division will be held at the Queen's Hotel, Southsea, on Thursday, May 5th, at 9 p.m. The annual dinner of the Division will be held at the Queen's Hotel, Southsea, on Wednesday, May 11th, at 8 p.m. Tickets 7s. 6d. each. After dinner an address will be given by Sir StClair Thomson, F.R.C.P.Lond., entitled "The London physician in the eighteenth century." Members intending to be present at the dinner are requested to notify the honorary secretary, Dr. H. H. Warren, "Devonia," Goldsmith Avenue, Southsea, as soon as possible, and also to forward the names of any guests they may be bringing.

SOUTHERN BRANCH: WINCHESTER DIVISION.—At the invitation of Dr. R. Bartlett the next meeting of the Winchester Division will be held at Linden House, Romsey, on Thursday, May 12th, at 3.30 p.m. Agenda: Correspondence; election of representative and deputy representative; Treasurer's Cup golf competition; *adoption of resolution concerning the scale of minimum commencing salaries* for public health medical officers; discussion on "The association of cases of herpes and varicella," to be opened by Dr. Bartlett. Members taking part in the discussion are asked to give illustrative cases.

SOUTH-WESTERN BRANCH.—An intermediate meeting of the South-Western Branch will be held on Wednesday, May 18th, at Liskeard in the afternoon. Members are asked to notify the secretary as soon as possible of any cases, notes, papers, specimens, or notices of motion that they wish brought forward. Papers should be limited to fifteen minutes.

SUFFOLK BRANCH: SOUTH SUFFOLK DIVISION.—A meeting of the South Suffolk Division will be held at the East Suffolk and Ipswich Hospital to-day (Friday, April 29th), at 3.30 p.m. Tea will be provided. Agenda: Business arising out of minutes; British Medical Association monthly circular; an address on the effects of radiology and electro-therapeutics on modern medicine will be given by Dr. A. Cameron Young, radiologist to the Ipswich and East Suffolk Hospital. Dr. A. M. N. Pringle has promised to open a discussion on the chest, Dr. C. K. Moseley on the nose, and Dr. F. C. Wetherell on ultra-violet rays. There will be a demonstration of apparatus.

SURREY BRANCH: CROYDON DIVISION.—The annual meeting of the Croydon Division will be held at the Croydon General Hospital on Wednesday, May 4th, at 3.30 p.m.; it will be followed by a clinical meeting.

SURREY BRANCH: GUILDFORD DIVISION.—A clinical meeting of the Guildford Division will be held at the Royal Surrey County Hospital, Guildford, on Thursday, May 5th, at 4 p.m. (tea served at 3.45 p.m.). At a combined meeting of the Guildford Division and the Veterinary Medical Association, Southern Counties Branch, to be held on May 19th, *Professor Hobday will open a discussion on clean milk.* Further particulars will be announced later.

SURREY BRANCH: REIGATE DIVISION.—The annual meeting of the Reigate Division will be held at the East Surrey Hospital, Reigate, on Wednesday, May 11th, at 4 p.m.

SUSSEX BRANCH: BRIGHTON DIVISION.—A clinical meeting of the Brighton Division will be held at the Haywards Heath Mental Hospital on Monday, May 2nd, at 3.45 p.m.

SUSSEX BRANCH: CHICHESTER AND WORTHING AND HORSHAM DIVISIONS.—A combined meeting of the Chichester and Worthing and Horsham Divisions will be held in the Dolphin Hotel, Chichester, on Wednesday, May 4th, at 6.15 p.m. Business: Appointment of representative to the Annual Representative Meeting; Annual Report of Council (SUPPLEMENT, BRITISH MEDICAL JOURNAL, April 23rd); receipt of any resolutions for the agenda of the Annual Representative Meeting. Thereafter the annual meeting of the Chichester and Worthing Division will be held for the election of office-bearers. Dinner will be served in the hotel at 7.30 p.m. After dinner Dr. A. H. Bostock will open a discussion on "The operative treatment of fractures." Members of both Divisions who intend to be present are asked to notify Dr. Mackintosh before Monday, May 2nd, in order that adequate arrangements may be made.

WEST SOMERSET BRANCH.—A meeting of the West Somerset Branch will be held on Tuesday, May 3rd, at the Taunton and Somerset Hospital, at 4.15 p.m. Agenda: Election of representative and

deputy representative; consideration of Annual Report of Council; British Medical Association scheme for dealing with rheumatism in children; correspondence.

WORCESTERSHIRE AND HEREFORDSHIRE BRANCH: HEREFORD DIVISION.—The annual meeting of the Hereford Division will be held at 20, East Street, Hereford, on Monday, May 2nd, at 3.15 p.m. Agenda: Election of officers, representatives, and Executive Committee; Annual Report of Council; post-graduate lectures; correspondence.

YORKSHIRE BRANCH: DEWSBURY DIVISION.—The annual meeting of the Dewsbury Division will be held in the Man and Saddle Restaurant, Dewsbury, on Tuesday, May 3rd. Coffee will be served at 8.15 p.m.

YORKSHIRE BRANCH: HARROGATE DIVISION.—The annual meeting of the Harrogate Division will be held at the Imperial Café, Harrogate, on Wednesday, May 4th, at 8.30 p.m. Agenda: (1) Arrangements for meeting of Yorkshire Branch to be held in Harrogate on June 11th; (2) Annual Report of Council; (3) steps taken against activities of antivivisection societies; (4) B.M.A. Charities scheme; (5) annual report and financial statement; (6) election of officers.

Meetings of Branches and Divisions.

CAMBRIDGE AND HUNTINGDON BRANCH: ISLE OF ELY DIVISION.

THE annual general meeting of the Isle of Ely Division was held at March on April 12th.

The accounts were examined and passed, and the HONORARY SECRETARY read the annual report of the year's work of the Division.

The following officers were elected for the ensuing year:

Chairman, Dr. A. E. P. Parker (Wisbech). *Vice-Chairman*, Dr. J. G. Slade (Ely). *Honorary Secretary*, Dr. A. C. S. Waters (March). *Representatives and Deputy Representative in Representative Body*, Dr. A. C. S. Waters and Dr. C. E. Stephens.

Requests for the reduction of fees for attendance on juvenile members and adult members of two clubs were considered. It was unanimously resolved not to reduce the scale of fees in force in the Isle of Ely—namely, 8s. for juveniles and 16s. for adults.

It was decided to send a letter to the member of Parliament for the Isle of Ely, explaining the attitude of the medical profession in relation to the Dogs' Protection Bill and asking him to vote against its second reading.

At the conclusion of the general business a most interesting and instructive address was delivered by Mr. W. H. BOWEN, M.S.Lond., F.R.C.S.Eng., surgeon to Addenbrooke's Hospital, on "Tuberculous glands in the neck" (a clinical study), after which a discussion followed. A vote of thanks was unanimously passed thanking the lecturer for his valuable paper.

CEYLON BRANCH.

THE second meeting of the session of the Ceylon Branch was held in the Colonial Medical Library on February 16th, when forty members were present.

Drs. G. R. Hany, P. F. L. de Livera, and W. Samarasinghe were elected members of the Association.

The PRESIDENT delivered his inaugural address on "Quarantine." A vote of thanks to the Hon. Dr. J. F. E. Bridger for his address was, on the motion of Sir H. MARCUS FERNANDO, carried with acclamation. The meeting terminated with a vote of thanks to the chairman.

LANCASHIRE AND CHESHIRE BRANCH: BLACKBURN DIVISION.

A MEETING of the Blackburn Division was held on April 12th, under the presidency of Dr. JEFFREY RAMSAY, chairman of the Division; there was a good attendance.

Professor ARTHUR HALL (Sheffield) gave a British Medical Association Lecture on "The reflexes which determine and control posture." The lecture consisted primarily of an exposition of the work of Magnus and his school which has been carried on for several years in the University of Utrecht. The mechanism of the tonic reflexes and righting reflexes was considered in detail, and the laws which Magnus has formulated with regard to them were fully explained. The lecture was illustrated by numerous lantern slides and models. A series of photographs was shown, demonstrating the occurrence of these reflexes in normal animal life, together with ordinary and slow motion cinematograph pictures of various normal animals in movement, and of cases of epidemic encephalitis, illustrating the typical changes of posture and movement in Parkinsonism.

The CHAIRMAN, Drs. LANGLEY, POSTON, and BANNISTER took part in the discussion which followed.

A vote of thanks to the lecturer was, on the motion of Dr. AITKEN, seconded by Dr. GREAVES, carried with acclamation.

NORTH OF ENGLAND BRANCH: BLYTH DIVISION.

A MEETING of the Division was held in the Knight Memorial Hospital, Blyth, on April 20th, when Dr. FAIRLIE was in the chair. Mr. ARKLE, specialist in eye diseases, of Newcastle, read an interesting paper on "Eye conditions of interest to colliery practitioners," points about miner's nystagmus and injuries to the eyes being dealt with. There was considerable discussion, during which Mr. Arkle was asked many questions. A vote of thanks was accorded to Mr. Arkle for his address. The secretary was asked to convey the congratulations of the Division to Dr. Milne, who was recovering from pneumonia.

SUFFOLK BRANCH: SOUTH SUFFOLK DIVISION.

A MEETING of the South Suffolk Division was held at Ipswich on March 25th, when Dr. W. F. FRYER was in the chair. The British Medical Association monthly circular was read. After the routine business an address on the need for closer co-operation between hospital staffs and general practitioners was given by Dr. H. N. BARON, to whom a hearty vote of thanks was accorded for a most interesting address.

SUFFOLK BRANCH: WEST SUFFOLK DIVISION.

A MEETING of the West Suffolk Division was held at the Angel Hotel, Bury St. Edmunds, on April 23rd, when Dr. GRACE M. G. GRIFFITH was in the chair.

After dinner Sir THOMAS HORDER opened an informal discussion on the most useful methods of supplementing clinical diagnosis. He emphasized the importance of ordinary clinical examination, pointing out that its methods were by no means exhausted yet, and that there was still possibility of discovering fresh and important signs of disease. He alluded to some mechanical aids to diagnosis, such as the electric auroscope, ophthalmoscope, and sigmoidoscope, and expressed the doubt whether sufficient advantage was taken of the assistance afforded by these instruments. He discussed in some detail the uses of radiography, and the necessity for close co-operation between the practitioner and radiographer if the value of radiographic findings was to be properly assessed. Passing to pathological and bacteriological investigations, Sir Thomas laid stress on the necessity for close co-operation between the clinician and the laboratory worker, mentioning the pitfalls which resulted from its absence.

In the discussion which ensued Drs. A. H. BYGOTT, H. G. KILNER, R. H. WILKIN, and B. E. A. BATT took part.

On the motion of Dr. HINNELL a hearty vote of thanks was accorded to Sir Thomas Horder with acclamation.

The evening was a most successful one and was thoroughly appreciated by all who attended.

Sir THOMAS HORDER, who has recently consented to act as consulting physician to the West Suffolk General Hospital, visited the hospital on April 24th. Nineteen doctors attended in response to the invitation of the committee and medical staff to all practitioners in West Suffolk to attend. Sir Thomas gave a most interesting and instructive demonstration on selected cases from the wards, which lasted until 1 o'clock, and which was much appreciated by all present.

BOOKS ADDED TO THE LIBRARY.

THE following books were received during February and March, 1927:

Annals of Medical History. Volume VIII, Part 4. 1926.
Arvedson: Medical Gymnastics and Massage. Second edition. 1925.
Atzler, E.: Körper und Arbeit. 1927.
Baker, J. R.: Sex in Man and Animals. 1926.
Barker, L. F., and Cole, N. B.: Rheumatism: its Meaning and Menace. 1926.
Berman, L.: The Personal Equation. 1925.
Bose, L.: Scientific and Other Papers. Volume 2. 1925.
Bousfield, P.: Pleasure and Pain. 1926.
Bowers: Manual of Psychiatry. 1925.
Bowes, P. K.: X-Ray Apparatus. 1926.
Brown, L., and Sampson, H. L.: Intestinal Tuberculosis. 1926.
Cameron and Hewitt: Difficult Labour. 1926.
Cantonnet, A.: l'Ionisation de l'Oeil. 1927.
City of London Hospital for Diseases of the Chest. Pharmacopoeia. 1926.
Corscaden, J. A.: History Taking and Recording. 1926.
Cumston, C. G.: The History of Medicine. 1926.
Das, J. L.: Manual of Hygiene. 1926.
Eagleton, W. P.: Cavernous [illegible] 1926.
Edgar: Practice of Obstetric
Edinburgh Obstetrical Societ 46. 1926.
Emanuel, F. G.: Auricular
Emil-Behnke: Singers and Their Difficulties. 1926.
Evans, F. A.: Pernicious Anaemia. 1926.
Far Eastern Association of Tropical Medicine. Transactions. Sixth Congress, Tokyo. Volume II. 1925.
Finnemore, H.: The Essential Oils. 1926.
Geddes, P., and Thomson, J. A.: Biology. 1925.
Gibson, A. G.: The Heart. 1926.
Gray, A.: Synopsis of Gynaecology. 1925.
Griffin, F. W. W.: The Quest of the Boy. 1927.
Harrison, L. W.: *Diagnosis and Treatment of Venereal Diseases.* Third edition. 1926.
Hollender and Cottle: Physical Therapy in Diseases of the Eye, Ear, Nose and Throat. 1926.
Jackson, C. M.: Inanition and Malnutrition. 1925.
Janet: Psychological Healing. Two volumes. 1925.
Jaquerod, M.: The Natural Processes of Healing in Pulmonary Tuberculosis. 1926.
Jaubert, L.: La Cure de Soleil. 1926.
Jellett, H.: Short Practice of Midwifery for Nurses. Seventh edition. 1925.
Journé, M.: Précis de Pathologie Médicale. Second edition. 1926.
Kennedy, A. M.: Medical Case-Taking. 1926.
Kerr, James: The Air We Breathe. 1926.
Kohn, H.: Angina Pectoris. 1926.
Laird, J.: Our Minds and their Bodies. 1926.
Leahy, M. P.: The Mind in Disease. 1926.
Lectures on the Teaching of Midwifery. 1926.
Leven, G.: l'Aerophagie. Second edition. 1926.
Mackenzie, Sir L.: The Child at School. 1926.
Magill, Sir J.: The Red Cross. 1926.
Matthes: Differential Diagnosis. 1925.
Mayo Clinic and Mayo Foundation. Collected papers. Volume 17. 1925.
Medical Views on Birth Control. Marchant, et al. 1926.
Menetrier, P.: Cancer Généralités. 1926.
Miller, E.: Types of Mind and Body. 1926.
Mottram, V. H.: The Functions of the Body. 1926.
Palmer: Lessons in Massage. Sixth edition. 1926.
Parsons, Sir J. H.: Diseases of the Eye. Fifth edition. 1926.
Pasteur-Valery-Radot: Œuvres de Pasteur. Tome IV. 1926.
Plaquet: The Language and Thought of the Child. 1926.

Pryde: Recent Advances in Biochemistry. 1926.
Redding, J. M.: X-Ray Diagnosis. 1926.
Richmond, W.: The Adolescent Girl. 1925.
Riddell, J. R.: Medical Electricity and Radiology. 1926.
Rignano, E.: Man not a Machine. 1926.
Sauer, L. W.: Nursery Guide. 1926.
Stoddart, W. H. B.: The Mind and its Disorders. Fifth edition. 1926.
Thomson, A. J. Miles: A Manual of Surgery. Three volumes. Seventh edition. 1926.
Thorpe and Whiteley: Organic Chemical Analysis. 1926
Troup, W. A.: Ultra-Violet Rays in General Practice. 1926.
Tyson, W. J.: Medical Notes. 1926.
Vaquez, H.: Diseases of the Heart. 1925.
Voronoff, S.: A Study of Old Age and My Method of Rejuvenation. 1926.
Walker, K.: The Enlarged Prostate. 1926.
Wentworth: W. W.: Individual Differences in the Intelligence of School Children. 1926.
Wilson, T. S.: Thought Transference. 1926.

Correspondence.

Ophthalmic Benefit.

SIR,—I am now able to supplement my figures of October last (SUPPLEMENT, October 23rd, 1926, p. 186), and to give an analysis of 100 consecutive cases examined by me under the ophthalmic benefit scheme, sent by societies known by me to be sending all their claimants direct to an ophthalmic surgeon.

We have been told that 95 per cent. of these ophthalmic benefit cases are simple uncomplicated refractions that can be dealt with by any competent refractionist, and that the societies are wasting funds in referring such to us.

My figures show that with a liberal interpretation only 48 come under this category—that is, in these, with reasonable care, proper glasses might have been ordered by anyone treating the eye as a piece of mechanism; 32 others proved to be difficult refraction cases, many of these demanding a cycloplegic or mydriatic to enable one to prescribe with any confidence or to desist from prescribing. This number includes several cases that had already had wrong glasses ordered by qualified opticians, and also 11 cases in which the correct advice was to dispense with glasses altogether or to continue without a change. It would be interesting to know what percentage of uncomplicated refraction cases, referred direct to opticians by societies that adopt this method, are sent back with the verdict "no glasses required," or "no change in present glasses." To refer all cases to those whose interest it is to sell glasses seems to be a mistaken policy.

The remaining 20 cases were altogether unsuitable for "optical" treatment, being complicated, including injury (3), early cataract (5), conjunctivitis (4), and one each of miner's nystagmus, neurasthenia, toxic amblyopia, cysts, vitreous haemorrhage, macula disease, quiet cyclitis, and meningitis.

Thus it was greatly to the benefit of the patient, and probably also to the financial advantage of the societies, that 52 per cent. of ophthalmic benefit cases so presented themselves. The chief defect of the scheme, however, remains. We do not get any of the acute cases of eye disease, as the necessary (?) delay of some three weeks before a consultation can be arranged cannot be allowed. It is thus not a consultation service in the ordinary acceptance of that term.—I am, etc.,

A. CHRISTIE REID, M.D., D.O.Oxon.

Nottingham, April 15th.

Anaesthetic Fees.

SIR,—Dr. Brackenbury having stated that he never gave any pledge or made any bargain in consequence of which panel practitioners were given a capitation fee larger than the Minister of Health had previously been willing to grant, it would be interesting to hear his views on the grievance I have been permitted to ventilate. I venture to submit for the consideration of the Insurance Acts Committee the necessity of framing some definite regulation which, if complied with both in the letter and in the spirit, would make its application by any Panel Committee binding, instead of being, as at present, dependent upon the caprice of its members. In cases admitted to any hospital to which all medical men practising in the same district have perfect freedom of access, there can be no reasonable objection to payment of anaesthetic fees being made to its staff. Such hospitals are few and far between, and the money paid out in anaesthetic fees would be such a very small proportion of the general capitation fund available for distribution amongst panel practitioners in the county as to make any individual loss incurred unworthy of notice. At the same time it would, to a little extent, help to remove the grievance I have complained of and which is shared by a large number of practitioners, who have preferred to remain silent when they might have urged upon those in whose hands lies the removal of the grievance—I mean the Insurance Acts Committee—the necessity of considering the matter by joining me in publicly protesting against its existence.—I am, etc.,

D. W. STANDLEY.

Greenhithe, April 22nd.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

Surgeon Commanders R. Willan to the *Excellent* temporary; H. B. Hill to the *President* for three months' post-graduate course.

Surgeon Lieutenant Commander J. C. Sinclair has been promoted to the rank of Surgeon Commander.

Surgeon Lieutenant Commanders J. F. Ainley to the *Iron Duke*, temporary; A. W. Cocking to the *Canterbury*, temporary; B. S. Collings to the *Revenge*, temporary, for Invergordon Hospital, and to the *Canterbury*; T. N. D'Arcy to the *President* for three months' post-graduate course; J. T. M. Campbell to the *Defiance*; K. A. I. Mackenzie to the *Victory* for P. and R.T. School, Portsmouth.

Surgeon Lieutenants G. Phillips to the *Clematis*; R. R. Baker to the *Pembroke* for Royal Marines Infirmary, Chatham; A. G. L. Brown, D.S.C., to the *Campbell*; M. Brown to the *Britannia* for R.N. Sick Quarters, Dartmouth.

ROYAL ARMY MEDICAL CORPS.

Major John R. P. Allin, M.C., to be temporary Captain and temporarily relinquishes the rank of Major.

The following Captains to be Majors: R. B. Myles, O.B.E., G. W. Rose (prov.), J. T. McConkey (prov.), R. McKinlay.

To be temporary Lieutenants: D. J. Allan, G. M. Cooper.

ROYAL AIR FORCE MEDICAL SERVICE.

The following Flight Lieutenants are promoted to the rank of Squadron Leader: T. R. S. Thompson, R. S. Topham.

INDIAN MEDICAL SERVICE.

The Hon. Major-General T. H. Symons, C.S.I., O.B.E., K.H.S., Director-General, I.M.S., is granted leave on average pay for six months, and Major-General A. Hooton, C.I.E., K.H.P., Surgeon-General, Bombay, is appointed to officiate as Director-General, Indian Medical Service, during his absence.

Lieut.-Colonel A. Whitmore has retired.

REGULAR ARMY RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

Colonels E. T. Inkson, V.C., D.S.O., and B. Watts, D.S.O., late R.A.M.C., and Captain R. M. Le H. Cooper, having attained the age limit of liability to recall, cease to belong to the Reserve of Officers.

Captain G. T. Baker, M.C., relinquishes his commission and retains the rank of Captain.

TERRITORIAL ARMY.

ROYAL ARMY MEDICAL CORPS.

Captain G. R. Dobrashian to be temporary Captain and temporarily relinquishes the rank of Captain.

C. F. Mayne, O.B.E., late Surgeon Lieutenant, R.N., to be Captain, with precedence as from October 26th, 1924.

Supernumerary for Service with the O.T.C.—Major H. H. Woollard resigns his commission.

COLONIAL MEDICAL SERVICES.

Dr. K. A. T. Martin appointed Medical Officer of Health for Naivasha, Nakuru, Uasin Gishu, and Trans-Nzioa Districts, and Nakuru, Eldoret, and Kitale Townships, Kenya. Dr. M. E. O'Dea, Director, Medical and Sanitary Services, Medical Department, Gold Coast, has retired on pension. Dr. J. Jackson-Moore, Senior Medical Officer, Nigeria, has been invalided from the service. Dr. D. W. G. Faris appointed Health Officer, Malayan Medical Service. Drs. J. N. Hay and A. G. Coia appointed Assistant Government Medical Officers, British Guiana. Drs. W. Chisholm and H. S. Townsend appointed Medical Officers, Medical Department, Gold Coast. Dr. J. S. Oliphant appointed Medical Officer, Nigeria. Dr. W. H. Hart promoted Senior Medical Officer, Pahang, F.M.S. Dr. P. A. T. Sneath has resigned his appointment as Medical Officer of Health, Gold Coast. Drs. J. W. Graham, J. H. McDonald, and I. Sanderson transferred from Kigoma to Dar-es-Salaam, Dar-es-Salaam to Lindi, and Singida to Kigoma, Tanganyika, respectively.

VACANCIES.

BOLTON EDUCATION COMMITTEE.—Assistant Medical Officer of Health and Assistant School Medical Officer. Salary £600 per annum.

BRIGHTON: ROYAL ALEXANDRA HOSPITAL FOR SICK CHILDREN.—Honorary Physician.

BURTON-ON-TRENT COUNTY BOROUGH.—Assistant Medical Officer of Health, etc. Salary £600 per annum.

CARDIFF CITY MENTAL HOSPITAL, Whitchurch.—Resident Clinical Assistant (male). Honorarium 50 guineas for six months.

CENTRAL LONDON THROAT, NOSE AND EAR HOSPITAL, Gray's Inn Road, W.C.1.—(1) Assistant Out-patient Registrar. (2) Second Resident House-Surgeon (male); salary at the rate of £75 per annum.

CHARING CROSS HOSPITAL, W.C.2.—(1) Physician to Children's Department. (2) Obstetric Registrar.

CROYDON COUNTY BOROUGH.—Assistant Medical Officer of Health and Assistant School Medical Officer. Salary £600 per annum.

CROYDON GENERAL HOSPITAL.—Junior Surgeon.

CYPRUS: SPECIALIST IN VENEREAL DISEASES.—Salary £700 per annum.

DUDLEY COUNTY BOROUGH.—Assistant School Medical Officer and Assistant Medical Officer of Health (male). Salary £600 per annum, rising to £650.

ELIZABETH GARRETT ANDERSON HOSPITAL, Euston Road, N.W.1.—(1) House-Physician. (2) Obstetric Assistant. (3) Two House-Surgeons. Women. Salary at the rate of £50 per annum.

HEREFORDSHIRE GENERAL HOSPITAL, Hereford.—Resident House-Physician. Salary £100 per annum.

HONG-KONG.—Medical Officer of Health. Salary £750-25-£1,000 per annum.

HUNGERFORD AND RAMSBURY UNION.—District Medical Officer. Salary £60 per annum, and vaccination fees.

LEEDS: ST. JAMES'S HOSPITAL.—House-Physicians and Surgeons. Salary £200 per annum.

LIVERPOOL: ST. PAUL'S EYE HOSPITAL.—Honorary Assistant Surgeon.

LONDON JEWISH HOSPITAL, Stepney Green, E.1.—(1) Resident Medical Officer. (2) Junior Resident Medical Officer. Salary at the rate of £150 and £100 per annum respectively.

MORLEY BOROUGH.—Medical Officer of Health and School Medical Officer. Salary £800 per annum.

NORFOLK AND NORWICH HOSPITAL, Norwich.—(1) Two Honorary Ophthalmic Surgeons. (2) House-Surgeon to the Special Departments (male); salary £120 per annum.

NORTH MIDDLESEX HOSPITAL, Edmonton.—Male Resident Medical Officer. Salary £200 per annum.

PADDINGTON BOARD OF GUARDIANS.—Assistant Medical Officer (male) for outdoor relief medical services. Remuneration £330 per annum.
ROYAL FREE HOSPITAL, Gray's Inn Road, W.C.1.—Resident Anaesthetist.
RYDE: ROYAL ISLE OF WIGHT COUNTY HOSPITAL.—Anaesthetist. Salary £100 per annum.
ST. BARTHOLOMEW'S HOSPITAL MEDICAL COLLEGE, E.C.1.—Lecturer on Pharmacology and Therapeutics.
SALFORD ROYAL HOSPITAL.—Medical Registrar. Salary £200 per annum.
SHEFFIELD ROYAL HOSPITAL.—Resident Anaesthetist (male).
SOUTH EASTERN HOSPITAL FOR CHILDREN, Lower Sydenham, S.E.26.—Resident Medical Officer (female). Salary at the rate of £100 per annum.
STAMFORD, RUTLAND, AND GENERAL INFIRMARY.—House-Surgeon. Salary £150 per annum.
STIRLING DISTRICT MENTAL HOSPITAL.—Second Assistant Medical Officer (male). Salary £275 per annum.
STOKE-ON-TRENT: NORTH STAFFORDSHIRE ROYAL INFIRMARY.—House-Physician. Salary £150 per annum.
SUDAN GOVERNMENT.—(1) Assistant Bacteriologist at the Wellcome Tropical Research Laboratories, Khartoum (unmarried). Salary £720 per annum, rising to £1,200. (2) Laboratory Assistant (unmarried). Salary £324 per annum.
WEST LONDON HOSPITAL, Hammersmith Road, W.6.—(1) Assistant Physician. (2) Honorary Medical Radiologist (Diagnosis).
WESTERN OPHTHALMIC HOSPITAL, Marylebone Road, N.W.1.—Honorary Assistant Surgeon. Honorarium 100 guineas per annum.
WOOLWICH AND DISTRICT WAR MEMORIAL HOSPITAL, Shooters' Hill.—(1) Honorary Surgeon. (2) Honorary Assistant Surgeon. (3) Honorary Physician. (4) Honorary Assistant Physician. (5) Radiologist.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.

APPOINTMENTS.

IDRIS, T. H. W., L.M.S.S.A., Certifying Factory Surgeon for the Porlock District, co. Somerset.
IRONSIDE, Redvers N., M.B., M.R.C.P., Assistant Physician to the Hospital of SS. John and Elizabeth, St. John's Wood.
MCLAY, Kenneth, M.D., D.P.H., Medical Referee under the Workmen's Compensation Act, 1925, for Selkirk County, vice J. M. Menzies, M.D.Edin., deceased.
OLDERSHAW, Hubert L., M.B., B.S., D.P.H., Assistant Medical Officer of Health to the West Bromwich Town Council.
WILLIAMS, R. Lester, M.A., M.B., B.Ch.Camb., F.R.C.S.Eng., Surgical Registrar at the London Lock Hospital, Dean Street
YOUNG, William Arthur, M.B., B.S.Lond., Pathologist to the Institute of Medical Research, Kuala Lumpur, Federated Malay States.

DIARY OF SOCIETIES AND LECTURES.

ROYAL SOCIETY OF MEDICINE.

Section of Orthopaedics.—Tues., 5.30 p.m., Annual General Meeting. Mr. Norman D. Royle (Sydney University): The Treatment of Spastic Paralysis by Sympathetic Ramisection (illustrated by "Kodascope" projector).
Section of Tropical Diseases and Parasitology.—Wed., 5.30 p.m., Annual General Meeting. Dr. P. Y. Lampe: *Schistosoma mansoni* in Surinam (communicated by Dr. J. B. Christopherson).
Section of Laryngology.—Fri., 4 p.m., Cases. 5 p.m. Annual General Meeting. Dr. W. Jobson Horne: An Epidiascopic Demonstration of Chronic Hypertrophic Laryngitis, with Some Observations on the Treatment. Cases and Specimens.
Section of Anaesthetics.—Fri., 8.30 p.m., Annual General Meeting.
Section of Otology.—Sat., 9.15 a.m., Annual General Meeting. Immediately after Members will proceed to the North-Eastern Fever Hospital, St. Anne's Road, Tottenham, when demonstrations of radiography of the mastoid in children, treatment by artificial sunlight, etc., will be given. Transport is being arranged to and from the hospital.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W.1.—Tues. and Thurs., 5 p.m., Oliver-Sharpey Lectures by Dr. C. Gordon Douglas, C.M.G., F.R.S.: The Co-ordination of the Respiration and Circulation with Variations in Bodily Activity.

POST-GRADUATE COURSES AND LECTURES.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION.—*Royal London Ophthalmic Hospital:* Tues., 1 p.m., Demonstration. Free to members of the medical profession. *Royal Free Hospital*, Gray's Inn Road, W.C.: Wed., 5 p.m., Demonstration; 5.15 p.m., Lecture Demonstration. *Royal Waterloo Hospital*, Waterloo Road, S.E.: Comprehensive Course in Medicine, Surgery, and Gynaecology. *London School of Tropical Medicine*, Endsleigh Gardens, N.W.: Tues. and Thurs., Lecture Demonstrations. *Maudsley Hospital*, Denmark Hill, S.E.5: Afternoons only, Special Course in Psychological Medicine. *London Lock Hospital*, Dean Street, W.1.: Comprehensive Course, Clinical Teaching in Out-patient Department and Formal Lectures. *All Saints' Hospital*, Vauxhall Bridge Road, S.W.: Afternoons and evenings, Demonstrations, including Cystoscopies and Lectures. All information as to fees, etc., obtainable from the Fellowship of Medicine, 1, Wimpole Street, W.1.
ROYAL NORTHERN HOSPITAL, Holloway Road, N.—Tues., 3.15 p.m., Pathology and Treatment of Chronic Suppurative Arthritis.
LONDON SCHOOL OF DERMATOLOGY, St. John's Hospital, Leicester Square, W.C.2.—Tues., 5 p.m., Pyogenic Infections of the Skin. Thurs., 5 p.m., Acne Vulgaris.
NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Mon., 2.30 to 5 p.m., Medical, Surgical, and erations. Tues., 2.30 to 5 p.m., Medical, i Ear Clinics; Operations. Wed., 2.30 to ye Clinics; Operations. Thurs., 11.30 a.m., m., Medical, Surgical, and Ear, Nose, and Fri., 10.30 a.m., Throat, Nose, and Ear Clinics; 2.30 to 5 p.m., Surgical, Medical, and Children's Diseases Clinics; Operations.
ST. MARY'S HOSPITAL INSTITUTE OF PATHOLOGY AND RESEARCH, Paddington, W.2.—Thurs., 5 p.m., Lecture: Experimental Researches on the Nature of the Bacteriophage.
GLASGOW POST-GRADUATE MEDICAL ASSOCIATION.—At Royal Infirmary: Wed., 4.15 p.m., Medical Cases.
JAMES MACKENZIE INSTITUTE FOR CLINICAL RESEARCH, St. Andrews.—Tues., 4 p.m., The Circulation in Capillaries.
MANCHESTER ROYAL INFIRMARY.—Tues., 4.15 p.m., Haemorrhoids. Fri., 4.15 p.m., Demonstration of Medical Cases.

British Medical Association.

OFFICES, BRITISH MEDICAL ASSOCIATION HOUSE, TAVISTOCK SQUARE, W.C.1.

Departments.

SUBSCRIPTIONS AND ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate Westcent, London).
MEDICAL SECRETARY (Telegrams: Mediscera Westcent, London).
EDITOR, *British Medical Journal* (Telegrams: Aitiology Westcent, London).
Telephone numbers of British Medical Association and British Medical Journal, Museum 9861, 9862, 9863, and 9864 (internal exchange, four lines).
SCOTTISH MEDICAL SECRETARY: 6, Drumsheugh Gardens, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.: 4361 Central.)
IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Telegrams: Bacillus, Dublin. Tel.: 4737 Dublin.)

Diary of the Association.

MAY.

2 Mon. Brighton Division: Haywards Heath Mental Hospital, 3.45 p.m.
Hereford Division: Annual Meeting, 20, East Street, Hereford, 3.15 p.m.
3 Tues. London: Psycho-Analysis Committee, 3 p.m.
City Division: Metropolitan Hospital, Kingsland Road, E. Dr. H. C. Lucey on Clinical Pathology, 9.30 p.m.
Dewsbury Division: Annual Meeting, Man and Saddle Restaurant, Dewsbury, 8.15 p.m.
Newcastle-on-Tyne Division: 7, Windsor Terrace, Newcastle-on-Tyne, 8.30 p.m.
South-West Essex Division: Claybury Mental Hospital, Woodford Bridge, 3.30 p.m.
West Somerset Branch: Taunton and Somerset Hospital, 4.15 p.m.
4 Wed. Blyth Division: Old Brewery House, Bedlington.
Bournemouth Division: Annual Meeting, St. Peter's Small Hall, 4.15 p.m.
Chichester and Worthing and Horsham Divisions: Dolphin Hotel, Chichester, 6.15 p.m. Dinner, 7.30; afterwards discussion on Operative Treatment of Fractures.
Croydon Division: Annual Meeting, Croydon General Hospital, 3.30 p.m., followed by Clinical Meeting.
Harrogate Division: Annual Meeting, Imperial Café, Harrogate, 3.30 p.m.
Lanarkshire Division: Annual Meeting, 242, St. Vincent Street, Glasgow, 3 p.m.
South Middlesex Division: St. John's Hospital, Twickenham, 8.15 p.m.
5 Thurs. London: Science and Insurance Acts Committees' Joint Research Subcommittee, 2 p.m.
Guildford Division: Clinical Meeting, Royal Surrey County Hospital, Guildford, 4 p.m.
Portsmouth Division: Annual Meeting, Queen's Hotel, Southsea, 9 p.m.
6 Fri. London: Lunacy Law and Administration Committee, 2.30 p.m.
7 Sat. Banff, Moray, and Nairn Division: Annual Meeting, Commercial Hotel, Keith. Luncheon, 2 p.m.; Meeting immediately afterwards.
11 Wed. London: Puerperal Morbidity and Mortality Subcommittee, 3.30 p.m.
Portsmouth Division: Annual Dinner, Queen's Hotel, Southsea. Sir StClair Thomson on the London Physician in the Eighteenth Century, 8 p.m.
Reigate Division: Annual Meeting, East Surrey Hospital, Reigate, 4 p.m.
12 Thurs. Hampstead Division: Central Library, Finchley Road. Dr. R. A. O'Brien on Immunity to Diphtheria and Scarlet Fever by means of Toxin-antitoxin, 8.30 p.m.
Winchester Division: Linden House, Romsey. Discussion on the Association of Herpes and Varicella, 3.30 p.m.
13 Fri. London: Public Health Committee, 2.30 p.m.
17 Tues. London: Central Ethical Committee, 2 p.m.
18 Wed. London: Medico-Political Committee, 2.30 p.m.
South-Western Branch: Liskeard.
19 Thurs. Guildford Division: Discussion on Clean Milk.
25 Wed. London: Finance Committee, 2.30 p.m.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcement of Births, Marriages, and Deaths is 9s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

MARRIAGES.

CLAUSEN—LENNANE.—On Thursday, April 21st, Raymond John Clausen, M.B., B.S., to Elsie Edith Lennane, L.D.S.
CROSTHWAITE—MANNERS.—On April 19th, 1927, at St. Joseph's, Gateshead-on-Tyne, Bertie Crosthwaite, M.R.C.S., L.R.C.P.Lond., Gilpin House, Houghton-le-Spring, to Mary Manners, M.B., B.S.Dunelm, 169, Whitehall Road, Gateshead-on-Tyne.
JOHNSTON—MOORE.—On April 12th, at Buncrana Presbyterian Church, by the Rev. C. H. Shaw, B.A., Henry W. Johnston, M.B., B.Ch.Belf., of West Lodge, Leominster, Hereford, younger son of Mr. and Mrs. T. Johnston of Cuil-na-Greine, Buncrana, to Phyllis Dorothy Skipton, second daughter of Mr. and Mrs. W. Moore of Dunottar, Buncrana, co. Donegal.
LOCKYER—MORTON.—On April 26th, 1927, at St. George's, Hanover Square, by the Rev. Canon Horsefield, D.D., and the Rev. Minos Devine, D.D., Cuthbert Lockyer, M.D., F.R.C.P., F.R.C.S., of Harley Street, W.1, to Violet Gwendoline Morton, second daughter of the late Dr. Augustus Charles Morton and Mrs. Morton, late of Aylsham, Norfolk.

DEATHS.

NICHOLLS.—On April 20th, Richard Hugh, aged 9 days, the infant son of Lieutenant Commander William and Dr. E. Grace Nicholls (*née* Wilkes), "Yew Tree," Stone Street, Petham, Canterbury, Kent.
SUTTON.—At "Blundell," Bishop's Castle, Salop, on April 8th, Emily Charlotte, wife of Thomas Seagrave Sutton, M.R.C.S., L.S.A., of Bishop's Castle.

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SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, MAY 14TH, 1927.

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SPECIAL NOTICE TO MEMBERS.

Every Member is requested to preserve this "Supplement," which contains matters specially referred to Divisions, until the subjects have been discussed by the Division to which he or she belongs.

MATTERS REFERRED TO DIVISIONS.

British Medical Association.

ANNUAL REPRESENTATIVE MEETING, EDINBURGH, 1927.

THE Annual Representative Meeting of the British Medical Association will be held in Edinburgh on Friday, July 15th, 1927, and the following days as may be necessary.

RESOLUTIONS BY DIVISIONS AND BRANCHES FOR THE REPRESENTATIVE BODY, TOGETHER WITH RELEVANT RECOMMENDATIONS OF COUNCIL.

[NOTE.—*This includes only those Recommendations of the Council contained in the Annual Report to which Amendments or Riders have been sent in; also any Motions from Divisions and Branches, of which two months' notice must be given.*]

ORGANIZATION.

Remuneration of Members attending Council and Committee Meetings.

Motion by LANARKSHIRE: That the Council be instructed to take such steps as are necessary to secure that members attending meetings of Council and Central Committees be paid reasonable out-of-pocket expenses in addition to railway fares.

MEDICO-POLITICAL.

Consultations under Puerperal Pyrexia Regulations.

Motion by ST. PANCRAS (with reference to para. 113 of Annual Report of Council—see p. 147 of BRITISH MEDICAL JOURNAL SUPPLEMENT of April 23rd, 1927): (i) That the minimum fee payable to a recognized obstetric specialist for each consultation under the Puerperal Pyrexia Scheme be £3 3s. (excluding operative treatment) with reasonable additions for mileage to be mutually arranged with the local authorities; (ii) that the Representative Body is of opinion that the local authority should be empowered by the Ministry of Health to pay a reasonable fee to the general practitioner who meets in consultation an expert called in under the Puerperal Pyrexia Regulations; and (iii) that it be an instruction to the Council to take all possible steps to secure that these resolutions be made effective.

Remuneration of Assistants in General Practice.

Motion by SOUTH-EASTERN COUNTIES (EDINBURGH): That (with reference to para. 135 of Annual Report of Council—see p. 151 of BRITISH MEDICAL JOURNAL SUPPLEMENT of April 23rd, 1927) the words:

> "That in view of the fact that an assistantship is commonly to a young practitioner a continuation of his medical education and training, the value of which is variable and impossible to estimate, no definite figure can in these circumstances be fixed as a minimum salary, but in cases where the above consideration does not prevail and where the practices can afford it, the minimum commencing salary for a whole-time indoor assistant to a practitioner should be £240 per annum, etc. (as in para. (*d*))."

be substituted for the first three lines of following para. (*d*) of Minute 125 of the Representative Body, 1925:

> *Minute 125 (d).* Resolved: That the minimum commencing salary for a newly qualified inexperienced practitioner, acting as a whole-time indoor assistant to a practitioner, should be £240 per annum, with the addition of board and lodging, and in the case of such a practitioner employed on an outdoor basis the board and lodging value should be estimated at from £120 to £.60 per annum according to the circumstances of the individual case; that the only exceptions or possible exceptions to the foregoing should be in the case where, owing to arrangements made for study leave, or to physical disability or other reasons, the assistant is not able to give full time to the work.

Motion by ST. PANCRAS: That (with reference to para. 135 of Annual Report of Council—see p. 151 of BRITISH MEDICAL JOURNAL SUPPLEMENT of April 23rd, 1927) the following para. (*f*) of Minute 125 of the Annual Representative Meeting, 1925, be rescinded:

> *Minute 125 (f).* Resolved: That no steps should be taken for the present to make the foregoing expressions of opinion the policy of the Association, but they should be used for the assistance of the office in advising on points connected with the terms and conditions of the work of assistants. Where an advertisement is offered for insertion in the BRITISH MEDICAL JOURNAL in connexion with an assistantship not in accordance with the foregoing opinions, the attention of the advertiser should be drawn to them in the hope that the advertisement will be amended; but the advertisement should not, if otherwise eligible, be refused.

Administration of Anaesthetics.

Motion: That the following recommendation of Council (SUPPLEMENT, April 23rd, 1927, pp. 147–48, para. 117) be adopted:

> That the policy of the Association (as contained in the paragraphs relating to the administration of anaesthetics approved by the Representative Body in 1910, as part of the evidence given on behalf of the Association before the Departmental Committee on Coroners Law, etc.) be amended to read as follows:
>
> (1) That no person other than a registered medical practitioner should administer any anaesthetic for medical or surgical purposes, except that a registered dentist may administer anaesthetics for dental purposes only;
>
> (2) That where a general anaesthetic is administered it is undesirable that any person should act both as operator and administrator in the same case where this can be avoided, but it must be recognized that cases occur in practice, especially in sparsely populated districts, in which this responsibility must occasionally be undertaken.

Amendment by WILLESDEN: That it is not advisable for the Representative Body to express any additional opinion as to the administration of anaesthetics by dentists.

Amendment by ST. PANCRAS: That the word "anaesthetics" in the fourth line of para. (1) of the Recommendation of Council be deleted and the words "nitrous oxide" substituted therefor.

Remuneration of Practitioners called in on Advice of Midwives.

Motion by DARTFORD: That the Council be instructed to take steps to secure a fee of £3 3s. in place of the existing fee of £2 2s. payable by local authorities to medical practitioners called in on the advice of midwives "for all attendances of a doctor at parturition (i.e., from the commencement of labour until the child is born) whether operative assistance or not is involved, including all subsequent visits during the first ten days, inclusive of the day of birth."

General Medical Council.

Motion by BOURNEMOUTH: That the existing representation, power, and procedure of the General Medical Council need careful revision in order that they may comply more precisely with the changed conditions of medical practice, and that this be remitted to the Council for consideration and report.

PUBLIC HEALTH.

Vaccination Propaganda.

Motion by SOUTHPORT: That the Council be asked to arrange with the Society of Medical Officers of Health that, in areas where cases of small-pox are known to exist, special propaganda work for vaccination should be organized.

NATIONAL HEALTH INSURANCE.

Extended Benefits under the National Health Insurance Acts.

Motion by MARYLEBONE: That the Council be requested to urge the Ministry of Health to provide for extended benefits under the National Health Insurance Acts.

British Medical Association.

CURRENT NOTES.

The Medical Secretary in Ireland.

THE Medical Secretary has recently spent ten days in a visit to the Irish Branches. He began with the Ulster Branch on April 29th, meeting some of the prominent members of the profession at a lunch in Belfast, on the invitation of Dr. R. W. Leslie. This was followed by a successful Branch meeting attended by members from all over Ulster, and in the evening there was a dinner at the invitation of Dr. J. S. Morrow, O.B.E., President of the Branch. Further details will probably be reported by the Branch Secretary, but the impression left on the Medical Secretary's mind was one of strong loyalty to the Association, activity on the part of the Branch, and the likelihood of closer organization of some of the Divisions.

On Tuesday, May 3rd, a meeting of the Munster Branch was held at Cork, under the chairmanship of Dr. W. Rahilly, President of the Branch. The meeting was an excellent one, a special feature being the attendance of a large number of students. It is very probable that the Branch will now resume its former activities, which were suspended owing to circumstances which made it impossible to hold successful meetings. Moreover, as the old Cork Medical Society is now defunct, it is probable that the Branch will become a really active centre for scientific work. The meeting was preceded by a dinner, at which the Medical Secretary and the Irish Medical Secretary (who accompanied Dr. Cox throughout his tour) were the guests. On Wednesday, May 4th, a meeting of the South-Eastern Branch was held at Kilkenny, under the chairmanship of Dr. James P. Barry, President. The meeting was well attended and the discussion which took place led to the belief that the Branch proposes to pursue more actively the social and scientific aims of the Association. On Thursday, May 5th, there was a meeting at Dublin of the Leinster Branch Council, followed by a meeting of the Branch, both under the chairmanship of Sir William Wheeler, in the absence of the President, Dr. Ninian Falkiner. The meeting was very well attended and a good discussion took place as to the future programme of the Branch. The Branch Council was instructed to take the various suggestions made into consideration. The Medical Secretary was the guest of the Branch Council at dinner in the evening at the Shelbourne Hotel. On Friday, May 6th, the Irish Committee met at noon under the chairmanship of Dr. John Mills of Ballinasloe, and the attendance was a thoroughly representative one. The Medical Secretary and Dr. Hennessy laid before the Committee certain proposals arising out of their visits to the Branches, and the work of the Association in Ireland was passed under general review. After the meeting the members of the Committee and Dr. Cox were the guests of the Irish Medical Secretary at a luncheon at the Hibernia Hotel.

The general impression left on the Medical Secretary's mind after his visit was that the profession in Ireland is very favourable to the Association, and recognizes that it is the one body capable of effectively organizing the Irish medical profession. Though the doctors in Northern Ireland and in the Free State have necessarily to deal with different Governments, there is no line of demarcation between the profession in the two parts of Ireland, and the desire to support the Association's Irish Committee as the bond of union between the two sections was very warmly expressed.

On all hands Dr. Cox heard of the regret which is felt at Dr. Hennessy's decision not to stand at the forthcoming general election for re-election to the Dail. This regret is not confined to members of the medical profession, for prominent members of the Free State Government told the Medical Secretary that Dr. Hennessy had been a most useful member of the Dail and would be greatly missed. The Irish Medical Secretary, however, finds that the strain of attending to the work of the Irish office, with the necessary travelling, combined with the work of the Dail, is too much for him.

Association Notices.

TABLE OF DATES.

May 28, Sat.	Publication in SUPPLEMENT of results of election of members of Council by grouped Branches, and of election of members of Council and Representatives in Representative Body by Public Health Service members. Nomination papers available (at Head Office) for election of 12 members of Council by grouped Representatives (British Isles).
June 2, Thurs.	Last date for receipt at Head Office of names of Representatives and Deputy Representatives.
June 8, Wed.	*Council.*
June 16, Thurs.	Meetings of constituencies must be held between this date and July 15th, to instruct Representatives.
June 25, Sat.	Supplementary Report of Council appears in SUPPLEMENT.
July 1, Fri.	Amendments and riders by Divisions and Branches for inclusion in A.R.M. Agenda must be received at Head Office by this date.
July 15, Fri.	*Annual Representative Meeting*, Edinburgh, 10 a.m. Nominations for election of 12 members of Council by grouped Representatives must be received (at A.R.M. Edinburgh) by this date, 2 p.m.
July 16, Sat.	*A.R.M.* (Edinburgh).
July 18, Mon.	*Council* (Edinburgh). *A.R.M.* (Edinburgh).
July 19, Tues.	*A.R.M.* Annual General Meeting, Edinburgh, President's Address.
July 20, Wed.	*Council* (Edinburgh). Conference of Honorary Secretaries (Edinburgh). *Meetings of Sections*, etc., Edinburgh.
July 21, Thurs.	*Meetings of Sections*, etc., Edinburgh.
July 22, Fri.	*Meetings of Sections*, etc., Edinburgh.

ALFRED COX, *Medical Secretary.*

BRANCH AND DIVISION MEETINGS TO BE HELD.

DORSET AND WEST HANTS BRANCH.—The annual meeting of the Dorset and West Hants Branch will be held at the Haven Hotel, Sandbanks, Poole, on Wednesday, May 18th, at 3 p.m. Agenda: To confirm appointment of officers for 1927, elected at October, 1926, meeting (*President*, Dr. Grey-Edwards; *Vice-Presidents*, Dr. Morse and Dr. Oliphant; *Honorary Secretary*, Dr. McCall); communications; reports from Branch and from Bournemouth and West Dorset Divisions; time and place of next meeting; the President will read a paper entitled "Medical incidents in the days of Smollett." The Poole members invite the visiting members to lunch at 1.30 at the Haven Hotel. Dr. Grey-Edwards invites members to tea after the meeting. Those intending to be present at lunch should intimate their intention not later than May 15th.

EAST YORK AND NORTH LINCOLN BRANCH: EAST YORKSHIRE DIVISION.—The annual general meeting of the East Yorkshire Division will be held at Bridlington on Friday, May 27th. Programme: 3 p.m.—The members will meet at the Priory Church and will be conducted over it by Canon Topham, after which the curator, Mr. Charlesworth, will show the party over the Bayle Gate and the museum. 4.15 p.m.—On adjourning to the board room of the Lloyd Hospital the business meeting will be held. Agenda: Annual report of the Executive Committee; financial statement; election of officers, representatives on the Branch Council, and Executive Committee. Tea will be provided by the hospital staff.

GLASGOW AND WEST OF SCOTLAND BRANCH.—The annual meeting of the Glasgow and West of Scotland Branch will be held in the Glasgow Western Infirmary on Tuesday, May 17th, at 3 p.m.; the officer-bearers for the ensuing year will be appointed.

LANCASHIRE AND CHESHIRE BRANCH: HYDE DIVISION.—The annual picnic of the Hyde Division will be held on Thursday, May 19th. Cars will meet at Mottram Moor (Gun Inn) at 11 a.m., and will proceed by "The Snake," Ashopton, and Bamford to "The Rising Sun," Hope, where lunch will be served. In the afternoon the famous mines at Castleton will be visited, returning to "The Rising Sun" for tea. Should the afternoon be wet the dancing hall of "The Rising Sun" has been kindly placed at the disposal of the party. In order to facilitate arrangements members proposing to take part in the picnic are requested to notify Dr. J. Gordon Macqueen, honorary secretary (34, Church Street, Hyde), by May 14th.

METROPOLITAN COUNTIES BRANCH: CITY DIVISION.—The next clinical afternoon arranged by the City Division will be held at the Metropolitan Hospital, Kingsland Road, E., to-day (Friday, May 13th), at 4.15; tea at 4 o'clock. Dr. E. Cautley will demonstrate cases.

METROPOLITAN COUNTIES BRANCH: HENDON DIVISION.—The next clinical meeting of the Hendon Division will be held in Hendon Cottage Hospital on Friday, May 20th, at 8.30 p.m. An address will be given on the recent outbreak of small-pox at Hendon by Dr. T. S. McIntosh, medical officer of health for Hendon Urban District Council.

METROPOLITAN COUNTIES BRANCH: KENSINGTON DIVISION.—A general meeting of the Kensington Division will be held at the Kensington Palace Mansions Hotel (Merrick Rooms), De Vere Gardens (opposite De Vere Hotel), W.8 (three minutes' walk from High Street Station), to-day (Friday, May 13th), at 8.45 p.m. Agenda: Election of representatives in Representative Body and nomination of officers for Branch Council; an address will be given by Dr. Julius Burnford, entitled "Types of pyrexia: a clinical study."

METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.—The annual meeting of the Lewisham Division will be held at the Town Hall, Catford, S.E.6, on Tuesday, May 17th, at 8.45 p.m. Dr. Robert Knox will read a paper on "The value of x rays in diagnosis," and give a lantern demonstration.

METROPOLITAN COUNTIES BRANCH: MARYLEBONE DIVISION.—The annual general meeting of the Marylebone Division will be held at 11, Chandos Street, W.1, to-day (Friday, May 13th), at 8 p.m.; the Annual Report of Council will be considered. A discussion on pathologists and pathological institutes will be opened by Dr. C. O. Hawthorne; Mr. W. G. Spencer, O.B.E., M.S., will open a discussion on the Dogs Bill, and Dr. E. Graham Little, M.P., will deal with the Landlord and Tenants Bill, with special reference to professional premises. Members are invited to attend in large numbers to take part in these discussions. The election of officers of the Division and nominations for representatives, deputy representatives, officers and members of the Branch Council will also take place.

METROPOLITAN COUNTIES BRANCH: SOUTH-WEST ESSEX DIVISION.—The annual general meeting of the South-West Essex Division will be held in the Wesleyan Schoolrooms, High Road, Leyton, on Tuesday, May 31st, at 3.30 p.m. Mr. A. J. Couzens will read a paper on personal experience of abdominal disease, mainly from the diagnostic standpoint.

METROPOLITAN COUNTIES BRANCH: WILLESDEN DIVISION.—The annual meeting of the Willesden Division will be held at St. Andrew's Church Hall on Wednesday, May 18th, at 9 p.m. Agenda: Correspondence and annual report; election of officers, representative on Branch Council, and Executive Committee. Dr. G. C. Anderson, the Deputy Medical Secretary, will be present and will speak on the year's work.

MIDLAND BRANCH: CHESTERFIELD DIVISION.—A meeting of the Chesterfield Division will be held at the Maternity Hospital, Chesterfield, on Friday, May 27th, at 8 p.m. Mr. A. M. Connell, professor of surgery in the University of Sheffield, will give an address on "Some of the injuries frequently met with in coal mining and their treatment by the general practitioner."

NORTH OF ENGLAND BRANCH: SUNDERLAND DIVISION.—A meeting of the Sunderland Division will be held at the Royal Infirmary, Sunderland, on Wednesday, May 18th, at 8.15 p.m. Dr. George Hall will give an address on "Encephalitis lethargica and its sequelae." All members of the Division are invited.

SHROPSHIRE AND MID-WALES BRANCH.—The fifty-second spring meeting of the Shropshire and Mid-Wales Branch will be held at the Royal Salop Infirmary on Tuesday, May 17th, at 3.30 p.m. Agenda: Election of President for 1927-28 (to take office in October); treasurer's financial statement; Annual Report of Council; arrangements for annual dinner. Tea will be provided by kind invitation of the President.

SOUTH MIDLAND BRANCH: BEDFORDSHIRE DIVISION.—A general meeting of the Bedfordshire Division will be held at the Bedford County Hospital to-day (Friday, May 13th), at 3 p.m. Agenda: Elect representative and deputy representative; medical charities; communication from head master of Luton Modern School re fees for medical examination of scholars; financing of the Medical Advisory Committee of the British Empire Cancer Campaign; Annual Report of Council (SUPPLEMENT to BRITISH MEDICAL JOURNAL for April 23rd). Tea will be provided.

SOUTH-WESTERN BRANCH.—A spring intermediate meeting of the South-Western Branch will be held at Webb's Hotel, Liskeard, on Wednesday, May 18th, at 2.30 p.m. Agenda:—Papers by Dr. A. B. Solteau: Treatment of primary anaemia; Dr. Wood (Penzance): Some experiments of a general practitioner; Dr. Eric Wordley: Treatment of septicaemia; Dr. F. G. Bushnell: Treatment of migraine and allied disorders; Surgeon-Commander A. B. Clark: Notes on a case of chicken-pox contracted from herpes. Tea will be provided.

SURREY BRANCH: GUILDFORD DIVISION.—At a combined meeting of the Guildford Division and the Veterinary Medical Association, Southern Counties Branch, to be held on May 19th, Professor Hobday will open a discussion on clean milk.

SUSSEX BRANCH: BRIGHTON DIVISION.—The next clinical meeting of the Brighton Division will be held at the Sussex Eye Hospital, on Wednesday, May 18th, at 3.45 p.m.

YORKSHIRE BRANCH: SHEFFIELD DIVISION.—The annual meeting of the Sheffield Division will be held at the Church House, St. James Street, Sheffield, to-day (Friday, May 13th), at 8.30 p.m. Agenda: Annual report of Executive Committee; election of chairman for ensuing year; vote of thanks to retiring chairman; election of other officers.

Correspondence.

State and Municipal Health Services.

SIR,—Although in no way wishing to enter upon a controversy which in my opinion would serve no useful purpose, I feel it my duty to reply to the letter of Dr. Murray Barrow which appeared in the SUPPLEMENT to the BRITISH MEDICAL JOURNAL for April 23rd, (p. 163). I think it would have been a good thing if your correspondent had verified his data before rushing into print. For instance, my staff, including the new assistant medical officer, comprises only two doctors, and not three. It is quite true that two additional health visitors have been appointed, but as the total health visiting staff, including these appointments, is only seven, I do not think that this can be considered lavish, in view of the fact that their work covers an area of 263,120 acres, with a population of 87,460. A large portion of this area is fenland, and communication between villages and towns is in many cases only by road, which means that health visitors have to cycle very long distances. I think, in fairness to the public services, Dr. Barrow should have informed you, Sir, that the announcement which was made in the local press with reference to the activities of the health department was also communicated by circular letter to every doctor in the county.

In spite, however, of Dr. Barrow's apparent antipathy to the public health services in the county, I can assure him that the assistance of my department will always be readily available to him should he require it.—I am, etc.,

H. C. JENNINGS,
County Medical Officer.

Boston, Lincs, May 3rd.

VACANCIES.

BIRMINGHAM: CHILDREN'S HOSPITAL.—(1) House-Physician. (2) House-Surgeon. (3) Casualty House-Surgeon. Salary at the rate of £100 per annum each.

BIRMINGHAM UNIVERSITY.—Assistant Lecturer in Physiology. Stipend £300 per annum.

BOLTON INFIRMARY AND DISPENSARY.—(1) Two House-Surgeons. (2) Assistant House-Surgeon. Salary for (1) £150 per annum and for (2) £100 per annum.

BOLTON UNION.—Second Assistant Medical Officer at the Townleys Hospital, Farnworth. Salary £225 per annum.

CANCER HOSPITAL, Fulham Road, S.W.3.—Two House-Surgeons. Salary at the rate of £100 per annum.

CHELTENHAM GENERAL AND EYE HOSPITALS.—House-Physician (male, unmarried) at the General Hospital. Salary £200 per annum.

CYPRUS.—Specialist in Venereal Diseases. Salary £700 per annum.

GREAT YARMOUTH GENERAL HOSPITAL.—House-Surgeon. Salary £150 per annum.

HAMPSTEAD GENERAL AND NORTH-WEST LONDON HOSPITAL, Haverstock Hill, N.W.3.—Physician to Out-patients.

HONG-KONG.—Medical Officer of Health. Salary £750-£25-£1,000 per annum.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.1.—Resident Medical Officer (unmarried) at the Branch Hospital, Tadworth Court. Salary at the rate of £250 per annum.

KEIGHLEY AND DISTRICT VICTORIA HOSPITAL.—Resident Medical Officer. Salary at the rate of £180 per annum.

KENSINGTON BOU[illegible] [illegible]ale Medical Secretary and Female Assista[illegible] Abbott's Hospital. Salary at the rate of [illegible]ctively.

LIVERPOOL STANLEY HOSPITAL.—(1) House-Surgeon (male). (2) Gynaecological House-Surgeon (female). Salary at the rate of £100 per annum.

LONDON JEWISH HOSPITAL, Stepney Green, E.1.—(1) Resident Medical Officer. (2) Junior Resident Medical Officer. Salary at the rate of £150 and £100 per annum respectively.

MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN.—(1) Senior House-Surgeon. (2) Junior House-Surgeon. Salary £130 and £100 per annum respectively.

MANCHESTER ROYAL INFIRMARY.—Honorary Assistant Aural Surgeon.

NEWARK HOSPITAL.—Resident House-Surgeon (male). Salary £200 per annum.

NEWCASTLE-UPON-TYNE: ROYAL VICTORIA INFIRMARY.—Honorary Assistant Surgeon.

NEWCASTLE-UPON-TYNE PARISH.—Resident Medical Officer at the Wingrove Hospital. Salary £250 per annum.

NORDRACH-ON-DEE SANATORIUM, Banchory.—Assistant Resident Medical Officer (male, unmarried). Salary £500 per annum.

QUEEN'S HOSPITAL FOR CHILDREN, Hackney Road, E.2.—Casualty Officer. Salary at the rate of £100 per annum.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.—(1) Hunterian Professor. (2) Arris and Gale Lecturer.

ROYAL FREE HOSPITAL, Gray's Inn Road, W.C.1.—(1) Assistant Surgeon to the Ear, Throat, and Nose Department. (2) House-Surgeon to the Senior

Surgeon and Surgeon in charge of the Ear, Throat, and Nose Beds. (3) Second House-Surgeon. (4) Third House-Surgeon. (5) First House-Physician. (6) Male Casualty Officer; salary £100 per annum. (7) Obstetric House-Surgeon. (8) Gynaecological House-Surgeon. (9) Second House-Physician. (10) Obstetric Assistant (District); £100 per annum.

SALISBURY: GENERAL INFIRMARY.—(1) Pathologist and Bacteriologist; income of £500 a year guaranteed for two years. (2) Honorary Assistant Surgeon.

TRURO: ROYAL CORNWALL INFIRMARY.—House-Surgeon. Salary £170 per annum.

UNIVERSITY COLLEGE HOSPITAL, Gower Street, W.C.1.—Surgeon on the Staff for Genito-urinary Diseases.

WEST HAM COUNTY BOROUGH.—Second Assistant Medical Officer (male) at the Plaistow Fever Hospital. Salary £300 per annum.

WEST LONDON HOSPITAL, Hammersmith Road, W.6.—Aural and Ophthalmic House-Surgeon and Assistant Resident Casualty Officer (male). Salary at the rate of £100 per annum.

WEST RIDING MENTAL HOSPITAL, Menston, near Leeds.—Junior Grade Assistant Medical Officer. Salary £400 per annum, rising to £500.

CERTIFYING FACTORY SURGEON.—The appointment at Sheerness (Kent) is vacant. Applications to the Chief Inspector of Factories, Home Office, Whitehall, S.W.1.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.

DIARY OF SOCIETIES AND LECTURES.

ROYAL SOCIETY OF MEDICINE.

General Meeting of Fellows.—Tues., 5.30 p.m., Ballot for Fellowship.

Section of History of Medicine.—Wed., 5 p.m., Annual General Meeting, Mr. J. Leveen: Shabbethai Donnolo; Dr. R. W. Innes Smith: An Unpublished Letter of John Fothergill.

Section of Dermatology.—Thurs., 4 p.m., Cases. 5 p.m., Annual General Meeting. Dr. Louis Savatard (Manchester): Ichthyoses and Cancer of the Skin, with Special F[illegible] Cancer. Cases.

Section of Obstetrics 8 p.m., Annual General Meeting. Paper, Mr [illegible] al Secretions of the Ovary. Professor Beckwith [illegible] cciments.

Section of Electro-Therapeutics.—Fri., 7 p.m., Annual General Meeting.

LONDON HOSPITAL MEDICAL COLLEGE, Mile End, E.1.—Thurs., 4.15 p.m., Schorstein Memorial Lecture by Professor Knud Faber (Copenhagen): Gastritis, its Relation to Achylia and Ulcer.

RÖNTGEN SOCIETY, 32, Welbeck Street, W.1.—Tues., 8.15 p.m., Annual General Meeting. Dr. R. G. Canti: Effects of Beta and Gamma Radiation on Normal and Malignant Tissue Cells growing *in vitro*, by means of the Cinematograph; Professor J. A. Crowther: Analysis of Some Observations on the Action of X Rays on Drosophila Eggs.

ROYAL SOCIETY OF TROPICAL MEDICINE AND HYGIENE, 11, Chandos Street, W.1.—Thurs., 8.15 p.m., Debate: The Organization of Medical Research in the Tropics. To be opened by Dr. A. T. Stanton, Chief Medical Adviser to the Secretary of State for the Colonies; followed by Professor Warrington Yorke (Liverpool). Demonstration at 7.15 p.m.

POST-GRADUATE COURSES AND LECTURES.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION.—Demonstrations open free to members of the medical profession: Tues., 10 a.m., at National Hospital for Diseases of the Heart; Thurs., 1 p.m., at Royal London Ophthalmic Hospital; Fri., 2 p.m., at St. Mary's Hospital. *All Saints' Hospital*, Vauxhall Bridge Road, S.W.: Afternoons and evenings, Demonstrations, including Cystoscopies and Lectures. *London School of Tropical Medicine*, Endsleigh Gardens, W.C.1: Tues. and Thurs., 2 p.m., Lecture Demonstrations. *Royal Free Hospital*, Gray's Inn Road, W.C.: Wed., 5 p.m., Demonstration; 5.15 p.m., Lecture Demonstration by Dr. Heald. *Central London Throat, Nose and Ear Hospital*, Gray's Inn Road, W.C.: Intensive Course. *London Lock Hospital*, Dean Street, W.: Clinical Course of Instruction throughout the month. *Maudsley Hospital*, Denmark Hill, S.E.: Special Course continuing throughout the month in Psychological Medicine. *Infants Hospital*, Vincent Square, S.W.: Afternoon Course; Special Lectures and Demonstrations. Hampstead General Hospital, Haverstock Hill, N.W.: Special Course for General Practitioners, 4.30 to 6 p.m., Medicine, Surgery, and the Specialties. All information as to fees, etc., obtainable from the Fellowship of Medicine, 1, Wimpole Street, W.1.

LONDON SCHOOL OF DERMATOLOGY, St. John's Hospital, Leicester Square, W.C.2.—Tues., 5 p.m., Treatment of Syphilis. Thurs., 5 p.m., Pathology Demonstration.

NATIONAL HOSPITAL, Queen Square, W.C.1.—Mon., Tues., Thurs., and Fri., 2 p.m., Out-patient Clinics. Mon., 12 noon, Pathology of the Nervous System; 3.30 p.m., Influence of the Eighth Nerve on Ocular Movements. Tues., 3.30 p.m., Demonstration of Methods of the Eighth Nerve. Thurs., 3.30 p.m., Encephalitis Lethargica—the Acute Phase. Fri., 3.30 p.m., Surgery of the Spinal Cord. Operations: Tues. and Fri., 9 a.m.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.15.—Mon., 2.30 to 5 p.m., Medical, Surgical, and Gynaecological Clinics; Operations. Tues., 2.30 to 5 p.m., Medical, Surgical, Throat, Nose, and Ear Clinics; Operations. Wed., 2.30 to 5 p.m., Medical Skin and Eye Clinics; Operations. Thurs., 11.30 a.m., Dental Clinics; 2.30 to 5 p.m., Medical, Surgical, and Ear, Nose, and Throat Clinics; Operations. Fri., 10.30 a.m., Throat, Nose, and Ear Clinics; 2.30 to 5 p.m., Surgical, Medical, and Children's Diseases Clinics; Operations; 4.30 p.m., Special Demonstration on Selected Cases of Nerve Diseases.

ROYAL NORTHERN HOSPITAL, Holloway, N.—Tues., 3.15 p.m., Demonstration of Medical Cases.

ST. MARY'S HOSPITAL, Institute of Pathology and Research, Paddington, W.2.—Thurs., 5 p.m., Some Methods and Problems of Malaria Research.

SOUTH-WEST LONDON POST-GRADUATE ASSOCIATION, St. James's Hospital, Ouseley Road, Balham, S.W.—Wed., 4 p.m., Diabetes in General Practice.

GLASGOW POST-GRADUATE MEDICAL ASSOCIATION.—At Western Infirmary: Wed., 4.15 p.m., X Rays.

JAMES MACKENZIE INSTITUTE FOR CLINICAL RESEARCH, St. Andrews.—Tues., 4 p.m., The Blood.

MANCHESTER ROYAL INFIRMARY.—Tues., 4.15 p.m., New Methods in the Investigation of Sterility. Fri., 4.15 p.m., Demonstration of Surgical Cases.

SHEFFIELD UNIVERSITY.—At Jessop Hospital: Tues., 3.30 p.m., Bleeding at the Menopause and After. At Royal Infirmary: 3.30 p.m., Clinical Cases.

British Medical Association.

OFFICES, BRITISH MEDICAL ASSOCIATION HOUSE, TAVISTOCK SQUARE, W.C.1.

Departments.

SUBSCRIPTIONS AND ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate Westcent, London).
MEDICAL SECRETARY (Telegrams: Mediscera Westcent, London).
EDITOR, *British Medical Journal* (Telegrams: Aitiology Westcent, London).
Telephone numbers of British Medical Association and British Medical Journal, Museum 9861, 9862, 9863, and 9864 (internal exchange, four lines).

SCOTTISH MEDICAL SECRETARY, 6, Drumsheugh Gardens, Edinburgh. (Telegrams: [illegible] el.: 4361 Central.)
IRISH MEDIC Frederick Street, Dublin. (Telegrams: 1737 Dublin.)

Diary of the Association.

MAY.

13 Fri. London: Public Education in Health Subcommittee, 12 noon.
London: Public Health Committee, 2.30 p.m.
London: Charities Committee, 2.30 p.m.
Bedfordshire Division: Bedford County Hospital, 3 p.m.
City Division: Clinical Meeting, Metropolitan Hospital, Kingsland Road, E., 4.15 p.m.
Kensington Division: Kensington Palace Mansions Hotel, De Vere Gardens, W.8. Dr. J. Bamford on Types of Pyrexia, 8.45 p.m.
Marylebone Division: Annual Meeting, 11, Chandos Street, W.1. Discussions on Pathologists and Pathological Institutes, the Dogs Bill, and the Landlord and Tenant Bill, 8 p.m.
Sheffield Division: Annual Meeting, Church House, St. James Street, Sheffield, 8.30 p.m.

17 Tues. London: Central Ethical Committee, 2 p.m.
Glasgow and West of Scotland Branch: Annual Meeting, Glasgow Western Infirmary, 3 p.m.
Lewisham Division: Annual Meeting, Town Hall, Catford, S.E.6. Dr. Robert Knox on the Value of X Rays in Diagnosis, 8.45 p.m.
Shropshire and Mid-Wales Branch: Royal Salop Infirmary, 3.30 p.m.

18 Wed. London: Medico-Political Committee, 2.30 p.m.
Brighton Division: Clinical Meeting, Sussex Eye Hospital, 3.45 p.m.
Dorset and West Hants Branch: Annual Meeting, Haven Hotel, Sandbanks, Poole. Lunch, 1.30 p.m. Meeting, 3 p.m.
South-Western Branch: Webb's Hotel, Liskeard, 2.30 p.m.
Sunderland Division: Royal Infirmary, Sunderland. Dr. George Hall on Encephalitis Lethargica, 8.15 p.m.
Willesden Division: Annual Meeting, St. Andrew's Church Hall, Deputy Medical Secretary on the Year's Work, 9 p.m.

19 Thurs. London: Journal Committee, 2.30 p.m.
Guildford Division: Discussion on Clean Milk.
Hyde Division: Annual Picnic, meet at Gun Inn, Mottram Moor, 11 a.m.

20 Fri. Hendon Division: Clinical Meeting, Hendon Cottage Hospital. Dr. T. S. McIntosh on the Recent Outbreak of Small-pox at Hendon, 8.30 p.m.

25 Wed. London: Finance Committee, 2.30 p.m.

27 Fri. London: Lunacy Law and Administration Committee, 2.30 p.m.
Chesterfield Division: Maternity Hospital, Chesterfield. Mr. A. M. Connell on Injuries met with in Coal Mining, 8 p.m.
East Yorkshire Division: Annual Meeting, Lloyd Hospital, Bridlington, 4.15 p.m. Conducted party over Priory Church, Bayle Gate, and Museum, 3 p.m.

31 Tues. South-West Essex Division: Annual Meeting, Wesleyan Schoolrooms, High Road, Leyton. Mr. A. J. Couzens on Personal Experience of Abdominal Disease, 3.30 p.m.

JUNE.

8 Wed. London: **Council**, 10 a.m.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcement of Births, Marriages, and Deaths is 9s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

BIRTHS.

HYDER.—On April 2nd, to Peggy, wife of Dr. L. Ingham Hyder, Royal Air Force Medical Service, a son.

PLATT.—At Oakvale Nursing Home, on May 6th, 1927, to Drs. Margaret and Robert Platt of 305, Western Bank, Sheffield, a daughter (Joan Elizabeth).

MARRIAGES.

[illegible] May 7th, 1927, at St. Paul's Church, Cliftonville, Herbert Pegg, vicar, Major J. W. H. Babington ladys Mary Joan Watts, M.B., B.S., daughter of L. Watts, R.E., 25, Cornwall Gardens, Cliftonville.

DIX—VERNON.—On Thursday, May 5th, at the Church of St. Mary the Virgin, East Barnet, by the Rev. F. A. Overton, Victor W. Dix, F.R.C.S., to Nan, youngest daughter of Mr. and Mrs. W. A. Vernon of Bohun Lodge, East Barnet.

SPEED—PATTERSON.—On April 14th, at All Souls', Belfast, by Rev. H. J. Rossington, M.A., B.D., James Millar Craig Speed, M.B., Devizes, Wiltshire, fourth son of Mr. J. P. Speed, J.P., and Mrs. Speed, Letterkenny, to May, second daughter of Mr. James Patterson, 31, Rugby Road, Belfast, and the late Mrs. Patterson, Duncairn, Holywood.

DEATHS.

BATTERBURY.—On May 2nd, 1927, at Berkhamsted, Herts, Richard Legg Batterbury, M.D.Lond., aged 82.

CRAWLEY.—On April 25th, 1927, at 152, New Road, Portsmouth, Herbert Edward Crawley, M.R.C.S.Eng., L.R.C.P.Lond., aged 51 years.

DE LA COUR.—On May 8th, 1927, at St. Leonards-on-Sea, after a short illness, George Francis de la Cour, M.D.Edin., M.R.C.S., L.R.C.P., the very dearly loved husband of Julia de la Cour, in his 84th year.

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SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, MAY 21st, 1927.

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British Medical Association.

CURRENT NOTES.

Edinburgh Annual Meeting: Hotel Accommodation.

The Hotels and Lodgings Committee has practically completed its arrangements for coping with the large numbers who are expected to visit Edinburgh in July. In order to secure the accommodation which is believed to be necessary, the Committee has definitely engaged all the available rooms in the city, and will allocate these to applicants in rotation. The Scottish Medical Secretary (Dr. Drever) has undertaken to do this work for the Committee, and applications for rooms should be sent to him at 6, Drumsheugh Gardens. A form for the purpose has been prepared for the convenience of members and is printed in the advertisement pages this week (p. 28); it will be repeated in subsequent issues. The accommodation is grouped in three classes—namely:

1. Hotels, whose tariff for bed and breakfast ranges between 8s. 6d. and 14s. The number who can be accommodated in these is comparatively limited.

2. Private hotels and boarding houses, at prices from 5s. 6d. to 8s. 6d. for bed and breakfast. Of these there is a large number, all of them comfortable.

3. Hostels where the tariff is 8s. for bed and breakfast. Not many of these are available, but those that are can be recommended.

It will facilitate other arrangements if members who intend to be present at the Annual Meeting will notify their intention whether they have already secured rooms or not. Early application for rooms is earnestly desired.

The Association and Mental Treatment.

On May 3rd the Psycho-Analysis Committee, having cleared the ground at a preliminary meeting, appointed Dr. R. Langdon-Down chairman and Dr. C. Worster-Drought deputy-chairman, and sketched out the lines on which it proposes to deal with its reference. The Committee began by recording its high appreciation of the services of its honorary secretary, Dr. R. G. Gordon, in preparing a memorandum on the methods of psycho-therapy, consideration of which will be continued at its next meeting. It has invited representative members of the several chief schools of thought to submit their views on the theory and practice of psycho-analysis.

The Lunacy Law Committee met on May 6th, and continued the work of formulating practical recommendations for submission to the Council and the Representative Body. It is hoped to complete the report before the June meeting of the Council, but should this prove impossible the essential recommendations will be embodied in an interim report.

Some Committee Work at Headquarters.

On May 11th the Ophthalmic Committee of the Association held a joint meeting with representatives of the Insurance Acts Committee to discuss the unsatisfactory state of ophthalmic benefit, which is an additional benefit under the National Health Insurance Acts. Definite proposals will be formulated at the next meeting. On the same day the Puerperal Morbidity and Mortality Subcommittee continued consideration of its report. The information before it included extracts from a report of particular interest on maternal morbidity and mortality in Victoria, drawn up by Professor R. Marshall Allen, director of obstetrical research in the University of Melbourne. The Charities Committee and the Public Health Committee met on May 13th. The Charities Committee, besides discussing the apportionment to the various medical charities of the money at its disposal, considered the proposal of the Representative Body for enlarging the personnel of the committee and including territorial representation. Recommendations to meet the views of the Representative Body on this point will be submitted to the Council at its June meeting, and will come before the Representative Body in due course. The Public Health Committee nominated Drs. Dearden, Eustace Hill, and Bone to a special subcommittee to consider the question of introducing a proper medical and sanitation service into the mines. On May 12th the Deputy Medical Secretary addressed a meeting of the Wakefield, Pontefract, and Castleford Division on the work of the Association during the past year. The address was given after supper, and appeared to be much appreciated by the members present, about twenty-five in number.

Sir Charles Hastings Clinical Prize.

The Council of the Association has decided that the Sir Charles Hastings Clinical Prize be again open for competition in 1928. The following are the regulations governing the award of the prize:

Regulations.

1. The prize is established by the Council of the British Medical Association for the promotion of systematic observation, research, and record in general practice; it includes a money award of the value of fifty guineas.

2. Any member of the Association who is engaged in general practice is eligible to compete for the prize.

3. The work submitted must include personal observations and experiences collected by the candidate in general practice, and a high order of excellence will be required. If no essay entered is of sufficient merit no award will be made.

4. Essays, or whatever form the candidate desires his work to take, must be sent to the British Medical Association House, London, W.C.1, not later than December 31st, 1927, and the prize will be awarded at the Annual General Meeting of the Association to be held at Cardiff in July, 1928.

5. No study or essay that has been published in the medical press or elsewhere will be considered eligible for the prize, and a contribution offered in one year cannot be accepted in any subsequent year unless it includes evidence of further work.

6. If any question arises in reference to the eligibility of the candidate or the admissibility of his essay, the decision of the Council on any such point shall be final.

7. Each essay must be typewritten or printed, must be distinguished by a motto, and must be accompanied by a sealed envelope marked with the same motto, and enclosing the candidate's name and address.

8. The writer of the essay to whom the prize is awarded may, on the initiative of the Science Committee, be requested to prepare a paper on the subject of his essay for publication in the BRITISH MEDICAL JOURNAL or for presentation to the appropriate Section of the Annual Meeting of the Association.

9. Inquiries relative to the prize should be addressed to the Medical Secretary, British Medical Association House, Tavistock Square, London, W.C.1.

The Katherine Bishop Harman Prize.

In April, 1926, Mrs. Katherine Bishop Harman, M.B., B.S.Lond., presented to the Association the sum of £1,000 for the establishment of a prize to be awarded by the Council for the encouragement of research into the disorders incident to maternity. The following are the regulations governing the award of the prize:

1. The purpose of the prize is the encouragement of study and research directed to the diminution and avoidance of the risks to health and life that are apt to arise in pregnancy and childbearing. Its money value shall be the net annual income of the capital fund as this has accumulated during a period of two years. The first award shall be made in 1928, and essays must be forwarded to the Medical Secretary of the Association, British Medical Association House, Tavistock Square, W.C.1, not later than December 31st, 1927.

2. As a general rule the prize will be awarded for the essay which, in an open competition, is judged by the Council to be most helpful to the end for which the prize is established, and the Council may at its discretion either prescribe a special or limited subject for the competition or may leave to the competitors an individual selection of the work they wish to present, provided that this falls within the purpose of the prize. In every instance the award made by the Council shall be final.

3. Any medical practitioner registered in the British Empire is eligible to compete for the prize.

4. Should the Council on any of the selected dates decide that no justification for the award of the prize exists, the prize shall be offered again in the year next following this decision, and in this event the money value of the prize on the occasion in question shall be such proportion of the accumulated income as the Council shall determine.

5. Each essay must be typewritten or printed in the English language, must be distinguished by a motto, and must be accompanied by a sealed envelope marked with the same motto and enclosing the candidate's name and address.

The Council has decided that no specific subject shall be prescribed for the Katherine Bishop Harman Prize Competition, 1928, but that competitors be left free to choose the work they wish to present, provided that this falls within the regulations governing the prize.

SCHOLARSHIPS AND GRANTS IN AID OF SCIENTIFIC RESEARCH.

SCHOLARSHIPS.

THE Council of the British Medical Association is prepared to receive applications for Research Scholarships, as follows:

> A Scholarship, known as the ERNEST HART MEMORIAL SCHOLARSHIP, of the annual value of not more than £200, and three other RESEARCH SCHOLARSHIPS, each of the annual value of not more than £150, for (research in any subject (including State Medicine) relating to the Causation, Prevention, or Treatment of Disease.

Each Scholarship is tenable for one year, commencing on October 1st, 1927. A Scholar may be reappointed for not more than two additional terms. *A Scholar may hold a junior appointment at a University, Medical School, or Hospital* provided the duties of such appointment do not interfere with his work as a Scholar.

The conditions of the award of Scholarships are stated in the Regulations, a copy of which will be supplied on application to the Medical Secretary of the Association, British Medical Association House, Tavistock Square, London, W.C.1.

GRANTS.

The Council of the British Medical Association is also prepared to receive applications for Grants for the assistance of research into the Causation, Treatment, or Prevention of Disease. Preference will be given, other things being equal, to members of the medical profession and to applicants who propose as subjects of investigation problems directly related to practical medicine.

The conditions of the award of Grants are stated in the Regulations, a copy of which will be supplied on application to the Medical Secretary of the Association, British Medical Association House, Tavistock Square, London, W.C.1.

Applications.

Applications for Scholarships and Grants for the year 1927-28 *must be made not later than Saturday, June 4th, 1927*, on the prescribed form, a copy of which will be supplied by the Medical Secretary on application. Applicants are required to furnish the names of three referees who are competent to speak as to their capacity for the research contemplated to whom reference may be made.

March 5th, 1927. ALFRED COX, *Medical Secretary.*

NOTICES OF MOTION BY DIVISIONS FOR THE ANNUAL REPRESENTATIVE MEETING, EDINBURGH, 1927.

Consultants under the Puerperal Fever and Puerperal Pyrexia Regulations.

By BATH: That it is desirable, owing to the fact that puerperal pyrexia may be due to causes other than obstetric, that the panel of consultants to be instituted under the Regulations should include all competent physicians, surgeons, and pathologists, in addition to consulting obstetricians; further, that some standard of competence should be adopted, such as membership of the staff of a local general or obstetric hospital, or the possession of special qualifications or experience.

Scheme for Formation of Groups in the Association.

By HARROGATE: That the following be substituted for para. 4 of Appendix III to the Annual Report of Council:

> 4. Subject to the approval of Council the Executive Committee of the Group shall define the qualification for membership of the Group.

By HARROGATE: That para. 5 of Appendix III to the Annual Report of Council be amended by the insertion, after the word "Association" in the second line, of the following words:

> "or, if found inconvenient, at such other time as the Executive Committee of the Group may think desirable."

Instruction of Newly Qualified Practitioners in Medical Ethics.

By HARROGATE: That (with reference to para. 99 of the Annual Report of Council) the Council be instructed to consider any further steps which may be thought necessary for the instruction of newly qualified practitioners in medical ethics.

Association Notices.

BOURNEMOUTH AND SOUTHAMPTON DIVISIONS.

NOTICE is hereby given of the following proposal made by Bournemouth Division:

> That the Municipal Borough of Lymington, and that portion of the Rural District of Lymington containing the Civil Parishes of Milford, Hordle, and Milton be transferred from the Southampton Division of the Southern Branch to the Bournemouth Division of the Dorset and West Hants Branch.

Written notice of the proposal has been given to the Southampton Division and to the Dorset and West Hants and Southern Branches, and the matter will be determined by the Council. Any member affected by the proposed change, *and objecting thereto, is requested to write*, giving the reasons, to the Medical Secretary, British Medical Association House, Tavistock Square, London, W.C.1, not later than June 21st, 1927.

TABLE OF DATES.

May 28, Sat.	Publication in SUPPLEMENT of results of election of members of Council by grouped Branches, and of election of members of Council and Representatives in Representative Body by Public Health Service members. Nomination papers available (at Head Office) for election of 12 members of Council by grouped Representatives (British Isles).
June 2, Thurs.	Last date for receipt at Head Office of names of Representatives and Deputy Representatives.
June 6, Wed.	*Council.*
June 16, Thurs.	Meetings of constituencies must be held between this date and July 15th, to instruct Representatives.
June 25, Sat.	Supplementary Report of Council appears in SUPPLEMENT.
July 1, Fri.	Amendments and riders by Divisions and Branches for inclusion in A.R.M. Agenda must be received at Head Office by this date.
July 15, Fri.	*Annual Representative Meeting*, Edinburgh, 10 a.m. Nominations for election of 12 members of Council by grouped Representatives must be received (at A.R.M., Edinburgh) by this date, 2 p.m.
July 16, Sat.	*A.R.M.* (Edinburgh).
July 18, Mon.	*Council* (Edinburgh). *A.R.M.* (Edinburgh)
July 19, Tues.	*A.R.M.* Annual General Meeting, Edinburgh, President's Address.
July 20, Wed.	*Council* (Edinburgh). Conference of Honorary Secretaries (Edinburgh). *Meetings of Sections*, etc., Edinburgh.
July 21, Thurs.	*Meetings of Sections*, etc., Edinburgh.
July 22, Fri.	*Meetings of Sections*, etc., Edinburgh.

ALFRED COX, *Medical Secretary.*

BRANCH AND DIVISION MEETINGS TO BE HELD.

EAST YORK AND NORTH LINCOLN BRANCH: EAST YORKSHIRE DIVISION.—The annual general meeting of the East Yorkshire Division will be held at Bridlington on Friday, May 27th. Programme: 3 p.m.—The members will meet at the Priory Church and will be conducted over it by Canon Topham, after which the curator, Mr. Charlesworth, will show the party over the Bayle Gate and the museum. 4.15 p.m.—On adjourning to the board room of the Lloyd Hospital the business meeting will be held. Agenda: Annual report of the Executive Committee; financial statement; election of officers, representatives on the Branch Council, and Executive Committee. Tea will be provided by the hospital staff.

METROPOLITAN COUNTIES BRANCH.—The annual general meeting of the Metropolitan Counties Branch will be held at the British Medical Association House, Tavistock Square, W.C.1, on Tuesday, June 21st, at 4 p.m. Business: (1) Report of scrutineers on election of officers; (2) Annual Report of Council; (3) report of representatives of the Branch on the Central Council; (4) to sanction the necessary alterations in the rules of the Branch to enable the president-elect to become an *ex-officio* member of all committees; (5) presidential address by Mr. E. B. Turner, F.R.C.S., entitled "Influenza from 1889 to 1927: *its therapeutic and clinical aspects.*"

METROPOLITAN COUNTIES BRANCH: KENSINGTON DIVISION.—The annual general meeting of the Kensington Division will be held at 21, Westbourne Terrace, W.2, by kind invitation of Mr. E. B. Turner, on Wednesday, May 25th, at 4.30 p.m. Agenda: Annual Report of the Council; election of officers and Executive Committee for ensuing year; B.M.A. Charities Fund; other business.

METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.—A clinical evening arranged by the Lewisham Division will take place at St. John's Hospital, Lewisham, on Tuesday, May 31st, at 8.45 p.m.

METROPOLITAN COUNTIES BRANCH: NORTH MIDDLESEX DIVISION.—The annual general meeting of the North Middlesex Division will be held in the Southgate Council Offices, Palmer's Green, on Wednesday, May 25th, at 3.30 p.m. Agenda: Financial statement for 1926; election of divisional officers; Annual Report of Council (SUPPLEMENT to BRITISH MEDICAL JOURNAL, April 23rd and 30th); instruction of representatives to Annual Representative Meeting.

METROPOLITAN COUNTIES BRANCH: SOUTH-WEST ESSEX DIVISION.—The annual general meeting of the South-West Essex Division will be held in the Wesleyan Schoolrooms, High Road, Leyton, on Tuesday, May 31st, at 3.30 p.m. Mr. A. J. Couzens will read a paper on personal experience of abdominal disease, mainly from the diagnostic standpoint.

M[illegible]ANCH: ST. PANCRAS DIVISION.—A meeting [illegible] will be held at the British Medical Square, W.C.1, on Tuesday, June 14th, at 9 p.m. Mr. J. Paterson, C.B.E., will read a paper on internal haemorrhage.

MIDLAND BRANCH: CHESTERFIELD DIVISION.—A meeting of the Chesterfield Division will be held at the Maternity Hospital, Chesterfield, on Friday, May 27th, at 8 p.m. Mr. A. M. Connell, professor of surgery in the University of Sheffield, will give an address on "Some of the injuries frequently met with in coal mining and their treatment by the general practitioner."

NORTH LANCASHIRE AND SOUTH WESTMORLAND BRANCH: LANCASTER DIVISION.—The annual meeting of the Lancaster Division will be held on Wednesday, May 25th, at 8 p.m., at the Royal Lancaster Infirmary. Business: Election of officers, representatives to the Branch Council, members of Executive Committee and Ethical Committee. The first stage in the Treasurer's Cup golf competition to find the golfer who will represent the Division at Edinburgh on July 22nd, will be held at Dolphinlee (Lancaster Golf Club) on the afternoon of May 25th.

OXFORD AND READING BRANCH: OXFORD DIVISION.—A meeting of the Oxford Division will be held at the Radcliffe Infirmary, Oxford, on Wednesday, May 25th, at 2.45 p.m. Agenda: Clinical cases; Mr. V. E. Negus, F.R.C.S. (King's College Hospital) will read a paper on some common affections of the larynx and their treatment (illustrated).

SURREY BRANCH: GUILDFORD DIVISION.—The annual meeting of the Guildford Division will be held at the Royal Surrey County Hospital, Guildford, on Thursday, June 2nd, at 4 p.m.; tea served at 3.45 p.m.

YORKSHIRE BRANCH: ROTHERHAM DIVISION.—A meeting of the Rotherham Division will be held at the Crown Hotel on Friday, May 27th, at 8.30 p.m. Agenda: Report of Executive Committee as to the scale of minimum commencing salaries for public health medical officers, and recommendation of Executive to adopt resolution under Ethical Rules; Annual Report of Council; appointment of representative in Representative Body; annual report of Division for 1926.

Meetings of Branches and Divisions.

NEW SOUTH WALES BRANCH.

A Year's Work.

THE annual report of the council of the New South Wales Branch for the year ending March 31st, 1927, has now been printed and circulated to the members. During the year under review the membership of the Branch increased by 81, the total having risen to 1,593. Ten ordinary meetings, three extraordinary, and seven clinical meetings of the Branch were held, the attendance averaging 48.2. The meeting on December 9th, 1926, took the form of a social evening, to which the new medical graduates of the year were invited. The clinical meetings were held at various hospitals.

The fifteenth annual meeting of delegates of the Affiliated Local Associations of Members with the Branch Council was held on October 1st at the British Medical Association Library, Sydney.

The scientific and literary activities of the Branch, as recorded last year, are now divided among a number of sections for special branches of medical knowledge. The ten existing sections were added to at the close of 1926 by the formation of a section of radiology, *the inaugural meeting being held on December 3rd.*

In referring to the second session of the Australasian Medical Congress (British Medical Association) held at the University of Otago, Dunedin, New Zealand, in February last,[1] a tribute is paid to the great success which attended the organization and management of the Congress, and congratulations are offered to the President, Dr. L. E. Barnett, to the honorary general secretary, Professor W. P. Gowland, and to the Executive Committee. Seventy-three members of the New South Wales Branch took part in the proceedings. The Federal Committee of the British Medical Association, which met in Sydney at the close of August, has been invited by the New South Wales Branch to arrange for the third session of the Congress to be held in Sydney in the spring of 1929.

Reference is made to the continued high standard which the *Medical Journal of Australia* has established for itself; the amount of its reading matter was substantially increased during the period under review. In anticipation of the relinquishment of the Association's premises for the purpose of widening Elizabeth Street, steps were taken to obtain a site for new premises, and 137, Macquarie Street, with a frontage of 30 feet, has already been purchased, though a wider frontage may be necessary.

A portrait of Dr. W. H. Crago has been painted in oils by Mr. John Longstaff, R.A., and will be presented to him by the President during the Annual Meeting. Dr. Crago, it will be remembered, has served with great devotion as honorary treasurer of the Branch for thirty-eight years, and (also in an honorary capacity) has been premises attorney in charge of the Association's building in Sydney since 1910.

During the year six British Medical Association Lectures were delivered at meetings of local associations outside the metropolitan area.

A number of sections of the report deal with medico-political and ethical matters, and with constitutional questions, and it is noted that, in connexion with the visit of the Duke and Duchess of York to New South Wales, the President of the Branch, Dr. R. J. Millard, C.M.G., C.B.E., was invited by the Government to represent the Association at the official landing on March 26th, and at the official reception in the Town Hall, Sydney.

BIRMINGHAM BRANCH: NUNEATON AND TAMWORTH DIVISION.

THE annual dinner of the Nuneaton and Tamworth Division was held at the Newdegate Arms Hotel, Nuneaton, on May 11th, when the chairman of the Division, Dr. DUDLEY, presided. The toast of "The British Medical Association," proposed by Dr. RICHARDSON, was responded to by Dr. H. GUY DAIN, President of the Branch. Dr. PARSONS and Mr. A. B. DANBY, F.R.C.S., replied to the toast "Our Guests," which was proposed by the vice-chairman, Dr. ASHWORTH. Dr. E. NASON gave the toast "The Chairman," which was accorded musical honours, and Dr. DUDLEY replied.

At a meeting of the Division held during the evening, Dr. Jones (Tamworth) was elected representative in the Representative Body, and Dr. Grant, Wilnecote, deputy representative.

[1] See BRITISH MEDICAL JOURNAL, March 26th, April 2nd, 9th, 16th, 23rd, 1927.

BOMBAY BRANCH.

THE annual general meeting of the Bombay Branch was held in the Grant Medical College on April 16th.

It was reported that five new members (including two transfers) had been elected by the Branch Council on April 1st.

A letter was read from Dr. Jhirad, secretary of the Bombay Branch of the Association of Medical Women in India, asking for support in promoting a scheme for the registration and supervision of midwives in Bombay. The following were appointed a sub-committee to advise on the matter: Colonel Hamilton, I.M.S. (*chairman*), Dr. Eliza Turner Watts, Dr. Dadabhoy (*secretary*), Dr. N. A. Purendare, Dr. Sandilands, and Dr. Margaret Balfour.

The officers elected for 1927-28 were:

President, Dr. R. Row, O.B.E. *Vice-Presidents*, Colonel F. P. Mackie, O.B.E., I.M.S., and Mr. A. K. Dalal, O.B.E. *Honorary Secretaries and Treasurers*, Dr. F. D. Bana and Dr. B. B. Yodh. *Representative in Representative Body*, Dr. S. P. Kapadia.

The annual report and statement of accounts of the Branch were adopted. The financial statement showed a credit balance in favour of the Branch of Rs.3,359.

A suggestion was made that any funds available should be devoted to the research work on anaemias in Bombay, which was being conducted by Dr. Margaret Balfour and her assistants. Dr. Row said that applications for research grants might be considered by the Branch Council, and that the home Association might be requested to renew their offer of a research grant. The Bombay Branch could only give a little help.

Colonel F. P. MACKIE, I.M.S., gave an address on sprue, with special reference to the investigations in progress at the Haffkine Institute. He discussed the distribution, etiology, diagnosis, and treatment of this disease, and said that a castor oil emulsion with pepsin and dilute hydrochloric acid had proved very successful. He raised the question of there being some connexion between sprue, hill diphtheria, and profound anaemias in Bengal.

Dr. ERULKAR referred to the difficulty of distinguishing sprue from chronic dysentery, abdominal tuberculosis, and chronic malaria.

Dr. MARGARET BALFOUR read a paper on anaemias, with special reference to pregnancy. She had seen 402 patients with pregnancy anaemia in 3,784 cases of labour. This disease was the chief single cause of death in childbirth, and was prevalent throughout India during the last half of the year. The onset was sudden in the middle of pregnancy, with fever and no diarrhoea in some patients, and conversely in others; the pathology and treatment were discussed.

CAMBRIDGE AND HUNTINGDON BRANCH: CAMBRIDGE AND HUNTINGDON DIVISION.

THE annual meeting of the Cambridge and Huntingdon Division was held at Addenbrooke's Hospital, Cambridge, on May 4th. Dr. Collins of Peterborough was elected chairman.

The following officers were elected for the year 1927-28:

Chairman, Dr. C. M. Stevenson. *Honorary Secretary*, Dr. J. C. Hall. *Representative in Representative Body*, Dr. A. C. S. Waters. *Deputy Representative in Representative Body*, Dr. N. Macfadyen.

The annual report for 1926-27 was read and discussed, handed round for inspection, and approved.

Dr. C. M. STEVENSON brought forward the subject of dental anaesthetics under the national health insurance scheme. It was agreed, after discussion, that the secretary should inquire into the matter.

A discussion on club fees was opened by Dr. DUDLEY, in view of the fact that several practitioners had recently been approached by certain societies with a view to reducing the medical fees. The secretary was instructed to call the attention of members to the resolutions adopted by the Isle of Ely Division and the Cambridge and Huntingdon Division that "club fees for adults and juveniles should remain as they stand at present."

Dr. DUDLEY brought up a matter relating to ophthalmic benefit.

The SECRETARY read correspondence *re* Dogs' Protection Bill and salaries of medical officers of health.

The meeting closed with the usual votes of thanks.

DORSET AND WEST HANTS BRANCH: BOURNEMOUTH DIVISION.

THE annual meeting of the Bournemouth Division was held on May 4th in St. Peter's Small Hall, Bournemouth. Before the meeting, the chairman, Dr. Edwards, kindly entertained the members to tea.

The following officers for 1927-28 were elected:

Chairman, Dr. How White (West Knoll). *Vice-Chairman*, Dr. Asten. *Honorary Secretary and Treasurer*, Dr. O. C. Carter. *Representatives in Representative Body*, Dr. Morse and Dr. Johnson Smyth. *Deputy Representatives*, Dr. Mahomed and Dr. Hutton.

The following resolution was unanimously adopted for consideration at the Annual Representative Meeting:

> That the existing representation, power, and procedure of the General Medical Council need careful revision in order that they may comply more precisely with the changed conditions of medical practice, and that this be remitted to the Council for consideration and report.

The policy of the Division towards the Dogs' Protection Bill was considered. Several members spoke, all of whom condemned the bill; the honorary secretary was instructed to write to the members of Parliament within the Division area asking them to vote against the bill at the second reading.

The question of the Division boundary was discussed, and it was suggested that the boundary line of the Bournemouth Division should run from Lymington to Ringwood.

DORSET AND WEST HANTS BRANCH: WEST DORSET DIVISION.

A MEETING of the West Dorset Division was held at Durlston Court Preparatory School, Swanage, on April 29th.

A report and recommendation of the Executive Committee acting as the Ethical Committee was discussed at length and a resolution passed.

Dr. W. A. REES read some interesting notes on cases, and showed specimens. The Red Cross Children's Hospital was subsequently inspected and cases were demonstrated. By invitation of the Swanage and district members tea was provided at the Trocadero Restaurant.

EAST YORK AND NORTH LINCOLN BRANCH: EAST YORK DIVISION.

AT a recent very successful clinical meeting of the East York Division a pleasant interlude was provided when Dr. EDWARD TURTON, on the occasion of his retiring from the post of senior physician to the Hull Royal Infirmary, presented the Division with a golf cup for annual competition. For over twenty years Dr. Turton has been an outstanding figure in the Division and has held every office, including that of secretary and representative for many years. In presenting the cup, Dr. Turton, in a delightfully humorous speech, said he hoped the annual competition would have the effect of encouraging the social side of the Division's activities. He wished the cup to be called the "Ritchie Rodger Cup," after the present chairman of the Division and in token of gratitude for the kindness shown him in his recent illness. Dr. RITCHIE RODGER, in accepting the cup, expressed the thanks of the Division and also his personal appreciation of the kindly thought of perpetuating his own name with Dr. Turton's in this pleasant manner.

EDINBURGH BRANCH: SOUTH-EASTERN COUNTIES DIVISION.

THE annual meeting of the South-Eastern Counties Division was held in the Railway Hotel, Newtown St. Boswells, on May 9th.

Dr. J. WILFRED GEORGESON (Lauder), in vacating the chair to Dr. N. P. Fairfax (Innerleithen), spoke of the great help he had received from members of the Division. Dr. FAIRFAX, in succeeding to the chair, referred in the most appreciative way to the services rendered by Dr. Georgeson during his term of office.

Dr. Oliver was elected vice-chairman. Dr. John S. Muir was re-elected representative in the Representative Body, with Dr. S. Davidson as deputy; Dr. A. A. McWhan was re-elected honorary secretary.

The annual report and financial statement for the year 1926 was approved.

The nomination of Dr. Fairfax as a candidate for the Scottish Committee was approved.

On the motion of Dr. FAIRFAX it was unanimously agreed to place the following amendment before the Annual Representative Meeting, 1927:

> That in view of the fact that an assistantship is commonly to a young practitioner a continuation of his medical education and training, the value of which is variable and impossible to estimate, no definite figure can in these circumstances be fixed as a minimum salary, but in cases where the above consideration does not prevail and where the practices can afford it, the minimum commencing salary for a whole-time indoor assistant to a practitioner should be £210 per annum, etc. (as in paragraph *d*).

The SECRETARY reported having had considerable difficulty in arranging for the annual dinner. It was ultimately agreed that it should be held in the autumn, and the arrangements left in the hands of the chairman. The question of holding a reception to which members of the Division could be invited was remitted to a committee.

At the conclusion of the meeting Dr. Fairfax invited the members to tea, for which he was cordially thanked.

KENYA BRANCH.

THE annual meeting of the Kenya Branch was held at Nairobi on January 15th, when the President, Dr. M. MACKINNON, was in the chair.

The SECRETARY'S report on the work of the Branch showed that during 1926 twelve meetings had been held, of which three had been devoted to the discussion of medico-political matters, and that the Council had met on six occasions. The financial statement showed a credit balance. The report was adopted unanimously.

The following officers were elected for the year:

President, Dr. J. B. Clarke. *President-Elect*, Dr. A. J. Jex-Blake. *Vice-President*, Dr. G. V. Anderson. *Honorary Secretary*, Dr. W. H. Kauntze. *Assistant Secretary*, Dr. J. A. Carman. *Representative in Representative Body*, Dr. M. Mackinnon. *Deputy Representative in Representative Body*, Dr. G. V. Allen.

Dr. J. B. CLARKE, having succeeded to the chair, proposed a hearty vote of thanks to Dr. Mackinnon for his work as President for the year; this was carried unanimously.

The question of the formation of a local medical defence union was discussed and its further consideration postponed.

The offer of the use of the Municipal Council Chamber for the monthly meetings of the Branch was accepted with thanks.

Dr. A. J. JEX-BLAKE read a paper on infant feeding. An interesting discussion followed, during which many questions were put forward which were subsequently answered by Dr. Jex-Blake, to whom a hearty vote of thanks was accorded for his valuable paper.

A further meeting of the Branch was held on February 9th in the Municipal Council Chamber, when the President, Dr. J. B. CLARKE, was in the chair.

Dr. Kelly and Mr. Symes were, on the motion of Dr. ALLEN, seconded by Dr. ANDERSON, elected honorary members of the Branch.

Dr. HENDERSON read a paper on "Certain aspects of growth and nutrition." In the course of the subsequent discussion several questions were asked, to which Dr. Henderson replied. On the motion of the CHAIRMAN a vote of thanks was accorded to Dr. Henderson for his interesting paper.

At the meeting of the Branch held at Nairobi on March 9th Dr. MACKINNON read a paper on the response of the pulse to exercises, which was followed by an interesting discussion. Dr. Mackinnon was thanked for his contribution.

Dr. Henderson was appointed auditor of the Branch, and it was decided that the local subscription for Nairobi members should be reduced to five shillings a member.

METROPOLITAN COUNTIES BRANCH: SOUTH-WEST ESSEX DIVISION.

A MEETING of the South-West Essex Division was held at the Claybury Mental Hospital, Woodford Bridge, on May 3rd. Letters from Mr. Cassels, Sir Hamar Greenwood, and Mr. Churchill concerning the Dogs' Protection Bill were read. It was announced that Dr. Marsh had won the Divisional round of the Treasurer's Cup golf competition, and the secretary was instructed to convey the thanks of the Division to Drs. Norman and MacGregor for kindly arranging the competition. Resolutions in connexion with the puerperal pyrexia scheme passed by the Metropolitan Counties Branch Council on February 8th were brought to the notice of the Division. Dr. Panting was unanimously re-elected representative in the Representative Body, and Dr. Marsh elected deputy representative. Dr. BARHAM, medical superintendent, showed members round the hospital, and demonstrated an interesting series of cases. These included, *inter alia*, a series of general paralysis of the insane, some of which showed good remissions following inoculation with malaria, a case of Huntington's chorea, an interesting adolescence hysteria with contractures and marked wasting of the arms, and a patient with psychasthenia who explained his own symptoms with uncanny lucidity. The meeting concluded with a hearty vote of thanks to Dr. Barham.

NORTH OF ENGLAND BRANCH: BLYTH DIVISION.

A MEETING of the Blyth Division was held in the house of Dr. Hudson (Bedlington) on May 4th. General business was discussed. The members agreed to take a strict stand regarding the question of "covering," and no longer to work with unqualified women at confinement cases. Some discussion regarding "miners' arrears of contributions" took place, and the action taken by one member was approved and supported. The Annual Report of Council was discussed, but no recommendations were made. The contributory scheme for hospital benefit was put before the local hospital secretary. The secretary was instructed to try to arrange a meeting with members of the Morpeth Division for the purpose of organizing a public medical service along the lines under discussion at a previous meeting. Mrs. Hudson served coffee, and after a vote of thanks, Dr. T. Craig invited the members to meet at his house.

NORTHERN COUNTIES OF SCOTLAND BRANCH: BANFF, MORAY, AND NAIRN DIVISION.

THE annual meeting of the Banff, Moray, and Nairn Division was held at the Commercial Hotel, Keith, on May 7th. Prior to the meeting the members present lunched together. Dr. DOUGLAS read a letter from the Provost of Keith, offering the Division a welcome to the town on the first occasion of a meeting held there. The secretary was instructed to tender the thanks of the Division to the Provost for his kind thought.

The secretary and treasurer's annual report and statement was read and approved. The report showed that the Division was in a flourishing condition, and that more interest was being taken in the work of the Association. In moving the election of Dr. James Taylor (Keith) as chairman, Dr. DOUGLAS referred to the many services he had rendered to the community, in his professional capacity and also in a civic role. The appointment was unanimously agreed to, and in returning thanks for his election Dr. TAYLOR said that he would do all in his power to promote the well-being of the Division. He proposed a hearty vote of thanks to his predecessor for his conduct in the chair during the past year.

The other officers were elected as follows:

Vice-Chairman, Dr. D. Grant (Hopeman). *Secretary*, Dr. G. S. Sowden (Elgin). *Representative in Representative Body*, Dr. P. McDiarmid (Fochabers). *Deputy Representative*, Dr. A. B. Murray (Banff).

The Annual Report of Council was considered, and several items were remitted to the Executive Committee for further report. Dr. ALEXANDER raised the question of the fees allowed by certain Government departments for work done in the voluntary hospitals in the area. After considerable discussion, which revealed a diversity of standards at the different hospitals, the secretary was instructed to collect the necessary information and lay it before the next meeting of the Executive Committee, with a view to having a uniform standing throughout the Division.

After the business of the meeting the members adjourned to the golf course, where, after a round, they were entertained to tea by the lady members. This attention was much appreciated.

PUNJAB BRANCH.

A WELL attended meeting of the Punjab Branch was held in the Patiala Block of the King Edward Medical College, Lahore, on April 6th. Dr. NIHAL CHAND SIKRI opened a discussion on syphilis and emphasized the fact that syphilis was on the increase, especially amongst the lower middle classes, and also amongst the students. He stated that he preferred some of the bismuth preparations to the arsenical ones in treatment. A brisk discussion followed, and in view of the importance of prevention of further spread of the disease it was decided to discuss this subject at a subsequent meeting to be held on May 4th.

SOUTHERN BRANCH: PORTSMOUTH DIVISION.

A VERY successful session of the Portsmouth Division was brought to a close by the annual dinner held at the Queen's Hotel, Southsea, on May 11th, when Dr. A. MEARNS FRASER was in the chair. The total number attending was 112, and amongst the guests were the Mayor (Councillor Frank J. Privett); Sir StClair Thomson; Sir Thomas Bramsdon, city coroner; the Archdeacon of Portsmouth, the Venerable Neville Lovett; Major-General Sir Guise Moores, President of the Southern Branch; Mr. F. J. Sharks, town clerk; and Mr. Philip Blake, President of the Portsmouth Dental Society.

Address by Sir StClair Thomson.

After the toast of the King, and that of the guests, which was wittily proposed by Dr. R. LYTLE, and responded to by the MAYOR and Sir THOMAS BRAMSDON, had been honoured, Sir STCLAIR THOMSON delivered a most interesting address entitled "A London physician in the eighteenth century," the subject of which was John Coakley Lettsom (1744-1815), founder of the London Medical Society. The address was charmingly delivered in that delightful style which one associates with Sir StClair Thomson, who, at its conclusion, on the proposal of Mr. C. A. SCOTT RIDOUT, was enthusiastically toasted by the guests.

A pleasing feature of the evening was a surprise presentation, made on behalf of the members by Dr. PHILIP GREEN, to the chairman, Dr. Mearns Fraser, and to the honorary secretary, Dr. H. H. Warren. This presentation, which took the shape of a silver coffee set to the former, and a silver cigar box to the latter, both suitably inscribed, was made as an expression of the appreciation of the members of the services of these two gentlemen towards making the last two years the most successful in the history of the Division.

SOUTHERN BRANCH: WINCHESTER DIVISION.

A MEETING of the Winchester Division was held by the kind invitation of Dr. Bartlett at his house at Romsey on May 12th. Dr. Livingston was elected divisional representative in the Representative Body and the honorary secretary deputy representative. A "binding" resolution under Rule 2A of the divisional ethical rules in connexion with the scale of minimum commencing salaries for public health medical officers was unanimously adopted.

A discussion on the association of cases of herpes zoster and varicella was opened by Dr. BARTLETT, who gave notes of many instances of the sequence of herpes and varicella, varicella-herpes, herpes-varicella-herpes, and other combinations—the apparent sequence of varicella-herpes being the form least often met with.

A most interesting discussion followed and many other illustrative cases were brought forward. It was generally agreed that the apparent association of these cases was well worthy of expert scientific investigation.

The company was subsequently entertained to tea by Dr. and Mrs. Bartlett, who at the conclusion of the meeting were cordially thanked for their kind hospitality.

SOUTH-EASTERN OF IRELAND BRANCH.

THE annual meeting of the South-Eastern of Ireland Branch was held in the Club House Hotel, Kilkenny, on May 4th. Dr. MYLES (Clonmel) was installed in the chair as President. Dr. Cox, Medical Secretary, British Medical Association, Dr. T. Hennessy, Irish Medical Secretary, and twenty members attended. Three non-members were also present, one of whom joined after the meeting. A vote of thanks was passed to Dr. Barry, out-going President, for the manner in which he conducted the business during the year. The following officers were elected for the year 1927-28:

President-Elect, Dr. J. Mitchell (Kilkenny). *Honorary Treasurer*, Dr. Jellett. *Honorary Secretary*, Dr. P. Gr[illegible] *rish Committee*, Dr. P. Stephenson. *Representc Body*, Dr. W. Phelan. *Deputy Representative in* Cassin.

The Annual Report of Council was approved and adopted. Dr. COX and Dr. HENNESSY both addressed the meeting and dealt with various matters, particularly organization and the Medical Benevolent Fund. An interesting discussion followed, in which the majority of those present took part. A cordial vote of thanks to Dr. Cox and Dr. Hennessy was passed with acclamation, and both were entertained to dinner after the meeting.

SOUTH WALES AND MONMOUTHSHIRE BRANCH: SOUTH-WEST WALES DIVISION.

A VERY successful meeting of the South-West Wales Division was held at the Carmarthenshire Infirmary, Carmarthen, on May 11th. Owing to the unavoidable absence of Sir John Lynn-Thomas, chairman of the Division, Dr. C. A. BRIGSTOCKE presided.

Mr. J. HOWELL EVANS, F.R.C.S. (*London*), gave a most interesting, lucid, and instructive address on cystic swellings of the scrotum, which was particularly well illustrated by lantern slides. At the close of the lecture a hearty vote of thanks was accorded to the lecturer. After the meeting tea was served.

SUFFOLK BRANCH.

A MEETING of the Suffolk Branch was held at the Crown and Anchor Hotel, Ipswich, on May 6th. There were present twenty-five members, Professor FRANCIS R. FRASER of St. Bartholomew's Hospital read a most interesting and instructive paper on the therapeutic action of digitalis. The lecture was illustrated by lantern slides of tracings taken from actual cases. A discussion ensued and many questions were asked. The President-Elect, Dr. BROWN, and Dr. ADDEY moved and seconded a very hearty vote of thanks to Professor Fraser for travelling to Ipswich to give such an excellent paper. Tea was served to members and their wives at the kind invitation of Dr. Rix (the President) and Mrs. Rix.

SURREY BRANCH: CROYDON DIVISION.

THE annual meeting of the Croydon Division was held at the Croydon General Hospital on May 4th, when Mr. E. M. COWELL, D.S.O., F.R.C.S., was in the chair.

The report of the Executive Committee was received and adopted. It showed that there had been an increase in the membership and that thirteen meetings had been held, with an average attendance of twenty-nine. Reference was made to the good feeling which existed between the medical officers of health and the local practitioners. The following officers were elected for the ensuing year (the direct representative and deputy representative had been elected at a previous meeting):

Chairman, Dr. R. L. Pinkerton. *Vice-Chairman*, Mr. E. M. Cowell, D.S.O. (who was given a very hearty vote of thanks for his services as chairman during the past year). *Honorary Secretary and Treasurer*, Dr. C. G. C Scudamore. *Assistant Honorary Secretary*, Dr. P. W. Hamond. *Auditor*, Dr. G. G. Genge.

Dr. A P. Allan was nominated as one of the vice-presidents of the Surrey Branch for 1927-28.

The business meeting was followed by a clinical meeting, when cases of interest and specimens were shown by Mr. COWELL and Drs. BRAYNE-NICHOLLS and SOUTHGATE.

SUSSEX BRANCH. CHICHESTER AND WORTHING DIVISION.

THE annual meeting of the Chichester and Worthing Division was held at the Dolphin Hotel, Chichester, on May 4th. The following office-bearers were elected:

Chairman, Dr. F. Hinds. *Vice-Chairman*, Dr. H. J. M. Milbank-Smith. *Honorary Secretary*, Dr. D. D. Mackintosh.

The members of the Chichester and Worthing and Horsham Divisions subsequently dined together at the Dolphin Hotel. After dinner a paper by Dr. Bostock on the operative treatment of fractures was read in his absence, through illness, by Dr. LIESCHING. A most interesting series of cases was described and *x*-ray prints shown of the conditions both before and after operation. In the discussion which followed several members took part. Thereafter Dr. GARRATT explained the working of the contributory fund for hospitals scheme so far as concerned the Royal West Sussex Hospital in Chichester. The HONORARY SECRETARY brought forward the recommendation of the Executive Committee that a hospitality fund should be instituted for the entertainment of the members of the Sussex Branch at the forthcoming annual meeting. A subscription list was formed and the members present intimated individual subscriptions to the fund.

SUSSEX BRANCH: CHICHESTER AND WORTHING AND HORSHAM DIVISIONS.

A COMBINED meeting of the Chichester and Worthing and Horsham Divisions was held at the Dolphin Hotel, Chichester, on May 4th, when Dr. VERNON was in the chair.

Dr. H. J. M. Milbank-Smith was appointed representative in the Representative Body, and Dr. D. D. Mackintosh deputy representative.

In considering the Annual Report of Council, Dr. MILBANK-SMITH drew attention to the arrangements made for members getting books out of the Library. Special attention was drawn to paragraph 168B, that "the primary object of out-patient departments of hospitals should be for consultation." In considering the attitude of the British Medical Association on the recent Harnett *v.* Fisher case, the following resolution was carried unanimously:

> That this meeting would like information on the absence of editorial comment in the BRITISH MEDICAL JOURNAL on the findings of the Harnett *v.* Fisher case.

WILTSHIRE BRANCH: TROWBRIDGE DIVISION.

THE annual general meeting of the Trowbridge Division was held at Trowbridge on April 13th, when Dr. ADYE was in the chair. The annual report was presented.

The following officers were elected for the year 1927:

Chairman, Dr. L. Crossley. *Vice-Chairman*, Dr. D. L. Spence. *Honorary Secretary and Treasurer*, Dr. A. D. Hamilton.

A letter from the clerk to the Somerset Panel Committee *re* appointment of a consultant under the Puerperal Fever, etc., Regulations, was read and discussed. The meeting felt that there might be some difficulty, especially financially, in obtaining the services of a consultant from Bristol, and recommended that if such an appointment were made a man from Bath should be appointed.

Letter D.11 from headquarters, *re* medical charities, was read and discussed, and the honorary secretary was appointed as charities secretary.

The meeting considered that an appeal should be made to every medical practitioner in the Division to subscribe, and that no special charities dinner or dance was likely to be successful.

A form of ante-natal record issued by the Central Midwives Board for the use of midwives was presented by Dr. Tangye. The honorary secretary was instructed to forward to headquarters a protest against the form, as being not only useless but dangerous.

National Insurance.

LONDON INSURANCE COMMITTEE.

A MEETING of the London Insurance Committee was held, under the chairmanship of Mr. DAVID DAVIS, on April 28th.

Insured Persons in the Services.—The committee considered a resolution of the National Association of Insurance Committees to which its attention was invited by that body, calling for such modifications of the Navy, Army, and Air Force regulations as would secure that the administration of all additional treatment benefits of members of the Navy, Army, and Air Force Insurance Fund should be administered by and through Insurance Committees. The Ministry of Health, to which a copy of the resolution was also forwarded, had replied that the administration of treatment benefits for the limited class of persons represented by members of the Fund presented exceptional difficulties which could best be dealt with centrally. The Ministry also stated that experience of the existing arrangement under which claims for cash benefits were submitted, in the first instance, to Insurance Committees had not indicated that the system possessed such advantages as would justify its extension to treatment benefits. On the motion of Mr. ROCKLIFFE the committee unanimously agreed to a resolution stating that it saw no reason to disagree with the views expressed by the Ministry of Health in this matter.

The Cost of Prescriptions.—A statement was presented to the committee giving the number and cost of prescriptions furnished to insured persons in the committee's area as compared with other areas. The average ingredient cost per prescription (the dispensing cost varies scarcely at all in different areas) in London in 1926 was 3.8d.; the cost in the country was very generally higher, ranging up to 5.4d. at Chester and in the county of Norfolk, and 5.6d. at Eastbourne. The average number of prescriptions per insured person in London in 1926 was 4.7, again relatively low; the number in Manchester was 6.2, and in Birmingham 5.7. The average cost of prescriptions per insured person in London was 3s. 3d., once more a low figure in comparison, the figure in Manchester being 4s. 8d., and in Oldham and Preston 4s. Mr. ROCKLIFFE raised the question of the considerable increase in the cost of prescriptions; the cost was about 100 per cent. greater than was estimated when national insurance came into operation. This seemed to indicate extravagant and unnecessary prescribing. Dr. H. J. CARDALE suggested that the approved societies should inaugurate a campaign to educate the community in the fatuity of taking these disagreeable concoctions. The doctor could not do it, for if he failed to give his patients a bottle of medicine he forfeited their confidence. The increased cost was partly to be explained by the increased public confidence in the medical service under the Acts, with a growing tendency of insured persons to seek the services of their insurance doctor. Wastefulness was also encouraged by the habit of prescribing "tablespoonfuls." The tablespoon was a variable quantity in different households, and in many was held to mean a soup or gravy spoon. Patients also came with unmarked bottles, sometimes ginger-beer bottles, or even less respectable containers, and the rule was that if a patient provided his own bottle it must be accepted. The ideal thing would be to have bottles marked for proper doses, so that there would be no excuse for the patient taking too much. Mr. T. B. LAYTON agreed with Dr. Cardale to some extent though as he grew older he found himself laying more stress on drugs than formerly. But a campaign on the lay side was not the way to tackle the problem. The lay people followed the medical profession, and were anything from twenty-five to fifty years behind it. Years ago the medical profession was laying as much stress on drugs as the layman did to-day. Moreover, to explain the increased expenditure, a new type of drug had come along, not taken by the mouth, but administered with the syringe. Insulin was unknown when the insurance scheme started, and so were the various antistreptococcal and antipneumococcal preparations, all of which were relatively expensive. The approved societies had to face the fact that, however carefully drugs might be prescribed, the cost in future would continue to increase.

Examination of Chest through Clothing.—One of the cases brought forward by the Medical Service Subcommittee was on the complaint of an insured person who alleged inadequate examination and treatment against a practitioner. The complainant stated that on the first occasion the practitioner placed his ear to the insured person's chest and back outside his clothing, which included a thick overcoat, and on the second occasion placed a stethoscope to his chest, again through his clothing. The practitioner's statement was that he found it quite possible to hear the sounds of a chest through clothing, but that he only did this by way of preliminary examination, and if he found anything suspicious he required the patient to undress. The Medical Service Subcommittee recommended—and the committee accepted the recommendation—that the practitioner had not failed to comply with the terms of service; but Mr. LAYTON raised objection to a statement in the body of the report that "Our medical members (of the Medical Service Subcommittee) advise us . . . that it is possible for a medical practitioner to hear the sound of a patient's chest without removing his clothing, and that such an examination

is often made, as a preliminary, in the case of a patient who is not obviously ill." Dr. Layton said that he did not believe the examination of the chest was ever made properly through the patient's clothing. It was agreed to take back this part of the report for revision.

LOCAL MEDICAL AND PANEL COMMITTEES.

HERTFORDSHIRE.

THE annual meeting of the Herts (Local) Medical and Panel Committee, to which all insurance practitioners in the county are summoned and all other members of the medical profession are invited, will be held at the Abbey Institute, St. Albans, on Wednesday, June 1st, at 3 p.m., when the statutory election of the Panel Committee will take place, and the annual report and financial statement will be presented. Tea will be provided at the Institute about 4.30 p.m., and practitioners are cordially invited to bring ladies. Arrangements will be made for parties to visit the Abbey both during and after the meeting.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

Surgeon Commanders W. G. Edwards and G. C. Cross have been placed on the retired list with the rank of Surgeon Captain.

Surgeon Commanders H. St.C. Colson to the *President* for Royal Naval School, Greenwich; D. P. H. Pearson to the *Victory* for R.N. Barracks, temporary, supernumerary.

Surgeon Lieutenant-commanders G. W. Woodhouse and A. Craig to be Surgeon Commanders.

Surgeon Lieutenant L. P. Spero to the *Victory* for R.N. Hospital, Haslar, temporary, supernumerary.

Messrs. M. L. McCauley and L. A. P. Wiles have entered as Surgeon Lieutenants and have been appointed to R.N. Hospital, Haslar, for course.

ROYAL NAVAL VOLUNTEER RESERVE.

Surgeon Lieutenant Commander A. G. L. Reade, O.B.E., to the *Ramillies* for twenty-one days' training.

Surgeon Lieutenants G. A. Clark and R. H. O. Robinson to be Surgeon Lieutenant Commanders; B. W. C. Archer to the *Victory* for R.N. Hospital, Haslar, additional, for fourteen days' training.

Surgeon Sublieutenant D. R. W. Burbury to the *Victory* for R.N. Hospital, Haslar, for fourteen days' training.

R. Pedlow has entered as Probationary Surgeon Lieutenant and attached to the Ulster Division.

D. W. Bawtree has entered as Probationary Surgeon Sublieutenant and attached to the London Division.

ROYAL ARMY MEDICAL CORPS.

Major N. T. Whitehead, M.C., is restored to the establishment.

The following Captains to be Majors (the notifications are in substitution for those published in the *London Gazette* of the dates indicated in brackets): J. B. A. Wigmore, July 26th, 1924 (August 8th, 1924); E. A. P. Breck, July 31st, 1926 (August 10th, 1926); G. R. Grant, M.C., August 6th, 1925, and J. La F. Lauder, D.S.O., M.C., August 8th, 1926 (August 20th, 1926); F. G. Flood, M.B., August 20th, 1925 (August 27th, 1926); J. J. Magner, M.C., September 22nd, 1926 (October 5th, 1926); J. McP. Mackinnon, October 3rd, 1926 (October 8th, 1926); H. S. Milne, M.C., October 16th, 1926 (October 26th, 1926); G. F. Carr, M.C., December 11th, 1926 (December 21st, 1926); J. H. Baird, January 2nd, 1927, and F. Harris, M.C., January 10th, 1927 (January 18th, 1927); H. R. Sheppard and D. W. Beamish, M.C., January 21st, 1927 (February 1st, 1927); W. K. Campbell, D.S.O., M.C., February 7th, 1927 (February 15th, 1927); E. M. Townsend, M.C., March 8th, 1927 (March 22nd, 1927); P. J. S. O'Grady, March 19th, 1927 (March 29th, 1927).

The following Captains to be Majors: R. R. Thompson, M.C., W. Russell, M.C., A. J. Hickey, M.C., A. E. Richmond, O.B.E. (prov.), T. Young, J. M. Mackenzie, O.B.E., M.C., R. T. Cox, G. S. Douglas.

Captains J. W. Darling, M.C., and H. M. Hart-Smith to be temporary Captains and temporarily relinquish the rank of Captain.

To be Lieutenants: W. G. S. Foster (on probation) and A. Nicolson.

ROYAL AIR FORCE MEDICAL SERVICE.

Squadron Leader R. S. Topham is placed on the retired list at his own request.

Flight Lieutenant L. Game is transferred to the Reserve, Class D2, and is employed with the Regular Air Force for a period of one year.

Flight Lieutenants G. J. Griffiths to R.A.F. British Hospital, Irak; T. W. Wilson to Station Commandant, Hinaidi, Irak; D. B. Smith to R.A.F. Combined Hospital, Irak.

Flying Officer B. L. Edwards to R.A.F. Combined Hospital, Irak.

INDIAN MEDICAL SERVICE.

Colonel G. Tate, Inspector-General of Civil Hospitals, United Provinces, is appointed Surgeon-General with the Government of Bengal.

Colonel C. H. Bensley, C.I.E., K.H.P., has retired from the service.

Lieut.-Colonel J. Husband, an Agency Surgeon, is granted leave on average pay for eight months and on half average pay for one month, under the Fundamental Rules.

Lieut.-Colonel R. F. Baird, Civil Surgeon, Allahabad, is appointed Inspector-General of Civil Hospitals, United Provinces.

Lieut.-Colonel A. N. Dickson, M.C., an Agency Surgeon, is posted as Residency Surgeon, Hyderabad.

Major R. M. Kharegat, an Officiating Agency Surgeon, is posted as Agency Surgeon in Bundelkhand.

Captain J. C. Pyper to be Major.

Lieutenant J. C. Drummond to be Captain.

To be Captains: W. D. B. Read, J. F. Hinksman, and J. L. Donnelly.

To be Lieutenants: P. H. Cummins, J. H. Clapp, W. J. L. Neal, J. J. Beausang, J. F. Bodman, W. J. A. Coldstream, T. D. Donegan, T. A. Malone, and D. P. Lambert.

The services of Captain A. C. Chatterjee are placed temporarily at the disposal of the Government of Bengal.

The services of Captain S. N. Hayes are placed at the disposal of the Government of the Punjab.

REGULAR ARMY RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

Major A. L. Aymer relinquishes his commission and retains the rank of Major.

TERRITORIAL ARMY.

ROYAL ARMY MEDICAL CORPS.

Captain R. Ward, M.C., to be Lieutenant-Colonel and to command the 126th Wessex Field Ambulance.

Captain C. D. Walker resigns his commission and retains his rank.

Lieutenant L. N. Jackson, M.C., late R.F.A. Special Reserve, to be Lieutenant.

Second Lieutenant H. V. Morlock, M.C., late Rifle Brigade, to be Lieutenant.

General Hospitals.—Captain J. F. O'Grady, from the General List, to be Captain, with precedence as from January 16th, 1921; Lieutenants P. Mumford and W. H. Gratrix, from the General List, to be Lieutenants, with precedence as from February 26th, 1924, and February 7th, 1925, respectively.

Hygiene Companies.—Captain J. Cohen, from the General List, to be Captain, with precedence as from January 30th, 1926.

TERRITORIAL ARMY RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

Major J. Ramsay, O.B.E., from the Active List, to be Major.

COLONIAL MEDICAL SERVICES.

Dr. T. L. Craig appointed Assistant Director of the Medical Service, Nigeria (retransferred from Gambia). Drs. T. B. M'Aleer, T. O'Carroll, and G. Simpson appointed Medical Officers, Nigeria. Dr. J. C. C. Hogan, Medical Officer, Nigeria, invalided from the service.

VACANCIES.

BIRMINGHAM: GENERAL HOSPITAL.—Assistant Resident Surgical Officer. Salary £100 per annum.

BIRMINGHAM: ST. CHAD'S HOSPITAL.—Resident Medical Officer. Salary £100 per annum.

BOLTON INFIRMARY AND DISPENSARY.—(1) Two House-Surgeons. (2) Assistant House-Surgeon. Salary for (1) £150 per annum and for (2) £100 per annum.

BOLTON UNION.—Second Assistant Medical Officer at the Townleys Hospital, Farnworth. Salary £225 per annum.

BRADFORD CITY.—Assistant School Medical Officer. Salary £600 per annum.

CANCER HOSPITAL, Fulham Road, S.W.3.—Two House-Surgeons. Salary at the rate of £100 per annum.

CHELSEA HOSPITAL FOR WOMEN, S.W.3.—Junior House-Surgeon (male). Salary at the rate of £100 per annum.

FEDERATED MALAY STATES MEDICAL DEPARTMENT.—Radiologist. Salary £700-£35-£1,120 per annum.

HASTINGS UNION.—Resident Medical Officer, etc. (male). Salary £450 per annum, rising to £550 and fees.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.1.—(1) House-Physician. (2) House-Surgeon. Salary £50 each for six months. (3) Resident Medical Officer (unmarried) at the Branch Hospital, Tadworth Court; salary at the rate of £250 per annum.

KEIGHLEY AND DISTRICT VICTORIA HOSPITAL.—Resident Medical Officer. Salary at the rate of £180 per annum.

LAMBETH BOROUGH COUNCIL.—Medical Officer of Health and Chief Executive Tuberculosis Officer. Salary £1,400 per annum.

LIVERPOOL: STANLEY HOSPITAL.—(1) Male House-Surgeon. (2) Female Gynaecological House-Surgeon. (3) Honorary Assistant Surgeon. Salary for (1) and (2) £100 per annum.

MANCHESTER: ANCOATS HOSPITAL.—House-Surgeon. Salary at the rate of £100 per annum.

MANCHESTER NORTHERN HOSPITAL FOR WOMEN AND CHILDREN.—(1) Senior House-Surgeon. (2) Junior House-Surgeon. Salary £130 and £100 per annum respectively.

MILLER GENERAL HOSPITAL, Greenwich Road, S.E.10.—Anaesthetist. Honorarium 52 guineas per annum.

NEWARK HOSPITAL.—Resident House-Surgeon (male). Salary £200 per annum.

QUEEN MARY'S HOSPITAL FOR EAST END, Stratford, E.15.—Honorary Assistant Physician.

ROYAL FREE HOSPITAL, Gray's Inn Road, W.C.1.—(1) Assistant Surgeon to the Ear, Nose, and Throat Department. (2) House-Surgeon to the Senior Surgeon and Surgeon in charge of Ear, Nose, and Throat Beds. (3) Second House-Surgeon. (4) Third House-Surgeon. (5) First House-Physician. (6) Male Casualty Officer; £100 per annum. (7) Obstetric House-Surgeon. (8) Gynaecological House-Surgeon. (9) Second House-Physician. (10) Obstetric Assistant (District); £100 per annum.

ROYAL NORTHERN HOSPITAL, Holloway Road, N.7.—Assistant Surgical Officer. Honorarium £75 per annum.

ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN, Waterloo Road, S.E.1.—Honorary Assistant Ophthalmic Surgeon.

SALISBURY: GENERAL INFIRMARY.—(1) Pathologist and Bacteriologist; income of £500 a year guaranteed for two years. (2) Honorary Assistant Surgeon.

SMETHWICK COUNTY BOROUGH.—Assistant Medical Officer of Health (male). Salary £550 per annum (if married, £700 per annum without board and residence).

SUNDERLAND: MONKWEARMOUTH AND SOUTHWICK HOSPITAL.—Honorary Surgeon.

TRURO: ROYAL CORNWALL INFIRMARY.—House-Surgeon. Salary £170 per annum.

UNIVERSITY COLLEGE HOSPITAL, Gower Street, W.C.1.—Surgeon on the Staff for Genito-urinary Diseases.

WEST HAM COUNTY BOROUGH.—Second Assistant Medical Officer (male) at the Plaistow Fever Hospital. Salary £300 per annum.

WOLVERHAMPTON AND STAFFORDSHIRE HOSPITAL.—House-Surgeon (unmarried). Salary at the rate of £150 per annum.

CERTIFYING FACTORY SURGEON.—The appointment at Dursley (Glos) is vacant. Applications to the Chief Inspector of Factories, Home Office, Whitehall, S.W.1.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.

APPOINTMENTS.

GIFFEN, D. H., M.D.Lond., D.P.H., Medical Officer of Health for Enfield.

JOHNSTON, H. M., F.R.C.S., Honorary Surgeon, Royal Victoria Infirmary, Newcastle-on-Tyne.

JONES, R. Watson, M.B., Ch.B.Liverp., F.R.C.S., Honorary Assistant Surgeon to the Orthopaedic Department, Liverpool Royal Infirmary.

O'DONOVAN, W. J., M.D., M.R.C.P.Lond., Physician-in-charge of the Skin Department, London Hospital, E.1.

WALKER, G. B. Woodd, M.A., M.B., B.Ch.Cantab., Resident Medical Officer to the Freemasons Hospital and Nursing Home, Fulham Road, S.W.3.

BRISTOL ROYAL HOSPITAL FOR SICK CHILDREN AND WOMEN.—*Physician:* J. A. Birrell, M.D.Lond., M.R.C.P. *Out-patient Physician:* C. A. H. Gee, M.B., Ch.B.Bristol.

CERTIFYING FACTORY SURGEONS.—H. Durbridge, M.R.C.S., L.R.C.P.Lond., for the Matlock District, co. Derby; D. Ferguson, M.B., Ch.B.Glas., D.P.H., for the Buckhaven District, co. Fife; T. W. Rothwell, M.B., Ch.B., for the Sedbergh District, West Riding of York.

DIARY OF SOCIETIES AND LECTURES.

ROYAL SOCIETY OF MEDICINE.

Section of Odontology.—Mon., 5.30 p.m., Annual General Meeting at the Royal College of Surgeons, Lincoln's Inn Fields, W.C.2. The reconstructed Odontological Museum will be opened by the President of the College, Sir Berkeley Moynihan.

Section of Medicine.—Tues., 5 p.m., Annual General Meeting.

Section of Comparative Medicine.—Wed., 5 p.m., Annual General Meeting. Dr. M. J. Rowlands: Rheumatoid Arthritis—Is it a Deficiency Disease? Followed by a discussion to be opened by Professors R. H. Plimmer and J. C. Drummond.

Section of Urology.—Thurs., 8.30 p.m., Annual General Meeting. Professor Hans Wildbolz (Berne): The Indication and Execution of Prostatectomy.

Section of Disease in Children.—Fri., 4.30 p.m., Cases. 5 p.m., Annual General Meeting. Presidential address by Dr. J. D. Rolleston: The Section and its Work, 1908-26.

Section of Epidemiology and State Medicine.—Fri., 8 p.m., Annual General Meeting. Dr. W. S. C. Copeman: The Prophylaxis of Measles, with a suggested scheme for dealing with epidemics.

MEDICO-LEGAL SOCIETY, 11, Chandos Street, W.1.—Thurs., 8.30 p.m., Sir G. Lenthal Cheatle: Some Medico-legal Aspects in the Fracture of Bone; followed by a discussion.

ST. JOHN'S HOSPITAL DERMATOLOGICAL SOCIETY (incorporating the London Dermatological Society), 49, Leicester Square, W.C.—Wed., 4.15 p.m., Clinical Cases.

POST-GRADUATE COURSES AND LECTURES.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION.—s of the medical profession: St. Peter's l London Ophthalmic Hospital, Wed., , Thurs., 2.15 p.m. *All Saints' Hospital,* Afternoons and evenings, demonstra- Wed., special lecture. *London School of* ardens, N.W.: Lecture Demonstrations, *Free Hospital,* Gray's Inn Road, W.C.: *Central London Throat, Nose and Ear Hospital,* Gray's Inn Road, W.C.: Intensive course. *London Lock Hospital,* Dean Street, W.: Clinical course. *Maudsley Hospital,* Denmark Hill, S.E.: Special course in Psychological Medicine. *Infants Hospital,* Vincent Square, S.W.: Afternoon course—special lectures and demonstrations. *Hampstead General Hospital,* Haverstock Hill, N.W.: Special course for general practitioners, 4.30 to 6 p.m., Medicine, Surgery, and the Specialties. All information as to fees, etc., obtainable from the Fellowship of Medicine, 1, Wimpole Street, W.1.

LONDON SCHOOL OF DERMATOLOGY, St. John's Hospital, Leicester Square, W.C.2.—Tues., 5 p.m., Treatment of Syphilis. Thurs., 5 p.m., Electrotherapeutics.

NATIONAL HOSPITAL, Queen Square, W.C.1.—Mon., Tues., Thurs., and Fri., 2 p.m., Out-patient Clinics. Mon., 12 noon, Pathology of the Nervous System; 3.30 p.m., Influence of the Eighth Nerve on Ocular Movements. Tues., 3.30 p.m., Disseminated Sclerosis. Thurs., 3.30 p.m., Optic Atrophy. Fri., 12 noon, Anatomy and Physiology of the Nervous System; 3.30 p.m., Differential Diagnosis in Nervous Diseases. Operations, Tues. and Fri., 9 a.m.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Mon., 2.30 to 5 p.m., Medical, Surgical, and erations. Tues., 2.30 to 5 p.m., Medical, d Ear Clinics; Operations. Wed., 2.30 to ye Clinics; Operations. Thurs., 11.30 a.m., m., Medical, Surgical, and Ear, Nose, and Fri., 10.30 a.m., Throat, Nose, and Ear Clinics; 2.30 to 5 p.m., Surgical, Medical, and Children's Diseases Clinics; Operations; 4.30 p.m., Special Demonstration on Selected Cases of Nerve Diseases.

ROYAL NORTHERN HOSPITAL, Holloway Road, N.—Intensive Course: Mon., 2.15 p.m., Pulmonary Disease; 3.15 p.m., Diseases of the Rectum. Tues., 2.15 p.m., Anaesthesia; 3.15 p.m., Demonstration of Surgical Cases. Wed., 2.15 p.m., Common Skin Ailments; 3.15 p.m., Radium in Gynaecology. Thurs., 2.15 p.m., Disorders of Digestion; 3.15 p.m., Visceroptosis. At Royal Chest Hospital, City Road, E.C.: Fri., 2.15 p.m., Heart Disease; 3.15 p.m., Diseases of the Chest.

SOUTH-WEST LONDON POST-GRADUATE ASSOCIATION, St. James's Hospital, Ouseley Road, Balham, S.W.—Wed., 4 p.m., Chronic Abdominal Enlargement in Children.

ST. MARY'S HOSPITAL, Institute of Pathology and Research, Paddington, W.2.—Thurs., 5 p.m., Insulin in the Treatment of Diabetes and some Other Nutritional Disturbances.

WEST LONDON HOSPITAL POST-GRADUATE COLLEGE, Hammersmith, W.6.—Mon., 10 a.m. to 1 p.m., Genito-urinary Operations, Skin Department, Surgical Wards; 2 p.m., Surgical Wards, Gynaecological and Eye Departments. Tues., 10 a.m. to 1 p.m., Lecture on Clinical Methods, Demonstrations in Venereal Diseases and Chest Cases; 2 p.m., Medical Wards, Throat, Nose, and Ear Department. Wed., 10 a.m. to 1 p.m., Children's Medical Out-patients, Medical Wards, Demonstration in Medical Pathology; 2 p.m., Surgical Wards, Eye Departments. Thurs., 10 a.m. to 1 p.m., Neurological Department, Demonstration of Fractures; 2 p.m., Eye and Genito-urinary Departments, Gynaecological Ward. Fri., 10 a.m. to 1 p.m., Gynaecological Operations, Dental, Skin, and Electrical Departments, Clinical Demonstration; 2 p.m., Throat, Nose, and Ear Department. Sat., 10 a.m. to 1 p.m., Bacterial Therapy Department, Children's Medical Department. Daily: Operations, Medical and Surgical Out-patients at 2 p.m.

GLASGOW POST-GRADUATE MEDICAL ASSOCIATION.—At Eye Infirmary: Wed., 4.15 p.m., Eye Cases.

JAMES MACKENZIE INSTITUTE FOR CLINICAL RESEARCH, St. Andrews.—Tues., 4 p.m., Some Observations on Capillaries.

MANCHESTER ROYAL INFIRMARY.—Tues., 4.15 p.m., Interpretation of X-Ray Findings in Gastro-Intestinal Work. Fri., 4.15 p.m., Anaesthetics.

SHEFFIELD UNIVERSITY POST-GRADUATE CLINICS.—At Royal Infirmary: Fri., 3.30 p.m., Cancer of the Larynx.

British Medical Association.

OFFICES, BRITISH MEDICAL ASSOCIATION HOUSE, TAVISTOCK SQUARE, W.C.1.

Departments.

SUBSCRIPTIONS AND ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate Westcent, London).

MEDICAL SECRETARY (Telegrams: Mediscera Westcent, London).

EDITOR, *British Medical Journal* (Telegrams: Aitiology Westcent, London).

Telephone numbers of British Medical Association and British Medical Journal, Museum 9351, 9352, 9353, and 9354 (internal exchange, four lines).

SCOTTISH MEDICAL SECRETARY: 6, Drumsheugh Gardens, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.: 4361 Central.)

IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Telegrams: Bacillus, Dublin Tel.: 4737 Dublin.)

Diary of the Association.

MAY.

20 Fri. London: Parliamentary Elections Committee, 3 p.m.
Hendon Division: Clinical Meeting, Hendon Cottage Hospital. Dr. T. S. McIntosh on the Recent Outbreak of Small-pox at Hendon, 8.30 p.m.

23 Mon. London: Ophthalmic (Sight-testing Opticians) Subcommittee, 3.30 p.m.

25 Wed. London: Finance Committee, 2.30 p.m.
Kensington Division: Annual Meeting, 21, Westbourne Terrace, W.2, 4.30 p.m.
Lancaster Division: Annual Meeting, Royal Lancaster Infirmary, 8 p.m.
North Middlesex Division: Annual Meeting, Southgate Council Offices, Palmer's Green, 3.30 p.m.
Oxford Division: Radcliffe Infirmary, Oxford. Mr. V. E. Negus on Common Affections of the Larynx, 2.30 p.m.

27 Fri. London: Lunacy Law and Administration Committee, 2.30 p.m.
London: Ophthalmic Committee, 2.30 p.m.
Chesterfield Division: Maternity Hospital, Chesterfield. Mr. A. M. Connell on Injuries met with in Coal Mining, 8 p.m.
East Yorkshire Division: Annual Meeting, Lloyd Hospital, Bridlington, 4.15 p.m. Conducted party over Priory Church, Bayle[illegible]ate, and Museum, 3 p.m.
Rotherham Division: Crown Hotel, 8.30 p.m.

31 Tues. London: Psycho-Analysis Committee, 3 p.m.
Lewisham Division: Clinical Meeting, St. John's Hospital, Lewisham, 8.45 p.m.
South-West Essex Division: Annual Meeting, Wesleyan Schoolrooms, High Road, Leyton. Mr. A. J. Couzens on Personal Experience of Abdominal Disease, 3.30 p.m.

JUNE.

2 Thurs. Guildford Division: Annual Meeting, Royal Surrey County Hospital, Guildford, 4 p.m.

8 Wed. London: **Council**, 10 a.m.

14 Tues. St. Pancras Division: B.M.A. House, Tavistock Square, W.C.1. Mr. J. Paterson on Internal Haemorrhage, 9 p.m.

21 Tues. Metropolitan Counties Branch: Annual Meeting, B.M.A. House, Tavistock Square, W.C.1. Mr. E. B. Turner on Influenza from 1889 to 1927.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcement of Births, Marriages, and Deaths is 9s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

BIRTH.

HARLEY-MASON.—On May 8th, at Mombasa, to Jessie, wife of Robert J. Harley-Mason, M.R.C.S., L.R.C.P., D.T.M. and H., a daughter.

MARRIAGES.

May 12th, J. Roland Hetherington, F.P.S.G., of Newcastle-on-Tyne, to (Nurse) and West Allendale.

SPEER—PATTERSON.—On [illegible]lfast, by Rev. H. J. Rossington, M.A., B.I[illegible] M.B., Devizes, Wiltshire, fourth son of Mr. J. P. Speer, J.P., and Mrs. Speer, Letterkenny, to May, second daughter of Mr. James Patterson, 31, Rugby Road, Belfast, and the late Mrs. Patterson, Duncairn, Holywood.

DEATHS.

BURROW.—At Assouan, Upper Egypt, on April 5th, Joan, wife of Dr. J. le Fleming Burrow, Park Square, Leeds, and Bramhope Grange, near Leeds.

MARTIN.—At his residence, Sandys Place, Newry, on May 10th, S. Edgar Martin, M.A., M.D., in the 76th year of his age. Interred in the family burying ground, Rathfriland.

MULVANY.—On May 9th, at sea, Alderman John Mulvany, J.P., L.R.C.P., in his 71st year. R.I.P.

SHAND.—On May 13th, at Ardencaple Nursing Home, Middlesbrough, William Shand, M.B., C.M., late of Gisborough, in his 72nd year.

STEPHENS.—On May 17th, at The White House, Emsworth, Hants, Edith, the beloved wife of Lockhart Stephens.

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SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, MAY 28TH, 1927.

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British Medical Association.

CURRENT NOTES.

The Report on Tests for Drunkenness.

In October, 1925, the Council of the British Medical Association appointed a special committee to report and make recommendations on tests for drunkenness. The committee was fortunate in securing the assistance of a number of persons of special experience and knowledge to take part in its deliberations. The report of the committee was presented to the Council at its meeting on February 9th and published in the SUPPLEMENT to the BRITISH MEDICAL JOURNAL of February 19th. It has now been reprinted in pamphlet form, price 2d., including postage. Copies can be obtained through any publisher, or direct from the Financial Secretary and Business Manager, B.M.A. House, Tavistock Square, London, W.C.1.

Harnett v. Fisher.

In the SUPPLEMENT of last week (p. 210) was published a resolution adopted at the meeting of the Chichester and Worthing Division asking for information on the absence of editorial comment in the BRITISH MEDICAL JOURNAL on the findings in the case of Harnett *v.* Fisher. The matter was discussed at the meeting of the Journal Committee on May 19th, when it was pointed out that full reports of the case in its earlier stages had been published in the BRITISH MEDICAL JOURNAL, including the proceedings of the appeal to the House of Lords, reported in the issue of March 12th (p. 496). As the House of Lords reserved judgement the case has been *sub judice*, but it is expected that its decision may be given very shortly.

Some Committee Work at Headquarters.

Four committees and one subcommittee met during the week beginning Monday, May 16th. The Central Ethical Committee approved, with minor amendments, a memorandum by the Deputy Medical Secretary reviewing the existing ethical machinery of the Association and putting forward certain suggestions for its extension. The memorandum will be presented to the Council at its next meeting for submission to the Representative Body. The Committee also adopted for submission to the Council and Representative Body a resolution on the question of advertising in the medical press institutions for special treatment. This matter was considered later by the JOURNAL Committee, which took the same view. The Medico-Political Committee had as usual a very heavy agenda covering a number of widely differing matters. Points of special interest arose in connexion with certificates often demanded by employers in cases under the Workmen's Compensation Acts, the new form of death certificate, and the medico-political aspects of the memorandum referred to above on the existing ethical machinery of the Association. The first point is one which has proved extremely troublesome to practitioners who wish to help their patients in every way possible, but naturally object to supplying employers gratis with certificates which the latter have no statutory right to demand from their employees. The Committee decided to make a thorough examination of the whole question next session. The intention of the new form of death certificate submitted by the Registrar-General for the advice of the Committee is to further, so far as possible in the existing state of the law, the Association's long-standing policy that certificates of the cause of death should be treated as confidential documents. The Parliamentary Elections Committee had to consider its report for submission to the Council and Representative Body. It will be remembered that at last year's Annual Representative Meeting some doubt was expressed as to the utility in present circumstances of the Medical Representation in Parliament Fund. The Committee believes that the potentialities of the Fund are by no means exhausted, and is recommending the Council accordingly. The Joint Research Subcommittee has now settled the form of its recommendations with regard to the institution by the Association of a new experiment in collective investigation. These recommendations will be considered by the June meeting of Council, and, if approved, should provide material of more than ordinary interest for discussion by the Representative Body.

Medical Secretaries' Visits.

On May 18th the Medical Secretary was present at a meeting of the Eastbourne Division which considered the issue of an invitation to the Association to hold its Annual Meeting at Eastbourne in the near future. The occasion was marked by an event of considerable interest—namely, the twenty-first anniversary as honorary secretary of the Eastbourne Division, of Dr. Muir Smith, the present holder of the office. It is not often that so long a term of office can be celebrated and the Association as well as the Division has reason to congratulate Dr. Muir Smith upon this landmark in an unusual record of service. During the war Dr. Muir Smith was honorary secretary of the Local Medical War Committee as well as of the Division. On the evening of May 17th the Deputy

Medical Secretary met the members of the medical staff of the Northwood and Pinner Hospital at Northwood to discuss the hospital policy of the Association, and he addressed the members of the Willesden Division next day on the work of the Association during the past year.

Rendering of Accounts to Local Authorities by Doctors called in by Midwives.

The Medico-Political Committee at its last meeting had under consideration complaints by doctors that local authorities had refused to settle accounts which they had sent in for services rendered when called in by midwives under Section 14 of the Midwives Act, 1918, on the ground that these accounts had not been rendered within the statutory period of two months. The position is as follows. Under the Midwives and Maternity Homes Act, which came into force on August 4th, 1926, Section 14 (2) of the Midwives Act, 1918, which governs the payment to doctors by local authorities of fees when they are called in on the advice of midwives, has been amended to read as follows:

"It shall be a condition of the payment of such fee that the medical practitioner so called in shall state in his claim to the local supervising authority the nature of the emergency, and shall submit his claim within two months from the date on which he was called in."

It is, therefore, the law that these accounts must be rendered within the prescribed period, and the Medico-Political Committee was informed officially that any local authority paying accounts not sent in within the statutory period would be surcharged by the auditor. The definite period was inserted in the Act because some doctors in the past had been very dilatory in sending in their accounts, thereby putting local authorities to great inconvenience in keeping their accounts in order. It is important that members of the profession should make a special note of the position and render an account to the local authority as soon as the attendance on a given case is completed.

NOTICES OF MOTION BY DIVISIONS FOR THE ANNUAL REPRESENTATIVE MEETING, EDINBURGH, 1927.

Locumtenents' Bureaux.

By GATESHEAD: That (with reference to paras. 24 and 25 of the Annual Report of Council) in the opinion of this meeting the Council has exceeded its instructions and failed to realize the basic policy set forth in Minutes 57, 58, and 59, A.R.M. 1925.

Advertisements of Pathological Institutes.

By GATESHEAD: That (with reference to the recommendations contained in para. 96 of the Annual Report of Council) the Representative Body disapproves of the policy advocated in relationship to the advertisement of Pathological Institutes such as is referred to in the first recommendation of Council upon Pathological Institutes, and instructs the Council to summarily exclude advertisements of such Pathological Institutes from the columns of the BRITISH MEDICAL JOURNAL, this seeming to be in accord with the views expressed in paragraph 91 of the Annual Report.

Medical Practitioners Engaged in Municipal Maternity Hospitals.

By GATESHEAD: That (with reference to paras. 115 and 116 of the Annual Report of Council) the following resolution of the Annual Representative Meeting, 1926:

> *Minute 92.*—Resolved: That where a general practitioner is called upon to render assistance at a confinement in a Municipal Maternity Hospital, the fees payable to such practitioner should not be less than the scale of fees approved by the Ministry of Health for the payment by Local Supervising Authorities to medical practitioners called in on the advice of midwives under Section 14 of the Midwives Act, 1918.

be amended (*a*) by the insertion, after the words a "confinement," of the words "or any condition arising directly out of parturition"; and (*b*) by the addition after the words "Midwives Act, 1918," of the words "but that the time limit of 28 days should be removed and the local supervising authority be responsible for the fees of medical practitioners under a similar scale until such time as the patient is removed from hospital."

Association Notices.

COUNCIL ELECTION.

THE names of members already declared elected to the Council for the session 1927-28 in respect of the nineteen groups of Home Branches in which there were no contests were published in the BRITISH MEDICAL JOURNAL SUPPLEMENT of May 7th, 1927 (p. 197). Dr. T. FRASER, C.B.E., D.S.O. (Aberdeen) has been elected as a result of the voting in the group comprising the Aberdeen, Dundee, Northern Counties of Scotland, and Perth Branches.

ELECTION OF FOUR REPRESENTATIVES AND FOUR DEPUTY REPRESENTATIVES BY PUBLIC HEALTH SERVICE MEMBERS.

The voting by the Public Health Service Members has resulted in the election of four representatives on the Representative Body of the Association, 1927-28, as follows:

Dr. T. EUSTACE HILL, O.B.E., Durham.
Professor H. KERR, O.B.E., Newcastle-on-Tyne.
Dr. R. A. LYSTER, Hampshire.
Dr. E. WARD, South Devon.

and of four deputy representatives, as follows:

Dr. C. W. HUTT, Holborn, as Dr. HILL's deputy.
Dr. A. A. MCWHAN, Berwickshire, as Professor KERR's deputy.
Dr. A. MIDDLETON HEWAT, London, as Dr. LYSTER's deputy.
Dr. G. H. PEARCE, Batley, as Dr. WARD's deputy.

TABLE OF DATES.

June 2, Thurs.	Last date for receipt at Head Office of names of Representatives and Deputy Representatives.
June 8, Wed.	*Council.*
June 16, Thurs.	*Meetings of constituencies* must be held between this date and July 15th, to instruct Representatives.
June 25, Sat.	Supplementary Report of Council appears in SUPPLEMENT.
July 1, Fri.	Amendments and riders by Divisions and Branches for inclusion in A.R.M. Agenda must be received at Head Office by this date
July 15, Fri.	*Annual Representative Meeting*, Edinburgh, 10 a.m. Nominations for election of 12 members of Council by grouped Representatives must be received (at A.R.M., Edinburgh) by this date, 2 p.m.
July 16, Sat.	*A.R.M.* (Edinburgh).
July 18, Mon.	*Council* (Edinburgh) *A.R.M.* (Edinburgh).
July 19, Tues.	*A.R.M.* Annual General Meeting, Edinburgh, President's Address.
July 20, Wed.	*Council* (Edinburgh). Conference of Honorary Secretaries (Edinburgh). *Meetings of Sections*, etc., Edinburgh.
July 21, Thurs.	*Meetings of Sections*, etc., Edinburgh.
July 22, Fri.	*Meetings of Sections*, etc., Edinburgh.

ALFRED COX, *Medical Secretary.*

BRANCH AND DIVISION MEETINGS TO BE HELD.

EAST YORK AND NORTH LINCOLN BRANCH: EAST YORKSHIRE DIVISION.—The annual general meeting of the East Yorkshire Division will be held at Bridlington to-day (Friday, May 27th). Programme: 3 p.m.—The members will meet at the Priory Church and will be conducted over it by Canon Topham, after which the curator, Mr. Charlesworth, will show the party over the Bayle Gate and the museum. 4.15 p.m.—On adjourning to the board room of the Lloyd Hospital the business meeting will be held. Agenda: Annual report of the Executive Committee; financial statement; election of officers; representatives on the Branch Council, and Executive Committee. Tea will be provided by the hospital staff.

EDINBURGH BRANCH.—The annual meeting of the Edinburgh Branch will be held in the Scottish House of the Association, 6, Drumsheugh Gardens, Edinburgh (telephone: Edinburgh 24361), on Wednesday, June 15th, at 3.30 p.m. Tea will be served from 3.15. Business: Report of Branch Council, including the annual reports of Branch and of Divisions; treasurer's annual report and business; election of office-bearers for 1927-28; report of election of representative for 1927-28 for the Edinburgh and Fife Branches to the Council of the Association; election to the annual vacancy on the board of management of the Queen Mary Nursing Home; Annual Meeting of the Association in Edinburgh in July—reception by Branch; any other competent business.

KENT BRANCH.—The fourteenth annual meeting of the Kent Branch will be held at the Spa Hotel, Tunbridge Wells, on Wednesday, June 15th. The Council will meet in the morning. The President-Elect, Dr. F. R. B. Bisshopp, kindly invites each member attending and his wife to luncheon at the Spa Hotel at 2 p.m. Annual meeting, 3 p.m. Agenda: Report of the election of new officers, who thereupon take office; thanks to retiring officers; report of Branch Council and financial statement; appointment of

auditor; inaugural address by the President. Garden party by the President and Mrs. Bisshopp at 4 p.m. Annual dinner (morning dress) at Spa Hotel (tickets 7s. 6d. each, exclusive of wines, which will be provided by the Tunbridge Wells Division), 7 p.m. Competition for the Tennyson-Smith golf challenge cup on the Spa Golf Club course. Intending competitors should at once send in their names, addresses, and handicaps to Dr. F. C. Linton, 6, Earl's Road, Tunbridge Wells, who will give all necessary information. Members intending to be present at the annual meeting are requested to send a postcard to Dr. D. Davies, 8, Lonsdale Gardens, Tunbridge Wells, not later than Saturday, June 11th, stating whether they will attend: (1) The President-Elect's luncheon, and whether alone or accompanied; (2) the annual meeting; (3) the annual dinner. The Spa Hotel is under a mile from the railway station and has ample accommodation for parking cars.

METROPOLITAN COUNTIES BRANCH.—The annual general meeting of the Metropolitan Counties Branch will be held at the British Medical Association House, Tavistock Square, W.C.1, on Tuesday, June 21st, at 4 p.m. Business: (1) Report of scrutineers on election of officers; (2) Annual Report of Council; (3) report of representatives of the Branch on the Central Council; (4) to sanction the necessary alterations in the rules of the Branch to enable the president-elect to become an *ex-officio* member of all committees; (5) presidential address by Mr. E. B. Turner, F.R.C.S., entitled "Influenza from 1889 to 1927: its therapeutic and clinical aspects."

METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.—A clinical evening arranged by the Lewisham Division will take place at St. John's Hospital, Lewisham, on Tuesday, May 31st, at 8.45 p.m.

METROPOLITAN COUNTIES BRANCH: SOUTH-WEST ESSEX DIVISION.—The annual meeting of the South-West Essex Division will be held in the Wesleyan Schoolrooms, High Road, Leyton (near Midland Station), on Tuesday, May 31st, at 5.30 p.m. sharp. Agenda: Correspondence; annual report of Division; election of officers for session 1927-28; lecture by Mr. A. J. Couzens, F.R.C.S., surgeon, Queen Mary's Hospital, Stratford: Personal experiences of abdominal disease, mainly from the diagnostic standpoint. Members are asked to make a special effort to attend this, the last meeting of the session. Tea at 3.15 p.m

METROPOLITAN COUNTIES BRANCH: ST. PANCRAS DIVISION.—A meeting of the St. Pancras Division will be held at the British Medical Association House, Tavistock Square, W.C.1, on Tuesday, June 14th, at 9 p.m. Mr. J. Paterson, C.B.E., will read a paper on internal haemorrhage.

MIDLAND BRANCH: CHESTERFIELD DIVISION.—A meeting of the Chesterfield Division will be held at the Maternity Hospital, Chesterfield, to-day (Friday, May 27th), at 8 p.m. Mr. A. M. Connell, professor of surgery in the University of Sheffield, will give an address on "Some of the injuries frequently met with in coal mining and their treatment by the general practitioner."

NORTH OF ENGLAND BRANCH: CLEVELAND DIVISION.—The annual general meeting of the Cleveland Division will be held at the Zetland Hotel, Saltburn, on Thursday, June 9th, at 3 p.m. Agenda: Letter from the secretary; statement of accounts: (*a*) annual financial, (*b*) voluntary fund, (*c*) dance; annual report of the Executive Committee; correspondence; election of representative and officers for 1927-28. Members attending the meeting and desirous of being served with tea should hand in their names to the hotel office on arrival. Tea will be served at 4 o'clock, charge 2s., payable at the time of booking.

NORTH OF ENGLAND BRANCH: TYNESIDE DIVISION.—A golf match has been arranged to take place between the South Shields and Tyneside Divisions on Sunday, July 3rd, at Brancepeth. Lunch, 1 p.m.; singles, 2 p.m.; tea, 5 p.m.; foursomes, 6 p.m. As the object of the meeting is to further social intercourse, it is hoped that all members who have ever wielded a club will do so on this occasion, and that others who do not play will come also.

SOUTH MIDLAND BRANCH: NORTHAMPTON DIVISION.—A meeting of the Northampton Division will be held at the General Hospital, Northampton, to-day (Friday, May 27th), at 3 p.m. Agenda: Annual Report of Council; medical charities; appointment of a divisional charities secretary, if considered advisable.

SUFFOLK BRANCH: SOUTH SUFFOLK DIVISION.—A meeting of the South Suffolk Division will be held at the Crown and Anchor Hotel, Ipswich, to-day (Friday, May 27th), at 3.30 p.m. Non-members are also invited. Agenda: Business arising out of minutes; election of representative in Representative Body. A lecture on the modern attitude to functional nerve disease will be given by Dr. Hugh Crichton Miller.

SURREY BRANCH: GUILDFORD DIVISION.—The annual meeting of the [illegible] e held at the Royal Surrey County Hospital, [illegible] .. June 2nd, at 4 p.m. Tea will be served at 3.45 p.m.

YORKSHIRE BRANCH: HUDDERSFIELD DIVISION.—The annual picnic of the Huddersfield Division will take place on Wednesday, June 15th. The char-a-banc will leave York Place at 12.30 p.m. for Malham. Afternoon tea will be served at the Airedale Private Hotel on arrival at Malham about 3 p.m. The afternoon will be spent in and around Malham. Gordale Scar and Malham Cove are both within easy walking distance and there will be time to walk to both. The char-a-banc will leave Malham at 6 p.m. for Skipton, where dinner will be served at the Black Horse Hotel at 7 p.m. The char-a-banc will leave Skipton at 8 p.m., and return via Ilkley to Huddersfield, where the party should arrive about 10 p.m. The inclusive charge for char-a-banc, tea, dinner (exclusive of drinks), and tips will be £1 a head; for those going in their own cars 10s. a head. Arrangements for the dinner must be completed by Saturday, June 11th.

YORKSHIRE BRANCH: ROTHERHAM DIVISION.—A meeting of the Rotherham Division will be held at the Crown Hotel to-day (Friday, May 27th), at 8.30 p.m. Agenda: Report of Executive Committee as to the scale of minimum commencing salaries for public health medical officers, and recommendation of Executive to adopt resolution under Ethical Rules; Annual Report of Council; appointment of representative in Representative Body; annual report of Division for 1926.

Meetings of Branches and Divisions.

CAPE OF GOOD HOPE (MIDLAND) BRANCH.

THE April meeting of the Cape Midland Branch was held at Graaff Reinet on April 23rd, when the President, Dr. J. G. MUTERER, was in the chair.

A visit was paid to van Ryneveld's Pass irrigation dam, after which the party motored to Dalham, where they were entertained to tea by Mrs. Walter Rubidge. A most enjoyable luncheon, presided over by Dr. MASSEY, followed at the Graaff Reinet Hotel, where the visitors were entertained by the local doctors, additional guests being representatives of the dental and legal professions. Reference was made to the fact that the meeting was the direct outcome of Dr. Cox's visit to Graaff Reinet last year.

The members then proceeded to the Midlands Hospital, where the meeting of the Branch was constituted. After Drs. Berg (Aberdeen) and Symington (Beaufort West) had been welcomed as guests, clinical cases were shown as follows:

Dr. H. C. HUDSON (Graaff Reinet) showed: (1) A European, wounded in France, who had received a bullet wound in the neighbourhood of the left groin, the point of exit of the missile being on the right buttock. The bullet, in its passage, had affected the femoral or common iliac artery, for a powerful, apparently sustained, thrill was palpable over the groin. On auscultation a loud aneurysmal bruit could be heard and traced in the line of the femoral artery as far as the popliteal space. A discussion on aneurysmal varix and varicose aneurysm followed. (2) A native child, aged 2½, with a large swelling underneath the tongue. When the case was first seen some months previously, the tumour was about the size of a large orange, completely blocking the mouth, and it had actually pushed out of the jaw all the lower incisor teeth and the canines. The swelling had been incised and a large amount of fetid material evacuated. Although much smaller in size now, it had filled up with clear fluid from time to time. In the differential diagnosis ranula and sublingual cyst were discussed.

Dr. BERG, who had brought two cases with him from Aberdeen (thirty-five miles away) by car, showed: (1) A native male, aged 11, who showed marked sabre blade deformity of both tibiae. The nasal cartilages had been attacked by the syphilitic process as far as the nasal bones, and the whole body was in an ulcerated condition. An interesting feature of the family history was that there were seven other children of the same parents, and all were apparently quite healthy. (2) A European girl, aged 11, who presented the features of the juvenile type of pseudo-hypertrophic muscular paralysis. The father and mother were both well, and there was no evidence of the condition having occurred in previous generations. Dr. Berg stated that her elder sister was suffering from the same condition, and probably would not live longer than a week. Her brother, aged 14, had died two months ago from the same condition. The third, her sister aged 13½, showed no signs of the condition. The fourth member of the family was the patient. Another brother and sister, aged 8 and 3 respectively, were perfectly well.

Dr. R. D. LAURIE (Port Elizabeth) demonstrated the following pathological specimens: (1) A five months' gravid uterus (foetus *in situ*) with fibroid, the size of a pineapple, undergoing red degeneration. (2) One of his own teeth with "abscess" attached which had been extracted after radiography because of a polyneuritis of some years' duration. A complete cure had been effected. Dr. R. D. Laurie showed also some dental radiograms indicative of dental sepsis, and a specimen of carneous mole from a case under the care of Dr. Wilson.

Dr. GORDON ROBSON showed a specimen of cerebral abscess, a full account of the case having been published recently in the *Journal of the Medical Association of South Africa*.

The cases and specimens were discussed very fully by the members present, who then adjourned for tea on the invitation of Matron Wallace.

On resuming, Dr. KARL BREMER (President-Elect) read a most informative paper on certain aspects of hydatid disease, which was most appreciated, especially by those members who had come from non-hydatid districts. Dr. R. M. LEITH (Port Elizabeth) read a paper on nasal polypi, and showed specimens. The paper contained much information of value to the general practitioner. Dr. GORDON ROBSON (Port Elizabeth) read some notes on the urea concentration test in its medical and surgical bearings. The reader hoped that the test, because of its simplicity, would be used more frequently in the elucidation of renal conditions. A general discussion on the three papers followed.

Dr. KARL BREMER then referred to this meeting as a medical oasis in the lives of the country members, laid particular stress on accessibility by road and rail being a powerful consideration in the determination of Branch and Division areas, and moved the

following resolution, which was seconded by Dr. HUDSON (Graaff Reinet) and directed to be sent to the Federal Council:

That it is desirable to form a Division of the Cape Midland Branch to comprise the districts of Graaff Reinet, Aberdeen, Murraysburg, Richmond, Jansenville, and Steytlerville.

This was unanimously agreed to.

LANCASHIRE AND CHESHIRE BRANCH: BURNLEY DIVISION.

A SCIENTIFIC meeting of the Lancashire and Cheshire Branch was held in the Victoria Hospital, Burnley, on February 23rd, when Dr. T. SNOWBALL, chairman of the Division, presided. The president of the Branch, Dr. Burton, and the honorary secretary of the Branch, Dr. A. C. Sturrock, were present, and cordial invitations were extended to all medical practitioners in Burnley and the district.

Mr. J. H. WATSON (Burnley) read a paper on fractures; Dr. HAWORTH (Nelson) discussed the physical examination of the heart *in disease*: and Dr. R. I. C. RODGERS (Burnley) read a paper on cholecystography; cases were shown by the medical and surgical staff of the hospital. Dr. PRIESTLEY, pathologist to the Burnley Corporation and Victoria Hospital, gave a demonstration in the pathological laboratory. Tea was afterwards provided for the members by the hospital board of management.

The meeting was very successful, and the comment was made by Dr. STURROCK that it was the first time within his memory that a Division had invited a Branch to a scientific meeting and had provided all the papers and demonstrations.

LANCASHIRE AND CHESHIRE BRANCH: CREWE DIVISION.

IN response to an invitation from Dr. Spriggs, the Crewe Division met at Ruthin Castle (Duff House), North Wales, forty-five miles from Crewe, on Wednesday, May 11th.

Dr. E. I. SPRIGGS received the party and gave a brief survey of the work of the institution. The visitors were shown over the various departments where demonstrations on diagnosis and treatment were given. They were much impressed by the completeness of the equipment for the scientific investigation and treatment of disease; the *x*-ray room received special attention. After tea, provided by Dr. Spriggs, the visitors made a tour of the older parts of the castle and grounds. Dr. PATTERSON, who conducted the party, gave an interesting résumé of the history of the castle, and with the help of maps and plans reconstructed as much as was known of the original lay-out of the place. On reassembling in the hall, Dr. ENGLISH (chairman) thanked Dr. Spriggs for his very great kindness in entertaining the party and in affording them such an interesting, instructive, and enjoyable outing.

METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.

THE annual general meeting of the Lewisham Division was held at the Town Hall, Catford, on May 17th, when Lieut.-Colonel C. THOMSON was in the chair.

The annual report was read and it was agreed to circulate it to the members with the next notice of meeting.

The following officers were elected:

Chairman, Dr. W. E. Hallinan, *M.C. Vice-Chairman*, Dr. J. W. Miller. *Honorary Secretary*, Dr. C. J. B. Buchan. *Representative in Representative Body*, Dr. D. B. I. Hallett. *Deputy Representative in Representative Body*, Dr. C. J. B. Buchan

The Annual Report of the Council was considered and the recommendation in regard to pathologists received special attention.

METROPOLITAN COUNTIES BRANCH: MARYLEBONE DIVISION.

THE annual general meeting of the Marylebone Division was held on May 13th and was well attended. Dr. D. S. ROXBURGH was in the chair.

After the annual report had been read by the HONORARY SECRETARY the meeting proceeded to elect divisional officers, representatives, and deputy representatives, and to nominate various members for office on the Branch Council.

The Annual Report of Council was next considered. Dr. C. O. HAWTHORNE opened the discussion on pathologists and pathological institutes; after a short discussion a resolution approving of the Council's report on this matter was carried.

Mr. WALTER G. SPENCER read a short paper on the Dogs Bill. This elicited considerable discussion in which LORD DAWSON, Mr. BISHOP HARMAN, and Drs. HAWTHORNE, GOODBODY, and ROXBURGH took part. A resolution in the same terms as that at the meeting held at the British Medical Association House on April 4th, 1927 (SUPPLEMENT, April 9th, p. 114), was carried unanimously.

The Landlord and Tenants Bill No. 2 was discussed in an opening paper by Dr. GRAHAM LITTLE, M.P., who held out hopes that professional premises would be included in the bill.

A vote of thanks to the retiring officers of the Division was proposed by Dr. C. O. Hawthorne, who called for special recognition of the services of the retiring honorary secretary after eight years' service. The motion was ordered to be placed on record in the minute book. Dr. SPURGIN briefly replied.

WILTSHIRE BRANCH.

THE annual general meeting of the Wiltshire Branch was held at the County Mental Hospital, Devizes, on May 11th, when the President, Mr. H. H. GREENWOOD, was in the chair.

The following officers were elected:

President, Dr. Tangye. *President*, Mr. H. H. [illegible] A. W. K. Straton, *Vice-in Representative Body*, Dr. C. E. S. Flemmi[illegible] *in Representative Body*, Dr. J. E. Gordon. He[illegible] Bond.

The following resolution proposed by Dr. FLEMMING was adopted

That this meeting approves of ante-natal examination and is anxious that any movement to encourage it should be supported in every way but is of opinion that more harm than good will be done if an attempt is made to carry out the work in the manner suggested by the form issued by the Central Midwives Board for use by midwives.

A copy of the resolution was directed to be sent to the British Medical Association, the Central Midwives Board, the Ministry of Health, and the Wilts County Council.

Dr. TANGYE announced that he was preparing a simpler form which would be better adapted for use by the average midwife, and the matter was referred to the Medical Advisory Committee.

After the meeting the members were entertained to tea, and were shown round the institution.

YORKSHIRE BRANCH: WAKEFIELD, PONTEFRACT, AND CASTLEFORD DIVISION.

THE annual meeting of the Wakefield, Pontefract, and Castleford Division was held at the Great Bull Restaurant, on May 12th, preceded by supper at 7.45 p.m. Dr. T. GIBSON was in the chair, and nineteen other members were present.

Correspondence in reference to street accidents and medical charities was read, and the honorary secretary was instructed to act in accordance with Circular D11 26-27, when it was necessary again to circularize members.

Some discussion took place with reference to an inquest on a hospital patient when the local coroner called a night sister to give evidence instead of the resident medical officer, who was thus deprived of his fee. In view of the fact that the new Coroners Act had only recently come into force, it was decided to take no action in the matter.

The following officers were elected for the ensuing year:

Chairman, Dr. T. Gibson. *Vice-Chairman*, Dr. H. Scholefield. *Honorary Secretary and Treasurer*, Dr. N. S. Twist. *Representative in Representative Body*, Dr. Steven. *Deputy Representative*, Dr. Duff.

Rules of organization for the Division were adopted.

The Annual Report of the Council was discussed, and appreciation of its contents was expressed.

The annual report of the Division recorded a membership of 87. During the year seven lecture meetings with an average attendance of 30 took place, and were much appreciated; the Executive Committee met on four occasions.

At the conclusion of the general business, Dr. G. C. ANDERSON, Deputy Medical Secretary, gave an extremely interesting and lucid account of the work of the Association during the past year. On the motion of Dr. HILLMAN, seconded by Dr. STEVEN, a vote of thanks to Dr. Anderson was carried with acclamation.

YORKSHIRE BRANCH: YORK DIVISION.

THE annual meeting of the York Division was held on May 7th. At the commencement of the proceedings Dr. P. MACDONALD was in the chair.

With reference to travelling expenses for medical witnesses in coroners' courts the HONORARY SECRETARY reported that the East Riding County Council had, at his request, reconsidered the matter, and had subsequently agreed to allow the expenses.

The annual report of the honorary secretary having been circulated was approved.

The following officers were elected:

Chairman, Dr. G. W. Gostling. *Vice-Chairman*, Dr. N. C. Forsyth. *Honorary Secretary*, Dr. J. C. Lyth. *Representative in Representative Body*, Dr. P. Macdonald. *Deputy Representative in Representative Body* Dr. H. E. K. Reynolds.

In the absence of Dr. G. W. Gostling, the vice-chairman, Dr. N. C. FORSYTH, succeeded to the chair.

On the motion of Dr. LYTH, seconded by Dr. EVELYN, a hearty vote of thanks was accorded to the retiring chairman, Dr. P. Macdonald, for his services during the past year.

The annual report of the Council was discussed and the representative duly instructed.

It was decided to approve the following fees arranged for police calls in the West Riding area between the honorary secretary and the chief constable, subject to reasonable mileage being paid: 7s. 6d. for day call and 10s. 6d. between 10 p.m. and 8 a.m.

In connexion with the 1,300th anniversary of St. Peter's School, York, Dr. LYTH called attention to a proposed memorial to be erected in the shape of a new library for the school, and suggested that the Division might mark its appreciation of the advantages to the local medical profession of such a school by raising a voluntary fund towards the memorial. After discussion it was resolved that a fund should be raised to allow of an annual science prize being given to the school, to be known as the British Medical Association Science Prize, and that members be asked to subscribe to this fund subject to a sum of not less than £50 being promised before the 1,300th anniversary (June 29th).

Reference was made to a circular issued by the Medical Defence Union and the London and Counties Medical Protection Society, regarding limitation of liability, and urging the desirability of an *x*-ray examination in every case of injury to a bone or joint. The honorary secretary was instructed to write to headquarters explaining the concern felt by the Division at the limitation of liability, and requesting that the matter should be taken up with the societies.

The HONORARY SECRETARY reported that in compliance with the request from the Medical Secretary, he had communicated with Sir John Marriott, M.P., urging him to use his vote and influence against the passage of the Dogs Bill, and had received a sympathetic reply.

GENERAL COUNCIL
OF
MEDICAL EDUCATION AND REGISTRATION.

SUMMER SESSION, 1927.

THE one hundred and twenty-fifth session of the General Medical Council opened on Tuesday, May 24th, at its house in Hallam Street, London. Sir DONALD MACALISTER, Bt., K.C.B., presided.

Appointments.

The appointment of the following new members of Council was officially notified: Dr. E. Farquhar Buzzard, as representative of the Royal College of Physicians of London for five years from January 27th, 1927, and of Dr. H. H. Dale, as Crown nominee for five years from April 22nd, 1927. Both the new members were introduced by Sir Humphry Rolleston and took their seats. Professor Thomas Sinclair was also introduced on his reappointment as Crown nominee for Northern Ireland for five years from May 13th, 1927. Professor Sinclair was introduced by Dr. J. A. Macdonald.

PRESIDENT'S ADDRESS.

Sir Donald MacAlister then delivered the following address from the chair.

Gentlemen,—Two years ago it fell to me to intimate the retirement of our able colleague, Sir Isambard Owen, after a long life of distinguished service to University education in England and Wales. I have now, with regret, to announce that he died in Paris on January 14th, at the age of 75, happy in the fruition of his manifold labours, and in the enjoyment of the honour these had brought him.

Retirements and New Appointments.

Sir Nestor Tirard, a Crown member for England, and Sir Edward Coey Bigger, Crown member for Ireland, have retired on the expiration of the term for which they were appointed.

We cannot part with Sir Nestor without grateful acknowledgement of the valuable assistance he has for thirty-two years, and in numerous capacities, rendered to the Council in connexion with its work on the *Pharmacopoeia*. As secretary, reporter, medical editor, member and honorary secretary of the Pharmacopoeia Committee, and representative of the Council on a succession of national and international conferences and committees, he has freely given of his time and labour to the advancement of pharmacopoeial knowledge, and the improvement of pharmacopoeial organization. He was originally appointed in 1895 to act as secretary to the Pharmacopoeia Committee, and to assist the President in matters relating to the *Pharmacopoeia*. Three presidents in succession have had abundant reason to be thankful to him for his faithful and effective help, and none more than myself during the twenty-three years of my presidential association with him. He has amply earned, and I am sure he will receive, the thanks and good wishes of the Council, and indeed of the profession at large.

In filling the vacancy caused by Sir Nestor Tirard's retirement, His Majesty in Council has been graciously pleased to have regard, as before, to our responsibility for the production of the *British Pharmacopoeia*. The new Crown member is Dr. Henry Hallett Dale, C.B.E., F.R.S., M.A., M.D., F.R.C.P., Secretary of the Royal Society, Head of the Department of Biochemistry and Pharmacology of the Medical Research Council, and like Sir Nestor a member of the Advisory Committee under the Therapeutic Substances Act, soon to become fully operative. Dr. Dale's great eminence in the application of pharmacological and biochemical science to medicine, and his administrative experience in many fields, will render him specially welcome to the Council in general, and to the Pharmacopoeia Committee in particular. Having had the privilege of association with him in detailed inquiries bearing on the *Pharmacopoeia*, I can testify to his grasp of its problems, and his readiness to further their solution. It is with real and hearty satisfaction that I have given him in your name the right hand of fellowship. I have no doubt that your enlightened self-interest will move you to appoint him forthwith to the Pharmacopoeia Committee, in the hope that his multitudinous avocations will permit him, in growing measure, to afford it his aid and counsel.

For ten years Sir Edward Coey Bigger has co-operated with us, particularly in matters concerning public health and professional examinations, on which he is recognized as an expert authority. He has just furnished the Executive Committee with a useful and interesting report on his recent visit to universities and medical schools in Australia and Ceylon. It is an incidental consequence of the establishment of the Irish Free State, in which, after holding high office in the medical service of former Governments, he is now a senator and chairman of the Public Health Council, that he leaves us for other duties. He will carry with him, into the new spheres of administrative usefulness that are entrusted to his charge, our sincere and very friendly congratulations.

No new member, but an old and experienced colleague, Colonel Thomas Sinclair, C.B., M.P., and Senator of Northern Ireland, has taken Sir Edward's place as Crown member for Ireland. We shall, therefore, still continue to enjoy the benefit of his kindly wisdom. The Queen's University of Belfast has not yet nominated a successor to Colonel Sinclair.

The Royal College of Physicians of London has, however, sent us, in the room of Sir Humphry Rolleston, now member for Cambridge University, a worthy successor in the person of Dr. Edward Farquhar Buzzard, M.A., M.D., Physician Extraordinary to the King, and an old Oxford "blue." He will find on the Council many who already know and appreciate his published writings on neurological medicine, and who will value his personal acquaintance and his fellowship in the work of the Council.

The Council will learn with regret that we can no longer call upon Mr. E. W. Hansell, K.C., for the service as Assessor he has, since 1920, most efficiently and acceptably rendered. We can but offer him our congratulations on the promotion to judicial office which has placed him beyond our reach, and the assurance of our unfailing regard for him as jurist and as friend.

In order that you may not be without skilled advice during the present meeting, I have, with the approval of the Executive Committee, arranged for the attendance of Mr. Douglas Bartley, who has already been invited to advise the Dental Board as its assessor. In the course of the session I shall take your instructions regarding the future.

The Position in the Irish Free State.

I mentioned in my address last November that the Medical Act, 1926, of the Irish Free State would expire in February, 1927, unless fresh legislation was carried through. A Medical Act, 1927, was accordingly passed in that month to enable the existing arrangements to be continued until June 21st, 1927. In the meantime, conferences have taken place between the Governments of Great Britain and Northern Ireland and the Free State, at which I was courteously invited to be present. These have happily resulted in an agreement which has been signed on behalf of the three Governments, has been ratified by the Free State Legislature, and now awaits parliamentary ratification in this country. It provides that the Medical Acts hitherto in force in Great Britain and Ireland shall continue to apply to the Free State, as concerns the functions, constitution, powers, authorities, and jurisdiction of the General Medical Council and its Branch Councils. It provides that the direct representative for Ireland shall continue to be elected by the registered practitioners resident in any part of Ireland, and that the Crown member for Ireland shall be appointed by His Majesty in Council on the recommendation of the Governor of Northern Ireland. And it ensures that practitioners registered in the *Medical Register* shall be entitled to be registered and to practise in the Free State.

By an Act of the Oireachtas a Free State Medical Council has been established to maintain a local medical register distinct from the *General Register*, and to exercise in regard to it a jurisdiction distinct from that of the General Council. But the jurisdiction of the General Council in Southern Ireland will not be displaced or diminished for any purpose of admission to or removal from the *General Register*, or of maintaining the standard of professional education and examination in reference to registrable qualifications granted in Ireland.

The provisions of the agreement appear to me, after careful, and indeed anxious, consideration, to afford a satisfactory solution of the professional problems created by the establishment of the new Governments in Ireland. It is equitable as between autonomous Governments. It is practicable from an administrative point of view. Above all, it necessitates no change in the relations that have so long subsisted between the General Council, its Irish Branch Council, and the licensing bodies and medical practitioners of Ireland.

Reciprocity with Quebec.

The Executive Committee has received information to the effect that the Legislature of the Province of Quebec has abrogated Section 48 of its Medical Law. This section enacted that practitioners registered in Great Britain and Ireland under the Medical Acts were entitled to be licensed to practise in the Province, provided Part II of the Medical Act, 1886, was applied to Quebec. That application was made in this country, for the purpose of thus establishing reciprocity, in 1908; and for nearly twenty years the medical degrees granted by Laval and McGill Universities have been registrable in our *Register*. If the abrogation of the section is confirmed, practitioners registered in this country will henceforth be denied the privilege of registration in the Province, to which they have hitherto been entitled. It will, therefore, become the Council's duty to represent to His Majesty in Council that the conditions laid down in the Medical Act, 1886, are no longer fulfilled in Quebec, and to suggest that the Order in Council of 1908 should accordingly be rescinded. From a letter sent on behalf of the Provincial Council it appears that "the ever-increasing number of 'strangers' who come to exchange their English licence" for that of Quebec has moved the Council to procure the repeal of reciprocity.

Indian Universities.

The visit paid to India during the winter months by Sir Norman Walker and Colonel Needham, on the invitation of the Secretary of State, with the concurrence of the Government of India and of the provincial authorities, was successfully completed in March. I am happy to say that, though Sir Norman gravely risked his health and Colonel Needham sacrificed his home leave in undertaking the journey, both have returned home safe and well. They speak warmly of the manner of their welcome everywhere, and of the opportunities of conference and counsel afforded them by the Viceroy, the Governors of the Presidencies and Provinces, the Universities and Colleges, and the medical profession throughout India. Communications which have reached me from these and other sources testify that the visit was regarded as of deep importance for the future of Indian medicine, and that the Council's acceptance of the invitation addressed to its representatives had been rightly interpreted as attesting its sincere interest in India and its genuine wish to contribute to her progress in professional education. The Council owes a special debt of gratitude to its envoys for the way in which they have carried through their delicate and difficult mission, and for the happy impression of the Council's purpose and desire they have conveyed to the Indian authorities.

They have now reported to the Executive Committee on those parts of their comprehensive survey that concern the immediate question before the Committee—namely, the continuance for a further period of the recognition granted to certain Indian medical degrees. A report of a satisfactory nature has been received regarding the efficiency of the Medical College at Singapore; and also reports dealing with Calcutta, and with the new Universities of Rangoon, Patna, and Andhra, which call for detailed consideration. To these reports, and to certain larger questions of primary importance on which much has still to be reported, the Committee proposes to devote its July session. In particular it is imperative to discuss what steps can be contrived to maintain in India, for degrees that may be recognized for extra-Indian purposes, the standards of education and examination that are necessary to guarantee their sufficiency for registration and practice in this country. It is clear that recognition, renewed from year to year under conditions that cannot be fully complied with, does not afford a solution of the problem. The whole subject must be placed on a more satisfactory basis. The condition of periodic visitation and inspection through the direct agency of the Council is no longer practicable The number of universities and medical colleges has greatly increased. They are scattered over a vast area from Bombay to Rangoon. And in future the high personal qualifications and ample experience of our present visitors may not be at our disposal. Thus it appears highly expedient that steps toward a new method should now be taken. These steps must originate in India, and we learn that Indian proposals, bearing on the subject of central direction, have already been under consideration by the Government and the Legislature. Whatever method is adopted, it seems necessary for efficiency that it should be carried out as a function of Government, or by some single authority in India with which the Council could communicate directly, and from which it could obtain from time to time the information it requires to enable it to fulfil its duties under Part II of the Medical Act, 1886. In view of the commissions that will soon be set up to consider *inter alia* improvements in the machinery of Indian administration, it may be opportune for the Council to call the attention of the Secretary of State to the *lacuna* in medical organization I have indicated. In order to give an opportunity for the initiation of improved arrangements in this regard, the Executive Committee have at this session resolved to renew for one year more the recognition hitherto accorded to the medical degrees of Bombay, Madras, Lahore, and Lucknow.

Births and Deaths Registration Act.

I am asked by the Ministry of Health to call the attention of the Council and of the profession to the fact that the Births and Deaths Registration Act, 1926, comes into operation on July 1st, 1927. Section 6 provides that "Every certificate of cause of death required to be given by Section 20 of the Births and Deaths Registration Act, 1874, shall be in the prescribed form; and the forms to be furnished under paragraph (1) of that section shall be the forms so prescribed." The new forms are less ambiguous than the old, and are intended to enable practitioners to furnish the precise information that is essential for the compilation of accurate national statistics. Medical practitioners will do well, in view of the Council's *Warning Notice* concerning laxity in certification, to give heed to the altered form of testimony which the law now requires; and teachers of medical students, in giving them the instructions "on the duties which devolve on practitioners in relation to the State," recommended in the Council's resolutions on the curriculum, will no doubt take the opportunity of pointing out the obligations imposed by the new law concerning death certification.

The Pharmacopœia.

The Committees on the *Pharmacopœia*, and on the Poisons and Pharmacy Acts, to which I referred in my last address, have been occupied in taking evidence on the subjects referred to them. They are, I understand, shortly to proceed to the preparation of their reports, and these we may hope to have before us at our next session.

Disciplinary Inquiries.

Much of your time will be taken up by judicial inquiries of a disciplinary nature, and the usual reports from Standing Committees, some of them dealing with large questions of medical education and examination, will be presented. Unless something unforeseen occurs, there is reason to hope that the session will not extend beyond this week.

National Insurance.

LONDON COUNTY COUNCIL OPINION ON THE ROYAL COMMISSION REPORT.

SEVERAL committees of the London County Council have been examining the majority and minority reports of the Royal Commission on National Health Insurance, and their observations were presented to the Council on May 24th. The only matter which directly affects the Council, apart from its position as an employer of labour, is the proposed abolition of insurance committees and the transference of their powers and duties to the appropriate local authorities. This proposal is welcomed by all the four committees of the Council to which the question has been referred. The Public Health Committee considers it to be an encouraging step in the direction of that unification of local administration which is essential in order to attain efficiency and economy in health services. The outstanding feature in the findings of the Royal Commission, in the Public Health Committee's view, is the unanimous opinion that the insurance scheme should be considered not merely as a self-contained system, but in its relation to those other important and varied activities of the State which are concerned in the promotion of health. The defect arising from the multiplication of administrative bodies and division of functions in respect to health services is one which, the Public Health Committee states, has been acutely felt for years by those intimately concerned with public health work. The committee regrets, however, that the Commission has not seen its way to entertain the proposal put to it by the Council for certain grants and allowances from insurance funds in aid of work centres and other benefits for tuberculous persons in connexion with the national scheme for the treatment of tuberculosis. The Special Committee on Health Administration in London concurs in these views. The Finance Committee thinks that some increase of expenditure might at first follow the amalgamation of staffs of the Council and the Insurance Committee, though eventual economies would be possible, and the committee is of opinion that there is no reason why the Council should not administer the insurance service as economically as this has been done hitherto. The Local Government Committee of the Council shares these opinions.

Correspondence.

Payments Under the Midwives Acts.

SIR,—Medical practitioners have recently been refused payment for assisting midwives in emergencies by the Devon County Council, on the ground that the accounts for such assistance have not been sent in within two months from the date of the first attendance. Reading Section 2, subsection 2, of the Midwives Act, 1926, with Section 14, subsection 2, of the Midwives Act, 1918, it is a condition of payment of such fees that the accounts must be rendered within two months from the date of the first attendance, and therefore, strictly speaking, the Devon County Council are within their rights as laid down by statute in refusing to consider a claim for fees under the Midwives Acts which is rendered after the two months statutory period.

It [illegible] of this regulation is conveyed to the [illegible], and those who are not familiar with the Midwives Acts are consequently not aware that it is important to render their accounts as soon as possible. Even if there are solid grounds for stringently requiring the early rendering of such accounts it would seem to be only fair that due intimation of this most unusual condition should be communicated to the practitioners concerned.

The matter is not one of interest to the medical profession only, it also concerns the public very seriously, since the result of failure to obtain payment in such circumstances has led medical practitioners to decline to attend cases on the summons of a midwife. It would be very unfortunate if this state of affairs should continue or extend.

—I am, etc.,

HUGH WOODS,
General Secretary, London and Counties Medical Protection Society, Ltd.

May 23rd.

*** A current note bearing on this subject appears at p. 214 this week.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

Surgeon Commanders J. D. Keir to the *Barham*, additional, and as Squadron Medical Officer from date of joining; W. W. D. Chilcott to the *Vivid* for R.N. Barracks, Devonport, and as Specialist in Ophthalmology; F. H. Holl to the *Vivid* for R.N. Barracks, Devonport; R. Willan to the *Excellent*, temporary, and as Specialist in Ophthalmology (amended appointment); B. S. Robson to the *Vivid* for R.M. Infirmary, Plymouth.

Surgeon Lieutenant Commanders K. A. I. Mackenzie to the *Victory*, additional, and for P. and R.T. School, Portsmouth, and as Specialist in P.R.T.; B. S. Collings to the *Revenge*; G. J. M. Kerrigan to the *Impregnable*; J. J. Carroll to the *Tamar*, additional, and for Hong-Kong Dockyard.

Surgeon Lieutenants J. Johnston to the *Dahlia*; R. Burns to the *Adamant*; J. C. Souter to the *Stuart*; L. P. Sayers to the *Benbow*; C. R. Moore to the *Wallace*; J. B. Horan to the *Furious*.

ROYAL ARMY MEDICAL CORPS.

The following Captains to be Majors: C. H. G. Penny (prov.), H. E. P. Yorke, M.C.

Lieutenant (on probation) H. McVicker is confirmed in his rank.

J. D. Dillon to be temporary Lieutenant.

W. F. Cooper to be Lieutenant (on probation).

ROYAL AIR FORCE MEDICAL SERVICE.

Squadron Leader F. E. Johnson to Heliopolis Details.

Flight Lieutenants J. Perry-Evans to No. 208 Squadron, Egypt; F. L. White to No. 2 Armoured Car Company, Palestine; L. C. Palmer-Jones to No. 4 Flying Training School, Egypt.

Flight Lieutenant H. H. R. Bailey relinquishes his temporary commission on completion of service.

Flying Officer R. Thorpe to No. 4 Squadron, South Farnborough.

INDIAN MEDICAL SERVICE.

Lieut.-Colonel W. R. Battye, D.S.O., has resumed charge of the appointment of Administrative Medical Officer in Central India and Residency Surgeon, Indore.

Lieut.-Colonel G. Hutcheson, Officiating Inspector-General of Civil Hospitals and Prisons, Assam, is confirmed in that appointment.

Major-General R. Heard, C.I.E., Lieut.-Colonel C. A. Gourlay, D.S.O., and Major J. G. B. Shand have retired from the service.

COLONIAL MEDICAL SERVICES.

Dr. W. J. D. Innes, Director of Medical and Sanitary Services, Sierra Leone, appointed Director of Medical and Sanitary Services, Gold Coast. Dr. D. D. McCarthy appointed Medical Officer, Zanzibar. Drs. E. A. Trim and N. M. Maclennan appointed Medical Officers, Kenya. Dr. S. G. Harrison appointed Medical Officer, the Gambia. Dr. F. Ross promoted Specialist, Medical Department, Nigeria. Dr. J. C. Cruikshank confirmed in his appointment as Medical Officer, the Gambia. Dr. J. C. S. McDonall, Assistant Director Medical and Sanitary Service, Nigeria, transferred to Sierra Leone.

VACANCIES.

BELFAST: MATER INFIRMORUM HOSPITAL.—Honorary Radiologist.

BIRMINGHAM EDUCATION COMMITTEE.—Assistant School Medical Officer (male). Salary £600 per annum.

BRADFORD CITY.—Assistant School Medical Officer. Salary £600 per annum.

BRISTOL GENERAL HOSPITAL.—Honorary Clinical Assistants.

BRISTOL ROYAL INFIRMARY.—House-Physician. Salary at the rate of £80 per annum.

BURSLEM: HAYWOOD HOSPITAL.—Honorary Radiologist.

CHELSEA HOSPITAL FOR WOMEN, S.W.3.—Junior House-Surgeon (male). Salary at the rate of £100 per annum.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE HEART AND LUNGS, Victoria Park, E.2.—House-Physician (male). Salary at the rate of £100 per annum.

DEVONSHIRE HOSPITAL, Buxton.—Assistant House-Physician. Salary £150 per annum, rising to £175 after three months.

FEDERATED MALAY STATES MEDICAL DEPARTMENT.—Radiologist. Salary £700-£35-£1,120 per annum.

FOOT-AND-MOUTH DISEASE RESEARCH COMMITTEE.—Research Officer. Salary up to £750.

HAMPSTEAD GENERAL AND NORTH-WEST LONDON HOSPITAL, Haverstock Hill, N.W.3.—(1) Casualty Surgical Officer at the Out-patient Department. (2) House-Surgeon. Salary in each case at the rate of £100 per annum.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.1.—(1) House-Physician. (2) House-Surgeon. Salary £50 each for six months. (3) Resident Medical Officer (unmarried) at the Branch Hospital, Tadworth Court; salary at the rate of £250 per annum.

KENT AND CANTERBURY HOSPITAL, Canterbury.—Third Resident Medical Officer. Salary £125 per annum.

KENT COUNTY MENTAL HOSPITAL, Chartham, near Canterbury.—Junior (Fourth) Assistant Medical Officer and Pathologist (male). Salary £350 per annum.

LIVERPOOL AND SAMARITAN HOSPITAL FOR WOMEN.—House-Surgeon. Salary at the rate of £100 per annum.

LONDON HOSPITAL, E.—Resident First Assistant to the Gynæcological and Obstetric Department. Salary £300 per annum.

LONDON UNIVERSITY.—University Chair of Pathology tenable at St. Bartholomew's Hospital Medical College. Salary £1,000 a year, together with £500 as Pathologist to the Hospital.

MANCHESTER: ANCOATS HOSPITAL.—House-Surgeon. Salary at the rate of £100 per annum.

MANCHESTER EDUCATION COMMITTEE.—Two Assistant School Medical Officers (males). Salary £600 per annum, rising to £750 each.

MANCHESTER: ROYAL MANCHESTER CHILDREN'S HOSPITAL.—Senior Medical Officer for Out-patient Department (non-resident). Salary £300 per annum.

MIDDLESBROUGH: NORTH RIDING INFIRMARY.—Honorary Anæsthetist.

MILLER GENERAL HOSPITAL, Greenwich Road, S.E.10.—Assistant Physician.

NEWARK HOSPITAL.—Resident House-Surgeon (male). Salary £200 per annum.

NEWCASTLE-ON-TYNE CITY MENTAL HOSPITAL, Gosforth, Newcastle-on-Tyne.—Junior Assistant Medical Officer (male). Salary £350 per annum.

NORTH MIDDLESEX HOSPITAL, Edmonton, N.18.—Assistant Medical Officer. Salary £400 per annum.

OXFORD: RADCLIFFE INFIRMARY AND COUNTY HOSPITAL.—(1) House-Surgeon. (2) Obstetric House-Physician. Salary at the rate of £120 per annum each.

QUEEN CHARLOTTE'S MATERNITY HOSPITAL, Marylebone Road, N.W.1.—Assistant Resident Medical Officer. Salary £80 per annum for three months, rising to £100 on appointment as Senior.

QUEEN MARY'S HOSPITAL FOR THE EAST END, Stratford, E.—(1) Honorary Assistant Physician. (2) House-Physician. (3) Two House-Surgeons. (4) Obstetric House-Surgeon. (5) House-Physican and Casualty Officer.

ROCHDALE INFIRMARY.—Junior House-Surgeon (male). Salary £200 per annum.

ROCHESTER: ST. BARTHOLOMEW'S HOSPITAL.—Resident Surgical Officer (unmarried). Salary at the rate of £225 per annum.

ROYAL DENTAL HOSPITAL OF LONDON, Leicester Square, W.C.2.—Honorary Pathologist.

ROYAL LONDON OPHTHALMIC HOSPITAL, City Road, E.C.1.—Out-patient Officers. Salary at the rate of £100 per annum.

ROYAL NORTHERN HOSPITAL, Holloway Road, N.7.—Assistant Surgical Officer. Honorarium £75 per annum.

ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN, Waterloo Road, S.E.1.—Honorary Assistant Ophthalmic Surgeon.

SALVATION ARMY (MOTHERS' HOSPITAL), Lower Clapton Road, E.5.—Junior Resident Medical Officer (female). Salary at the rate of £60 per annum.

SEAMEN'S HOSPITAL SOCIETY.—Assistant Medical Officer at King George's Sanatorium for Sailors, Liphook, Hants. Salary at the rate of £200 per annum.

SHEFFIELD: ROYAL INFIRMARY.—House-Surgeon. Salary at the rate of £80 per annum.

SMETHWICK COUNTY BOROUGH.—Assistant Medical Officer of Health (male). Salary £550 per annum (if married, £700 per annum without board and residence).

SOUTH LONDON HOSPITAL FOR WOMEN, South Side, Clapham Common, S.W.4.—Clinical Assistant (woman) to the Ear, Nose, and Throat Department.

SOUTHAMPTON: FREE EYE HOSPITAL.—House-Surgeon. Salary £150 per annum.

SUNDERLAND: MONKWEARMOUTH AND SOUTHWICK HOSPITAL.—Honorary Surgeon.

VICTORIA HOSPITAL FOR CHILDREN, Tite Street, Chelsea.—Senior Resident Medical Officer (male). Salary £250 per annum.

WEST DERBY UNION.—Resident Assistant Medical Officer (male) at the Walton Institution, Rice Lane, Liverpool. Salary at the rate of £200 per annum.

WEST HERTS HOSPITAL, Hemel Hempstead.—Resident Medical Officer. Salary £150.

WHICKHAM URBAN DISTRICT COUNCIL.—Medical Officer (lady) of Maternity and Child Welfare Centres. Fee £1 11s. 6d. per session.

WILLESDEN GENERAL HOSPITAL, Harlesden Road, N.W.10.—(1) Honorary Surgeon to Ear, Nose, and Throat Department. (2) Out-patient Clinical Assistants.

WINDSOR: KING EDWARD VII HOSPITAL.—Junior House-Surgeon. Salary at the rate of £100 per annum.

YORK DISPENSARY.—Resident Medical Officer (female). Salary £150 per annum.

CERTIFYING FACTORY SURGEONS.—The following vacant appointments are announced: Canterbury (Kent), Chepstow (Mon.), Tarbert (Argyll), Totnes (Devon). Applications to the Chief Inspector of Factories, Home Office, Whitehall, S.W.1.

MEDICAL REFEREES UNDER THE WORKMEN'S COMPENSATION ACT.—(1) Dumfries County. (2) Districts of Chester, and Nantwich and Crewe County Courts. Applications for (1) to the Private Secretary, Scottish Office, Whitehall, S.W.1, and for (2) to the Private Secretary, Home Office, Whitehall, S.W.1, by June 15th.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.

APPOINTMENTS.

WATT, Lily M., M.B., Ch.B.Aberd., D.P.H., Assistant Child Welfare Officer for the county of Durham.

YOUNG, W. Arthur, M.B., B.S.Lond., Professor of Bacteriology to King Edward VII College of Medicine, Singapore.

CERTIFYING FACTORY SURGEONS.—D. Davies, M.R.C.S., L.R.C.P., for the Resolven District (Glamorgan); A. W. McGregor, L.R.C.P. and S.Edin., for the Mauchline District (Ayr).

DIARY OF SOCIETIES AND LECTURES.

ROYAL SOCIETY OF MEDICINE.

Section of Surgery.—3.30 to 5 p.m., Cases. 3.45 p.m., Mr. Wardill: Demonstration of Apparatus for the Estimation of Palatal Incompetence, with especial Reference to Deficiencies of Speech. 5 p.m., Discussion: The Treatment of Cleft Palate by Operation; to be opened by Sir James Berry and Mr. Grey Turner.

Section of Comparative Medicine.—Thurs., 5 p.m., Adjourned Meeting to conclude the Discussion of the Paper by Dr. M. J. Rowlands on Rheumatoid Arthritis—Is it a Deficiency Disease?

Social Evening.—Fri., 8.30 p.m., Reception by the President and Lady Berry. Members of the Inter-State Post-Graduate Assembly of North America will be invited. 9.30 p.m., Address by Dr. G. W. C. Kaye, Superintendent, Physics Department, National Physical Laboratory, Teddington, on X Rays and Some of their Uses.

POST-GRADUATE COURSES AND LECTURES.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION.—*Royal Waterloo Hospital.* Mon., 2 p.m., Lecture: Diabetes. *Samaritan Hospital for Women.* Mon., 2 p.m., Clinical Demonstration. Free to members of the medical profession.

LONDON SCHOOL OF DERMATOLOGY, St. John's Hospital, Leicester Square, W.C.2.—Tues., 5 p.m., Drug Eruptions. Thurs., 5 p.m., Eczema.

NATIONAL HOSPITAL, Queen Square, W.C.1.—Mon., Tues., Thurs., Fri., 2 p.m., Out-patient Clinics. Mon., 12 noon, Pathology of the Nervous System; 3.30 p.m., Spastic Paraplegia. Tues., 3.30 p.m., Neuro-syphilis. Thurs., 3.30 p.m., Encephalitis Lethargica—the Chronic Stage. Fri., 12 noon, Anatomy and Physiology of the Nervous System; 3.30 p.m., Differential Diagnosis in Nervous Diseases. Operations: Tues. and Fri., 10 a.m.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.15.—Mon., 2.30 to 5 p.m., Medical, Surgical, and Gynaecological Clinics; Operations. Tues., 2.30 to 5 p.m., Medical, Surgical, Throat, Nose, and Ear Clinics; Operations. Wed., 2.30 to 5 p.m., Medical Skin and Eye Clinics; Operations. Thurs., 11.30 a.m., Dental Clinics; 2.30 to 5 p.m., Medical, Surgical, and Ear, Nose, and Throat Clinics; Operations. Fri., 10.30 a.m., Throat, Nose, and Ear Clinics; 2.30 to 5 p.m., Surgical, Medical, and Children's Diseases Clinics; Operations; 4.30 p.m., Special Demonstration on Selected Cases of Nerve Diseases.

ROYAL NORTHERN HOSPITAL, Holloway Road, N.—Tues., 3.15 p.m., Dyspepsia in Children.

ST. MARY'S HOSPITAL, Institute of Pathology and Research, Paddington, W.2.—Thurs., 5 p.m., Alkalinity of the Blood.

SOUTH-WEST LONDON POST-GRADUATE ASSOCIATION.—Wed., 3.30 p.m., Visit to the Wellcome Museum of Medical Sciences, Endsleigh Gardens, W.C.1.

WEST LONDON HOSPITAL POST-GRADUATE COLLEGE, Hammersmith, W.6.—Mon., 10 a.m. to 1 p.m., Genito-urinary Operations, Skin Department, Surgical Wards; 2 p.m., Surgical Wards, Gynaecological and Eye Departments. Tues., 10 a.m. to 1 p.m., Lecture o . . . . . Venereal Diseases and Chest Ca . . . . . Nose, and Ear Department. Wed.. . . . . Out-patients, Medical Wards, D . . . . . 2 p.m., Surgical Wards, Eye Departments. Thurs., 10 a.m. to 1 p.m., Neurological Department, Demonstration of Fractures; 2 p.m., Eye and Genito-urinary Departments, Gynaecological Ward. Fri., 10 a.m. to 1 p.m., Gynaecological Operations, Dental, Skin, and Electrical Departments, Clinical Demonstration; 2 p.m., Throat, Nose, and Ear Department. Sat., 10 a.m. to 1 p.m., Bacterial Therapy Department, Children's Medical Department. Daily: Operations, Medical and Surgical Out-patients at 2 p.m.

JAMES MACKENZIE INSTITUTE FOR CLINICAL RESEARCH, St. Andrews.—Tues., 4 p.m., The Interpretation of the Opaque Meal.

MANCHESTER ROYAL INFIRMARY.—Tues., 4.15 p.m., The Parathyroid Gland and its Use in Medicine.

SHEFFIELD UNIVERSITY POST-GRADUATE CLINICS.—At Jessop Hospital: Tues., 3.30 p.m., Some Obstetrical Emergencies. At Royal Infirmary: Fri., 3.30 p.m., Clinical Cases.

British Medical Association.

OFFICES, BRITISH MEDICAL ASSOCIATION HOUSE, TAVISTOCK SQUARE, W.C.1.

Departments.

SUBSCRIPTIONS AND ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate Westcent, London).

MEDICAL SECRETARY (Telegrams: Mediscera Westcent, London).

EDITOR, *British Medical Journal* (Telegrams: Aitiology Westcent, London).

Telephone numbers of British Medical Association and British Medical Journal, Museum 9851, 9862, 9863, and 9864 (internal exchange, four lines).

SCOTTISH MEDICAL SECRETARY: 6, Drumsheugh Gardens, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.: 4361 Central.)

IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin (Telegrams: Bacillus, Dublin Tel.: 4737 Dublin.)

Diary of the Association.

MAY.

27 Fri. London: Lunacy Law and Administration Committee, 2.30 p.m.
London: Ophthalmic Committee, 2.30 p.m.
Chesterfield Division: Maternity Hospital, Chesterfield. Mr. A. M. Connell on Injuries met with in Coal Mining, 8 p.m.
East Yorkshire Division: Annual Meeting, Lloyd Hospital, Bridlington, 4.15 p.m. Conducted party over Priory Church, Bayle Gate, and Museum, 3 p.m.
. . . . . General Hospital, Northampton, 3 p.m.
. . . . . own Hotel, 8.30 p.m.
. . . . . Crown and Anchor Hotel, Ipswich.
. . . . . on Functional Nerve Disease, 3.30 p.m.

31 Tues. London: Psycho-Analysis Committee, 3 p.m.
Lewisham Division. Clinical Meeting, St. John's Hospital, Lewisham, 8.45 p.m.
South-West Essex Division: Annual Meeting, Wesleyan Schoolrooms, High Road, Leyton. Mr. A. J. Couzens on Abdominal Disease from the Diagnostic Standpoint, 3.30 p.m.

JUNE.

2 Thurs. Guildford Division: Annual Meeting, Royal Surrey County Hospital, Guildford, 4 p.m.

8 Wed. London: Council, 10 a.m.

9 Thurs. Cleveland Division: Annual Meeting, Zetland Hotel, Saltburn, 3 p.m.

10 Fri. London: Library Subcommittee, 2.30 p.m.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcement of Births, Marriages, and Deaths is 9s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

BIRTH.

MATHISON.—On May 17th, at 30, Willoughby Road, Hornsey, N.8, to Madaline, the wife of Arthur J. Mathison, M.R.C.S., L.R.C.P., a daughter.

MARRIAGE.

GARSCADDEN—BEAULANDS.—At Bolton Abbey Church, by the Rev. C. F. Tomlinson, Andrew Vint Garscadden, M.B., Ch.B., to Marjorie, younger daughter of Mr. and Mrs. Ellis Beaulands, "The Rhyddings," Ilkley, Yorks. At home, June 23th and 30th at "Dial House," Burley-in-Wharfedale, Yorks.

DEATH

BRYCE.—On Sunday, May 8th, 1927, at 72, Stroud Green Road, London, N., John Richmond Bryce, M.D., D.P.H., Barrister-at-law, in his 66th year.

Printed and published by the British Medical Association, at their Office, Tavistock Square, in the Parish of St. Pancras, in the County of London.

SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, JUNE 4TH, 1927.

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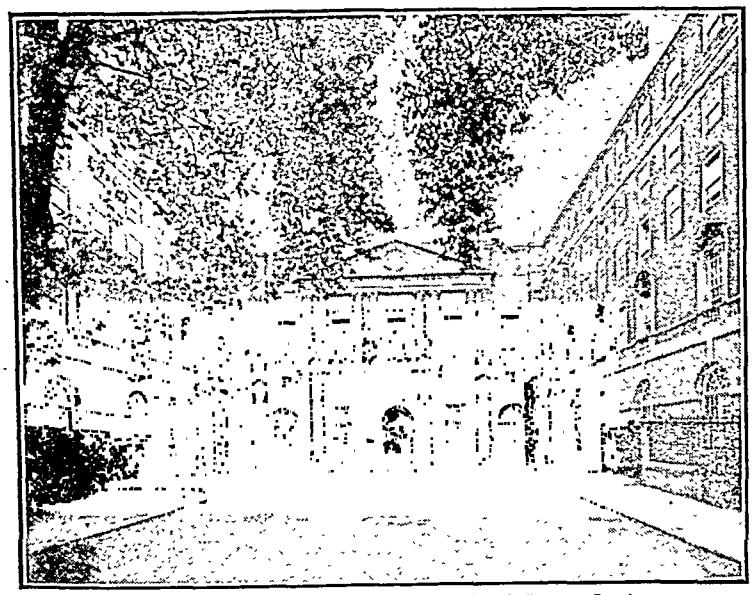
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British Medical Association.

CURRENT NOTES.

British Medical Association Library.

The Association's library contains more than 30,000 volumes, including books in all branches of medical literature. It is open on weekdays from 10 a.m. to 6.30 p.m. (Saturdays from 10 a.m. to 2 p.m.). The librarian and his assistant are always ready to help members to find books or references. Besides the facilities afforded to members for consulting monographs, periodicals and works of reference in the library, books in all branches of medical literature and general science can be obtained on loan by members resident in the British Isles, free of charge (other than any postage), from the lending department. The lending facilities include, beside works on medicine, surgery, anatomy, physiology, bacteriology, hygiene, dentistry, obstetrics, and other branches of medical and surgical science, the subjects of astronomy, biology, botany, chemistry, electricity, engineering, geology, microscopy, mining, physics, philosophy, sociology, technology, voyages and travels, zoology, etc. The books issued include latest editions, new books and new editions becoming available on publication. Books can ordinarily be retained for twenty-eight days. Communications as to the library and lending department should be addressed to the Librarian, British Medical Association House, Tavistock Square, London, W.C.1.



The British Medical Association House, Tavistock Square, London.

Help to Individual Members.

The Association is naturally in possession of a very large amount of information on all matters affecting medical practitioners in whatsoever aspect of their professional lives. It is thus often able to help members individually in difficulties of a professional nature, and doing so constitutes a considerable part of its daily work. The medical department alone has some 5,000 files, dealing with all branches of medical activity. The intelligence department, besides assisting in the collecting and recording of information, has a complete supply of press cuttings on matters concerning the profession, and this information, together with that arising in the course of correspondence, is so far as possible filed in such a way as to be readily available for the help of members through the medium of the editorial and medical departments. Inquiries by members, whether through the honorary secretaries of Divisions or Branches or otherwise, on any matter of doubt or difficulty affecting them in their professional capacity are welcomed; such inquiries should be addressed to the Medical Secretary. Expert opinion on income-tax questions as affecting the profession is published in the British Medical Journal. The Solicitor of the Association is consulted when legal matters arise which affect the general interests of the profession.

Scholarships, Grants, and Prizes awarded by the Association.

The sum devoted by the British Medical Association for the encouragement of research has steadily increased during the past few years. The Association's scholarships for the promotion of research into subjects relating to the causation

prevention, or treatment of disease were among the first of their kind, and these scholarships still meet a real need on the part of members of the profession who hold junior appointments and are at the same time prosecuting research. A new prize—the Katherine Bishop Harman Prize—has recently been inaugurated for research on disorders incident to maternity. By the Middlemore Prize original work in ophthalmology is recognized, and the Stewart Prize is gained by contributions made to the study of epidemic disease. The Sir Charles Hastings Prize of 50 guineas has been established in memory of the founder of the British Medical Association for the purpose of stimulating systematic observation, research, and record in general practice; the first award was made in 1926. Of recent years a subject for essays has also been proposed annually to senior medical students, and in connexion with these essays the Association gives annually fourteen prizes of £10 each. Further particulars of any of the above can be obtained on application to the Medical Secretary of the Association.

Handbook for Recently Qualified Medical Practitioners.

The second edition of the Association's *Handbook for Recently Qualified Medical Practitioners* was issued in April of last year. The demand for this guide to the intricacies of medical practice has been so great as to necessitate a reprint, and it is evidently not confined to the newly qualified, for whom the handbook was primarily intended. A special feature of the present edition is the amount of space devoted to the practical aspects of medical work, including the legal and social obligations of the practitioner. The appendices include the *Warning Notices* issued by the General Medical Council, the rules as to ethics of medical consultation approved by the Representative Body of the British Medical Association, and the memorandum on the duties of doctors and dentists under the Dangerous Drugs Acts, 1920-23, issued by the Home Office. The handbook can be obtained on application to the Financial Secretary and Business Manager, price 3s. 8½d. post free. Copies are presented to newly qualified practitioners through the Divisions and Branches.

"Kenya and East African Medical Journal."

With formal recognition by the Tanganyika Branch of the British Medical Association, the *Kenya Medical Journal* has changed its name, and, beginning with the issue of April, 1927, will be published as the *Kenya and East African Medical Journal*. We have referred more than once to the steady growth of this enterprising periodical since its modest appearance four years ago as a typewritten sheet with the title of the *Journal of the Kenya Medical Service* under the editorial direction of its founder, Dr. C. J. Wilson of Nairobi. By April, 1924, it was circulating through Kenya Colony, Uganda, Tanganyika, and Zanzibar, and its name was changed to the *Kenya Medical Journal*. Since then its expansion has been steady, and it has contained various important articles, including reports on sleeping sickness in Uganda, and the mosquito breeding areas of Nairobi. The current issue includes an account by Dr. P. Manson-Bahr of his recent experiences in the diagnosis of liver abscess, and Dr. W. H. Kauntze continues his report of an investigation into the value of polyvalent vaccine in the prophylaxis of bacillary dysentery in East Africa. The *Kenya and East African Medical Journal* is to be congratulated particularly on its valuable work in co-ordinating medical practice in the East African colonies.

The Association and the Ophthalmic Service of the Community.

Two aspects of the present position with regard to the provision of an improved ophthalmic service for the public were under consideration by the appropriate committees last week. On May 23rd the Ophthalmic Subcommittee approved the draft memorandum of evidence for submission by the Association to the Departmental Committee to consider the Optical Practitioners (Registration) Bill. This memorandum was considered by the Ophthalmic Committee on the 27th and approved, with certain amendments, for submission to the Council on June 8th. The Ophthalmic Committee also considered the very difficult question of the provision for ophthalmic benefit as an additional benefit under the National Health Insurance Acts, and formulated certain general principles for submission to the Council as regards the substitution of the clinic system for the present method.

Medical Secretaries' Visits.

On May 25th the Deputy Medical Secretary addressed the senior students at University College Hospital on the choice of a career. The attendance might have been larger, but the address seemed to be appreciated by those who were present. The chair was taken by the Dean of the medical school, Dr. A. M. H. Gray.

Association Notices.

TABLE OF DATES.

June 8, Wed.	*Council.*
June 16, Thurs.	Meetings of constituencies must be held between this date and July 15th, to instruct Representatives.
June 25, Sat.	Supplementary Report of Council appears in SUPPLEMENT.
July 1, Fri.	Amendments and riders by Divisions and Branches for inclusion in A.R.M. Agenda must be received at Head Office by this date.
July 15, Fri.	*Annual Representative Meeting*, Edinburgh, 10 a.m. Nominations for election of 12 members of Council by grouped Representatives must be received (at A.R.M., Edinburgh) by this date, 2 p.m.
July 16, Sat.	*A.R.M.* (Edinburgh).
July 18, Mon.	*Council* (Edinburgh). *A.R.M.* (Edinburgh).
July 19, Tues.	*A.R.M.* Annual General Meeting, Edinburgh, President's Address.
July 20, Wed.	*Council* (Edinburgh). Conference of Honorary Secretaries (Edinburgh). *Meetings of Sections*, etc., Edinburgh.
July 21, Thurs.	*Meetings of Sections*, etc., Edinburgh.
July 22, Fri.	*Meetings of Sections*, etc., Edinburgh.

ALFRED COX, *Medical Secretary.*

BRANCH AND DIVISION MEETINGS TO BE HELD.

BORDER COUNTIES BRANCH: ENGLISH DIVISION.—The annual general meeting of the English Division will be held at the Crown and Mitre Hotel, Carlisle, on Friday, June 17th, at 3.30 p.m. Agenda: Election of office-bearers, 1927-28; proposal of Executive Committee that the Division adopt a resolution under its Ethical Rules in relation to the scale of minimum commencing salaries for public health medical officers. After the conclusion of the business cases will be demonstrated by Dr. Ablett and Dr. Cameron. Tea will be served at 4.30 p.m.

DORSET AND WEST HANTS BRANCH: WEST DORSET DIVISION.—The annual meeting of the West Dorset Division will take place at the Antelope Hotel, Dorchester, on Thursday, June 16th, at 8.45 p.m. Agenda: Report of Council and instructions to representative; report of honorary secretary for 1926; election of officers, Executive Committee, and representatives on Branch Council. The meeting will be preceded by a supper at the Antelope Hotel at 7.30. Those proposing to attend the supper (5s. per head, exclusive of wines) are asked to notify the honorary secretary, Dr. J. A. Pridham, Hillfield, Broadway, Weymouth, a week beforehand.

EDINBURGH BRANCH.—The annual meeting of the Edinburgh Branch will be held in the Scottish House of the Association, 6, Drumsheugh Gardens, Edinburgh (telephone: Edinburgh 24361), on Wednesday, June 15th, at 3.30 p.m. Tea will be served from 3.15. Business: Report of Branch Council, including the annual reports of Branch and of Divisions; treasurer's annual report and business; election of office-bearers for 1927-28; report of election of representative for 1927-28 for the Edinburgh and Fife Branches to the Council of the Association; election to the annual vacancy on the board of management of the Queen Mary Nursing Home; Annual Meeting of the Association in Edinburgh in July—reception by Branch; any other competent business.

KENT BRANCH.—The fourteenth annual meeting of the Kent Branch will be held at the Spa Hotel, Tunbridge Wells, on Wednesday, June 15th. The Council will meet in the morning. The President-Elect, Dr. F. R. B. Bisshopp, kindly invites each member attending and his wife to luncheon at the Spa Hotel at 2 p.m. Annual meeting, 3 p.m. Agenda: Report of the election of new officers, who thereupon take office; thanks to retiring officers; report of Branch Council and financial statement; appointment of auditor; inaugural address by the President. Garden party by the President and Mrs. Bisshopp at 4 p.m. Annual dinner (morning dress) at Spa Hotel (tickets 7s. 6d. each, exclusive of wines, which will be provided by the Tunbridge Wells Division), 7 p.m. Competition for the [illegible] challenge cup on the Spa Golf Club course. [illegible] hould at once send in their names, address [illegible] F. C. Linton, 6, Earl's Road, Tunbridge Wells, who will give all necessary information. Members intending to be present at the annual meeting are requested to send a postcard to Dr. D. Davies, 8, Lonsdale Gardens, Tunbridge Wells, not later than Saturday, June 11th, stating whether they will attend: (1) The President-Elect's luncheon, and whether alone or

accompanied; (2) the annual meeting; (3) the annual dinner. The Spa Hotel is under a mile from the railway station and has ample accommodation for parking cars.

LANCASHIRE AND CHESHIRE BRANCH: HYDE DIVISION.—The annual general meeting of the Hyde Division will be held in the Hyde Town Hall on Thursday, June 16th, at 4 p.m.

METROPOLITAN COUNTIES BRANCH.—The annual general meeting of the Metropolitan Counties Branch will be held at the British Medical Association House, Tavistock Square, W.C.1, on Tuesday, June 21st, at 4 p.m. Business: (1) Report of scrutineers on election of officers; (2) Annual Report of Council; (3) report of representatives of the Branch on the Central Council; (4) to sanction the necessary alterations in the rules of the Branch to enable the president-elect to become an *ex-officio* member of all committees; (5) presidential address by Mr. E. B. Turner, F.R.C.S., entitled "Influenza from 1889 to 1927: its therapeutic and clinical aspects."

METROPOLITAN COUNTIES BRANCH: CHELSEA DIVISION.—The annual general meeting of the Chelsea Division will be held in the Fulham Town Hall on Wednesday, June 8th, at 4.15 p.m. Agenda Election of officers and Executive Committee; address by Dr. Wanklyn, small-pox advisor to the London County Council, on the diagnosis of small-pox.

METROPOLITAN COUNTIES BRANCH: CITY DIVISION.—The annual general meeting of the City Division will be held at the Metropolitan Hospital, Kingsland Road, E., on Tuesday, June 14th, at 9.30 p.m.

METROPOLITAN COUNTIES BRANCH: GREENWICH AND DEPTFORD DIVISION.—The annual general meeting of the Greenwich and Deptford Division will be held at the Town Hall, Deptford, New Cross Road, to-day (Friday, June 3rd), at 3.30 p.m. Agenda: The annual report and financial statement; election of chairman and officers for ensuing year; programme of scientific meetings for the coming year; appeal to all practitioners in the area on behalf of medical charities; Annual Report of Council of the Association.

METROPOLITAN COUNTIES BRANCH: HAMPSTEAD DIVISION.—The annual meeting of the Hampstead Division for the election of officers and committee will be held on Thursday, June 9th, at 8.30 p.m.

METROPOLITAN COUNTIES BRANCH: ST. PANCRAS DIVISION.—A meeting of the St. Pancras Division will be held at the British Medical Association House, Tavistock Square, W.C.1, on Tuesday, June 14th, at 9 p.m. Mr. J. Paterson, C.B.E., will read a paper on internal haemorrhage.

METROPOLITAN COUNTIES BRANCH: WILLESDEN DIVISION.—The next meeting of the Willesden Division will be held on Tuesday, June 21st, Dr. G. F. Buchan, the medical officer of health, is arranging for a demonstration in connexion with infectious diseases at the Municipal Hospital, Brentfield Road, at 3.30 p.m.

NORTH OF ENGLAND BRANCH: CLEVELAND DIVISION.—The annual general meeting of the Cleveland Division will be held at the Zetland Hotel, Saltburn, on Thursday, June 9th, at 3 p.m. Agenda: Letter from the secretary; statement of accounts: (*a*) annual financial, (*b*) voluntary fund, (c) dance; annual report of the Executive Committee; correspondence; election of representative and officers for 1927-28. Members attending the meeting and desirous of being served with tea should hand in their names to the hotel office on arrival. Tea will be served at 4 o'clock, charge 2s., payable at the time of booking.

NORTH OF ENGLAND BRANCH: TYNESIDE DIVISION.—A golf match has been arranged to take place between the South Shields and Tyneside Divisions on Sunday, July 3rd, at Brancepeth. Lunch, 1 p.m.; singles, 2 p.m.; tea, 5 p.m.; foursomes, 6 p.m. As the object of the meeting is to further social intercourse, it is hoped that all members who have ever wielded a club will do so on this occasion, and that others who do not play will come also.

SOUTH MIDLAND BRANCH: BEDFORDSHIRE DIVISION.—The annual meeting of the Bedfordshire Division will be held at the Swan Hotel, Bedford, on Wednesday, June 15th, at 3 p.m. Dr. Welch invites the members to luncheon at the Swan Hotel at 1.15. Members who wish to accept Dr. Welch's kind invitation are asked to notify the honorary secretary by Monday, June 13th. There will be an Executive Committee meeting in Room 40 previous to the annual meeting. Agenda: Annual report; election of officers. Dr. R. A. Young, F.R.C.P., physician to Middlesex and Brompton Hospitals, will give an address on clinical instinct. Tea will be provided.

SOUTHERN BRANCH.—The fifty-fifth annual meeting of the Southern Branch will be held at Osborne House, East Cowes, Isle of Wight, on Wednesday, June 15th, at 3 p.m., when Major-General Sir S. G. Guise-Moores, K.C.B., C.M.G., will take the chair. Agenda: Correspondence; annual report of the Branch Council; financial statement for 1926; election of officers, 1927-28. At the conclusion of the above business Dr. Herbert French, C.B.E., F.R.C.P., will give an address "Concerning venesection by the needle and bottle method, and a number of other small points." Through the courtesy of the President the State apartments will be open for inspection to members and their ladies, who are invited to tea by Lady Guise-Moores. The management of Osborne Cottage Hotel have generously quoted a special tariff to members of the Branch for those who wish to take this unique opportunity of seeing the Isle of Wight, and it is hoped that many will do so. Members intending to be present are requested to send word to that effect to the honorary secretary (Dr. Lockhart Stephens) not later than June 10th.

SUSSEX BRANCH: BRIGHTON DIVISION.—A clinical meeting of the Brighton Division will be held at the Sussex County Hospital on Thursday, June 16th, at 3.45 p.m.

WORCESTERSHIRE AND HEREFORDSHIRE BRANCH.—The annual meeting of the Worcestershire and Herefordshire Branch will be held (by invitation of Dr. J. C. Smyth) at Ashfield, Great Malvern, on Thursday, June 16th, at 3.15 p.m. Agenda: Council's report on the affairs of the Branch and the annual financial statement; election of president, honorary secretary, and treasurer. At the conclusion of the business Mr. Ainslie will vacate the chair and introduce his successor, Dr. Naish. Mr. Ainslie will read a short paper. Dr. J. C. Smyth has very kindly invited the members to tea after the meeting.

YORKSHIRE BRANCH: HUDDERSFIELD DIVISION.—The annual picnic of the Huddersfield Division will take place on Wednesday, June 15th. The char-a-banc will leave York Place at 12.30 p.m. for Malham. Afternoon tea will be served at the Airedale Private Hotel on arrival at Malham about 3 p.m. The afternoon will be spent in and around Malham. Gordale Scar and Malham Cove are both within easy walking distance and there will be time to walk to both. The char-a-banc will leave Malham at 6 p.m. for Skipton, where dinner will be served at the Black Horse Hotel at 7 p.m. The char-a-banc will leave Skipton at 8 p.m., and return via Ilkley to Huddersfield, where the party should arrive about 10 p.m. The inclusive charge for char-a-banc, tea, dinner (exclusive of drinks), and tips will be £1 a head; for those going in their own cars 10s. a head. Arrangements for the dinner must be completed by Saturday, June 11th.

Meetings of Branches and Divisions.

METROPOLITAN COUNTIES BRANCH: CAMBERWELL DIVISION.

THE annual meeting of the Camberwell Division was held at St. Giles Hospital, Camberwell, on May 24th. The following officers were elected for the ensuing year:

Chairman, Dr. R. Cox. *Vice-Chairman*, Mr. E. W. G. Masterman. *Honorary Secretary*, Dr. J. C. Evans. *Representative in Representative Body*, Mr. Masterman.

Mr. MASTERMAN gave an address on an archaeological journey through Palestine, and showed a very interesting and beautiful series of lantern slides. His address was listened to with much pleasure by the members and also by the considerable number of ladies who were present as guests. The meeting closed with a unanimous and hearty vote of thanks to Mr. Masterman.

DORSET AND WEST HANTS BRANCH.

THE annual meeting of the Dorset and West Hants Branch was held at the Haven Hotel, Poole, on May 18th, fifty-four members attending.

The following officers nominated in October were appointed:

President, Dr. Grey-Edwards. *Retiring President*, Dr. Unwin. *Vice-Presidents*, Dr. Morse and Dr. Oliphant. *Honorary Treasurer*, Dr. Grey-Edwards. *Honorary Secretary*, Dr. McCall.

The SECRETARY of the Branch read the annual report of the Branch, together with those of the Bournemouth and Dorset Divisions. Each showed a very satisfactory increase in their membership.

It was resolved to hold the next meeting at Weymouth, on Wednesday, July 6th.

The PRESIDENT read a paper on medical practice in the days of Smollett, which proved of great interest to members. Dr. MAHOMED read a paper on vitelligo and its pathology. A discussion followed.

Before the meeting the Poole members entertained visiting members to lunch, and after the meeting Dr. Grey-Edwards acted as host at tea.

SOUTH-WESTERN BRANCH: PLYMOUTH DIVISION.

AT a largely attended meeting of the local profession arranged by the Plymouth Division the hospital policy of the Association was discussed. This had been previously considered by a Hospitals Subcommittee, who recommended the following, and they were approved unanimously or by large majorities.

1. That there should be adequate official representation of the honorary medical and surgical staffs on the managing committees of all hospitals.
2. That there was urgent need for a competent almoner at all hospitals in all cases.
3. That the "income limits" for all hospital patients be reduced by £50 per year for all classes.
4. That in the investigation of the financial positions of all patients the capital value of property held by them should be disclosed.
5. That for the time being the contributors to the 1d. in the £ scheme be not considered as tariff patients.
6. That as the money paid to the hospitals by contributory schemes is only for full or partial maintenance of in-patients, the members as such are not entitled as a right to treatment either as in- or out-patients.
7. That all minor operations (such as are ordinarily done in the out-patient department) be excluded from the contributory scheme, and that the honorary staffs be asked to refuse to do any minor operations without the direct and personally written letter of the ordinary medical attendant of the patient.
8. That the remainder of the hospital policy be approved.

Several examples were given of gross abuse of hospitals by people who could afford to pay for private attendance, of the largely increasing use of the out-patient department for minor operations, of the income limit being too high, of the unfair pressure experienced by medical men to sign "contributory" certificates, of the very inadequate investigation by existing almoners, and of the growing tendency of municipal officers to encroach on the field of private practice.

British Medical Association.

NINETY-FIFTH ANNUAL MEETING, EDINBURGH, JULY, 1927.

Patron: HIS MAJESTY THE KING.

President: R. G. HOGARTH, C.B.E., F.R.C.S., Senior Surgeon, General Hospital, Nottingham.

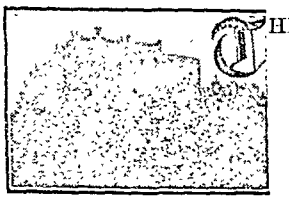
President-Elect: SIR ROBERT W. PHILIP, M.D., LL.D., F.R.C.P.Ed., Consulting Physician, Royal Infirmary, Edinburgh.

Chairman of Representative Body: H. B. BRACKENBURY, M.R.C.S., L.R.C.P.

Chairman of Council: SIR ROBERT BOLAM, M.D., LL.D., F.R.C.P.

Treasurer: N. BISHOP HARMAN, M.B., F.R.C.S.

PROVISIONAL PROGRAMME.



Edinburgh Castle.

THE incoming President, Sir ROBERT PHILIP, will deliver his Address to the Association on Tuesday, July 19th, at 8 p.m.

The ANNUAL REPRESENTATIVE MEETING will begin on Friday, July 15th, at 10 a.m., and be continued on the three following week-days. The Representatives' Dinner will take place at the University Union on Friday evening, July 15th, at 7.30 p.m.

The statutory ANNUAL GENERAL MEETING will be held on Tuesday, July 19th, at 2 p.m., and the adjourned general meeting at 8 p.m.

The Annual Dinner of the Association will take place on the evening of Thursday, July 21st, at 7.15 p.m.

The Conference of Honorary Secretaries will be held at 2.30 p.m. on Wednesday, July 20th, and the Secretaries' Dinner at 6.30 the same evening.

The official Religious Service will be held in St. Giles's Cathedral on Tuesday, July 19th, at 4.30 p.m.

The Annual Exhibition of surgical appliances, foods, drugs, and books, to be held in the Waverley Market, Princes Street, Edinburgh, will be open for inspection on Monday, July 18th, from 2 till 6 p.m.; the formal opening by the President will take place on July 19th at 9.30 a.m. The exhibition will remain open on July 20th, 21st, and 22nd from 9 a.m. to 6 p.m.

A Centenary Celebration commemorative of the birth of Lord Lister, presided over by the Earl of Balfour, K.G., will take place on the evening of Wednesday, July 20th, at 8 o'clock, in the McEwan Hall, when short addresses will be given by Sir W. Watson Cheyne, Bt., Professor Tuffier of Paris, Professor Harvey Cushing of Harvard University, and Dr. James Stewart of Halifax, Nova Scotia. During the week of the Annual Meeting a museum containing relics of Lister's life and work will be displayed in the Upper Library of the Old University. A *Lister Memorial Volume* has been prepared, and a copy will be given to each member of the Association who registers in the Reception Room.

Saturday, July 23rd, will be given to excursions to places of interest in the neighbourhood of Edinburgh.

THE SECTIONS.

The Scientific Sections will meet from 10 a.m. to 1 p.m. for papers and discussions on Wednesday, Thursday, and Friday, July 20th, 21st, and 22nd.

The following Sections will meet on Three Days.

MEDICINE.

President: Professor G. LOVELL GULLAND, C.M.G., M.D., F.R.C.P.Ed. (Edinburgh).

Vice-Presidents: Professor J. HILL ABRAM, M.D., F.R.C.P. (Liverpool); R. A. FLEMING, M.D., F.R.C.P.Ed. (Edinburgh); H. MORLEY FLETCHER, M.D., F.R.C.P. (London); W. T. RITCHIE, O.B.E., M.D., F.R.C.P.Ed. (Edinburgh).

Honorary Secretaries: GEORGE GRAHAM, M.D., F.R.C.P., 1, Devonshire Place, London, W.1; G. D. MATHEWSON, M.B., F.R.C.P.Ed., 28A, Moray Place, Edinburgh.

The following provisional programme has been arranged:

Wednesday, July 20th.—Discussion: The Results of Insulin Therapy in Diabetes Mellitus. To be opened by Professor HUGH MACLEAN (London), followed by Dr. GEORGE GRAHAM (London) and Professor D. MURRAY LYON (Edinburgh).

Thursday, July 21st.—Discussion: The Treatment of Acute Lobar Pneumonia. To be opened by Professor JOHN HAY (Liverpool), followed by Dr. H. MORLEY FLETCHER (London) and Dr. A. FERGUS HEWAT (Edinburgh).

Friday, July 22nd.—Discussion: The Pathology and Treatment of Pernicious Anaemia. To be opened by Professor G. LOVELL GULLAND (Edinburgh), followed by Dr. ARTHUR F. HURST (Ascot).

SURGERY.

President: Professor D. P. D. WILKIE, O.B.E., M.D., Ch.M., F.R.C.S. (Edinburgh).

Vice-Presidents: J. W. DOWDEN, C.M., F.R.C.S.Ed. (Edinburgh); F. J. STEWART, M.S., F.R.C.S. (London); J. W. STRUTHERS, F.R.C.S.Ed. (Edinburgh); H. WADE, C.M.G., D.S.O., F.R.C.S.Ed. (Edinburgh); A. M. WEBBER, M.S., F.R.C.S. (Nottingham).

Honorary Secretaries: J. M. GRAHAM, Ch.M., F.R.C.S.Ed., 8, Manor Place, Edinburgh; E. C. HUGHES, O.B.E., M.Ch., F.R.C.S., 17, Wimpole Street, London, W.1.

The following provisional programme has been arranged:

Wednesday, July 20th.—Discussion: Tuberculosis of the Kidney. To be opened by Sir JOHN THOMSON-WALKER (London), followed by Dr. ROLLIER (Leysin), Professor A. FULLERTON (Belfast), and Mr. HENRY WADE (Edinburgh).

Thursday, July 21st.—Discussion: The Place of Surgery in the Treatment of Toxic Goitre. To be opened by Mr. T. P. DUNHILL (London), followed by Professor G. R. MURRAY (Manchester) and Mr. C. THURSTAN HOLLAND (Liverpool).

Paper: Sir ALMROTH E. WRIGHT (London), The Rational Treatment of Infected Wounds.

Friday, July 22nd.—Discussion: Chronic Appendicitis. To be opened by Mr. WILFRED TROTTER (London), followed by Mr. J. W. DOWDEN (Edinburgh), Mr. VICTOR BONNEY (London), and Mr. A. J. WALTON (London).

Paper: Mr. A. McLENNAN (Glasgow), Burns.

OBSTETRICS AND GYNAECOLOGY.

President: JAMES HAIG FERGUSON, M.D., C.M., F.R.C.P.Ed., F.R.C.S.Ed. (Edinburgh).

Vice-Presidents: T. WATTS EDEN, M.D., F.R.C.P., F.R.C.S.Ed. (London); GIBBON FITZGIBBON, M.D., F.R.C.P.I. (Dublin); WILLIAM FORDYCE, M.D., F.R.C.P.Ed. (Edinburgh); Professor R. W. JOHNSTONE, C.B.E., M.D., F.R.C.S.Ed. (Edinburgh); Mrs. ETHEL VAUGHAN-SAWYER, M.D. (London).

Honoraries Secretaries: DANIEL DOUGAL, *M.C.*, M.D., 11, St. John Street, Manchester; W. F. T. HAULTAIN, O.B.E., *M.C.*, M.B., Ch.B., F.R.C.S.Ed., 6, Walker Street, Edinburgh.

The following provisional programme has been arranged:

Wednesday, July 20th.—Discussion: The Relation of Pregnancy to General Diseases. To be opened by Professor J. M. MUNRO KERR (Glasgow) Cardiac Diseases, Dr. E. RIST (Paris) Tuberculosis, and Professor F. J. BROWNE (London) Venereal Diseases, followed by Dr. J. S. FAIRBAIRN (London), Dr. G. FITZGIBBON (Dublin), and Dr. MARY H. J. MACNICOL (Edinburgh).

Thursday, July 21st.—Discussion: The Hygiene of Menstruation in Adolescents. To be opened by Professor R. W. JOHNSTONE (Edinburgh), Dr. J. HUNTER P. PATON (St. Andrews), and Mrs. A. E. SANDERSON CLOW (Cheltenham), followed by Mrs. E. VAUGHAN-SAWYER (London).

Friday, July 22nd.—Papers: Dr. F. A. E. CREW (Edinburgh), The Effect upon the Sex Ratio of Conception Early and Late in Relation to the Oestrous Cycle of the Rat; D[illegible] (Edinburgh), Failed Forceps Cases; Dr. [illegible] (Chester), [illegible] Clinical Pathology of Pelvic [illegible]; Dr. [illegible] SHAW (Manchester), Uterine Fibroids after the Menopause.

PATHOLOGY AND BACTERIOLOGY.

President: Professor J. LORRAIN SMITH, M.D., F.R.S., F.R.C.P.Ed. (Edinburgh).

Vice-Presidents: J. W. DAWSON, M.D., D.Sc., F.R.C.P.Ed. (Edinburgh); W. R. LOGAN, M.D., F.R.C.P.Ed. (Edinburgh); Professor T. J. MACKIE, M.D., D.P.H. (Edinburgh); H. D. WRIGHT, M.D., M.R.C.P.Ed. (London).

Honorary Secretaries: JAMES DAVIDSON, M.B., Ch.B., Pathological Department, University of Edinburgh; H. J. PARISH, M.D., M.R.C.P.Ed., D.P.H., Wellcome Physiological Research Laboratories, Langley Court, Beckenham, Kent.

The following provisional programme has been arranged

Wednesday, July 20th.—Discussion: Growth in Its Pathological Relations. To be opened by Dr. ARCHIBALD LEITCH (London), followed by Professor R. MUIR (Glasgow), Dr. G. W. DE P. NICHOLSON (London), Professor J. SHAW DUNN (Manchester), Professor M. J. STEWART (Leeds), and Professor E. H. KETTLE (Cardiff).

Thursday, July 21st.—(Joint meeting with Section of Comparative Medicine). Discussion: Immunity. To be opened by Dr. R. A. O'BRIEN (Beckenham), and Professor CARL H. BROWNING (Glasgow), followed by Professor R. MUIR (Glasgow), Dr. HEDLEY D. WRIGHT (London), Colonel W. F. HARVEY (Edinburgh), Professor T. J. MACKIE (Edinburgh).

Friday, July 22nd.—(*Joint meeting with Section of Comparative Medicine*). Discussion: Aspects and Problems of Comparative Medicine. To be opened by Dr. THEOBALD SMITH (Princeton, N.J.) and Professor BASIL BUXTON (Cambridge), followed by Major G. W. DUNKIN (London), Mr. W. H. ANDREWS (Ministry of Agriculture), Dr. F. A. E. CREW (Edinburgh), Dr. H. H. SCOTT (London), Professor R. T. LEIPER (London), Mr. J. W. BRITTLEBANK, P.R.C.V.S. (London), Mr. ARTHUR GOFTON (Edinburgh), Mr. T. W. M. CAMERON (London), and Mr. JAMES MCALLAN, (Aberdeen).

THERAPEUTICS AND PHARMACOLOGY.

President: Professor J. A. GUNN, M.D., D.Sc. (Oxford).

Vice-Presidents: Professor A. J. CLARK, *M.C.*, M.D., F.R.C.P. (Edinburgh); Professor FRANCIS R. FRASER, M.D., F.R.C.P. (London); E. P. POULTON, M.D., F.R.C.P. (London).

Honorary Secretaries: E. G. HOLMES, M.B., B.Chir., Pharmacological Laboratory, Cambridge; G. G. LAMBIE, *M.C.*, M.B. F.R.C.P.Ed., 31, Drumsheugh Gardens, Edinburgh.

The following provisional programme has been arranged:

Wednesday, July 20th.—10 a.m. to 12 noon. Discussion: Clinical Methods of Administration and Therapeutic Uses of Oxygen. To be opened by Dr. E. P. POULTON (London), followed by Dr. H. WHITRIDGE DAVIES (Leeds) and Dr. W. T. RITCHIE (Edinburgh). 12 noon to 1 p.m. Paper: Professor J. A. GUNN (Oxford), Expectorants.

Thursday, July 21st.—Discussion: The Therapeutic Uses of Calcium Salts. To be opened by Professor F. R. FRASER (London), followed by Dr. L. G. PARSONS (Birmingham), Mr. C. P. STEWART (Edinburgh) Biochemical Aspect, Dr. G. H. PERCIVAL (Edinburgh) Pharmacological and Therapeutic Aspect, Professor L. BLUM (Strasbourg), Dr. G. C. LINDER (London) Tetany, and Dr. N. F. C. BURGESS (London).

Friday, July 22nd.—Discussion: The Action and Uses of Ovarian Extracts. To be opened by Professor W. E. DIXON (Cambridge), followed by Dr. KATHERINE A. COWARD (*London*) *Standardization*, Mr. A. S. PARKES (London) Physiological, Dr. W. R. ADDIS (Manchester) Clinical, and Professor J. M. MUNRO KERR (Glasgow) Gynaecological.

DISEASES OF CHILDREN.

President: Professor JOHN FRASER, *M.C.*, M.D., Ch.M., F.R.C.S.Ed. (Edinburgh).

Vice-Presidents: H. CHARLES CAMERON, M.D., F.R.C.P. (London); ALEXANDER DINGWALL FORDYCE, M.D., F.R.C.P.Ed. (Liverpool); CHARLES MCNEIL, M.D., F.R.C.P.Ed. (Edinburgh).

Honorary Secretaries: Miss HELEN M. M. MACKAY, M.D., 28, John Street, Bedford Row, London, W.C.1; LEWIS THATCHER, M.D., F.R.C.P.Ed., 8, Melville Crescent, Edinburgh.

The following provisional programme has been arranged:

Wednesday, July 20th.—Discussion: Acute Pneumonia in Early Childhood. To be opened by Dr. CHARLES MCNEIL (Edinburgh) and Dr. AGNES R. MACGREGOR (Edinburgh) conjointly, followed by Professor LEONARD FINDLAY (Glasgow), Dr. J. HUGH THURSFIELD (London), Colonel W. GLEN LISTON (Edinburgh), and Dr. NORMAN S. CARMICHAEL (Edinburgh).

Afternoon.—Demonstration: Dr. W. A. ALEXANDER (Edinburgh), Acute Pulmonary Conditions in Childhood, illustrated by specimens, *x*-ray prints, large sections, and microscopic preparations.

Surgical Demonstration at Royal Edinburgh Hospital for Sick Children.

Thursday, July 21st.—Discussion: Acute Intestinal Obstruction in Infancy and Childhood. To be opened by Mr. ALEX. MACLENNAN (Glasgow), followed by Mr. L. E. BARRINGTON WARD (London), Miss G. M. A. HERZFELD (Edinburgh), Mr. F. C. PYBUS (Newcastle-on-Tyne), and Mr. NORMAN M. DOTT (Edinburgh).

Afternoon.—Demonstration of Medical Cases at Royal Edinburgh Hospital for Sick Children.

Friday, July 22nd.—Discussion: Therapeutic Modification of the Diet in Infancy: what can be achieved by it? To be opened by Dr. H. C. CAMERON (London), followed by Dr. A. DINGWALL FORDYCE (Liverpool), Dr. G. B. FLEMING (Glasgow), and Dr. LEWIS THATCHER (Edinburgh).

MENTAL DISEASES.

President: Professor GEORGE M. ROBERTSON, M.D., P.R.C.P.Ed. (Edinburgh).

Vice-Presidents: BERNARD HART, M.D., F.R.C.P. (London); JOHN KEAY, C.B.E., M.D., F.R.C.P.Ed. (Bangour); J. R. LORD, C.B.E., M.D., F.R.C.P.Ed. (Epsom); H. C. MARR, M.D., F.R.F.P.S.Glas. (Edinburgh).

Honorary Secretaries: R. D. GILLESPIE, M.D., 152, Harley Street, London, W.1; W. M. MCALISTER, M.B., Ch.B., M.R.C.P.Ed., 151, Morningside Drive, Edinburgh.

The following provisional programme has been arranged:

Wednesday, July 20th.—Discussion: Chronic Sepsis as a Cause of Mental Disorder. To be opened by Dr. WILLIAM HUNTER, C.B. (London), followed by Sir BERKELEY MOYNIHAN, K.C.M.G., C.B. (Leeds), Dr. D. CHALMERS WATSON (Edinburgh), Dr. E. GOODALL (Whitchurch), Dr. C. H. BOND (Brighton), and Dr. W. F. MENZIES (Cheddleton).

Thursday, July 21st.—Joint meeting with the Section of Neurology. Discussion: Epidemic Encephalitis. To be opened by Dr. IVY MACKENZIE (Glasgow), Epidemiological Considerations; Dr. J. GODWIN GREENFIELD (London), Pathology; Dr. R. M. MARSHALL (Glasgow), Mental Aspects; and Dr. G. RIDDOCH (London), Chronic Encephalitis; followed by Dr. E. MAPOTHER (London), Dr. H. DEVINE (Virginia Water), and Dr. W. J. ADIE (London).

Friday, July 22nd.—Discussion: *Points in the Lunacy Commission* (England) Report—(*a*) Are the existing safeguards against wrongful detention adequate? (*b*) How far is judicial intervention necessary in the process of certification? (*c*) What additional facilities are required for early treatment? To be opened by Professor GEORGE M. ROBERTSON (Edinburgh).

The following Sections will meet on Two Days.

NEUROLOGY.

President: Professor EDWIN BRAMWELL, M.D., F.R.C.P. (Edinburgh).

Vice-Presidents: ALEX. NINIAN BRUCE, M.D., D.Sc., F.R.C.P.Ed. (Edinburgh); J. GODWIN GREENFIELD, M.D., F.R.C.P. (London); F. M. R. WALSHE, Q.B.E., M.D., D.Sc., F.R.C.P. (London).

Honorary Secretaries: E. A. CARMICHAEL, M.B., Ch.B., F.R.C.P.Ed., National Hospital, Queen Square, London, W.C.1; NORMAN M. DOTT, M.B., F.R.C.S.Ed., 8, Grosvenor Crescent, Edinburgh.

The following provisional programme has been arranged:

Wednesday, July 20th.—Discussion: The Tics and Allied Conditions. To be opened by Dr. S. A. KINNIER WILSON (London), followed by Professor GUILLAIN (Paris), Dr. A. F. HURST (Ascot), Dr. A. STANLEY BARNES (Birmingham), Dr. T. GRAINGER STEWART (London), Dr. DONALD E. CORE (Manchester), Dr. R. G. GORDON (Bath), and Dr. W. J. ADIE (London).

Thursday, July 21st.—Joint meeting with Section of Mental Diseases. Discussion: Epidemic Encephalitis. To be opened by Dr. IVY MACKENZIE (Glasgow), [illegible] siderations; Dr. J. GODWIN GREENFIELD Dr. R. M. MARSHALL (Glasgow), Mental [illegible] G. RIDDOCH (London), Chronic Encephalitis; followed by Dr. E. MAPOTHER (London), Dr. H. DEVINE (Virginia Water), and Dr. W. J. ADIE (London).

OPHTHALMOLOGY.

President: A. H. H. SINCLAIR, M.D., F.R.C.S.Ed. (Edinburgh).

Vice-Presidents: WILFRED ALLPORT, M.B., F.R.C.S.Ed. (Birmingham); Sir ARNOLD LAWSON, K.B.E., F.R.C.S. (London); H. M. TRAQUAIR, [illegible] (Edinburgh).

Honorary [illegible] CKERTON, D.S.O., M.B., Ch.B., 33, Portland E. H. CAMERON, M.B., Ch.B., F.R.C.S.Ed., 7, Darnaway Street, Edinburgh.

The following provisional programme has been arranged:

Wednesday, July 20th.—10 a.m. Discussion: Optic Neuritis. To be opened by Dr. J. V. PATERSON (Edinburgh), followed by Dr. HENNING RÖNNE (Copenhagen) and Dr. A. J. BALLANTYNE (Glasgow).

Thursday, July 21st.—10 a.m. Papers: Miss I. C. MANN (London), Some Aspects of the Comparative Development of the Retina; Sir W. T. LISTER (London), Some Points in Connexion with Detachment of the Retina; Mr. W. CLARK SOUTER (Aberdeen), Spontaneous Reattachment of Detached Retina; Sir ARNOLD LAWSON (London), Value of Antiseptics in Modern Ophthalmic Surgery; Mr. F. HOLT DIGGLE (Manchester), Relationship between Lacrymal Obstruction and Nasal Disease; Mr. H. M. TRAQUAIR (Edinburgh), Incidence of Tobacco Amblyopia in Edinburgh and District; Mr. A. H. H. SINCLAIR (Edinburgh), Remarks on Intracapsular Extraction of Cataract, and Demonstration.

LARYNGOLOGY AND OTOLOGY.

President: A. LOGAN TURNER, M.D., P.R.C.S.Ed. (Edinburgh).

Vice-Presidents: J. S. FRASER, M.B., F.R.C.S.Ed. (Edinburgh); W. M. MOLLISON, C.B.E., M.Chir., F.R.C.S. (London); DONALD R. PATERSON, M.D.Ed., F.R.C.P. (Cardiff).

Honorary Secretaries: A. R. DINGLEY, F.R.C.S., 47, Queen Anne Street, London, W.1; W. T. GARDINER, *M.C.*, M.B., Ch.B., F.R.C.S.Ed., 18, Chester Street, Edinburgh.

The following provisional programme has been arranged:

Wednesday, July 20th.—Discussion: Neurological and Mechanical Factors underlying Immobility of the Vocal Cords; their diagnosis, prognosis, and principles of treatment. It will be opened by Dr. A. BROWN KELLY (Glasgow), neurological aspect, and Mr. HERBERT TILLEY (London), mechanical side.

Thursday, July 21st.—Discussion: Otosclerosis. To be opened by Mr. G. J. JENKINS (London), followed by Professor F. R. NAGER (Zurich) and Dr. A. A. GRAY (Glasgow). The discussion will be illustrated by microscopical sections showing the changes in the ear in otosclerosis.

Papers: Mr. NORMAN PATTERSON (London), *Some Diseases Affecting the Thyro-glossal Tract*; Dr. STEPHEN YOUNG (Glasgow), Radiography in Mastoid Disease.

PREVENTIVE MEDICINE.

President: Professor P. S. LELEAN, C.B., C.M.G., F.R.C.S., D.P.H. (Edinburgh).

Vice-Presidents: G. F. BUCHAN, M.D., D.P.H. (London); Miss HARRIETTE CHICK, D.Sc. (London); A. M. HEWAT, M.D., D.P.H. (London); G. R. LEIGHTON, O.B.E., M.D., D.Sc. (Edinburgh).

Honorary Secretaries: W. T. BENSON, B.Sc., M.D., D.P.H., M.R.C.P.Ed., City Hospital, Comiston Road, Edinburgh; C. W. HUTT, M.D., D.P.H., Council Offices, 197, High Holborn, London, W.C.

The following provisional programme has been arranged:

Wednesday, July 20th.—10 a.m. Discussion: Should all Public Health Administration—Municipal, School, Factory, etc.—be Concentrated under a Single Department, and the Immediate Control in Each Executive Area be Vested in a Single Individual? To be opened by Dr. A. S. M. MACGREGOR (M.O.H. Glasgow), followed by Dr. E. W. HOPE (Liverpool), Dr. J. H. MEIKLE (Medical Officer, Edinburgh School Board), and Professor E. L. COLLIS (Cardiff).

3 to 4 p.m. Demonstration at City Hospital, Comiston Road, Edinburgh, on The Schick and Dick Tests, and Methods of Immunization against Diphtheria and Scarlet Fever.

Thursday, July 21st.—10 a.m. Discussion: What Duties has the State in Relation to the Nation's Food Supply regarding Research, Instruction of Parents, Maintenance of Supplies, and Cooking Facilities? To be opened by Professor EDWARD MELLANBY (Sheffield), followed by Dr. EUSTACE HILL (M.O.H. County of Durham), Dr. J. P. KINLOCH (M.O.H. Aberdeen), and Mr. G. BENZIE (Motherwell).

12 noon. Paper: Pulmonary Asbestosis (with lantern slides), by Dr. W. E. COOKE (Wigan), Sir THOMAS OLIVER (Newcastle-on-Tyne), and Professor STUART MCDONALD (Newcastle-on-Tyne).

2 to 4 p.m. Demonstration: Exhibits in the Museum at the Usher Institute of Public Health, with a special demonstration on food viewed from the popular standpoint.

PHYSIOLOGY AND BIOCHEMISTRY.

President: Professor Sir EDWARD SHARPEY-SCHAFER, M.D., LL.D., D.Sc., F.R.S. (Edinburgh).

Vice-Presidents: Professor P. T. HERRING, M.D., F.R.C.P.Ed. (St. Andrews); Professor D. MURRAY LYON, M.D., D.Sc., F.R.C.P.Ed. (Edinburgh); Professor JOHN MELLANBY, M.D. (London); Professor T. H. MILROY, M.D. (Belfast); Professor JOHN TAIT, M.D., D.Sc. (Montreal).

Honorary Secretaries: Professor B. A. MCSWINEY, M.B., B.Ch., School of Medicine, Leeds; Miss MAY LAURIE WALKER, B.Sc., M.B., Ch.B., Department of Physiology, University of Edinburgh.

The following provisional programme has been arranged

Thursday, July 21st.—Morning session. Discussion: The Structure and Function of the Spleen. To be opened by Professor JOHN TAIT (Montreal), followed by Professor J. BARCROFT, F.R.S. (Cambridge), and others. Papers: Professor P. T. HERRING (St. Andrews), The Pineal Gland; Professor D. MURRAY LYON and Mr. W. ROBSON, D.Sc. (Edinburgh), Cystinuria; Dr. J. CRIGHTON BRAMWELL (Manchester), Form of the Pulse Wave; Dr. J. H. CRAWFORD (Edinburgh), Water Balance in the Human Subject following the Oral Administration of Saline.

Afternoon session. Discussion: The Influence of Internal Secretions on Sex Characters. To be opened by Dr. F. A. E. CREW (Edinburgh), followed by Mr. A. S. PARKES, D.Sc. (London) and others.

Friday, July 22nd.—Morning session. Discussion: Chemical Changes accompanying Muscular Activity. To be opened by Professor T. H. MILROY (Belfast), followed by Sir F. GOWLAND HOPKINS (Cambridge), Professors O. MEYERHOF (Berlin) and G. EMBDEN (Frankfürt). Papers: Professor J. MELLANBY (London), Bile as the Alimentary Stimulus for Pancreatic Secretion; Professor J. TAIT (Montreal), Natural Arrest of Haemorrhage from a Wound—illustrated with lantern slides; Professor B. A. MCSWINEY and Dr. H. WHITRIDGE DAVIES (Leeds), Circulation Rate; Professor R. J. S. MCDOWALL (London), Physiological Considerations in High Blood Pressure; Dr. C. R. HARINGTON, Ph.D. (London), The Constitution of Thyroxin.

Afternoon session. Discussion: Haemolysis. To be opened by Dr. ERIC H. PONDER (Edinburgh), followed by Professor J. MELLANBY, Dr. R. BRINKMAN (Groningen), and others.

COMPARATIVE MEDICINE.

President: Principal O. CHARNOCK BRADLEY, M.D., D.Sc., F.R.C.V.S. (Edinburgh).

Vice-Presidents: Professor J. B. BUXTON, M.A., F.R.C.V.S. (Cambridge); F. A. E. CREW, M.D., D.Sc. (Edinburgh); Major G. W. DUNKIN, M.R.C.V.S. (London).

Honorary Secretaries: T. W. M. CAMERON, Ph.D., B.Sc., M.R.C.V.S., London School of Hygiene and Tropical Medicine, 23, Endsleigh Gardens, London, W.C.1; J. RUSSELL GRIEG, M.R.C.V.S., Royal (Dick) Veterinary College, Edinburgh.

The following provisional programme has been arranged:

Thursday, July 21st.—(Joint meeting with Section of Pathology and Bacteriology). Discussion: Immunity. To be opened by Dr. R. A. O'BRIEN (Beckenham) and Professor CARL H. BROWNING (Glasgow), followed by Professor R. MUIR (Glasgow), Dr. HEDLEY D. WRIGHT (London), Colonel W. F. HARVEY (Edinburgh), and Professor T. J. MACKIE (Edinburgh).

Friday, July 22nd.—(Joint meeting with Section of Pathology and Bacteriology). Discussion: Aspects and Problems of Comparative Medicine. To be opened by Dr. THEOBALD SMITH (Princeton, N.J.) and Professor BASIL BUXTON (Cambridge), followed by Major G. W. DUNKIN (London), Dr. W. H. ANDREWS (Ministry of Agriculture), Dr. F. A. E. CREW (Edinburgh), Dr. H. H. SCOTT (London), Professor LEIPER (London), Mr. J. W. BRITTLEBANK (London), Mr. ARTHUR GOFTON (Edinburgh), Mr. T. W. M. CAMERON (London), and Mr. JAMES MCALLAN (Aberdeen).

The following Sections will meet on One Day.

DERMATOLOGY.

President: ROBERT CRANSTON LOW, M.D., F.R.C.P.Ed. (Edinburgh).

Vice-Presidents: W. HERBERT BROWN, M.D. (Glasgow); H. D. HALDIN-DAVIS, M.D., F.R.C.S. (London).

Honorary Secretaries: ROBERT AITKEN, M.D., F.R.C.P.Ed., 8, Palmerston Place, Edinburgh; F. D. HOWITT, M.D., 87, Harley Street, London, W.1.

The following provisional programme has been arranged:

Thursday, July 21st.—Discussion: The Uses and Limitations of Ultra-violet Radiations in Dermatology. To be opened by Dr. S. E. DORE (London).

Papers: Dr. H. C. G. SEMON (London), The Value of Kryolgan in Lupus Erythematosus; Dr. G. B. DOWLING (London), The Treatment of Tinea Capitis with Thallium Acetate.

TROPICAL DISEASES.

President: ANDREW BALFOUR, C.B., C.M.G., M.D., F.R.C.P.Ed., D.P.H. (London).

Vice-Presidents: Lieut.-Colonel E. D. W. GREIG, C.I.E., M.D., D.Sc., F.R.C.P.Ed. [illegible] lonel W. F. HARVEY, C.I.E., M.D., C.M. Lieut.-Colonel W. GLEN LISTON, C.I.E., M.D., [illegible] F.R.C.P.Ed. (Edinburgh); Lieut.-Colonel W. P. MACARTHUR, D.S.O., O.B.E., M.D., F.R.C.P.I., D.P.H. (London).

Honorary Secretaries: A. R. D. ADAMS, M.B., Ch.B., D.T.M., School of Tropical Medicine, University of Liverpool; J. F. C. HASLAM, *M.C.*, M.B., M.R.C.P.Ed., D.P.H., Bureau of Hygiene and Tropical Diseases, 23, Endsleigh Gardens, London, W.C.1.

The following provisional programme has been arranged:

Wednesday, July 20th.—10 to 11 a.m. Discussions: (1) Amoebic Dysentery. To be opened by Professor WARRINGTON YORKE (Liverpool), followed by Dr. P. H. MANSON-BAHR (London) (Treatment and Epidiascopic Illustrations of Sigmoidoscope Appearances).

11 a.m. to 1 p.m. (2) Some Problems of Malaria Prophylaxis. To be opened by Lieut.-Colonel S. P. JAMES (Ministry of Health).

Afternoon. Museum Demonstration. Professor W. YORKE and Dr. A. R. D. ADAMS, Amoebic Dysentery. There will also be a demonstration of material lent by Professor W. S. PATTON (Liverpool).

FORENSIC MEDICINE.

President: Professor H. HARVEY LITTLEJOHN, M.B., F.R.C.S.Ed. (Edinburgh).

Vice-Presidents: The Right Hon. Earl RUSSELL (London); Sir WALTER SCHRODER, K.B.E. (London); Professor SYDNEY A. SMITH, M.D., D.P.H. (Cairo).

Honorary Secretaries: D. J. A. KERR, M.B., Ch.B., D.P.H., M.R.C.P.Ed., Forensic Medicine Department, University, Teviot Place, Edinburgh; Professor J. E. W. MCFALL, M.D., D.P.H., 15, Green Lane, Stoneycroft, Liverpool.

The following provisional programme has been arranged:

Thursday, July 21st.—Discussions: (1) Alcohol and the Motorist. To be opened by Dr. G. CARTER (Sheffield). (2) The Police Surgeon in Relation to Forensic Medicine. To be opened by Professor J. GLAISTER (Glasgow).

Demonstrations: In connexion with the Section arrangements are being made for a demonstration of the museum of the Forensic Medicine Department, Edinburgh University, and of subjects of special medico-legal interest.

TUBERCULOSIS.

President: S. VERE PEARSON, M.D. (Mundesley).

Vice-Presidents: WILLIAM BRAND, M.B., C.M. (London); A. DE W. SNOWDEN, M.D., C.B.E. (Ringwood, Hants); ERNEST WATT, M.D., D.Sc., M.R.C.P.Ed. (Edinburgh).

Honorary Secretaries: J. C. SIMPSON, *M.C.*, M.B., Ch.B., D.P.H., Southfield Sanatorium Colony, Liberton, Edinburgh; R. R. TRAIL, *M.C.*, M.D., King Edward VII Sanatorium, Midhurst.

The following provisional programme has been arranged:

Friday, July 22nd.—10 a.m. Discussions: (1) Radiology and [illegible] Tuberculosis from the Point of View [illegible]. To be opened by Mr. H. MORRISTON [illegible] atorium, North Wales), followed by Dr. E. RIST (Paris), Dr. J. LOGAN STEWAR[illegible] J. M. WOODBURN MORISON (Edinburgh) [illegible] Tuberculosis of Childhood and Its Bearin[illegible] be opened by Professor EUGENE L. OPIE ([illegible] followed by Dr. R. G. CANTI (London) a[illegible] DELILLE (Paris). (3) Interrelation of Physician and Surgeon in Regard to Non-pulmonary Tuberculosis. To be opened by Dr. D. A. POWELL (Cardiff) and Professor JOHN FRASER (Edinburgh), followed by Dr. G. H. GIRDLESTONE (Oxford).

2.30 p.m. Demonstrations, *x* rays, etc.

VENEREAL DISEASES.

President: DAVID LEES, D.S[illegible]

Vice-Presidents: ARCHIBALD [illegible] Mrs. MARGARET ROBKE, M.[illegible] TAYLOR, D.S.O., M.B., F.R.C.S.Ed. (Liverpool).

Honorary Secretaries: F. C. DOBLE, M.R.C.S., L.R.C.P., 93a, Harley Street, London, W.1; Miss MARY FORBES LISTON, M.B., Ch.B., 33, Comely Bank, Edinburgh.

The British Medical Association.

PATRON: HIS MAJESTY THE KING.

President: R. G. HOGARTH, C.B.E., F.R.C.S.ENG.,
Senior Surgeon, General Hospital, Nottingham.

AN OPEN LETTER TO NON-MEMBERS.

DEAR SIR OR MADAM,

The BRITISH MEDICAL ASSOCIATION, the largest, oldest, and most powerful of British medical organizations, was founded in 1832 to promote the medical and allied sciences, to maintain the honour and interests of the medical profession, and to foster a feeling of friendship among the members of the profession. The work of the Association is thus fourfold: (i) It acts for the profession collectively throughout the Empire in medical matters affecting the common weal; (ii) it guards the profession against unfair attack, whether legislative or other; (iii) by its work in promoting medical science and the spirit of comradeship it helps the individual practitioner to be more efficient and of greater use to the community; and (iv) it helps its members individually.

With these aims in view the Association and its local groups—namely, the Divisions and Branches mentioned below—hold many thousands of meetings yearly, at which medical, medico-sociological, and allied subjects are dealt with, nor is the social side forgotten; it publishes the BRITISH MEDICAL JOURNAL, the *Archives of Disease in Childhood*, the *Journal of Neurology and Psychopathology*, an Annual Handbook, a Handbook for Recently Qualified Medical Practitioners, and other publications; gives scholarships, grants, and prizes for clinical and research work; owns a commodious building for the housing of its central activities; is in possession of very considerable funds and resources; and spares no effort in assisting its members individually in all aspects of their professional lives.

ASSOCIATION PREMISES.

The new House of the Association at Tavistock Square, London, opened in the summer of 1925 by His Majesty the King, is a popular meeting-place for its members, especially those visiting London. There are also Houses or Offices of the Association at Adelaide, Brisbane, Cape Town, Dublin, Edinburgh, Melbourne, Perth (W.A.), Sydney, Wellington (N.Z.), and elsewhere.

CONSTITUTION AND ADMINISTRATION.

The Association is practically a federation of local medical societies, called Divisions. A Branch is a Division or (more frequently) group of Divisions. A member of the Association is, *ipso facto*, a member of the Division and Branch in the area of which he or she lives. The Divisions and Branches and the Association of which they form part are democratic bodies, the government of which is in the hands of their members.

The funds and resources of the Association are commensurate with a membership of over 32,500.

The general control and direction of the policy and affairs of the Association are vested in the Representative Body, which is elected by the Divisions throughout the Empire, and meets annually. The Council, or executive, of the Association is elected partly by the Branches throughout the Empire, and partly by the Representative Body, and also includes representatives of the Royal Naval, Royal Air Force, Army, and Indian Medical Services. The Representative Body and Council elect the Standing Committees. Among these are the Ethical, Finance, Hospitals, Insurance Acts, Journal, Medico-Political and Parliamentary, Naval and Military, Organization, Public Health, Science, Scottish, Irish, Welsh, and Dominions Committees. The Insurance Acts Committee is the executive of the Annual Conference of Representatives of Local Medical and Panel Committees, which are the statutory local professional committees under the National Health Insurance Acts.

PRIVILEGES OF MEMBERSHIP.

The privileges of a Member of the Association include:—

1. Participation in the clinical, scientific, medico-political, ethical, and social activities of the Association, local and central.
2. Receipt weekly, free by post, of the BRITISH MEDICAL JOURNAL and its SUPPLEMENT, one of the leading medical journals of the world, and one of the most widely read.
3. Participation in the government of the Association, local and central, and in the formulation of its policy.
4. Use of the Headquarters Houses of the Association. At the London House the facilities include Reference and Lending Libraries; club-room accommodation, with facilities for refreshments; garage and telephone facilities. From the Lending Library, Members (British Isles) can borrow books free of charge.
5. The advice and help of the Central Staff in matters affecting him or her individually.

SOME NEW ACTIVITIES.

Arrangements have been entered into with an old-established medical agency in respect of facilities for the buying and selling of practices and partnerships, and in respect of assistantships, locumtenencies, and other medical openings. Special terms are given to members of the Association.

The Association has under consideration proposals for amendment of the disciplinary machinery under the National Health Insurance Acts, which is a matter closely affecting all insurance practitioners. A scheme of collective clinical research with a view to assisting in the elucidation of certain difficult medical and surgical problems is being prepared.

As will be seen from the Annual Report of the Council of the Association, 1926–7 (BRITISH MEDICAL JOURNAL SUPPLEMENT, April 23rd, 1927), *there is no aspect of professional work which does not come within the scope of* the Association.

The Association's work benefits every member of the profession, and as this work can be made more and more effective as it includes more and more practitioners, the Association unhesitatingly claims the support of every medical man and woman who is registered in the British Empire.

FURTHER EXTENSION OF MEMBERSHIP.

You are most cordially invited, if not already a member of the Association, to apply for membership, and I would especially direct the attention of practitioners resident outside the British Isles, and of those recently qualified, to the liberal concessions made to them as regards subscription. Members of the Medical Services of the Navy, Army, Air Force, and India, on whose behalf the work of the Association is unceasing and invaluable, also enjoy a substantial concession in this respect.

The form of application for membership, printed at page iii of this SUPPLEMENT, should be signed and sent to the Medical Secretary, British Medical Association House, Tavistock Square, London, W.C.1.

Inquiries as to the work of the Association are welcomed.

Alfred Cox

Medical Secretary.

GROWTH OF THE ASSOCIATION.

SIXTY YEARS' PROGRESS.

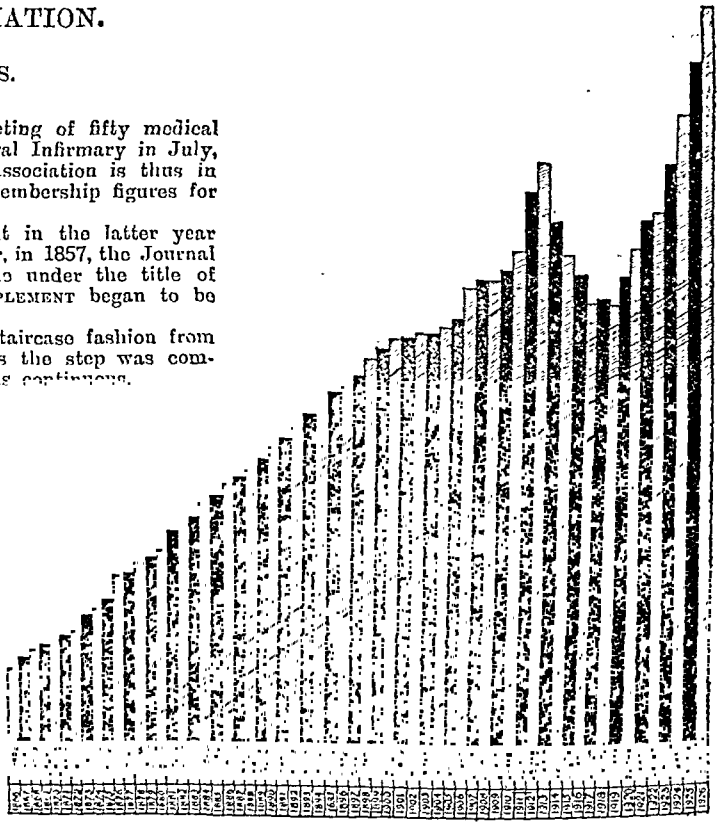
THE British Medical Association began in a meeting of fifty medical men held in the Board Room of Worcester General Infirmary in July, 1832, with Charles Hastings in the chair. The Association is thus in its ninety-fifth year. Our diagram shows the membership figures for the last sixty years.

From 1832 to 1854 the growth was slow, but in the latter year the figure of 2,000 was reached. Three years later, in 1857, the Journal of the Association was issued for the first time under the title of the BRITISH MEDICAL JOURNAL. The weekly SUPPLEMENT began to be published in 1904.

From 1866 to 1912 the membership rose in staircase fashion from 2,462 to 26,568. In some of those forty-six years the step was comparatively small, in others large, but the ascent was continuous.

The rapid rise in 1911 and 1912 was due to the professional upheaval that followed the introduction of the National Health Insurance scheme. Many practitioners who joined the Association solely on that account resigned soon afterwards, and the fall from 1913 to 1918 was due to that and to the dispersal of a large part of the profession during the war. Since 1918 the ground lost has been far more than regained.

In 1914 the annual subscription was raised to 2 guineas. This may have contributed in some degree to the fall in membership. Nevertheless, though the subscription was again raised, in January, 1921, to 3 guineas, no decrease of membership followed. On the contrary, the total number of members has grown year by year. As will be seen, the membership of the Association has in the last twelve years increased by over 10,000, and is now more than 32,500.



BRITISH MEDICAL ASSOCIATION.

FOUNDED 1832.

Patron: HIS MAJESTY THE KING.

THE BRITISH MEDICAL ASSOCIATION is established for the promotion of the Medical and allied Sciences, and the maintenance of the honour and interests of the Medical Profession. It has Divisions and Branches throughout the British Empire. There are 43 Branches, with 217 Divisions, in the United Kingdom, and 50 Branches, with 67 Divisions, in the British Empire Overseas.

Any Medical Practitioner registered in the United Kingdom under the Medical Acts; any Medical Practitioner who does not reside within the area of any Branch of the Association and who, though not so registered, is possessed of any qualification entitling him or her to be so registered; and any Medical Practitioner residing within the area of any Branch of the Association not in the United Kingdom who is so registered or possesses such medical qualification as shall (subject to the By-laws) be prescribed by the Rules of the said Branch, is eligible as a Member of the Association. Members of the Association are, *ipso facto*, Members of the Division and Branch in the areas of which they reside.

The liability of Members is limited.

The annual subscription, which is due in advance on January 1st in each year, and entitles the Member to all the ordinary privileges of Membership of the Association, including Membership of the Division and Branch in which he or she resides, and the weekly supply of the *British Medical Journal*, post free, is as follows:—

(A) Members resident in United Kingdom.	
Ordinary Subscription	£3 3s.
Member of not less than 40 years' standing	£2 2s.
Member of not less than 10 years' standing retired from practice	£2 2s.
Member engaged whole-time in medical instruction or research and not in practice	£2 2s.
Newly qualified practitioner elected within 2 years of registration (up to end of 4th year after registration)	£1 11s. 6d.
Two Members, being husband and wife, residing together	£4 14s. 6d.
(B) Members resident outside United Kingdom.	
Member resident within the area of a Branch (or more according to Rules of Branch)	£1 11s. 6d.
Member resident where no Branch is organized	£1 11s. 6d.
(C) Wherever resident.	
Officer on the Active List of the Royal Naval, Royal Air Force, Regular Army, or Indian Medical Service	£2 2s.

In the case of a Member elected after June 30th in any year, the subscription for that year is one-half the current annual subscription.

If you desire to become a Member of the Association, please fill in and post this form to the Association, British Medical Association House, Tavistock Square, London, W.C.1, with a cheque or postal order for your first subscription.* Cheques or postal orders should be crossed and made payable to "The British Medical Association." Election is ordinarily by the Council of the Branch in the area of which the Candidate resides, but in the case of Candidates resident in any area outside the United Kingdom where no Branch is organized, is by the Council of the Association. In the case of most Branches, no signature, other than that of the Candidate, is required (for Branches which require approving signatures see overleaf). For election by the Council (as above), two approving signatures are ordinarily required. Under no circumstances are approving signatures necessary in the case of Officers of the Royal Naval, Royal Air Force, Army, Indian, or Colonial Medical Service, on the Active List.

DETACH HERE

APPLICATION FOR ELECTION.

To the BRITISH MEDICAL ASSOCIATION,
BRITISH MEDICAL ASSOCIATION HOUSE, TAVISTOCK SQUARE, LONDON, W.C.1.

Full Christian and Surnames: Please write distinctly.

I,.....
a Registered Medical Practitioner, am desirous of being, and hereby apply to be, elected a Member of the BRITISH MEDICAL ASSOCIATION, and I agree, if elected, to pay the subscription and to abide by the Articles and By-laws of the Association for the time being in force, and the Rules of the Division and Branch to which I may at any time belong.

Signature.....

Qualifications.....

Permanent Address.....

.....

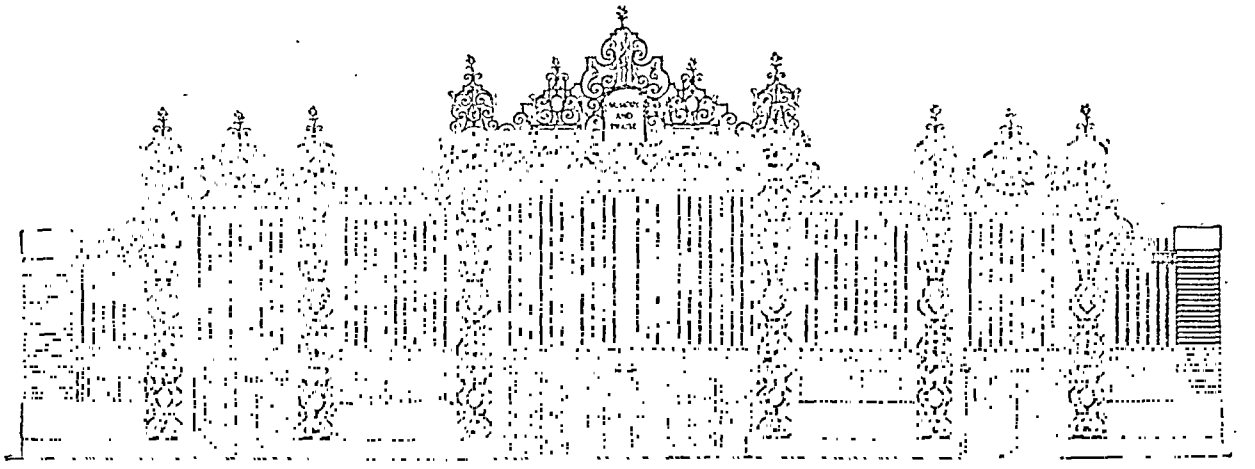
Address for Journal.....

.....

Date.....192

Additional Forms of Application for Membership and all particulars may be had on application to the MEDICAL SECRETARY, British Medical Association House, Tavistock Square, London, W.C.1.

*Applicants for Membership resident in the areas of the *Oversea Branches* should send their applications and remittances to the Honorary Secretary of the Branch if his or her address is known to them, failing which the application and remittance should be sent to the Head Office, British Medical Association House, Tavistock Square, London, W.C.1.



The Memorial Gates, British Medical Association House, London.

ORDINARILY, **NO** *APPROVING SIGNATURES ARE NEEDED, NOR ARE THEY REQUIRED IN THE CASE OF OFFICERS IN THE ROYAL NAVAL, ROYAL AIR FORCE, ARMY, INDIAN, OR COLONIAL MEDICAL SERVICE, ON THE ACTIVE LIST.*

In the case, however, of a Candidate (other than a Service Candidate) resident within any of the Branches mentioned below, or resident in an area outside the United Kingdom in which there is no Branch, the certificate at the foot of this page should be filled in by a Member or Members of the Association (1, 2, or 3 as indicated), to whom the Candidate is personally known.

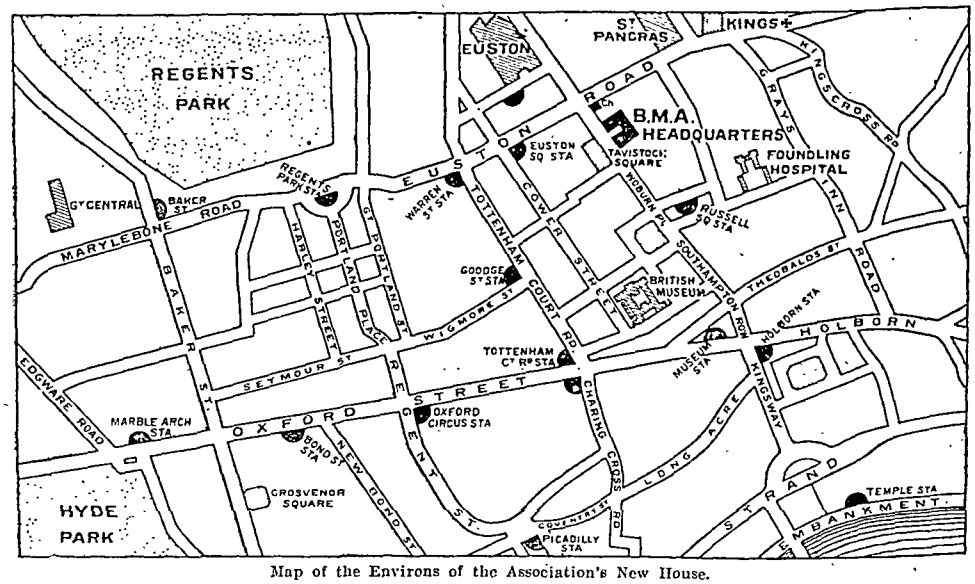
In any case of doubt or difficulty, Candidates are invited to communicate with the Head Office, British Medical Association House, Tavistock Square, London, W.C.1.

***Home** Branches which require Approving Signatures.*

	No. of Signatures.
Connaught ...	2
Munster	2
North of Engl nd	1
South Wales and Monmouthshire	2
Staffordshire ...	2

***Oversea** Branches which require Approving Signatures.*

	No. of Signatures.
British Guiana ...	3
Mesopotamia ...	3
New South Wales	3
Punjab	2



Map of the Environs of the Association's New House.

CERTIFICATE.

[For use **only** *in the case of a Candidate (other than a Service Candidate) resident within the area of one of the Branches named above, or resident outside the United Kingdom where no Branch is organized.]*

I (We), the undersigned Member(s) of the BRITISH MEDICAL ASSOCIATION, *hereby certify that*.....
.....named on the front page hereof, is personally known to me (us), and is a suitable person to be elected a Member of the BRITISH MEDICAL ASSOCIATION.

Signature(s) (1) .....
(2) .....
(3) .....

The following provisional programme has been arranged:

Fri ay, July 22nd.—Morning session. Discussion: The Value of [illegible] Examination of the Cerebro-spinal Fluid with regard to [illegible]ge, (*b*) Prognosis, (*c*) Treatment. To be [illegible] (London). Clinical cases illustrating types of neuro-syphilis will also be shown.

Afternoon session. Discussions: (1) The *Employment of certain* Constituents of the Gonococcus in Treatment and of other Constituents in Tests of Cure. To be opened by Major E. C. LAMBKIN, D.S.O., R.A.M.C.; (2) The Place of Bismuth in the Treatment of Syphilis, by Mr. DAVID LEES, D.S.O.

RADIOLOGY.

President: J. M. WOODBURN MORISON, M.D., C.M., D.M.R.E. (Edinburgh).

Vice-Presidents: M. R. J. HAYES, F.R.C.S.I. (Dublin); ROBERT E. ROBERTS, M.D., B.Sc., D.M.R. and E. (Liverpool).

Honorary Secretaries: W. CRICHTON FOTHERGILL, M.B., Ch.B., D.M.R.E., 5, Hermitage Drive, Edinburgh; JOHN MUIR, O.B.E., M.B., B.Ch., British Institute of Radiology, 32, Welbeck Street, London, W.1.

The following provisional programme has been arranged:

Wednesday, July 20th.—Discussions: (1) 10 a.m. *X* Rays in the Diagnosis of Intra-thoracic Growth. To be opened by Dr. STANLEY MELVILLE (London), followed by Mr. C. THURSTAN HOLLAND (Liverpool), Dr. A. FERGUS HEWAT (Edinburgh), and Dr. D. CAMPBELL SUTTIE (Glasgow). (2) 11.30 a.m. *X* Rays and Radium in the Treatment of Carcinoma of the Breast. To be opened by Dr. N. S. FINZI (London), followed by Dr. J. H. D. WEBSTER (London), Dr. A. E. BARCLAY (Manchester), Dr. M. R. J. HAYES (Dublin), and Dr. R. KNOX (London).

HISTORY OF MEDICINE.

President: JOHN D. COMRIE, B.Sc., M.D., F.R.C.P.E. (Edinburgh).

Vice-Presidents: ARNOLD CHAPLIN, M.D., F.R.C.P. (London); CHARLES SINGER, M.D., D.Litt., F.R.C.P. (London); R. W. INNES SMITH, M.D. (Sheffield); HENRY S. WELLCOME (Beckenham).

Honorary Secretaries: WALTER J. DILLING, M.B., Ch.B., Karcol, Mines Avenue, Aigburth, Liverpool; ADAM CAIRNS WHITE, M.B., Ch.B.Ed., Pharmacological Department, University of Edinburgh.

The following provisional programme has been arranged:

Friday, July 22nd.—10 a.m. Discussion: The Historic Evolution of Disease. To be opened by Sir HUMPHRY ROLLESTON, Bt. (Cambridge), followed by Professor GRAFTON ELLIOT SMITH (London) Ancient Prototypes of Modern Disease, Dr. G. MATHESON CULLEN (Edinburgh) World Epidemics and their Relationship in Cause and Effect to Social Conditions, and Miss M. C. BUER (Reading) The Effect of Early Industrialism upon the Health of the Community.

Papers: 12.15 p.m. Professor A. J. CLARK (Edinburgh), The Historical Aspect of Quackery. 12.30 p.m., Professor W. J. DILLING (Liverpool), The Methods of Introduction of Drugs.

Demonstrations: (1) Dr. ARNOLD CHAPLIN (London), Portraits of Old Physicians; (2) Mr. G. H. EDINGTON (Glasgow), The Development of Surgery up to the Time of Lister.

MEDICAL SOCIOLOGY.

President: F. N. KAY MENZIES, M.D., F.R.C.P.Ed., D.P.H. (London).

Vice-Presidents: L. D. CRUICKSHANK, M.D., M.R.C.P.Ed., D.P.H. (Edinburgh); Sir HENRY S. KEITH, J.P. (Hamilton); the Hon. Lord MACKENZIE, LL.D. (Edinburgh); the Hon. Sir ARTHUR STANLEY, G.B.E., C.B., LL.D., Hon. F.R.C.P.Ed. (London); Sir NORMAN WALKER, M.D., LL.D., F.R.C.P.Ed. (Edinburgh).

Honorary Secretaries: T. YULE FINLAY, M.D., M.R.C.P.Ed., 9, Hermitage Gardens, Edinburgh; B. S. SIMMONDS, M.S., F.R.C.S., 124, Harley Street, London, W.1.

The following provisional programme has been arranged:

Friday, July 22nd.—Discussion: The Future Relationship of Municipalities to the Voluntary Hospitals of this Country. To be opened by Mr. H. L. EASON (London) and Mr. M. A. REYNARD (Glasgow Parish Council), followed by Sir HENRY KEITH, Sir ARTHUR STANLEY, and others.

The Honorary Local General Secretary of the Annual Meeting is A. FERGUS HEWAT, M.D., F.R.C.P.Ed., 14, Chester Street, Edinburgh.

PROVISIONAL TIME-TABLE.

FRIDAY, JULY 15TH.

10.0 a.m.—*Representative Meeting.*
11.0 a.m.—Civic Welcome to Representative Meeting.
1.0 [illegible] esentatives.
7.30 [illegible] a Dance.

SATURDAY, JULY 16TH.

9.30 a.m.—[illegible]
1.0 [illegible]
8.30 [illegible]
8.30 p.m.—[illegible]on-smoking "At Home" at Ladies' Club.

SUNDAY, JULY 17TH.

9.30 a.m.—Whole day Excursion to Lorder and Scott Country.

MONDAY, JULY 18TH.

9.0 a.m.—*Council Meeting.*
10.0 a.m.—*Representative Meeting.*
2.0 p.m.—Opening of Reception Room.
2.0 p.m.—Exhibition open for inspection.
7.30 p.m.—Performance at Theatre.

TUESDAY, JULY 19TH.

9.30 a.m.—Official Opening of Exhibition by President-Elect.
10.0 a.m.—*Representative Meeting.*
11.0 a.m.—Opening of Pathological Museum.
2.0 p.m.—*Annual General Meeting*, followed immediately by
*4.30 p.m.— [illegible] thedral.
*8.0 p.m.— [illegible] 's Address.
*9.30 p.m.— [illegible] ive.
10.30 p.m.— [illegible]

WEDNESDAY, JULY 20TH.

9.0 a.m.—*Council Meeting.*
9.0 a.m.—Exhibition open.
10.0 a.m.—*Sectional Meetings.*
1.0 p.m.—Irish Graduates' Luncheon.
2.30 p.m.—Secretaries' Conference (Branch and Division Secretaries).
Afternoon Excursions.
4.0 p.m.—Reception by the University of Edinburgh in Old Quadrangle.
6.30 p.m.—Secretaries' Dinner (Branch and Division Secretaries).
*8.0 p.m.—Lister Centenary Celebration.
8.0 p.m.—Concert: Chamber Music.
9.0 p.m.—Dancing at Palais de Danse.
9.0 p.m.—Reception by the President and Fellows of the Royal College of Surgeons.

THURSDAY, JULY 21ST.

8.30 a.m.—National Temperance League Breakfast.
*9.0 a.m.—Roman Catholic Mass in Roman Catholic Cathedral.
9.0 a.m.—Exhibition open.
9.30 a.m.—Golf Competition for Ulster and Childe Cups at Muirfield.
10.0 a.m.—*Sectional Meetings.*
Afternoon Excursions.
4.0 p.m.—Garden Party at Royal Botanic Garden: Ladies' Committee.
7.15 p.m.—*Annual Dinner of the Association.*
8.30 p.m.—Concert: Hebridean Music by Mrs. Kennedy Fraser and Party.
9.0 p.m.— Private View.
9.30 p.m.— [illegible]dent and Members of the [illegible]he British Medical Associa-

FRIDAY, JULY 22ND.

8.30 a.m.—Medical Prayer Union Breakfast.
9.0 a.m.—Exhibition open.
10.0 a.m.—*Sectional Meetings.*
2.0 p.m.—Golf Competition for Treasurer's Cup at Gullane, No. 1 Course.
Afternoon Excursions.
4.0 p.m.—Reception by Royal Medical Society.
8.30 p.m.—Reception by the Lord Provost and Magistrates of the City of Edinburgh at Scottish Zoological Park.

SATURDAY, JULY 23RD.

Whole-day Excursion to St. Andrews, including Falkland Palace.

*Academic dress will be worn at these ceremonies.

PATHOLOGICAL MUSEUM.

The Pathological Museum Committee, of which Professor J. Lorrain Smith is chairman, Mr. D. M. Greig vice-chairman, and Dr. James Davidson (Department of Pathology, The University, Edinburgh), Mr. W. Q. Wood (48, Northumberland Street, Edinburgh), and Dr. Douglas Miller (57, Manor Place, Edinburgh) are secretaries, has arranged an extensive series of demonstrations during the Annual Meeting. A list of these demonstrations, with the names of those responsible for the arrangement of each, is appended.

1. Diseases of Liver and Biliary Tract. Professor Wilkie and Dr. James Davidson.
2. Brain Tumours. Mr. Norman Dott and Mr. W. Q. Wood.
3. Diseases of Bone. Dr. James Dawson and Mr. J. W. Struthers.
4. Series of Complete Lung Sections illustrating Pulmonary Diseases in Infancy and Childhood. Dr. Charles McNeil, Dr. Agnes Macgregor, and Dr. W. A. Alexander.
5. Diseases of the Thyroid Gland. Mr. J. N. J. Hartley.
6. Some Gynaecological Conditions. Dr. Douglas Miller.
7. Recent Experimental Work on Tumours. Mr. Illingworth.
8. Bacteriological Exhibit. Professor Mackie.
9. Dietetics: Professor Murray Lyon.
10. Urological. Mr. Wade, Mr. Leslie Stewart, and Mr. D. M. Morison.
11. Skin Diseases. Dr. Cranston Low.
12. Historical Section. Dr. John D. Comrie.
13. Peritoneal Lymphatic Absorption. Mr. Paterson Brown.
14. Comparative Pathology. Principal Bradley and Professor Matheson:
The following special subjects to be considered: Tubercle, Foot-and-Mouth Disease, and Diseases communicable to Man.
15. Statistical Methods. Colonel A. G. McKendrick, I.M.S.

16. A Series of Cases illustrating the method of teaching in the Department of Pathology. Professor Lorrain Smith and Dr. James Davidson.
17. Melanomata. Dr. James Dawson.
18. Diseases of the Breast. Professor John Fraser.
19. Thrombo-angiitis Obliterans. Mr. T. McW. Millar.
20. Tar Tumours. Mr. J. J. M. Shaw.
21. Plastic Surgery. Mr. J. J. M. Shaw.
22. Pathways of Infection to the Brain and Meninges. Dr. Logan Turner and Dr. Reynolds.
23. Experimental Nephritis and Accidental Haemorrhage. Professor Francis Browne.
24. Parasitology (including Tropical). Colonel Edward Greig, I.M.S., Professor Ashworth, and Colonel Glen Liston, I.M.S.
25. Ear, Nose, and Throat. Dr. J. S. Fraser and Dr. J. P. Stewart.
26. Venereal Diseases. Mr. David Lees.
27. Diseases of the Eye. Dr. Traquair and Dr. Charles Graham.
28. Radiological Exhibit. Dr. Woodburn Morison.
29. Vegetable Pathology. Dr. Malcolm Wilson.
30. Genetics. Dr. Crew.
31. Forensic Medicine. Dr. Douglas Kerr.
32. [illegible] Clinical Research Laboratory, Royal
33. " " Norman Dott.

It is to be hoped that as far as possible those who contribute to the Museum will at stated times be present to demonstrate their own exhibits, and particularly those who wish to supplement by exhibits their contributions to the programme of the various sectional meetings. For these personal demonstrations a room will be provided and a time-table arranged.

LISTER CENTENARY CELEBRATION.

A commemoration meeting in celebration of Lord Lister's centenary will be held in the McEwan Hall, Edinburgh, on Wednesday, July 20th, at 8 p.m. Full details were published in the BRITISH MEDICAL JOURNAL on February 12th, (p. 299), but it may be recalled that the Earl of Balfour, K.G., O.M., will preside, and that short addresses will be delivered by Sir William Watson Cheyne, Professor Tuffier (Paris), Professor Harvey Cushing (Harvard University), and Professor John Stewart (Halifax, Nova Scotia).

Throughout the week of the Association Meeting a museum of Lister relics will be on view in the Upper Library of the Old University. The relics will be gathered from many sources. The unique interest of the exhibits will be due largely to the co-operation and liberality of the directors of the Wellcome Historical Medical Museum, London.

A *Lister Memorial Volume* has been prepared and will constitute the book of the Edinburgh Meeting of the Association. A copy will be presented to each member of the Association on registration in the reception room. The volume, edited by Dr. Logan Turner, will contain sketches and reminiscences by former house-surgeons of Lord Lister, two of his own scientific addresses, and a series of letters. A section of particular interest is included dealing with the lives of Lister's fellow residents in the Edinburgh Royal Infirmary during the summer of 1854. Sir Edward Sharpey-Schafer contributes a sketch on Lister's work as a physiologist. Mr. Miles writes on "Surgery prior to Lister's time," and Professor John Fraser on "The influence of Lister's work on surgery."

Memorial inscriptions have been placed on the walls of the houses which Lister occupied successively in Edinburgh —namely, 11, Rutland Street, and 9, Charlotte Square.

A prize of £25 and a gold medal are to be awarded to the writer of the best essay on "The influence of Lister on surgery." The prize is open to students and graduates of not more than one year's standing in any medical school in the British Empire. The name of the successful essayist will be announced at the public meeting.

ANNUAL DINNER.

As already intimated, the Annual Dinner of the Association will be held in the Music Hall, George Street, on Thursday, July 21st. The hour of the dinner will be *7.15 p.m. prompt*. It is desirable that early application be made for tickets, the price of which has been fixed at 15s., exclusive of wine. Such applications should be made to the local general secretary, Dr. Fergus Hewat, 14, Chester Street.

Dinner tickets will be available for members of the Association up to 4 p.m. on Wednesday, July 20th, and will be obtainable at the reception room on presentation of the member's card. A plan of the tables will be on view at the reception room.

If seats are available, members may obtain tickets for ladies, or other guests, after 4 p.m. on Wednesday, July 20th.

REDUCED RAILWAY FARES TO EDINBURGH.

The usual concession to members of the British Medical Association in regard to railway fares will apply to the Annual Meeting in Edinburgh this summer. The railway companies in Great Britain (except the Metropolitan, Metropolitan District, and London Electric Railway Companies) have agreed to issue passenger tickets to Edinburgh, available from July 13th to 25th, at the ordinary single fare and one-third for the double journey, with a minimum adult fare of 1s. A printed voucher filled in by the applicant and signed by the Financial Secretary of the Association, must be given up at the booking office when the ticket is bought. These vouchers will be obtainable in due course from the Finance Department, British Medical Association, Tavistock Square, W.C.1. The cheap fare concession will, in addition to applying from stations in Great Britain, also operate from the Irish ports by railway-owned steamers, and by the boats of the Belfast Steamship, British and Irish Steam Packet, and the City of Cork Steam Packet Companies, and of Messrs. Burns and Laird, Ltd.

HOTEL ACCOMMODATION.

The Hotels and Lodgings Committee has practically completed its arrangements for coping with the large numbers who are expected to visit Edinburgh in July. In order to secure the accommodation which is believed to be necessary, the Committee has definitely engaged all the available rooms in the city, and will allocate these to applicants in rotation. The Scottish Medical Secretary (Dr. Drever) has undertaken to do this work for the Committee, and applications for rooms should be sent to him at 6, Drumsheugh Gardens. A form for the purpose has been prepared for the convenience of members and is printed in the advertisement pages this week (p. 18); it will be repeated in subsequent issues. The accommodation is grouped in three classes—namely:

1. Hotels, whose tariff for bed and breakfast ranges between 8s. 6d. and 14s. The number who can be accommodated in these is comparatively limited.

2. Private hotels and boarding houses, at prices from 5s. 6d. to 8s. 6d. for bed and breakfast. Of these there is a large number, all of them comfortable.

3. Hostels where the tariff is 8s. for bed and breakfast. Not many of these are available, but those that are can be recommended.

It will facilitate other arrangements if members who intend to be present at the Annual Meeting will notify their intention whether they have already secured rooms or not. Early application for rooms is earnestly desired.

GOLF COMPETITIONS.

The Ulster and Childe Cups will be played for on Thursday, July 21st, at Muirfield, commencing at 9.30 a.m.

The Treasurer's Cup will be played for on Friday, July 22nd, at Gullane No. 1, commencing at 2 p.m.

The Ladies' Competition will be held on the morning of July 20th at Cammo.

GARAGE ACCOMMODATION.

Garage accommodation for at least 1,125 cars will be provided; applications should be made to Dr. J. R. Drever, 6, Drumsheugh Gardens, Edinburgh.

ARRANGEMENTS FOR LADIES.

The Assembly Rooms in George Street have been taken for a ladies' club during the meeting. These rooms have a central position, and will comprise a large lounge, card and smoke rooms. There will also be a library and writing room, containing daily papers and books of local interest. An ample catering department will be established where lunch, tea, and light refreshments may be obtained. There will also be a central information bureau. The dinner to

the ladies accompanying representatives will be held at this club on Friday, July 15th, at 7.30 p.m.

During the mornings of the meeting, short excursions for ladies will take place in and around Edinburgh. These will start from the club. Parties of ladies will also be taken in the mornings to places of special interest in Edinburgh. Guides will be in attendance to conduct any ladies to parts of the city they specially wish to visit.

Arrangements for ladies' sports have been undertaken, and parties will be made up for golf and tennis. The ladies' golf competition will take place on the morning of Wednesday, July 20th.

Full details as to excursions, personally conducted tours, and sports will be obtainable at the Ladies' Club.

REPRESENTATIVES' EXCURSION TO THE SCOTT COUNTRY.

On Sunday, July 17th, an excursion to the Scott country is being arranged. The Representatives and their friends will leave Edinburgh at 9.30 a.m. in charabancs and proceed to Rullion Green. On the site of the battlefield, surrounded by the hills and amid beautiful scenery, a short religious service will be held. Thereafter, proceeding by Penicuik and Leadburn, Peebles will be reached about 11.15. From there the route leads along the north bank of the Tweed, opposite the old house of Traquair, whose historic gates have never been opened since the failure of the Jacobite cause on Culloden Field. Passing the ruined castle of Elibank, with memories of Muckle-mou'ed Meg, and Ashiestiel, Sir Walter Scott's first border home, the excursionists arrive at Galashiels. Here lunch will be provided in the Volunteer Hall. Proceeding onwards, a mile distant on the south side of the Tweed is seen Abbotsford, Scott's later home. A mile further is Melrose Abbey, where a monastery was first established by St. Aidan in the seventh century. Here is buried the heart of The Bruce, and here is the resting place of many border chieftains. The Tweed is crossed by the Leaderfoot Bridge, and a brief pause will be made at Scott's View on Bemersyde Hill. The road next turns round Bemersyde House, presented by the nation to Earl Haig as a tribute to his services during the war. A halt will be made at Dryburgh Abbey, the seat of the monastic cell of St. Modan from the sixth century, and the burial place of Sir Walter Scott. Crossing the Tweed at St. Boswells, the route now follows the south bank of the river, past the ruins of the old border fortress of Roxburgh. Floors Castle lies on the left—we will hope glistening in the sunshine. Passing through Kelso, the way leads to the north and back to Floors Castle, where the party will be entertained at tea by His Grace the Duke of Roxburghe. The road back to Edinburgh passes over Soutra. From the top a view over a wide expanse is obtained. The Lothians lie at our feet. Just across the Firth is the "Kingdom of Fife," with Stirling further to the west. Beyond lie the Ochil Hills, and in the distance are the peaks of the Grampian Mountains. The road we travel has been trod by the feet of many generations. It gave passage to Scottish hosts on their way south and to invading English armies. Descending towards Edinburgh, we pass Soutra Aisle, an ancient hospitium, Crichton Castle, and after passing through Dalkeith with its palace we see the ruins of Mary Queen of Scots's residence at Craigmillar Castle. The tour above so shortly described embraces over 120 of the best miles in Scotland. It is full of associations with Scott, Stevenson, Andrew Lang, and Crockett; and tradition and story of the Roman occupation, of the perpetual wars along the Border, of the Covenanters, and of monastic life in the abbeys along the Tweed will be constantly recalled by the various features of the beautiful and romantic scenery amid which the excursionists will travel.

EXCURSION TO FIFE AND ST. ANDREWS.

On Saturday, July 23rd, a party limited to 100 will leave the Waverley Station by special train at 9.22 a.m. and proceed by way of the Forth Bridge, passing the Hawes Inn mentioned in *The Antiquary* and Stevenson's *Kidnapped*. The naval base of Rosyth will be seen on the left. After emerging from a tunnel, St. Margaret's Hope—where "St. Margaret" landed in Scotland—will come into view. Leaving behind Kirkcaldy, with its associations with Adam Smith, the party will arrive at Ladybank, be met by charabancs, and proceed to Falkland Palace. This building has associations with Scottish history from the days of King Robert the Bruce to Charles II, and was the scene of the alleged murder of the young Duke of Rothesay by his uncle Albany (see *The Fair Maid of Perth*). Here James the Fifth died and Mary was a frequent visitor, fleeing from the exhortations of John Knox. The party will leave Falkland Palace at 11.30 and, by the kind invitation of Mr. and Mrs. Leslie Melville, will visit Melville House, which was built by the first Earl of Melville in 1692. Here are pictures of Mary Queen of Scots, Claverhouse, Gustavus Adolphus, and an interesting exhibition of letters by most of the Stewart kings. The party will next proceed by the old Royal Road which was followed by the kings of Scotland in passing to and from St. Andrews. Half-way lies Cupar, the county town. Here are the ruins of the castle in which Macbeth murdered Duncan, and from which Wallace drove the English, and here Sir David Lindsay's plays were acted. At Pitscottie the route follows the track of the murderers of Archbishop Sharp, over Magus Muir, where he was killed. At St. Andrews lunch will be provided by the courtesy of the Fife Branch. The Cathedral, Castle, and University Buildings will then be visited, after which tea will be provided at the Sir James Mackenzie Clinical Institute by the courtesy of Dr. Maitland Ramsay (the Director) and Mrs. Maitland Ramsay. The special train will leave St. Andrews at 5.10 p.m., arriving at the Waverley Station, Edinburgh, at 7 p.m. Price of ticket, inclusive of rail, motors, and entrance fees, 12s. 6d.

IRISH MEDICAL SCHOOLS' AND GRADUATES' ASSOCIATION.

The annual lunch of the above Association will be held at 1 o'clock sharp, on Wednesday, July 20th, at Messrs. Ferguson and Forresters, 129, Princes Street, Edinburgh. Tickets, 4s. each (exclusive of wines), may be obtained from the honorary secretary of the Provinces, Dr. Falkland L. Cary, 67, King's Road, Harrogate. Members of the Association are asked to bear in mind that Wednesday, July 20th, is the date allotted to the Lister Centenary celebrations, and there will be many appointments in the afternoon, so that punctual attendance at the luncheon is essential.

NOTICES OF MOTION BY DIVISIONS FOR THE ANNUAL REPRESENTATIVE MEETING, EDINBURGH, 1927.

Anaesthetics in Connexion with Dental Benefit.

By SOUTH SHIELDS; and TYNESIDE: That the recommendation contained in para. 118 of the Annual Report of Council be amended by the insertion of the word "minimum" before the word "fees" in the first line and before the word "fee" in the eighth and tenth lines.

By WORCESTER: That the recommendation contained in para. 118 of the Annual Report of Council be amended to read as follows:

> That the fee for administration of an anaesthetic should be in all cases one guinea.

Whole-time Medical Officers of Public Schools.

By DUNDEE: That the sixth recommendation contained in para. 131 of the Annual Report of Council be amended by the deletion of the words "Dispensing of medicine, but not the provision of drugs."

Middle Class Hospital Policy.

By SALISBURY: That the Representative Body instructs the Council to consider the formulation of a Middle Class Hospital Policy.

Administration of Anaesthetics.

By BIRMINGHAM CENTRAL: That the recommendation contained in para. 117 of the Annual Report of Council be amended by the insertion in the tenth line, between the words "dentist" and "may," of the following words: "who has received special instruction in the administration of anaesthetics."

GENERAL COUNCIL
OF
MEDICAL EDUCATION AND REGISTRATION.

SUMMER SESSION, 1927.

(Continued from page 218)

DISCIPLINARY AND OTHER INQUIRIES.

Newspaper Publicity to Attract Patients.

ON May 25th the Council considered the case of Frederick Joseph William Porter, D.S.O., registered as of the Army Medical Service, L.S.A.Lond., M.R.C.S.Eng., L.R.C.P.Lond., who was summoned on the [illegible] to obtain patients and to promote his [illegible] by notices inserted in the press. The notices appeared in the *Times of India* and five other Indian journals, and ran as follows: "Major F. J. W. Porter, R.A.M.C., D.S.O., has now returned to India from England after an absence of a year, and will shorly resume his practice at Karachi." Four of the notices, three of them in Karachi papers, added that he was putting up at the Carlton Hotel where he might be consulted.

The complainants were two members of the Indian Medical Service, Colonel Ivor Davenport Jones and Major Charles Newton-Davis, and Dr. Guy Theodore Wrench of Karachi. The complainants were not present, and Mr. Harper, the Council's solicitor, laid the facts before the Council. Major Porter was accompanied by Mr. Oswald Hempson, his solicitor.

Mr. Harper said that Major Porter had spent many years in India. After giving up his practice in Bombay, and spending some time in England, he decided to resume practice in India, which he did in February, 1926, whereupon these notices appeared in the Indian journals. A complaint with regard to this conduct was made by Dr. Wrench, whereupon Major Porter prosecuted him before the magistrate for defamation of character, but the case was dismissed.

Major Porter in the witness-box said that he had had a private practice in India for a very long time. He gave up his Indian practice on a previous occasion, but subsequently returned to Bombay in 1923, and then consulted the registrar of the Bombay Medical Council whether on resuming his practice he might make an announcement in the daily press to the following effect: "Pending the opening of his new surgical nursing home, Major Porter has removed from —— to —— Hotel, where he may be consulted." The registrar thought that this was in order, and the notice appeared in all the papers of Bombay. In December, 1924, he sold his practice and again returned to England, but for financial reasons he decided to return to India in 1926 and once more resume practice. When he sold his practice there was a stipulation that he should not practise in Bombay or on the island. Some friends on his return pressed him to go to Poona, but as this was only three hours' journey from Bombay he thought it fairer to his successor to go farther afield, and he decided on Karachi, which was five or six hundred miles away. His practice was a purely surgical one, and he was accustomed to have patients from all parts of India as well as from Arabia and Mesopotamia. Knowing some members of the staff of the *Times of India* he asked them to insert the announcement which was the subject of the present complaint, which they did in the "Social and Personal" column. In this he was guided by his experience in 1923 when the registrar of the Bombay Medical Council approved a similar notice. He did not pay for the notice, and at his request the *Times of India* sent it to other papers. In one instance, however, that of the *Parsi Sansar*, of Karachi, the paragraph was "decorated" in the office of the newspaper in a manner over which he had no control and of which he did not approve. It was headed, "Well-known Surgeon in Karachi," and went on, "Major Porter, the well known surgeon of Bombay," etc. All these notices appeared within a few days of one another. On arrival at Karachi he rang up Dr. Wrench to fix up an appointment, but was told that Dr. Wrench would have nothing to do with him. He then wrote to the registrar of the Bombay Medical Council, enclosing a specimen notice, and asked whether he had contravened any regulation. The registrar replied that he thought he was protected by one of the rules in "Ethical Suggestions" which governed the matter. Learning then that Dr. Wrench had been saying that he was an advertiser and not a proper person to be in the profession he brought an action for defamation of character, but this was dismissed.

In cross-examination the point was put to him that the "Ethical Suggestions" referred to allowed for only two such insertions, and here there were half a dozen. Major Porter replied that he regarded them as only one insertion. The announcement appeared once only in each of the six papers, which covered quite different parts of the Indian community. Asked why he took action against Dr. Wrench in the criminal court instead of civil proceedings, in view of the fact that in criminal proceedings, if defamation were proved, the penalty might be up to two years' imprisonment, he said that he was unaware of this, that he did not want damages, and that the proceedings before a magistrate were so very much quicker than before a civil court, where they might drag on for years, that he chose the course he did. In so doing he acted entirely on legal advice. He admitted that in 1913 he had published a series of articles in local papers on medical topics.

Mr. Hempson said that whatever view might be held as to his client's conduct, the Council would believe that there was some justification for his view that what he had done was permissible, taking into account the previous opinion of the Registrar at Bombay. The jurisdiction of the General Medical Council was, of course, supreme, but it would be unfortunate if it should appear that there was a divergence of opinion between the two bodies. His client had had a very honourable career, and the mere bringing of such a charge was itself a sufficient punishment for any error he might have committed.

Mr. Harper said that to bring in the Bombay Medical Council was a little disingenuous, for when he submitted the cutting from one of the papers he did not tell the registrar that a similar announcement had appeared in several other journals.

The Council found the facts proved, and the PRESIDENT said:

"The facts which have been proved bring you within the terms of the Council's Warning Notice in regard to advertising, which states that the practice of advertising by a registered medical practitioner with a view to procuring patients is, in the opinion of the Council, contrary to the public interest and discreditable to the profession of medicine, and any registered medical practitioner resorting to any such practice renders himself liable on proof of the facts to have his name erased from the *Medical Register*.

"The Council, as you will see from the terms of the Warning Notice, take a serious view of the offence which has been proved in your case; but in order to give you time to realize your position in this regard the Council have postponed judgement in your case until the May session of 1928."

Before that date Major Porter would be required to send to the Registrar the names of some of his professional brethren who would testify as to his conduct in the interval with reference to this practice.

Sale of Poisons by Unqualified Assistants.

Three unusual cases, similar in character, and all from the same district, were brought forward on the complaint of the Pharmaceutical Society of Great Britain. The charge in each case was:

"That, being a registered medical practitioner, keeping a medical hall, open shop, or other place in which scheduled poisons or preparations containing scheduled poisons are sold to the public, you have employed for your own profit and under cover of your own qualifications an assistant—namely, one (a different name was mentioned in each case) who was left in charge of such premises, but was not legally qualified to sell scheduled poisons to the public.

"And that in relation thereto you have been guilty of infamous conduct in a professional respect."

The respondents were Lawrence Crombie, registered as of Dunollie, Dalmuir, Glasgow, M.B., Ch.B., Eliazer Gelfer, registered as of Abbotsford Place, Glasgow, L.R.C.P., L.R.C.S., L.R.F.P.S., and William Mason Hamilton, registered as of Law Junction, Lanarkshire, M.B., Ch.B. Dr. Crombie and Dr. Hamilton were present, and Dr. Gelfer sent a written statement. They were defended by Mr. Oswald Hempson on behalf of Messrs. Turnbull and Findlay, solicitors to the Medical and Dental Defence Union of Scotland.

Mr. W. H. Quarrell, of Messrs. Thompson, Quarrell, and Attneave, who represented the Pharmaceutical Society, had copies of the *Pharmaceutical Journal* containing an account of proceedings which had taken place on this matter in Scotland distributed to members of the Council, and this, he said, saved him from making any opening speech. Lysol or Jeyes fluid had been sold by women not legally qualified employed by the respondents.

Dr. Crombie in evidence said that he took over from his predecessor in his practice a medical hall, together with the stock, which included poisons, and he re-engaged the lady assistant, who was not a qualified chemist. He also arranged with a qualified chemist, Mr. Armstrong, to run the business for him, and to him he gave directions. Any sale of poisons which took place by the assistant was not done with his cognisance or approval, but he expressed his regret to the Council that his assistant should have actually sold poisons.

In cross-examination he was asked how he accounted for the fact that lysol and Jeyes fluid were loose and close to the assistant's hand. Dr. Crombie replied that he used Jeyes fluid himself as a disinfectant in the surgery. He could not account for it being sold without label or name. He was aware of the regulations with regard to the labelling of poisons, but at the time he did not think of Jeyes fluid as coming under the Poisons Act.

Mr. Thomas Armstrong in evidence said that Dr. Crombie asked him to supervise the shop and the assistant. The assistant was told not to sell poisons, and she knew in a general way what she could and could not sell. The first thing he did on taking over the business was to remove the dangerous drugs and poisons from her reach.

Dr. Gelfer's case was next taken. A letter was read stating that he profoundly regretted that owing to the fact that lysol was so freely sold it never occurred to him that any qualification was required as to its sale, and he was not the only practitioner similarly ignorant. He admitted that he had a shop and employed an assistant not legally qualified, but the selling of a bottle of lysol by her was an oversight, and on the actual terms of the charge he was not guilty.

Dr. Hamilton then went into the box, and said that he made out for his assistant a list of articles which she was entitled to sell; these things included dentrifices and so forth. She did sell a bottle of lysol to an inspector, but lysol was not among the things on the list in her possession. The lysol on the premises was solely for his own use. Mr. Quarrell pointed out that when the girl employed by Dr. Hamilton pleaded guilty in the police proceedings it was stated on her behalf that since this had happened the doctor had given her instructions not to sell poisons. Dr. Hamilton replied that he gave instructions afterwards again, but he had also given instructions previously.

Mr. Hempson, on behalf of the respondents, said that they all recognized the necessity for th[illegible] that ignorance of the law was no excuse. A[illegible] s so well acquainted with the ready sale [illegible] that one was liable not to rank them [illegible] is clients belonged to that unfortunate [illegible] upon to suffer as a warning to others who were themselves equally guilty.

Mr. Quarrell said that the respondents themselves had disclosed to the Council that there had been neglect and carelessness. If doctors were to be allowed really to keep open shop it must be insisted that they had an exact knowledge of the regulations and saw that they were carried out.

The Council found the facts proved against all the respondents.

The PRESIDENT said:

"These facts indicate a practice which the Council regards as being fraught with danger to the public and not creditable to a member of the medical profession. In view of the Warning Notice which has been issued by the Council it is a professional offence of which grave notice is bound to be taken. But as you have expressed to the Council your regret for the commission of such professional offence and have pledged yourselves to abstain from conduct affording similar ground of complaint, the Council have decided not to proceed to judgement on the facts proved against you at this session, but to postpone judgement for six months, and they will ask you to appear before them in November of this year, and will give you an opportunity of offering testimony on your behalf with regard to your conduct in the interval."

He thanked the representative of the Pharmaceutical Society for bringing the facts before the Council.

Misdemeanour.

On May 27th the Council considered the case of Duncan Miller, registered as of Glebe House, Washington, co. Durham, M.B., Ch.B., who was summoned on the charge that in May, 1926, he was convicted at Gateshead police court of being drunk in charge of a motor car and of driving a motor car to the danger of the public, and on December 31st of the same year of being found drunk on the highway.

Mr. Harper said that after the first conviction Dr. Miller received a serious warning from the Council, and yet within a few months there was this second conviction. He understood Dr. Miller denied being drunk on the second occasion, but he had pleaded guilty at the police court.

Dr. Miller in a statement to the Council said that on the second occasion he pleaded guilty under a misapprehension, and he strongly denied that he was drunk. He had suffered from malaria in the army, which had made him susceptible to very small amounts of alcohol. Since his second conviction, that is to say, during the whole of the present year, he had been a total abstainer, and intended to remain so.

The decision of the Council was that Dr. Miller's convictions had been proved, but in order to give him an opportunity of considering his position it postponed judgement until the May session, 1928, when he would be required to appear and to produce testimonials as to his conduct in the interval.

(To be continued.)

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

Surgeon Rear-Admiral J. F. Hall, C.M.G., is placed on the retired list at his own request.

Surgeon Commander H. H. Babington to the *Maidstone*.

Surgeon Lieutenants C. R. Moore to the *Wallace*, to be accommodated in the *Wallace* (amended appointment); J. R. C. Spicer to the *Gnat*.

ROYAL NAVAL VOLUNTEER RESERVE.

Surgeon Lieutenant Commander H. O. Martin to the *Victory* for R.N. Hospital, Haslar, for fourteen days' training.

Surgeon Lieutenants H. Winstanley and R. J. Matthews to the *Victory* for R.N. Hospital, Haslar, for fourteen days' training.

Surgeon Sublieutenant H. M. Willoughby promoted to Surgeon Lieutenant.

ROYAL ARMY MEDICAL CORPS.

Captain W. Bruce, O.B.E., to be Major.

Captain C. F. Anthonisz to be Major (prov.), February 15th, 1927 (substituted for notification in the *London Gazette*, February 25th, 1927).

E. M. Wright to be temporary *Lieutenant*.

ROYAL AIR FORCE MEDICAL SERVICE.

Squadron Leader J. T. T. Forbes to Headquarters, Coastal Area.

Flight Lieutenant C. G. J. Nicolls is granted a permanent commission in this rank.

Flying Officer P. D. Barling is promoted to the rank of Flight Lieutenant.

INDIAN MEDICAL SERVICE.

Lieut.-Colonel C. D. Franklin, O.B.E., assumed collateral charge of the duties of Civil Surgeon, New Delhi, with effect from April 11th.

Major E. S. *Goss, M.C., has been appointed as Officer-in-charge, Medical* Store Depot, Lahore Cantt.

The Hon. Major-General T. H. Symons, C.S.I., O.B.E., K.H.S., has resigned his appointment as a Member of the Council of State.

Major-General A. Hooton, C.I.E., K.H.P., has been nominated to be a member of the *Council* of State.

The following officers have been appointed substantively to be Agency Surgeons under the Government of India in the Foreign and Political Department: Majors R. F. D. MacGregor, M.C., C. J. Stocker, M.C., and J. B. Hance, O.B.E.

Lieut.-*Colonel* F. E. Wilson is posted as Civil Surgeon, Quetta.

Lieut.-Colonels S. Hunt and E. D. W. Greig, C.I.E., have retired from the service

TERRITORIAL ARMY.

ROYAL ARMY MEDICAL CORPS.

Captain R. R. Evans, R.A.M.C., to be Divisional Adjutant 55th (W. Lan.) Division, vice Captain R. L. Davis, O.B.E., vacated.

Lieutenant L. C. F. Chevens resigns his commission.

TERRITORIAL ARMY RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel A. W. Moore, O.B.E., T.D., from the Active List, to be Lieutenant-Colonel.

Major J. Wallace, O.B.E., T.D., from the Active List, to be Major.

VACANCIES.

ALL SAINTS' HOSPITAL FOR GENITO-URINARY DISEASES.—(1) Resident Senior House-Surgeon. (2) *Non-Resident Junior House-Surgeon.* Males. Salary at the rate of £200 and £150 per annum respectively.

ASHTON-UNDER-LYNE DISTRICT INFIRMARY.—House-Surgeon. Salary at the rate of £150 per annum.

BARKING TOWN URBAN DISTRICT COUNCIL AND ESSEX COUNTY COUNCIL.—Medical Officer of Health, etc. Total salary £850 per annum.

BELFAST: MATER INFIRMORUM HOSPITAL.—Honorary Radiologist.

BIRKENHEAD UNION.—Resident Assistant Medical Officer at the Infirmary. Salary £200 per annum, rising to £300.

BRISTOL GENERAL HOSPITAL.—Honorary Assistant Surgeon to the Ear, Nose, and Throat Department.

CHARING CROSS HOSPITAL, W.C.2.—(1) Registrar to the Nose, Throat, and Ear Department (male); honorarium £100 per annum. (2) Honorary Anæsthetist.

CHELSTER ROYAL INFIRMARY.—Third House-Surgeon (male). Salary £150 per annum.

CHISWICK GENERAL HOSPITAL, W.4.—Second Honorary Consulting Surgeon.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE HEART AND LUNGS, Victoria Park, E.2.—House-Physician (male). Salary at the rate of £100 per annum.

COLCHESTER: SEVERALLS MENTAL HOSPITAL.—Assistant Medical Officer (lady). *Salary £510 per annum, rising to £610.*

DURHAM COUNTY HOSPITAL.—Junior House-Surgeon (male). Salary at the rate of £120 per annum.

EAST SUSSEX COUNTY MENTAL HOSPITAL, Hellingley.—Junior Assistant Medical Officer (male, unmarried). Salary £350 per annum, rising to £400.

ECCLES AND PATRICROFT HOSPITAL.—House-Surgeon (male). Salary £150 per annum.

ELIZABETH GARRETT ANDERSON HOSPITAL, Euston Road, N.W.1.—Staff Post of Obstetrician (female).

FEDERATED MALAY STATES MEDICAL DEPARTMENT.—Radiologist. Salary £700-£25-£1,120 per annum.

GLASGOW PARISH COUNCIL.—Superintendent of Poor Law Hospitals. Salary £1,500 per annum, increasing to £2,000.

HAMPSTEAD GENERAL AND NORTH-WEST LONDON HOSPITAL, Haverstock Hill, N.W.3.—(1) Casualty Surgical Officer at the Out-patient Department. (2) House-Surgeon. Salary in each case at the rate of £100 per annum.

HEMEL HEMPSTEAD: WEST HERTS HOSPITAL.—Resident Medical Officer. Salary £150 per annum.

HEREFORD COUNTY COUNCIL AND THE BROMYARD URBAN AND BROMYARD, LEDBURY, AND LEOMINSTER RURAL DISTRICT COUNCILS.—Assistant County *Medical Officer*, etc. Salary £685 per annum.

HOSPITAL FOR WOMEN, Soho Square, W.1.—Resident Medical Officer. Salary at the rate of £100 per annum.

HULME DISPENSARY, Dale Street, Manchester.—Resident Medical Officer (unmarried). Salary £200 per annum.

LONDON HOSPITAL, E.—Resident First Assistant to the Gynæcological and Obstetric Department. Salary £300 per annum.

LONDON UNIVERSITY.—University Chair of Pathology tenable at St. Bartholomew's Hospital Medical College. Salary £1,000 a year, together with £500 as Pathologist to the Hospital.

MANCHESTER EDUCATION COMMITTEE.—Two Assistant School Medical Officers (males). Salary £600 per annum, rising to £750 each.

MANCHESTER: ROYAL MANCHESTER CHILDREN'S HOSPITAL.—Senior Medical *Officer for Out-patient Department (non-resident).* Salary £300 per annum.

MILLER GENERAL HOSPITAL, Greenwich Road, S.E.10.—(1) Assistant Physician. (2) Casualty Officer (male). (3) House-Surgeon (male). Salary for (2) £150 per annum, and for (3) £125 per annum.

NORTH MIDDLESEX HOSPITAL, Edmonton, N.18.—Assistant Medical Officer. Salary £400 per annum.

NORTHAMPTON COUNTY BOROUGH EDUCATION COMMITTEE.—Assistant School Dentist. Salary £450 per annum.

NUNEATON: CALDECOTE HALL FOR THE TREATMENT OF ALCOHOLISM, etc.—Assistant Medical Officer (male, unmarried). Salary at the rate of £150 per annum.

OLDHAM ROYAL INFIRMARY.—House-Surgeons in charge of (*a*) Out-patient, *Casualty and Special Departments*; (*b*) *Women's and Children's Wards*; (*c*) Men's Wards. Salary £175 per annum each.

OXFORD: RADCLIFFE INFIRMARY AND COUNTY HOSPITAL.—(1) House-Surgeon. (2) Obstetric House-Physician. Salary at the rate of £120 per annum each.

ROCHDALE INFIRMARY.—Junior House-Surgeon (male). Salary £200 per annum.

ROYAL CHEST HOSPITAL, City Road, E.C.1.—Physician with charge of Out-patients.

ROYAL FREE HOSPITAL, Gray's Inn Road, W.C.1.—Resident Anæsthetist.

ST. MARY'S HOSPITAL, W.2.—Assistant Pathological Chemist. Salary £300 per annum.

ST. PETER'S HOSPITAL FOR STONE, etc., Henrietta Street, W.C.2.—Clinical Assistants.

SALFORD ROYAL HOSPITAL.—(1) House-Physician. (2) House-Surgeon attached to the Genito-urinary Department. (3) House-Surgeon to Gynæcological, Aural, and Skin Departments. (4) Casualty House-Surgeon. Salary at the rate of £125 per annum each.

SALVATION ARMY (MOTHERS' HOSPITAL), Lower Clapton Road, E.5.—Junior Resident Medical Officer (female). Salary at the rate of £60 per annum.

SEAMEN'S HOSPITAL SOCIETY, Dreadnought Hospital, Greenwich, S.E.—Anæsthetist; honorarium 50 guineas a year. House-Physician and House-Surgeons; salary at the rate of £110 per annum each and a proportion of fees.

SEAMEN'S HOSPITAL SOCIETY.—*Assistant Medical Officer at King George's* Sanatorium for Sailors, Liphook, Hants. Salary at the rate of £200 per annum.

SHEFFIELD ROYAL INFIRMARY.—House-Surgeon. Salary at the rate of £80 per annum.

SHREWSBURY DISPENSARY.—Medical Officer. Minimum salary £280.

STAFFORDSHIRE GENERAL INFIRMARY, Stafford.—*House-Surgeon (male).* Salary at the rate of £200 per annum.

UNIVERSITY COLLEGE HOSPITAL, Gower Street, W.C.1.—Whole-time Surgical Registrar. Salary £250 per annum.

VICTORIA HOSPITAL FOR CHILDREN, Tite Street, Chelsea.—Senior Resident Medical Officer (male). Salary £250 per annum.

WARRINGTON: COUNTY BOROUGH.—Assistant Medical Officer of Health (female) for Maternity and Child Welfare, etc. Salary £250 per annum.

WARWICKSHIRE AND COVENTRY JOINT COMMITTEE FOR TUBERCULOSIS.—Assistant Resident Medical Officer at the Warwickshire King Edward VII Memorial Sanatorium. Salary at the rate of £250 per annum.

WILLESDEN GENERAL HOSPITAL, Harlesden Road, N.W.10.—(1) Honorary Surgeon to Ear, Nose, and Throat Department. (2) Out-patient Clinical Assistants.

WELSH NATIONAL SCHOOL OF MEDICINE.—(1) Assistant in the Medical Unit; salary £500 per annum. (2) Laboratory Assistant; wages £5 per week.

WEST LONDON HOSPITAL, Hammersmith Road, W.6.—(1) House-Physician. (2) House-Surgeon. (Males.) Salary at the rate of £100 per annum each.

WOLVERHAMPTON AND STAFFORDSHIRE HOSPITAL.—Resident Surgical Officer. Salary £250 per annum.

CERTIFYING FACTORY SURGEON.—The appointment at Cottingham (Northamptonshire) is vacant. Applications to the Chief Inspector of Factories, Home Office, Whitehall, S.W.1.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.

APPOINTMENTS.

GRAHAM, D. C., M.B., Ch.B.Edin., Certifying Factory Surgeon for the Selkirk District, co. Selkirk.

LAUGHTON, N.B., M.B., Ch.B.Edin., D.P.H.Oxf., Tuberculosis Officer for Northampton.

MCKEGGIE, J. W., M.B., Ch.B.Aberd., D.P.H., Medical Officer of Health and School Medical Officer for Bilston.

RICHARDS, E. W., M.B., Ch.B.Edin., D.P.H., Medical Officer of Health, Montgomery County Council.

WILSON, Arthur J., M.B., Ch.B.Edin., Assistant Honorary Physician, Coventry and Warwickshire Hospital.

LEEDS GENERAL INFIRMARY.—*Honorary Surgeon:* Alfred Richardson, M.B., B.S., F.R.C.S. *Honorary Assistant Surgeon:* Digby Chamberlain, Ch.M., F.R.C.S.

ST. THOMAS'S HOSPITAL.—*Resident House-Surgeon:* (Throat) J. Morris, M.B., B.Ch.Cantab., M.R.C.S., L.R.C.P. *Obstetric House-Physicians:* (Senior) A. J. Wrigley, M.B., B.S.Lond., F.R.C.S.Eng. (Junior) T. S. Dewey, B.A., M.B., B.Ch.Cantab., M. *House-Surgeons:* (Senior) M. Dykes Bower, J. F. L. Barnes, M.R.C.S., L.R.C.P. *Chief ...istants:* (Ophthalmic) J. A. Hartley, M.R.C.S., L.R.C.P., J. F. Stent, M.R.C.S., L.R.C.P.; (Ear) H. I. Marriner, F.R.C.S.Edin. (Chief Assistant), A. S. Wallis, M.R.C.S., L.R.C.P., ...R.C.P.; (Throat) D. F. A. Neilson, F. ... Ashton, M.R.C.S., L.R.C.P., J. B. C ...) H. T. Barron, M.D.Lond. (Chief ... R. G. Apthorpe, M.R.C.S., L.R.C.P ... .R.C.P.; (Dental) P. Lloyd Williams, M.R.C.S., L.R.C.P., L.D.S. (Chief Assistant), M. D. Nosworthy, M.R.C.S., L.R.C.P.; (Electro-therapy) D. B. I. Hallett, M.B., B.Ch.Oxon., D.M.R. and E.Cantab; (Children's Medical) R. A. Phillips, M.R.C.S., L.R.C.P., W. P. Purvis, B.A.Cantab., M.R.C.S., L.R.C.P., A. H. Lankester, M.R.C.S., L.R.C.P., A. S. Wallis, M.R.C.S., L.R.C.P.; (X-Ray Department) B. Shires, M.B., B.Ch.Edin. (Chief Assistant); F. W. F. Purcell, M.R.C.S., L.R.C.P., T. C. Stevenson, M.R.C.S., L.R.C.P.; (Mental Diseases) J. Rickman, M.D.Cantab. (Chief Assistant); (Tuberculosis Department) G. C. Babington, M.R.C.S., L.R.C.P., S. M. Burrows, M.R.C.S., L.R.C.P.; (Orthopaedic) E. P. Brockman, M.B., M.Ch.Cantab., F.R.C.S. (Chief Assistant), R. W. Butler, M.R.C.S., L.R.C.P., ... D. Farmer, M.R.C.S., L.R.C.P., G. M. Fitzgibbon, M.R.C.S., L.R.C. ... Windsor, M.R.C.S., L.R.C.P., H. K. ... Ante-Natal) F. J. Milward, M.R.C.S., L.R ... L.R.C.P.; (Venereal Department) G. ... L.R.C.P., F. W. F. Purcell, M.R.C.S., L.R.C.P.; (Neurological Department) G. M. Addison, M.R.C.S., L.R.C.P., R. Oddie, B.A.Oxon., M.R.C.S., L.R.C.P.

A number of other gentlemen have received extensions of their appointments.

DIARY OF SOCIETIES AND LECTURES.

ROYAL SOCIETY OF MEDICINE.

Sections of Laryngology and Otology.—Combined Summer Meeting. *Laryngological Session:*—Thurs., 2 p.m., Mr. F. B. Gilhespy: Chronic Hyperplasia of the Upper Jaw; Mr. W. G. Howarth: Some Points in the Technique of Laryngo-fissure; Mr. T. B. Layton: Relation of Nasal Polypi to Inflammation of Accessory Sinuses of the Nose; Mr. Douglas Guthrie and Mr. Norman Dott: The Occurrence of Brain Tissue in the Nose, the so-called Nasal Glioma. *Otological Session:*—Fri., 10 a.m. to 12.30 p.m., Papers: ... s by Dr. Scott Williamson, Mr. E. ... ns, and Dr. Dan McKenzie; Posterior ... ppuration of the Middle Ear by Dr. ... ome Radiograms of the Normal and ... iraham Hodgson. *Laryngological Clini* ... and Specimens. *Otological Session* (Clinical Meeting): 9.30 a.m., Cases; 10 a.m., Paper, with Cinematograph Demonstration, by Dr. Georges Portmann (Bordeaux): The Saccus Endolymphaticus and an Operation for Draining the same for the Relief of Vertigo. Demonstration by Dr. Albert Gray: Stereoscopic Transparencies of Specimens of the Temporal Bone. Cases and Specimens.

Section of ... p.m., Cases. 8.30 p.m., Lieut.-Colonel H. Herbe ... emonstration of the Anatomy of the Filtration ... Meeting.

ROYAL COLLEGE OF PHYSICIANS, Pall Mall East, S.W.1.—Thurs., 5 p.m., Croonian Lecture by Sir F. Gowland Hopkins, F.R.S.: The Task of Biochemistry.

POST-GRADUATE COURSES AND LECTURES.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION.—*Fellowship of Medicine:* Thurs., 3 p.m., Special Clinical Demonstration at the Royal Eye Hospital; free to members of the medical profession. *Chelsea Hospital for Women*, Arthur Street, S.W.: Special Course in Gynaecology, mornings and/or afternoons. *Central London Ophthalmic Hospital*, Judd Street, W.C.: Afternoon Course. Lecture Demonstrations and Instruction in the Out-patient Department. All information as to fees, etc., obtainable from the Fellowship of Medicine, 1, Wimpole Street, W.1.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.1.—Thurs., 4 p.m., Chronic Appendicitis in Children.

LONDON SCHOOL OF DERMATOLOGY, St. John's Hospital, Leicester Square, W.C.2.—Tues., 5 p.m., Eczema. Thurs., 5 p.m., Mycosis Fungoides.

NATIONAL HOSPITAL, Queen Square, W.C.1.—Tues., Thurs., Fri., 2 p.m., Out-patient Clinics. Tues., 3.30 p.m., Neuro-syphilis. Thurs., 3.30 p.m., Encephalitis Lethargica. Fri., 12 noon, Anatomy and Physiology of the Nervous System; 3.30 p.m., Muscular Atrophy. Operations: Tues. and Fri., 9 a.m.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.15.—Mon., 2.30 to 5 p.m., Medical, Surgical, and Gynaecological Clinics; Operations. Tues., 2.30 to 5 p.m., Medical, Surgical, Throat, Nose, and Ear Clinics; Operations. Wed., 2.30 to 5 p.m., Medical Skin and Eye Clinics; Operations. Thurs., 11.30 a.m., Dental Clinics; 2.30 to 5 p.m., Medical, Surgical, and Ear, Nose, and Throat Clinics; Operations. Fri., 10.30 a.m., Throat, Nose, and Ear Clinics; 2.30 to 5 p.m., Surgical, Medical, and Children's Diseases Clinics; Operations.

ROYAL NORTHERN HOSPITAL, Holloway Road, N.—Tues., 3.15 p.m., Demonstration of Selected Medical Cases.

ST. MARY'S HOSPITAL, Institute of Pathology and Research, Paddington, W.2.—Thurs., 5 p.m., Molecular Movement in the Living Body.

SOUTH-WEST LONDON POST-GRADUATE ASSOCIATION, St. James's Hospital, Ouseley Road, S.W.—Wed., 4 p.m., Disabilities associated with Fractures.

SHEFFIELD UNIVERSITY POST-GRADUATE CLINICS.—At Royal Infirmary: Fri., 3.30 p.m., Clinical Cases.

British Medical Association.

OFFICES, BRITISH MEDICAL ASSOCIATION HOUSE, TAVISTOCK SQUARE, W.C.1.

Departments.

SUBSCRIPTIONS AND ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate Westcent, London).
MEDICAL SECRETARY (Telegrams: Mediscera Westcent, London).
EDITOR, *British Medical Journal* (Telegrams: Aitiology Westcent, London).
Telephone numbers of British Medical Association and British Medical Journal, Museum 9851, 9862, 9863, and 9864 (internal exchange, four lines).

SCOTTISH MEDICAL SECRETARY: 6, Drumsheugh Gardens, Edinburgh. (Telegrams: ... : 6361 Central.)
IRISH MEDIC ... *rederick Street*, Dublin. (Telegrams: ... Dublin.)

Diary of the Association.

JUNE.

8 Wed. London: **Council**, 10 a.m.
Chelsea Division: Annual Meeting, Fulham Town Hall. Dr. Wanklyn on Diagnosis of Small-pox, 4.15 p.m.
9 Thurs. Cleveland Division: Annual Meeting, Zetland Hotel, Saltburn, 3 p.m.
10 Fri. London: Library Subcommittee, 2.30 p.m.
14 Tues. St. Pancras Division: B.M.A. House, Tavistock Square, W.C.1. Mr. J. Paterson on Internal Haemorrhage, 9 p.m.
15 Wed. Bedfordshire Division: Annual Meeting, Swan Hotel, Bedford. Dr. R. A. Young on Clinical Instinct, 3 p.m. Luncheon, 1.15.
Edinburgh Branch: Annual Meeting, Scottish House of B.M.A., 6, Drumsheugh Gardens, Edinburgh, 3.30 p.m.
Huddersfield Division: Annual Picnic, leaving York Place, 12.30 p.m.
Kent Branch: Annual Meeting, Spa Hotel, Tunbridge Wells Luncheon, 2 p.m.; Meeting, 3 p.m.; Annual Dinner, 7 p.m.
Southern Branch: Annual Meeting, Osborne House, East Cowes, Isle of Wight. Dr. Herbert French on Venesection, 3 p.m.
16 Thurs. West Dorset Division: Annual Meeting, Antelope Hotel, Dorchester. Meeting preceded by Supper, 7.30 p.m.
Worcestersh ... Branch: Annual Meeting, Ashfield, ...
17 Fri. English Div ... Branch): Annual Meeting, ... Crown an ... .30 p.m.
21 Tues. Metropolitan Counties Branch: Annual Meeting, B.M.A. House, Tavistock Square, W.C.1. Mr. E. B. Turner on Influenza from 1889 to 1927.
Willesden Division: Municipal Hospital, Brentfield Road. Demonstration by Dr. G. F. Buchan, 3.30 p.m.
23 Thurs. London: Insurance Acts Committee, 12 noon.
London: Scholarships and Grants Subcommittee, 2.30 p.m.

JULY.

3 Sun. Tyneside Division: Golf Match between South Shields and Tyneside Divisions at Brancepeth. Lunch, 1 p.m.; Singles, 2 p.m.; Foursomes, 6 p.m.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcement of Births, Marriages, and Deaths is 9s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

BIRTHS.

MITCHELL.—At Ness House Nursing Home, Inverness, on May 26th, the wife of Dr. L. M. V. Mitchell, of a daughter.

NIXON.—On May 27th, at 7, Lansdown Place, Clifton, Bristol, Doreen, the wife of Dr. J. A. Nixon, of a daughter.

SAUNDERS.—On May 25th, 1927, at 10, Lyford Road, Wandsworth Common, S.W., to Christine (*née* Holloway), wife of Robert J. Saunders, M.R.C.S., L.R.C.P., a daughter.

SMITH.—On May 27th, at 5, Cavendish Terrace, Stanwix, Carlisle, to Gwendoline (*née* Chave), wife of Dr. J. N. Douglas Smith, a son.

DEATH.

ROBINSON.—On May 25th, 1927, at 45B, Golders Green Road, N.W.11, Isabel Kate, aged 72, widow of Dr. Arthur H. Robinson, of St. Mary's Infirmary, Highgate Hill.

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SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, JUNE 11TH, 1927.

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GENERAL COUNCIL
OF
MEDICAL EDUCATION AND REGISTRATION.

SUMMER SESSION, 1927.

(Concluded from page 231.)

EXECUTIVE COMMITTEE.

A MEETING of the Executive Committee of the General Medical Council was held on May 22nd, with Sir DONALD MACALISTER in the chair. Some of the matters dealt with by the committee, such as the cessation of reciprocity between Quebec and this country, and the renewal for one year of the recognition hitherto accorded to the medical degrees of Bombay, Madras, Lahore, and Lucknow, were dealt with in the President's address to the Council on the following day (SUPPLEMENT, May 28th, p. 217).

Reciprocity with New Zealand.—A communication was considered from the Medical Council of New Zealand transmitting an Act recently passed to amend the Medical Practitioners Act, 1914. The new Act contains a provision that the New Zealand Council may, if it thinks fit, require the holder of a foreign diploma before registration to pass an examination, and that a person registered or eligible for registration in the United Kingdom by virtue of a qualification granted outside the United Kingdom shall not be entitled as a right to registration in New Zealand—that is to say, the Council may have power to refuse approval or require further examination. A letter has been sent to the Medical Council of New Zealand pointing out that this is not in accordance with the terms under which reciprocity between the United Kingdom and New Zealand was established in 1888. Under the present reciprocity arrangement any practitioner registered in the Colonial List in virtue of New Zealand qualifications is entitled to practise in any part of the British Dominions or any foreign country with which reciprocity has been established. The requirement laid down in this new Act is regarded as an abrogation of reciprocity and as constituting a change in the local law which the Council could not consider as conserving to medical practitioners registered in the United Kingdom the privileges they have hitherto had of practising in New Zealand. It is thought possible that this aspect of the matter has not occurred to the Medical Council of New Zealand, and therefore inquiry is being made before proceeding, as the General Medical Council will have to do if this new position is maintained, to recommend to the Privy Council that in the absence of reciprocity the extension of Part II of the Medical Act, 1886, to New Zealand should be rescinded. Such rescindment would render New Zealand practitioners unable to register in the United Kingdom by virtue of a qualification obtained in that Dominion.

Australian Universities.—The committee had before it a memorandum by Sir Edward Coey Bigger, until lately a member of the Council, on his recent visit to Australia and Ceylon. He wrote that he was greatly impressed in each of the Australian schools with the excellence of the equipment for teaching purposes and, so far as he could judge, the thoroughness of the teaching given. Up to the present it had not been possible to employ external examiners in Australia, but he thought it was now being generally realized that such appointments were advisable. He also visited the Tropical Diseases Institute at Townville, associated with Sydney University, and actually situated in the tropics. He thought that this institute was capable of considerable expansion, and might by suitable arrangements with the medical schools train men for the Diploma in Tropical Medicine and Hygiene.

Notification of Puerperal Sepsis.—The Scottish Board of Health addressed a letter to the Council in which it stated that instances had been brought to its notice of failure or delay on the part of medical practitioners to notify cases of puerperal sepsis, and asked that a pronouncement might be made, when opportunity offered, that the Council would seriously regard such failure or delay to notify cases. The Board was of opinion that this would be more effective than the prosecution of individual cases by procurators fiscal on the representations of local authorities. The Executive Committee decided to inform the Board of Health that the Council was empowered to consider cases of conviction for offences such as failure to notify infectious disease, and that it would be ready to deal with any such convictions reported to it.

Proposed Register of Opticians.—In view of the bill recently before Parliament and the setting up of a departmental committee to consider the general question of the desirability of establishing a statutory register of opticians, the President drew up a memorandum embodying the views which the General Medical Council had expressed on previous occasions with regard to similar proposals, and the memorandum has been forwarded to the Minister of Health for the use of the departmental committee. It is set forth that in 1906, when the British Optical Association presented a petition for a charter, and when there was an Opticians Bill before the House of Lords, the General Medical Council adopted a resolution that it would be dangerous in the public interest to confer the privileges and powers contemplated on persons not qualified in medicine and surgery. A memorandum was also approved by the Council at that time pointing out that the knowledge necessary to distinguish purely "optical" defects of the eye, if such there were, from conditions bordering upon or passing into disease could only be obtained by a complete medical education, and that the grant of "sight-testing" diplomas to persons not medically educated, and who would be likely to use them as instruments of trade advertisement, could hardly fail to lead to disastrous results. The supposed analogy of the pharmacist would not bear

investigation, for the pharmacist dealt with a great range of raw materials and preparations, many of which in unskilful hands would be dangerous to life, whereas the optician dealt only with lenses, few in number, simple in construction, and harmless in themselves. His shop contained no sources of peril against which the public might rightly ask to be protected. Moreover, the pharmacist exceeded his duty if he undertook to diagnose or prescribe for even the simpler departures from health. The conclusion of the memorandum was that to confer on the optician the privilege of himself prescribing for and treating patients suffering from disorders of the eye would be to sanction the creation of an inferior and purely commercial order of medical practitioners exempted from the training and disciplinary restraints which the Medical Act imposed.

In 1914, on the occasion of the passing of the Tasmanian Opticians Act, another memorandum was drawn up by the late Mr. Brudenell Carter, formerly a member of the Council and a well known ophthalmologist, in which he declared the recognition of opticians to be superfluous for the purpose of legitimate trade and likely to be misleading and even dangerous as soon as the limits of such trade were overpast. In 1919, on a fresh petition for a charter—the former petition not having been granted—for the British Optical Association, the Council was asked whether its attitude remained as set out in the former memorandum, and the reply was that there had been no change in the attitude of the Council.

The memorandum now drawn up by the President, after recounting this past history, declares that the General Medical Council still considers it most undesirable in the interests of the public and highly dangerous to the community that persons who have not received a complete medical education should be authorized by law to deal with matters requiring knowledge which was pathological or medical, or both. A note is appended by Mr. L. H. Eason, ophthalmic surgeon to Guy's Hospital, and a member of the General Medical Council, who points out that the position of the medical profession in objecting to the registration of opticians has been further strengthened by the Report of the Royal Commission on National Health Insurance, which concurs in the view taken by the Ministry of Health that the medical practitioner must intervene in these cases, and proposes a specialist service to include ophthalmologists and also opticians, the functions of the latter to be limited to making up the spectacles prescribed. Mr. Eason also points out that however well qualified an optician might be in the mechanical process of examining a patient by question and answer as to which lenses put before his eyes best suited him, it was impossible without examination of the interior of the eye with the ophthalmoscope to state that the case was one of simple error of refraction, and for a proper appreciation of what might be seen in the eye and its relation to health or disease of other organs of the body a complete medical education was required. While symptoms such as headaches might be due to errors of refraction, they might also be due to high blood pressure or other serious causes, and there was always the danger of ascribing the headache to the eye condition when the cause was something wholly unconnected with the eye. True, when the specialist discovered that it was a simple error of refraction the optician might be able accurately to prescribe the necessary glasses, but as the patient had already been examined by a person with special knowledge of the eye the optician's examination would be superfluous. Further, Mr. Eason urged the unwisdom of granting recognition and registration to a body of persons who made their living by a special method of treatment and by the sale of special apparatus. These persons were likely to consider their method a panacea. Moreover, ophthalmic specialists informed patients when they did not need spectacles, whereas it was to the optician's interest to sell glasses even though they might not be necessary.

The Executive Committee resolved to request the President, with Mr. Eason, to give evidence on behalf of the Council before the departmental committee.

Other matters before the Committee included recent ordinances and proclamations in Wei-Hai-Wei, British Guiana, and Bechuanaland Protectorate, relating to medical practitioners, which call for no particular remark. The Council has published the sixth edition of the report as to the conditions under which medical and dental practitioners registered or legally qualified in their own country may practise abroad, and is proposing to publish a pamphlet giving information as to the procedure to be adopted by those who desire to enter the profession of medicine, with information as to costs and prospects.

REPORTS OF COMMITTEES.

Revised Warning Notice on "Covering."

The PRESIDENT, on behalf of the Executive Committee, brought forward a report on the Warning Notice of the Council (No. 7) dealing with "association with uncertified women practising as midwives." He said that the Midwives Act, 1902, relating to England and Wales, which was cited in the present Warning Notice, provided that "No woman shall habitually and for gain attend women in childbirth otherwise than under the direction of a qualified medical practitioner unless she be certified under this Act." In the Midwives and Maternity Homes Act, 1926, also relating to England and Wales, and in the Midwives and Maternity Homes (Scotland) Bill, which was ordered to be printed in February last, the following had been substituted:

"If any person, being either a male person or a woman not certified under this Act, attends a woman in childbirth otherwise than under the direction and personal supervision of a duly qualified medical practitioner, that person shall, unless he or she satisfies the court that the attention was given in a case of sudden or urgent necessity, be liable on summary conviction to a fine not exceeding ten pounds."

It had been thought desirable by the Executive Committee to amend the Warning Notice so that it should be brought into harmony with the wording of the new legislation, and after consultation with the legal adviser the following amended Warning Notice was submitted:

"*Association with Uncertified Persons Practising as Midwives.*—Whereas it has been made to appear to the Council that certain registered medical practitioners have from time to time, by their countenance or assistance, or by issuing certificates, notifications, or other documents of a kindred character, enabled uncertified persons to attend women in childbirth otherwise than under the direction and personal supervision of a duly qualified medical practitioner contrary to law,

"And whereas such conduct is in the opinion of the Council discreditable to the profession of medicine, and calculated to defeat the purpose of the Statutes made in the public interest for the protection of mothers and infants;

"Notice is hereby given that any registered practitioner who is proved to have so offended will be liable to have his name erased from the *Medical Register*."

(The reference to the Acts is omitted, and the words after "character" in the first paragraph have been altered; in the existing Warning Notice they ran: "*knowingly* enabled uncertified women, on pretence that such women were under their direction, to attend women in childbirth, contrary to law.")

The revised Warning Notice was adopted.

The Finance of the Council.

Sir HOLBURT WARING, senior treasurer, presented the finance report, from which it appeared that the income of the General and Branch Councils for 1926 was £16,090, and the expenditure £10,823. The surplus, which was added to the assets of the Council, was very similar to that of the previous year. Sir Holburt Waring gave the following figures for students' registrations:

1919	... ...	3,420	1923	... ...	545
1920	... ...	2,531	1924	... ...	1,053
1921	... ...	1,608	1925	... ...	1,070
1922	... ...	1,833	1926	... ...	1,260

The new registrations on the *Medical Register* and the total fees received were as follows:

1924	2,565	£12,825
1925	2,400	£12,000
1926	1,957	£9,785

The receipts from this source seemed likely to be small again in 1927. The question of the liability of the Council to income tax came before the Special Commissioners in 1926, and the claim for exemption was unsuccessful. In view of the magnitude of the interests involved it had been decided to appeal to the high court.

The Medical Curriculum.

A very brief report on educational matters was submitted by Dr. MACKAY, chairman of the Education Committee. He stated that the committee hoped to be able to present

a complete report on the readjustment of the medical curriculum, in accordance with the resolutions of the Council in 1922, to the November session. Since November last the registration of 92 students had been antedated in accordance with precedent. Of these, 23 were registered in England, 61 in Scotland, and 8 in Ireland. The registration of 21 dental students had also been antedated.

The PRESIDENT announced that, after many years of service as chairman of the Education Committee, Dr. Mackay was resigning that office. The committee had very regretfully accepted the resignation, and he was sure the Council would endorse the appreciation which the committee had expressed for the long-continued and earnest labours of its chairman. (Applause.) The new chairman of the Education Committee would be Sir Humphry Rolleston.

Examinations.

Sir NORMAN WALKER, chairman of the Examination Committee, submitted the analysis of the annual tables for 1926 showing the percentage of rejections by different bodies in various subjects. From this list it appeared that the highest percentage of rejections in medicine, surgery, and midwifery was at Apothecaries Hall, Dublin (respectively 61.5, 50, and 54.5 per cent.), the lowest in medicine was at Aberdeen (14 per cent.), in surgery, Edinburgh (15.4 per cent.), and in midwifery, Bristol (15 per cent.). The committee was undertaking the visitation of the examinations in pathology and materia medica and pharmacology, and it was hoped soon that this would be completed.

The Council agreed to resume the printing of the annual returns of exemptions from examinations and courses of study. This has been withheld during the last few years in the interests of economy.

The Diploma in Public Health.

Sir JOHN MOORE, chairman of the Public Health Committee, reported that during 1926 the number of candidates entering for the first examination for the diploma in public health was 260, of whom 195, or 75 per cent., passed, and 65, or 25 per cent., were rejected. For the second and final examination 205 candidates presented themselves, of whom 149, or 72.7 per cent., passed, and 56, or 27.3 per cent., failed. Applications for concessions with regard to the rules for the D.P.H. by those who had had special experience of public health work abroad had been refused. It was pointed out to the applicants that the D.P.H. entitled its holder to hold a position as medical officer of health in this country, and consequently the Council was not able to recognize work of a similar kind done abroad—for example, in cantonments in India—because the conditions were not such as to give the wide experience and to secure the special technical knowledge requisite for holding so important an appointment as medical officer of health in this country. The committee also laid it down that while recognizing that exemptions might be made in respect of a curriculum arranged by the universities and other licensing bodies, no exemption should be granted which would relieve a candidate from passing the complete examination for the diploma.

The British Pharmacopoeia.

The PRESIDENT presented the report of the Pharmacopoeia Committee, the principal matter in which was a paragraph of grateful acknowledgement of the services of Sir Nestor Tirard in various capacities in connexion with the *Pharmacopoeia* during the last thirty-two years. The President stated that the Committee on the *Pharmacopoeia*, which had been engaged in taking evidence on the subjects included in its reference, might be expected to report before the next session of the Council.

Dental Business.

Sir JAMES HODSDON brought forward a report of the Dental Education and Examination Committee which contained two recommendations with regard to colonial and foreign qualifications. One of these was that the degree of bachelor of dental science of the University of Melbourne be entered on the table of qualifications admitting to the Colonial List of the *Dentists Register*; the other that, pending the receipt of satisfactory information from the Japanese authorities, the qualifications of the recognized dental licensing bodies in Japan no longer continue to appear on the table of qualifications admitting to the Foreign List. These were agreed to.

The Council also considered certain disciplinary cases remitted from the Dental Board.

The first was that of Joseph Halliday Magee, registered as of St. Mary's Terrace, Tyne Dock, "Dentist, 1921," who was summoned on the charge of canvassing for the purpose of procuring patients. The Board had transmitted to the Council its finding that the name of Mr. Magee ought to be erased, but the Council, after hearing Mr. Magee, who had not been present at the Dental Board inquiry, decided to send back the case to the Board for further inquiry and report, and strongly recommended the respondent to attend if summoned.

In another case, that of Samuel Theodore Hilton, registered as of Manton, Worksop, "Dentist, 1921," who was also summoned on the charge of having canvassed for the purpose of procuring patients, the Council endorsed the finding of the Dental Board and ordered the Registrar to erase the name of Samuel Theodore Hilton from the *Dentists Registrar*.

The Council decided to restore to the *Dentists Register* the name of Samuel Robertson Crosbie on fulfilment of the prescribed requirements.

Election of Committees.

In the course of the session the following committees were elected:

Executive Committee.—Dr. Macdonald, Sir George Newman, Sir H. Rolleston, Sir Jenner Verrall, Sir Holburt Waring, Sir Robert Bolam, Sir J. Hodsdon, Sir L. Mackenzie, Sir Norman Walker, Mr. Sinclair, Sir Arthur Chance, Sir John Moore.

Dental Executive Committee.—The above, with Mr. Dolamore.

Education Committee.—Dr. Brackenbury, Dr. Griffith, Mr. Leathes, Sir George Newman, Sir H. Rolleston, Mr. Thelwall Thomas, Sir J. Hodsdon, Mr. Littlejohn, Dr. Mackay, Dr. Dixon, Dr. Kidd, Mr. Sinclair.

Examination Committee.—Sir Robert Bolam, Mr. Eason, Dr. Fawcett, Mr. Gamgee, Sir Holburt Waring, Dr. Wild, Dr. Mackintosh, Dr. Russell, Sir Norman Walker, Sir Arthur Chance, Dr. Coffey.

Public Health Committee.—Dr. Buzzard, Dr. Brackenbury, Mr. Eason, Sir George Newman, Mr. Thomson, Sir Jenner Verrall, Dr. Adams, Mr. Littlejohn, Sir L. Mackenzie, Dr. Kidd, Dr. Magennis, Sir John Moore.

Pharmacopoeia Committee.—The President (Chairman), Sir Robert Bolam, Dr. Dale, Mr. Leathes, Sir Humphry Rolleston, Sir Holburt Waring, Dr. Wild, Dr. Adams, Dr. Mackintosh, Sir Norman Walker, Dr. Kidd, Dr. Magennis, Sir John Moore.

Dental Education and Examination Committee.—Sir James Hodsdon (Chairman), Mr. Ackland, Mr. Dolamore, Sir Holburt Waring, Mr. Guy, Mr. Sinclair, the President (*ex officio*).

Finance Committee.—Sir Holburt Waring (Chairman), Sir George Newman, Sir James Hodsdon, Sir Arthur Chance, the President (*ex officio*).

Business Committee.—Sir Norman Walker (Chairman), Mr. Eason, Dr. Macdonald, Dr. Magennis, the President (*ex officio*).

Penal Cases Committee.—Dr. Eason, Dr. Macdonald, Sir Norman Walker, Sir Arthur Chance.

After certain formal business, including the reappointment of the General Registrar, Mr. Norman C. King, a vote of thanks was accorded to the President, on the motion of Sir NORMAN WALKER, who said that he believed this was the forty-sixth or forty-seventh session over which Sir Donald MacAlister had presided. The vote of thanks was seconded by Sir JOHN MOORE, and carried. Sir DONALD MACALISTER, in reply, said that he did not know whether it was the forty-sixth or forty-seventh, but in any case the number appeared to suggest that the end was not far distant. The loyal devotion of his colleagues, however, had greatly eased his path, and with regard to the session now ending in particular he felt that not only had something been attempted but something had been done.

DISCIPLINARY CASES.

Misleading Certification.

The Council considered the case of Jogesh Chandra Bose, registered as of Cherrywood Road, Birmingham, M.R.C.S., L.R.C.P., who was summoned on the charge that he had issued a certificate that a boy named William Hopkins was suffering from bronchitis and not able to attend school when in fact the boy had not been under his medical care nor had he seen or examined him. The Birmingham Education Committee was the complainant, represented by Mr. Digby Seymour, solicitor. Dr. Bose was accompanied by Mr. Oswald Hempson.

Mr. Seymour said that the certificate, having been obtained from Dr. Bose by the mother of the child, was sent to the head teacher, and in consequence the superintendent of school attendance officers went to see the mother, questioned her, and obtained from her a statement to the effect that the child had not been ill, but that, having been unwell herself, she had desired to keep the boy at home to look after the other children. Dr. Bose, when approached, admitted quite frankly that he had not seen the child when he gave the certificate (for which incidentally he

received sixpence). The boy's sister had come to him with a note from the mother, who was on his panel, saying that she had influenza and she thought "Willie" was sickening for it, and asking for a "sick note" for him. He then gave a certificate stating the child was suffering from bronchitis. The matter from this point, however, became more complicated, for the mother, Mrs. Hopkins, alleged that after Dr. Bose had been questioned by the education officer he visited her, told her of the difficult position in which he found himself, and promised her £50, and gave her some £3 in all at different times, to keep the matter out of court by sending another statement to the education officer denying her earlier assertions.

Mrs. Hopkins gave evidence as to being visited by Dr. Bose and receiving certain sums from him. She admitted writing to Dr. Bose asking him to lend her £2 as a favour "the same as I have done for you," and she declared that a second statement which she had written for the education authority exculpating Dr. Bose was written at the doctor's dictation. Mrs. Hopkins also stated that on the occasion of one of these visits Dr. Bose had made an improper suggestion to her, which she regarded as an insult, but she admitted under cross-examination that although she had resented this she had taken another £1 note from him the same evening. Mrs. Hopkins was closely cross-examined as to the credibility of her story, in particular why in her sworn statement she had never mentioned this improper suggestion, also as to what she meant by certain phrases in her letters to Dr. Bose, which the doctor had interpreted as threats, and in consequence had placed the matter in the hands of his solicitors. Mr. Hempson put it to the witness that her story as to receiving any money at all from the doctor was absolutely untrue, that she tried to get money from him and failed, and in consequence made the story up. This the witness strongly denied, and other members of her family were called to give corroborative evidence, but the chief of them fainted in the witness-box and cross-examination was abandoned.

The President asked Mr. Hempson whether it was necessary to go into all this matter, seeing that nothing was mentioned in the charge except the giving of a misleading certificate.

Mr. Hempson replied that the solicitor for the complainant had brought up this charge of bribery, and in the interests of his client he was bound to rebut it by testing the woman's story. Even if his friend had not mentioned the alleged bribery it appeared in the sworn statement of the woman, which had been circulated among members of the Council, and whether mentioned or not at the actual hearing, would have a subconscious effect on their minds.

The President then allowed Mr. Hempson to proceed.

Dr. Bose, in the witness-box, admitted giving the certificate without examining the child. From the mother's description he thought the child's illness was of the kind familiar to him in the then prevailing epidemic. He had no idea of giving a certificate merely to keep the child from school to look after the house. After the matter came before the education authorities he went to see the mother to ask her what she meant by certain statements, and she told him that the officer had asked her all sorts of questions, and she did not know what was written, but she signed it to get rid of him. Dr. Bose said that in that case she had better write out a proper statement, which she proceeded to do, though not at his dictation. He denied having given or promised her any money. As for impropriety there was nothing further from his mind. When he called there were several members of Mrs. Hopkins's family in the room, and he suggested to her that they should talk the matter over upstairs. He expressed his great regret for having given a certificate which was untrue, and undertook to be more careful in regard to the issue of certificates in the future. Five letters were put in testifying to his character and conduct.

The Council found that the fact alleged against Dr. Bose in the notice of inquiry—namely, that the certificate was given in a lax and careless manner, and was in fact untrue, misleading, or improper—had been proved. The Council regarded laxity in the giving of such certificates as a grave matter, which might result in serious injuries to patients and others, and worthy of severe censure; but judgement would be postponed until the November session, when Dr. Bose would be required to appear again, and to produce evidence from his professional brethren as to the conduct of his practice in the interval.

Qualification for Foreign List in Medical Register.

The Council proceeded to an inquiry whether the following entry in the Foreign List of the *Medical Register* had been correctly made:

Name.	Address.	Date of Registration.	Qualification.
Brinkley, John Richard	Milford, Kansas, U.S.A.	1925, December 14	M.D. U. Pavia, 1925

Mr. Harper, the Council's solicitor, said that this was an inquiry of an unusual character, and involved no disciplinary question. There was no suggestion against the good faith of Dr. Brinkley. Dr. Brinkley had got on to the British *Register* by an unusual route, and the present proceedings were taken under Section 26 of the Medical Act, 1858, whereby the Council could order erasure of an entry incorrectly made. From the conditions as to reciprocity laid down in the Medical Act, 1886, Part II, every practitioner who got on to the Foreign List was placed in exactly the same position as a British practitioner as to where he could practise. Dr. Brinkley had no wish to practise in the United Kingdom, but one of the areas to which reciprocity extended was Canada (all except two provinces), in which Dr. Brinkley, being in the United States, might wish to practise. It appeared that Dr. Brinkley had a number of diplomas, only one of which was in question here, a degree which he had obtained from the Eclectic Medical College, Kansas City, Missouri. Dr. Brinkley was minded to get on the British *Register* through Italy, with which country there had been reciprocity since 1901. He went to Italy in 1925, sat for an examination in the University of Pavia, and eventually received the diploma of that university, with licence to practise in Pavia, which was equivalent under Italian law, after certain formalities, to permission to practise anywhere in the kingdom of Italy. This diploma he produced in London, it was found to be in order, and accordingly he was entered on the British *Register*. Later, however, it appeared that the director of the Royal University of Pavia was doubtful whether the Eclectic Medical College of Kansas City, Missouri, whose degree Dr. Brinkley had presented, was a recognized institution, and an order went forth from Rome for the annulment of Dr. Brinkley's diploma, though he still possessed the certificate of having passed the State examination in Italy. It now appeared that under the new agreement with Italy as regards medical reciprocity, entered into in 1925, the year in which Dr. Brinkley was registered, both the certificate for the State examination and the diploma were necessary for registration. Hence, under the regulations now obtaining, Dr. Brinkley had been incorrectly registered.

Mr. Hempson said, on behalf of Dr. Brinkley, that he had planned no subterfuge to get or keep his name on the British *Register*. He had produced his degree to the authorities at Pavia, and had passed the necessary State examination in Italy. Mr. Hempson hoped the Council would make it plain by some *pronouncement* that they were satisfied as to Dr. Brinkley's *bona fides*. At the time he passed the State examination the reciprocity arrangements were such that he was justified in his claim to come on to the British *Register*. The new agreement, signed by Signor Mussolini and the British ambassador, was subsequent to his passing of the examination, though it was prior to his British registration.

The Council directed the Registrar to erase the entry which had been the subject of this inquiry, adding that the entry appeared to have been made upon information tendered in good faith by Dr. Brinkley, but now ascertained to be incorrect. The Council also directed that the registration fee which Dr. Brinkley had paid should be returned to him.

Alleged "Covering."

The Council, on May 25th and 26th, considered the case of John Morrison Lever, registered as of Savile Road, Chapeltown, Leeds, L.M.S.S.A., M.B., Ch.B., now practising in South London, who was summoned on the charge that he had enabled two women not certified under the Midwives Act, 1902, to attend women in childbirth under the cover or pretence that such women were attended or to be attended by him or by them under his direction, and that he signed a maternity benefit certificate enabling them in contravention of the same Act to practise as if they were certified.

Dr. Lever was accompanied by Mr. Charles Davis, of Messrs. Bulcraig and Davis, solicitors, and the London County Council was the complainant, and was represented by Mr. Pawlyn, assistant solicitor to that body.

Mr. Pawlyn stated that, with one exception, the women concerned in the case had refused either to make a sworn declaration or to attend before the Council to give evidence. He asked whether, in consequence, the sworn declaration of an inspector in the public health department of the Council could be put in. Mr. Davis objected on the ground that the declaration contained hearsay evidence.

The acting legal assessor to the Council (Mr. Douglas Bartley) said that the Council was a domestic tribunal, but at the same time the elements of natural justice must be followed as far as possible, and the evidence which it could admit must be approximately that which would be acceptable in a court of justice. The evidence proposed to be put in by the person who swore the declaration on purely hearsay evidence would not certainly be acceptable in a court of justice.

The Council decided to admit only such parts of the declaration as the witness could testify from his own knowledge.

Mr. Pawlyn said that it was clear that four women whose names were mentioned were attended at their confinement by an uncertified woman, and he was able to produce certificates for maternity benefit signed by Dr. Lever as the doctor in attendance, though in fact he was not in attendance at the time of the confinement.

Mr. Albert Garner, inspector for the London County Council, testified that he was present at the South-Western Police Court in June last, when one of the uncertified women was charged before the magistrate with having habitually and for gain attended women in childbirth otherwise than under the direction of a registered medical man. The charge was proved, but on account of her age the woman was merely bound over. Dr. Lever was not present in court, and his name was only casually mentioned by a witness.

Mr. Davis objected that the conviction of this woman was no evidence against Dr. Lever whatever, and he asked the Council to dismiss the case.

The President thought the case should proceed, and thereupon Dr. Lever gave evidence on his own behalf, denying that he ever had any arrangement with either of these women, that he gave any directions before the birth to any handywoman, or that in the cases mentioned he himself was not in attendance very shortly after the confinement. He was aware that handywomen were being employed, but in the district where he practised there was not a single qualified midwife within a radius of half a mile.

The examination of Dr. Lever was interrupted by Mr. Eason.

a member of the Council, who moved that "in order to expedite business" the Council deliberate on its procedure *in camera*. This was seconded by Sir Robert Bolam and agreed to, and after a short private session the PRESIDENT announced the decision of the Council as follows:

"The Council have heard the whole case of the complainant against Mr. Lever, and they have heard part of his defence. They have decided that the facts alleged against him in the Notice of Inquiry have not been proved to the satisfaction of the Council. The case is accordingly dismissed."

Cases Coming up for Judgement.

The Council considered the case, judgement in which had been postponed from May, 1926, of Samuel Grahame Connor, registered as of Oxford Street, M.B., C.M., with regard to whom it had been found that he had been convicted under the Dangerous Drugs Act (BRITISH MEDICAL JOURNAL, SUPPLEMENT, June 12th, 1926, p. 213). Dr. Connor attended and produced a large number of testimonials in his favour from practitioners and public men. The Director of Public Prosecutions wrote that he had no further information and did not propose to be represented at the adjourned hearing. The Council, after considering the testimonials, and also Dr. Connor's statement that he would be extremely careful with regard to the giving of drugs in the future, did not see fit to direct the Registrar to erase Dr. Connor's name.

The same result was arrived at in the adjourned case of Austin Heron, registered as of the West African Medical Staff, L.R.C.P.Irel., L.R.C.S.Irel., who had been found in 1925 to have been convicted of certain misdemeanours (SUPPLEMENT, June 13th, 1925, p. 261). Dr. Heron appeared and put in testimonials from the Commissioner of Police on the Cape Coast, the police magistrate of the Supreme Court, Gold Coast Colony, the medical officer of Cape Coast, and others, testifying to the satisfactoriness of his conduct. The Council decided not to direct the Registrar to erase Dr. Heron's name.

Association Notices.

TABLE OF DATES.

June 16, Thurs.	Meetings of constituencies must be held between this date and July 15th, to instruct Representatives
June 25, Sat.	Supplementary Report of Council appears in SUPPLEMENT.
July 1, Fri.	Amendments and riders by Divisions and Branches for inclusion in A.R.M. Agenda must be received at Head Office by this date
July 15, Fri.	*Annual Representative Meeting*, Edinburgh, 10 a.m. Nominations for election of 12 members of Council by grouped Representatives must be received (at A.R.M., Edinburgh) by this date, 2 p.m.
July 16, Sat.	*A.R.M.* (Edinburgh).
July 18, Mon.	*Council* (Edinburgh). *A.R.M.* (Edinburgh).
July 19, Tues.	*A.R.M.* Annual General Meeting, Edinburgh, President's Address.
July 20, Wed.	*Council* (Edinburgh). Conference of Honorary Secretaries (Edinburgh). *Meetings of Sections*, etc., Edinburgh.
July 21, Thurs.	*Meetings of Sections*, etc., Edinburgh.
July 22, Fri.	*Meetings of Sections*, etc., Edinburgh.

ALFRED COX, *Medical Secretary.*

BRANCH AND DIVISION MEETINGS TO BE HELD.

BORDER COUNTIES BRANCH: ENGLISH DIVISION.—The annual general meeting of the English Division will be held at the Crown and Mitre Hotel, Carlisle, on Friday, June 17th, at 3.30 p.m. Agenda: Election of office-bearers, 1927-28; proposal of Executive Committee that the Division adopt a resolution under its Ethical Rules in relation to the scale of minimum commencing salaries for public health medical officers. After the conclusion of the business cases will be demonstrated by Dr. Ablett and Dr. Cameron. Tea will be served at 4.30 p.m.

DORSET AND WEST HANTS BRANCH: WEST DORSET DIVISION.—The annual meeting of the West Dorset Division will take place at the Antelope Hotel, Dorchester, on Thursday, June 16th, at 8.45 p.m. Agenda: Report of Council and instructions to representative; report of honorary secretary for 1926; election of officers, Executive Committee, and representatives on Branch Council. The meeting will be preceded by a supper at the Antelope Hotel at 7.30. Those proposing to attend the supper (5s. per head, exclusive of wines) are asked to notify the honorary secretary, Dr. J. A. Pridham, Hillfield, Broadway, Weymouth.

EAST YORK AND NORTH LINCOLN BRANCH.—The seventy-first annual meeting of the East York and North Lincoln Branch will be held on Friday, July 8th, when Dr. Frank Eve, the President-Elect, will be installed as President. Nominations of officers for the ensuing year must be in the hands of the honorary secretary not later than June 20th. Particulars as to place and hour of meeting, etc., will be announced later.

EDINBURGH BRANCH.—The annual meeting of the Edinburgh Branch will be held in the Scottish House of the Association, 6, Drumsheugh Gardens, Edinburgh (telephone: Edinburgh 24351), on Wednesday, June 15th, at 3.30 p.m. Tea will be served from 3.15. Business: Report of Branch Council, including the annual reports of Branch and of Divisions; treasurer's annual report and business; election of office-bearers for 1927-28; report of election of representative for 1927-28 for the Edinburgh and Fife Branches to the Council of the Association; election to the annual vacancy on the board of management of the Queen Mary Nursing Home; Annual Meeting of the Association in Edinburgh in July—reception by Branch; any other competent business.

KENT BRANCH.—The fourteenth annual meeting of the Kent Branch will be held at the Spa Hotel, Tunbridge Wells, on Wednesday, June 15th. The Council will meet in the morning. The President-Elect, Dr. F. R. B. Bisshopp, kindly invites each member attending and his wife to luncheon at the Spa Hotel at 2 p.m. Annual meeting, 3 p.m. Agenda: Report of the election of new officers, who thereupon take office; thanks to retiring officers; report of Branch Council and financial statement; appointment of auditor; inaugural address by the President. Garden party by the President and Mrs. Bisshopp at 4 p.m. Annual dinner (morning dress) at Spa Hotel (tickets 7s. 6d. each, exclusive of wines, which will be provided by the Tunbridge Wells Division), 7 p.m. Competition for the Tennyson-Smith golf challenge cup on the Spa Golf Club course.

LANCASHIRE AND CHESHIRE BRANCH.—The ninety-first annual meeting of the Lancashire and Cheshire Branch will be held at the Town Hall, King Street, Wigan, on Wednesday, June 22nd. 12.45 p.m.—Meeting of the Branch Council in the committee-room. 1 p.m.—Members will lunch in the old Council Chamber. 2 p.m.—Annual meeting in the new Council Chamber (by kind permission of the Mayor and Corporation). Agenda of Meeting: The chair will be taken by the President, Dr. H. T. Barton; report of Branch Council and financial statement; the chairman will introduce the President for the coming year, Dr. E. H. Monks, J.P., who will read his presidential address, entitled "Wigan: some medical biographies"; election of officers and two auditors for the coming year; vote of thanks to retiring officers and Branch Council; place of next annual meeting. 3 p.m.—Visits and excursions: (1) the Wigan library; (2) the parish church; (3) visit to Haigh Hall (by the kind invitation of the Earl of Crawford and Balcarres); (4) golf. The President will present a prize for the best net return for eighteen holes. To facilitate arrangements for lunch and the various excursions members are requested to notify the honorary secretary of the Wigan Division, Dr. F. L. Angior, Claremont, Wigan, of their intentions, as soon as possible.

LANCASHIRE AND CHESHIRE BRANCH: HYDE DIVISION.—The annual general meeting of the Hyde Division will be held in the Hyde Town Hall on Thursday, June 16th, at 4 p.m.

METROPOLITAN COUNTIES BRANCH.—The annual general meeting of the Metropolitan Counties Branch will be held at the British Medical Association House, Tavistock Square, W.C.1, on Tuesday, June 21st, at 4 p.m. Business: (1) Report of scrutineers on election of officers; (2) Annual Report of Council; (3) report of representatives of the Branch on the Central Council; (4) to sanction the necessary alterations in the rules of the Branch to enable the president-elect to become an *ex-officio* member of all committees; (5) presidential address by Mr. E. B. Turner, F.R.C.S., entitled "Influenza from 1889 to 1927: its therapeutic and clinical aspects."

METROPOLITAN COUNTIES BRANCH: CITY DIVISION.—The annual general meeting of the City Division will be held at the Metropolitan Hospital, Kingsland Road, E., on Tuesday, June 14th, at 9.30 p.m.

METROPOLITAN COUNTIES BRANCH: ST. PANCRAS DIVISION.—A meeting of the St. Pancras Division will be held at the British Medical Association House, Tavistock Square, W.C.1, on Tuesday, June 14th, at 9 p.m. Mr. J. Paterson, C.B.E., will read a paper on internal haemorrhage.

METROPOLITAN COUNTIES BRANCH: WILLESDEN DIVISION.—A clinical meeting of the Willesden Division will be held at the Municipal Hospital, Brentfield Road, on Tuesday, June 21st, at 3.30 p.m. Dr. G. F. Buchan has arranged for a demonstration by Dr. A. G. Troup, the medical superintendent, of the control of infectious diseases, including (1) Schick test and active immunization against diphtheria; (2) Dick test; (3) Schultz-Charlton reaction; (4) serum treatment of scarlet fever. Tea will be served. Members who intend to be present are asked to kindly advise the honorary secretary, 12, Craven Park Road, N.W.10.

NORTH OF ENGLAND BRANCH: TYNESIDE DIVISION.—A golf match has been arranged to take place between the South Shields and Tyneside Divisions on Sunday, July 3rd, at Brancepeth. Lunch, 1 p.m.; singles, 2 p.m.; tea, 5 p.m.; foursomes, 6 p.m. As the object of the meeting is to further social intercourse, it is hoped that all members who have ever wielded a club will do so on this occasion, and that others who do not play will also come.

NORTH LANCASHIRE AND SOUTH WESTMORLAND BRANCH.—The annual meeting of the North Lancashire and South Westmorland Branch will be held at the Golf Hotel, Grange, on Wednesday, June 22nd, at 3.15 p.m. Ladies are invited.

NORTH WALES BRANCH.—The annual summer meeting of the North Wales Branch will be held at Penmaenmawr on Friday, July 8th. The President-Elect will entertain the members of the Branch to lunch, and Dr. Alfred Cox, the Medical Secretary of the Association, has promised to attend and address the meeting. Further details will be announced later.

SHROPSHIRE AND MID-WALES BRANCH.—There will be a clinical meeting of the Shropshire and Mid-Wales Branch at the Shropshire Orthopaedic Hospital, Oswestry, on Tuesday, June 14th, at 3.30 p.m., when Mr. Wilson Stuart will take the members round and demonstrate cases and methods. It is hoped that a large number will avail themselves of this very kind invitation of the hospital authorities. Tea will be provided.

SOUTH MIDLAND BRANCH: BEDFORDSHIRE DIVISION.—The annual meeting of the Bedfordshire Division will be held at the Swan Hotel, Bedford, on Wednesday, June 15th, at 3 p.m. Dr. Welch

invites the members to luncheon at the Swan Hotel at 1.15. Members who wish to accept Dr. Welch's kind invitation are asked to notify the honorary secretary by Monday, June 13th. There will be an Executive Committee meeting in Room 40 previous to the annual meeting. Agenda: Annual report; election of officers. Dr. R. A. Young, F.R.C.P., physician to Middlesex and Brompton Hospitals, will give an address on clinical instinct. Tea will be provided.

SOUTHERN BRANCH.—The fifty-fifth annual meeting of the Southern Branch will be held at Osborne House, East Cowes, Isle of Wight, on Wednesday, June 15th, at 3 p.m., when Major-General Sir S. G. Guise-Moores, K.C.B., C.M.G., will take the chair. Agenda: Correspondence; annual report of the Branch Council: financial statement for 1926; election of officers, 1927-28. At the conclusion of the above business Dr. Herbert French, C.B.E., F.R.C.P., will give an address "Concerning venesection by the needle and bottle method, and a number of other small points." Through the courtesy of the President the State apartments will be open for inspection to members and their ladies, who are invited to tea by Lady Guise-Moores. The management of Osborne Cottage Hotel have generously quoted a special tariff to members of the Branch for those who wish to take this unique opportunity of seeing the Isle of Wight, and it is hoped that many will do so.

SUSSEX BRANCH.—The fourteenth annual meeting of the Sussex Branch will be held in the Dolphin Hotel, Chichester, on Wednesday, June 15th, at 2 p.m. Agenda: Correspondence; election of officers; induction of President to chair; Annual Report and financial statement of Council. The President will demonstrate a few original instruments of use in general practice. The President-Elect (Dr. G. C. Garratt of Chichester) requests the pleasure of the company of those members who intend to be present at the annual meeting to luncheon at the Dolphin Hotel, Chichester, at 1 p.m. An excursion by char-a-banc will start from the Dolphin Hotel at 2.30 p.m., visiting first the ruins in Cowdray Park, and then Petworth House, where, by courtesy of Lord Leconfield, the famous picture gallery will be on view. Tea will afterwards be served at the Swan Hotel, Petworth.

SUSSEX BRANCH: BRIGHTON DIVISION.—A clinical meeting of the Brighton Division will be held at the Sussex County Hospital on Thursday, June 16th, at 3.45 p.m.

WORCESTERSHIRE AND HEREFORDSHIRE BRANCH.—The annual meeting of the Worcestershire and Herefordshire Branch will be held (by invitation of Dr. J. C. Smyth) at Ashfield, Great Malvern, on Thursday, June 16th, at 3.15 p.m. Agenda: Council's report on the affairs of the Branch and the annual financial statement; election of president, honorary secretary, and treasurer. At the conclusion of the business Mr. Ainslie will vacate the chair and introduce his successor, Dr. Naish. Mr. Ainslie will read a short paper. Dr. J. C. Smyth has very kindly invited the members to tea after the meeting.

YORKSHIRE BRANCH: HUDDERSFIELD DIVISION.—The annual picnic of the Huddersfield Division will take place on Wednesday, June 15th. The char-a-banc will leave York Place at 12.30 p.m. for Malham. Afternoon tea will be served at the Airedale Private Hotel on arrival at Malham about 3 p.m. The afternoon will be spent in and around Malham. Gordale Scar and Malham Cove are both within easy walking distance and there will be time to walk to both. The char-a-banc will leave Malham at 6 p.m. for Skipton, where dinner will be served at the Black Horse Hotel at 7 p.m. The char-a-banc will leave Skipton at 8 p.m., and return via Ilkley to Huddersfield, where the party should arrive about 10 p.m. The inclusive charge for char-a-banc, tea, dinner (exclusive of drinks), and tips will be £1 a head; for those going in their own cars 10s. a head. Arrangements for the dinner must be completed by Saturday, June 11th.

Meetings of Branches and Divisions.

CONNAUGHT BRANCH.

THE annual general meeting of the Connaught Branch was held at the Railway Hotel, Galway, on May 13th, when Dr. R. L. ROE was in the chair.

Dr. Roe was re-elected president, and Dr. Mills honorary secretary and representative in the Representative Body, and Dr. E. S. Foley was appointed deputy representative.

The Report of Council was considered and questions asked about it, to which the HONORARY SECRETARY replied.

Some discussion took place regarding the smallness of fees offered by insurance companies to medical men, and the small salaries offered to permanent medical officials in Mayo and Leitrim. The matter was postponed for further consideration.

KENT BRANCH.

A MEETING of the Kent Branch was held at Ashford on March 11th, when poliomyelitis was discussed.

The PRESIDENT read a letter from Dr. W. L. Aycock, director of the Research Laboratory, Boston, U.S.A., regretting that his return to America prevented his attendance; he made several suggestions resulting from his investigations in England and the United States. Dr. A. M. WATT, medical officer of health, gave an account of the epidemic at Broadstairs; Dr. H. M. RAVEN spoke of the clinical points which he had noticed.

Dr. REGINALD MILLER said that one fact which clearly emerged in this epidemic was the length of the incubation period of the disease. The three patients who left the town and developed the disease later showed an incubation period of not less than six days, probably nearer nine. This was important, and it should be noted that it could not be ascertained until late in the epidemic. A second fact was less certain—namely, the sudden onset of the epidemic. In the later stages of the outbreak "abortive" cases would be recognized and notified, but this would almost certainly not be the case in the early days of the epidemic. Thus it was possible that the epidemic did not develop so abruptly as the charts shown seemed to indicate; if it did, it would be in favour of a food-borne epidemic rather than one spread by contact or carriers. He thought that the time was not yet ripe for any fixed policy in this disease. Against the view that poliomyelitis was spread from case to case by contact was the fact that it did not occur in a hospital ward. Some had thought that in the epidemic form, at any rate, the disease was contagious for a short while during the prodromal or early stage, and it was difficult to be sure that no case was at any time infectious. The current view was that the spread of the disease was by means of carriers; an epidemic was preceded by a "carrier epidemic," and this unsuspected wave suddenly gave rise to an outbreak of definite cases. By this time all those susceptible had either become immune or else suffered from the disease. He would not like, however, to base a policy on such speculations. Thirdly, came the theory that the disease owed its spread to infected food, particularly milk, and Professor Aycock of Harvard thought that he had definitely traced two American epidemics to infected milk. Although at first sight poliomyelitis seemed to originate in an infection of the nasopharynx and so to be more likely to be an air-borne rather than an ingested infection, the example of diphtheria indicated that this point could not be pressed too far. It was certainly unsafe, in view of Professor Aycock's evidence, to assume that infected food was an impossible explanation of an epidemic. Last came the suggestion of spread by means of dust and flies. With the summer incidence of poliomyelitis it was difficult to exclude such a possibility, especially if the disease could be a food-borne infection. Dr. Miller therefore concluded that there was not enough known about the spread of the disease to say that this or that precaution was unnecessary. Every possible source of spread should at present be considered.

Drs. GIBB (Maidstone), W. J. TYSON (Folkestone), ALFRED GREENWOOD (county medical officer), TENNYSON SMITH (Orpington), and E. A. STARLING (Tunbridge Wells) took part in the discussion.

The PRESIDENT, in the name of the Branch, thanked Dr. Reginald Miller for the interest and value of his paper, and also stated that the Branch Council had that morning appointed a small subcommittee to collect information and keep in touch with any further developments.

METROPOLITAN COUNTIES BRANCH: WILLESDEN DIVISION.

THE annual meeting of the Willesden Division was held at the Municipal Clinic, Willesden Green, on May 18th, at 9 p.m.

The annual report showed a balance in hand of 13s. 11d.; balance of emergency fund, £15 11s. 7d.; dinner account, £5 11s. 6d. Seventeen members contributed £17 17s. to the Willesden District Nursing Association. The membership had increased from 88 to 102. Nine meetings were held, with an average attendance of 15.5. After the approval of the report, Dr. G. C. ANDERSON, Deputy Medical Secretary, gave an interesting address on the work of the British Medical Association during the past year. He answered numerous questions by Drs. R. GILLBARD, C. F. T. SCOTT, J. W. BRASH, W. LOCK, and KATE O'BRIEN, and was, on the motion of Dr. LOCK, seconded by Dr. G. F. BUCHAN, accorded a very hearty vote of thanks.

The following officers were elected:

Chairman, Dr. J. W. Brash. *Vice-Chairman*, Dr. R. Gillbard. *Honorary Secretary*, Dr. William Paterson. *Honorary Clinical Secretary*, Dr. J. Freeman Heal.

The CHAIRMAN, with appropriate remarks, then invested his successor, Dr. J. W. Brash, with his badge of office, and was accorded a hearty vote of thanks on the motion of Dr. C. F. T. SCOTT, seconded by Dr. SKENE.

Dr. George F. Buchan was thanked for arranging for the accommodation of the meeting.

NORTH OF ENGLAND BRANCH: GATESHEAD DIVISION.

A MEETING of the Gateshead Division was held on May 11th. The following were elected as office-bearers:

Chairman, Dr. Smallwood. *Vice-Chairman*, Dr. Taylor. *Honorary Secretary and Representative in Representative Body*, Dr. Forbes. *Deputy Representative in Representative Body*, Dr. Stich.

The Annual Report of Council, 1926-27, was considered, and the following amendments adopted for submission at the Annual Representative Meeting in Edinburgh:

(*a*) That in the opinion of this meeting the Council has exceeded its instructions and failed to realize the basic policy set forth in Minutes 57, 58, and 59, Annual Representative Meeting, 1925.

(*b*) That the Representative Body disapproves of the policy advocated in relationship to the advertisement of pathological institutes such as is referred to in the first recommendation of Council upon pathological institutes, and instructs the Council to summarily exclude advertisements of such pathological institutes from the columns of the BRITISH MEDICAL JOURNAL, this seeming to be in accord with the views expressed in Paragraph 91.

(*c*) That Minute 92 be amended as follows: After the words "a confinement" add "or any condition arising directly out of parturition," and after "Midwives Act, 1918," *read* "*but that the time limit of* twenty-eight days should be removed and the local supervising authority be responsible for the fees of medical practitioners under a similar scale until such time as the patient is removed from hospital."

Circular D.11 issued from headquarters relating to medical charities was considered, and Dr. A. Benham Stich was appointed charities secretary.

OXFORD AND READING BRANCH: WINDSOR DIVISION.

At the annual meeting of the Windsor Division, held on May 6th, the following officers were elected:

Chairman, Dr. Goff. *Vice-Chairman*, Dr. Hathaway. *Honorary Secretary*, Dr. Casson. *Representative on Representative Body*, Dr. Hathaway. *Deputy Representatives in Representative Body*, Drs. Goff and Tomlinson.

Considerable disagreement was expressed with the recommendation of Council on orthopaedic centres and clinics for the treatment of early mental disorders, as it was felt that orthopaedic specialists and mental specialists respectively were the best people to undertake the work. It was decided to instruct the representative on these points.

A letter on the Dogs Bill, drawn up at the request of the meeting, has been sent to local members of Parliament.

NOTICES OF MOTION BY DIVISIONS FOR THE ANNUAL REPRESENTATIVE MEETING, EDINBURGH, 1927.

The State and Medical Practice.

By BRIGHTON: That the Representative Body, viewing with considerable concern the insidious inroads continually being made on private medical practice under the auspices of the State, voluntary bodies and others, and being of opinion that this is not only detrimental to the interests of the individual members of the medical profession but ultimately to all classes in the community, instructs the Council to watch all such developments and actively to interest itself in safeguarding private practice amongst all groups in the medical profession and to develop through the Branches and Divisions closer co-operation with the local medical profession for that purpose.

Whole-time Medical Officers and Medical Practice.

By TUNBRIDGE WELLS: That the Representative Body views with anxiety the increasing tendency to transfer the treatment of many diseases and conditions to whole-time medical officers as detrimental to the public health; that in the opinion of the Representative Body the general adoption of the following principles would result in benefit both to the public and the profession:

(1) The function of the health authority should be confined as much as possible to the prevention of disease.

(2) The work of the whole-time officer should be confined to administration, inspection, institutional, or consultative work.

(3) Health visitors should be definitely responsible for treatment to a local practitioner for all cases treated by them, including expectant mothers.

Pathological Reports.

By BRIGHTON: That para. 89 (c) of the Annual Report of Council be amended by the addition of the words "except at the request of the practitioner," and that words be added to make it clear that dental practitioners are included throughout para. 89.

Varieties of Pathological Institutes.

By BRIGHTON: That the third recommendation in para. 96 of the Annual Report of Council be amended by the deletion of para. (iii).

British Medical Journal.

By BRIGHTON: That, whilst recognizing the responsibility for all that appears in the BRITISH MEDICAL JOURNAL and its SUPPLEMENT as defined in Article 38 of the Association, the Representative Body is of opinion that these periodicals should be open to communications from any members commenting, favourably or otherwise, either on the policy of the Association in regard to the medical and allied sciences or on a communication inserted by a department of the Association.

Contributory Schemes for Hospital Benefit.

By BRIGHTON: That in view of the inroads being made into private medical practice by the contributory schemes which are springing up all over the country, the Representative Body is of opinion:

(a) That members of a contributory scheme should be regarded no longer as objects of charity, and therefore that the full cost of benefits offered should be covered by the premiums, with or without supplementary payments, paid by or for the members, and

(b) That the time has come to express its policy concisely in certain cardinal principles as set out below, and instructs the Council actively to engage itself during the coming year by means of conferences with committees of such schemes, hospital authorities, staffs of hospitals, Branches and Divisions and otherwise with a view to securing their general adoption:

(i) That the income limit for membership of a contributory scheme should not exceed the maximum scale as it appears in the Hospital Policy of the Association.

(ii) That so far as is possible and consistent with the best interests of the members, arrangements for consultative or specialist services should be made with private practitioners rather than with a voluntary or cottage hospital.

(iii) That for this purpose (a) there should be free choice of private practitioner by member and of member by private practitioner; and (b) the method and amount of remuneration should be determined by the local medical profession.

(iv) That except in emergency a member should be admitted to benefit only upon the introduction of the attending practitioner.

(v) That recognition should be made of the services of the medical staff of the hospital attending members not by a percentage of the money received by the hospital from a contributory scheme, but by a method and amount determined by the local medical profession.

[In order to assist in determining the method and amount of remuneration to be asked for the respective specialist services, the local medical profession should consider (i) payment for work done on a tariff of fees; (ii) payment on a session basis; (iii) payment by an amount to be determined annually or for a period of years; (iv) payment by a combination of two or more of the above ways.]

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

Surgeon Commander R. F. Quinton to the *Valiant*.

Surgeon Lieutenant Commanders J. F. Ainley to the *Iron Duke*, and as Specialist in Ophthalmology, temporary (amended appointment); C. N. Ratcliffe to the *President*, additional for three months' post-graduate course.

Surgeon Lieutenants G. S. Rutherford to the *Dartmouth*; E. W. Bingham to the *Bluebell*; A. B. Grant to the *Valiant* on recommissioning.

ROYAL NAVAL VOLUNTEER RESERVE.

Probationary Surgeon Sublieutenants G. H. Bradshaw to the *Dartmouth* for twenty-eight days' training; D. W. Bawtree to the *Tiger* for fourteen days' training; F. T. Doleman to the *Royal Oak* for fourteen days' training.

ROYAL ARMY MEDICAL CORPS.

Lieut.-Colonel J. G. Foster, O.B.E., having attained the age limit for retirement, retires on retired pay.

Major E. H. Milner Moore, D.S.O., to be Lieutenant-Colonel vice Lieut.-Colonel J. G. Foster, O.B.E., to retired pay.

Major A. E. G. Fraser, half pay list, late R.A.M.C., on completion of a period of five years on the half pay list, is placed on retired pay on account of ill health.

The following Captains to be Majors: K. M. Nelson, M.C., with precedence next below F. McKibben; D. McVicker, M.C., with precedence next below H. E. P. Yorke, M.C.

Lieutenant K. Fletcher-Barrett to be Captain.

H. T. Chiswell to be temporary Lieutenant.

REGULAR ARMY RESERVE OF OFFICERS; SUPPLEMENTARY RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

Lieutenant N. M. Maclennan resigns his commission.

TERRITORIAL ARMY.

ROYAL ARMY MEDICAL CORPS.

Major H. N. Burroughes, D.S.O., having attained the age limit is retired and granted the rank of Lieutenant-Colonel with permission to wear the prescribed uniform.

Major J. Taylor, O.B.E., resigns his commission and retains his rank.

Captain V. H. Wardle, M.C., to be Major.

VACANCIES.

BETHNAL GREEN HOSPITAL, E.2.—Assistant Medical Officer. Salary £400 per annum.

BIRKENHEAD COUNTY BOROUGH.—Assistant Medical Officer. Salary £450 per annum.

BRISTOL GENERAL HOSPITAL.—Honorary Assistant Surgeon to the Ear, Nose, and Throat Department.

CASSEL HOSPITAL FOR FUNCTIONAL NERVOUS DISORDERS, Penshurst, Kent.—Resident Medical Officer (unmarried). Salary £350, rising.

CHARING CROSS HOSPITAL, W.C.2.—(1) Registrar to the Nose, Throat, and Ear Department (male); honorarium £100 per annum. (2) Honorary Anaesthetist.

CHORLEY HOSPITAL.—House-Surgeon. Salary £150 per annum.

DERBY: BOROUGH MENTAL HOSPITAL.—Locumtenent (male). Salary 7 guineas a week.

DURHAM COUNTY HOSPITAL.—Junior House-Surgeon (male). Salary at the rate of £120 per annum.

EAST SUSSEX COUNTY MENTAL HOSPITAL, Hellingly.—Junior Assistant Medical Officer (unmarried). Salary £350 per annum, rising to £400.

ELIZABETH GARRETT ANDERSON HOSPITAL, Euston Road, N.W.1.—Staff Post of Obstetrician (female).

GLASGOW EYE INFIRMARY.—Rhinologist.

GLOUCESTER COUNTY MENTAL HOSPITAL.—Junior Assistant Medical Officer (male, unmarried). Salary £350 per annum.

HOSPITAL FOR CONSUMPTION AND DISEASES OF THE CHEST, Brompton, S.W.3.—Medical Registrar (half time). Salary £200 per annum.

HULME DISPENSARY, Dale Street, Manchester.—Resident Medical Officer (unmarried). Salary £300 per annum.

MANCHESTER: ANCOATS HOSPITAL.—Resident Medical Officer. Salary at the rate of £150 per annum.

MANCHESTER ROYAL INFIRMARY.—Assistant Medical Officer (non-resident). Salary £35 per annum.

MANCHESTER: THE CROSSLEY (MATERNITY) HOSPITAL, Ancoats.—Resident Medical Officer (female). Salary at the rate of £50 per annum.

MIDDLESEX HOSPITAL MEDICAL SCHOOL, BLAND-SUTTON INSTITUTE OF PATHOLOGY.—Assistant for Cancer Research. Salary according to experience, but not less than £350 per annum.

MILLER GENERAL HOSPITAL, Greenwich Road, S.E.10.—(1) Casualty Officer. (2) House-Surgeon. Males. Salary £150 and £135 per annum respectively.

NOTTINGHAM CHILDREN'S HOSPITAL.—Resident House-Surgeon (woman). Salary at the rate of £150 per annum.

ROYAL CHEST HOSPITAL, City Road, E.C.1.—Physician with charge of Out-patients.

ROYAL NORTHERN HOSPITAL, Holloway, N.—House-Surgeon. Salary at the rate of £70 per annum.

ST. HELENS COUNTY BOROUGH.—Deputy Medical Officer of Health (male). Salary £700 per annum, rising to £750.

ST. JOHN'S HOSPITAL, Lewisham, S.E.13.—Resident Male Casualty Officer. Salary £100 per annum.

ST. MARY'S HOSPITAL, W.2.—Assistant Pathological Chemist. Salary £300 per annum.

ST. PETER'S HOSPITAL FOR STONE, etc., Henrietta Street, W.C.2.—Clinical Assistants.

SEAMEN'S HOSPITAL SOCIETY, Dreadnought Hospital, Greenwich, S.E.—Anaesthetist; honorarium 50 guineas a year. House-Physician and House-Surgeons; salary at the rate of £110 per annum each and a proportion of fees.

SHREWSBURY DISPENSARY.—Medical Officer. Minimum salary £200.

SOUTH LONDON HOSPITAL FOR WOMEN, South Side, Clapham Common, S.W.4.—Assistant Physician (female).

SOUTHAMPTON COUNTY BOROUGH.—Assistant Medical Officer of Health. Salary £600 per annum.

SOUTHAMPTON: ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—Junior House-Surgeon (male, unmarried). Salary £150 per annum.

STIRLING DISTRICT MENTAL HOSPITAL, Larbert.—Third Assistant Medical Officer (lady) to act as Pathologist. Salary £250 per annum.

SUDAN GOVERNMENT.—(1) Assistant Bacteriologist [illegible] Research Laboratories, Khartoum (unmarried rising to £E.1,200. (2) Laboratory Assistant per annum. (3) Medical Officer for the (unmarried); pay £E.720 a year, rising to £ service.

SWANSEA GENERAL AND EYE HOSPITAL.—Secretary Superintendent. Salary £500, rising to £750.

UNIVERSITY COLLEGE HOSPITAL, Gower Street, W.C.1.—Whole-time Surgical Registrar. Salary £250 per annum.

WELSH NATIONAL SCHOOL OF MEDICINE.—(1) Assistant in the Medical Unit; salary £500 per annum. (2) Laboratory Assistant; wages £5 per week.

WEST END HOSPITAL FOR NERVOUS DISEASES.—(1) Senior House-Physician. (2) Junior House-Physician. Salary £150 and £100 per annum respectively.

WEST HARTLEPOOL COUNTY BOROUGH.—Assistant Medical Officer of Health. Salary £600 per annum.

WEST LONDON HOSPITAL, Hammersmith Road, W.6.—(1) House-Physician. (2) House-Surgeon. (Males.) Salary at the rate of £100 per annum each.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.

APPOINTMENTS.

GOLDSMITH, William Noel, M.A., M.D.Camb., M.R.C.P.Lond., Physician for Skin Diseases to St. John's Hospital, Lewisham.

LLOYD-WILLIAMS, I. H., M.B., B.S.Lond., Certifying Factory Surgeon for the Burgess Hill District, Sussex.

ROTH, E. J. H., M.R.C.S.Eng., L.R.C.P.Lond., D.M.R.E.Camb., Radiologist to the German Hospital, London.

SCOTT, E. Dennis, O.B.E., M.D.Lond., M.R.C.P., Honorary Physician, Royal Alexandra Hospital for Sick Children, Brighton.

WRIGLEY, Frank G., M.D., Honorary Assistant Aural Surgeon, Manchester Royal Infirmary, vice D. Lindley Sewell, M.B., B.S., promoted Aurist and Laryngologist.

DIARY OF SOCIETIES AND LECTURES.

ROYAL SOCIETY OF MEDICINE.

Section of [illegible] m., Mr. W. *Gilliatt*:
Section of [illegible] Mr. J. B. Banister:
X-ray De [illegible] of Curing Sterility;
Results o [illegible]
Mr. A. C. Palmer: Five Cases of Tuberculosis of the Female Genital Tract, with Special Reference to the Endometrium; Dr. R. A. Gibbons: The Cause of the Onset of Labour.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W.1.—Tues. and Thurs., 5 p.m., Croonian Lectures by Sir F. Gowland Hopkins, F.R.S.: The Task of Biochemistry.

MEDICAL SOCIETY OF LONDON, 11, Chandos Street, W.1.—Mon., 8.30 p.m., Reception by President. 9 p.m., Annual Oration by Professor Harvey Cushing, M.D.: The Surgical Aspects of Acromegaly.

ROYAL SOCIETY OF TROPICAL MEDICINE AND HYGIENE, 11, Chandos Street, W.1.—Thurs., 7.45 p.m., *Demonstration*. 8.15 p.m., Annual General Meeting. Presentation of Chalmers Medal to H. Lyndhurst Duke (Uganda). Paper by Dr. L. Fabian Hirst (Ceylon): Rat Flea Surveys and their Use as a Guide to Plague Preventive Measures.

RÖNTGEN SOCIETY, 1, Wimpole Street, W.1.—Tues., 8.30 p.m., Silvanus Thompson Memorial Lecture by Sir J. J. Thomson, F.R.S.: The Structure of the Atom and Radiation.

POST-GRADUATE COURSES AND LECTURES.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.1.—Thurs., 4 p.m., Acute Mastoiditis.

LONDON SCHOOL OF DERMATOLOGY, St. John's Hospital, Leicester Square, W.C.2.—Tues., 5 p.m., Alopecia Areata and Vitiligo. Thurs., 5 p.m., Pathology Demonstration

NATIONAL HOSPITAL, Queen Square, W.C.1.—Mon., Tues., Thurs., and Fri., 2 p.m., Out-patient Clinics. Mon., 12 noon, Pathology of the Nervous System; 3.30 p.m., *Diagnosis of Cerebral Tumours*. Tues., 3.30 p.m., Neurosyphilis. Thurs., 3.30 p.m., Chorea. Fri., 12 noon, Anatomy and Physiology of the Nervous System; 3.30 p.m., Muscular Atrophy. Operations: Tues. and Fri., 9 a.m.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.15.—Mon., 2.30 to 5 p.m., Medical, Surgical, and Gynaecological Clinics; Operations. Tues., 2.30 to 5 p.m., Medical, Surgical, Throat, Nose, and Ear Clinics; Operations. Wed., 2.30 to 5 p.m., Medical Skin and Eye Clinics; Operations. Thurs., 11.30 a.m., Dental Clinics; 2.30 to 5 p.m., Medical, Surgical, and Ear, Nose, and Throat Clinics; Operations. Fri., 10.30 a.m., Throat, Nose, and Ear Clinics; 2.30 to 5 p.m., Surgical, Medical, and Children's Diseases Clinics; Operations; 4.30 p.m., Special Demonstration on Selected Cases of Nerve Diseases.

ROYAL NORTHERN HOSPITAL, Holloway Road, N.7.—Mon., 2.30 p.m., Clinical Round of Surgical Cases. Tues., 3.15 p.m., Mammary Tumours.

SOUTH-WEST LONDON POST-GRADUATE ASSOCIATION, St. James's Hospital, Ouseley Road, Balham, S.W.—Wed., 4 p.m., Gonorrhoea Film.

SHEFFIELD UNIVERSITY POST-GRADUATE CLINICS.—At Jessop Hospital: Tues., 3.30 p.m., Gynaecological Cases. At Royal Infirmary: Fri., 3.30 p.m., Clinical Cases.

British Medical Association.

OFFICES, BRITISH MEDICAL ASSOCIATION HOUSE, TAVISTOCK SQUARE, W.C.1.

Departments.

SUBSCRIPTIONS AND ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate Westcent, London).
MEDICAL SECRETARY (Telegrams: Mediscera Westcent, London).
EDITOR, *British Medical Journal* (Telegrams: Aitiology Westcent, London).
Telephone numbers of British Medical Association and British Medical Journal, Museum 9851, 9852, 9853, and 9854 (internal exchange, four lines).

SCOTTISH [illegible] Gardens, Edinburgh. (Telegram: [illegible] : 4361 Central.)
IRISH M[illegible] rederick Street, Dublin. (Telegram: [illegible] Dublin.)

Diary of the Association.

JUNE.

10 Fri. London: Library Subcommittee, 2.30 p.m.
14 Tues. St. Pancras Division: B.M.A. House, Tavistock Square, W.C.1. Mr. J. Paterson on Internal Haemorrhage, 9 p.m.
[illegible] nch: Clinical Meeting, Shropswestry, 3.30 p.m.
15 Wed. [illegible] Meeting, Swan Hotel, Bedford. [illegible] Instinct, 3 p.m. Luncheon, 1.15.
Edinburgh Branch: Annual Meeting, Scottish House of B.M.A., 6, Drumsheugh Gardens, Edinburgh, 3.30 p.m.
Huddersfield Division: Annual Picnic, leaving York Place, 12.30 p.m.
Kent Branch: Annual Meeting, Spa Hotel, Tunbridge Wells. Luncheon, 2 p.m.; Meeting, 3 p.m.; Annual Dinner, 7 p.m.
Southern Branch: Annual Meeting, Osborne House, East Cowes, Isle of Wight. Dr. Herbert French on Venesection, 3 p.m.
Sussex Branch: Annual Meeting, Dolphin Hotel, Chichester. Luncheon, 1 p.m. Meeting, 2 p.m.
16 Thurs. West Dorset Division: Annual Meeting, Antelope Hotel, Dorchester. Meeting preceded by Supper, 7.30 p.m.
Worcestershire and Herefordshire Branch: Annual Meeting, Ashfield, Great Malvern, 3.15 p.m.
17 Fri. English Division (Border Counties Branch): Annual Meeting, Crown and Mitre Hotel, Carlisle, 3.30 p.m.
21 Tues. Metropolitan Counties Branch: Annual Meeting, B.M.A. House, Tavistock Square, W.C.1. Mr. E. B. Turner on Influenza from 1889 to 1927.
Willesden Division: Clinical Meeting, Municipal Hospital, Brentfield Road, 3.30 p.m.
23 Thurs. London: Insurance Acts Committee, 12 noon.
London: Scholarships and Grants Subcommittee, 2.30 p.m.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcement of Births, Marriages, and Deaths is 9s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

BIRTH.

DAVIDSON.—On June 6th, at Aston Gray's Nursing Home, Bournemouth, to the wife of A. Whyte Davidson, M.B., F.R.C.S.Ed., a son.

MARRIAGE.

CROZIER—DUNDEE.—On June 1st, at Carnmoney Presbyterian Church, Belfast, Thomas Howard Crozier, M.D., M.R.C.P.Lond., son of Mr. and Mrs. S. Crozier, Brookhill Avenue, Belfast, to Isabel Rosborough, younger daughter of the late I. C. Dundee, B.A., M.D., of Cachar, India, and Hillmount, Carnmoney, and Mrs. Dundee, Eglantine Avenue, Belfast.

DEATHS.

NORMINGTON.—On May 26th, A. E. Normington, M.B., Ch.B., J.P., M.B.E., at his residence, *Montcliffe, Dinerth Road, Colwyn Bay*, formerly of Remony House, Nelson, Lancs, aged 55 years.

WILSON.—On May 29th, 1927, at Westholme, Beverley, James Mitchell Wilson, M.D., D.P.H., aged 83.

Printed and published by the British Medical Association, at their Office, Tavistock Square, in the Parish of St. Pancras, in the County of London.

SUPPLEMENT
TO THE
BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, JUNE 18TH, 1927.

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British Medical Association.

CURRENT NOTES.

B.M.A. Charities Fund.

following is a list of subscriptions and donations to British Medical Association Charities Fund from uary 1st to May 31st, 1927, forwarded for use at the etion of the trustees of the Fund (the members of the ncil of the Association for the time being in office). l £993 10s. 9d.

10s.—Medical Insurance Agency.
15s. 6d.—Newcastle-on-Tyne Division.
19s. 6d.—West Suffolk Division.
7s. 6d.—South-West Wales Division.
15s. 9d.—East Suffolk Panel Committee.
5s.—Glasgow and West of Scotland Branch.
—Portsmouth Division.
9s.—Edinburgh Panel Committee.
1s.—Coventry Division.
14s.—City Division.
10s.—J. B. Naden.
10s.—Joseph Cauchi.
6s.—North Suffolk Division.
—Caithness Panel Committee.
5s. 6d.—South Suffolk Division.
—North Northumberland Division.
5s.—Dudley Division.
2s.—R. Langdon-Down.
10s.—Windsor Division.
5s.—Gateshead Division, J. C. Matthews, Oliver Carlyle, Claude n, J. McDonald, H. S. Souttar, F. O'Kinealy.
—John Muir, Frank Husband-Clutton, Harold Fairbairn.
1s.—G. Stoddart.
2s.—R. D. Clarkson.
5s.—C. O. Hawthorne, R. M. Courtauld, Peter Macdonald, E. C. Davis.
2s.—C. Andrews, G. G. Macdonald, Kathleen F. Kitchen, H. E. ion, N. G. Horner, W. A. Newall, W. C. Poole, W. S. Thacker-Neville, Horace Bracey, L. H. C. Birkbeck, A. F. Wilkie Millar, T. Ritchie r, Thomas Sidebottom, J. W. E. Cole, Hugh Miller, A. T. Jones, iger, C. H. Sylvester, A. D. Hamilton, W. H. Carse, G. Grey Turner, Brackenbury, W. Anderson, T. N. Wood, H. Richardson, E. D. house, R. W. Eddie, J. M. Petrie, J. Wilkie Smith, H. Warren Crowe, M. Fitzmaurice-Kelly, J. F. Atkins, J. H. Tallent, Samuel Robb, l Cox, H. J. Glover, J. G. McCutcheon, H. E. Jaques, A. G. Nuthall, C. Scudamore, N. A. Boswell, Aden Moss, J. W. Leitch, E. H. V. e, L. Gray, E. R. Fothergill, J. Nelson, T. R. Skrimshire, G. P. and, P. C. Colls.
—E. Knight, G. McPherson, J. G. Currid.
11s. 6d.—Miss R. H. Western, W. S. Syme, jun., R. G. Cochrane, Neild, T. S. Cochrane.
10s.—Susan Campbell.
1s.—J. F. M. Marshall, J. A. Gray, J. Stevens, A. A. Duffus, C. C. rbrook, A. H. Thompson, G. M. Griffiths, M. R. Taylor, John Hume, Evans, E. Sargood Fry, J. F. D. Shrewsbury, P. G. Currid, E. Gofton, Cruickshank, F. Rawlings, S. N. Scott, G. W. Fitzhenry, J. M. J. H. Ward, Surgeon Rear-Admiral H. L. Penny, D. M. Watson, Stark, R. W. Fell, E. B. Townsend, D. R. C. Maclagan, E. Muirhead G. B. Hillman, R. E. Wilson. Charles Forsyth, Roland Sells, Ralph Norman, A. W. C. Mellor, J. Hamilton Barclay, R. W. Annison, Maurice G. Robertson, Wilfred Thistlethwaite, H. S. Roch, D. Wardrop, D. A. Chamberlain, L. W. Pole, H. A. Gray, C. D. Bishop, Leila M. Hawksley, H. A. Hancock, J. H. Whaite, W. A. Hotson, H. R. Frederick, F. W. Garrad, Eustace C. Friend, A. H. Firth, J. J. Minihan, J. P. Brown, Andrew J. Chillingworth, Clive Farran-Ridge, William Haig, C. B. T. Musgrave, H. V. Walsh, J. G. Clegg, F. J. Gomez, D. W. Goghill, J. W. White, M. J. Oliver, Donald Macphail, Adam Fulton, P. D. Wilson, Norman MacFadyen, E. W. G. Masterman, A. Whitmore, H. J. Clutterbuck, C. Seymour Dowdell, W. H. T. Jones, Marshall Jackson, V. J. Batteson, J. B. Simpson, C. E. Matthews, Eleanor C. Bond, J. M. Mitchell, J. C. Smellie, J. A. Pridham, J. MacKinnon, John Leishmann, J. Sheppeard, E. G. Y. Thom, J. M. MacMillan, F. J. Kitt, K. F. Mulligan, H. H. Thomson, R. Kennon, G. Fowler, R. F. D. MacGregor, W. M. Houston, W. J. Webster, F. P. Mackie, A. G. Hinks, J. Patrick, E. K. Le Fleming, R. McCarrison, G. F. Oldershaw, R. Wallace Henry, L. D. Roberts, H. E. Watkins, W. George Alpin, Sidney H. C. Clarke, A. E. Peters, A. Lyndon, W. E. Barnes, Charles Sanders, Harry J. Hoby, Frank Newry, N. R. Rawson, A. I. Steyn, Edith Neild, Phyllis H. C. Eardley, W. E. C. Lunn, J. W. Johnston, Harry Scholefield, Wilfred F. Attwater, R. E. Lord, E. P. H. Vickery, David Wilson, T. Fawsitt, R. Jaques, A. Campbell Holms, W. Langmuir Watt, L. S. Holmwood, J. A. Delmege, H. H. Warrén, B. W. Moss, W. E. Thomas, H. Young Mansfield, W. H. W. Cheyne, P. R. McNaught, J. B. Alderson, W. B. Loveless, J. Alexander Tomb, R. J. Adamson, Helen M. Mackay, G. F. B. Page, William H. Paine, T. Wood Locket, J. B. Miller, R. S. Lawson, A. G. MacGillivray, W. T. Scott, Dora E. L. Bunting, David Watson, E. G. Evatt, A. E. Hamerton, A. S. Wilson, H. P. Caithness, Arthur Duffy, H. Faithful Smith, L. R. G. De Glanville, C. J. Tabor, J. Michael Dewar, W. D. Chapman, J. M. McGill, F. R. Sutton, T. Baker, Frank Hawthorn, H. S. Beadles, H. H. Joy, G. C. Williams, A. L. McCully, A. M. Humphrey, M. E. Yate, H. G. Dain, S. H. Bown, J. E. Hancock, W. G. Isbister, Laurence Kilroe, R. Wardlow, E. K. Mackenzie, J. R. Drever, Emily S. Hart, W. J. Rowland, T. R. Robertson, Kingsley W. Lewis, G. M. Crawford, Sir E. J. Maclean, E. Hay, D. C. Evan, A. V. Dill, D. E. P. Jolly, A. G. K. Ledger, H. H. Kendrick, A. R. Berrie, G. H. Batterbury, J. M. Heron, J. T. Dier, L. H. Moiser, W. Paterson, F. Spencer Davies, W. H. Wishart, R. S. Hubbersty, W. C. Paton, Alexander Forbes, G. Mackie, T. H. Bishop, H. Christal, Kathleen O'Brien, Oswald Pitt, H. E. Smith, H. B. Boucher, W. J. N. Todd, W. F. Dearden, H. F. Oldham, William Griffith, Victoria S. Tryon, R. C. Wallace, W. G. Parker, W. E. H. Banks, H. W. Hills, A. G. Will, A. M. Webber, J. P. Smith, T. W. Pattinson, A. E. Struthers, J. R. Munro, R. Sutherland, E. M. Rooke, L. P. L. Firman-Edwards, John Ellison, K. L. Lewis, John Matheson, F. R. Todd, David McAskie, R. G. Gordon.

£1 0s. 6d.—G. D. Ramsay.

£1.—Reginald Cock, D. J. Rose, E. G. Kennedy, J. Barr Stevens, J. C. Heal, Mrs. Allan Whitfield, B. A. McCubbin, H. C. Duffy, C. J. Marsh, W. H. Ogilvie, M. J. Holgate, E. W. C. Bradfield, A. N. Thomas, A. V. Millar, Philip McRitchie.

18s. 6d.—David M. Brown.

17s. 6d.—C. G. Seymour, H. S. Anderson, G. A. Macdonald, R. G. McIntyre, J. M. Loftus.

16s.—W. S. D. Bird.

10s. 6d.—F. M. Thomson, J. P. H. Helliwell, G. G. Wales, E. F. H. Bell, Alexander Walk, T. E. Gordon, J. S. Arkie, R. N. Aston, L. E. Wigram, William Denness, Morris Cutner, J. S. Clark, J. W. Morris, Robert Todd, C. W. Healey, A. H. Kynaston, E. N. Butler, C. W. Pilcher, J. M. Morris, Douglas S. Pracy, C. J. Lewis, S. J. Parkhill, P. M. Shepherd, Alexander Sutherland, J. T. McOuat, Robert Wilson, P. A. Newton, Angus Lamont, J. V. Salvage, G. W. Rogers, C. R. Willans, John Wood, L. M. Mayers, N. S. Turnbull, Helen M. Jardine, Gladys Rutherford, H. C. Sinderson, W. A. Bruce Young, Gladys Matthews, A. C. J. Elwin, D. G. Anderson, L. M. Ingle, P. H. Benson, David Bowen, A. M. Forster, G. Clark, Leslie W. W. Smith, Tressie Pires, E. Parry Evans, Hugh M. Boston, Winifred M. Hume, A. Mindosh, H. Campbell Highet, D. M. Mackay, W. E. Haigh, A. G. Ogilvie, L. W. Oliver, A. I. Clarke.

10s.—Sir T. Jenner Verrall, Olive G. Potter, R. B. F. McKail, C. W. Johnson, A. Brown Watt, W. E. Fairweather, J. F. Blackett, E. B. Ffennell, Donald Macdonald, D. J. McLeish, A. D. Yule, E. Shaw, K. M. Bowman-Manifold, John Cowper, E. H. Snell, C. P. O'Brien, Isabell M. G. Butler, P. Heffernan, Madeline Parker, J. E. Wood, Alexander R. McClure, Louis Turiansky, Janet McL. Stewart, T. L. Craig, P. J. Corcoran, C. G. Schurr, A. T. Evans, N. H. Wells.

Contributions of less than 10s. amounted to £10 16s. 6d.

Association Notices.

TABLE OF DATES.

June 25, Sat.	Supplementary Report of Council appears in SUPPLEMENT.
July 1, Fri.	Amendments and riders by Divisions and Branches for inclusion in A.R.M. Agenda must be received at Head Office by this date.
July 15, Fri.	*Annual Representative Meeting*, Edinburgh, 10 a.m. Nominations for election of 12 members of Council by grouped Representatives must be received (at A.R.M., Edinburgh) by this date, 2 p.m.
July 16, Sat.	*A.R.M.* (Edinburgh).
July 18, Mon.	*Council* (Edinburgh). *A.R.M.* (Edinburgh).
July 19, Tues.	*A.R.M.* Annual General Meeting, Edinburgh, President's Address.
July 20, Wed.	*Council* (Edinburgh). Conference of Honorary Secretaries (Edinburgh). *Meetings of Sections*, etc., Edinburgh.
July 21, Thurs.	*Meetings of Sections*, etc., Edinburgh.
July 22, Fri.	*Meetings of Sections*, etc., Edinburgh.

ALFRED COX, *Medical Secretary.*

BRANCH AND DIVISION MEETINGS TO BE HELD.

BATH AND BRISTOL BRANCH: BATH DIVISION.—The annual meeting of the Bath Division will be held at the Spa Hotel, Bath, on Wednesday, June 29th, at 4 p.m. Agenda: Report of the Executive Committee; report of the Spa Subcommittee; to elect officers, representatives on the Branch Council, and ordinary members of Executive Committee; report of Executive Committee as to the scale of minimum commencing salaries for public health medical officers, and recommendation of Executive to adopt resolution under its Ethical Rules.

BORDER COUNTIES BRANCH: ENGLISH DIVISION.—The annual general meeting of the English Division will be held at the Crown and Mitre Hotel, Carlisle, to-day (Friday, June 17th), at 3.30 p.m. Agenda: Election of office-bearers, 1927-28; proposal of Executive Committee that the Division adopt a resolution under its Ethical Rules in relation to the scale of minimum commencing salaries for public health medical officers. After the conclusion of the business cases will be demonstrated by Dr. Ablett and Dr. Cameron. Tea will be served at 4.30 p.m.

EAST YORK AND NORTH LINCOLN BRANCH.—The seventy-first annual meeting of the East York and North Lincoln Branch will be held on Friday, July 8th, when Dr. Frank Eve, the president-elect, will be installed as president. Nominations of officers for the ensuing year must be in the hands of the honorary secretary not later than June 20th. Particulars as to place and hour of meeting, etc., will be announced later. The first annual competition for the Ritchie Rodger golf cup—open to members of the East York Division—will be held on the Brough golf course on Friday, June 24th. The competition will be eighteen holes, medal play under handicap—limit 24. Entrants will arrange their own partners and may play at any time during the day convenient to themselves. Non-members of the Brough Golf Club will be required to pay their own green fees. Cards, which must be signed by the marker, should be handed to Dr. Morton Stewart, or to the secretary of the Brough Club, immediately on completion of the round.

LANCASHIRE AND CHESHIRE BRANCH.—The ninety-first annual meeting of the Lancashire and Cheshire Branch will be held at the Town Hall, King Street, Wigan, on Wednesday, June 22nd. 12.45 p.m.—Meeting of the Branch Council in the committee room. 1 p.m.—Members will lunch in the old Council Chamber. 2 p.m.—Annual meeting in the new Council Chamber (by kind permission of the Mayor and Corporation). Agenda of meeting: The chair will be taken by the president, Dr. H. T. Barton; report of Branch Council and financial statement; the chairman will introduce the president for the ensuing year. Dr. E. H. Monks, J.P., who will read his presidential address, entitled "Wigan: some medical biographies"; election of officers and two auditors for the year 1927-28; vote of thanks to retiring officers and Branch Council; place of next annual meeting. 3 p.m.—Visits and excursions: (1) the Wigan library; (2) the parish church; (3) visit to Haigh Hall (by the kind invitation of the Earl of Crawford and Balcarres); (4) golf. The president will present a prize for the best net return for eighteen holes. To facilitate arrangements for lunch and the various excursions members are requested to notify the honorary secretary of the Wigan Division, Dr. F. L. Angior, Claremont, Wigan, of their intentions, as soon as possible.

METROPOLITAN COUNTIES BRANCH.—The annual general meeting of the Metropolitan Counties Branch will be held at the British Medical Association House, Tavistock Square, W.C.1, on Tuesday, June 21st, at 4 p.m. Business: (1) Report of scrutineers on election of officers; (2) Annual Report of Council; (3) report of representatives of the Branch on the Central Council; (4) to sanction the necessary alterations in the rules of the Branch to enable the president-elect to become an *ex-officio* member of all committees; (5) presidential address by Mr. E. B. Turner, F.R.C.S., entitled "Influenza from 1889 to 1927: its therapeutic and clinical aspects."

METROPOLITAN COUNTIES BRANCH: CITY DIVISION.—A meeting of the City Division will be held at the Metropolitan Hospital, Kingsland Road, E., on Tuesday, July 5th, at 9.30 p.m. Dr. T. H. G. Shore, curator of the museum, St. Bartholomew's Hospital, will give a demonstration of pathological specimens with clinical notes. A clinical meeting arranged by the consulting staff will be held at the Children's Hospital, Hackney Road, on Wednesday, July 6th, at 4 p.m. Tea will be provided. A clinical afternoon will take place at the Metropolitan Hospital on Friday, July 8th, at 4.15; tea at 4 p.m.

METROPOLITAN COUNTIES BRANCH: LEWISHAM DIVISION.—A meeting of the Lewisham Division will be held at the Town Hall, Catford, on Tuesday, June 21st, at 8.45 p.m. Dr. George Graham will read a paper on the treatment of diabetes mellitus.

METROPOLITAN COUNTIES BRANCH: WILLESDEN DIVISION.—A clinical meeting of the Willesden Division will be held at the Municipal Hospital, Brentfield Road, on Tuesday, June 21st, at 3.30 p.m. Dr. G. F. Buchan has arranged for a demonstration by Dr. A. C. Troup, the medical superintendent, on the control of infectious diseases, including (1) Schick test and active immunization against diphtheria; (2) Dick test; (3) Schultz-Charlton reaction; (4) serum treatment of scarlet fever. Tea will be served. Members who intend to be present are asked to kindly advise the honorary secretary, 12, Craven Park Road, N.W.10.

NORFOLK BRANCH.—The annual meeting of the Norfolk Branch will be held at the Norfolk and Norwich Hospital on Wednesday, July 6th, at 3 p.m. The president, Dr. W. H. Fisher, will be in the chair. Agenda: Report of the Branch Council on the affairs of the Branch, and the annual financial statement; induction of the new president, Sir Hamilton Ballance, K.B.E., C.B., M.S., by the retiring president; election of a president-elect and two vice-presidents; an address by Mr. Ernest Miles, F.R.C.S., on anorectal fistula.

NORTH OF ENGLAND BRANCH.—The annual meeting of the North of England Branch will be held at the Queen's Head Hotel, Morpeth, on Thursday, June 30th. Programme:—12.30 p.m.—Business meeting. Agenda: Annual report and financial statement of the Branch Council; to elect officers for the ensuing year. 1.15 p.m.—Luncheon: the incoming president, Dr. F. Beaton, has expressed a desire to entertain the members present to lunch. Those who intend to accept this invitation are asked to notify the honorary secretary, Mr. Norman Hodgson, M.S., F.R.C.S., 7, Windsor Terrace, Newcastle-on-Tyne, not later than Monday, June 27th, as only those who give notice will be provided for. 3 p.m.—The annual golf competition for the cup presented by Dr. D. F. Todd will take place on the Morpeth golf course; those intending to compete are asked to notify the honorary secretary, stating their club handicap. For those who do not play golf, a visit has been arranged to Newminster Abbey and private grounds, by kind permission of Sir George Kenwick, also a visit to Mitford village and church if time permits. Members are asked to notify the honorary secretary if they wish to go with this expedition. 5 p.m.—Tea will be served at the Queen's Head Hotel.

NORTH OF ENGLAND BRANCH: SUNDERLAND DIVISION.—A meeting of the Sunderland Division will be held at the Royal Infirmary, Sunderland, to-day (Friday, June 17th), at 8.30 p.m. Agenda: Correspondence; report of executive committee: (*a*) ethical case, (*b*) relation of public service to general practitione (*d*) medical defence, (*e*) colliery arrears, (*f* Annual Report of Council; instructions to business.

NORTH OF ENGLAND BRANCH: TYNESIDE DIVISION.—A golf match has been arranged to take place between the South Shields and Tyneside Divisions on Sunday, July 3rd, at Brancepeth. Lunch 1 p.m.; singles, 2 p.m.; tea, 5 p.m.; foursomes, 6 p.m. As the object of the meeting is to further social intercourse, it is hoped that all members who have ever wielded a club will do so on this occasion, and that others who do not play will also come.

NORTH LANCASHIRE AND SOUTH WESTMORLAND BRANCH.—The annual meeting of the North Lancashire and South Westmorland Branch will be held at the Golf Hotel, Grange, on Wednesday, June 22nd at 3.15 p.m. Business: Election of office-bearers; annual report financial report; names of the members of the Branch Council Charities Organization Committee; any other business. The president, Dr. E. Jackson of Carnforth, will give an address entitled "Some reminiscences of my experience during fifty years in the practice of medicine." The president and Mrs. Jackson invite all present to tea. Ladies will be welcomed.

NORTH WALES BRANCH.—The annual summer meeting of the North Wales Branch will be held at Penmaenmawr on Friday, July 8th. The president-elect will entertain the members of the Branch to lunch, and Dr. Alfred Cox, the Medical Secretary of the Association has promised to attend and address the meeting. Further details will be announced later.

OXFORD AND READING BRANCH: OXFORD DIVISION.—The next meeting of the Oxford Division will be held at the Radcliffe Infirmary on Wednesday, June 22nd, at 2.45 p.m. Agenda: Instructions, if any, to representative to Annual Representative Meeting at Edinburgh; several cases of considerable clinical interest will be shown.

SOUTH WALES AND MONMOUTHSHIRE BRANCH: SWANSEA DIVISION.—The annual meeting of the Swansea Division will be held at the General Hospital, Swansea, on Thursday, June 23rd, at 8.30 p.m. Agenda: Annual report of the Executive Committee; election of officers—(1) (*a*) chairman, (*b*) vice-chairman, (*c*) secretaries (2) president-elect of Branch; (3) five representatives on Branch Council; (4) other members of Executive Committee; (5) repre

entative on Welsh Committee; (6) representatives on Welsh Standing Contract Practice Subcommittee. Coffee will be provided. A meeting of the Executive Committee will be held at 7.30 p.m.

WILTSHIRE BRANCH: TROWBRIDGE DIVISION.—A social meeting of the Trowbridge Division will be held at Lacock on Wednesday, June 22nd, at 3 p.m. Members may bring friends. Miss Talbot has kindly offered to conduct the party over Lacock Abbey. The party will assemble at the Red Lion Inn, in the yard of which cars may be parked. Admission to the Abbey, 4s. per head. Tea at Red Lion, 1s. per head. Members intending to be present are asked to notify the honorary secretary, Dr. A. D. Hamilton, Bridge Cottage, Lacock, by June 18th.

YORKSHIRE BRANCH: SHEFFIELD DIVISION.—A general meeting of the Sheffield Division will be held at the Church House, St. James Street, Sheffield, on Friday, June 24th, at 8.30 p.m. The principal item on the agenda is the Annual Report of Council (BRITISH MEDICAL JOURNAL SUPPLEMENT, April 23rd), which is of more than usual interest this year, and contains a number of important recommendations upon which the decisions of the Division are asked. The meeting provides to every member an opportunity of sharing in the government of the Association and of influencing its policy, and it is earnestly hoped that there will be a large attendance.

Meetings of Branches and Divisions.

GLASGOW AND WEST OF SCOTLAND BRANCH.

THE annual meeting of the Glasgow and West of Scotland Branch was held in the Western Infirmary, Glasgow, on May 17th, with an attendance of about 50. Dr. J. P. BROWN, D.S.O. (Campbeltown), occupied the chair.

After the annual report of the Branch Council and the financial statement for the year 1926 had been submitted and approved, the CHAIRMAN installed Dr. James Hill of Renfrew as president for the ensuing year.

The following officers were thereafter elected:

President-Elect, Dr. R. M. Buchanan (Glasgow). *Vice-Presidents*, Dr. George A. Allan (Glasgow), Dr. J. P. Brown, D.S.O. (Campbeltown). *Honorary Secretary*, Dr. J. G. McCutcheon (Glasgow). *Honorary Treasurer*, Dr. A. S. Richmond (Glasgow).

After tea, kindly provided by the superintendent and managers of the Western Infirmary, the medical staff gave a clinical demonstration of cases, covering medicine, surgery, and the specialties. At the close of the clinical meeting, which was attended by about 150 members, the chairman, Dr. JAMES HILL (Renfrew) proposed a vote of thanks to the members of the staff for their kindness.

During the course of the afternoon a collection was taken for the British Medical Association's Charities Fund, and £20 3s. was handed over.

KENT BRANCH: DOVER DIVISION.

AT a meeting of the new Dover Division on May 19th at Deal, with Dr. MCMASTER in the chair, Mr. W. G. SUTCLIFFE read a paper on glands in the neck.

Mr. Sutcliffe commented on the decrease in gland cases during the last twenty years, which he attributed to the care now devoted to the nose, throat, and teeth, and to the greater cleanliness of the milk supply. The main source of infection in the case of tuberculosis of the cervical glands was undoubtedly the tonsil, the so-called tonsillar gland or group which made up the superficial and deep glands of the anterior triangle being nearly always the first to enlarge. Two other common types of gland enlargement were the septic mixed infection in young children and the adenitis which followed the specific fevers, especially influenza, when the throat and nose had been affected. In the first of these streptococci and tubercle bacilli were chiefly concerned, and a sudden feverish attack was followed by the rapid appearance of a large swelling, usually in the anterior triangle. After a few days the size of this diminished and an easily palpable gland was left, or, more commonly, the skin became reddened and an abscess developed. Surgical intervention should be avoided if possible; if pus formed it should be evacuated by a simple incision, and no attempt should be made at complete dissection lest a severe general septic infection be caused. The glands of the second type were best treated by rest and the application of belladonna. If it seemed that a tuberculous process was developing, general treatment in a suitable environment should be given and surgical intervention avoided. For definite tuberculous glands with a swelling of more than six months' duration radium, *x* rays, sunlight, and ultra-violet rays might be used, though, if suppuration followed, surgical treatment became necessary. Mr. Sutcliffe discussed the various therapeutic procedures in detail, and emphasized the importance in all cases of tonsillectomy, where required, and rest. Special efforts must be made to trace and remove any foci of infection in the tonsils, adenoids, sinuses, or teeth. When an abscess was connected with broken-down glands he advocated removal of these glands at the time of dealing with the abscess, and said that he had not seen cellulitis or spread of the disease caused by this. A little more time was needed for the healing of the wound, and it might be necessary to remove undermined skin or make counter-openings for drainage if the pus had burrowed downwards; but once the deep fascia had been opened up the operation presented no more than the average difficulty. Unless the internal jugular vein was seen at the bottom of the wound it was certain that some glands had been overlooked and that recurrence would follow.

MALAYA BRANCH.

THE annual general meeting of the Malaya Branch was held in the Medical Research Institute, Kuala Lumpur, on April 15th, when the president, the Hon. D. A. L. Hoops, was in the chair.

The following officers nominated by the Council were unanimously elected:

President-Elect, The Hon. Sir David Galloway. *Vice-Presidents*, Singapore—Dr. Chen Su Lan; Federated Malay States—Dr. Cosgrave; Penang—Dr. Taylor. *Honorary Secretary*, Dr. Scharff. *Honorary Treasurer*, Dr. Copeland.

It was decided in future to send in good time a circular to members asking for suggestions as to the filling of the vacancies which will occur in the composition of the Council for the ensuing year.

The meeting agreed to change the name of the Native States Division to that of the Federated Malay States Division. It was resolved that the editor-in-chief of the *Malay Medical Journal* and the representatives of the Society of Medical Officers of Health should be *ex-officio* members of the Council, which it was further decided should not exceed nineteen members. It was resolved to increase the subscription to $17.

The report of the honorary secretary and treasurer, together with the financial statement, were adopted.

In an address the retiring president, Dr. Hoops, gave details of the activities of the Branch since the last annual general meeting.

Dr. C. MACASKILL thanked the president for his address and referred to the loss sustained by the Branch on the retirement of Dr. Stanton, who, but for his transference to an important appointment in London, would have been president of the Branch for the coming session. He also referred to the impending departure of Sir Laurence and Lady Guillemard, and on his proposal a resolution was carried unanimously expressing the regret of the Council and members of the Branch at their departure, and recording appreciation of the earnest and active support given by them to every public health movement in Malaya.

Dr. Hoops, having retired from the chair, was succeeded by Dr. MACASKILL, who delivered the presidential address, taking as his subject "The solitariness of the sick." On the motion of Dr. KINGSBURY, seconded by Dr. G. C. MCGREGOR, a vote of thanks to the president for his interesting and thoughtful address was carried with acclamation.

The honorary treasurer was authorized to send at his own discretion a contribution for 1927 to the Royal Medical Benevolent Fund equivalent to 50 cents per member. The meeting also agreed that an appeal should be sent to all members asking them to contribute up to a maximum of $5 for the purpose of adding to the sum available for this worthy charity.

Some discussion took place on the drug fees levied by the Government in the Federated Malay States, and the following motion, proposed by Dr. MACASKILL, was carried:

> This meeting, representative of the medical profession in Malaya, regard as inadvisable the inclusion of Subsection 3 of Clause 4 of amended enactment No. 10 of 1911, now known as Enactment No. 9 of 1923, whereby in the Federated Malay States an annual fee of 20 dollars for a deleterious drug licence is imposed on all unofficial registered medical practitioners possessing and/or using, in the course of their practice, certain deleterious opiate drugs such as morphine, cocaine, heroin, eucaine. The meeting would point out that such fee is not charged either in the Straits Settlements or any of the Non-Federated Malay States. As these drugs are extensively used in the legitimate practice of medicine, and, as such, must be regarded as an essential part of modern medical equipment, the meeting considers that the imposition of a fee is unjustifiable and requests that Subsection 3 of Clause 4 of the above enactment be repealed.

Correspondence from the Kedah Planters' Association, forwarded by the principal medical officer for the views of the British Medical Association, was discussed. It was decided to point out to the P.M.O. that the Planters' Association was under a misconception with regard to the regulation of the higher Indian degrees, and also to the registration of dressers, inasmuch as possessors of Indian qualifications registrable in Great Britain could, after registration, practise there. There was no registration of dressers in force.

METROPOLITAN COUNTIES BRANCH: SOUTH-WEST ESSEX DIVISION.

THE annual general meeting of the South-West Essex Division was held in the Wesleyan Schoolrooms, High Road, Leyton, on May 31st.

Dr. PANTING briefly introduced the Annual Report of Council, pointing out the important work being done by the British Medical Association in many directions.

The following officers were elected for the session 1927-28:

Chairman, Dr. A. T. Todd-White. *Vice-Chairman*, Dr. W. Badenoch. *Honorary Secretary and Treasurer*, Dr. Helen Jardine.

Mr. A. J. COUZENS, F.R.C.S., spoke on personal experiences of abdominal disease, mainly from the diagnostic standpoint. He stressed the importance of an analysis of the patient's symptoms in the early stages of disease. Attention was directed to lesions of the abdominal wall and retroperitoneal space, often forgotten in abdominal cases. Collapse was, he said, the one characteristic symptom of abdominal catastrophe. The danger of operation during the period of shock was pointed out, and the difficult position of the general practitioner in regard to the giving of morphine before sending the patient to hospital was discussed. Severe haemorrhage into the abdominal cavity due to a ruptured Graafian follicle was mentioned. In dealing with chronic abdominal disease Mr. Couzens said that the early diagnosis of malignant disease depended on the general practitioner. The diagnostic value of large doses of bismuth, as well as the relief it afforded to cases of gastric and duodenal ulcer, was remarked. He condemned gastrectomy in cases of ulcer, but was in favour of gastro-enterostomy where there were symptoms of obstruction. Finally,

Mr. Couzens remarked on the good prognosis in cases of malignant disease of the lower bowel after incomplete removal. Many interesting personal cases were cited to give point to the lecturer's remarks. Several members took part in the discussion and the meeting finished with a hearty vote of thanks to Mr. Couzens.

NORTH OF ENGLAND BRANCH: BLYTH DIVISION.

A MEETING of the Blyth Division was held on June 1st at the house of Dr. Craig, Dudley. Discussion with regard to the difficulties with unqualified midwives took place. The chief business of the evening was the public medical service scheme. Dr. REVIE (Ashington) outlined the steps already taken there, and after discussion Dr. Fairlie was named convenor for Blyth, Dr. Craig for Cramlington and District, and Dr. Hudson for Bedlington, the object being to form local committees which, when formed, would join with Ashington to form a larger central committee which would correlate all the areas. On the motion of Dr. Hudson a vote of thanks was accorded to Dr. Craig for his hospitality and to Dr. Revie for his advice. A most pleasant and successful evening was spent.

NORTH OF ENGLAND BRANCH: NORTH NORTHUMBERLAND DIVISION.

THE annual summer meeting of the North Northumberland Division was held on June 9th, when a party of forty-four members and their friends made an expedition to the Farne Islands, leaving the harbour at Seahouses in motor boats about mid-day. The Longstone was visited first, and there a picnic lunch was enjoyed, and afterwards the party was shown over the Longstone Lighthouse, which proved of very great interest. Several other islands were also visited in order to see the nests of the sea birds, and on returning to the mainland high tea was partaken of at the hotel at Seahouses. As the weather was fine the whole trip was a great success and was very much enjoyed by all present.

PUNJAB BRANCH.

A MEETING of the Punjab Branch was held in the Patiala Block of the King Edward Medical College on April 20th, when there was a large attendance of the medical profession, with a number of senior students of the College.

Major J. J. HARPER-NELSON, I.M.S., gave a lecture demonstration on the treatment of pulmonary tuberculosis by artificial pneumothorax. After a brief reference to the history of the development of this operation Major Harper-Nelson discussed the indications for its use, its limitations, and dangers. He then proceeded to demonstrate the technique on a patient under treatment. He ended his lecture by exhibiting several patients who had been under treatment for two and a half years down to recently treated cases. Major Harper-Nelson suggested that it was a form of treatment which was too little used in India, and urged that it be employed more often, because of the excellent results which could be obtained even in advanced pulmonary disease. He also advocated its use much earlier than was customary in England, where, owing to good sanatoriums being available, it was possible to delay collapsing the lung until other forms of treatment had been tried and had failed. *In India this was not possible.*

SOUTH-EASTERN OF IRELAND BRANCH.

A MEETING of the South-Eastern of Ireland Branch was held in the Central Hotel, Clonmel, on May 1st. Dr. POWER (Ardfinnan) occupied the chair, and Dr. MYLES acted as honorary secretary in the unavoidable absence of Dr. Grace. Arising out of the correspondence and Dr. Cox's letter, it was proposed by Dr. D. WALSHE, seconded by Dr. QUIRKE, and resolved, that the first meeting under the conditions mentioned by Dr. Cox be held at Kilkenny next October, and that Dr. Hennessy be asked to make arrangements and select a lecturer.

The question of electing a member to collect in the Kilkenny Division for the Medical Benevolent Fund was adjourned to next meeting. At the termination of the meeting the members had tea together.

STAFFORDSHIRE BRANCH.

A MEETING of the Staffordshire Branch was held on May 26th, Mr. W. C. ALLARDICE, the president, being in the chair.

Dr. C. A. STIDSTON read a paper entitled "A medical Rochefoucauld," based on notes by a medical practitioner who, laid aside by a prolonged illness, had meditated on his experiences in active practice and his long illness, during which he had been under the care of a large number of practitioners and had undergone treatment in many kinds of institutions. These notes consisted of aphorisms and humorously sage and often biting sayings regarding the different types of mankind encountered, and touching on patients, doctors' hobbies, specialists, consultants, and general practice. Dr. Stidston's communication was much appreciated, and it was agreed that a literary effort of this kind enlivened the proceedings of the meeting and provided the human touch which was so often lacking in purely scientific communications.

Dr. R. H. H. JOLLY read a paper on death certification, and emphasized the importance of making a distinction in certifying between the fact of death and the cause of death, and outlined the rather complicated, but very complete, system in Switzerland, which separates these two items of certification. He outlined the main points of the legislation dealing with death certification which would come into force in this country in the immediate future. Dr. Jolly analysed very carefully the criteria of a death certificate which would be of the highest value from a statistical point of view, and he quoted numerous examples of good and bad forms of certificate. In the discussion it was shown that the exact degree of secrecy (secrecy being one of the prime advantages claimed as accruing from the new legislation) would depend upon the good faith and discretion of the local registrar. The request frequently made by insurance companies for information regarding the cause of death of particular individuals were also discussed.

Dr. F. M. ROWLAND described a case of cardiospasm simulating malignant disease of the œsophagus, which he had observed for many years. The patient had had a gastrostomy performed several years ago, the view of his condition at that time being that he had a malignant condition of his œsophagus or of the cardiac end of his stomach. Subsequent events showed that it was highly unlikely that this diagnosis was correct, for after the performance of the gastrostomy the patient had rapidly put on weight, and was at present in good health. From time to time the œsophagus functioned, and the patient could then feed himself by the mouth, but, owing to the risk of the achalasia again manifesting itself in marked degree over a prolonged period he had been advised to keep the gastrostomy opening patent.

Dr. S. C. DYKE showed an œsophageal papilloma of very large dimensions. There had been some doubt as to the exact nature of the tumour, but microscopic examinations showed clearly that it was composed of fibro-areolar tissue covered with a stratified epithelium. Another set of specimens showed cerebral haemorrhage as a terminal event in ulcerative endocarditis. A particularly interesting specimen was a glioma growing from the floor of the lateral ventricle and occluding the foramen of Munro. During life the patient had had marked headache and had exhibited very intense papilloedema, but there was an entire absence of localizing signs. The dangers of lumbar puncture in such a case were emphasized. Another specimen was a very large renal adenoma, which, on naked-eye examination, appeared to be a hypernephroma. Microscopic examination, however, demonstrated conclusively its real character. Dr. Dyke stated that, as in most adenomata, the imitation of the "parent" tissue was imperfect and that, while the tubules of the tumour were quite apparent they bore only a slight likeness to fully formed renal tubules. No glomeruli were ever found in these neoplasms. Dr. Dyke also demonstrated a very beautiful and complete specimen of hydatid cyst.

ULSTER BRANCH.

THE annual meeting of the Ulster Branch was held on May 26th *in the King Edward Memorial Hall of the Royal Victoria Hospital*, Belfast. The president, Dr. J. S. MORROW, O.B.E., occupied the chair.

The PRESIDENT showed cases of spinal tumour, spastic paraplegia with shortening of one leg, and aortic incompetence.

Professor MACILWAINE demonstrated some cases of bundle branch block, and Dr. IVAN MCCAW the growth of *Microsporon audouini* at various stages, on Sabouraud's medium.

Dr. FOSTER COATES showed: (1) a case of Addison's disease formerly thought to be pernicious anaemia, but now found to have a marked secondary anaemia count, haemoglobin index of 0.6 and a blood pressure of 60 to 78 mm.; (2) two cases of disseminated sclerosis, one commencing as an acute hemiplegia; (3) a case of gumma of the liver.

Dr. BOYD CAMPBELL presented: (1) a case of double mitral disease with very high eosinophilia (72 per cent.); (2) a case of heart block; (3) two cases of post-encephalitis with improvement after treatment with malaria.

Dr. F. M. ALLEN showed: (1) two patients with congenital pyloric stenosis treated successfully by operations; (2) a case of hydrocephalus; (3) several cases of cardiac lesions in childhood following mild rheumatism.

Dr. J. S. CAMPBELL gave a demonstration of *x*-ray photographs of normal and of diseased coronary arteries, and of normal and of cirrhotic disease of kidney, defined by injection of a bismuth cream.

Dr. J. RANKIN presented: (1) ten cases of rodent ulcer in various sites and in various stages of cure by *x* ray; (2) a case of sarcoma of upper jaw which had improved under *x* rays.

Mr. A. B. MITCHELL showed three cases of pancreatic cyst which he had successfully operated on, with a specimen of about half a pancreas which had sloughed in one of them.

Mr. T. S. KIRK showed *x*-ray photographs of double excision of the hip, of the gall bladder containing calcareous matter, and of calcareous glands; cases of Thiersch skin graft on elbow and of whole skin graft on the heel; and cases of flat-foot treated by cuneiform osteotomy.

Professor FULLERTON reported the successful treatment of megalocolon by stretching of pelvi-rectal sphincter, and showed a patient after splenectomy for acholuric jaundice, two cases of fracture of patella, and cystograms and pyelograms.

Mr. HOWARD STEVENSON presented a patient three years after excision of rectum by Coffee's method, and a second patient two years after by Myles's method.

Mr. P. T. CRYMBLE showed cases of (1) carcinoma of the descending colon treated by colectomy (the distal third of the transverse colon, the descending colon, and the iliac colon had been removed and the transverse colon had been anastomosed to the pelvic colon); (2) *carcinoma of the ascending colon treated* by colectomy (the terminal ileum, caecum, ascending and proximal third of the transverse colon had been removed and the ileum anastomosed to the transverse colon); (3) subtotal gastrectomy for lesser curve ulcers; (4) two-thirds gastrectomy for lesser curve ulcer present for seven years; (5) a patient who had partial gastrectomy for carcinoma five years ago and was still free from recurrence.

Mr. H. P. HALL showed: (1) a case of tendon transplantation

(2) some fractures treated by operation; (3) a case of arteriovenous aneurysm in left calf after gun-shot wound.

Mr. H. P. MALCOLM showed: (1) a case of double complete cervical fistula, with x-ray photographs after injection with bismuth cream; (2) a case of hernia of tibialis anticus, the muscle bulging through the fascia.

WILTSHIRE BRANCH: SALISBURY DIVISION.

THE annual meeting of the Salisbury Division was held at the Salisbury Infirmary on May 27th, when Dr. ARMITAGE was in the chair. The following officers were elected for the ensuing year:

Chairman, Dr. J. J. Armitage (Salisbury). *Vice-Chairman*, Dr. R. C. C. Clay (Forant). *Honorary Secretary and Treasurer*, Dr. F. L. Buttar (Salisbury). *Representative in Representative Body*, Dr. C. E. S. Flemming (Bradford-on-Avon). *Deputy Representative in Representative Body*, Dr. J. E. Gordon (Salisbury).

The "Matters referred to Divisions" were considered, but no resolutions were made in that connexion.

Dr. LUCKHAM proposed a motion suggesting that the Council should ask the Representative Meeting to formulate a middle-class hospital policy. An amendment proposing to await the report of the directors of the St. Edmund's Private Hospitals, Ltd. (a company formed locally to start a middle-class hospital), to the general meeting of the company was proposed by Dr. MARCH. On the vote being taken the original motion was carried by 8 votes to 5.

The CHAIRMAN then, on behalf of the Division, expressed his sympathy with, and good fellowship towards, Dr. A. H. Watson, on the occasion of his having had the misfortune to be a co-defendant in the recent Hume-Spry case. He said that the members had felt that they would like their sympathy to take a practical form, and he had much pleasure in handing Dr. Watson a cheque for £40—subscribed by members of the Division—with the hope that this would help to defray the extraordinary expenses, which must have been heavy. Dr. WATSON expressed his thanks to the chairman and members of the Division.

NOTICES OF MOTION BY DIVISIONS FOR THE ANNUAL REPRESENTATIVE MEETING, EDINBURGH, 1927.

Street Accidents.

By TUNBRIDGE WELLS: That in view of the fact that medical men who are called to street accidents cannot obtain any remuneration afterwards for services rendered, even when, as is frequently the case, a constable is on the scene and in charge of the accident, the Council be asked to take steps to ensure that a fee is guaranteed by the County Council or other authority; further, that the fee payable should be in accordance with the Police Tariff which is already accepted by some authorities, which is paid when a *constable calls* a medical man to an accident.

Observation Wards for Mental Patients.

By TUNBRIDGE WELLS: That there is urgent need for the provision of "Observation Wards," to which patients can be compulsorily sent where conditions, whilst doubtfully justifying certification, are such as to make them a nuisance or a danger to themselves or others.

General Medical Council.

By WARRINGTON: That the motion by Bournemouth (see SUPPLEMENT of May 14th, 1927, p. 202) be amended by the addition, after the word "report," of the words "as to the requisite amendments to the Medical Acts."

The Motion by Bournemouth referred to above reads as follows:

> That the existing representation, power, and procedure of the General Medical Council need careful revision in order that they may comply more precisely with the changed conditions of medical practice, and that this be remitted to the Council for consideration and report.

Workmen's Compensation.

By CHESTERFIELD: That (with reference to paras. 132 and 133 of the Annual Report of Council) the Association is strongly opposed to the practice of some inspectors, not being medical men, acting on behalf of employers' liability insurance companies, of requesting or suggesting the removal of properly applied dressings, when visiting injured workpeople, in order that they may see the injury, and instructs the Council to enter a vigorous protest with representatives of the compensation insurance companies.

Ophthalmic Benefit.

By CHESTERFIELD: That para. 162 (ii) of the Annual Report of Council be amended by the substitution of the words:

> "(ii) That when an insured person has been recommended by a panel doctor for examination by an ophthalmic surgeon and has been, nevertheless, referred by an approved society to an unqualified person"

for the words:

> "(ii) That the option of an approved society to recommend one of its members to see an unqualified person is not contested, but"

EMPLOYMENT OF MARRIED MEDICAL WOMEN.

REPRESENTATIONS BY THE MEDICAL WOMEN'S FEDERATION.

AT the request of the Executive Committee of the Medical Women's Federation we reproduce below the letter recently addressed by it to the members of the Durham County Council with regard to a resolution passed by that council prohibiting the employment of married women in the county service.

Dear Sir,

The Council of the Medical Women's Federation has learned with the deepest regret that the Durham County Council has decided to debar from employment on its staff all married women, medical and otherwise, whose husbands are in the receipt of an adequate income. The Medical Women's Federation has always upheld the principle that considerations affecting efficiency of work should alone govern the appointment or dismissal of medical officers, and believe that this principle is in accordance with the true interests of the community.

They would venture to point out that without the enactment of special restrictions it is always open to an appointing authority to select unmarried rather than married candidates where they consider marriage is likely to act as a handicap to their work. What the new regulation will do is to keep out of sight all possible married candidates, including, it may be, women of exceptional ability and experience, or in regard to whom the handicap of marriage may be comparatively slight—that is, married women without children, or where children have reached an age to make little demand on the mother's time. The consideration of special cases, where the compensatory advantages may largely overbalance the possible handicap of marriage, is debarred. The rule also ignores completely the undoubted fact that in medicine, and other professions also, there are branches where the personal experience gained by marriage and motherhood adds to the value of the worker, as, for instance, in baby welfare work. For these reasons, we feel strongly that this regulation does not tend to the maintenance of the maximum efficiency of work or to the appointment in all cases of the best qualified candidates.

We quite appreciate the point of view which wishes to distribute the employment available amongst as many households as possible, where compatible with efficiency, but if economic reasons of this kind are to be taken into consideration in making appointments the ought to be made to apply to men also who possess, for instance, private means or a wealthy wife. One point that we think is often overlooked is that married medical women—at any rate those who remain in employment after marriage—are obliged to employ at least one woman to look after their households, and if they have families, often two or more people, who would not be employed if the mother were at home. Married women—and we think this especially true of married medical women—who remain in employment after marriage usually do so, not because of the enhanced income, but because they like their work and are peculiarly efficient at it, and they distribute often the whole of their earnings in wages and salaries to others.

We trust that the Council will favourably consider this protest. It is sent because we feel strongly that prohibitive regulations of this kind are grossly unfair to women who have given years of work and devotion to their profession, and also to the public, who are often deprived thereby of the services of tried and skilled workers.

Yours faithfully,

CHRISTINE M. MURRELL, *President*,
FRANCES IVENS, *Past-President*.
CLARA STEWART,
ELLEN B. ORR, *Vice-Presidents*.
JANE H. WALKER, *Honorary Treasurer*.
F. MAY DICKINSON BERRY, *Honorary Secretary*.

Medical Women's Federation,
9, Clifford Street, Bond Street, W.1.
June 1st.

THE DENTAL BOARD.

A SESSION of the Dental Board was held on May 10th and 12th, SIR FRANCIS DYKE ACLAND presiding. The CHAIRMAN, in his address, touched on the question of dental clinics in connexion with advertising and canvassing. He pointed out that a firm or organization with a genuine desire to benefit its staff or members might provide a dentist with a consulting room or surgery and might or might not pay him a fee. Attendance upon the staff would give him an introduction to practice with the families and friends of those who came as patients, and the firm might advise members of its staff who needed dental attention to go to the clinic and might give the name of the dentist in attendance. This was not at all popular in the profession. It was for the fortunate individual a short cut to a practice, which was regarded as unfair to others who had no chance of being provided with patients ready made. But the question for the Board to decide did not turn on popularity; it was whether the dentist had followed a practice contrary to the public interest and discreditable to the profession of dentistry. The question of whether this was indirect advertising could only rightly be answered on a particular case. A similar point arose in connexion with a dentist appointed by an approved society as its dentist under the Insurance Act, the approved society saying to a member who was entitled to treatment under its scheme, "This is our dentist; you must go to him if you require treatment." Mr. Acland said that if the dentist knew that that practice was being adopted in connexion with him and permitted it, he was of opinion that the dentist was doing an action discreditable to the profession, and would therefore be liable to disciplinary action by the Board.

Educational Grants.—The Board decided to offer a grant of £5,000 towards the cost of erecting a new building for the dental school of the Incorporated Glasgow Dental Hospital and School, and a further grant of £1,000 towards the cost of equipment. It also decided to make a grant of £1,500 towards the cost of movable equipment for the new dental school of the University of Leeds (towards the cost of which it had previously voted £5,000), and a grant not exceeding £300 for the equipment of a dental museum and demonstration room at Queen's University, Belfast. The grants in each case were subject to the usual conditions.

It was reported that the number of students who have been assisted by grants and loans from the Board is now 387, of whom 205 have qualified and 163 have not yet reached the end of the period for which assistance was given. A change in the present system of awarding bursaries has been considered, but not decided. It is felt that the careful interviewing of the applicant cannot be wholly replaced by any form of written examination. The number of candidates for bursaries at the last half-yearly selection was 26, and awards were made in 22 of the cases.

Disciplinary Action.—Most of the disciplinary cases before the Board were concerned with professional announcements which overstepped the line, and on promise of amendment the Board decided not to proceed to judgement. The Board has reissued its Warning Notice, which includes the several matters of unregistered assistants and covering, contravention of the Dangerous Drugs Acts and Regulations, advertising and canvassing, and the use of misleading titles and descriptions.

National Insurance.

LONDON PANEL COMMITTEE.

AT the meeting of the London Panel Committee on May 24th, Dr. H. J. CARDALE presiding, the following were appointed to fill vacancies on the committee for the constituencies named: Dr. R. P. A. Starkie (Westminster), Dr. H. I. Davies (Paddington), and Dr. A. J. Russell (Deptford).

Farming out of Practices.—The committee considered again a report from the Joint Consultative Committee with regard to the manner in which an insurance practitioner had discharged his duties under the terms of service, in particular to the obligation of the practitioner to provide personal service. It appears that a different construction is placed by the Ministry of Health upon the relevant clauses of the terms of service from that which the Insurance Committee had hitherto understood. That committee is of opinion that the extension of "farming out" as evidenced by the principal practitioner allowing an assistant to attend to the majority or a large proportion of his patients is reprehensible. The Joint Consultative Committee proposed to send a deputation to confer with the Ministry on the question, and the Panel Committee agreed to add three representatives to the deputation—namely, Drs. Cardale, Chase, and Gregg. A somewhat lengthy discussion took place as to the arguments to be put forward by the deputation, but in summing-up the discussion Dr. Cardale remarked that he had heard nothing which fundamentally altered the general opinion expressed at the previous meeting of the Panel Committee, that, if the Ministry was approached, some way might be found under existing regulations whereby the farming out of practices might be discouraged.

Pathological Laboratory Services.—Discussion arose on the memorandum (M.27) circulated by the Insurance Acts Committee to all Local Medical and Panel Committees on the subject of pathological laboratory services. The view taken was that the Local Medical and Panel Committees should withold any decision on schemes for the provision of pathological services which might prejudice any future negotiations of the Insurance Acts Committee with the Ministry of Health on the general question of a national laboratory service. Dr. Stebbing, however, expressed the view that it would be wise to encourage the trial of all kinds of experiment and the expression of opinion of committees all over the country as to whether experiments were successful or not. The memorandum appeared to suggest that there should not be any such expression of opinion. On this the chairman pointed out that there was no endeavour to stifle discussion as to proper schemes for providing pathological work. There was merely a warning to committees to watch very carefully any scheme put before them by an Insurance Committee for providing laboratory services. It was essential that there should be some knowledge of the conditions under which pathologists worked. Dr. Stebbing replied that undesirable things were going on, and he contended that if the Insurance Acts Committee would condemn them in round terms and let Panel Committees know what was being condemned, they would probably receive whole-hearted support. Dr. H. B. Morgan disagreed with Dr. Stebbing and maintained that all that was asked was that Panel Committees should withold any definite decision on a matter of extreme importance to the profession. Conditions of pathological investigation varied so enormously that no decision could be given which would be uniform throughout the country.

HASTINGS PANEL COMMITTEE.

AT a meeting of the Hastings Local Medical and Panel Committee, held on May 16th, with Dr. HOWE in the chair, the report of the Distribution Committee was read. The proportion of the fund this year is 0.158, which is higher than last year, owing probably to the large number of temporary residents treated in the area. Last year 2,755 of these were treated. A letter from the Ministry of Health explained that all due consideration was allowed in apportioning the fund to the number of temporary residents in the area. As the financial condition of the fund formed by the voluntary levy was in a satisfactory condition, it was resolved to contribute £50 to the National Insurance Defence Fund. The committee has already contributed 46 per cent. of its quota towards the £250,000, and the hope was expressed that all Local Medical and Panel Committees would contribute their full amount so that the future might be secure.

Among other business transacted it was decided not to appoint a representative to attend when the regional medical officer investigated cases of alleged excessive prescribing. It was thought that the matter should be threshed out privately between the practitioner and the regional medical officer.

WARWICKSHIRE PANEL COMMITTEE.

AT the meeting of the Warwickshire Local Medical and Panel Committee, held at Leamington on May 26th, Dr. HERBERT MALINS presiding, consideration at some length was given to the communications of the British Medical Association, the Lancashire Insurance Committee, and the Cheshire Joint Committee regarding the provision of pathological laboratory services. Dr. HAWLEY, the chairman of the Coventry Panel Committee, who was present, stated that his committee's attention had been called to the steadily increasing use of autogenous vaccines, and the problem of moderating the use of these expensive preparations without unduly restricting the individual practitioner's freedom of action was a difficult one. The feeling was generally expressed that the time was not opportune for the Panel Committee to take any part in a scheme which was likely to impose any extra strain on the Drug Fund. In this connexion the current negotiations of the Ministry of Health with the pharmacists were reviewed, and allusion was made to the Ministry's offer to hand over the whole of the Drug Fund to the chemists, accompanied with powers safeguarding them against the possibility of discounting through undue extravagance on the part of prescribing doctors. Apprehension was expressed lest panic action would emerge at the expense of the insurance practitioners' freedom of action and the insured patients' interests. It was agreed to await further information from the Insurance Acts Committee.

Many examples were given of the refusal of the large industrial approved societies to give effect to practitioners' recommendations that patients requiring ophthalmic treatment should be referred to a competent surgeon. The meeting directed that examples of some of the more serious dangers involved be collected and sent to the Insurance Acts Committee and the Ministry of Health.

It was reported that every practitioner in the county had been circularized by the chairman and secretary with a specimen set of forms relating to the medical statistics required by the Insurance Acts Committee.

On consideration of the British Medical Association's circular regarding the future of Insurance and Local Medical Committees it was resolved to await the introduction of amending legislation, the Committee having already circularized to all Panel Committees their views that all local administrative health services should be amalgamated under one authority analogous to the education committee.

LONDON INSURANCE COMMITTEE.

At the meeting of the London Insurance Committee on May 26th a report was given by the members of a recent deputation to the Ministry of Health to ascertain the practice which the committee should follow in making representations to the Ministry concerning practitioners or chemists held to be guilty of breach of the terms of service. The discussion at the Ministry had turned mainly on the case of chemists, and it appeared that the Ministry was not in sympathy with what had seemed to be the practice of the committee not to make representations if it was the first time that the dispensing of a particular chemist had been brought under review. The Ministry also stated that the purpose of referring back cases to the committee for further observation was not to elicit the opinion of the committee as to whether money should be withheld, but to learn whether there were any local conditions which could be urged in extenuation of the error committed. So far as medical cases were concerned it was the general opinion that each case must be considered on its merits; it was impossible to lay down any standard, and the Medical Service Subcommittee, after arriving at a decision that a breach of the terms of service had been committed, should consider whether the circumstances of the case called for representations being made for the withholding of money.

A case in point came forward at the same meeting. In February the committee had held that a practitioner had committed a breach of the terms of service and decided to caution him. It was reported that the case had been considered by the Minister, who, having regard to the action taken in other areas in similar cases, was of opinion that the facts seemed to warrant the withholding of money, but the Minister wished to hear any observations the committee might make before taking such action. The Medical Service Subcommittee thereupon reconsidered the matter, but, believing that the practitioner acted under a misapprehension and not deliberately, decided to adhere to its previous decision that the case was met by a caution.

Drugs and Appliances Disallowed.—It was reported to the committee that during the first quarter of 1927 the following articles which had been prescribed by practitioners were disallowed, on the ground that they did not come in the category of appliances laid down under the regulations: thermogene wool, eye-shades, finger-stalls, syringes, elastic knee-caps, trusses, elastic stockings, atomizer, inhaler and nasal douche, blackhead extractor, clinical thermometer, feeding-tube, glass funnel, instep supports, medicine glass, and throat brush.

Correspondence.

Midwives Acts.

SIR,—In reference to my letter which appeared in your issue of May 28th (SUPPLEMENT, p. 219) under the above heading, the county medical officer to the Devon County Council informs me that when the Act of 1926 came into force every medical practitioner in the county was duly notified of the provisions referred to, in accordance with the circular of the Ministry of Health relative thereto.

Through the lapse of time, however, the position has arisen that some medical practitioners in the county of Devon, and doubtless in other counties, have not received any notification, and, bearing in mind that such documents are easily forgotten, it would seem that a reasonable procedure to obviate the difficulty would be to print a notice on the forms supplied for making claims in respect of midwifery fees, indicating clearly that they must be rendered within two months of the time when the services are rendered.—I am, etc.,

London, W.C.2, June 9th. HUGH WOODS.

Naval and Military Appointments.

ROYAL NAVAL MEDICAL SERVICE.

Surgeon Captain A. J. Hewitt to be Surgeon Rear-Admiral.

Surgeon Commander R. H. Atkins is placed on the retired list with the rank of Surgeon Captain.

Surgeon Commanders T. L. J. Barry to the *Emperor of India*; B. S. Robson to the *Vivid* for R.M. Infirmary, Plymouth (amended appointment); C. J. Aveling and B. P. Pick to the *President*, additional for Medical Department, Admiralty, temporary.

Surgeon Lieutenant V. F. Walsh to the *Vivid* for Devonport Dockyard.

To be Surgeon Lieutenants: C. T. Hyatt, J. L. Malone, T. F. Barlow.

ROYAL NAVAL VOLUNTEER RESERVE.

Surgeon Lieutenant R. Hall transferred to the Royal Navy as Surgeon Lieutenant.

Surgeon Lieutenant S. W. Davidson to the *Victory* for R.N. Hospital, Haslar, for sixteen days' training.

ROYAL ARMY MEDICAL CORPS.

Colonel H. Herrick, C.M.G., D.S.O., late R.A.M.C., retires on retired pay.

Lieut.-Colonel and Brevet Colonel F. S. Irvine, C.M.G., D.S.O., from R.A.M.C., to be Colonel, vice Colonel H. Herrick, C.M.G., D.S.O., to retired pay.

Major F. J. Garland, D.S.O., to be Lieutenant-Colonel, vice Lieut.-Colonel and Brevet Colonel F. S. Irvine, C.M.G., D.S.O., promoted.

Major A. E. G. Fraser, half pay list, late R.A.M.C., on completion of a period of five years on the half pay list, is placed on retired pay on account of ill health, May 16th, 1927 (substituted for notification in the *London Gazette*, June 3rd, 1927).

Major J. Vallance, M.C., R.A.M.C., Regular Army Reserve of Officers, to be Captain whilst re-employed under Article 567 (B), Royal Warrant for Pay and Promotion, 1926, and relinquishes the rank of Major.

Captains to be Majors: L. B. Clarke and W. McE. Snodgrass, M.C.

Captain E. S. Cuthbert to be Major (prov.) with precedence next below T. Young.

Captain A. Mearns to be Major (prov.) with precedence next below F. McKibbin.

To be temporary Lieutenants: I. MacW. Bourke, B. H. H. Tripp, G. de N. U. Somers, J. B. Carrigan, F. R. How, late Captain T.A. Reserve, 12th London Regiment.

ROYAL AIR FORCE MEDICAL SERVICE.

Squadron Leader A. J. O. Wigmore to No. 1 Flying Training School, Netheravon.

Flight Lieutenants F. L. White to No. 14 Squadron, Palestine; A. Harvey to Palestine General Hospital.

Flying Officers E. P. Carroll and G. W. McAleer to the Research Laboratory and Medical Officers' School of Instruction on appointment to short-service commissions.

INDIAN MEDICAL SERVICE.

Colonel Godfrey Tate, V.H.S., to be Major-General, vice Major-General R. Heard, C.I.E., K.H.S.

Lieutenant-Colonels to be Colonels: R. F. Baird, vice Colonel G. Tate, V.H.S., and G. Hutcheson, vice Colonel C. H. Bensley, C.I.E., K.H.P.

Lieut.-Colonels J. G. P. Murray and R. M. Carter, C.B., have retired from the service.

Lieut.-Colonel J. Anderson, an Agency Surgeon, is granted leave on average pay for six months under the Fundamental Rules.

Captains to be Majors: J. D. L. Yule and M. L. Dhawan.

Lieutenant J. E. Gray to be Captain.

MILITIA.

ROYAL ARMY MEDICAL CORPS.

Major H. K. Ward, M.C., relinquishes his commission and retains the rank of Major.

TERRITORIAL ARMY.

ROYAL ARMY MEDICAL CORPS.

To be Lieutenants: H. MacG. Coope, A. T. Ashcroft, D. S. Middleton, Lieutenant T. Wallace, late R.A.M.C. (with precedence as from October 4th, 1926).

TERRITORIAL ARMY RESERVE OF OFFICERS.

ROYAL ARMY MEDICAL CORPS.

Captain J. V. Holmes, from the active list, to be Major.

Captain J. K. Davies, from the active list, to be Captain.

COLONIAL MEDICAL SERVICES.

Dr. H. T. Palmer promoted Assistant Director of Medical and Sanitary Service, Nigeria. Dr. W. W. Besson appointed Assistant Government Medical Officer, British Guiana. Drs. C. F. McConn and W. S. Ormiston appointed Medical Officers, Nigeria. Dr. T. A. Austin confirmed in his appointment as Medical Officer, Zanzibar.

VACANCIES.

BARRY URBAN DISTRICT COUNCIL.—House-Surgeon (male) at the Accident and Surgical Hospital. Salary at the rate of £200 per annum.

BOLINGBROKE HOSPITAL, Wandsworth Common, S.W.11.—Resident Medical Officer (male). Salary £200 per annum.

BRIGHTON: ROYAL SUSSEX COUNTY HOSPITAL.—(1) House-Surgeon. (2) House-Physician. (Males, unmarried.) Salary £150 per annum each.

BRISTOL GENERAL HOSPITAL.—Honorary Assistant Surgeon to the Ear, Nose, and Throat Department.

BURY INFIRMARY.—Third House-Surgeon (male). Salary at the rate of £150 per annum.

CAMBRIDGE: ADDENBROOKE'S HOSPITAL.—Casualty Officer and Resident Anaesthetist (male). Salary at the rate of £130 per annum.

CANCER HOSPITAL, Fulham Road, S.W.3.—House-Surgeon. Salary at the rate of £100 per annum.

CASSEL HOSPITAL FOR FUNCTIONAL NERVOUS DISORDERS, Penshurst, Kent.—Resident Medical Officer (male, unmarried). Salary £350 per annum, rising.

CHELTENHAM AND GENERAL EYE HOSPITALS.—House-Surgeon (male, unmarried) at the General Hospital. Salary £200 per annum.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE HEART AND LUNGS, Victoria Park, E.2.—Assistant Tuberculosis Officer. Salary at the rate of £600 per annum.

EAST LONDON HOSPITAL FOR CHILDREN, Shadwell, E.1.—Resident Medical Officer (male). Salary at the rate of £200 per annum.

FINSBURY BOROUGH COUNCIL.—Assistant Medical Officer of Health. Salary £700 per annum.

GOLDEN SQUARE THROAT, NOSE, AND EAR HOSPITAL.—Honorary Anaesthetist.

HAMPSHIRE COUNTY COUNCIL.—Medical Adviser under the Mental Deficiency Acts and Resident Medical Superintendent of Institution for the Mentally Defective. Salary £700 per annum.

IPSWICH: EAST SUFFOLK AND IPSWICH HOSPITAL.—House-Surgeon and Casualty Officer. Salaries £100 per annum.

LEEDS PUBLIC DISPENSARY.—Junior Resident Medical Officer. Salary £150 per annum.

LONDON TEMPERANCE HOSPITAL, Hampstead Road, N.W.1.—(1) House-Physician. (2) Casualty Officer. Salary at the rate of £100 and £120 per annum respectively.

LONDON UNIVERSITY.—External Examinerships: (1) Anatomy and Physiology for the Second Examination; (2) Forensic Medicine and Hygiene (two), Pathology and Surgery for Final and Higher Examinations.

MAIDSTONE: KENT COUNTY OPHTHALMIC AND AURAL HOSPITAL.—Ophthalmic House-Surgeon (male, unmarried). Salary at the rate of £200 per annum.

MANCHESTER: ANCOATS HOSPITAL.—Resident Medical Officer. Salary at the rate of £150 per annum.

MANCHESTER HOSPITAL FOR CONSUMPTION AND DISEASES OF THE THROAT AND CHEST.—Assistant Medical Officer for the Crossley Sanatorium. Salary £200 per annum.

MERSEYSIDE BOROUGHS HEALTH EDUCATION COMMITTEE.—Lecturer Organizer. Salary £400 for six months.

METROPOLITAN ASYLUMS BOARD.—Junior Assistant Medical Officer at the Downs Hospital for Children, Sutton. Salary £500 per annum.

MIDDLESEX HOSPITAL MEDICAL SCHOOL, W.1.—Second Demonstrator for the Physiology Department. Salary to commence £350 per annum.

MIDDLESEX HOSPITAL MEDICAL SCHOOL, BLAND-SUTTON INSTITUTE OF PATHOLOGY.—Assistant for Cancer Research. Salary according to experience, but not less than £350 per annum.

MILLER GENERAL HOSPITAL, Greenwich Road, S.E.10.—(1) Casualty Officer. (2) House-Surgeon. (Males, unmarried.) Salary £150 and £125 per annum respectively.

MINISTRY OF HEALTH.—Medical Officers of the Staff of the Ministry (males). Salary £600 per annum, rising to £1,100.

NORTHAMPTON COUNTY BOROUGH EDUCATION COMMITTEE.—Assistant School Dentist. Salary £450 per annum.

NOTTINGHAM CHILDREN'S HOSPITAL.—Resident House-Surgeon (woman). Salary at the rate of £150 per annum.

READING: ROYAL BERKSHIRE HOSPITAL.—(1) House-Physician. (2) Second House-Surgeon. (3) Third House-Surgeon. Salary at the rate of £150 per annum each.

ROYAL WATERLOO HOSPITAL FOR CHILDREN AND WOMEN, Waterloo Road, S.E.1.—(1) House-Physician (male). (2) Assistant Radiologist (part-time). Salary at the rate of £100 and £50 per annum respectively.

ST. HELENS COUNTY BOROUGH.—Deputy Medical Officer of Health (male). Salary £700 per annum, rising to £750.

ST. MARK'S HOSPITAL FOR CANCER, FISTULA, ETC., City Road, E.C.1.—Clinical Assistants in the Out-patients' Department.

ST. MARYLEBONE GENERAL DISPENSARY, 30, Marylebone Lane, W.1.—Honorary Surgeon to the Ear, Nose, and Throat Department.

SALFORD ROYAL HOSPITAL.—(1) House-Physician. (2) House-Surgeon attached to the Genito-urinary Department. (3) House-Surgeon to the Gynæcological, Aural, and Skin Departments. (4) Casualty House-Surgeon. Salary at the rate of £125 per annum each.

SHEFFIELD: JESSOP HOSPITAL FOR WOMEN.—Two Assistant House-Surgeons. Salary at the rate of £100 per annum.

SOUTH LONDON HOSPITAL FOR WOMEN, Clapham Common, S.W.4.—Assistant Physician (female).

SOUTHAMPTON: ROYAL SOUTH HANTS AND SOUTHAMPTON HOSPITAL.—House-Physician. Salary £150 per annum.

STIRLING DISTRICT MENTAL HOSPITAL, Larbert.—Third Assistant Medical Officer (lady) to act as Pathologist. Salary £250 per annum.

STORTHES HALL MENTAL HOSPITAL, Kirkburton, near Huddersfield.—Junior Grade Assistant Medical Officer (unmarried). Salary £400 per annum, rising to £500.

WARWICKSHIRE COUNTY COUNCIL.—Assistant County Medical Officer of Health. Salary £600 per annum.

WEST BROMWICH UNION.—Resident House-Physician at Hallam Hospital. Salary £250 per annum.

WEST HARTLEPOOL COUNTY BOROUGH.—Assistant Medical Officer of Health. Salary £600 per annum.

WORCESTERSHIRE COUNTY COUNCIL.—Assistant County Medical Officer (part-time). Salary £300 per annum.

WORKSOP: VICTORIA HOSPITAL.—House-Surgeon (male, unmarried). Salary at the rate of £170 per annum.

CERTIFYING FACTORY SURGEONS.—The following vacant appointments are announced: Great Haseley (Oxfordshire), Filey (York, East Riding). Applications to the Chief Inspector of Factories, Home Office, Whitehall, S.W.1.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.

DIARY OF SOCIETIES AND LECTURES.

ROYAL SOCIETY OF MEDICINE.

General Meeting of Fellows.—Tues., 5.30 p.m., Ballot for Fellowship.

Section of Urology.—Thurs., 8.30 p.m., Demonstration, Mr. Frank Kidd: Specimens illustrating the Range of the Operation of Nephro-ureterectomy.

ROYAL COLLEGE OF PHYSICIANS OF LONDON, Pall Mall East, S.W.1.—Tues., 5 p.m., Croonian Lecture by Sir F. Gowland Hopkins, F.R.S.: The Task of Biochemistry.

MEDICO-LEGAL SOCIETY, 11, Chandos Street, W.1.—Thurs., 8.30 p.m., Annual General Meeting, followed by ordinary meeting. Lord Riddell: The Law and Ethics of Medical Confidences.

RESEARCH DEFENCE SOCIETY, 11, Chandos Street, W.1.—Tues., 3 p.m., Annual General Meeting. Stephen Paget Memorial Lecture by Professor Julian S. Huxley: Research and the Community.

ST. JOHN'S HOSPITAL DERMATOLOGICAL SOCIETY (incorporating the London Dermatological Society).—Wed., 5 p.m., Annual Oration by Dr. H. Hæxthausen (Copenhagen): Streptococcic Pityriasis; followed by the annual general meeting.

POST-GRADUATE COURSES AND LECTURES.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION.—Demonstrations (free to members of the medical profession): Prince of Wales's Hospital, Mon., 2.30 p.m., Medical; Royal Free Hospital, Wed., 4 p.m., Surgical Treatment of Goitre; Royal Eye Hospital, Fri., 3 p.m., Ophthalmic Cases. *Blackfriars Skin Hospital*, Blackfriars, S.E.: Course of Instruction in the O[illegible]fternoon from 2.30; special demonstration [illegible] *Clinic*, Cosway Street, N.W.: Lectures [illegible]ases of Children, afternoons and some [illegible] to fees, etc., from the Fellowship of Med[illegible]. 4 p.m., Vaccine Therapy.

HOSPITAL FOR SICK CHILDREN, Great [illegible].

LONDON SCHOOL OF DERMATOLOGY, St. John's Hospital, Leicester Square, W.C.2.—Tues., 5 p.m., Napkin-area Eruptions in Infants. Thurs., 5 p.m., Bullous Eruptions.

NATIONAL HOSPITAL, Queen Square, W.C.1.—Mon., Tues., Thurs., and Fri., 2 p.m., Out-patient Clinics. Mon., 12 noon, Pathology of the Nervous System; 3.30 p.m., Diagnosis of Cerebral Tumours. Tues., 3.30 p.m., Cranio-cerebral Topography. Thurs., 3.30 p.m., Hemiplegia. Fri., 12 noon, Anatomy and Physiology of the Nervous System; 3.30 p.m., Demonstration of [illegible].

NORTH-EAST[illegible] COLLEGE, Prince of Wales's General Hospital, [illegible].—Mon., 2.30 to 5 p.m., Medical, Surgical, and Gynæcological Clinics; Operations. Tues., 2.30 to 5 p.m., Medical, Surgical, Throat, Nose, and Ear Clinics; Operations. Wed., 2.30 to 5 p.m., Medical Skin and Eye Clinics; Operations. Thurs., 11.30 a.m., Dental Clinics; 2.30 to 5 p.m., Medical, Surgical, and Ear, Nose, and Throat Clinics; Operations. Fri., 10.30 a.m., Throat, Nose, and Ear Clinics; 2.30 to 5 p.m., Surgical, Medical, and Children's Diseases Clinics; Operations; 4.30 p.m., Special Demonstration on Selected Cases of Nerve Diseases.

ROYAL NORTHERN HOSPITAL, Holloway Road, N.—Tues., 3.15 p.m., Eye Disease as a Complication of Sepsis Elsewhere.

SOUTH-WEST LONDON POST-GRADUATE ASSOCIATION.—Wed., 3 p.m., Visit to Queen Mary's Hospital, Carshalton.

SHEFFIELD UNIVERSITY POST-GRADUATE CLINICS.—At Jessop Hospital: Tues., 3.30 p.m., Treatment of Pelvic Inflammation. At Royal Infirmary: Fri., 3.30 p.m., Clinical Cases.

British Medical Association.

OFFICES, BRITISH MEDICAL ASSOCIATION HOUSE, TAVISTOCK SQUARE, W.C.1.

Departments.

SUBSCRIPTIONS AND ADVERTISEMENTS (Financial Secretary and Business Manager. Telegrams: Articulate Westcent, London).
MEDICAL SECRETARY (Telegrams: Mediscera Westcent, London).
EDITOR, *British Medical Journal* (Telegrams: Aitiology Westcent, London).
Telephone numbers of British Medical Association and British Medical Journal, Museum 9861, 9862, 9863, and 9864 (internal exchange, four lines).

SCOTTISH MEDICAL SECRETARY: 6, Drumsheugh Gardens, Edinburgh. (Telegrams: Associate, Edinburgh. Tel.: 4361 Central.)
IRISH MEDICAL SECRETARY: 16, South Frederick Street, Dublin. (Telegrams: Bacillus, Dublin. Tel.: 4737 Dublin.)

Diary of the Association.

JUNE.

17 Fri. Sunderland Division: Royal Infirmary, Sunderland, 8.30 p.m.
20 Mon. London: Lunacy Committee, 2.30 p.m.
21 Tues. London: Naval and Military Committee, 2.15 p.m.
Lewisham Division: Town Hall, Catford. Dr. George Graham on Diabetes Mellitus, 8.45 p.m.
Metropolitan Counties Branch: Annual Meeting, B.M.A. House, Tavistock Square, W.C.1. Mr. E. B. Turner on Influenza from 1889 to 1927.
Willesden Division: Clinical Meeting, Municipal Hospital, Brentfield Road, 3.30 p.m.
22 Wed. Lancashire and Cheshire Branch: Annual Meeting, Town Hall, King Street, Wigan. Branch Council, 12.45 p.m. Lunch, 1 p.m. Meeting, 2 p.m.
North Lancashire and South Westmorland Branch: Annual Meeting, Golf Hotel, Grange, 3.15 p.m.
Oxford Division: Radcliffe Infirmary, 2.45 p.m.
Trowbridge Division: Lacock, 3 p.m.
23 Thurs. London: Insurance Acts Committee, 12 noon.
London: Scholarships and Grants Subcommittee, 2.30 p.m.
Swansea Division: Annual Meeting, General Hospital, Swansea, 8.30 p.m. Executive Committee, 7.30.
24 Fri. East York Division: Competition for Ritchie Rodger Golf Cup, Brough Golf Course.
Sheffield Division: Church House, St. James Street, Sheffield, 8.30 p.m.
28 Tues. London: Psycho-analysis Committee, 3 p.m.
29 Wed. Bath Division: Annual Meeting, Spa Hotel, Bath, 4 p.m.
30 Thurs. North of England Branch: Annual Meeting, Queen's Head Hotel, Morpeth, 12.30 p.m. Luncheon, 1.15. Golf Competition, 3 p.m.

JULY.

3 Sun. Tyneside Division: Golf Match between South Shields and Tyneside Divisions at Brancepeth. Lunch, 1 p.m.; Singles, 2 p.m.; Foursomes, 6 p.m.
5 Tues. City Division: Metropolitan Hospital, Kingsland Road. Dr. T. H. G. Shore will give a demonstration, 9.30 p.m.
6 Wed. Norfolk Branch: Annual Meeting, Norfolk and Norwich Hospital. Mr. W. Ernest Miles on Ano-rectal Fistula, 3 p.m.
8 Fri. City Division: Clinical Meeting, Metropolitan Hospital, Kingsland Road, 4.15 p.m.
East York and North Lincoln Branch: Annual Meeting.
North Wales Branch: Annual Meeting, Penmaenmawr. Address by Medical Secretary.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcement of Births, Marriages, and Deaths is 9s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

BIRTHS.

ALLEN.—On June 8th, at Fulwood, Shotley Bridge, Grace, the wife of Dr. R. Barclay Allen, of a son.

MYLES.—On Sunday, June 12th, to Dr. and Mrs. David Myles, Forfar, a son.

SNELLING.—On June 14th, at 130, High Town Road, Luton, to Ettie, wife of Trevor R. Snelling, M.R.C.S., L.R.C.P., a son.

MARRIAGES.

BATEMAN—DIXON.—On June 7th, at Pelton Church, co. Durham, Charles Bateman, M.D., Ch.B.Edin., to Mary Brenda, daughter of Mr. and Mrs. Dixon, Pelton Fell, co. Durham.

CLARKE—HERON.—John H. K. Clarke, M.B., Ch.B., M.R.C.S., L.R.C.P., to Margaret Cameron McVean Heron, on June 8th.

SHANNON—COX.—At St. Joseph's R.C. Church, Rugeley, Staffs, on June 11th, by Rev. Fr. W. Memnagh, Peter Shannon, M.B., Ch.B.Glas., son of the late Mr. and Mrs. Peter Shannon, Rutherglen, to Margaret, second daughter of Mr. and Mrs. Michael Cox, Dromod, co. Leitrim.

STEEL—WALLACE.—On June 6th, 1927, at Corstorphine Parish Church, Edinburgh, John Parker Steel, M.D.Edin., Saint Luke's Hospital, Middlesbrough, to Agnes Hudson, younger daughter of Mrs. Wallace and of the late Mr. John Wallace, Corstorphine, Edinburgh.

DEATH.

HUTCHINSON.—On May 29th, 1927, suddenly, at Irwell Street, Widnes, Creighton Hutchinson, M.D., C.M.Glas., L.R.C.S.Edin., in his 69th year.

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SUPPLEMENT

TO THE

BRITISH MEDICAL JOURNAL.

LONDON, SATURDAY, JUNE 25TH, 1927.

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SPECIAL NOTICE TO MEMBERS.

Every Member is requested to preserve this "Supplement," which contains matters specially referred to Divisions, until the subjects have been discussed by the Division to which he or she belongs.

MATTERS REFERRED TO DIVISIONS.

British Medical Association.

SUPPLEMENTARY ANNUAL REPORT OF COUNCIL, 1926-27.

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Preliminary.

BIRTHDAY HONOURS.

193. The Council has pleasure in announcing that honours have been conferred upon the following members, to whom the congratulations of the Association have been sent:—

K.C.V.O.

Edward Farquhar Buzzard.

K.B.E.

Charles Percy Barlee Clubbe.

Knighthood.

Louis Edward Barnett, C.M.G.
Charles James Martin, C.M.G., F.R.S.

OBITUARY.

194. The following is a supplementary list of Members whose deaths the Association deplores:—

Dr. Herbert Edward Crawley	Former Member of the Executive Committee of the Portsmouth Division.
Dr. Thomas Henry Fiaschi	Former Member of the New South Wales Branch Council.
Dr. Wm. Anderson Fuller	Former President of the North Lancashire and South Westmorland Branch, at one time Chairman of the Kendal Division.
Dr. Herbert Jennings Gibbs	Former Secretary of the Malaya Branch.
Mr. Bryden Glendining	Secretary of Section of Pathology, 1911.
Dr. Richard Griffith	Former Member of the Executive Committee of the South Carnarvon and Merioneth Division.
Dr. Wm. Hammond Hodgson	Vice-Chairman, and a former Chairman, of the Blackpool Division.
Dr. Leigh Hunt	Former President of the Perth Branch.
Dr. Leighton Hutchinson	Former Vice-Chairman of the Warrington Division.
Dr. John McKie, D.S.O.	Former Member of the Executive Committee of the Glasgow Eastern Division.
Dr. Samuel Edgar Martin, Sen.	Former Chairman of the Portadown Division; at one time Vice-President of the Ulster Branch.
Dr. Alfred Hugh Minton	Former Member of the Executive Committee of the Woolwich Division.
Dr. Samuel Colley Salter	Deputy Representative of the Manchester Division, and a Honorary Branch Auditor.
Dr. Wm. Shand	Former Member of the North of England Branch Council, and of the Executive Committee of the Cleveland Division.
Dr. James Burnet Smith	Former Chairman of the East Hertfordshire Division.

Prof. Ernest Henry Starling, C.M.G.	Former Member of the Research and Laboratory Workers' Sub-Committee of the Science Committee; Secretary, 1895 and President, 1908, of Section of Physiology.
Dr. John Wherry Willson ...	Member of the Executive Committee of the Harrogate Division; a former Chairman and Secretary of the Bradford Division.

Dr. Mangalore Laxumana Bangara, Dr. John Patrick Benson, Major Sorab Dinshaw Billimoria, I.M.S., Dr. George Gordon Blair, D.C.M., Dr. Felix Anthony de Boissiere, Major Charles Hildred Brendribb, I.M.S. ret., Dr. Wm. Angus Campbell, Dr. Wm. Noel Child, Dr. John Cornelius Collins, Dr. Doris Louise Delittle, Dr. Florince O. Donohue, Dr. Hope Murray Gillespie, M.C., Dr. Robert Wilson Taylor Haddow, Lt.-Col. Edward Temple Harris, D.S.O., Dr. Henry Lewis Harris, Dr. John Thomas Haworth, Dr. Moses Henry, Dr. Evan Lewis Hickey, Dr. Charles Joseph Hughes, Dr. John Owen Jones, Lt.-Col. Wm. Hamilton Kenrick, I.M.S. ret., Lt.-Col. Ernest Blake Knox, R.A.M.C. ret., Captain Gautam Kumar, I.M.S., Dr. Jenkyn Lewis, Dr. Donald MacDonald, Dr. Walter James McFeat, Dr. Rae McRae, Dr. Guy Witton Miller, Dr. Robert Bernard Pearson Monson, Mr. Andrew Stanford Morton, Dr. Wm. Guy Pinching, Dr. James Pinder, Dr. Oswald James Reid, Dr. John Robinson, Dr. Leslie John Scott, Dr. Henry Beveridge Smith, Dr. Henry Riddell Stanley, Dr. James W. Stewart, Dr. Mark Johnston Symons, Dr. Waren Tay, Prof. James Edwin Thompson, Dr. Arthur Charles Robert Todd, Dr. Narainasamy Veerasamy, Dr. Allan Whitfield, Dr. John Henry Peter Wijiesinghe, Dr. Wm. Wilfred Williams, Dr. Herbert Pattison Wiltshire, Dr. Wm. Stead Woodburn.

ASSOCIATION COLLECTION OF AUTOGRAPHS.

195. The Council (at the suggestion of Mr. G. Grey Turner, of Newcastle-on-Tyne, who has presented an autograph letter of Sir Charles Hastings) has decided to commence an Association collection of autograph letters to include the autographs of (a) persons who have held high official position in the Association, (b) celebrated medical men and women, and (c) lay persons in some way connected with the medical profession or medical affairs. Mr. E. Muirhead Little, F.R.C.S., has kindly volunteered to take charge of the collection, which will be kept in the Association House where it will be available for inspection by those interested.

GIFT FROM THE SOUTH AFRICAN FEDERAL COUNCIL.

196. The Council has to announce with great pleasure the arrival from South Africa of two Kudu heads, together with a plate inscribed as follows:—

S.A. TROPHIES
KUDU
from SOUTH-WEST AFRICA
PRESENTED TO
THE
BRITISH MEDICAL ASSOCIATION
by
THE MEDICAL ASSOCIATION OF SOUTH AFRICA
(BRITISH MEDICAL ASSOCIATION)
1927.

as a gift to the Association from the South African Federal Council for the Association House. The heads have been placed in the Members' Lounge and the cordial thanks of the Council for this generous and welcome gift have been transmitted to the Federal Council.

B.M.A. HOUSE AND SITE OF TAVISTOCK HOUSE.

197. Members will be interested to know that the wall of the Garden on the South Side of the B.M.A. House marks the site of the foundation of the original Tavistock House, where Charles Dickens lived from 1851-1860, and some of the bricks used in that wall were actually part of the foundation. In order to mark permanently the site the following inscription is being placed on the wall:—

"This is the site and these bricks were part
of the foundation of the house of
CHARLES DICKENS
1851-1860.
BRITISH MEDICAL ASSOCIATION.
1927."

MEMENTO OF THE LATE DR. EDWIN RAYNER.

198. The Council is pleased to report that Miss Rayner, J.P., of Weybridge, has presented to the Association a clock, with an inscription commemorating the long services of her father, Dr. Edwin Rayner, of Stockport, to the Association. Dr. Rayner was a most devoted member of the Association for many years and served as its Treasurer from 1907 to 1916. The clock has been placed in the Chairman of Council's room.

RESIGNATION OF SOLICITOR OF THE ASSOCIATION.

199. It is with regret that the Council has to report that Mr. W. E. Hempson, Solicitor to the Association, finds that the time has come when he feels that he will not be able to seek re-election as Solicitor to the Association. Mr. Hempson has acted in the capacity of legal adviser to the Association for the past twenty-seven years, and, in conveying his decision to the Council, states that throughout his professional life none of his clients had been held in the esteem which he bore towards the Association, and that its work had at all times been a pride and a pleasure to him calling for the best that he could give. The Council is sure that members will join with it in gratitude for the long, faithful and valuable services which Mr. Hempson has rendered to the Association during his long period of office, services by no means confined to his technical duties as the Solicitor of the Association.

The Council therefore recommends:—

Recommendation: That Mr. W. E. Hempson, in recognition of his faithful and devoted service as Solicitor to the Association for twenty-seven years, be elected an Honorary Member of the Association, having the privileges of receiving the British Medical Journal and of attending the Annual Meetings of the Association.

PINEL AND VULPIAN CENTENARY, PARIS, 1927.

200. The Association at the invitation of the French Medico-Psychological Society, appointed Dr. C. Hubert Bond to act as its representative at the celebration in Paris in May, 1927, of the Centenary of the death of Pinel and of the birth of Vulpian. Dr. Bond presented an address on behalf of the Association.

Building.

201. The Council in October, 1926, appointed a special Building Committee to consider all questions of rebuilding in connection with the Association premises, the Committee consisting of Sir Robert Bolam, Dr. H. B. Brackenbury, Mr. N. Bishop Harman, Dr. C. O. Hawthorne, and Dr. R. Wallace Henry, with the chief officials of the Association acting in an advisory capacity.

202. Under the terms of the lease with the Bedford Estate, Nos. 18, 19, and 19A, Tavistock Square have come into the possession of the Association and having been reconditioned are temporarily occupied pending rebuilding. Nos. 1 and 2, Upper Woburn Place will come into the hands of the Association in September, 1927, and the Association is bound under its lease to rebuild on these sites within a period of 10 years, expiring September, 1934.

203. The extensions are to be erected in accordance with plans and specifications to be approved by the Bedford Estate and to follow substantially the type of the existing building.

204. The Council gave consideration to the increased cost of the occupation and maintenance of the Association's house when these extensions were completed, recognising that some readjustment of space either in the existing or in the new building might be deemed obligatory, and came to the conclusion that the floor space in the extension available for letting would not be sufficient to reduce substantially these expenses of occupation and maintenance. The Council, therefore, decided to explore the possibility of obtaining a greater frontage to the main road (Tavistock Square and Upper Woburn Place) with a view to the erection of a building thereon which would provide sufficient accommodation for all the activities of the Association for many years to come, would allow for all reasonable expansion and would, for the time being, ensure for the Association a reasonable return upon the capital expended in the building.

205. Rough estimates of cost were obtained and checked, as far as might be without incurring considerable expense, by an architect, a quantity surveyor and a builder, and the Council came to the conclusion that it would be a politic act to take from the Bedford Estate a lease of further "front land" in Tavistock Square and Upper Woburn Place. This would give the Association a frontage to the main road of approximately 360 feet with a depth of approximately 100 feet, and upon this site, at a reasonable cost, a suitable building could be erected allowing for the legitimate aims and expansion of the Association.

Organisation.

(Continuation of paras. 42-66 of Annual Report.)

HONORARY SECRETARIES WHO HAVE RELINQUISHED OFFICE.

206. Since the publication of the last Supplementary Report of Council (*B.M.J.* Supplement, June 26th, 1926) the following Honorary Secretaries of Divisions and Branches have relinquished office. The Council realises that the success of the Divisions and Branches, and therefore of the Association, depends to a very considerable extent upon the Honorary Secretaries of the local units of the Association, and desires

to express on behalf of the Association its gratitude to these officers:—

Honorary Secretaries of Divisions.

Division.	Name of Secretary.	Year of Appointment.
Assam Valley	D. P. Williams	1926
Ballymoney, N. Antrim & S. Derry	Wm. Porter	1912
Barnsley	J. B. Fisher	1924
Blyth	W. I. Gordon	1920
Brighton	A. C. Gemmell (Asst.) ...	1923
Bristol	Duncan Wood	1922
do.	O. Popper	1926
Buckinghamshire	T. Perrin (deceased) ...	1922
Cardiff	A. Mason Jones	1922
Camberwell	R. C. Harkness	1923
Cleveland	G. H. Lowe	1917
Coventry	A. Shulman	1926
Denbigh & Flint	R. Morris Jones	1923
Derby	F. G. Lescher	1923
Dewsbury	A. Fullerton	1923
Dover	A. R. Jordan	1920
East Herts.	G. Eager	1924
Glasgow (Eastern) ...	David McKail	1921
Guildford	W. B. Jepson	1925
do.	F. K. Tomlinson	1926
Harrow	C. F. Mayne	1921
Hastings	C. Charnock Smith ...	1922
Hyde	T. B. Williams	1925
Lancaster	J. D. Buchanan	1925
Marylebone	P. Spurgin	1920
do.	S. Coffin (Asst.)	1926
North East Essex ...	E. J. H. Roth	1926
North Glamorgan & Brecknock	A. T. Jones	1913
North Northumberland ...	W. G. Scott	1920
Norwich	M. W. B. Bulman ...	1924
Otago	W. E. Carswell	1925
Portsmouth	H. H. Warren	1925
Poverty Bay	W. A. Bowie	1922
Reigate	C. H. Laver	1922
Salisbury	R. C. Monnington ...	1922
Southland (N.Z.) ...	A. W. Owen-Johnston ...	1925
Surma Valley	C. G. Terrell	1925
Tower Hamlets	W. H. F. Oxley ...	1913
Tyneside	J. B. Williamson ...	1923
Westminster	R. E. Stuart-Webb ...	1924
Woolwich	N. M. McClennan ...	1925

Honorary Secretaries of Branches.

Branch.	Name of Secretary.	Year of Appointment.
Assam	F. W. O'Connor	1926
Birmingham	H. H. Sampson	1923
British Guiana	A. E. Delgado	1922
Cape Midlands	P. Jabkovitz	1925
Cape Western	A. Reith Fraser (deceased)	1923
Ceylon	L. de Silva	1923
Egyptian	R. Brown	1925
Griqualand West	W. O. Rubidge	1923
Hyderabad	E. H. Hunt	1926
Jamaica	G. F. da Costa	1901
Kenya	F. J. Carlyle Johnstone	1924
Midland	R. Wallace Henry ...	1915
Natal Inland	A. W. H. Cheyne ...	1922
do.	G. D. English	1926
Northern Cos. of Scotland	J. Munro Moir (deceased)	1901
Nyasaland	G. M. Sanderson	1923
Orange Free State & Basutoland	Alice Cox	1923
Oxford & Reading	W. Stobie	1924
Pretoria	L. Stazunsky	1926
Shropshire & Mid. Wales	E. A. Wraith (Asst. Sec.)	1925
South Indian & Madras ...	E. W. C. Bradfield ...	1926
South Wales & Monmouthshire	J. J. Healy	1923
Staffordshire	W. Webster	1917
Stirling	E. E. Dyer	1914
Tanganyika Territory ...	R. R. Scott...	1923
do. ...	H. O'D. Burke-Gaffney	1926
Tasmanian	A. W. Shugg	1924
Ulster	H. P. Malcolm	1923
South African Committee	J. Erlank (deceased) ...	1926

Divisions without Organisation Rules.

207. In accordance with the standing instruction of the Representative Body, the Council reports that the following Divisions in Great Britain are not yet in possession of Rules of Organisation:—Birkenhead, Bromsgrove, Chester, Crewe, East Cornwall, Exeter, Glossop, Horsham, Hyde, Leigh, Monmouthshire, Rotherham, Warwick and Leamington, West Cornwall, West Hertfordshire and Woolwich. These are the only local bodies of the Association in Great Britain not now in possession of Organisation Rules. The Council desires urgently to draw the attention of these units of the Association to the importance of adopting such Rules. Model Rules for the purpose, approved by the Council, can be obtained from the Medical Secretary.

Science.

(Continuation of paras. 77-96 of Annual Report.)

Scheme for Collective Investigation

208. The Council has considered the question of the Association conducting a scheme of collective investigation, and has come to the conclusion that such a scheme, provided it is organised on an effective basis, may be the means of furnishing new data which would assist in the elucidation of many difficult problems.

In its consideration of the matter the following fundamental points have clearly emerged: (i.) that the enquiries undertaken should be of practical value; (ii.) that the scheme must be voluntary and unpaid; (iii.) that the enquiries should not be restricted either to insurance practitioners on the one hand or to insured persons on the other; (iv.) that the subject or subjects should be capable of being dealt with by replies to direct and definite questions; and (v.) that the results of the enquiry, in order to sustain interest, should be available after not too long a period.

After careful consideration of the subjects which might be investigated in this manner, the Council came to the conclusion that Varicose Ulceration and the After-history of Gastro-Enterostomy are two subjects upon which it would appear desirable to obtain further information.

Varicose Ulceration.

209. Varicose Ulceration is a common experience in medical practice and every general practitioner is frequently called upon to treat it. It is accompanied by much pain and discomfort and is responsible for a large amount of disability, especially among women. Its treatment is tedious alike to practitioner and patient; the results are often disappointing; and relapses are common. It is a disease mainly within the province of the general practitioner for it is he who sees the case from beginning to end and it is with him that the provision of treatment rests.

Varicose Ulceration therefore appears to be peculiarly suitable for a collective investigation and record by general practitioners, and the collection and co-ordination of their experience would afford a valuable contribution to clinical knowledge. Especially is it desirable to gain information relative to treatment. At present there are many methods and many claims. By a comparison of results it may reasonably be hoped that the most successful methods will emerge.

The Council proposes to conduct this enquiry through the Divisional machinery of the Association; that is to say, each Division will be asked to obtain the co-operation of a number of practitioners who will undertake to fill in the questionnaires.

The After-History of Gastro-enterostomy.

210. It is desirable to obtain information as to the after-history of those who have undergone the operation of gastro-enterostomy, and many general practitioners are doubtless in a position to supply this information. Surgeons regret that in many instances they are unaware of the history of patients after they have left the hospital, and if reliable information of this order could be obtained it would serve to establish the relative value of the short-circuiting operations when performed for ulcerous, cancerous or other conditions of the stomach, or duodenum.

Clearly this investigation can only be conducted if the surgeons give particulars of the individual cases, and it is therefore proposed to ask surgeons to furnish the names of the patients operated on by them in respect of gastro-enterostomy during a period, say, of five years, together with the names of the general practitioners in charge of the cases. The individual cases would then be followed up by the Head Office through the practitioners concerned, who would be asked to fill in a questionnaire. Should the case have terminated fatally before leaving hospital, the surgeon would be asked to furnish a record to that effect.

211. The Council proposes to organise simultaneous inquiries into the above two subjects in the early autumn of 1927, and

it hopes that this matter, representing as it does an important development of the scientific work of the Association, will be fully discussed in the Divisions and Representative Body so as to ensure the success of the experiment.

Recommendation: That the Representative Body approves the Council's proposals for the carrying out by the Association of the scheme submitted for collective investigation by individual medical practitioners.

Ethics.

(Continuation of paras. 97-101 of Annual Report.)

MACHINERY FOR DEALING WITH PROFESSIONAL DISPUTES.

212. At the instigation of the Council of the Metropolitan Counties Branch the Council has considered the question of the present methods adopted by the Association in dealing with professional disputes and the possibility of further developments, including a suggestion that a Court of Arbitration might be created by the Association. The Council submits for the information of the Representative Body in Appendix I. a report on the whole question and recommends:—

Recommendation: That having reviewed the existing machinery of the Association as regards ethical matters the Representative Body is of opinion that no extension of that machinery is at present necessary or desirable.

Medico-Political.

(Continuation of paras. 102-138 of Annual Report.)

LUNACY LAW AND MENTAL DISORDER.

213. The Council has not yet been able to carry out the directions contained in the following Minute 115 of the A.R.M., 1926:—

Minute 115.—Resolved: That the following Motion be referred to the Council:—

> That the Council be requested to take all necessary steps as soon as possible to deal with the situation that has arisen as a result of the findings of the jury in the Harnett v. Fisher case, with the view of protecting the interests of the medical profession;

as the case in question was until quite recently *sub judice* and because the Report of the Royal Commission on Lunacy and Mental Disorder (as regards England and Wales) was not published until too late to enable the Council to deal with it fully in this report. The Chairman of the Lunacy Law and Mental Disorder Committee will, on behalf of that Committee, circulate confidentially to representatives prior to the Representative Meeting a memorandum dealing with the Report of the Royal Commission and Minute 115 of the A.R.M., 1926, so that the subject may receive consideration, thus enabling the Council to take action during the forthcoming year.

FORM OF DEATH CERTIFICATE.

214. Under Section 6 of the Births and Deaths Registration Act, 1926, which comes into operation on 1st July, 1927, a new form of death certificate will be issued. The certificate will consist of three parts—namely, a counterfoil to be retained by the doctor; a certificate of the cause of death to be completed by the certifying practitioner and forwarded by him (franked envelopes being supplied) to the local Registrar, and a written notice by the practitioner to the informant that the certificate of the cause of death has been signed and forwarded to the Registrar. This proposal was reported to the Representative Body in para. 82 of the Annual Report for 1925-26.

The Council has had submitted to it by the Registrar-General, and takes no exception to, the new form of the certificate of the cause of death which will read as follows:—

Cause of Death.

I.

Immediate cause† ... ... a.....

Morbid conditions, if any, giving rise to immediate cause (stated in order proceeding backwards from immediate cause) ... ... b.....
c.....

II.

Other morbid conditions (if important) contributing to death but not related to immediate cause ... ...
.....

†This means the disease, injury or complication which caused death—NOT the mode of dying, as *e.g.*, heart failure, asphyxia, asthenia, etc.

USE BY MIDWIVES OF PITUITARY PREPARATIONS.

215. The use by midwives of pituitary preparations has engaged the attention of the Association since 1921, in November of which year the Ministry of Health and the Central Midwives Board were informed that the Association considered it undesirable that midwives should be allowed to use pituitary preparations and drugs of a like character. The Ministry of Health stated that though the Minister recognised that there might be exceptional circumstances (*e.g.*, postpartum hæmorrhage) in which a midwife might be justified in administering pituitrin, he considered that this was a drug which should usually only be used by a midwife under the direction of a doctor. The Ministry was not disposed to carry the matter further. The Central Midwives Board stated that in its experience of nearly nineteen years it had never had a case before it in which a midwife had been found to have administered a drug improperly.

Notwithstanding further representations by the Association pursuant to instructions of the Annual Representative Meetings of 1922 and 1923 neither the Ministry nor the Board have altered their attitude in this matter, and in July, 1924, the Council reported to the Representative Body that it considered no useful purpose would be served by making further representations thereon. A proposal that the protest should be continued was negatived.

The Annual Representative Meeting, 1926, however, passed the following resolution:—

Minute 121.—Resolved: That midwives should not be allowed to use pituitary preparations under any circumstances,

and the Council in view of its previous experience in regard to this matter, came to the conclusion that it would be necessary to obtain definite evidence of the misuse of pituitary preparations by midwives before going further. In spite of its efforts no such evidence is forthcoming and the Council has found itself unable to take any action in furtherance of Minute 121 of the Annual Representative Meeting, 1926.

TRADE DISPUTES AND TRADE UNIONS BILL.

216. The Trade Disputes and Trade Unions Bill proposes "to declare and amend the law relating to trade disputes and trade unions to regulate the position of civil servants and persons employed by public authorities in respect of membership of trade unions and similar organisations, to extend Section 5 of the Conspiracy and Protection of Property Act, 1875, and for other purposes connected with the purposes aforesaid."

217. The Council is of opinion that there are only three points in the Bill which may possibly affect the Association, namely, (i.) Clause 3, which provides that it shall be unlawful to attempt to persuade or induce a person to work or abstain from working in a manner calculated to intimidate that person, "to intimidate" being defined as meaning:—

> "to cause in the mind of a person a reasonable apprehension of injury to him or to any member of his family or of violence or damage to any person or property, and the expression 'injury' includes injury other than physical or material injury."

this may possibly affect the ethical procedure of the Association; (ii.) Clause 5, which prohibits established civil servants from being members of any organisation (other than one, membership of which is confined to persons employed by or under the Crown) the primary object of which is to influence or affect the remuneration and conditions of employment of its members—this clause might possibly be held to prohibit established civil servants being members of the Association; and (iii.) the following definition of the word "strike" contained in Clause 8 (2):—

> "the cessation of work by a body of persons employed acting in combination, or a concerted refusal, or a refusal under a common understanding of any number of persons who are, or have been employed, to continue to work or to accept employment."

218. The efforts of the Council have been confined to trying to clear up certain ambiguities in the Bill which might be held to affect the Association. But the general principle which has guided any action taken is that if Parliament should consider that in the interests of the community certain restrictions should be put on organisations, whether trade or professional, the Association should accept these conditions and accommodate itself to them so long as they apply equally to all such organisations.

MEDICAL DEFENCE.

219. In continuation of para. 122 of its Annual Report the Council reports that the Medical Defence Union and the London and Counties Medical Protection Society in reply to

the following three specific questions submitted to them in relation to medical defence:—

(a) Whether certain expenses, legal and other, incurred by an insured member of either Society in connection with procedure pending the decision of whether or not a case would be taken up by the Society, would be borne entirely by the Society in the event of the Society deciding that it could not proceed with the case;

(b) whether certain personal expenses incurred by an insured member of either Society such as travelling expenses, absence from home over-night, etc., could be borne in part or in whole by the Society in return for the annual subscription;

(c) whether a member of either Society was covered in regard to *all* expenses of Solicitor and client as between himself and the Society's Solicitor;

have stated:—

(1) The two Societies bear all expenses, legal and other, incurred by them in deciding whether or not cases are to be taken up by the Societies, if such expenses have been incurred or authorised by the Societies, even though the decision subsequently is that the cases are such that the Societies do not feel that they should be proceeded with. They do not, however, undertake to pay expenses incurred by members without the authority of the Societies.

(2) With regard to personal expenses incurred by members in attending Court as Plaintiffs or Defendants, these are not paid except in special circumstances; and in certain instances this has been done. In the event of witness fees being recovered from the other side, these are paid to the members should they desire to accept them.

(3) Members are assured of being covered as regards *all* expenses of Solicitor and client as between them and the Society's Solicitors Any damages recovered are paid intact to the members."

The Council has received the following joint communication from the two Societies which had also been forwarded by the Societies to the medical press for publication:—

"We are directed to request that you will kindly publish in your next issue the following statement with regard to the circumstances in which the Council of either of the two English Defence and/or Protection Societies may be prepared to advise and/or defend and/or indemnify a member.

Subject to the provisions of the Articles of Association, the Council may on application from a member who is in benefit—

(1) Advise on any matter connected with medical practice.

(2) Initiate or defend or assist in defending, proceedings where a question of professional principle is involved.

(3) In the event of an adverse verdict, or of a settlement out of Court, provide indemnity against damages and costs of the other side.

(4) Defend or initiate and carry through proceedings to vindicate a member's professional interests, honour, or character whenever they have been threatened or jeopardised.

(5) Defend and/or indemnify a member in proceedings brought against him in respect of the act or omission of

(a) a partner who is a member of any other Defence or Protection Society with whom a reciprocal arrangement has been entered into;

(b) an assistant who is a member of any other Defence or Protection Society with whom a reciprocal arrangement has been entered into;

(c) an assistant not himself a member of any Defence or Protection Society, provided that the member has paid an additional annual subscription of 10/-;

(d) a locumtenent, whether a member of any Defence and/or Protection Society or not;

(e) a subordinate medical officer, including a house surgeon or similar hospital medical officer, whether a member of any defence and/or Protection Society or not;

(f) a non-medical assistant or subordinate, such as a nurse, dispenser, X-ray operator, masseuse, or laboratory assistant, save in a case where in the opinion of the Council such non-medical assistant or subordinate was with the sanction of the member, whether express or implied, carrying out

(i.) a duty which should only be undertaken by a medical practitioner; or

(ii.) without medical supervision a duty which should only be undertaken by a non-medical assistant or subordinate under the orders and direct supervision of a medical practitioner."

SHOPS (EARLY CLOSING) ACTS.

220. The Secretary of the Early Closing Association in giving evidence before the Home Office Committee of Enquiry into the working of the Shops Acts, urged the permanent adoption of the Shops Act, 1920, which provides compulsory 8 p.m. closing of shops during the week and 9 p.m. on Saturdays, and produced medical testimony that the long pre-war hours of shop workers were detrimental to the health of those workers. In response to a request by the Committee of Enquiry for up-to-date medical evidence showing that the early closing of shops had proved of benefit to shop workers, the Early Closing Association invited the Association to express its opinion, but the Council replied that it was not in a position to express any opinion on the subject as the Association had not undertaken any special enquiry into it.

LANDLORD AND TENANT (NO. 2) BILL.

221. The Landlord and Tenant (No. 2) Bill, provides "for the payment of compensation for improvements and goodwill to tenants of premises used for business purposes, or the grant of a new lease in lieu thereof; and to amend the law of landlord and tenant." As it is not certain that the Bill will apply to medical practitioners and as the Council considers that practitioners should be eligible for compensation for improvements made to premises which they have rented and for compensation for the loss of goodwill consequent upon the termination of tenancies, it has asked the Medical Committee of the House of Commons to arrange for an amendment to be put down in Committee to secure that the Bill shall apply to professional men

FACTORIES BILL.

222. In continuation of the report contained in para. 121 of the Annual Report, the Committee reports that the Ministry of Health, in reply to the Association's request for the receipt of a combined deputation from the Association, Society of Medical Officers of Health and Association of Certifying Factory Surgeons, stated that as the matter had already been discussed between representatives of the associations and the Home Secretary, when the Home Secretary had stated his reasons against the proposed transfer of the health services under the Factory Act to the Ministry of Health, the Ministry was of opinion that little use would come of any further discussion on the matter.

The Council has therefore decided not to press the Ministry any further on this matter, but proposes to lay the views of the Association thereon before the Medical Parliamentary Committee of the House of Commons.

INTERNATIONAL MEDICAL SEA CODE.

223. The Council is considering the setting up of a Committee to formulate an International code for inter-communication between medical officers of ships at sea.

OPTICIANS AND STATE RECOGNITION.

(Continuation of para. 128 of Annual Report.)

224. The Council has forwarded its memorandum of evidence upon the above subject to the Departmental Committee, and has appointed Dr. Wallace Henry, Mr. N. Bishop Harman, together with the Medical or Deputy Medical Secretary, witnesses to give oral evidence before the Departmental Committee in support thereof.

Parliamentary Elections.

(Continuation of para. 139 of Annual Report.)

FUTURE OF MEDICAL REPRESENTATION IN PARLIAMENT FUND.

225. The Medical Representation in Parliament Fund was inaugurated in 1918 with the following objects:—

"To ensure the presentation to Parliament of expert medical opinion on matters relating to National Health or involving the welfare of the medical profession, and for this purpose (i) to secure a larger representation of the medical profession in Parliament by obtaining suitable medical candidates for Parliament and suitable constituencies, and assisting when necessary by monetary grants such candidates, irrespective of political party; (ii.) to help maintain approved Members of Parliament as may be deemed necessary or advisable; (iii.) to promote such other Parliamentary action as may be thought advisable."

As the Fund has not received the support that was expected, the Council has seriously considered whether or not the Representative Body should be recommended to wind it up.

226. During the 10 years the Fund has been in existence a total of approximately £3,000 has been received, half being received from individual members of the Association and half from the voluntary funds of Panel Committees. During the last three or four years the subscriptions from both these sources have been steadily dwindling.

227. Notwithstanding the poor response of the profession to the Association's efforts to establish a fund which should become an important factor in securing adequate representation in Parliament of the medical profession, the Council is extremely loath to suggest the winding up of the Fund. More especially is this so in view of the fact that the Trustees of the National Insurance Defence Trust at their recent meeting have placed at the disposal of the Parliamentary Elections Committee the sum of £1,000 for the support of medical candidates for Parliament, subject to the following conditions:—

(1) That candidates be approved by the Trustees of the National Insurance Defence Trust.

(2) That the candidates be also supported by the Trustees of the Medical Representation in Parliament Fund of the B.M.A.

(3) That the Trustees of the N.I.D.T. are adequately represented on the Parliamentary Elections Committee;

(4) And that the Panel Conference be informed accordingly.

228. In making the following recommendations attention is called to the suggestion that special attention be paid to the University seats. It is believed that these seats offer a fair opportunity for a certain number of medical candidates if carefully selected. Moreover, in these contests party feelings play less than the usual part, and medical voters would be more likely to support a really good medical candidate as such, even if his party complexion were not the same as their own. The Council would be glad to have the opinion of the R.B. on this matter.

The Council therefore recommends:—

Recommendation: That the Council be authorised to accept the offer of the Trustees of the National Insurance Defence Trust, and to adjust the composition and procedure of the Parliamentary Elections Committee accordingly.

Recommendation: That the Representative Body express the opinion that in view of the offer of the Trustees of the National Insurance Defence Trust members be urged to contribute to the Medical Representation in Parliament Fund so that the volume of individual contributions to that Fund shall reach a total at least equal to the promised contribution of the Trustees of the National Insurance Defence Trust.

Recommendation: That the Parliamentary Elections Committee be instructed to pay special attention to the possibility of securing the election to Parliament of medical candidates for University seats.

Public Health and Poor Law.

(Continuation of paras. 140-149 of Annual Report.)

Co-operation between B.M.A. and the Society of Medical Officers of Health.

229. Attention has been called to the fact that paragraphs 142 and 148 of the Report of the Council may be open to some misconception. Paragraph 142 stated that it has been decided by a Conference between representatives of the B.M.A. and of the Society of Medical Officers of Health that "The offices of the Association and of the Society shall keep each other advised in all matters relating to prospective public health appointments, and that the Society shall make it clear to all its members that any action taken locally must be by and through the B.M.A. Division." To those who are conversant with the arrangements made between the Association and the Society of Medical Officers of Health it will be clear that the action referred to in the paragraph is "action of a medico-political character," but in order to make this quite clear it is desirable to state it in these terms. Paragraph 148 refers to the circumstances in which the Association will send deputations to local authorities in support of representations made on behalf of public health medical officers. In view of misunderstandings it should be made clear that the deputations referred to are those from the Central Office of the Association and not those which are sent wholly by the Division or Branch.

Public Education in Health.

230. Consideration of this matter arose out of the following resolution of the Representative Body, 1926:—

Minute 139.—Resolved: That the Council be instructed to consider how Branches and Divisions of the Association as voluntary bodies, could make their contribution towards Public Education in Health as advocated by Sir George Newman, K.C.B., M.D., F.R.C.P., in his Memorandum (issued in January, 1926) addressed to the Minister of Health.

231. The Council has given careful consideration to Sir George Newman's Memorandum on "Public Education in Health," with the principal conclusions of which the Council fully agrees. These are *inter alia* (a) that public opinion is still in much need of education on the applications of preventive medicine which may be made by the individual; (b) that there should be co-operation for this purpose between local authorities and the individual citizen; (c) that voluntary bodies might do much to lead public opinion and to stimulate local authorities; and (d) that the objects aimed at should be to arouse enthusiasm and desire for good health and to ensure consequential action.

232. Sir George Newman's Memorandum, after reviewing briefly the growth during the last 100 years in the science and art of medicine, the personal aspect of preventive medicine, the educational work of the Ministry of Health, the Board of Education, local authorities and voluntary bodies, and public health education in other countries, states:—

> "There is great and exceptional need for public education in health. First, there has been a growth of knowledge in the science and art of medicine and its application to many morbid conditions now known to be preventable; secondly, there has been a rapid development of the whole system of sanitary governance and public medical services—*and public opinion has not kept pace with these two profound changes.* Yet without an enlightened public opinion the measure and value of scientific and legislative advance is impaired. It is true that attempts have been made—all of them public-spirited, many of them gallant, and a few of them even heroic—by the voluntary service of persons or societies to meet this situation and fill the breach. On the whole these efforts have met with encouraging, and sometimes enduring, success. But such enterprise is in need of guidance and support, and is liable to some degree of misdirection. It lacks unity, tends to become chaotic, is, without adequate supervision, and is, all too often, insufficiently related to the new knowledge and the expanding organisation."

233. Although the Association has no stated policy in regard to this matter, it has been taken for granted that the Association is in favour of the education of the public in health matters, and the Council considers that the Association ought to take its share in this education, not only because it is one of the objects of the Association to "promote the medical and allied sciences," but because there is at the present time so much ill-advised, silly, and harmful publicity on health matters that it behoves the Association to set an example as to how the necessary education of the people in health matters ought to be given, and also because the doctor ought to take a leading part in any movement having for its object the better health of the community.

234. So far as central action is concerned the Council is of opinion that a Hastings Lecture on the lines of that given last autumn by Sir Berkeley Moynihan, should be given to the public from time to time.

235. It is believed that much can and should be done by the Divisions and Branches of the Association to promote health education among the people. The local units of the Association might take action either alone or in co-operation with the local authorities. Section 67 of the Public Health Act of 1925 provides means whereby the local authorities can finance such work. The section reads as follows:—

> 67. (1) Any local authority or county council may arrange for the publication within their area of information on questions relating to health or disease, and for the delivery of lectures and the display of pictures in which such questions are dealt with, and may defray the whole or a portion of expenses incurred for any of the purposes of this section.
>
> (2) The Minister of Health may, for the purposes of this section, make rules prescribing restrictions or conditions subject to which the powers conferred by this section may be exercised.

Some authorities have taken advantage of this power; others have ignored it or are doing little. It is suggested that each Division should call the attention of the local authorities within its area to this section of the Public Health Act, either by a memorandum or by deputation, and offer to assist in health propaganda work. The offer should be accompanied by a suggestion (the reception of which should be prepared in advance by discussion with the Medical Officer of Health) that local health education should be dealt with by a Committee on which, in addition to representatives of the local authority there should be others interested in health propaganda, including representatives of the Division.

236. Generally speaking the Division should do its best to stimulate the local authority to interest the public in health matters, and should be prepared, if asked, to nominate lecturers. A scheme for such a purpose might include the following methods of education:—

(a) Lectures and cinema demonstrations on general health topics such as food, general sanitation, housing, insect pests, industrial hygiene, personal hygiene, cancer, tuberculosis, infectious diseases, rheumatism, etc.

(b) The elucidation of some local problem of a medico-sociological nature.

(c) Visits to suitable centres where practical demonstrations could be given, *e.g.*, dairy farms, hospitals.

(d) Health holiday camps.

(e) Health exhibitions.

(f) Distribution of literature, exhibition of posters, etc.

237. In addition to this work in conjunction with the local authority, the Divisions and Branches might themselves promote popular lectures, either open to the general public or confined to specially invited sections of the public. They might arrange for conferences and debates on medico-sociological problems of topical interest, open either to selected members of the public, or members of another profession, or members of voluntary societies formed to consider and deal with various social problems. The Divisions might also initiate and help to carry on discussions in the local press which would allow urgent local-health-matters to be ventilated.

238. No really active work of this kind could be carried out without some cost, the amount of which it is quite impossible to forecast. If the Divisions could not undertake the work they desired to do within the limits of the grants made to them by their Branches they would have to make an application to the Council for a Supplementary Grant. Any additional expense caused by this new form of activity would therefore be in the control of the Council.

239. It is believed that such work would be productive of many advantages to the public and indirectly to the Association. In the first place it would prove to the press and the public that the Association, in objecting to the sensationalism which too often takes the place of effective health propaganda, was not taking a narrow and selfish view and was prepared with constructive suggestions as to better methods. It would also show that the Association is interested in the health of the public in the widest possible way, prevention as well as cure.

240. If the Divisions were to initiate health education work or help the local authorities in such work the Council is of opinion that such action would tend to raise the status of the local profession and of the Association, and would give the Divisions much greater influence than they now have with the public and with public authorities.

241. The above proposals were submitted to the Society of Medical Officers of Health for its comments, and, in reply, the following resolutions adopted by the Society's Council on 18th March, 1927, were received with a statement that it considered its own and the Association's schemes should be complementary one to the other and that there should be valuable co-operation if the Branches and Divisions of the Association interested themselves in these matters:—

(1) That a Standing Committee to be called (?) The Central Health Education Committee be set up by the Council of the Society to advise and assist local authorities in reference to the education of the public in health matters under Sect. 67, Public Health Act, 1925, and to promote such other health education work as the Society may from time to time determine.

(2) That the Committee shall consist of twelve members of the Society, and that the following bodies be invited to nominate one member each, viz.: The County Councils' Association; the London County Council; the Metropolitan Boroughs Joint Standing Committee; the Association of Municipal Corporations; the Non-County Boroughs Association; the Urban and Rural District Councils' Associations; and the central bodies representing local Education and Insurance Committees.

(3) That the Committee be authorised to invite Medical Officers of Health to secure from their Councils adequate subscriptions for such purposes of the Committee as will enable local authorities to secure greater economy and efficiency by co-operation in health education work.

(4) That subject to adequate financial support from local authorities, the Society shall appoint for a trial period a half-time Assistant Secretary for propaganda work whose duties will include (a) to assist Medical Officers of Health in development of their educational schemes; (b) to utilise services offered by voluntary health societies; (c) to organise services of lecturers, lantern slides, motion pictures, exhibits, etc.; (d) to ascertain and advise on requirements for central publication of posters, leaflets, etc., for sale to and distribution by local authorities; (e) to arrange conferences or discussions on suitable subjects, such as Health Advertising, Health Education in Schools, Cancer, etc.; (f) to organise health educational tours to places, institutions, conferences, etc., of health interest.

Note.—In connection with the foregoing resolutions, the Council of the Society proposes to associate itself with a health journal for distribution to local authorities, any profit accruing to the Society therefrom being devoted to the educational schemes of the Society.

The Council recommends:—

Recommendation: That the Representative Body approves the proposals of the Council for action by the Divisions and Branches in assisting in the education of the public in health matters, and instructs the Council to take all necessary steps with a view to putting the proposals into operation.

PUBLIC HEALTH APPOINTMENTS.

242. From 19th June, 1926, up to and including 11th June, 1927, the Association has dealt with matters relating to 180 appointments under the scale of minimum commencing salaries for public health appointments. In 151 of these the scale salary has either been offered or secured after negotiation.

National Health Insurance.

CERTIFICATION AND SICKNESS BENEFIT

(*Continuation of paras. 156-7 of Annual Report.*)

243. A reply has been received from the Minister of Health to the communication addressed to him by the Insurance Acts Committee upon the above matter in January last (set out in para. 157 of the Annual Report), and is to be discussed at the forthcoming deputation to the Ministry of Health.

SPA TREATMENT FOR INSURED PERSONS.

244. During the past two or three years negotiations have been proceeding between the various Spa authorities throughout the country and certain approved societies, with a view to providing for insured persons spa treatment as an additional benefit. This question has also been under consideration by the British Committee on Rheumatism, upon which the Association was represented by Dr. E. R. Fothergill. In the early part of the year, the Council decided to arrange a conference of representatives of various interested bodies to consider this question of the provision of spa treatment to insured rheumatic patients, with special reference to the relationship between spa and insurance practitioners, and invited the following bodies to send representatives—Spa Practitioners' Association, Spa Hospitals, Approved Societies, the Federation of Medical and Allied Services, British Spa Federation, British Committee on Rheumatism, and the Association. The Conference was held at the B.M.A. House on February 9th, when there were present some 33 representatives of the various bodies, Dr. H. G. Dain being in the Chair. A full report of the proceedings of the Conference appeared in the *B.M.J.* Supplement of March 12th, 1927, from which it will be seen that there is little likelihood of any definite action being taken in the immediate future. Arrangements were made for a small Committee to draft and submit to a further conference (to be held in May or June) a scheme for the provision as soon as possible of increased facilities for the treatment of the insured rheumatic population.

245. No action in this connection has been taken, however, owing to the subsequent receipt of an intimation from one of the principal representatives of the approved societies that the Joint Committee of Approved Societies after discussing the question with representatives of other associations of approved societies and the British Spa Federation, came to the definite conclusion that in view of the increased costs of medical and optical benefit and dental treatment, together with the long periods of unemployment, and the serious outbreaks of illness which had seriously increased the cost of sickness benefit, approved societies were not likely to be able at the next valuation to embark on any general schemes for the treatment of rheumatic insured persons at Spas.

DISCIPLINARY PROCEDURE.

(Continuation of para. 158 of Annual Report.)

246. The Insurance Acts Committee has formulated its proposals referred to in para. 158 of the Annual Report, for the amendment of various aspects of the disciplinary procedure, and has arranged for an early discussion thereof between representatives of the Ministry and of the Committee.

NATIONAL HEALTH INSURANCE AND PATHOLOGICAL LABORATORY SERVICES.

7. Schemes are being set up in various parts of the country, whereby use is made of the services of pathological laboratories attached to voluntary hospitals

or local authorities, but no adequate arrangements are made for the remuneration of the pathologist in respect of the extra work which would devolve upon him. The Insurance Acts Committee therefore proposes to discuss the matter with the Minister of Health. In the meantime, Local Medical and Panel Committees have had their attention drawn to the matter, and have been requested to withhold any decision on any scheme for the provision of pathological services in their areas pending the result of the discussion.

POSITION OF INSURANCE COMMITTEES.

248. In view of the attitude which has been adopted by some Local Medical and Panel Committees in respect of the Association's proposal to the Royal Commission on National Health Insurance that the duties of the present Insurance Committees should, under certain conditions, be transferred to the Committee of the new local health authority, it was thought advisable to issue to all those Committees a memorandum (M. 28) re-stating the policy of the Association in regard to the unification of health authorities, and particularly with reference to the position of Insurance Committees.

NATIONAL INSURANCE DEFENCE TRUST.

249. The audited statement for the year 1926 of the above Trust, of which the members of the Insurance Acts Committee for the time being are Trustees, is appended hereto for the information of members of the Representative Body (*see* Appendix II.).

ADMINISTRATION OF OPHTHALMIC BENEFIT.

(Continuation of paras. 159-162 of Annual Report.)

250. The general conditions attached to the administration of this additional benefit by approved societies are receiving the consideration of the Council in view of the general unsatisfactory nature of the administration.

New proposals for dealing with Insured Ophthalmic Cases.

251. The Council for some time past has been faced with the fact that the present arrangements for the administration of ophthalmic benefit, under which the Association set up a list of ophthalmic surgeons willing to treat insured persons and to prescribe glasses at a fee of £1. 1s. 0d., are working badly. The list is taken advantage of by only some of the smaller approved societies, while the larger societies, representing the vast majority of insured persons, continue to refer *practically* all their cases to opticians. The latter societies, while agreeing that the ideal arrangement would be to have all their members who need it examined by a specialist, say that their funds will not allow them to pay the £1. 1s. 0d. fee in all cases recommended by insurance practitioners for *ophthalmic treatment*. They also contend that insurance practitioners do not discriminate in the persons so recommended, many of whom the societies hold are straightforward refraction cases which can easily be dealt with by an optician.

252. Some societies have joined together and formed a so-called "charitable institution," the National Insurance Beneficent Society, which administers ophthalmic benefit on behalf of those societies by means of clinics at which treatment is carried out by an ophthalmic surgeon remunerated at the rate of £3. 3s. 0d. per session of two hours, at which it is expected some 8-12 new cases would be seen. These clinics have been set up in some three or four of the large towns throughout the country and extensions thereof are understood to be under contemplation. The Council hitherto has found itself unable to approve the acceptance of these appointments by practitioners, principally because of the policy of the Association that remuneration in connection with specialist benefits should be per consultation at private surgeries. In view, however, of all the circumstances, the Council has felt compelled to give further consideration to the policy of the Association in this matter. It has therefore had under consideration a proposal for the setting up of ophthalmic treatment clinics in urban centres throughout the country in which the treatment would be carried out by ophthalmic surgeons and all the dispensing of spectacles by opticians who confine their operations solely to dispensing and undertake to do no prescribing. The Association would be represented upon the central body controlling the scheme.

253. Members of approved societies participating in the proposed scheme would not necessarily go to their insurance doctor to ascertain his opinion as to the need for ophthalmic treatment, but would apply to their approved society which would refer the case to the central body of the proposed scheme. The latter would then make arrangements for the treatment being carried out locally. The local arrangements would consist eventually of clinics staffed by a local ophthalmic surgeon or surgeons who would be paid a fee of £4 4s. 0d. per session of two hours at which they would be expected to see not more than 10 new cases. Until, however, the volume of work in any locality was sufficient to warrant the adoption of the clinic system, it is expected that the local ophthalmic surgeon or surgeons selected would see the cases at their own consulting rooms at a less fee than the present £1. 1s. 0d., it being expected that there would always be more than one case to be seen at one time even in the beginning.

254. The scheme is as yet only in embryo, and whether it will go further depends largely on the action of the Representative Body. The opinion of the Association has always been that ophthalmic benefit, along with all other benefits of a medical nature, should be administered by, and through Insurance Committees, and this will continue to be pressed on the attention of the Ministry of Health whenever occasion offers.

255. But in the meantime the economic circumstances of the case must be faced. The main appeal of the optician so far as the approved societies and also many working class people are concerned is that of cheapness. A guinea fee, plus the cost of glasses is said to be beyond the means of such bodies and persons. It is probable that if the profession was itself prepared to set up or participate in a scheme which would ensure expert diagnosis followed by expert fitting, at a reasonable price, the main attraction of the sight-testing optician for those approved societies employing him, would cease to exist. Furthermore, the temptation to send insured persons or others of similar status to hospitals for sight-testing would be removed. The Council considers that some such scheme as the above would be a valuable auxiliary, in some large industrial centres, to the present method, which will still remain the only practicable method for a large part of the country. The Council being of the opinion that the Representative Body should reconsider the position makes the following recommendation:—

Recommendation: That the Representative Body approves the principle of providing ophthalmic benefit through clinics in large centres as an arrangement auxiliary to the existing scheme of attendance by ophthalmic surgeons privately, subject to the arrangements under which such clinics are established being approved by the Council.

Treatment of Ophthalmic Benefit applicants at voluntary hospitals.

256. The Council has sent a circular letter to the boards of management and medical staffs of voluntary hospitals pointing out that many persons insured under the National Health Insurance Acts and whose approved societies are giving an ophthalmic benefit are obtaining ophthalmic treatment at the expense of charitable funds of voluntary hospitals and receiving the gratuitous services of the medical staff thereof. The Council has expressed the hope that boards of management will make arrangements whereby any insured person presenting himself for ophthalmic treatment at a hospital will be referred back to his approved society if it is ascertained that his society is administering ophthalmic benefit and that the applicant is eligible for that benefit.

Medical Benevolence.

(Continuation of para. 179 of Annual Report.)

B.M.A. CHARITIES TRUST FUND.

257. From 1st January to 30th April, 1927, the sum of £809 was received for distribution among the existing medical charities at the discretion of the Trustees, and £800 has since been distributed as follows:—

Royal Medical Benevolent Fund	£400
Royal Medical Foundation of Epsom College ...	£200
Royal Medical Benevolent Fund Guild	£120
Sir Charles Hastings Fund	£50
Royal Medical Benevolent Fund Society of Ireland	£30

258. In addition, the following amounts have been collected for and transmitted to the under-mentioned Funds:—

	£	s.	d.
Royal Medical Benevolent Fund	1,074	17	7
Royal Medical Foundation of Epsom College	749	0	3
Royal Medical Benevolent Fund Society of Ireland	22	19	0
Sir Charles Hastings Fund	56	16	9

259. The total amount collected by the Association for medical charities since the beginning of the year shows an increase of some £350 as compared with the corresponding period last year.

CONSTITUTION OF CHARITIES COMMITTEE.

260. Consideration was not given to Minute 39 of the 1926 A.R.M. (expressing the opinion that the personnel of the Charities Committee should be enlarged and should include territorial representation) in time to allow of the necessary two months' notice being given under By-law 47 of an alteration of the Schedule to the By-laws. The Council has, however, considered the matter and suggests that the Schedule to the By-laws relating to the constitution of the Charities Committee should be altered so as to provide that four mem-

bers shall be appointed by the Representative Body (two by the English representatives, one by the Scottish representatives and one by the Welsh representatives), two members shall be appointed by the Council, and that the Association's representatives on the Council of Epsom College and the Committee of Management of the Royal Medical Benevolent Fund shall be *ex officio* members of the Committee. This would mean a net increase of two in the membership of the Committee. If this proposal meets with the wishes of the Representative Body, the necessary alteration of the Schedule will be drafted and submitted to the Representative Body in 1928, due notice being given to enable it to come into operation at the Annual Representative Meeting in that year.

Scotland.

SALARIES OF MEDICAL OFFICERS EMPLOYED BY LOCAL AUTHORITIES.

261. The Council has had under consideration the question of minimum commencing salaries payable to medical officers employed by local authorities, and negotiations are proceeding hereon with the Scottish Board of Health and the Scottish Branch of the Society of Medical Officers of Health

READING ROOM FACILITIES AT THE SCOTTISH OFFICE.

262. The Council has authorised the Scottish Committee to furnish one of the rooms at the Scottish House of the Association as a reading and writing room. It may also be found possible to provide light refreshments. It is hoped that these developments will be found useful not only by members in Edinburgh but by the many members who visit that city.

Oversea Branches.

(Continuation of paras. 187-192 of Annual Report.)

263. The reports of the Australian Federal Committee, of the Federal Council in South Africa and of practically the whole of the Branches of the Association overseas show a fine record of activity. The following points are of special interest.

AFRICA.

264. The Federal Council in South Africa, under the able Chairmanship of Dr. A. J. Orenstein, has applied itself with remarkable energy to the many problems confronting the profession there following upon the new situation caused by the creation of the Medical Association of South Africa (British Medical Association). Some of the more important matters dealt with have already been referred to in the Council's Annual Report (*B.M.J.* Supplement, April 23rd, paras. 54-6). The membership in South Africa has increased by over 25 per cent. during the year; many new Divisions have been formed; arrangements have been made whereby the South African Medical Congress will in future be run by the Federal Council; the question of payment of the medical staffs of public hospitals has been approved in principle and has been referred to the Branches for consideration; a central benevolent fund has been established; and many other matters have been dealt with. There is abundant evidence that the profession in South Africa is settling down to the new conditions, and the Council, on behalf of the whole Association, offers its congratulations to all concerned.

265. The Border Branch has held seven meetings during the year. A new Queenstown Division has been formed and arrangements are in hand for the formation of Divisions in other areas of the Branch.

266. The Cape Western Branch has completed a scheme for the organisation of the profession in the area in the event of an epidemic of influenza in Cape Town, and the organisation has been placed at the disposal of the medical officer of health of the city. The question of hospital administration has been discussed by the Branch. A record of 14 meetings completes a satisfactory year's work.

267. The Cape Midlands Branch assisted in the collection of information which resulted in a meeting of the Federal Council with the Administrators of the Railway Sick Fund to which considerable importance is attached by railway medical officers throughout the Union.

268. The Natal Coastal Branch reports meetings well attended and much enthusiasm. The Council is glad to know that the Addington Hospital dispute, which has been an outstanding difficulty for some years, has now terminated satisfactorily. Both the Natal Coastal and the Orange Free States and Basutoland Branches report increases in their membership of nearly 100 per cent. The next South African Congress is being held at Bloemfontein at the invitation of the latter body.

269. Conditions in the East African Medical Service have naturally continued to engage the attention of the Kenya, Tanganyika Territory and Uganda Branches, and the Council is glad to note that all three Branches are in an active and flourishing condition. Practically the whole of the doctors in these areas are members of the Association, a fact all the more gratifying when it is remembered that the extensive areas of these Branches and other circumstances are such as to make matters of organisation extremely difficult. The Zanzibar Branch has also been most active as regards East African Medical Service matters.

ASIA.

270. The Bombay Branch has resumed its activities during the year. Frequent and successful meetings are now held, and the Branch is considering a scheme for the registration and supervision of midwives in Bombay.

271. Numerous meetings have been held during the year by the Ceylon Branch and an increase in the membership of the Branch is the natural outcome. It is expected that the incorporation of the Branch will shortly be completed. The Burma and South Indian and Madras Branches also report a year of successful activity; the former body is preparing a Bill in the matter of medical education which will be placed before the Burma Legislative Council.

272. The Council congratulates the Malaya Branch on its enterprise in taking over the *Malaya Medical Journal*, which is now the official organ of the Branch. The question of the levying by the Government of the F.M.S. of drug fees upon medical practitioners engages the serious attention of the Branch, and the home Association hopes to be in a position to assist the Branch in this matter.

AUSTRALASIA.

273. The outstanding event of the year has been the second Australasian Medical Congress of the British Medical Association, held in Dunedin, from February 3rd to 10th. The Conference, the proceedings of which were fully reported in the *Journal*, was well attended and was a great success from every point of view, the Sectional Meetings being of high scientific value. The Council offers its hearty congratulations to the President of the Congress, Sir Louis Barnett, and to the members of the Otago Division of the New Zealand Branch, who spared no effort to make the Congress the success it was.

274. There has been a net increase in the membership of the Association in Australasia of 1,200 during the past four years—a figure which is a striking testimony to the virility of the several Branches of the Association there.

275. The Australian Federal Committee under the Presidency of Sir George Syme has had before it many matters of importance to the profession in the Commonwealth. The recently published Report of the Royal Commission on Health, which aims at instituting in Australia a system of National Health Insurance, has now been considered by the Branches there at the instigation of the Federal Committee, and a uniform policy in relation thereto is in process of adoption. The question of Friendly Society lodge practice is a matter constantly engaging the attention of the Australian Branches, and with a view to bringing about more uniform conditions throughout Australia, the Federal Committee has approved in principle a Common Form of Agreement. The Federal Committee is collating the material submitted to it by the Branches concerning the medical services in public hospitals and a report on this matter may shortly be expected.

276. The New South Wales Branch maintains its fine record of activity. It reports 10 meetings, a net increase in membership of 81, and the formation of a new Section of Radiology. A system of B.M.A. Lectures at meetings of local Associations outside the Metropolitan area has been instituted; the Branch has also taken steps to protect the interests of injured workers and their medical attendants arising out of a new Workers' Compensation Act. The portrait of Dr. Crago, who has given unremitting attention to the financial affairs of the Branch for a period extending over 38 years, and who has been mainly concerned in the quest of a new home for the Branch, has been painted in oils by the distinguished artist, Mr. John Longstaff, R.A. The portrait was presented to Dr. Crago at the recent annual meeting of the Branch; and the Council, in the name of the Association, desires to congratulate Dr. Crago on this well-earned testimony to his personality and his long service for the Association.

277. The Queensland Branch has recently endeavoured to improve its organisation by the inauguration of a scheme whereby the State was divided into areas or groups of towns outside the Metropolitan area. Several districts have now been organised in this manner, and local medical associations formed; the Council of the Branch believes that the institution of this scheme will lead to a better understanding of the problems of country doctors generally. One of the matters arising is the urgent need for appointing a travelling organising secretary. The affairs of country hospitals have engaged the attention of the Branch and arrangements are in hand for a meeting of representatives of the Branch with delegates from various hospitals to discuss hospital policy. Altogether, the record of work of the Branch for the year, including as it does no fewer than 14 meetings, is of a very high standard.

278. The South Australian Branch reports many scientific meetings, and meetings of the Council of the Branch, and among the matters of interest is that agreement appears to have been reached between the Branch and the South Australian Friendly Societies Association. The Branch has invited Dr. R. Marshall Allan to deliver the Listerian Oration.

279. The Tasmanian Branch reports that the most important event of the year has been the formation of two Divisions within the Branch; the Northern Division has already held enthusiastic meetings. A successful series of post-graduate lectures and clinics was arranged.

280. The Report of the Victorian Branch covers a wide field of matters of great interest and importance to the profession in Victoria. The membership of the Branch has increased, and many meetings have been held. Numerous ethical problems have been dealt with; the results of the deliberations of the Second Annual Conference of the Branch have been reviewed and appropriate action has been taken; the Melbourne Permanent Post-Graduate Committee, which was founded by the Branch in 1920, organised several series of lectures which were well attended; a Public Questions Committee of the Branch has been formed to give information to the press on matters of medical interest, and the editors of the principal newspapers have approved the arrangement and have agreed that anonymity should be preserved.

281. The Report for 1926 of the Western Australian Branch shows that over 80 per cent. of the resident medical practitioners are members of the Branch. A report on the question of hospital abuse is now under consideration by the Branch.

282. The Report of the New Zealand Branch again shows a gratifying record of activity. The question of hospital reform engages the serious attention of the Branch and a round-table Conference of representatives of the Branch with the hospital Boards and the Health Department has been held. Arising out of this, a scheme for a standardised system of hospitals embodying the community system may be realised. The medical agency instituted in connection with the Branch two years ago is now in working order; it has not only been of assistance to the Branch members, but has materially helped the Branch funds which have now reached the satisfactory figure of over £4,000. An important matter now before the Branch is the question of its incorporation and the building of suitable Branch offices.

West Indies.

283. The Jamaica Branch, which is the oldest of the Branches of the Association overseas, celebrates its 50th birthday in December. Appropriate steps are being taken by the Branch in this connection and the Council hopes to lend any possible assistance in its power.

R. A. BOLAM,
Chairman.

APPENDIX I.

THE MACHINERY OF THE ASSOCIATION FOR DEALING WITH PROFESSIONAL DISPUTES.

(N.B.—The procedure outlined in this Memorandum only applies to those Divisions and Branches which have adopted the Revised Ethical Rules. Home bodies which are not in possession of these Rules have no power to deal with ethical matters.)

As at present practised.

1. In accordance with the Revised Rules governing procedure in Ethical Matters, a complaint regarding the professional conduct of an individual member of the profession residing within the area of a Division has to be sent in writing to the Honorary Secretary of the Division concerned.

2. Notwithstanding this Rule, it frequently happens that complaints by a member of a Division against another member of the same Division are sent to the Head Office direct by the member concerned. In these cases the complainant is requested to send the complaint to the Honorary Secretary of the Division.

3. Upon receipt of the complaint it is the duty of the Honorary Secretary of the Division to refer the matter at once to headquarters for advice, and experience shows that in nearly all instances this reference takes place. When the matter is referred to the Head Office by the Secretary of the Division the terms of the complaint are carefully scrutinised and advice given to the Secretary as to the procedure which should be adopted. In respect of all complaints, it is the duty of the Honorary Secretary of the Division to ascertain at the outset whether the complainant has either personally or by letter afforded the member against whom he makes tl complaint a reasonable opportunity of explanation, and this has not been done to call upon him to do so. Failu by the complainant to take this step within a week may itself be made a matter for consideration.

4. If a complaint by one member of a Division again another appears to be one only affecting the parties personall the Ethical Committee of the Division has power to decide tl case, provided that all parties have, prior to the investigatic of the case, given their consent to accept such decision final. In all other cases the Ethical Committee of tl Division must, after due investigation, make a report of tl facts as found by the Committee from the evidence place before it to an ordinary or special meeting of the Divisio and a recommendation to the Division in one of the form set out in the Ethical Rules. The Division has no optio but to accept the facts as found by its Ethical Committe but it may amend the recommendation.

5. Where a complaint is lodged by a member residing i one Division against a member residing in another Division i the area of the same Branch, the matter is referred to th Secretary of the Branch concerned. The same procedure carried out by the Ethical Committee of the Branch as ha been detailed in connection with the consideration of a com plaint by the Ethical Committee of a Division, except tha the Branch Ethical Committee reports to the Branch Counc and in no circumstances to a General Meeting of the Branch It is also the duty of a Branch Council to consider ethic cases (a) on appeal from a decision of one of the Divisions c the Branch; (b) where a Division of the Branch is inactiv or is not in possession of the Ethical Rules; or (c) on reference from the Central Ethical Committee.

6. Where a complaint is lodged by a member of on Division against a member of another Division, the Division concerned being in different Branches, it has been customar for the Central Ethical Committee itself to deal with suc cases.

7. Where a complaint is made by a member of a Divisio against a practitioner who is not a member of the Association the matter may be considered in accordance with the procedur outlined in paras. 4 and 5 above, provided that the non-membe (who is of course not bound by the Ethical Rules of th Association) gives a signed undertaking beforehand to accep the decision of the Association. If, however, the non-membe does not wish to have the matter considered through th ethical machinery of the Association the matter is no proceeded with.

8. Where a complaint is made by a non-member of th Association against a member, the non-member concerned i informed that the Association is prepared to investigate th complaint made by him provided he is willing to give signed undertaking beforehand to accept the decision of th Association in the matter. It is the practice of the Centra *Ethical Committee itself to consider these cases.* If an under taking is not given the case is not considered by th Association.

9. It is customary to rule out of consideration any com plaints which hinge upon a legal issue, *e.g.*, the legal interpretation of a particular clause of an agreement between two practitioners, as it is considered that the Association is not competent to express an opinion upon legal points of this kind. If, however, the matter has a distinctly profes sional bearing, the Secretary of the Division is told that the complaint may be considered by the Ethical Committee of his Division from that particular angle. A recent example will illustrate the kind of case instanced. One practitioner complained that his former assistant and prospective partner had set up in practice in the area after it had been finally decided between the two that the partnership was not to materialise. There was unquestionably a legal issue involved, namely, whether or not the correspondence which had passed between the two practitioners, the verbal agreement, and indeed a draft agreement which had been prepared, did not in themselves constitute a promise by the principal of the practice to take into partnership his assistant. The Secretary of the Division was informed that this particular aspect of the case was a matter for the lawyers to decide but that it would be quite competent for the Ethical Committee of the Division to hear the case and to express an opinion upon the purely professional aspect of the case, it being recognised that a legal opinion upon the points raised might conflict with the professional opinion expressed by the Ethical Committee of the Division.

10. In cases where a decision has been given by a Division of the Association, a practitioner concerned feeling himself aggrieved at such decision has a right of appeal to the Branch Council and from the Branch Council to the Council of the

Association. But in any appeal against a decision of a Branch Council the grounds of the appeal are limited to the claim either:—

(a) that an ethical principle has been wrongly interpreted or applied; or

(b) that the decision given is against the weight of evidence.

In these appeals the Council of the Association has delegated its power to the Central Ethical Committee, and the decision of that Committee, when pronounced, is final.

11. It must be clearly understood, however, that the powers vested in the Central Ethical Committee in the preceding paragraph do not relate to the question of expulsion of members from the Association. Only the Council itself, under the Articles of Association has the power of expulsion.

12. If the parties to a dispute have given their written consent to accept as final the decision of the Ethical Committee, the Association has no power to enforce any such decision, although if one or other of the parties does not conform to the judgment of the Ethical Committee this itself may be a matter for consideration under the Ethical Rules. This would happen also if a decision of a Division itself in respect of an ethical dispute between practitioners which had been dealt with in conformity with the ethical machinery, was not carried out by one or other of the parties to a dispute.

Possible Developments.

13. In addition to the classes of cases referred to in paras. 4-9, disputes or differences of opinion arise where an accusation, even when sustained, may mean nothing more than an error of judgment in the interpretation of facts or in the application of a rule or custom to particular events. In such circumstances the Central Ethical Committee, provided that the practitioners concerned will sign an agreed statement of the facts, is prepared to give an authoritative opinion on the facts without any question of reflection or censure on either one side or the other. This is a class of case which is not at the moment frequently brought to the notice of the Association, and it is suggested that members of the Association might more readily avail themselves of this facility. The arrangement has several advantages:—

(a) It would lessen the personal feeling in the dispute and would emphasise the matter of principle, with a corresponding diminution of the risk of an open breach and permanent quarrel.

(b) It would promote the settlement of a disputed point without compelling a practitioner to frame a charge against his colleague and so to suggest that an unprofessional act had been deliberately committed.

(c) It would recognise the possibility of honest error of judgment and of mistakes due to defective information, and would provide the means of rectifying these without inflicting any reproach on any individual's good faith or professional reputation.

(d) It would enlarge the conciliatory function of the Association, for under it disputes might be settled which under the present practice never come to an issue because the practitioner, though believing himself to have a grievance, will not incur the trouble and responsibility of presenting a formal complaint.

(e) It would lessen expense because with an agreed written statement of facts the C.E.C. would usually be able to register an opinion without the personal attendance of the members concerned.

14. Cases arise on rare occasions which are outside the purview of the ordinary ethical machinery of the Association, and which can more suitably be dealt with by a Court of Arbitration under the Arbitration Acts. It has been found by experience that it would be difficult and undesirable for the Association to establish such Courts side by side with its ordinary ethical procedure

15. The Medico-Political Committee has for many years been in the habit of arbitrating informally in cases of disputes between medical men and their patients in regard to charges. It has always seemed to the Committee that some of the cases which find their way to the Courts could have been avoided if there had been some independent body to which both parties could submit their case before proceeding to extreme measures. Informal arbitration is carried out either by the Committee or by the Chairman on behalf of the Committee. Such arbitration can of course only be carried out when both parties agree to accept the decision of the arbitrator. No charge is made. Cases do not arise with any great frequency—only five cases have been dealt with since 1920—but it is quite possible that more cases would be submitted if it were generally known that such facilities existed. There is no reason why a similar method of dealing with such cases should not be adopted locally, the Executive Committee of a Division or Chairman of a Division on behalf of the Committee, acting informally as Arbitrator.

APPENDIX II.

National Insurance Defence Trust.

(A) BALANCE SHEET AS AT DECEMBER 31ST, 1926.

LIABILITIES.	£ s. d.	£ s. d.
To Capital Account		
,, Balance on 31st Dec., 1925	84,037 18 2	
Add Investments handed over to Trust—market value ..	3,296 0 7	
Add Excess of Income over Expenditure	17,091 6 2	
		104,385 4 11
		£104,385 4 11

ASSETS.	£ s. d.	£ s. d.
By Investments represented at average cost by:—		
£2,500 Central London Railway 4½% Debentures	2,325 0 0	
£5,000 Commonwealth of Australia 5%, 1935-45 ..	4,906 5 0	
£15,000 Consols 2½ per cent. ..	8,362 10 0	
£15,500 Conversion 3½% Stock	11,603 2 6	
£10,000 Conversion 4½% Stock	9,739 0 0	
£10,000 Funding Stock 4% 1960-90	8,603 2 6	
£10,000 India 5½% Stock, 1932 ..	10,125 0 0	
£5,650 National War Bonds 3rd Series 1923 ..	5,831 8 1	
£5,000 New South Wales 4½% Stock, 1935-45	4,690 12 6	
£5,000 New Zealand 5% Stock 1935-45 ..	5,105 5 0	
£5,000 New Zealand 4½% Stock 1944	4,868 15 0	
£5,000 Queensland 5% Ins. Stock 1940-60	4,662 10 0	
£1,500 Treasury Bonds 5½% 1930	1,520 0 0	
£11,250 War Loan Bearer Bonds	9,993 12 6	
£5,000 India 3½% Stock ..	3,518 15 0	
		95,906 18 1
By Loans—		
British Medical Association .	6,500 0 0	
Interest thereon	363 16 5	
Essex Public Medical Service	200 0 0	
		7,063 16 5
Cash at Bank—Current and Deposit		1,414 10 5
		£104,385 4 11

We have examined the above Balance Sheet with the books of the Trust, and find them to be in accordance therewith.

We have verified the Investments and Bank Balances.

(Signed) PRICE, WATERHOUSE & CO.

3, Frederick's Place, Old Jewry,
London, E.C. 2.
16th February, 1927.

(B) INCOME AND EXPENDITURE ACCOUNT FOR THE YEAR ENDING DECEMBER 31ST, 1926.

	£ s. d.	£ s. d.
To Repayment to B.M.A. of Expenses in connection with Annual Conference of Local Medical & Panel Committees, and election of direct representatives on the Insurance Acts Committee, and cost of stencils and stationery	377 5 3	
,, Accountants' Fees in connection with Statistical information supplied to the Insurance Acts Committee by practitioners	37 6 6	
,, Income Tax on Bank Interest and untaxed dividends for the years 1920-1926	438 18 0	
,, Miscellaneous Printings	90 8 6	
,, Fee for preparation of Memorandum re National Health Insurance	10 10 0	
,, Audit Fee	10 10 0	
,, Legal Charges	1 11 6	
,, Salaries	32 5 0	
,, Charges incurred in purchase of stock	48 7 6	
,, Postages	70 0 0	
,, Balance of Income over Expenditure carried to Balance Sheet	17,091 6 2	
	£18,118 8 5	

	£ s. d.	£ s. d.
By Subscriptions—		14,309 3 7
Manchester Panel Committee Total due ..	4,431 0 0	
Less amounts already paid	1,000 0 0	
	3,431 0 0	
Deduct—Investments handed over to Trust (*Market Value*)	3,296 0 7	
		134 19 5
		14,444 3 0
,, Dividends and Interest on Investments	3,276 0 0	
,, Deposit Interest	29 18 3	
,, Interest on Loan to British Medical Association ..	363 16 5	
,, Interest on Loan to Essex Public Medical Service ..	4 0 0	
,, Sale of Model Account Books	10 9	
	£18,118 8 5	

British Medical Association.

NINETY-FIFTH ANNUAL MEETING, EDINBURGH, JULY, 1927.

Patron: HIS MAJESTY THE KING.

President: R. G. HOGARTH, C.B.E., F.R.C.S., Senior Surgeon, General Hospital, Nottingham.

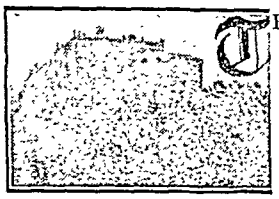
President-Elect: SIR ROBERT W. PHILIP, M.D., LL.D., F.R.C.P.Ed., Consulting Physician, Royal Infirmary, Edinburgh.

Chairman of Representative Body: H. B. BRACKENBURY, M.R.C.S., L.R.C.P.

Chairman of Council: SIR ROBERT BOLAM, M.D., LL.D., F.R.C.P.

Treasurer: N. BISHOP HARMAN, M.B., F.R.C.S.

PROVISIONAL PROGRAMME.



Edinburgh Castle.

THE incoming President, Sir ROBERT PHILIP, will deliver his Address to the Association on Tuesday, July 19th, at 8 p.m.

The ANNUAL REPRESENTATIVE MEETING will begin on Friday, July 15th, at 10 a.m., and be continued on the three following week-days. The Representatives' Dinner will take place at the University Union on Friday evening, July 15th, at 7.30 p.m.

The statutory ANNUAL GENERAL MEETING will be held on Tuesday, July 19th, at 2 p.m., and the adjourned general meeting at 8 p.m.

The Annual Dinner of the Association will take place on the evening of Thursday, July 21st, at 7.15 p.m.

The Conference of Honorary Secretaries will be held at 2.30 p.m. on Wednesday, July 20th, and the Secretaries' Dinner at 6.30 the same evening.

The official Religious Service will be held in St. Giles Cathedral on Tuesday, July 19th, at 4.30 p.m.

The Annual Exhibition of surgical appliances, foods, drugs, and books, to be held in the Waverley Market, Princes Street, Edinburgh, will be open for inspection on Monday, July 18th, from 2 till 6 p.m.; the formal opening by the President will take place on July 19th at 9.30 a.m. The exhibition will remain open on July 20th, 21st, and 22nd from 9 a.m. to 6 p.m.

The University of Edinburgh will give a Reception within the Old Quadrangle on Wednesday, July 20th, at 4.15 p.m. This will follow an Honorary Graduation in the McEwan Hall, which will take place at 3 p.m.

A Centenary Celebration commemorative of the birth of Lord Lister, presided over by the Earl of Balfour, K.G., will take place on the evening of Wednesday, July 20th, at 8 o'clock, in the McEwan Hall, when short addresses will be given by Sir W. Watson Cheyne, Bt., Professor Tuffier of Paris, Professor Harvey Cushing of Harvard University, and Dr. James Stewart of Halifax, Nova Scotia. During the week of the Annual Meeting a museum containing relics of Lister's life and work will be displayed in the Upper Library of the Old University. A *Lister Memorial Volume* has been prepared, and a copy will be given to each member of the Association who registers in the Reception Room.

On Saturday, July 23rd, there will be an excursion to Fife and St. Andrews.

THE SECTIONS.

The Scientific Sections will meet from 10 a.m. to 1 p.m. for papers and discussions on Wednesday, Thursday, and Friday, July 20th, 21st, and 22nd.

The following Sections will meet on Three Days.

MEDICINE.

President: Professor G. LOVELL GULLAND, C.M.G., M.D., F.R.C.P.Ed. (Edinburgh).

Vice-Presidents: Professor J. HILL ABRAM, M.D., F.R.C.P. (Liverpool); R. A. FLEMING, M.D., F.R.C.P.Ed. (Edinburgh); H. MORLEY FLETCHER, M.D., F.R.C.P. (London); W. T. RITCHIE, O.B.E., M.D., F.R.C.P.Ed. (Edinburgh).

Honorary Secretaries: GEORGE GRAHAM, M.D., F.R.C.P., 1, Devonshire Place, London, W.1; G. D. MATHEWSON, M.B., F.R.C.P.Ed., 28A, Moray Place, Edinburgh.

The following provisional programme has been arranged:

Wednesday, July 20th.—Discussion: The Results of Insulin Therapy in Diabetes Mellitus. To be opened by Professor HUGH MACLEAN (London), followed by Dr. GEORGE GRAHAM (London) and Professor D. MURRAY LYON (Edinburgh).

Thursday, July 21st.—Discussion: The Treatment of Acute Lobar Pneumonia. To be opened by Professor JOHN HAY (Liverpool), followed by Dr. H. MORLEY FLETCHER (London) and Dr. A. FERGUS HEWAT (Edinburgh).

Friday, July 22nd.—Discussion: The Pathology and Treatment of Pernicious Anaemia. To be opened by Professor G. LOVELL GULLAND (Edinburgh), followed by Dr. ARTHUR F. HURST (Ascot).

SURGERY.

President: Professor D. P. D. WILKIE, O.B.E., M.D., Ch.M., F.R.C.S. (Edinburgh).

Vice-Presidents: J. W. DOWDEN, C.M., F
F. J. STEWARD, M.S., F.R.C.S. (Londo
F.R.C.S.Ed. (Edinburgh); H. WADE, C.M.G., D.S.O., F.R.C.S.Ed. (Edinburgh); A. M. WEBBER, M.S., F.R.C.S. (Nottingham).

Honorary Secretaries: J. M. GRAHAM, Ch.M., F.R.C.S.Ed., 8, Manor Place, Edinburgh; E. C. HUGHES, O.B.E., M.Ch., F.R.C.S., 17, Wimpole Street, London, W.1.

The following provisional programme has been arranged:

Wednesday, July 20th.—Discussion: Tuberculosis of the Kidney. To be opened by Sir JOHN THOMSON-WALKER (London), followed by Dr. ROLLIER (*Leysin*), Professor A. FULLERTON (*Belfast*), Mr. HENRY WADE (Edinburgh), Mr. J. F. DOBSON (Leeds), and Mr. BERNARD J. WARD (Birmingham).

Paper: Mr. W. RANKIN (Glasgow), The Treatment of Acute Osteomyelitis by Primary Diaphysectomy.

Thursday, July 21st.—Discussion: The Place of Surgery in the Treatment of Toxic Goitre. To be opened by Mr. T. P. DUNHILL (London), followed by Professor G. R. MURRAY (Manchester), Mr. C. THURSTAN HOLLAND (Liverpool), Professor R. E. KELLY (Liverpool), and Dr. JOHN EASON (Edinburgh).

Paper: Sir ALMROTH E. WRIGHT (London), The Rational Treatment of Infected Wounds.

Friday, July 22nd.—Discussion: Chronic Appendicitis. To be opened by Mr. WILFRED TROTTER (London), followed by Mr. J. W. DOWDEN (Edinburgh), Mr. VICTOR BONNEY (London), Mr. A. J. WALTON (London), and Mr. HERBERT J. PATERSON (London).

Paper: Mr. A. MACLENNAN (Glasgow), Burns.

OBSTETRICS AND GYNAECOLOGY.

President: JAMES HAIG FERGUSON, M.D., C.M., F.R.C.P.Ed., F.R.C.S.Ed. (Edinburgh).

Vice-Presidents: T. WATTS EDEN, M.D., F.R.C.P., F.R.C.S.Ed. (London); GIBBON FITZGIBBON, M.D., F.R.C.P.I. (Dublin); WILLIAM FORDYCE, M.D., F.R.C.P.Ed. (Edinburgh); Professor R. W. JOHNSTONE, C.B.E., M.D., F.R.C.S.Ed. (Edinburgh); Mrs. ETHEL VAUGHAN-SAWYER, M.D. (London).

Honoraries Secretaries: DANIEL DOUGAL, *M.C.*, M.D., 11, St. John Street, Manchester; W. F. T. HAULTAIN, O.B.E., *M.C.*, M.B., Ch.B., F.R.C.S.Ed., 6, Walker Street, Edinburgh.

The following provisional programme has been arranged:

Wednesday, July 20th.—Discussion: The Relation of Pregnancy to General Diseases. To be opened by Professor J. M. MUNRO KERR (Glasgow) Cardiac Diseases, Dr. E. RIST (Paris) Tuberculosis, and Professor F. J. BROWNE (London) Venereal Diseases, followed by Dr. G. FITZGIBBON (Dublin) and Dr. MARY H. J. MACNICOL (Edinburgh).

Thursday, July 21st.—Discussion: The Hygiene of Menstruation in Adolescents. To be opened by Professor R. W. JOHNSTONE (Edinburgh), Dr. J. HUNTER P. PATON (St. Andrews), and Mrs. A. E. SANDERSON CLOW (Cheltenham), followed by Mrs. E. VAUGHAN-SAWYER (London).

Friday, July 22nd.—Papers: Dr. F. A. E. CREW (Edinburgh), The Effect upon the Sex Ratio of Conception Early and Late in Relation to the Oestrous Cycle of the Rat: Dr. DOUGLAS A. MILLER (Edinburgh), Failed Forceps Cases; Dr. DANIEL DOUGAL (Manchester), The Clinical Features of Ectopic Pregnancy; Dr. BETHEL SOLOMONS (Dublin), Some Points in the Technique of the Low Segment Caesarean Operation; Professor W. FLETCHER SHAW (Manchester), Uterine Fibroids after the Menopause.

PATHOLOGY AND BACTERIOLOGY.

President: Professor J. LORRAIN SMITH, M.D., F.R.S., F.R.C.P.Ed. (Edinburgh).

Vice-Presidents: J. W. DAWSON, M.D., D.Sc., F.R.C.P.Ed. (Edinburgh); W. R. LOGAN, M.D., F.R.C.P.Ed. (Edinburgh); Professor T. J. MACKIE, M.D., D.P.H. (Edinburgh); H. D. WRIGHT, M.D., M.R.C.P.Ed. (London).

Honorary Secretaries: JAMES DAVIDSON, M.B., Ch.B., Pathological Department, University of Edinburgh; H. J. PARISH, M.D., M.R.C.P.Ed., D.P.H., Wellcome Physiological Research Laboratories, Langley Court, Beckenham, Kent.

The following provisional programme has been arranged:

Wednesday, July 20th.—Discussion: Growth in Its Pathological Relations. To be opened by Dr. ARCHIBALD LEITCH (London), followed by Professor R. MUIR (Glasgow), Dr. G. W. DE P. NICHOLSON (London), Professor J. SHAW DUNN (Manchester), Professor M. J. STEWART (Leeds), and Professor E. H. KETTLE (Cardiff).

Thursday, July 21st.—(Joint meeting with Section of Comparative Medicine). Discussion: Immunity. To be opened by Dr. R. A. O'BRIEN (Beckenham) and Professor CARL H. BROWNING [Glas[illegible] MUIR (Glasgow), Dr. HED[illegible].F. HARVEY (Edinburgh), and [illegible]

[illegible] Joint meeting with Section of Comparative [illegible] Aspects and Problems of Comparative [illegible] by Professor BASIL BUXTON (Cambridge), followed by Major G. W. DUNKIN (London), Mr. W. H. ANDREWS (Ministry of [illegible] A. E. CREW (Edinburgh), Dr. H. H. SCOTT [illegible] R. T. LEIPER (London), Mr. J. W. BRITTL[illegible] London), Mr. ARTHUR GOTTEN (Edinburgh), Mr. T. W. M. CAMERON (London), and Mr. JAMES MCALLAN (Aberdeen).

THERAPEUTICS AND PHARMACOLOGY.

President: Professor J. A. GUNN, M.D., D.Sc. (Oxford).

Vice-Presidents: Professor A. J. CLARK, *M.C.*, M.D., F.R.C.P. (Edinburgh); Professor FRANCIS R. FRASER, M.D., F.R.C.P. (London); E. P. POULTON, M.D., F.R.C.P. (London).

Honorary Secretaries: E. G. HOLMES, M.B., B.Chir., Pharmacological Laboratory, Cambridge; C. G. LAMBIE, *M.C.*, M.B., F.R.C.P.Ed., 31, Drumsheugh Gardens, Edinburgh.

The following provisional programme has been arranged:

Wednesday, July 20th.—10 a.m. to 12 noon. Discussion: Clinical Methods of Administration and Therapeutic Uses of Oxygen. To be opened by Dr. E. P. POULTON [illegible] H. WHITRIDGE DAVIES (Leeds) and Dr. [illegible]. 12 noon to 1 p.m. Paper: Profess[illegible] Expectorants.

Thursday, July 21st.—Discussion: The Therapeutic Uses of Calcium Salts. To be opened by Professor F. R. FRASER (London), followed by Dr. L. G. PARSONS (Birmingham), Mr. C. P. STEWART (Edinburgh) Biochemical Aspect, Dr. G. H. PERCIVAL (Edinburgh) Pharmacological and Therapeutic Aspect, Professor L. BLUM (Strasbourg), Dr. G. C. LINDER (London) Tetany, and Dr. N. F. C. BURGESS (London).

Friday, July 22nd.—Discussion: The Action and Uses of Ovarian Extracts. To be opened by Professor W. E. DIXON (Cambridge), followed by Dr. KATHERINE A. COWARD (London) Standardization, Mr. A. S. PARKES (London) Physiological, Dr. W. R. ADDIS (Manchester) Clinical, and Professor J. M. MUNRO KERR (Glasgow) Gynaecological.

DISEASES OF CHILDREN.

President: Professor JOHN FRASER, *M.C.*, M.D., Ch.M., F.R.C.S.Ed. (Edinburgh).

Vice-Presidents: H. CHARLES CAMERON, M.D., F.R.C.P. (London); ALEXANDER DINGWALL FORDYCE, M.D., F.R.C.P.Ed. (Liverpool); CHARLES MCNEIL, M.D., F.R.C.P.Ed. (Edinburgh).

Honorary Secretaries: Miss HELEN M. M. MACKAY, M.D., 28, John Street, Bedford Row, London, W.C.1; LEWIS THATCHER, M.D., F.R.C.P.Ed., 8, Melville Crescent, Edinburgh.

The following provisional programme has been arranged:

Wednesday, July 20th.—Discussion: Acute Pneumonia in Early Childhood. To be opened by Dr. CHARLES MCNEIL (Edinburgh) and Dr. AGNES R. MACGREGOR (Edinburgh) conjointly, followed by Professor LEONARD FINDLAY (Glasgow), Dr. J. HUGH THURSFIELD (London), Colonel W. GLEN LISTON (Edinburgh), and Dr. NORMAN S. CARMICHAEL (Edinburgh).

Afternoon.—Demonstration: Dr. W. A. ALEXANDER (Edinburgh), Acute Pulmonary Conditions in Childhood, illustrated by specimens, *x*-ray prints, large sections, and microscopic preparations.

Surgical Demonstration at Royal Edinburgh Hospital for Sick Children.

Thursday, July 21st.—Discussion: Acute Intestinal Obstruction in Infancy and Childhood. To be opened by Mr. ALEX. MACLENNAN (Glasgow), followed by Mr. L. E. BARRINGTON-WARD (London), Miss G. M. A. HERZFELD (Edinburgh), Mr. F. C. PYBUS (Newcastle-on-Tyne), and Mr. NORMAN M. DOTT (Edinburgh).

Afternoon.—[illegible] Medical Cases at Royal Edinburgh Hosp[illegible]

Fr[illegible]: Therapeutic Modification of the Diet in Infancy: what can be achieved by it? To be opened by Dr. H. C. CAMERON (London), followed by Dr. A. DINGWALL FORDYCE (Liverpool), Dr. G. B. FLEMING (Glasgow), and Dr. LEWIS THATCHER (Edinburgh).

MENTAL DISEASES.

President: Professor GEORGE M. ROBERTSON, M.D., P.R.C.P.Ed. (Edinburgh).

Vice-Presidents: BERNARD HART, M.D., F.R.C.P. (London); JOHN KEAY, C.B.E., M.D., F.R.C.P.Ed. (Bangour); J. R. LORD, C.B.E., M.D., F.R.C.P.Ed. (Epsom); H. C. MARR, M.D., F.R.F.P.S.Glas. (Edinburgh).

Honorary Secretaries: R. D. GILLESPIE, M.D., 152, Harley Street, London, W.1; W. M. MCALISTER, M.B., Ch.B., M.R.C.P.Ed., 151, Morningside Drive, Edinburgh.

The following provisional programme has been arranged:

Wednesday, July 20th.—Discussion: Chronic Sepsis as a Cause of Mental Disorder. To be opened by Dr. WILLIAM HUNTER, C.B. (London), followed by Sir BERKELEY MOYNIHAN, K.C.M.G., C.B. (Leeds), Dr. D. CHALMERS WATSON (Edinburgh), Dr. E. GOODALL (Whitchurch), Dr. C. H. BOND (Brighton), and Dr. W. F. MENZIES (Cheddleton).

Thursday, July 21st.—Joint meeting with the Section of Neurology. Discussion: Epidemic Encephalitis. To be opened by Dr. IVY MACKENZIE (Glasgow), Epidemiological Considerations; Dr. J. GODWIN GREENFIELD (London), Pathology; Dr. R. M. MARSHALL (Glasgow), Mental Aspects; and Dr. G. RIDDOCH (London), Chronic Encephalitis; followed by Dr. E. MAPOTHER (London), Dr. H. DEVINE (Virginia Water), Dr. W. J. ADIE (London), and Dr. W. A. POTTS (Birmingham).

Friday, July 22nd.—Discussion: Points in the Lunacy Commission (England) Report—(*a*) Are the existing safeguards against wrongful detention adequate? (*b*) How far is judicial intervention necessary in the process of certification? (*c*) What additional facilities are required for early treatment? To be opened by Professor GEORGE M. ROBERTSON (Edinburgh).

The following Sections will meet on Two Days.

NEUROLOGY.

President: Professor EDWIN BRAMWELL, M.D., F.R.C.P. (Edinburgh).

Vice-Presidents: ALEX. NINIAN BRUCE, M.D., D.Sc., F.R.C.P.Ed. [illegible] GREENFIELD, M.D., F.R.C.P. (London); [illegible].E., M.D., D.Sc., F.R.C.P. (London). [illegible] E. A. CARMICHAEL, M.B., Ch.B., F.R.C.P.Ed., [illegible]een Square, London, W.C.1; NORMAN M. DOTT, M.B., F.R.C.S.Ed., 8, Grosvenor Crescent, Edinburgh.

The following provisional programme has been arranged:

Wednesday, July 20th.—Discussion: The Tics and Allied Conditions. To be opened by Dr. S. A. KINNIER WILSON (London), followed by Professor GUILLAIN (Paris), Dr. A. F. HURST (Ascot), Dr. A. STANLEY BARNES (Birmingham), Dr. T. GRAINGER STEWART (London), Dr. DONALD E. CORE (Manchester), Dr. R. G. GORDON (Bath), and Dr. W. J. ADIE (London).

Thursday, July 21st.—Joint meeting with Section of Mental Diseases. Discussion: Epidemic Encephalitis. To be opened by Dr. IVY MACKENZIE (Glasgow), Epidemiological Considerations; Dr. J. GODWIN GREENFIELD (London), Pathology; Dr. R. M. MARSHALL (Glasgow), Mental Aspects; and Dr. G. RIDDOCH (London), Chronic [illegible] Dr. E. MAPOTHER (London), Dr. H. [illegible], Dr. W. J. ADIE (London), and Dr. [illegible].

OPHTHALMOLOGY.

President: A. H. H. SINCLAIR, M.D., F.R.C.S.Ed. (Edinburgh).

Vice-Presidents: WILFRED ALLPORT, M.B., F.R.C.S.Ed. (Birmingham); Sir ARNOLD LAWSON, K.B.E., F.R.C.S. (London); H. M. TRAQUAIR, M.D., F.R.C.S.Ed. (Edinburgh).

Honorary Secretaries: R. E. BICKERTON, D.S.O., M.B., Ch.B., 33, Portland Place, London, W.1; E. H. CAMERON, M.B., Ch.B., F.R.C.S.Ed., 7, Darnaway Street, Edinburgh.

The following provisional programme has been arranged:

Wednesday, July 20th.—10 a.m. Discussion: Optic Neuritis. To be opened by Dr. J. V. PATERSON (Edinburgh), followed by Dr. HENNING RÖNNE (Copenhagen) and Dr. A. J. BALLANTYNE (Glasgow).

Thursday, July 21st.—10 a.m. Papers: Miss I. C. MANN (London), Some Aspects of the Comparative Development of the Retina; Sir W. T. LISTER (London), Some Points in Connexion with Detachment of the Retina; Mr. W. CLARK SOUTER (Aberdeen), Spontaneous Reattachment of Detached Retina; Sir ARNOLD LAWSON (London), Value of Antiseptics in Modern Ophthalmic Surgery; Mr. F. HOLT DIGGLE (Manchester), Relationship between Lacrymal Obstruction and Nasal Disease; Mr. H. M. TRAQUAIR (Edinburgh), Incidence of Tobacco Amblyopia in Edinburgh and District; Mr. A. H. H. SINCLAIR (Edinburgh), Remarks on Intracapsular Extraction of Cataract, and Demonstration.

LARYNGOLOGY AND OTOLOGY.

President: A. LOGAN TURNER, M.D., P.R.C.S.Ed. (Edinburgh).

Vice-Presidents: J. S. FRASER, M.B., F.R.C.S.Ed. (Edinburgh); W. M. MOLLISON, C.B.E., M.Chir., F.R.C.S. (London); DONALD R. PATERSON, M.D.Ed., F.R.C.P. (Cardiff).

Honorary Secretaries: A. R. DINGLEY, F.R.C.S., 47, Queen Anne Street, London, W.1; W. T. GARDINER, *M.C.*, M.B., Ch.B., F.R.C.S.Ed., 18, Chester Street, Edinburgh.

The following provisional programme has been arranged:

Wednesday, July 20th.—Discussion: Neurological and Mechanical Factors underlying Immobility of the Vocal Cords; their diagnosis, [illegible] and principles of treatment. It will be opened by Dr. [illegible] ogical aspect, and Mr. HERBERT

Thursday, July 21st.—Discussion: Otosclerosis. To be opened by Mr. G. J. JENKINS (London), followed by Professor F. R. NAGER (Zurich) and Dr. A. A. GRAY (Glasgow). The discussion will be illustrated by microscopical sections showing the changes in the ear in otosclerosis.

Papers: Mr. NORMAN PATTERSON (London), Some Diseases Affecting the Thyro-glossal Tract; Dr. STEPHEN YOUNG (Glasgow), Radiography in Mastoid Disease.

PREVENTIVE MEDICINE.

President: Professor P. S. LELEAN, C.B., C.M.G., F.R.C.S., D.P.H. (Edinburgh).

Vice-Presidents: G. F. BUCHAN, M.D., D.P.H. (London); Miss HARRIETTE CHICK, D.Sc. (London); A. M. HEWAT, M.D., D.P.H. (London); G. R. LEIGHTON, O.B.E., M.D., D.Sc. (Edinburgh).

Honorary Secretaries: W. T. BENSON, B.Sc., M.D., D.P.H., M.R.C.P.Ed., City Hospital, Comiston Road, Edinburgh; C. W. HUTT, M.D., D.P.H., Council Offices, 197, High Holborn, London, W.C.

The following provisional programme has been arranged:

Wednesday, July 20th.—10 a.m. Discussion: Should all Public Health Administration—Municipal, School, Factory, etc.—be Concentrated under a Single Department, and the Immediate Control in Each Executive Area be Vested in a Single Individual? To be opened by Dr. A. S. M. MACGREGOR (M.O.H. Glasgow), followed by Dr. F. E. WYNNE (Sheffield), Dr. J. H. MEIKLE (Medical Officer, Edinburgh School Board), Professor E. L. COLLIS (Cardiff), and Dr. E. W. HOPE (Liverpool).

3 to 4 p.m. Demonstration at City Hospital, Comiston Road, Edinburgh, on The Schick and Dick Tests, and Methods of [illegible] phtheria and Scarlet Fever.

[illegible]0 a.m. Discussion: What Duties has [illegible] the Nation's Food Supply regarding Research, Instruction of Parents, Maintenance of Supplies, and Cooking Facilities? To be opened by Professor EDWARD MELLANBY (Sheffield), followed by Dr. EUSTACE HILL (M.O.H. County of Durham), Dr. J. P. KINLOCH (M.O.H. Aberdeen), and Mr. G. BENZIE (Motherwell).

12 noon. Paper: Pulmonary Asbestosis (with lantern slides), by Dr. W. E. COOKE (Wigan), Sir THOMAS OLIVER (Newcastle-on-Tyne), and Professor STUART MCDONALD (Newcastle-on-Tyne).

2 to 4 p.m. Demonstration: Exhibits in the Museum at the Usher Institute of Public Health, with a special demonstration on food viewed from the popular standpoint.

PHYSIOLOGY AND BIOCHEMISTRY.

President: Professor Sir EDWARD SHARPEY-SCHAFER, M.D., LL.D., D.Sc., F.R.S. (Edinburgh).

Vice-Presidents: Professor P. T. HERRING, M.D., F.R.C.P.Ed. (St. Andrews); Professor D. MURRAY LYON, M.D., D.Sc., F.R.C.P.Ed. (Edinburgh); Professor JOHN MELLANBY, M.D. (London); Professor T. H. MILROY, M.D. (Belfast); Professor JOHN TAIT, M.D., D.Sc. (Montreal).

Honorary Secretaries: Professor B. A. MCSWINEY, M.B., B.Ch., School of Medicine, Leeds; Miss MAY LAURIE WALKER, B.Sc., M.B., Ch.B., Department of Physiology, University of Edinburgh.

The following provisional programme has been arranged

Thursday, July 21st.—Morning session. Discussion: The Structure and Function of the Spleen. To be opened by Professor JOHN TAIT (Montreal), followed by Professor J. BARCROFT, F.R.S. (Cambridge), and others. Papers: Professor P. T. HERRING (St. Andrews), The Pineal Gland; Professor D. MURRAY LYON and Mr. W. ROBSON, D.Sc. (Edinburgh), Cystinuria; Dr. J. CRIGHTON BRAMWELL (Manchester), Form of the Pulse Wave; Professor J. A. MACWILLIAM (Aberdeen) and Professor G. SPENCER MELVIN (Kingston, Canada), Optimal Rhythm in the Mammalian Heart and the Action of the Cardiac Nerves; Dr. C. REID (Aberdeen), The Mechanism of Voluntary Muscular Fatigue; Professor H. E. ROAF (London), The Quantitative Measurement of Defects in Colour Vision; Professor B. A. MCSWINEY (Leeds), Structure and Movements of the Cardia.

Afternoon session. Discussion: The Influence of Internal Secretions on Sex Characters. To be opened by Dr. F. A. E. CREW (Edinburgh), followed by Mr. A. S. PARKES, D.Sc. (London), Professor E. E. GLYNN (Liverpool), and others.

Friday, [illegible]ssion. Discussion: Chemical Changes [illegible] Activity. To be opened by Professor [illegible] followed by Sir F. GOWLAND HOPKINS (Cambridge), Professors O. MEYERHOF (Berlin) and G. EMBDEN (Frankfurt). Papers: Professor J. MELLANBY (London), Bile as the Alimentary Stimulus for Pancreatic Secretion; Professor J. TAIT (Montreal), Natural Arrest of Haemorrhage from a Wound—illustrated with lantern slides; Dr. H. WHITRIDGE DAVIES (Leeds) and Professor B. A. MCSWINEY (Leeds), Circulation Rate; Professor R. J. S. MCDOWALL (London), Physiological Considerations in High Blood Pressure; Dr. C. R. HARINGTON, Ph.D. (London), The Constitution of Thyroxin.

Afternoon session. Discussion: Haemolysis. To be opened by Dr. ERIC H. PONDER (Edinburgh), followed by Professor J. MELLANBY, Dr. R. BRINKMAN (Groningen), and others.

COMPARATIVE MEDICINE.

President: Principal O. CHARNOCK BRADLEY, M.D., D.Sc., F.R.C.V.S. (Edinburgh).

Vice-Presidents: Professor J. B. BUXTON, M.A., F.R.C.V.S. (Cambridge); F. A. E. CREW, M.D., D.Sc. (Edinburgh); Major G. W. DUNKIN, M.R.C.V.S. (London).

Honorary Secretaries: T. W. M. CAMERON, Ph.D., B.Sc., M.R.C.V.S., London School of Hygiene and Tropical Medicine, 25, Endsleigh Gardens, London, W.C.1; J. RUSSELL GRIEG, M.R.C.V.S., Royal (Dick) Veterinary College, Edinburgh.

The following provisional programme has been arranged:

Thursday, July 21st.—(Joint meeting with Section of Pathology and Bacteriology). Discussion: Immunity. To be opened by Dr. R. A. O'BRIEN (Beckenham) and Professor CARL H. BROWNING (Glasgow), followed by Professor R. MUIR (Glasgow), Dr. HEDLEY D. WRIGHT (London), Colonel W. F. HARVEY (Edinburgh), and Professor T. J. MACKIE (Edinburgh).

Friday, July 22nd.—(Joint meeting with Section of Pathology and Bacteriology). Discussion: Aspects and Problems of Comparative Medicine. To be opened by Professor BASIL BUXTON (Cambridge), followed by Major G. W. DUNKIN (London), Dr. W. H. ANDREWS (Ministry of Agriculture), Dr. F. A. E. CREW (Edinburgh), Dr. H. H. SCOTT (London), Professor LEIPER (London), Mr. J. W. BRITTLEBANK (London), Mr. ARTHUR GOFTEN (Edinburgh), Mr. T. W. M. CAMERON (London), and Mr. JAMES MCALLAN (Aberdeen).

The following Sections will meet on One Day.

DERMATOLOGY.

President: ROBERT CRANSTON LOW, M.D., F.R.C.P.Ed. (Edinburgh).

Vice-Presidents: W. HERBERT BROWN, M.D. (Glasgow); H. D. HALDIN-DAVIS, M.D., F.R.C.S. (London).

Honorary Secretaries: ROBERT AITKEN, M.D., F.R.C.P.Ed., 8, Palmerston Place, Edinburgh; F. D. HOWITT, M.D., 87, Harley Street, London, W.1.

The following provisional programme has been arranged:

Thursday, July 21st.—Discussion: The Uses and Limitations of Ultra-violet Radiations in Dermatology. To be opened by Dr. S. E. DORE (London).

Papers: Dr. H. C. G. SEMON (London), The Value of Kry-olgan in Lupus Erythematosus; Dr. G. B. DOWLING (London), The Treatment of Tinea Capitis with Thallium Acetate.

TROPICAL DISEASES.

President: ANDREW BALFOUR, C.B., C.M.G., M.D., F.R.C.P.Ed., D.P.H. (London).

Vice-Presidents: Lieut.-Colonel E. D. W. GREIG, C.I.E., M.D., D.Sc., F.R.C.P.Ed. [illegible] lonel W. F. HARVEY, C.I.E., M.D., C.M. Lieut.-Colonel W. GLEN LISTON, C.I.E., [illegible] C.P.Ed. (Edinburgh); Lieut.-Colonel W. P. MACARTHUR, D.S.O., O.B.E., M.D., F.R.C.P.I., D.P.H. (London).

Honorary Secretaries: A. R. D. ADAMS, M.B., Ch.B., D.T.M., School of Tropical Medicine, University of Liverpool; J. F. C. HASLAM, *M.C.*, M.B., M.R.C.P.Ed., D.P.H., Bureau of Hygiene and Tropical Diseases, 23, Endsleigh Gardens, London, W.C.1.

The following provisional programme has been arranged:

Wednesday, July 20th.—10 to 11 a.m. Discussions: (1) Amoebic Dysentery. To be opened by Professor WARRINGTON YORKE (Liverpool), followed by Dr. P. H. MANSON-BAHR (London), (Treatment and Epidiascopic Illustrations of Sigmoidoscope Appearances) Dr. J. GORDON THOMSON (London), and Dr. N. SWELLENGREBEL (Amsterdam).

11 a.m. to 1 p.m. (2) Some Problems of Malaria Prophylaxis. To be opened by Lieut.-Colonel S. P. JAMES (Ministry of Health), followed by Sir WILLIAM T. PROUT, C.M.G., O.B.E. (London), Lieut.-Colonel E. D. W. GREIG, C.I.E. (Edinburgh), Dr. L. W. HACKETT (Rome), and Dr. N. SWELLENGREBEL (Amsterdam).

Afternoon. Museum Demonstration. Professor W. YORKE and Dr. A. R. D. ADAMS, Amoebic Dysentery. There will also be a demonstration of material lent by Professor W. S. PATTON (Liverpool).

FORENSIC MEDICINE.

President: Professor H. HARVEY LITTLEJOHN, M.B., F.R.C.S.Ed. (Edinburgh).

Vice-Presidents: The Right Hon. Earl RUSSELL (London); Sir WALTER SCHRODER, K.B.E. (London); Professor SYDNEY A. SMITH, M.D., D.P.H. (Cairo).

Honorary Secretaries: D. J. A. KERR, M.B., Ch.B., D.P.H., M.R.C.P.Ed., Forensic Medicine Department, University, Teviot Place, Edinburgh; Professor J. E. W. MCFALL, M.D., D.P.H., 15, Green Lane, Stoneycroft, Liverpool.

The following provisional programme has been arranged:

Thursday, July 21st.—Discussions: (1) Alcohol and the Motorist. To be opened by Dr. G. CARTER (Sheffield). (2) The Teaching of Forensic Medicine. To be opened by Professor J. GLAISTER (Glasgow).

Demonstrations: In connexion with the Section arrangements are being made for a demonstration of the museum of the Forensic Medicine Department, Edinburgh University, and of subjects of special medico-legal interest.

TUBERCULOSIS.

President: S. VERE PEARSON, M.D. (Mundesley).

Vice-Presidents: WILLIAM BRAND, M.B., C.M. (London); A. DE W. SNOWDEN, M.D., C.B.E. (Ringwood, Hants); ERNEST WATT, M.D., D.Sc., M.R.C.P.Ed. (Edinburgh).

Honorary Secretaries: J. C. SIMPSON, *M.C.*, M.B., Ch.B., D.P.H., Southfield Sanatorium Colony, Liberton, Edinburgh; R. R. TRAIL, *M.C.*, M.D., King Edward VII Sanatorium, Midhurst.

The following provisional programme has been arranged:

Friday, July 22nd.—10 a.m. Discussions: (1) Radiology and Diagnosis of Intrathoracic Tuberculosis from the Point of View of Specialist and Practitioner. To be opened by Mr. H. MORRISTON DAVIES (Vale of Clwyd Sanatorium, North Wales), followed by Dr. E. RIST (Paris), Dr. J. LOGAN STEWART (Manchester), and Dr. J. M. WOODBURN MORISON (Edinburgh). (2) Pathology of the

Tuberculosis of Childhood and Its Bearing on Clinical Work. To be opened by Professor EUGENE L. OPIE (Washington University), followed by Dr. R. G. [illegible]; Dr. P. F. ARMAND-DELILLE (Paris). (3) [illegible] and Surgeon in Regard to Non-pulmo[illegible] o opened by Dr. D. A. POWELL (Cardiff) and Professor JOHN FRASER (Edinburgh), followed by Dr. G. H. GIBBLESTONE (Oxford).

2.30 p.m. Demonstrations, *x* rays, etc.

VENEREAL DISEASES.

President: DAVID LEES, D.S.O., M.B., F.R.C.S.Ed. (Edinburgh).

Vice-Presidents: ARCHIBALD CAMBELL, M.B., Ch.B. (Portsmouth); Mrs. MARGARET ROBKE, M.B., Ch.B. (London); R. STOPFORD TAYLOR, D.S.O., M.B., F.R.C.S.Ed. (Liverpool).

Honorary Secretaries: F. C. DOBLE, M.R.C.S., L.R.C.P., 93A, Harley Street, London, W.1; Miss MARY FORBES LISTON, M.B., Ch.B., 33, Comely Bank, Edinburgh.

The following provisional programme has been arranged:

Friday, July 22nd.—Morning session. Discussion: The Value of Routine Examination of the Cerebro-spinal Fluid with regard to (*a*) More Accurate Knowledge, (*b*) Prognosis, (*c*) Treatment. To be opened by Mr. C. H. MILLS (London). Clinical cases illustrating types of neuro-syphilis will also be shown.

Afternoon session. Discussions: (1) The Employment of certain Constituents of the Gonococcus in Treatment and of other Constituents in Tests of Cure. To be opened by Major E. C. LAMBKIN, D.S.O., R.A.M.C.; (2) The Place of Bismuth in the Treatment of Syphilis, by Mr. DAVID LEES, D.S.O.

RADIOLOGY.

President: J. M. WOODBURN MORISON, M.D., C.M., D.M.R.E. (Edinburgh).

Vice-Presidents: M. R. J. HAYES, F.R.C.S.I. (Dublin); ROBERT E. ROBERTS, M.D., B.Sc., D.M.R. and E. (Liverpool).

Honorary Secretaries: W. CRICHTON FOTHERGILL, M.B., Ch.B., D.M.R.E., 5, Hermitage Drive, Edinburgh; JOHN MUIR, O.B.E., M.B., B.Ch., British Institute of Radiology, 32, Welbeck Street, London, W.1.

The following provisional programme has been arranged:

Wednesday, July 20th.—Discussions: (1) 10 a.m. *X* Rays in the Diagnosis of Intrathoracic Growth. To be opened by Dr. STANLEY MELVILLE (London), followed by Mr. C. THURSTAN HOLLAND (Liverpool), Dr. A. FERGUS HEWAT (Edinburgh), and Dr. D. CAMPBELL SUTTIE (Glasgow). (2) 11.30 a.m. *X* Rays and Radium in the Treatment of Carcinoma of the Breast. To be opened by Dr. N. S. FINZI (London), followed by Dr. J. H. D. WEBSTER (London), Dr. A. E. BARCLAY (Manchester), Dr. M. R. J. HAYES (Dublin), and Dr. R. KNOX (London).

HISTORY OF MEDICINE.

President: JOHN D. COMRIE, B.Sc., M.D., F.R.C.P.Ed. (Edinburgh).

Vice-Presidents: ARNOLD CHAPLIN, M.D., F.R.C.P. (London); CHARLES SINGER, M.D., D.Litt., F.R.C.P. (London); R. W. INNES SMITH, M.D. (Sheffield); HENRY S. WELLCOME (Beckenham).

Honorary Secretaries: WALTER J. DILLING, M.B., Ch.B., Kareol, Mines Avenue, Aigburth, Liverpool; ADAM CAIRNS WHITE, M.B., Ch.B.Ed., Pharmacological Department, University of Edinburgh.

The following provisional programme has been arranged:

Friday, July 22nd.—10 a.m. Discussion: The Historic Evolution of Disease. To be opened by Sir HUMPHRY ROLLESTON, Bt. (Cambridge), followed by Professor GRAFTON ELLIOT SMITH (London) Ancient Prototypes of Modern Disease, Dr. G. MATHESON CULLEN (Edinburgh) World Epidemics and their Relationship in Cause and Effect to Social Conditions, and Miss M. C. BUER (Reading) The Effect of Early Industrialism upon the Health of the Community.

Papers: 12.15 p.m. Professor A. J. CLARK (Edinburgh), The Historical Aspect of Quackery. 12.30 p.m., Professor W. J. DILLING (Liverpool), The Methods of Introduction of Drugs.

Demonstrations: (1) Dr. ARNOLD CHAPLIN (London), Portraits of Old Physicians; (2) Mr. G. H. EDINGTON (Glasgow), The Practice of Surgery in the Early 17th Century, as illustrated in the Writings of Maister Peter Lowe.

MEDICAL SOCIOLOGY.

President: F. N. KAY MENZIES, M.D., F.R.C.P.Ed., D.P.H. (London).

Vice-Presidents: L. D. CRUICKSHANK, M.D., M.R.C.P.Ed., D.P.H. (Edinburgh); Sir HENRY S. KEITH, J.P. (Hamilton); the Hon. Lord MACKENZIE, LL.D. (Edinburgh); the Hon. Sir ARTHUR STANLEY, G.B.E., C.B., LL.D., Hon. F.R.C.P.Ed. (London); Sir NORMAN WALKER, M.D., LL.D., F.R.C.P.Ed. (Edinburgh).

Honorary Secretaries: T. YULE FINLAY, M.D., M.R.C.P.Ed., 9, Hermitage Gardens, Edinburgh; B. S. SIMMONDS, M.S., F.R.C.S., 124, Harley Street, London, W.1.

The following provisional programme has been arranged:

Friday, July 22nd.—Discussion: The Future Relationship of Municipalities to the Voluntary Hospitals of this Country. To be opened by Mr. H. L. EASON (London) and Mr. M. A. REYNARD (Glasgow Parish Council), followed by Sir HENRY KEITH, Sir ARTHUR STANLEY, and others.

The Honorary Local General Secretary of the Annual Meeting is A. FERGUS HEWAT, M.D., F.R.C.P.Ed., 14, Chester Street, Edinburgh.

PROVISIONAL TIME-TABLE.

FRIDAY, JULY 15TH.

10.0 a.m.—*Representative Meeting*, McEwan Hall, University New Buildings.
11.0 a.m.—Civic Welcome to Representative Body.
1.0 p.m.—Luncheon to Overseas Representatives, University
7.30: [illegible] ty Union.
7.30 [illegible] ance, Ladies' Social Club, Assembly Rooms, 54, George Street.

SATURDAY, JULY 16TH.

9.30 a.m.—*Representative Meeting.*
1.0 p.m.—Official Photograph, University New Buildings.
8.30 p.m.—*Smoking Concert* (Representatives), *University Union.*
8.30 p.m.—"At Home" at Ladies' Social Club.

SUNDAY, JULY 17TH.

9.30 a.m.—Whole day Excursion to Border and Scott Country.

MONDAY, JULY 18TH.

9.0 a.m.—*Council Meeting*, Robing Room, McEwan Hall.
10.0 a.m.—*Representative Meeting.*
2.0 p.m.—Opening of Reception Room, Waverley Market, Princes Street.
2.0 p.m.—Exhibition open for inspection, Waverley Market.
7.30 p.m.—Performances at Theatres: Lyceum Theatre, "The Doctor's Dilemma"; King's Theatre, "Rob Roy."

TUESDAY, JULY 19TH.

9.0 a.m.—Reception Room open.
9.30 a.m.—Official Opening of Exhibition by President-Elect.
10.15 a.m.—*Representative Meeting.*
11.0 a.m.—Opening of Pathological Museum, Anatomy Department, University New Buildings.
2.0 p.m.—*Annual General Meeting*, followed immediately by Representative Meeting, McEwan Hall.
*4.30 [illegible] St. Giles Cathedral.
*8.0 [illegible] and President's Address,
*9.30 p.m.—Reception by President and Local Executive, McEwan Hall.
10.30 p.m.—Dancing at Palais de Danse, Fountain Bridge.

WEDNESDAY, JULY 20TH.

9.0 a.m.—*Council Meeting*, Robing Room, McEwan Hall.
9.0 a.m.—Exhibition and Reception Room open.
10.0 a.m.—*Sectional Meetings*, University New Buildings and Royal Infirmary.
1.0 p.m.—Irish Graduates' Luncheon, Ferguson and Forrester's, 129, Princes Street.
2.30 p.m.—Secretaries' Conference (Branch and Division Secretaries), B.M.A. Scottish House, 6, Drumsheugh Gardens.
Afternoon Excursions.
*3.0 p.m.—Honorary Graduation, McEwan Hall.
*4.15 p.m.—Reception by the University of Edinburgh in Old Quadrangle.
6.30 p.m.—Secretaries' Dinner (Branch and Division Secretaries), University Union.
*8.0 p.m.—Lister Centenary Celebration, McEwan Hall.
8.0 p.m.—Concert: Chamber Music, Freemasons' Hall, 96, George Street.
9.0 p.m.—Dancing at Palais de Danse.
9.30 p.m.—Reception by the President and Fellows of the Royal College of Surgeons, Surgeons' Hall, Nicolson Street.

THURSDAY, JULY 21ST.

8.30 a.m.—National Temperance League Breakfast, University Union.
*9.0 a.m.—*High Mass at Roman Catholic Cathedral*, Broughton Street.
9.0 a.m.—Exhibition and Reception Room open.
9.30 a.m.—Golf Competition for Uister and Childe Cups at Muirfield, Gullane.
10.0 a.m.—*Sectional Meetings.*
Afternoon Excursions.
4.0 p.m.—Garden Party at Inverleith House, Royal Botanic Garden: Ladies' Committee.
7.15 p.m.—*Annual Dinner of the Association*, Music Hall, 54, George Street.
8.30 p.m.—Concert: Hebridean Music by Mrs. Kennedy Fraser and Party, Freemasons' Hall, 96, George Street.
9.0 p.m.—Royal Scottish Academy, Princes Street: Private View.
9.30 p.m.—Reception by the President and Members of the Edinburgh Branch of the British Medical Association, Palais de Danse, Fountain Bridge: Dancing (10 till 2).

FRIDAY, JULY 22ND.

8.0 a.m.—Holy Communion at St. Mary's Cathedral, Palmerston Place.
8.30 a.m.—Medical Missionary Breakfast, Crawford's, 70, Princes Street.
9.0 a.m.—Exhibition and Reception Room open.
10.0 a.m.—*Sectional Meetings.*
2.0 p.m.—Golf Competition for Treasurer's Cup at Gullane, No. 1 Course.
Afternoon Excursions.
4.0 p.m.—Reception by Royal Medical Society, 7, Melbourne Place.
8.30 p.m.—Reception by the Lord Provost and Magistrates of the City of Edinburgh at Scottish Zoological Park, Corstorphine.

SATURDAY, JULY 23RD.

Whole-day Excursion to St. Andrews, including Falkland Palace.

* Academic dress will be worn at these ceremonies.

PATHOLOGICAL MUSEUM.

The Pathological Museum Committee, of which Professor J. Lorrain Smith is chairman, Mr. D. M. Greig vice-chairman, and Dr. James Davidson (Department of Pathology, The University, Edinburgh), Mr. W. Q. Wood (25, Heriot Row, Edinburgh), and Dr. Douglas Miller (57, Manor Place, Edinburgh) are secretaries, has arranged an extensive series of demonstrations during the Annual Meeting. A list of these demonstrations, with the names of those responsible for the arrangement of each, is appended.

1. Diseases of Liver and Biliary Tract. Professor Wilkie and Dr. James Davidson.
2. Brain Tumours. Mr. Norman Dott and Mr. W. Q. Wood.
3. Diseases of Bone. Dr. James Dawson and Mr. J. W. Struthers.
4. Series of Complete Lung Sections illustrating Pulmonary Diseases in Infancy and Childhood. Dr. Charles McNeil, Dr. Agnes Macgregor, and Dr. W. A. Alexander.
5. Diseases of the Thyroid Gland. Mr. J. N. J Hartley.
6. Some Gynaecological Conditions. Dr. Douglas Miller.
7. Recent Experimental Work on Tumours. Mr. Illingworth.
8. Bacteriological Exhibit. Professor Mackie.
9. Dietetics. Professor Murray Lyon.
10. Urological. Mr. Wade, Mr. Leslie Stewart, and Mr. D. M. Morison.
11. Skin Diseases. Dr. Cranston Low.
12. Historical Section. Dr. John D. Comrie.
13. Peritoneal Lymphatic Absorption. Mr. Paterson Brown.
14. Comparative Pathology. Principal Bradley and Professor Matheson.
    The following special subjects to be considered: Tubercle, Foot-and-Mouth Disease, and Diseases communicable to Man.
15. Statistical Methods. Colonel A. G. McKendrick, I.M.S.
16. A Series of Cases illustrating the method of teaching in the Department of Pathology. Professor Lorrain Smith and Dr. James Davidson.
17. Melanomata. Dr. James Dawson.
18. Diseases of the Breast. Professor John Fraser.
19. Thrombo-angiitis Obliterans. Mr. T. McW. Millar.
20. Tar Tumours. Mr. J. J. M. Shaw.
21. Plastic Surgery. Mr. J. J. M. Shaw.
22. Pathways of Infection to the Brain and Meninges. Dr. Logan Turner and Dr. Reynolds.
23. Experimental Nephritis and Accidental Haemorrhage. Professor Francis Browne.
24. Parasitology (including Tropical). Colonel Edward Greig, I.M.S., Professor Ashworth, and Colonel Glen Liston, I.M.S.
25. Ear, Nose, and Throat. Dr. J. S. Fraser and Dr. J. P. Stewart.
26. Venereal Diseases. Mr. David Lees.
27. Diseases of the Eye. Dr. Traquair and Dr. Charles Graham.
28. Radiological Exhibit. Dr. Woodburn Morison.
29. Vegetable Pathology. Dr. Malcolm Wilson.
30. Genetics. Dr. Crew.
31. Forensic Medicine. Dr. Douglas Kerr.
32. [illegible] Research Laboratory, Royal [illegible]
33. [illegible] Dott.

It is to be hoped that as far as possible those who contribute to the Museum will at stated times be present to demonstrate their own exhibits, and particularly those who wish to supplement by exhibits their contributions to the programme of the various sectional meetings. For these personal demonstrations a room will be provided and a time-table arranged.

LISTER CENTENARY CELEBRATION.

A commemoration meeting in celebration of Lord Lister's centenary will be held in the McEwan Hall, Edinburgh, on Wednesday, July 20th, at 8 p.m. Full details were published in the BRITISH MEDICAL JOURNAL on February 12th, (p. 299), but it may be recalled that the Earl of Balfour, K.G., O.M., will preside, and that short addresses will be delivered by Sir William Watson Cheyne, Professor Tuffier (Paris), Professor Harvey Cushing (Harvard University), and Professor John Stewart (Halifax, Nova Scotia).

Throughout the week of the Association Meeting a museum of Lister relics will be on view in the Upper Library of the Old University. The relics will be gathered from many sources. The unique interest of the exhibits will be due largely to the co-operation and liberality of the directors of the Wellcome Historical Medical Museum, London.

A *Lister Memorial Volume* has been prepared and will constitute the book of the Edinburgh Meeting of the Association. A copy will be presented to each member of the Association on registration in the reception room. The volume, edited by Dr. Logan Turner, will contain sketches and reminiscences by former house-surgeons of Lord Lister, two of his own scientific addresses, and a series of letters. A section of particular interest is included dealing with the lives of Lister's fellow residents in the Edinburgh Royal Infirmary during the summer of 1854. Sir Edward Sharpey-Schafer contributes a sketch on Lister's work as a physiologist. Mr. Miles writes on "Surgery prior to Lister's time," and Professor John Fraser on "The influence of Lister's work on surgery."

Memorial inscriptions have been placed on the walls of the houses which Lister occupied successively in Edinburgh —namely, 11, Rutland Street, and 9, Charlotte Square.

A prize of £25 and a gold medal are to be awarded to the writer of the best essay on "The influence of Lister on surgery." The prize is open to students and graduates of not more than one year's standing in any medical school in the British Empire. The name of the successful essayist will be announced at the public meeting.

ANNUAL DINNER.

As already intimated, the Annual Dinner of the Association will be held in the Music Hall, George Street, on Thursday, July 21st. The hour of the dinner will be *7.15 p.m. prompt*. It is desirable that early application be made for tickets, the price of which has been fixed at 15s., exclusive of wine. Such applications should be made to the local general secretary, Dr. Fergus Hewat, 14, Chester Street.

Dinner tickets will be available for members of the Association up to 4 p.m. on Wednesday, July 20th, and will be obtainable at the reception room on presentation of the member's card. A plan of the tables will be on view at the reception room.

If seats are available, members may obtain tickets for ladies, or other guests, after 4 p.m. on Wednesday, July 20th.

REDUCED RAILWAY FARES TO EDINBURGH.

The usual concession to members of the British Medical Association in regard to railway fares will apply to the Annual Meeting in Edinburgh this summer. The railway companies in Great Britain (except the Metropolitan, Metropolitan District, and London Electric Railway Companies) have agreed to issue passenger tickets to Edinburgh, available from July 13th to 25th, at the ordinary single fare and one-third for the double journey, with a minimum adult fare of 1s. A printed voucher filled in by the applicant and signed by the Financial Secretary of the Association, must be given up at the booking office when the ticket is bought. These vouchers will be obtainable in due course from the Finance Department, British Medical Association, Tavistock Square, W.C.1. The cheap fare concession will, in addition to applying from stations in Great Britain, also operate from the Irish ports by railway-owned steamers, and by the boats of the Belfast Steamship, British and Irish Steam Packet, and the City of Cork Steam Packet Companies, and of Messrs. Burns and Laird, Ltd.

HOTEL ACCOMMODATION.

The Hotels and Lodgings Committee has practically completed its arrangements for coping with the large numbers who are expected to visit Edinburgh in July. In order to secure the accommodation which is believed to be necessary, the Committee has definitely engaged all the available rooms in the city, and will allocate these to applicants in rotation. The Scottish Medical Secretary (Dr. Drever) has undertaken to do this work for the Committee, and applications for rooms should be sent to him at 6, Drumsheugh Gardens. A form for the purpose has been prepared for the convenience of members; it was printed in the advertisement pages on June 4th (p. 18). The accommodation is grouped in three classes—namely:

1. Hotels, whose tariff for bed and breakfast ranges between 8s. 6d. and 14s. The number who can be accommodated in these is comparatively limited.

2. Private hotels and boarding houses, at prices from 5s. 6d. to 8s. 6d. for bed and breakfast. Of these there is a large number, all of them comfortable.

3. Hostels where the tariff is 8s. for bed and breakfast. Not many of these are available, but those that are can be recommended.

It will facilitate other arrangements if members who intend to be present at the Annual Meeting will notify their intention whether they have already secured rooms or not. Early application for rooms is earnestly desired.

GOLF COMPETITIONS.

The Ulster and Childe Cups.

The Ulster and Childe Cups will be played for on Thursday, July 21st, at Muirfield, commencing at 9.30 a.m.

Both cups will be played for during the same round. The Ulster Cup is open to all members of the Association, the maximum handicap allowed being 18; the Childe Cup is open to all members of the Association who have a handicap of 10 or over, 18 again being the maximum allowed. Play in both cases is against bogey. If the Ulster Cup is won by any competitor with a handicap of 10 or over the Childe Cup will be presented to the player (with a handicap of 10 or over) with the next lowest score.

Conditions of play are as follows:

1. One round of eighteen holes to be played on Thursday, July 21st, at Muirfield. In the event of a tie the last nine holes to decide.

2. Competitors are not permitted to put in previous play on the course on the day of the competition.

3. Intending competitors are required to furnish with their entry a certificate signed by their club secretary stating (*a*) their lowest handicap, (*b*) the bogey score of their own course, and (*c*) the length of their course.

4. Entries to be made at the Reception Room, Waverley Market Hall, before 6 p.m. on Wednesday, July 20th.

5. Competitors may choose their own partners, although partners will be arranged for by the committee on notice being given at the time of entry.

6. Play to commence at 9.30 a.m., no cards to be issued after 3.30 p.m.

Treasurer's Cup Competition.

The final stage of this competition will be played on Friday, July 22nd, at Gullane No. 1, commencing at 2 p.m. The handicap allowed for the final stage will be the lowest handicap of the competitor as at July 22nd. Competitors may choose their own partners. In the event of a tie the last nine holes to decide. It is hoped to publish in an early issue of the SUPPLEMENT a list of the winners in the first (Division) stage of this competition.

Ladies' Competition.

This competition will be held on the morning of July 20th at Cammo. The rules governing it are as follows:

The competition to be played under the Ladies' Golf Union Handicap Rules (medal round eighteen holes) during the Annual Meeting. The winner to hold the cup for twelve months. In the event of a tie the last nine holes to decide. Entrance fee 2s. 6d., to be paid to the secretary of the Local Ladies' Sports Committee.

A replica of the cup will be given to the winner.

The competition will be open to the following: Lady members, wives of members, and daughters of members. Other relatives accompanying members to the meeting may be allowed to compete at the discretion of the Local Ladies' Sports Committee.

Competitors to send their full name, address, and L.G.U. handicap, together with the entrance fee, to the secretary of the Ladies' Golf Committee, Mrs. Mercer, 3, Rothesay Place, Edinburgh.

GARAGE ACCOMMODATION.

Garage accommodation for at least 1,125 cars will be provided; applications should be made to Dr. J. R. Drever, 6, Drumsheugh Gardens, Edinburgh.

ARRANGEMENTS FOR LADIES.

The Assembly Rooms in George Street have been taken for a ladies' club during the meeting. These rooms have a central position, and will comprise a large lounge, card and smoke rooms. There will also be a library and writing room, containing daily papers and books of local interest. An ample catering department will be established where lunch, tea, and light refreshments may be obtained. There will also be a central information bureau. The dinner to the ladies accompanying representatives will be held at this club on Friday, July 15th, at 7.30 p.m.

During the mornings of the meeting, short excursions for ladies will take place in and around Edinburgh. These will start from the club. Parties of ladies will also be taken in the mornings to places of special interest in Edinburgh. Guides will be in attendance to conduct any ladies to parts of the city they specially wish to visit.

Arrangements for ladies' sports have been undertaken, and parties will be made up for golf and tennis. The ladies' golf competition will take place on the morning of Wednesday, July 20th.

Full details as to excursions, personally conducted tours, and sports will be obtainable at the Ladies' Club.

REPRESENTATIVES' EXCURSION TO THE SCOTT COUNTRY.

On Sunday, July 17th, an excursion to the Scott country is being arranged. The Representatives and their friends will leave Edinburgh at 9.30 a.m. in charabancs and proceed to Rullion Green. On the site of the battlefield, surrounded by the hills and amid beautiful scenery, a short religious service will be held. Thereafter, proceeding by Penicuik and Leadburn, Peebles will be reached about 11.15. From there the route leads along the north bank of the Tweed, opposite the old house of Traquair, whose historic gates have never been opened since the failure of the Jacobite cause on Culloden Field. Passing the ruined castle of Elibank, with memories of Muckle-mou'ed Meg, and Ashiestiel, Sir Walter Scott's first border home, the excursionists arrive at Galashiels. Here lunch will be provided in the Volunteer Hall. Proceeding onwards, a mile distant on the south side of the Tweed is seen Abbotsford, Scott's later home. A mile further is Melrose Abbey, where a monastery was first established by St. Aidan in the seventh century. Here is buried the heart of The Bruce, and here is the resting place of many border chieftains. The Tweed is crossed by the Leaderfoot Bridge, and a brief pause will be made at Scott's View on Bemersyde Hill. The road next turns round Bemersyde House, presented by the nation to Earl Haig as a tribute to his services during the war. A halt will be made at Dryburgh Abbey, the seat of the monastic cell of St. Modan from the sixth century, and the burial place of Sir Walter Scott. Crossing the Tweed at St. Boswells, the route now follows the south bank of the river, past the ruins of the old border fortress of Roxburgh. Floors Castle lies on the left—we will hope glistening in the sunshine. Passing through Kelso, the way leads to the north and back to Floors Castle, where the party will be entertained at tea by His Grace the Duke of Roxburghe. The road back to Edinburgh passes over Soutra. From the top a view over a wide expanse is obtained. The Lothians lie at our feet. Just across the Firth is the "Kingdom of Fife," with Stirling further to the west. Beyond lie the Ochil Hills, and in the distance are the peaks of the Grampian Mountains. The road we travel has been trod by the feet of many generations. It gave passage to Scottish hosts on their way south and to invading English armies. Descending towards Edinburgh, we pass Soutra Aisle, an ancient hospitium, Crichton Castle, and after passing through Dalkeith with its palace we see the ruins of Mary Queen of Scots's residence at Craigmillar Castle. The tour above so shortly described embraces over 120 of the best miles in Scotland. It is full of associations with Scott, Stevenson, Andrew Lang, and Crockett; and tradition and story of the Roman occupation, of the perpetual wars along the Border, of the Covenanters, and of monastic life in the abbeys along the Tweed will be constantly recalled by the various features of the beautiful and romantic scenery amid which the excursionists will travel.

EXCURSION TO FIFE AND ST. ANDREWS.

On Saturday, July 23rd, a party limited to 100 will leave the Waverley Station by special train at 9.22 a.m. and proceed by way of the Forth Bridge, passing the Hawes Inn mentioned in *The Antiquary* and Stevenson's *Kidnapped*. The naval base of Rosyth will be seen on the left. After emerging from a tunnel, St. Margaret's Hope —where "St. Margaret" landed in Scotland—will come into view. Leaving behind Kirkcaldy, with its associations with Adam Smith, the party will arrive at Ladybank, be met by charabancs, and proceed to Falkland Palace. This building has associations with Scottish history from the days of King Robert the Bruce to Charles II, and was the scene of the alleged murder of the young Duke of

Rothesay by his uncle Albany (see *The Fair Maid of Perth*). Here James the Fifth died and Mary was a frequent visitor, fleeing from the exhortations of John Knox. The party will leave Falkland Palace at 11.30 and, by the kind invitation of Mr. and Mrs. Leslie Melville, will visit Melville House, which was built by the first Earl of Melville in 1692. Here are pictures of Mary Queen of Scots, Claverhouse, Gustavus Adolphus, and an interesting exhibition of letters by most of the Stewart kings. The party will next proceed by the old Royal Road which was followed by the kings of Scotland in passing to and from St. Andrews. Half-way lies Cupar, the county town. Here are the ruins of the castle in which Macbeth murdered Duncan, and from which Wallace drove the English, and here Sir David Lindsay's plays were acted. At Pitscottie the route follows the track of the murderers of Archbishop Sharp, over Magus Muir, where he was killed. At St. Andrews lunch will be provided by the courtesy of the Fife Branch. The Cathedral, Castle, and University Buildings will then be visited, after which tea will be provided at the Sir James Mackenzie Clinical Institute by the courtesy of Dr. Maitland Ramsay (the Director) and Mrs. Maitland Ramsay. The special train will leave St. Andrews at 5.10 p.m., arriving at the Waverley Station, Edinburgh, at 7 p.m. Price of ticket, inclusive of rail, motors, and entrance fees, 12s. 6d.

IRISH MEDICAL SCHOOLS' AND GRADUATES' ASSOCIATION.

The annual lunch of the above Association will be held at 1 o'clock sharp, on Wednesday, July 20th, at Messrs. Ferguson and Forresters, 129, Princes Street, Edinburgh. Tickets, 4s. each (exclusive of wines), may be obtained from the honorary secretary of the Provinces, Dr. Falkland L. Cary, 67, King's Road, Harrogate. Members of the Association are asked to bear in mind that Wednesday, July 20th, is the date allotted to the Lister Centenary celebrations, and there will be many appointments in the afternoon, so that punctual attendance at the luncheon is essential.

PROCEEDINGS OF COUNCIL.

Wednesday, June 8th, 1927.

A MEETING of the Council of the Association was held at headquarters on Wednesday, June 8th. Sir ROBERT A. BOLAM, Chairman of Council, presided, and the following were present:

Mr. R. G. Hogarth (President), Dr. H. B. Brackenbury (Chairman of Representative Body), Mr. N. Bishop Harman (Treasurer), Sir Robert Phil[illegible] C. O. Hawthorne (Deputy-Chairman of [illegible]. G. A. Allan, Dr. J. Barcroft Ander[illegible] Sir Percy Bassett-Smith, Dr. H. S. Beadles, Sir Alfred Blenkinsop, Dr. J. W. Bone, Dr. H. C. Bristowe, Dr. G. F. Buchan, Dr. H. G. Dain, Dr. C. E. Douglas, Mr. T. P. Dunhill, Mr. W. McAdam Eccles, Dr. D. E. Finlay, Dr. E. R. Fothergill, Dr. F. J. Gomez, Dr. D. G. Greenfield, Dr. R. Wallace Henry, Dr. G. B. Hillman, Dr. J. Hudson, Dr. R. Langdon-Down, Dr. David Lawson, Dr. E. K. Le Fleming, Dr. E. Lewys-Lloyd, Sir Richard Luce, M.P., Dr. A. Lyndon, Dr. J. A. Macdonald, Dr. S. Morton Mackenzie, Dr. J. G. McCutcheon, Dr. A. Manknell, Dr. O. Marriott, Dr. J. C. Matthews, Dr. G. W. Miller, Dr. Hugh Miller, Dr. Christine Murrell, Mr. A. W. Nuthall, Lieut.-Colonel F. O'Kinealy, Dr. W. Paterson, Dr. J. Dodds Price, Dr. F. Radcliffe, Dr. John Stevens, Dr. W. E. Thomas, Dr. G. Clark Trotter, Mr. E. B. Turner, Sir Jenner Verrall, Dr. J. F. Walker.

Apologies for absence were received from the Past President, Dr. J. S. Darling, Dr. I. W. Johnson, Dr. R. W. Leslie, Dr. R. A. Lyster, Dr. John Mills, Group Captain N. J. Roche, Mr. H. S. Souttar, Dr. Lockhart Stephens, Dr. D. Walshe, and Sir William de Courcy Wheeler.

Personal.

The congratulations of the Council were accorded to the members of the Association upon whom knighthoods had been conferred on the King's Birthday—namely, Dr. E. Farquhar Buzzard and Dr. C. J. Martin of London, Dr. L. E. Barnett of Dunedin, New Zealand, and Mr. C. P. B. Clubbe of Sydney.

The Chairman communicated a letter from the Solicitor to the Association (Mr. W. E. Hempson), who stated that he had decided, after much thought, not to seek reappointment next year to the position it had been his privilege to hold for just on thirty years. Mr. Hempson added that throughout his professional life no client had been held in the esteem which he bore to the British Medical Association, and its work had at all times been a pride and pleasure to him, calling for the best that he could give in point of counsel. The Chairman said that they would all appreciate the deep feeling with which Mr. Hempson had written that letter. For twenty-seven years he had been the appointed Solicitor to the Association, and for some time before that he assisted it unofficially. During all those years he had been a very good friend. He had taken an interest in the Association which extended far beyond the interest which ordinary business relationships involved. He had also been a prominent and well loved figure at the annual meetings, and it would be a great regret to them all that next year they would lose his services. The appointment would be a matter for the new Council, but he thought he would be interpreting the wishes of everyone in recommending to the Representative Body that Mr. Hempson, in recognition of his faithful and devoted services as Solicitor to the Association for twenty-seven years, should be elected an honorary member. This was carried unanimously, and with acclamation.

The Chairman reported that he had appointed Dr. C. Hubert Bond to act as representative of the Association at the recent celebration in Paris of the centenary of the death of Pinel and the birth of Vulpian. Dr. Bond had presented an address in the name of the Association, paying a tribute of admiration to these two great representatives of French neurological medicine and illustrious physicians of La Salpetrière.

The Trade Disputes and Trade Unions Bill.

Dr. Bone, Chairman of the Medico-Political Committee, brought forward a report on the Trade Disputes and Trade Unions Bill from certain points of view in which it might conceivably affect the profession. He said that the immunity afforded by the bill to those concerned in a dispute within a "trade or industry" did not seem, on a narrow reading of the words, to cover the medical profession, as it was doubtful whether a court would hold that the profession was a trade or industry. The committee had drawn the attention of Sir Richard Luce, M.P., to the position, with a view to getting the first clause of the bill—the clause giving protection—extended to cover "occupation" or "employment."

Sir Richard Luce said that he had taken the opinion of an eminent lawyer in the House, which was that the words "trade or industry" would cover the medical profession, and he did not think it necessary to add the word "occupation."

Dr. Brackenbury said that the difficulty in the bill as at present worded was the discrepancy between the first clause and the definition clause at the end. These two clauses were not in the same terms, and in his submission they ought to be. He understood from Sir Richard Luce that his own and other eminent opinion was that the medical profession was included in the term "trade or industry" which appeared in the protecting clause; he would be happier if the opinion were that of the Attorney-General, who was in charge of the bill. But it was not the present Law Officers who would have to determine the matter, should occasion ever arise; it was the Courts of Law. Personally he did not wish to see the profession described as a trade or industry, though it had for certain purposes been accepted as a business. Certain strikes in a trade or industry were protected by the first clause, but in Clause 8 a strike was defined as "the cessation of work by a body of persons employed acting in combination," etc., and nothing was said there about a trade or industry. The present difficulty might be met either by adding in the first clause the words "or employment," or by inserting the words "in a trade or industry" in the defining clause: "The cessation of work by a body of persons employed in a trade or industry acting in combination," etc. The latter was the remedy he would prefer, because it would remove the medical profession, not being a trade or industry, from the definition of a strike altogether.

Sir Richard Luce said that one of the professions—that of the actor—had already been ruled to be an industry. Dr. Macdonald and Sir Jenner Verrall supported Dr. Brackenbury in thinking that some amendment either of the first (the protecting) or of the defining clause was necessary. Dr. Dain said that if the medical profession was not a trade or industry it was not protected by the first clause, and as the employment of insurance practitioners was in a sense State employment, any future action on their part similar to the action contemplated three years ago might be considered as embarrassing the Government and so come under the penal clauses of the bill. Sir Richard Luce pointed out the difficulty of getting any new amendments considered under the guillotine procedure. Dr. Brackenbury suggested that the Attorney-General might perhaps be approached through the very influential medical element in his own constituency (Marylebone).

It was agreed to ask Sir Richard Luce to convey the feeling of the Council to the members of Government in charge of the bill with a view to some amendment which would safeguard or at least clarify the position.

Married Women (Employment) Bill.

A discussion arose, also on the report of the Medico-Political Committee, on the Married Women (Employment) Bill, which is designed to prevent any refusal to employ a woman in the public service on the sole ground that she is married. Dr. Bone said that his committee considered that the principle involved in the bill should be supported as a corollary to the policy of the Association in demanding equal pay for equal work as between men and women practitioners, and he moved that the Council recommend to the Representative Body that marriage should be no bar to the employment of a registered medical practitioner in a medical capacity.

Mr. Bishop Harman hoped that the Association would avoid being drawn into a reopened controversy, and mentioned certain cases in which marriage might legitimately be regarded as a bar to employment, also pointing out that if this recommendation were agreed to it would involve the refusal of advertisements for such appointments.

Dr. Brackenbury said that the Council would agree with the evident intentions of the Medico-Political Committee, but he thought the case was overstated in the recommendation to which assent was asked. If a local authority were appointing a whole-time medical officer, while they would all agree that men and women should be equally eligible, the authority surely had a right to say that, having regard to the duties of a particular appointment, it would not appoint a married woman. It was a different matter if, having appointed a woman without any such conditions, it dismissed her on marriage. The same thing might apply to a man practitioner. Suppose an oil company was arranging an expedition to some desert region and required a medical officer, would it be improper for that company to lay down as a condition of employment that candidates must be unmarried?

Dr. Bone agreed to withdraw the recommendation for reconsideration.

Landlord and Tenant Bill.

Dr. Bone said that the Medico-Political Committee had taken steps to get premises occupied by a medical man included in the beneficial provisions of the Landlord and Tenant Bill. Dr. Walker urged that requests should be made to the Divisions to approach local members of Parliament on this matter, which was one of great importance. The goodwill in the case of premises occupied professionally by medical men was probably a larger factor than in premises of any other description. Sir Richard Luce said that he had approached the Home Secretary on the question, and he was prepared to consider it favourably.

Individual Medical Defence.

Dr. Bone also brought forward communications which had been received from the Medical Defence Union and the London and Counties Medical Protection Society dealing with representations made by the Association to the societies on the position of medical practitioners with regard to defence. The longer of these communications was published in the JOURNAL, May 14th (p. 898), and was a joint letter from the two societies. Dr. Beadles expressed the view that there were two questions which should be raised with the Medical Defence Union. One of these was the fact that the Union could not prosecute one of its own members before the General Medical Council, and the other was with regard to the circular which the Union had sent out stating that in cases of injuries to joints it would not defend a practitioner who had not had an *x*-ray picture taken.

International Medical Sea Code.

Another matter brought forward by the Medico-Political Committee was a suggestion by the medical superintendent of the Cunard Line that there should be an international code for communication between medical officers in charge of ships at sea, suggesting that as a first step a committee be set up to consider a scheme. The Medico-Political Committee was willing to co-operate to the extent of appointing members to any such committee, but it hesitated as to taking the initiative.

The Chairman of Council said that this rather appealed to him as a useful piece of work, and one which the Association could properly undertake. Mr. Turner was of opinion that it would be a very good thing to set up such a committee, and that a sympathetic response both from the shipping companies and from the seamen's organizations was ensured. Sir Percy Bassett-Smith also supported the taking of initial steps by the Association. Dr. Buchan suggested that the committee should get in touch with Sir George Buchanan, who was the British representative on the International Health Committee. The Council agreed to ask the Medico-Political Committee further to consider the matter, in view of the feeling in favour of a lead being taken by the Association.

Public Education in Health.

Dr. Lewys-Lloyd, chairman of the Public Health Committee, brought forward a memorandum consequent upon the instruction by the Annual Representative Meeting, that the question of how Branches and Divisions of the Association could make their contribution towards public education in health should be considered by the Council. The committee, however, had widened its reference, and had considered central as well as peripheral methods of health education. Among the central methods considered was the dissemination through the lay press of information prepared by medical practitioners who were authorities on the subject treated, and who would, of course, conform to the principles laid down by the Association with regard to indirect advertising. As a preliminary step a conference might be called between representatives of the Association and some representative body in the newspaper world. Another suggestion was that the Association might publish a popular periodical, somewhat on the lines of a monthly magazine published by the American Medical Association, with a view to counteracting the constant stream of foolish talk on medical matters in the lay press. The Hastings Lecture, on the lines of the one recently delivered by Sir Berkeley Moynihan, should be given from time to time. With regard to peripheral methods, it was suggested that each Division should call the attention of the local authorities to the fact that under the Public Health Act, 1925, they could finance health education, and should offer to assist in such propaganda, various forms of which were indicated. A Branch or Division might also itself promote public lectures and arrange conferences, especially on some local problem of medico-sociological interest. Any additional expense which this new form of activity involved would be in the control of the Council. It was felt that such work would tend to raise the status of the local profession and of the Association, and would give the Divisions greater influence than at present with the public, and with public authorities.

The Chairman said that this was a very important project, and the suggestions for the central methods would mean the employment of professional men and a good deal of office work and expense. Moreover, it would mean attempting where others had failed.

Dr. Brackenbury pointed out that the resolution of the Representative Meeting said nothing about central activities, but only about the activities of Branches and Divisions. He suggested, therefore, that the part of the report which dealt with peripheral methods—not a very happy term—should go forward to the Representative Body, and the remainder should be reserved for the consideration of the Council on a later occasion.

Mr. Turner was glad that this matter had come forward. Properly carried out, it would be one of the best pieces of work the Association had ever done. Any arrangement with the press, however, would require very careful handling, on account of the partiality of the press for stunts, headlines, and

advertisements. The first Hastings Lecture was admirable, but such lectures did not quite reach the people desired, and he thought that the Birmingham effort, whereby insurance practitioners addressed in a meeting the persons on their lists, was to be commended. He also urged a closer linkage between the Association and other voluntary bodies, such as those responsible for "health weeks."

Dr. Buchan, as a member of the committee, said that while the committee had gone beyond its instructions and had dealt with central methods, it had found when it sat down to the problem how difficult it was to consider peripheral methods apart from the help which some central scheme might afford.

Dr. Fothergill hoped that a preliminary conference with representatives of the press would take place. Sir Jenner Verrall rather hesitated over any abandonment by the Association of its former attitude of a certain aloofness towards the popular press. Dr. McCutcheon asked what subjects could be discussed at any such conference. Dr. Fothergill replied that it might be pointed out, in general terms, that the Association had noticed how questions of public health tended to be inadequately dealt with in large sections of the press, and had wondered whether the press could be served by the Association in such a way that the treatment of these questions would be more instructive and useful than was the case at present.

Eventually it was agreed to send to the Representative Body the portion of the report which dealt with peripheral methods, and to refer back to the committee for closer study and more concrete suggestions the portion which dealt with the activities that might be undertaken centrally.

Royal Commission on Lunacy and Mental Disorder.

Dr. Langdon-Down, chairman of the Committee on Lunacy and Mental Disorder, submitted a memorandum on the Report of the Royal Commission. He pointed out that there was some urgency with regard to this matter, as at any time legislation might be set in motion, and the Association should be ready with its policy. He regretted that owing to this haste the report of his committee lacked a certain finish; it would have benefited by closer revision and condensation, but he did not apologize for it. Although it necessarily sounded a critical note with regard to the Report of the Royal Commission, his committee appreciated what that body had done, and recognized its sympathetic attitude towards the profession. He thought it might be said that on all the matters on which the profession was attacked the report had vindicated it, also that many doubts in the public mind had been swept away by the terms of the report. But inevitably at this stage, with legislation possibly imminent, the Association was in the role of critic. His committee felt that in some respects the recommendations of the Royal Commission failed to give effect in practice to the aspirations and objects which in the body of its report the Commission professed to have in view. The position now was the reverse of what it was when the Association gave evidence. Then it was the Association which was formulating proposals and the Commission which was criticizing them; now the proposals were formulated by the Commission, and the Association was the critic. In certain respects the Association was now asking, in the light of all the matters which had been submitted to public inquiry, for rather more than it asked when it presented its evidence; in other respects it was asking for rather less. There were two main questions concerned—one the protection of the doctor against vexatious actions, the other the classification of cases. The Association had urged upon the Commission the desirability of securing for medical practitioners acting under the lunacy law the protection afforded by "witness-status," but the Commission was unable to endorse that proposal. Should the Association insist upon its claim and approach Parliament? The claim for "witness-status" assumed that the proceedings in lunacy were comparable to a court of law, which was denied by the Commission. The Commission, however, did take one step in advance. Whereas previously medical men were accorded protection if they could prove that they were not careless or fraudulent, the Commission now proposed that the onus should be changed to this extent, that it had to be proved against the medical man that there was prima facie evidence that he had been negligent or had not acted in good faith. That was a substantial advance. It might be possible to secure modifications of this amendment proposed by the Royal Commission likely to make it more effective for the purpose in view. One of these might be the appointment of an assessor with medical experience to assist the court or the judge in chambers in deciding whether or not such a prima facie case had been made out.

Recently Dr. L. A. Weatherly had suggested (JOURNAL, April 9th, p. 693) that if medical men would utilize the provisions of Section 13 of the Lunacy Act, 1890, they would escape liability. His committee doubted whether the position maintained by Dr. Weatherly was legally sound, and he himself did not look upon the suggestion as an entirely proper solution of the question. The whole ground of immunity in that aspect would depend upon an assertion that the relation to the patient was not that of a doctor, but that of a servant of the State.

Dr. Langdon-Down then passed to the question of the provisional treatment order. The Association had proposed that the great mass of early cases of mental disorder should be dealt with in the first instance without any judicial procedure or certification at all; the Commission proposed to divide the cases or the procedure in respect to them, and to separate the volitional from the non-volitional, recommending in the former case a method of treatment free from judicial order or control. The Commission appeared to think that the modifications would do away with the objections of the public to the ordinary reception order, but in the committee's view this modified procedure was indistinguishable in its effect and stigma from the provisional order as it stood at present.

Dr. Hawthorne asked that the report might be referred back. He greatly appreciated the ability which Dr. Langdon-Down had shown in preparing and presenting the evidence to the Commission, but he could not follow him all the way in his present report. He thought that Dr. Langdon-Down had not taken sufficiently into consideration the important fact that members of the profession in all parts of the country were exceedingly anxious concerning certification, and in increasing numbers were refusing to sign certificates at all. He criticized the report for certain inadequacies of presentation and omissions—the omission, for instance, of any reference to Section 13—and he regretted any weakening on the question of witness-status. He quoted even a lay authority in support of the view that there was reasonable and adequate ground for the claim to immunity and protection such as other witnesses received. The case was even stronger to-day than when it was put up to the Royal Commission, because the Commission had stated that in the whole of its investigations it had not discovered a case of wrongful certification, which was a great testimony to the reliability of the profession; moreover, the proceedings of certification, such as the duties of the certifying magistrate, would become, under the Commission's recommendations, more judicial in character, which consequently enhanced the claim for witness-status for the practitioner. With regard to the provisional treatment order, his submission was that the committee's report showed a certain confusion between two essentially different things: treatment of incipient mental disorder without certification, and treatment of cases of mental disorder which required restraint but were hopeful as regards recovery.

Dr. Radcliffe also urged that the report be referred back, because he considered that it did not deal adequately with the difficulties which might have to be faced by the general practitioner. Dr. Bone said that one reason why the Commission had turned down the claim for witness-status was because the Association witnesses, among others, had naturally said, in reply to a question, that they did not desire to protect a man who had given a certificate negligently or in bad faith. Dr. Brackenbury thought that the proposals in the report for the protection of the practitioner would not altogether commend themselves to the Representative Body, and he could not see how the presence of an assessor would be necessarily helpful. The Council ought either to make some definite recommendations for safeguarding the doctor's position or to say that, under this menace, he should not sign a certificate at all.

The remainder of the discussion related to procedure, and it was suggested that, as the Council had not had time fully to examine and amend the document, it should go forward to the Representative Meeting merely under the imprimatur of the committee. Eventually, after further discussion, it was agreed that in the Supplementary Report of Council a paragraph should be inserted to the effect that the Council had not been able to carry out entirely the directions of the Representative Body, in the first place because the Harnett v. Fisher case was until very recently *sub judice*, and in the second place

because the report of the Royal Commission had been awaited, but that the chairman of the Lunacy and Mental Disorder Committee, on the authority of his committee, was circulating confidentially to the representatives the report presented to the Council that day, amended in certain minor particulars as a result of the discussion.

Scale of Public Health Salaries in Scotland.

Dr. Hugh Miller, for the Scottish Committee, brought forward a further report on the scale of salaries for medical officers employed by local authorities. The recommendation was that the minimum scale be modified in its application to Scotland, the principal modification, or the one which led to the chief discussion, being that the commencing salary of officers employed in departments be on a graded scale, the average salary for ten years being not less than £600, the minimum commencing salary to be not less than £500. The Board of Health had stated that it was prepared to issue to local and education authorities a circular letter, not carrying with it any approval of the scale as such, but merely stating "that in the opinion of the Board it affords a reasonable basis for a local authority's decision. In so far as future appointments made by local authorities involve payment of State grant, the Board's approval of an initial salary that does not exceed the sum stated in the scale may be assumed." Dr. Miller said that he was not going to suggest that his committee, in proposing this modification, was very enthusiastic, but it felt that this was a reasonable way of bringing the matter to a solution.

Dr. Buchan, in criticizing the recommendation, said that the public health service of Scotland was not isolated; it affected the public health service in England. It was putting back the hands of the clock to start at £500, which was £100 less than the commencing salary in England, and in the name of 3,000 officers who were practically solid for maintaining this scale he begged Dr. Miller to take back his report. Dr. Lewys-Lloyd had hoped that there would be more cordial support from the authorities in Scotland. Dr. Dain asked how Scottish practitioners would reply to the Board of Health if it should be required in future that the insurance capitation fee in Scotland must be one-sixth less than in England. Dr. Allan said that the Council had allowed the Scottish Committee to negotiate with respect to modifications of the present scale, so that the principle of differentiation as between England and Scotland had been by inference accepted. It was not true that the scale in Scotland was one-sixth less than in England. In England a man started at £600, but ten years later he might still be receiving £600, whereas in the Scottish scale it was required that the average salary over a period of ten years must be not less than £600.

The Chairman of Council, speaking as a member, agreed that Scotland had been allowed to suppose that some degree of self-determination to meet local circumstances would be favourably considered. There was in Scotland not more than 7 or 8 per cent. of the total membership of the public health service of Great Britain. Should this proportion be allowed to be on different terms from the rest of the country? If it could be shown that the smaller initial salary was compensated for by better increment it might be possible to give one's adhesion to the proposition, and it was true that there was a tendency in England, when a man started at £600, to keep him at that figure. On the other hand, there was no doubt that if a lower scale were accepted for Scotland the repercussions would be felt in England. He had been agreeably surprised at the success of the effort to stabilize the scale in England, at a time, too, of great financial stress. Personally he would find it very difficult to give a vote on this question.

Dr. Brackenbury pointed out that the Council had only consented to reconsider the scale in Scotland provided it received a reasonable amount of support from the authorities there. He thought the support received from them was not sufficiently cordial, and he was of opinion that it would be best to stick to the £600 minimum, even though they were aware that they might fail very largely in Scotland, and might not even have the entire support of Scottish medical opinion.

Dr. Miller said that since these negotiations began, Glasgow and Lanarkshire, which together accounted for one-half the population of Scotland, had adopted scales of salaries in conformity with the scale now set out. Was it wise, then, to throw it back? The Association had done some exceedingly good work among undergraduates in Scotland, but what would be the position if every public health appointment in Scotland had to be the subject of an Important Notice? He further said that the Board of Health had lately been endeavouring on several occasions to get local authorities to pay higher salaries, whereas in the past it had on occasion tried to get them to reduce salaries. He could not see how the Council could reasonably and logically refuse to give what was desired in Scotland simply because it was going to have an adverse effect in England.

After some further discussion, Dr. Miller withdrew to confer with his colleagues of the Scottish Committee, and afterwards stated that the Scottish Committee agreed to withdraw this matter temporarily and to send representatives to the conference shortly to take place between the Association and the Society of Medical Officers of Health, at which, he hoped, the Scottish Branch of the Society would also be represented.

Headquarters Affairs.

The Chairman, on behalf of the Building Committee, presented a report on the extension of the Association's premises in the Tavistock Square neighbourhood.

Among gifts to headquarters reported was an autograph letter written by the founder, Sir Charles Hastings, presented by Mr. Grey Turner of Newcastle, who suggested that the Association might undertake a collection of medical autographs. The Office Committee had agreed to this, and it was suggested that the collection might include autograph letters of persons who had held high position in the Association, celebrated medical men and women, and lay persons in some way connected with the medical profession or medical affairs. Mr. Muirhead Little had intimated his willingness to take charge of the collection, which would be kept in the House of the Association. Another gift reported was from the South African Federal Council in the shape of two kudu (African antelope) heads, together with an inscribed plate, which the Council had an opportunity of seeing and admiring later in the day. The Chairman was asked to convey the thanks of the Association to the South African Federal Council.

The Council agreed to mark the site of the foundations of the original Tavistock House, where Charles Dickens lived from 1851 to 1860, by an inscription on the wall of the garden of the Association's House. Some of the bricks used in the wall are actually part of that foundation.

Collective Investigation by Individual Practitioners.

Dr. Hawthorne, for the Science Committee, brought forward a report on the proposed institution of a scheme for collective investigation. (See the Supplementary Report of Council, published in this week's SUPPLEMENT, para. 208.)

Dr. Douglas, as chairman of the joint subcommittee of the Science and Insurance Acts Committees, which had had charge of this proposal, said that a year ago the Ministry of Health forwarded a scheme of collective research by insurance practitioners for the consideration of the Insurance Acts Committee. Arising out of this scheme, and some subsequent schemes, the subcommittee had considered the matter, and had arrived at certain conclusions. One of them was that any scheme of research must be voluntary and unpaid. The Ministry's first suggestion was that the research should be confined to insurance practitioners in their insurance practice, but the subcommittee took a wider view, holding that there was no inherent difference between the insured and the uninsured. The subcommittee also thought it important that the researches should be undertaken by the Association, for this carried on an historical continuity of which the Association should be proud. This was no new thing; the same kind of work had been pursued at intervals since the early "sixties." It was hoped also to use the machinery of the Divisions. Another conclusion was that the subject or subjects should be capable of being dealt with by the individual practitioner in a simple manner, and that the results of the inquiry, in order to sustain interest, should be available after not too long a period. Two subjects had been selected for simultaneous investigation—namely; varicose ulceration, and the after-history of gastro-enterostomy. The Medical Research Council had been approached for a grant in aid of the expense which would be incurred in the appointment of a medical adviser, whose duty it would be to regulate and codify the work done, but the reply received was unfavourable, the Research Council preferring to support selected clinicians following chosen lines of

study. It was felt, however, by the subcommittee and by the Science Committee that the Association should proceed with the scheme, and it was hoped to secure the services of a practitioner who would be willing, subject to the defrayment of out-of-pocket expenses, to render material assistance in conducting the investigations.

The Council agreed to recommend the proposals to the Representative Body for approval.

Medical Representation in Parliament.

Mr. Bishop Harman, for the Parliamentary Elections Committee, reported an offer by the trustees of the National Insurance Defence Fund to place at the disposal of the committee the sum of £1,000 for the support of medical men as candidates for Parliament. The offer was made subject to the conditions that the candidates be approved by the trustees of the Trust, that they be also supported by the trustees of the Association's fund for securing medical representation in Parliament, that the trustees of the Defence Trust be adequately represented on the Parliamentary Elections Committee, and that a report be made to the Panel Conference.

It was agreed to recommend to the Representative Body that the Council be authorized to accept this offer, and also to express the opinion that members should be urged to contribute to the Association's fund for medical representation in Parliament in order that the volume of individual contributions to that fund should reach a total at least equal to the promised contribution from the Defence Trust. The committee was also of opinion that special attention should be paid to University seats, which offered a fair opportunity for a certain number of medical candidates if carefully selected, and a recommendation to this effect to the Representative Body was also agreed to.

Other Committees.

The reports of the Insurance Acts Committee, the Journal Committee, and a preliminary report by the Psycho-Analysis Committee, all of which contained no recommendations, were received and approved, as were reports by the Finance and Organization Committees, which contained business only of a routine or internal character.

Dr. Wallace Henry, for the Ophthalmic Committee, submitted for approval (which it received) a memorandum of evidence to be given on behalf of the Association before the Departmental Committee set up by the Ministry of Health on the Optical Practitioners (Registration) Bill. Dr. Wallace Henry, Mr. Bishop Harman, and the Medical Secretary, or Deputy Medical Secretary, were appointed as witnesses to give oral evidence. It was also agreed to recommend to the Representative Body that the principle of providing ophthalmic benefit through clinics in large centres as an arrangement auxiliary to the existing scheme of attendance by ophthalmic surgeons privately should be approved, subject to the arrangement under which such clinics were established receiving the approval of the Council.

Dr. Lyndon, for the Ethical Committee, brought forward a report on the machinery of the Association for dealing with professional disputes. The report forms Appendix I to the Supplementary Report of Council (SUPPLEMENT, p. 258).

It was agreed to present the report for the information of the Representative Body, together with the recommendation that no extension of the machinery was at present necessary or desirable. Some discussion arose on a further recommendation by the Ethical Committee relating to the policy to be pursued with regard to advertisements of nursing homes and therapeutic institutions Eventually, Dr. Lyndon agreed to the reference back of the recommendation for redrafting.

Dr. Bone made a brief report for the Puerperal Morbidity and Mortality Committee, in which he outlined the arrangements for the proposed conference which would consider the general position in regard to this subject in this and other countries, and in which, it was hoped, the point of view of the Ministry of Health, the general practitioner, the medical officer of health, and the Central Midwives Board would be stated. The report of the conference would be considered by the full committee, which would then prepare its final report to the Council, and it was hoped that this would be available for discussion by the Annual Representative Meeting of 1928.

The Council, which began its business at 10 a.m., rose at 8.45 p.m. A note on the complimentary luncheon, at which the chairman (Sir Robert Bolam) was entertained by his colleagues, appeared in the JOURNAL last week (p. 1114).

Association Notices.

NOTICE OF ANNUAL GENERAL MEETING.

NOTICE CONVENING MEETING.

NOTICE IS HEREBY GIVEN that the Annual General Meeting of the British Medical Association will be held in the McEwan Hall, The University, Edinburgh, on Tuesday, July 19th, 1927, at 2 p.m. Business: (1) Minutes of last Meeting; (2) Appointment of Auditors; (3) Report of Election of President for 1928-29.

ALFRED COX,
Medical Secretary.
L. FERRIS-SCOTT,
Financial Secretary and Business Manager.

TABLE OF DATES.

July 1, Fri.	Amendments and riders by Divisions and Branches for inclusion in A.R.M. Agenda must be received at Head Office by this date
July 15, Fri.	*Annual Representative Meeting*, Edinburgh, 10 a.m. *Nominations for election of 12 members of Council by* grouped Representatives must be received (at A.R.M., Edinburgh) by this date, 2 p.m.
July 16, Sat.	*A.R.M.* (Edinburgh).
July 18, Mon.	*Council* (Edinburgh) *A.R.M.* (Edinburgh)
July 19, Tues.	*A.R.M.* Annual General Meeting, Edinburgh, President's Address.
July 20, Wed.	*Council* (Edinburgh). Conference of Honorary Secretaries (Edinburgh). *Meetings of Sections*, etc., Edinburgh.
July 21, Thurs.	*Meetings of Sections*, etc., Edinburgh.
July 22, Fri.	*Meetings of Sections*, etc., Edinburgh.

ALFRED COX, *Medical Secretary.*

BRANCH AND DIVISION MEETINGS TO BE HELD.

BATH AND BRISTOL BRANCH: BATH DIVISION.—The annual meeting of the Bath Division will be held at the Spa Hotel, Bath, on Wednesday, June 29th, at 4 p.m. Agenda: Report of the Executive Committee; report of the Spa Subcommittee; to elect officers, representatives on the Branch Council, and ordinary members of Executive Committee; report of Executive Committee as to the scale of minimum commencing salaries for public health medical officers, and recommendation of Executive to adopt resolution under its Ethical Rules.

BORDER COUNTIES BRANCH.—The annual meeting of the Border Counties Branch will be held at the Crown and Mitre Hotel, Carlisle, on Friday, July 8th, at 4 p.m. The Branch Council will meet at 3.30 p.m. Agenda: Branch Council's report and financial statement; report of the election of office-bearers for 1927-28. Dr. J. R. Burnett will give his presidential address, entitled "Some notes on the history and work of the St. John Ambulance Association." Tea at the kind invitation of the president.

BORDER COUNTIES BRANCH: DUMFRIES AND GALLOWAY DIVISION.—The annual meeting of the Dumfries and Galloway Division will be held in the Royal Infirmary, Dumfries, on Friday, July 1st, at 3 p.m. Agenda: Election of officers and Executive Committee; consideration of Report of Council and instruction to representative; programme for 1927-28.

DORSET AND WEST HANTS BRANCH: BOURNEMOUTH DIVISION.—A meeting of the Bournemouth Division will be held in the St. Peter's Small Hall, Bournemouth, on Monday, June 27th, at 4.15 p.m. Tea at 4 o'clock. Agenda: Instruction to representatives to Annual Representative Meeting. Members are asked to bring the BRITISH MEDICAL JOURNAL SUPPLEMENTS of April 23rd and 30th and June 25th. Preliminary notice is given that the summer social meeting will be held at Palace House, Beaulieu, by kind permission of Lord Montagu of Beaulieu, on Saturday, July 2nd.

KENT BRANCH: ISLE OF THANET DIVISION.—A meeting of the Isle of Thanet Division will be held at the County Sanatorium, Lenham, Kent, on Thursday, June 30th, at 3 p.m. Through the courtesy of the medical superintendent and board, members will be given an opportunity of seeing over the sanatorium.

METROPOLITAN COUNTIES BRANCH: HENDON DIVISION.—A meeting of the Hendon Division will be held to-day (Friday, June 24th), at 8.30 p.m., at Hendon Cottage Hospital, for the purpose of instructing the representative of the Division with reference to the forthcoming Annual Representative Meeting at Edinburgh. The following is the provisional programme for 1927-28:

October 14th.—Combined clinical meeting and dinner, Brent Bridge Hotel. Address by Dr. James Neal: Medico-legal difficulties in general practice.
November 25th.—Clinical meeting. Dr. Eric Pritchard: Infant feeding.
December 16th.—Social evening. Dance to be held in connexion with Hendon Cottage Hospital.
January 27th, 1928.—Clinical meeting. Dr. Archibald Leitch: Modern views on cancer.
March 2nd.—Clinical meeting. Dr. J. M. H. MacLeod: Some observations on ringworm and its treatment (with lantern illustrations).
March 30th.—Combined clinical meeting and dinner, Brent Bridge Hotel.
April 27th.—Annual meeting of Division.

All meetings will be held on Fridays, at 8.30 p.m., at Hendon Cottage Hospital, unless otherwise stated.

METROPOLITAN COUNTIES BRANCH: NORTH MIDDLESEX DIVISION.—The next meeting of the North Middlesex Division will take the form of a visit to the Shredded Wheat Company's factory at

Welwyn Garden City on June 30th, at 3.30 p.m. Guests (ladies or gentlemen) and non-members of the Division will be cordially welcomed.

NORTH OF ENGLAND BRANCH.—The annual meeting of the North of England Branch will be held at the Queen's Head Hotel, Morpeth, on Thursday, June 30th. Programme:—12.30 p.m.—Business meeting. Agenda: Annual report and financial statement of the Branch Council; to elect officers for the ensuing year. 1.15 p.m.—Luncheon: the incoming president, Dr. F. Beaton, has expressed a desire to entertain the members present to lunch. Those who intend to accept this invitation are asked to notify the honorary secretary, Mr. Norman Hodgson, M.S., F.R.C.S., 7, Windsor Terrace, Newcastle-on-Tyne, not later than Monday, June 27th, as only those who give notice will be provided for. 3 p.m.—The annual golf competition for the cup presented by Dr. D. F. Todd will take place on the Morpeth golf course; those intending to compete are asked to notify the honorary secretary, stating their club handicap. For those who do not play golf, a visit has been arranged to Newminster Abbey and private grounds, by kind permission of Sir George Renwick, also a visit to Mitford village and church if time permits. Members are asked to notify the honorary secretary if they wish to go with this expedition. 5 p.m.—Tea will be served at the Queen's Head Hotel.

NORTHERN COUNTIES OF SCOTLAND BRANCH.—The annual meeting of the Northern Counties of Scotland Branch will be held at the Cluny Hill Hydropathic, Forres, on June 25th, at 1 p.m. Agenda: Report of election of Branch officers; report of Branch Council and annual financial statement. At 1.30 p.m. the members and their guests will lunch together at the Hydropathic. In the afternoon there will be an opportunity for those who wish to play golf to do so on the excellent golf course at the Hydropathic.

SUFFOLK BRANCH: SOUTH SUFFOLK DIVISION.—A meeting of the South Suffolk Division will be held at the Crown and Anchor Hotel, Ipswich, to-day (Friday, June 24th), at 3.30 p.m. Agenda: Business arising from minutes; election of chairman for 1928 (*re* Dr. Hare, resigned); consideration of Annual Report of Council and instruction to representative; any other business.

SURREY BRANCH: CROYDON DIVISION.—A meeting of the Croydon Division will be held at the Croydon General Hospital on Wednesday, June 29th. Tea at 4 p.m. previous to the meeting. Agenda: Correspondence; Report of Council and Supplementary Report; any other business. Members are requested to bring to the meeting BRITISH MEDICAL JOURNAL SUPPLEMENTS of April 23rd and 30th and June 25th. It is hoped that every effort will be made to attend in order to instruct the representatives.

Correction.—In the list of subscriptions and donations to the B.M.A. Charities Fund, published in the SUPPLEMENT of June 18th (p. 241), it should have been stated that the sum of £11 10s. from Dr. J. B. Naden was on behalf of the Warrington Division.

Meetings of Branches and Divisions.

EDINBURGH BRANCH.

THE annual meeting of the Edinburgh Branch was held in the Association's Scottish House on June 15th, when the president, Sir ROBERT PHILIP, was in the chair.

The report of the Branch Council, including the annual reports of the Branch and Divisions, were presented by Dr. JOHN STEVENS, and Dr. GUTHRIE submitted the financial statement, which showed a satisfactory balance. On the motion of the PRESIDENT the reports were approved.

The PRESIDENT, in the name of the Branch, thanked Dr. Guthrie, on his retiral from the office of treasurer, for his services to the Branch.

On the election of office-bearers the PRESIDENT announced that as no other nominations had been received the members nominated by the Branch Council were duly elected.

On vacating the chair Sir ROBERT PHILIP expressed his thanks for the help and kindness he had received during his term of office, particularly from the secretary, Dr. Stevens, whom he called on to take his place as president.

Dr. STEVENS expressed his sense of the honour conferred on him by the Branch, and moved a vote of thanks to the retiring president for his services, which was enthusiastically carried.

Dr. STEVENS expressed the indebtedness of all members to Mr. Jardine for his work in organizing the clinical meetings.

It was intimated that Dr. Stevens had been again elected to represent the Edinburgh and Fife Branches on the Council of the Association for 1927-28. Mr. Pirie Watson was elected to the board of the Queen Mary Nursing Home. The PRESIDENT, in a few words, referred to the proceedings of the Scottish Committee. Subject to his acceptance, Dr. Nasmyth was unanimously appointed a member of the Branch Council.

In reply to Dr. ROSE, who asked if the Branch had adopted any policy regarding the redrafted venereal diseases clause of the Edinburgh Corporation Provisional Order, the PRESIDENT stated that the matter had been referred to Dr. Drever, the Scottish Medical Secretary.

SURREY BRANCH: GUILDFORD DIVISION.

A COMBINED meeting of the Guildford Division and the Southern Counties Branch of the Veterinary Medical Association was held at Guildford on May 19th.

Discussion on Clean Milk.

Mr. FREDERICK HOBDAY, F.R.C.V.S., in opening a discussion on clean milk and its production, emphasized the fact that the purchase of adequate apparatus benefited the small farmer as much as the large concerns and was a financial saving. He commended the suggestions of Dr. Gibbs Smith regarding contamination due to the soiling of bottles through dust, and the opening of bottles by pressure on the paper disc, by which method dirt was likely to fall into the milk. The narrow neck and grooves made the bottles difficult to clean and were thus a source of danger. He looked forward to the time when a cheap container which could be destroyed after being used once would be available. Mr. Hobday deplored the apathy of the public, and hoped that fuller education would be possible by means of lectures and instruction from medical and veterinary officers.

Dr. NATHAN RAW, in referring to tuberculosis, said that a tour of inspection in all the larger cities of America convinced him that pasteurization was the best means of securing clean milk. He called attention to the very small number of cases of surgical tuberculosis in New York.

Mr. MALE remarked that the question of cleanliness was not a matter of elaborate sheds, but was largely influenced by financial considerations on the part of the landlord and by weather conditions, because on a very cold morning or a hot afternoon the cowman was disinclined to take precautions. There was also the trouble of cleaning the cows both morning and night; much, however, was being done in this direction and should be encouraged.

Dr. GIBBS SMITH spoke of the dirtiness of bottles, the difficulty of cleaning them, and the prevalence of carelessness in seeing that they were cleaned before refilling. He disagreed with pasteurization, and believed there was a big difference between fresh clean milk and pasteurized milk.

Dr. HOWELL spoke in favour of pasteurization. He condemned the illegal practice of bottling milk in the street, which was still extensively practised. In his opinion big companies had an advantage over the small dealers on account of their greater facilities for precautions.

Mr. MADDOCK referred to the experimental work carried on at Reading, and pointed out that they were only on the fringe of the subject and there was much more to be discovered. Though sterilization might kill the bacteria, he asked, What about the toxins they produced?

Mr. TUSTIN, who represented the commercial side, drew attention to the supervision exercised under the advice of veterinary and medical officers. He emphasized the necessity for the education of the public in the care of the outside of the bottles and the caps. He agreed with Dr. Raw on the question of pasteurization.

Mr. LITTLE advocated the free examination of cows and milk by skilled persons at frequent intervals.

Mr. ROBERTS spoke of the indiscriminate sale of tuberculin, and pointed out that it was quite easy for a dishonest farmer to inject suspect cows a week before the veterinary inspection, in order to make the veterinary test negative, and thus defeat the inspection. In Holland it was punishable to sell tuberculin to unqualified persons; he wished the same law applied to England.

Commander WATT suggested that contamination occurred between the teat and the pail, which he considered could be avoided by the greater use of mechanical milkers, and he advocated the greater use of these appliances. He pointed out that milking was the most tedious part of a cowman's work, and suggested that mechanical milking would lead to a better type of men seeking such occupation.

Dr. WATT was not certain that pasteurization had no effect on the nutritional qualities of the milk. He emphasized the importance of drinking fresh milk, since milk that had been standing for a day in warm weather had an enormously increased bacterial content.

Dr. JEPSON (Byfleet) suggested that insured persons should have opportunity of attending lectures by experts on this important subject.

A "SMALL FARMER" said he had, by his own efforts and for his own satisfaction, reached a standard of cleanliness above that of "Grade A." He had refused to apply for a licence, because he did not see why he should pay £5 to the Government in addition to the trouble and expense incurred in order to reach his standard. When he had delivered comparatively dirty warm milk rich in cream in his early days he received nothing but praise from his customers, but now, when he delivered cooled milk not so rich in cream, he had many complaints. Another speaker said he preferred the danger from fresh milk in hot weather to milk which had been altered by pasteurization. By advocating this he had diminished the incidence of infantile diarrhoea in his district.

A vote of thanks was accorded to Mr. Hobday for his instructive and interesting address.

NOTICES OF MOTION BY DIVISIONS FOR THE ANNUAL REPRESENTATIVE MEETING, EDINBURGH, 1927.

Married Medical Women.

By BISHOP AUCKLAND: That the Representative Body seriously deprecates the recent action of the Durham County Council in dismissing one of its women medical officers from its staff on the ground of her recent marriage, and is of opinion that if marriage is to be a cause for dismissal this should be stated at the time of appointment.

Treatment of Early Stage Mental Disease.

By BELFAST: That the recommendation contained in para. 169 of the Annual Report of Council be referred back to the Council.

VACANCIES.

BARRY URBAN DISTRICT COUNCIL.—House-Surgeon (male) at the Accident and Surgical Hospital. Salary at the rate of £200 per annum.

BOLINGBROKE HOSPITAL, Wandsworth Common, S.W.11.—Resident Medical Officer (male). Salary £200 per annum.

BRADFORD: ROYAL EYE AND EAR HOSPITAL.—Male House-Surgeon. Salary £120 per annum.

BRADFORD: ROYAL INFIRMARY.—Resident Surgical Officer (male, unmarried). Salary £250 per annum.

BUXTON: DEVONSHIRE HOSPITAL.—Assistant House-Physician (male). Salary £150 per annum, rising to £175.

CITY OF LONDON HOSPITAL FOR DISEASES OF THE HEART AND LUNGS, Victoria Park, E.2.—Assistant Tuberculosis Officer. Salary at the rate of £600 per annum.

CORNWALL COUNTY COUNCIL.—Tuberculosis Officer Locum for September. Salary £50.

CORNWALL COUNTY MENTAL HOSPITAL, Bodmin.—Assistant Medical Officer (male). Salary £350 per annum.

COSSHAM MEMORIAL HOSPITAL, Kingswood, Bristol.—Honorary Surgeon for the Nose, Ear, and Throat Department.

EDINBURGH: ROYAL EDINBURGH HOSPITAL FOR SICK CHILDREN.—Four Honorary Resident Officers.

FARRINGDON GENERAL DISPENSARY, Holborn Circus, E.C.4.—Physician in charge of Department for Diseases of Children.

FEDERATED MALAY STATES: CENTRAL MENTAL HOSPITAL.—Second Assistant Medical Superintendent. Salary equivalent to £700 per annum, rising to £1,120. Temporary allowance 10 per cent. of salary if unmarried, and 20 per cent. if married.

GLOUCESTER ROYAL INFIRMARY AND EYE INSTITUTION, Gloucester.—Resident House-Physician (male). Salary at the rate of £150 per annum.

HIGHBURY HOME (HOME FOR JEWISH CHILDREN), Highbury Grove, N.5.—Assistant Visiting Physician. Honorarium £75 per annum.

KING EDWARD VII WELSH NATIONAL MEMORIAL ASSOCIATION.—Assistant Resident Medical Officer at the North Wales Sanatorium, Llangwyfan. Salary £200 per annum.

LADY HARDINGE MEDICAL COLLEGE, New Delhi.—Clinical Pathologist (female). Salary Rs.450 per mensem.

LEEDS PUBLIC DISPENSARY.—Junior Resident Medical Officer. Salary £150 per annum.

LONDON TEMPERANCE HOSPITAL, Hampstead Road, N.W.1.—(1) House-Physician. (2) Casualty Officer. Salary at the rate of £100 and £120 per annum respectively.

LONDON UNIVERSITY.—External Examinerships: (1) Anatomy and Physiology for the Second Examination. (2) Forensic Medicine and Hygiene (twp), Pathology and Surgery for Final and Higher Examinations.

MANCHESTER HOSPITAL FOR CONSUMPTION AND DISEASES OF THE THROAT AND CHEST.—Assistant Medical Officer for the Crossley Sanatorium. Salary £200 per annum.

METROPOLITAN ASYLUMS BOARD.—Junior Assistant Medical Officer at the Downs Hospital for Children, Sutton. Salary £500 per annum.

MIDDLESEX HOSPITAL MEDICAL SCHOOL, W.1.—Second Demonstrator for the Physiology Department. Salary to commence £350 per annum.

MINES DEPARTMENT.—Medical Inspector of Mines and Quarries. Initial salary as high as £750 if qualifications are suitable, rising to £900, *plus* Civil Service bonus.

MINISTRY OF HEALTH.—Medical Officers of the Staff of the Ministry (males). Salary £600 per annum, rising to £1,100.

POPLAR BOROUGH COUNCIL.—Consulting Physician at the Maternity and Child Welfare Observation Wards. Fee 2½ guineas for each attendance.

PRESTON AND COUNTY OF LANCASTER ROYAL INFIRMARY.—House-Surgeon. Salary at the rate of £150 per annum.

ROYAL NORTHERN HOSPITAL, Holloway Road, N.—(1) Physician. (2) Surgeon for Diseases of the Ear, Nose, and Throat.

ST. MARK'S HOSPITAL FOR CANCER, FISTULA, ETC., City Road, E.C.1.—Clinical Assistants in the Out-patients' Department.

SHEFFIELD: JESSOP HOSPITAL FOR WOMEN.—Two Assistant House-Surgeons. Salary at the rate of £100 per annum.

SUDAN GOVERNMENT.—(1) Assistant Bacteriologist at the Wellcome Tropical Research Laboratories, Khartoum; pay £E.720 per annum, rising to £E.1,200. (2) Laboratory Assistant (unmarried); pay £E.324 per annum.

WARWICKSHIRE COUNTY COUNCIL.—Assistant County Medical Officer of Health. Salary £600 per annum.

WEST BROMWICH AND DISTRICT HOSPITAL.—Honorary Ear, Nose, and Throat Surgeon and Honorary Orthopaedic Surgeon.

WORCESTERSHIRE COUNTY COUNCIL.—Assistant County Medical Officer (part-time). Salary £300 per annum.

CERTIFYING FACTORY SURGEON.—The appointment at Ossett (Yorks) is vacant. Applications to the Chief Inspector of Factories, Home Office, Whitehall, S.W.1.

This list of vacancies is compiled from our advertisement columns, where full particulars will be found. To ensure notice in this column advertisements must be received not later than the first post on Tuesday morning.

DIARY OF SOCIETIES AND LECTURES.

ROYAL SOCIETY OF MEDICINE.

Section of Electro-Therapeutics.—Thurs., 8 p.m., Mackenzie Davidson Memorial Lecture by SIR HUMPHRY ROLLESTON: Protection and other Radiological Problems.

Section of Disease in Children.—Sat., Provincial Meeting at the Royal Alexandra Hospital for Sick Children, Dyke Road, Brighton.

POST-GRADUATE COURSES AND LECTURES.

FELLOWSHIP OF MEDICINE AND POST-GRADUATE MEDICAL ASSOCIATION, 1, Wimpole Street, W.1.—Fellowship Demonstrations (free to members of the medical profession) Wednesday: St. Mary's Hospital (medical), 2 p.m.; Royal Waterloo Hospital, 1.30 p.m.; Royal Eye Hospital, 3 p.m. *City of London Hospital for Diseases of the Heart and Lungs*, Victoria Park, E.: Special Course in all branches of Diseases of the Chest; facilities for all-day study. Syllabus on application.

HOSPITAL FOR SICK CHILDREN, Great Ormond Street, W.C.1.—Thurs., 4 p.m., Some Minor Deformities.

LONDON SCHOOL OF DERMATOLOGY, St. John's Hospital, Leicester Square, W.C.2.—Tues., 5 p.m., The Sarcoids and Lupus Pernio. Thurs., 5 p.m., Leprosy.

NATIONAL HOSPITAL, Queen Square, W.C.1.—Mon., Tues., Thurs., and Fri., 2 p.m., Out-patient Clinics. Mon., 2 noon, Pathology of the Nervous System; 3.30 p.m., The Sensory Disturbances. Tues., 3.30 p.m., Spasmodic Torticollis and its Surgical Treatment. Thurs., 3.30 p.m., Some Points associated with the Epileptic Fit. Fri., 12 noon, Anatomy and Physiology of the Nervous System; 3.30 p.m., Demonstration of Re-educative Methods. Operations: Tues. and Fri., 9 a.m.

NORTH-EAST LONDON POST-GRADUATE COLLEGE, Prince of Wales's General Hospital, Tottenham, N.15.—Mon., 2.30 to 5 p.m., Medical, Surgical, and Gynæcological Operations. Tues., 2.30 to 5 p.m., Medical, Surgical, and Ear Clinics; Operations. Wed., 2.30 to 5 p.m., Eye Clinics; Operations. Thurs., 11.30 a.m., Throat, Nose, and Ear Clinics; 2.30 p.m., Medical, Surgical, and Ear, Nose, and Throat Clinics. Fri., 10.30 a.m., Throat, Nose, and Ear Clinics; 2.30 to 5 p.m., Surgical, Medical, and Children's Diseases Clinics; Operations.

ROYAL NORTHERN HOSPITAL, Holloway Road, N.—Tues., 3.15 p.m., Clinical Pathology.

British Medical Association.

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Diary of the Association.

JUNE.

25 Sat. Northern Counties of Scotland Branch: Annual Meeting, Cluny Hill Hydropathic, Forres, 1 p.m. Lunch. 1.30.
27 Mon. London: Scholarships and Grants Subcommittee, 2.30 p.m. Bournemouth Division: St. Peter's Small Hall, Bournemouth, 4.15 p.m.
28 Tues. London: Psycho-analysis Committee, 3 p.m.
29 Wed. London: Standing Ethical Subcommittee, 2.30 p.m. Bath Division: Annual Meeting, Spa Hotel, Bath, 4 p.m. Croydon Division: Croydon General Hospital, 4 p.m.
30 Thurs. Isle of Thanet Division: County Sanatorium, Lenham, 3 p.m. North of England Branch: Annual Meeting, Queen's Head Hotel, Morpeth, 12.30 p.m. Luncheon, 1.15. Golf Competition, 3 p.m. North Middlesex Division: Welwyn Garden City, 3.30 p.m.

BIRTHS, MARRIAGES, AND DEATHS.

The charge for inserting announcement of Births, Marriages, and Deaths is 9s., which sum should be forwarded with the notice not later than the first post on Tuesday morning, in order to ensure insertion in the current issue.

BIRTHS.

ELMSLIE.—At 69, Fountainhall Road, Aberdeen, on June 14th, to Dr. and Mrs. John G. Elmslie, a son.

FORD.—On June 17th, 1927, at the Medical Officer's Residence, Fulwood Union Hospital, Preston, to Marian, wife of R. Kelson Ford, M.B., a son.

GIBSON.—On June 17th, at Groombridge Nursing Home, Worthing, to Myra, wife of Charles Gibson, F.R.C.S.Ed., a daughter, stillborn.

MAGEE.—On June 16th, at Carden Terrace Nursing Home, Aberdeen, to Dr. and Mrs. H. E. Magee, Stoneywood, Aberdeen, a daughter.

MARRIAGES.

DAVIDSON—MARSHALL.—On June 10th, 1927, at Camphill U.F. Church, Glasgow, Alexander Fraser Davidson, B.Sc., M.B., Ch.B., eldest son of Mr. and Mrs. Robert Davidson, Shawlands, to May Marshall, youngest daughter of Mr. and Mrs. G. B. Marshall, Queen's Park, Glasgow.

HALLIWELL—GOODE.—On June 18th, at St. Andrew's Church, Curry Rival, by the Rev. G. W. Saunders, Arthur Clare Halliwell, M.B.Cantab., F.R.C.S.Eng., elder son of Mr. and Mrs. T. H. Halliwell of Ash, Surrey, to Winifred Dorothea, eldest daughter of Mr. and Mrs. W. Winter Goode of Wiltown Place, Curry Rival, Somerset.

HOCKING—COUCHER.—At Paddington Chapel, Marylebone Road, on June 15th, Dr. F. D. M. Hocking, M.B., B.S., M.Sc.Lond., of 37, Welbeck Street, W.1, Assistant Pathologist to the Westminster Hospital, to Amy Gladys, youngest daughter of A. T. Coucher, Esq., of Harrow.

MCNAUGHT—SELLON.—On June 16th, 1927, at St. Katherine's Church, Merstham, Robert Stephen, only son of Lieut.-Colonel J. G. McNaught, late R.A.M.C., and Mrs. McNaught, of Farnham, Surrey, to Rachel Dundas, only daughter of Mr. and Mrs. R. Percy Sellon, of Albury Edge, Merstham.

MURRAY—KAY.—On June 18th, at St. Philip's, Alderley Edge, by the Rev. W. J. Gravel, John Oliver Murray, M.D., D.P.H., second son of the late M. D. Murray, Dalbeattie, Kircudbrightshire, and of Mrs. Murray, to Hylda Mary, younger daughter of Mr. and Mrs. Kay of Alderley Edge.

POWELL EVANS—WILLIAMS.—On June 18th, 1927, at St. James's, Muswell Hill, by Canon Horace Monroe, M.A., Vicar of Wimbledon, John Powell Evans, M.R.C.S., L.R.C.P., of 557, Kingston Road, Raynes Park, S.W.20, eldest son of Dr. and Mrs. Powell Evans, Wimbledon, to Ruth, elder daughter of Mr. and Mrs. J. H. Williams, Westminster Bank, Highgate.

WALKER—WALKER.—On June 17th, in St. Mary's Chapel, East Parish Church of St. Nicholas, Aberdeen, by the Rev. George Walker, D.D. (father of the bridegroom), Charles William Walker, M.C., M.D., Hereford, to Isobel Helen Walker, M.A., only daughter of G. W. S. Walker, advocate, and of Mrs. Walker, 127, Hamilton Place, Aberdeen.

DEATHS.

GIBSON.—On June 21st, at Groombridge Nursing Home, Worthing, Myra (Sally), the dearly loved wife of Charles Gibson, F.R.C.S.Ed.

GORDON.—On June 19th, James Edward Gordon, O.B.E., M.R.C.S., L.R.C.P., of 52, Endless Street, Salisbury, eldest son of the late James Henry Gordon, M.D., and husband of Eiley Gordon, aged 55.

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